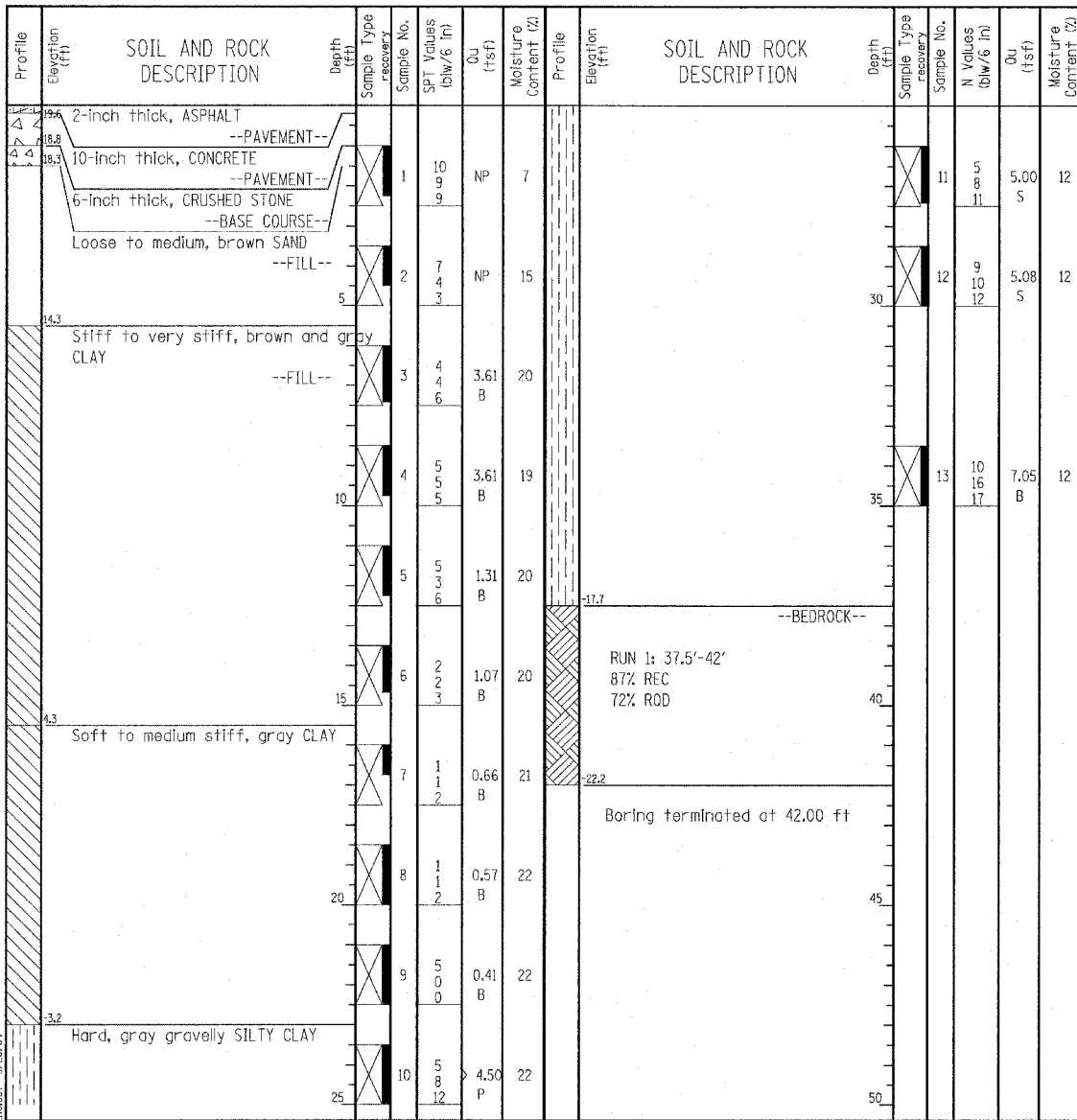


Wang Engineering, INC.
 Consulting Geotechnical and Environmental Engineers
 wangeng3@wangeng.com
 1145 Main Street
 Lombard, IL 60148
 Telephone: 630 953-9928
 Fax: 630 953-9938

BORING LOG SB 36-08 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: 19.77 ft
 North: 1844483.06 ft
 East: 1177550.07 ft
 Station: 1231+04.1
 Offset: 138.69' LT



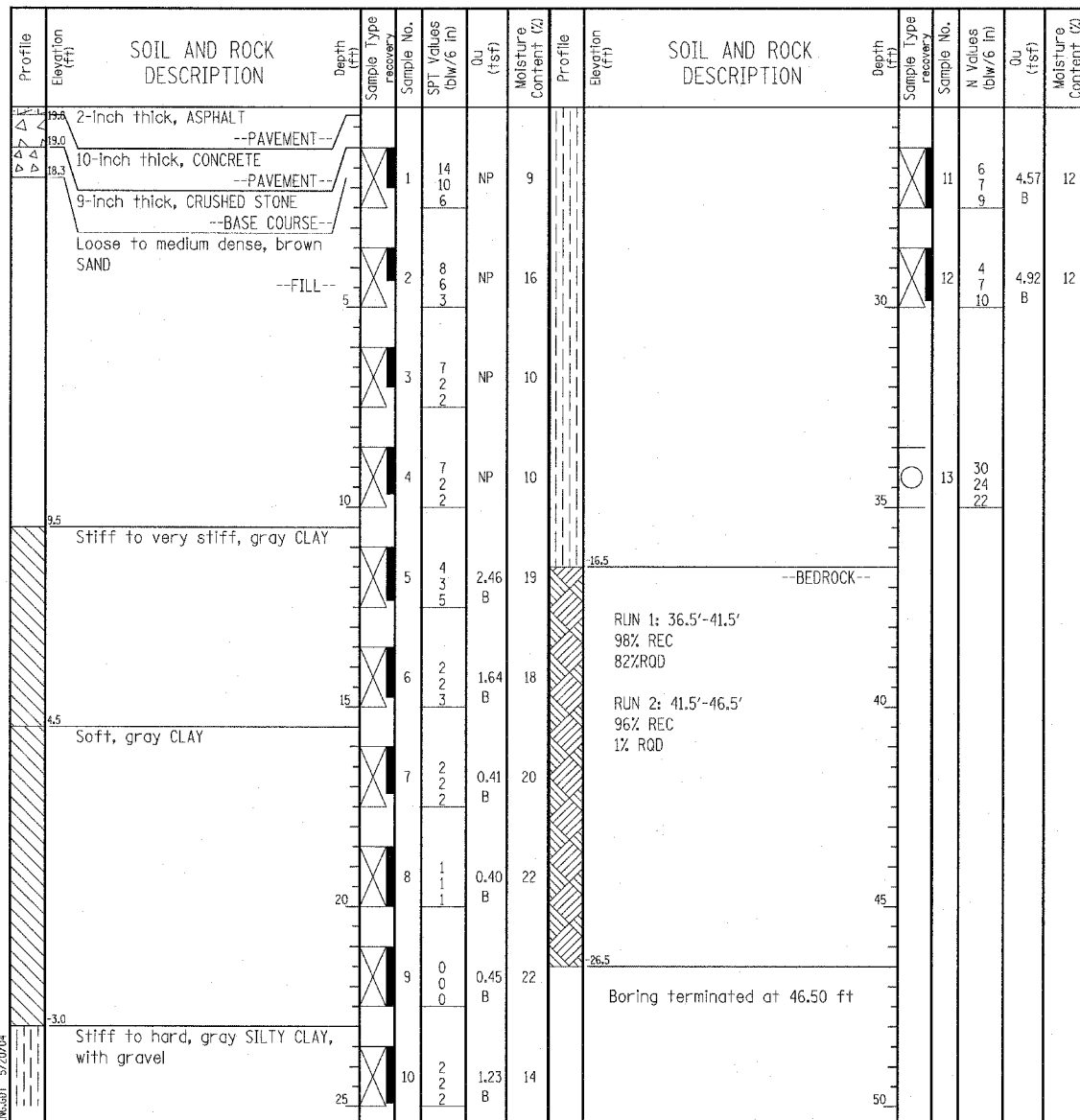
GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-05-2004	Complete Drilling	01-05-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	J&L	Logger	K. Jacob	Checked by	N. Davis	Time After Drilling	NA
Drilling Method	3.25" ID. 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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BORING LOG SB 36-09 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: 20.01 ft
 North: 1844556.85 ft
 East: 1177547.96 ft
 Station: 1231+77.9
 Offset: 138.70' LT



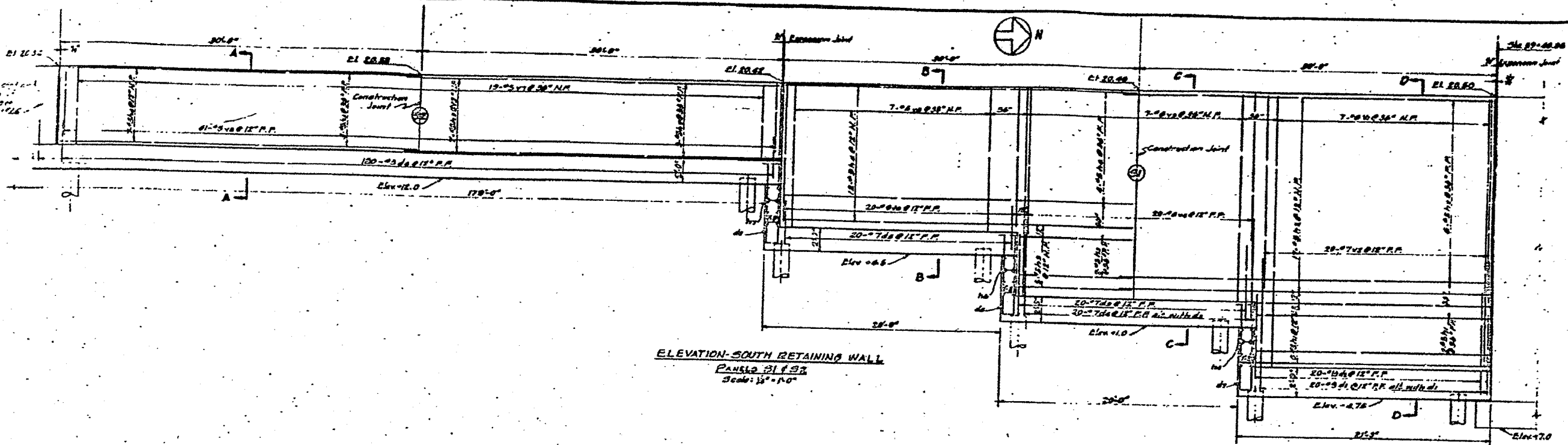
GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-02-2004	Complete Drilling	01-02-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	J&L	Logger	K. Jacob	Checked by	N. Davis	Time After Drilling	NA
Drilling Method	3.25" ID. 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

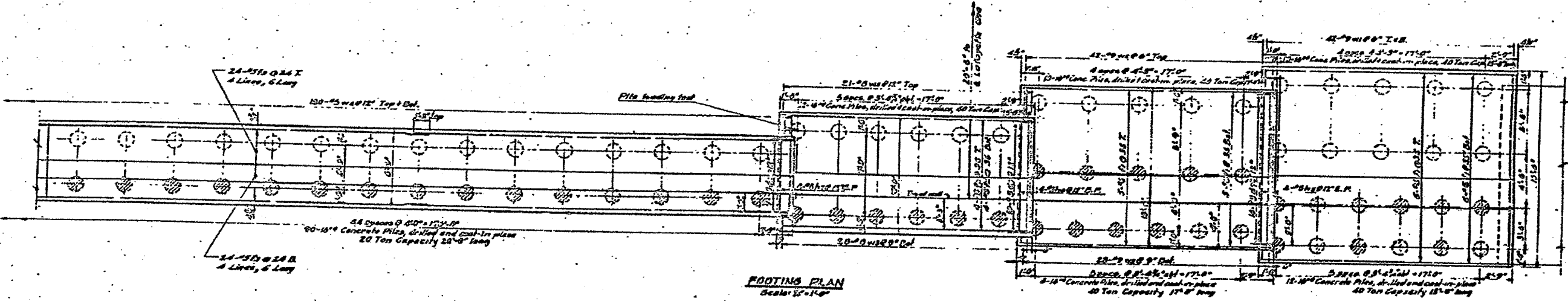
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 93RD ST. TO 91ST ST.
 WALL 36
 BORING LOGS SB36-08 & SB36-09
 S.N. 016-W948
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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



ELEVATION-SOUTH RETAINING WALL
 PANELS B1 & B2
 Scale: 1/2" = 1'-0"



FOOTINGS PLAN
 Scale: 1/2" = 1'-0"

Notes:
 For General Plan of wall see sheet 94 B4.
 For Sections see sheet 94 B5.

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS

DANIEL RYAN
 WILLIAM J. HORTNER

RETAINING WALL DETAILS
 OF STREET GRACE SEPARATION
 OVER
 SOUTH ROUTE EXPRESSWAY

PROJECT: 01-01-0197
 SCALE: 1/2" = 1'-0"
 CHECKED: S.M.
 APPROVED: [Signature]

DATE	BY	DESCRIPTION

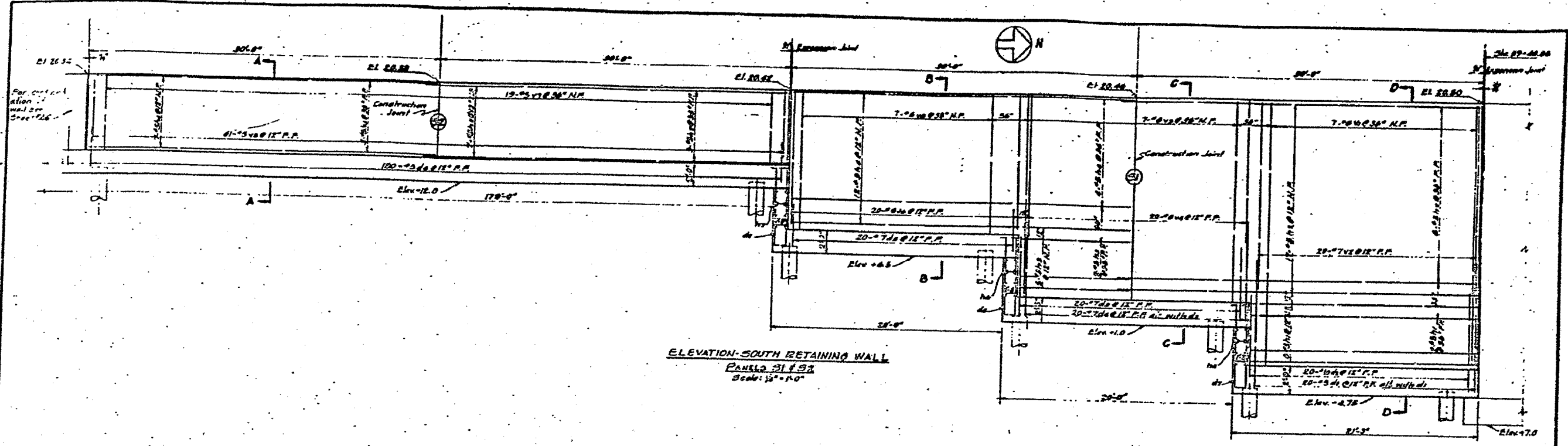
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 93RD ST. TO 91ST ST.
 WALL 36
 EXISTING RETAINING WALL (1 OF 3)
 S.N. 016-W948
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

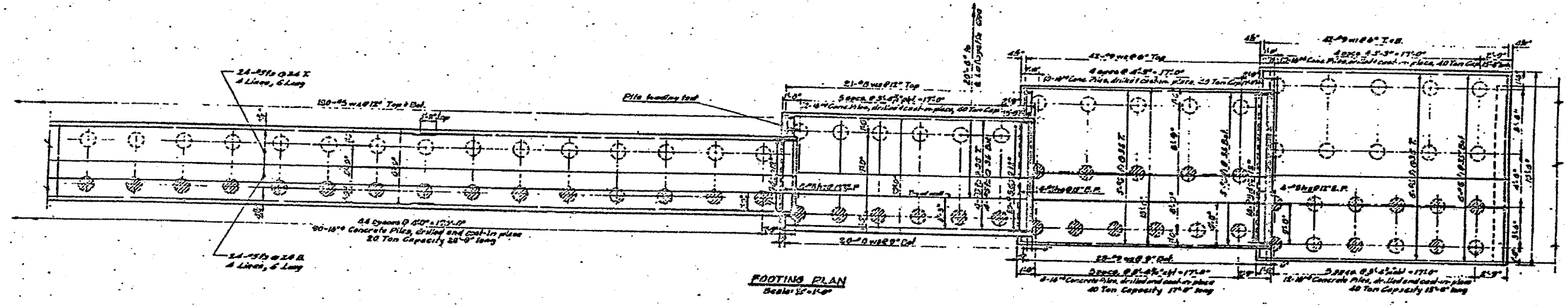
DESIGNED BY: DJR
 DRAWN BY: DJR
 CHECKED BY:

TYLIN INTERNATIONAL

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



ELEVATION-SOUTH RETAINING WALL
 PANELS 31 & 32
 Scale: 1/2\"/>



FOOTINGS PLAN
 Scale: 1/2\"/>

Notes:
 For General Plan of wall see sheet No 24.
 For Sections see sheet No 26.

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS

DANIEL RYAN
 WILLIAM J. HOFFMEIER

RETAINING WALL DETAILS
 OF STREET GRADE SEPARATION
 OVER
 SOUTH ROUTE EXPRESSWAY

DESIGNED BY: DJR
 DRAWN BY: DJR
 CHECKED BY: G.S.M.

DATE: 03-25-05

REVISIONS		
DATE	BY	DESCRIPTION

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 93RD ST. TO 91ST ST.
 WALL 36
 EXISTING RETAINING WALL (3 OF 3)
 S.N. 016-W948
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

DESIGNED BY: DJR
 DRAWN BY: DJR
 CHECKED BY:

TYLIN INTERNATIONAL

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

Benchmarks: BM 3550 Set "+" westerly flange bolt of hydrant at southwest intersection of 91st St. and Lafayette Ave. El. 22.88

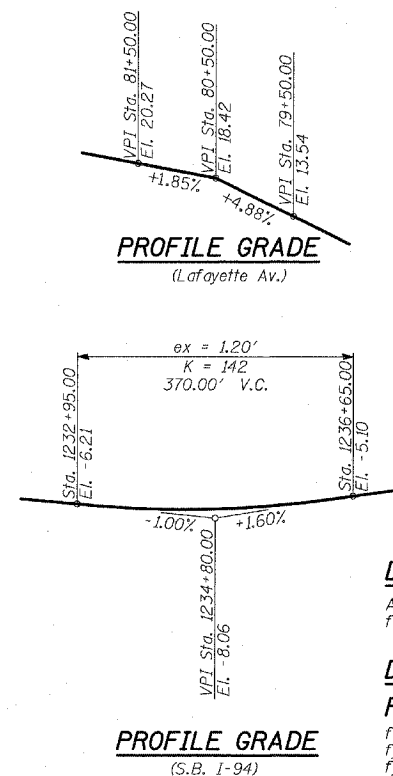
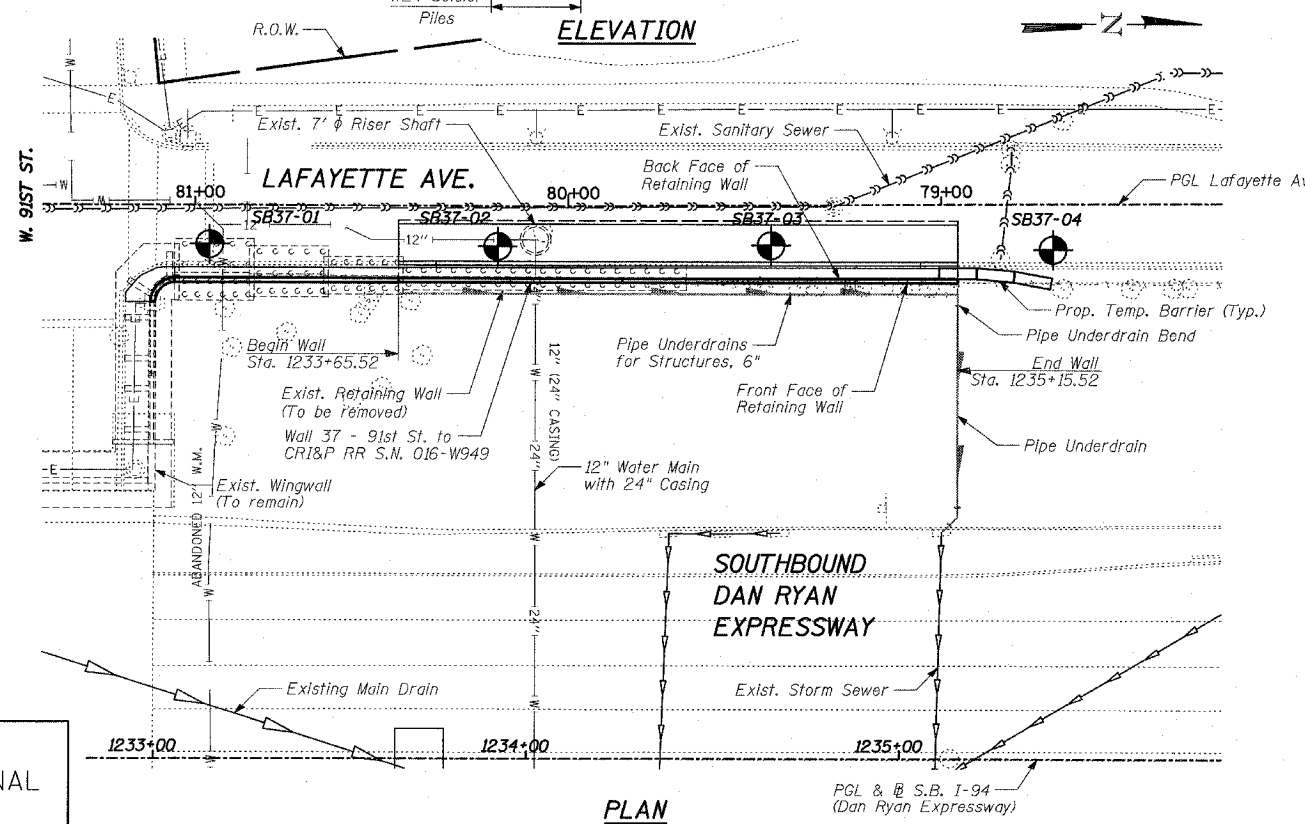
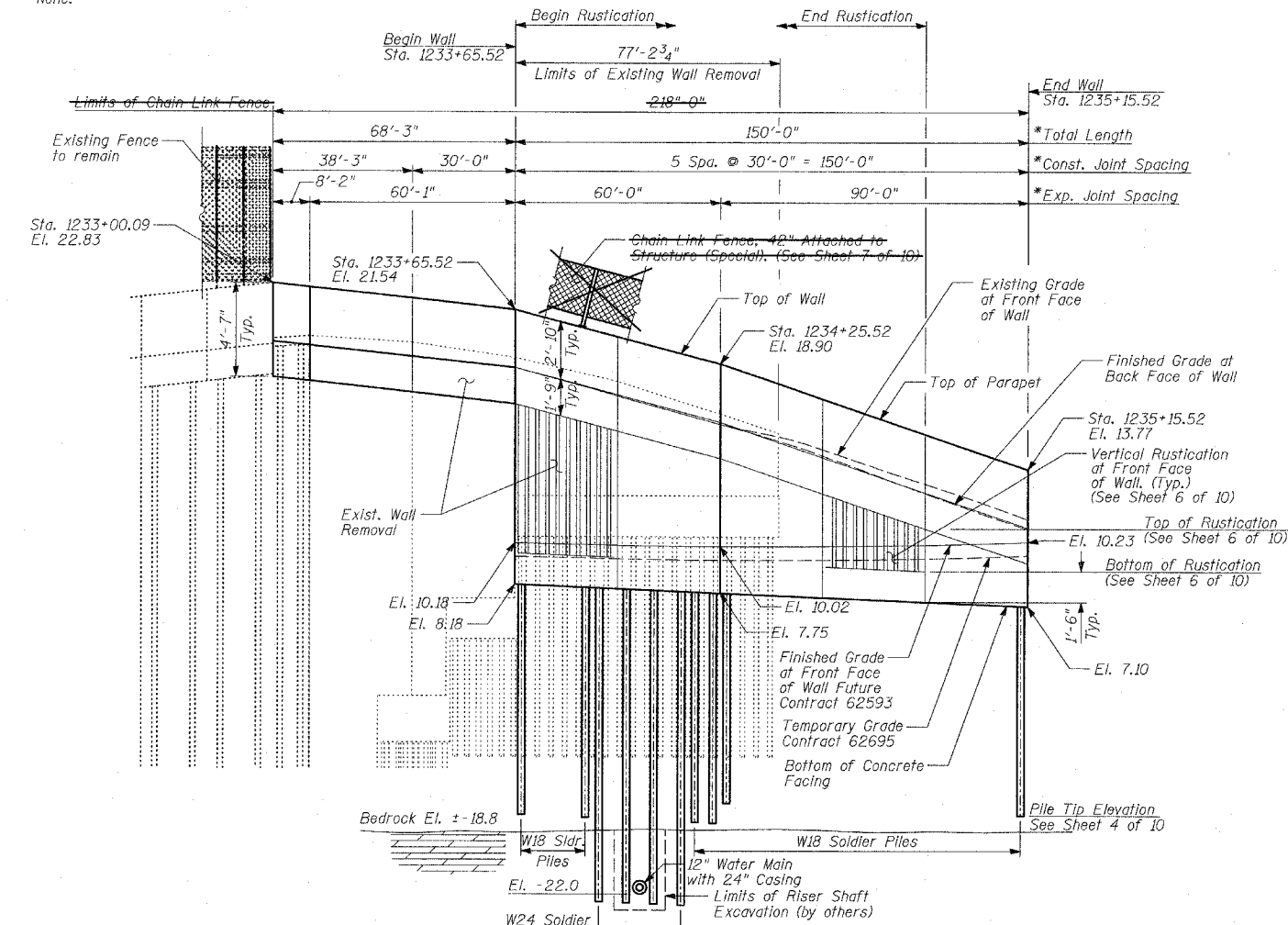
Existing Structure: Reinforced concrete cantilever retaining wall, supported on concrete pile footings, along Southbound Dan Ryan, East edge of Lafayette Avenue, 91ST Street to CR&P RR. Built in 1960. Total length $\pm 137'$ **

Salvage: None.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	*	COOK	907	507
STA. 1200+00.00 TO STA. 1365+00				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
* (1516.1, 1717 & 1818) R-9		62695		

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal of Existing Structures No. 2	EACH	1
Structure Excavation	CU YD	84
Concrete Structures	CU YD	83
Protective Coat	SQ YD	283
Rustication Finish	SQ FT	976
Stud Shear Connectors	EACH	276
Untreated Timber Lagging	SQ FT	912
Furnishing Soldier Piles (W Section)	FOOT	841
Reinforcement Bars, Epoxy Coated	POUND	10,450
Geocomposite Wall Drain	SQ YD	110
Pipe Underdrains for Structures, 6"	FOOT	150
Drilling and Setting Soldier Piles (in Rock)	CU FT	103
Drilling and Setting Soldier Piles (in Soil)	CU FT	4,024
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	218



DESIGN SPECIFICATION

AASHTO 2002 Standard Specifications for Highway Bridges

DESIGN STRESSES

FIELD UNITS

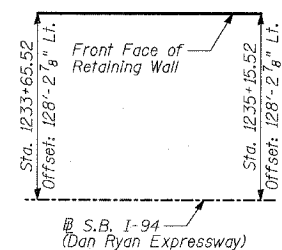
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (M270 Grade 36) Soldier Piles

GENERAL NOTES:

1. Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
2. 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.
3. 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.
4. The soldier piles shall be cleaned and given one shop coat of Inorganic Zinc-Rich primer.
5. All exposed concrete edges shall be chamfered $\frac{3}{8}$ " except as noted.
6. Protective Coat shall be applied to exposed surfaces of the concrete facing.
7. Existing utilities in conflict with soldier pile wall construction shall be abandoned or relocated according to directions given on the roadway plans.
8. If existing piles conflict with the proposed wall, the existing piles shall be cut off no more than 1'-0" below the proposed concrete facing. Soil disturbance below the cutoff elevation must be minimized.
9. All construction joints shall be bonded.
10. 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)
11. The wall shall be backfilled (where applicable) prior to placing the concrete facing.
12. Riser Shaft and Jacking Pit to have been constructed by others in Contract 62692.
13. The Contractor is responsible to coordinate all electrical crossings with this Contract and with Contract 62583.
14. The Contractor is responsible to verify the locations of the existing piles prior to drilling for the soldier piles. Any discrepancies in the locations of the existing piles are to be immediately reported to the Engineer. Proposed piles are to be placed between existing piles under the supervision of the Engineer.

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

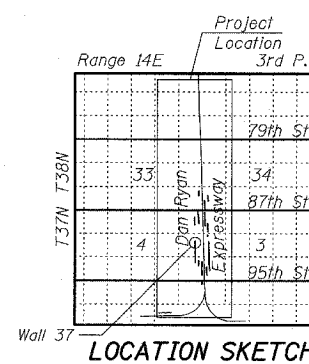
Philip E. Anderson (T.D)
ENGINEER OF BRIDGES AND STRUCTURES



OFFSET SKETCH

LEGEND

- Boring Location
- * Measured along Front Face of Wall.
- ** Portions of existing walls to be removed to accommodate proposed walls.



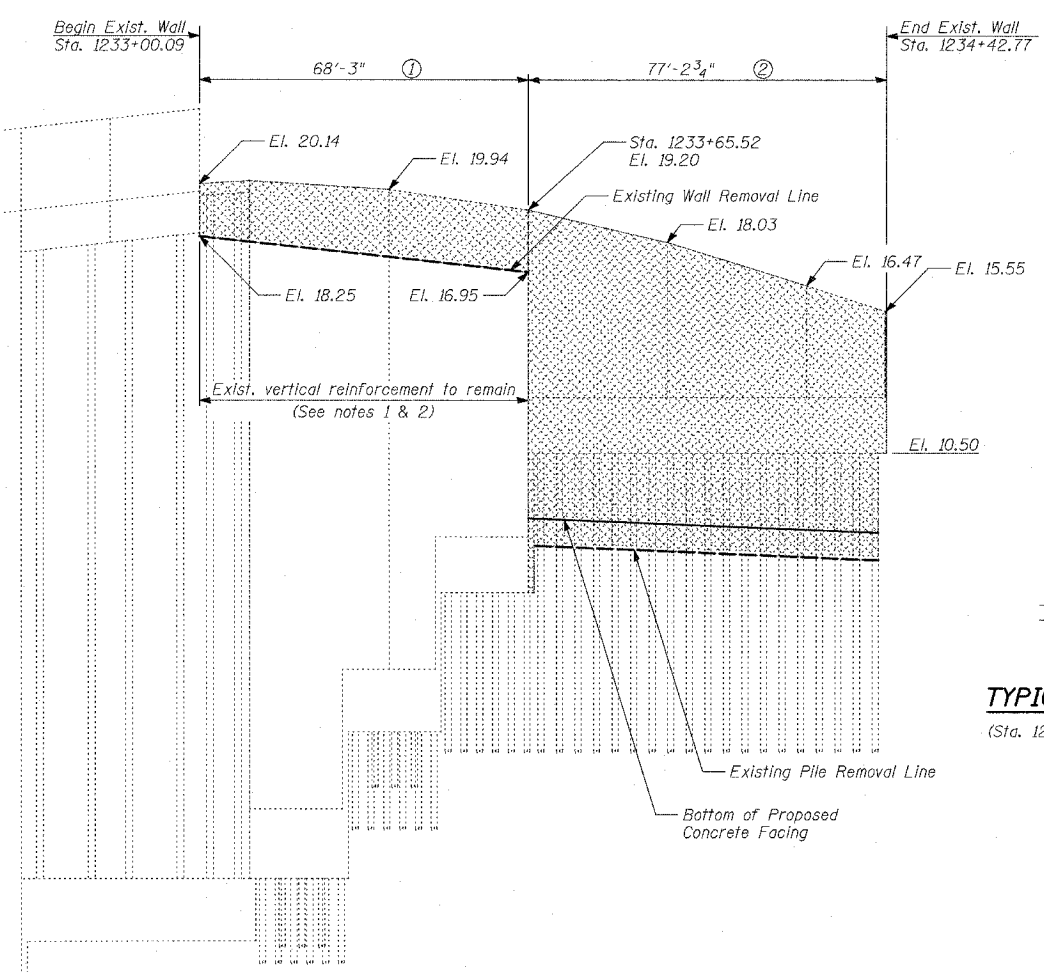
LOCATION SKETCH



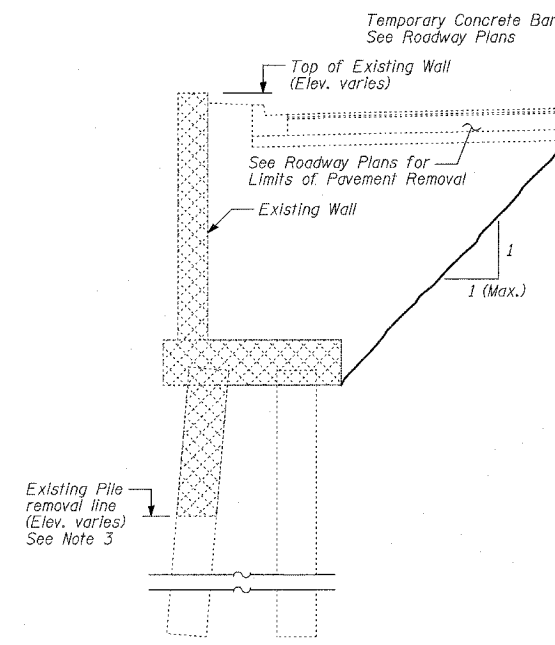
Signed Phillip D. Frey
 Phillip D. Frey, P.E., Ill. Lic. No. 081-004826
 Expires 11-30-2006
 Date 3/25/05
 For drawings 1 thru 10 of 10

REVISIONS	NAME	DATE

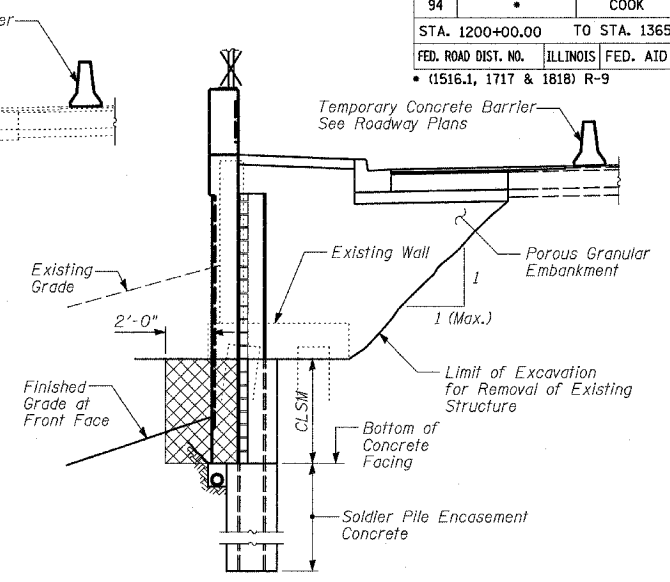
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 91ST ST. TO CR&P RR
 WALL 37 - GENERAL PLAN
 STA. 1233+65.52 TO STA. 1235+15.52
 S.N. 016-W949 DESIGNED BY: MI, DJR
 SCALE: N.T.S. DRAWN BY: DJR, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



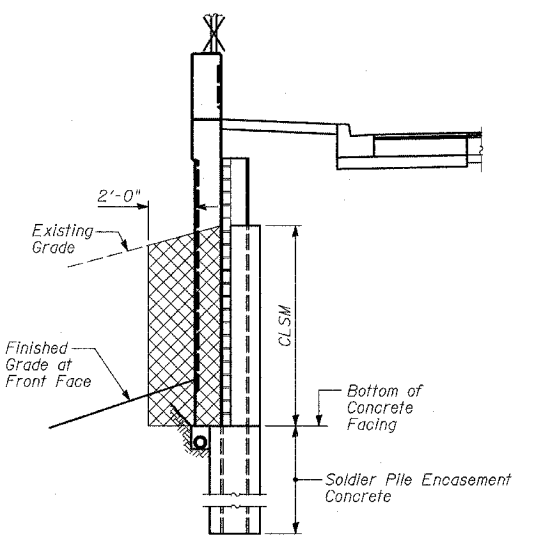
TYPICAL CROSS-SECTION
(Sta. 1233+00.09 to Sta. 1233+65.52)



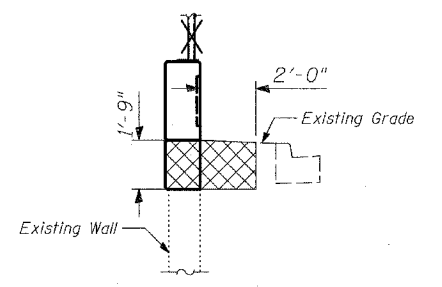
TYPICAL CROSS-SECTION
(Sta. 1233+65.52 to Sta. 1234+42.77)



STRUCTURE EXCAVATION
(For Proposed Wall)
(Sta. 1233+65.52 to Sta. 1234+42.77)



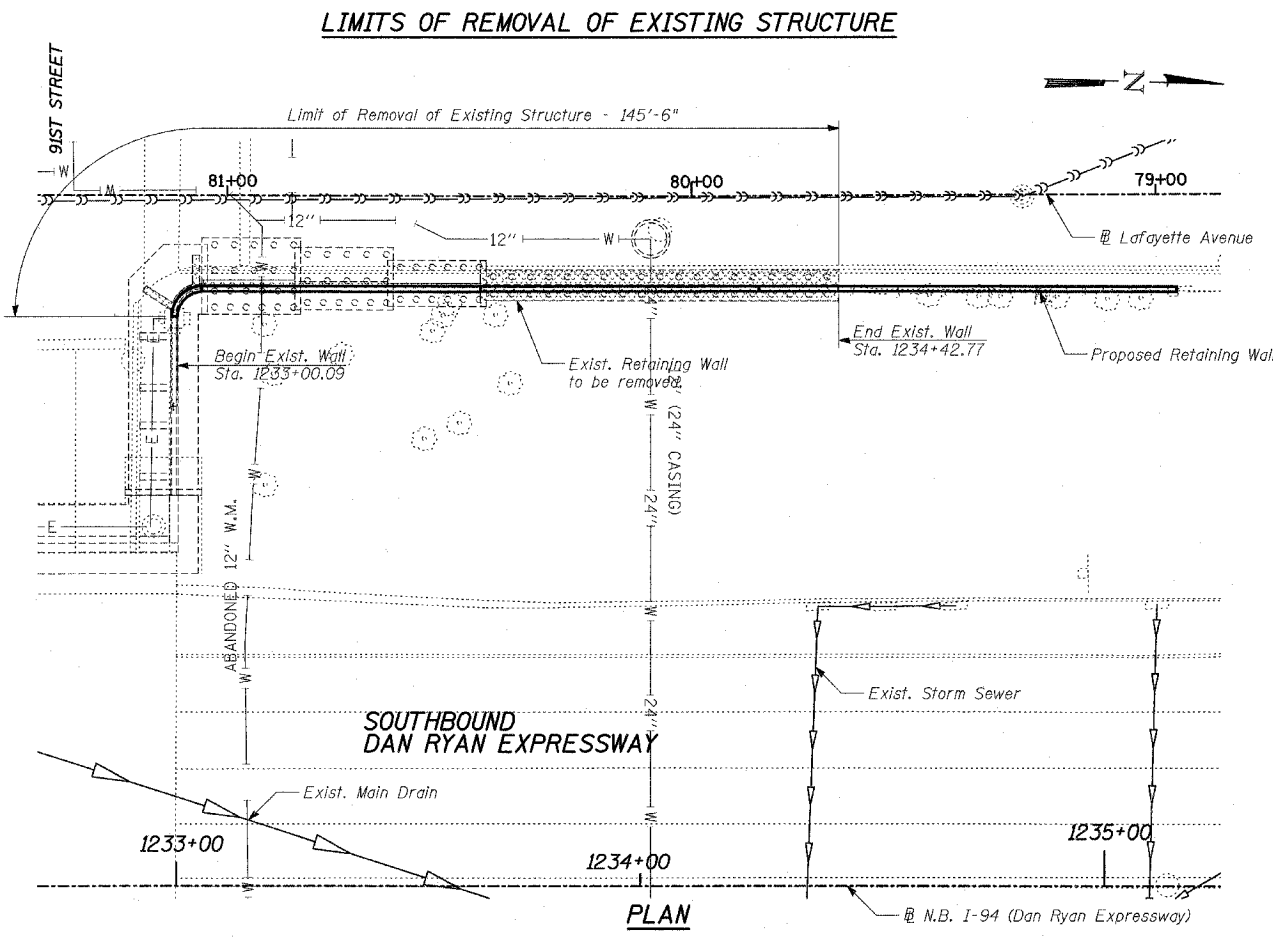
STRUCTURE EXCAVATION
(For Proposed Wall)
(Sta. 1234+42.77 to Sta. 1235+15.52)



STRUCTURE EXCAVATION
(Sta. 1233+00.09 to Sta. 1233+65.52)

LEGEND

	Removal of Existing Structure
	Structure Excavation



PLAN

REMOVAL LIMITS

- Remove existing wall to elevations specified. Existing vertical reinforcement to remain and to be incorporated into new parapet. Existing horizontal reinforcement to be removed.
- Remove existing wall and cut-off existing piles which interfere with proposed wall construction 1'-0" (max.) below the elevation of proposed concrete facing.

NOTES:

- Any vertical reinforcement bars that are damaged during concrete removal operations at the top of the wall shall be repaired or replaced using approved bar splicer or anchorage system. Cost included with "Removal of Existing Structures No. 2".
- 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 "Removal of Existing Structures No. 2".
- 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.
- Backfill behind the proposed wall, within the limits of existing structure removal, shall be with Porous Granular Embankment. Cost included with "Removal of Existing Structures, No. 2"

BILL OF MATERIAL

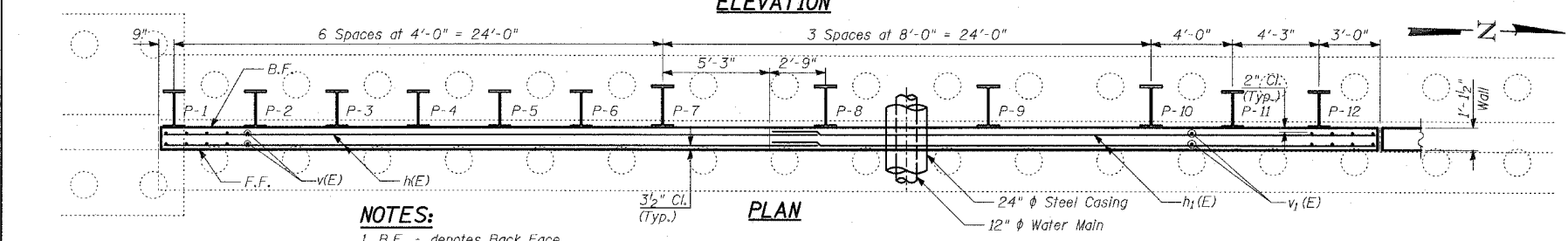
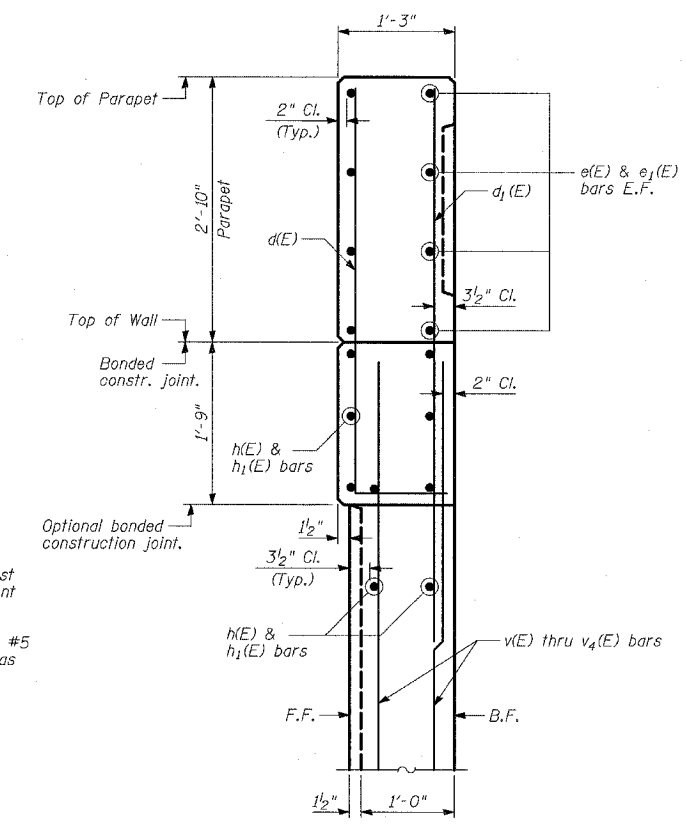
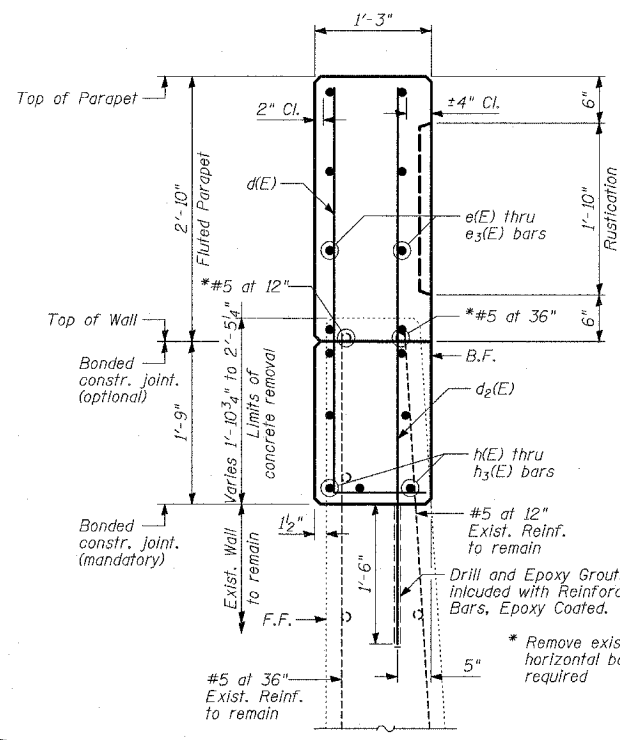
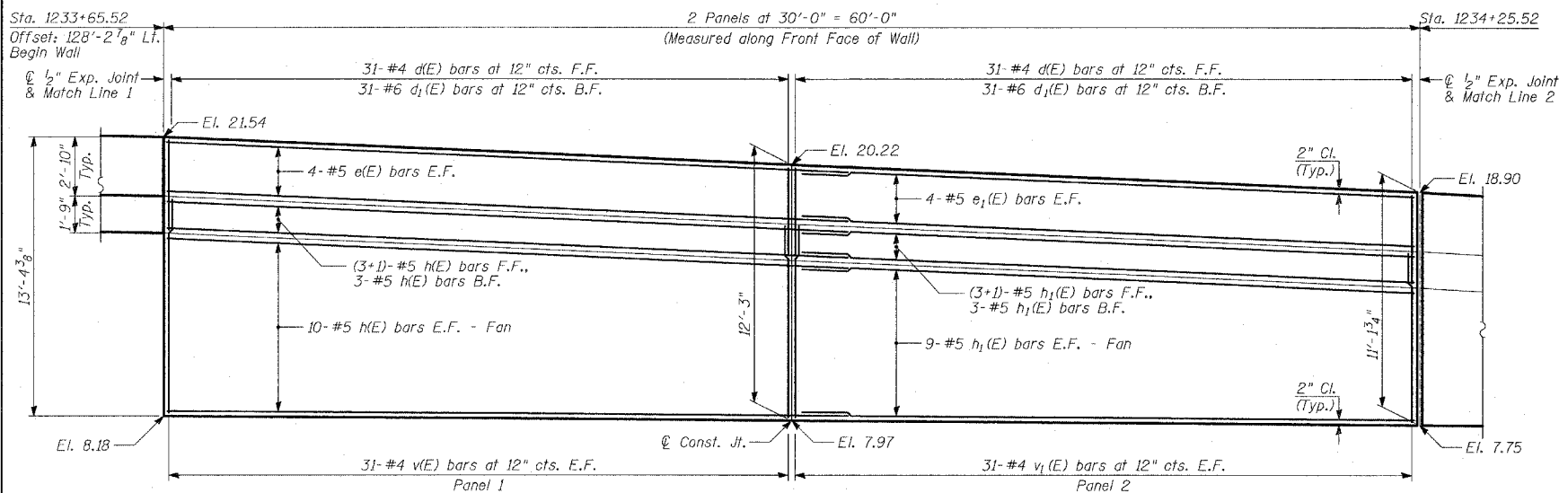
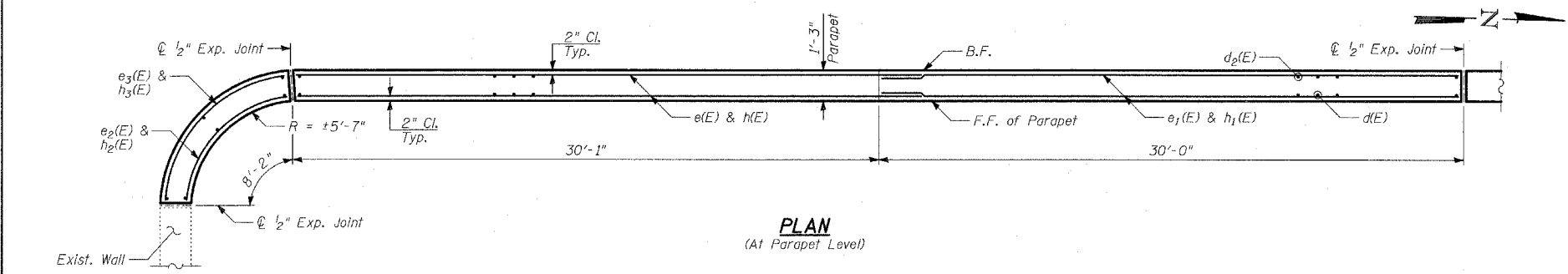
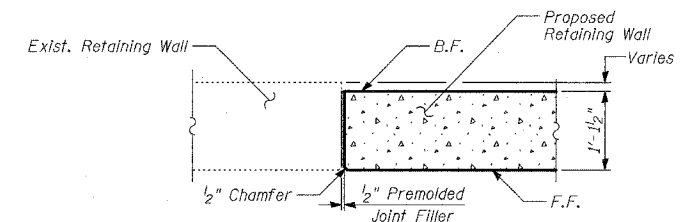
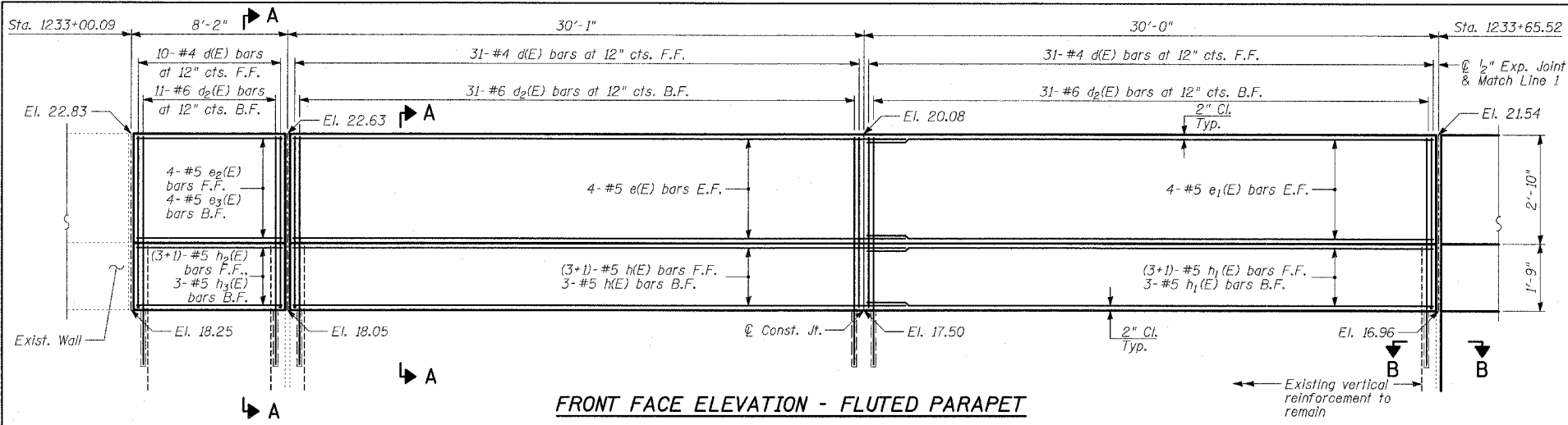
ITEM	UNIT	TOTAL
Structure Excavation	CU YD	84
Removal of Existing Structures No. 2	EACH	1

REVISIONS

NAME	DATE
REVISED	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
91ST ST. TO CRI&P RR
WALL 37
REMOVAL PLAN AND DETAILS
S.N. 016-W949
SCALE: N.T.S.
DATE: MARCH 25, 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	907	509
STA. 1200+00.00 TO STA. 1365+00				
FED. ROAD DIST. NO.		ILLINOIS		FED. AID PROJECT
(1516.1, 1717 & 1818) R-9		62695		

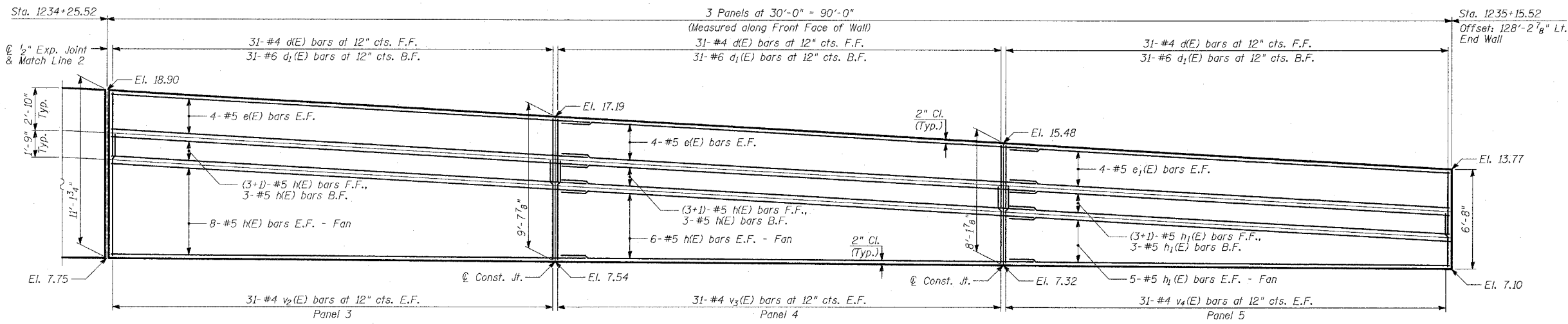


- NOTES:**
1. B.F. - denotes Back Face.
 2. E.F. - denotes Each Face.
 3. F.F. - denotes Front Face.
 4. Work this Sheet with Sheets 4 thru 7 of 10.
 5. Pile spacing measured along front face of wall.
 6. Place new piles to miss existing piles.
 7. Existing wall footing and pile layout is shown only for conflicting areas between existing and proposed piles.
 8. For Lap Splices, see Sheet 4 of 10.

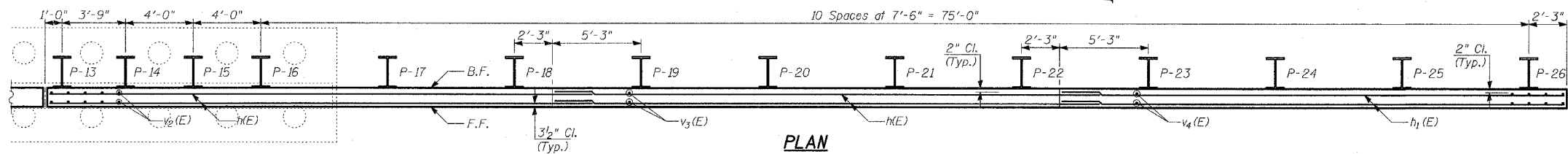
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
91ST ST. TO CR&P RR
WALL 37 - PLAN AND ELEVATION
STA. 1233+00.09 TO STA. 1234+25.52
 S.N. 016-W949 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI

TYLIN INTERNATIONAL



ELEVATION



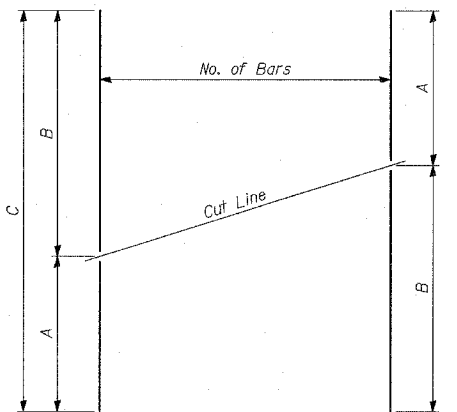
PLAN

PILE LAYOUT

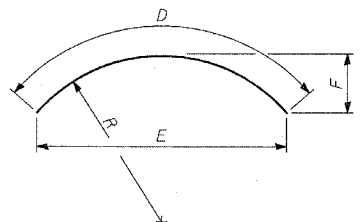
Pile	Station at Working Point	Top of Parapet El.	Top of Pile El.	Bot. of Wall El.	Section	Pile Tip El.	Pile Length
P-1	1233+66.27	21.50	17.34	8.18	W18x106	-16.83	34'-2"
P-2	1233+70.27	21.33	17.16	8.15		-16.92	34'-1"
P-3	1233+74.27	21.15	16.98	8.12		-16.93	33'-11"
P-4	1233+78.27	20.98	16.81	8.09		-16.94	33'-9"
P-5	1233+82.27	20.80	16.63	8.06		-16.95	33'-7"
P-6	1233+86.27	20.62	16.46	8.03	W18x106	-17.04	33'-6"
P-7	1233+90.27	20.45	16.28	8.01	W24x176	-26.05	42'-4"
P-8	1233+98.27	20.10	15.93	7.95	W24x176	-26.07	42'-0"
P-9	1234+06.27	19.75	15.58	7.89	W24x176	-26.17	41'-9"
P-10	1234+14.27	19.39	15.23	7.83	W24x176	-26.19	41'-5"
P-11	1234+18.27	19.22	15.05	7.80	W18x106	-17.20	32'-3"
P-12	1234+22.52	19.03	14.86	7.77		-17.30	32'-2"
P-13	1234+26.52	18.84	14.68	7.74		-16.32	31'-0"
P-14	1234+30.27	18.63	14.46	7.72		-16.29	30'-9"
P-15	1234+34.27	18.40	14.23	7.69		-16.35	30'-7"
P-16	1234+38.27	18.17	14.01	7.66		-16.41	30'-5"
P-17	1234+45.77	17.75	13.58	7.61		-16.42	30'-0"
P-18	1234+53.27	17.32	13.15	7.55		-16.52	29'-8"
P-19	1234+60.77	16.89	12.72	7.50		-16.53	29'-3"
P-20	1234+68.27	16.46	12.30	7.44		-16.62	28'-11"
P-21	1234+75.77	16.04	11.87	7.39		-16.63	28'-6"
P-22	1234+83.27	15.61	11.44	7.34		-16.73	28'-2"
P-23	1234+90.77	15.18	11.01	7.28		-16.74	27'-9"
P-24	1234+98.27	14.75	10.59	7.23		-16.83	27'-5"
P-25	1235+05.77	14.33	10.16	7.17		-16.84	27'-0"
P-26	1235+13.27	13.90	9.73	7.12	W18x106	-16.93	26'-8"

BAR TABLE SCHEDULE

Bar	No. of Sets Req'd	No. of Bars Per Set	A	B	C
v(E)	1	31	10'-3"	9'-1"	19'-4"
v1(E)	1	31	9'-1"	8'-0"	17'-1"
v2(E)	1	31	8'-0"	6'-6"	14'-6"
v3(E)	1	31	6'-6"	5'-0"	11'-6"
v4(E)	1	31	5'-0"	3'-6"	8'-6"

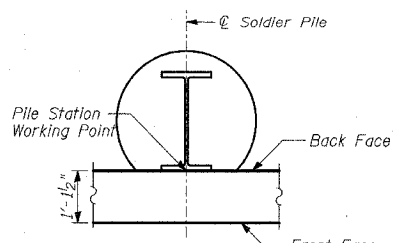


SERIES OF BAR CUTTING DIAGRAM
See table for dimensions. Make all cuts normal to bar axis



Bar	D	E	F	R
e2(E)	8'-0"	7'-4 1/2"	1'-4"	5'-9"
e3(E)	9'-1"	8'-4 3/8"	1'-6 1/4"	6'-6"
h2(E)	8'-0"	7'-4 1/2"	1'-4"	5'-9"
h3(E)	9'-1"	8'-4 3/8"	1'-6 1/4"	6'-6"

BARS e2(E), e3(E), h2(E) & h3(E)



SOLDIER PILE WORKING POINT

LAP SPLICES

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

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	227	#4	5'-3"	L
d1(E)	155	#6	6'-6"	—
d2(E)	73	#6	5'-11"	—
e(E)	32	#5	32'-2"	—
e1(E)	24	#5	29'-8"	—
e2(E)	4	#5	8'-0"	—
e3(E)	4	#5	9'-1"	—
h(E)	76	#5	32'-2"	—
h1(E)	49	#5	29'-8"	—
h2(E)	4	#5	8'-0"	—
h3(E)	3	#5	9'-1"	—
v(E)	31	#4	19'-4"	—
v1(E)	31	#4	17'-1"	—
v2(E)	31	#4	14'-6"	—
v3(E)	31	#4	11'-6"	—
v4(E)	31	#4	8'-6"	—
Reinforcement Bars, Epoxy Coated		POUND	10,450	
Concrete Structures		CU YD	83	
Furnishing Soldier Piles (W Section)		FOOT	841	
Drilling and Setting Soldier Piles (in Rock)		CU FT	103	
Drilling and Setting Soldier Piles (in Soil)		CU FT	4,024	
Protective Coat		SQ YD	283	

Reinforcement bars designated (E) shall be epoxy coated.

BAR d(E)

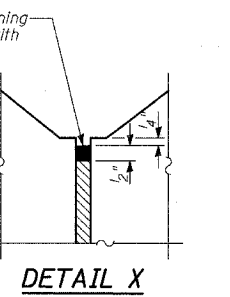
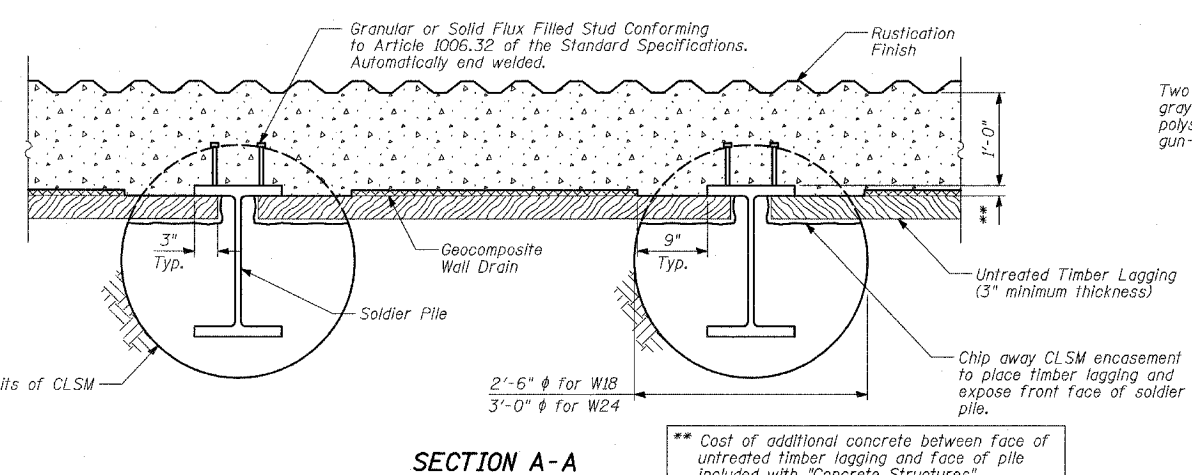
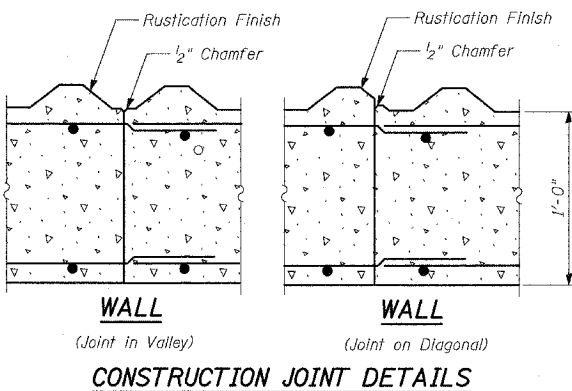
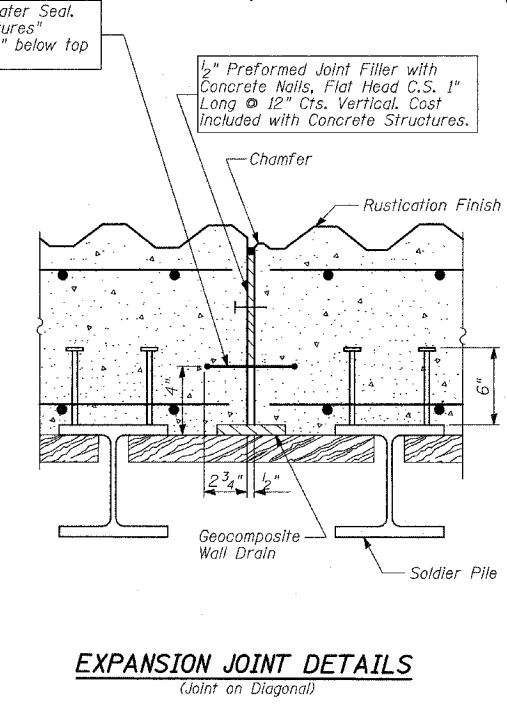
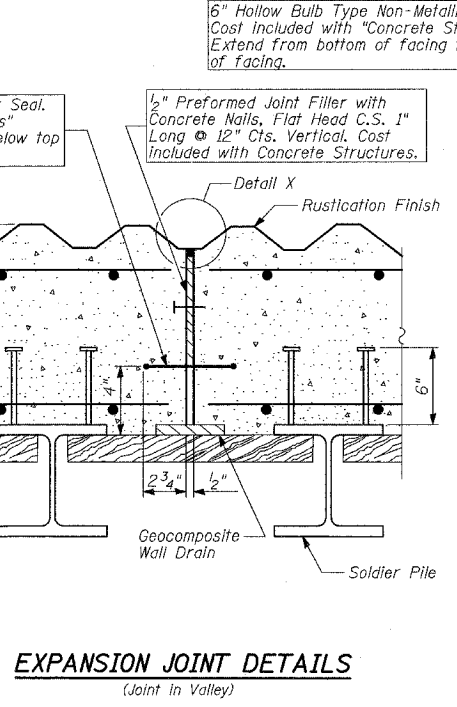
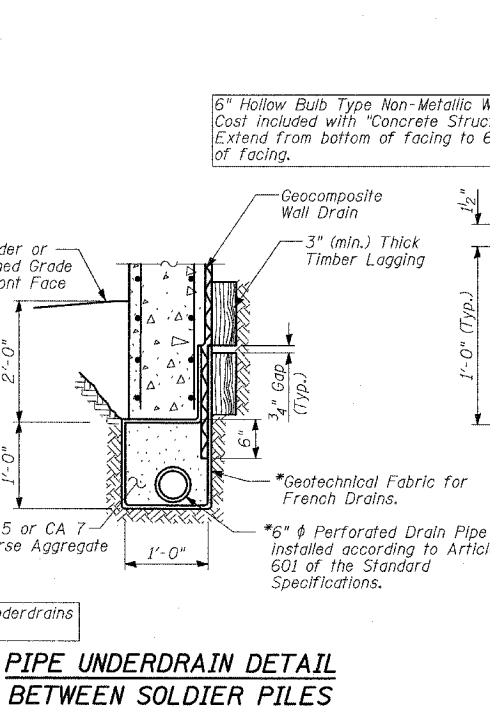
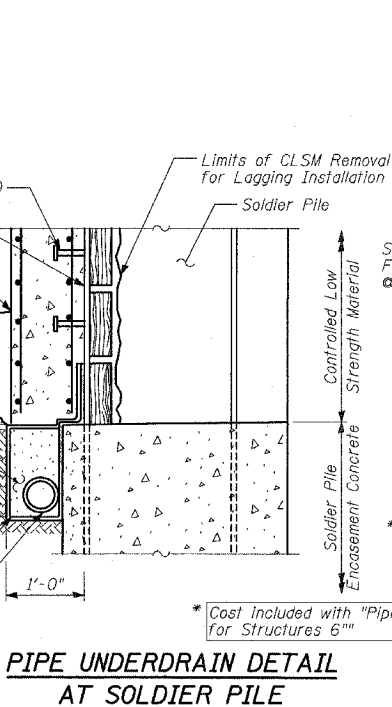
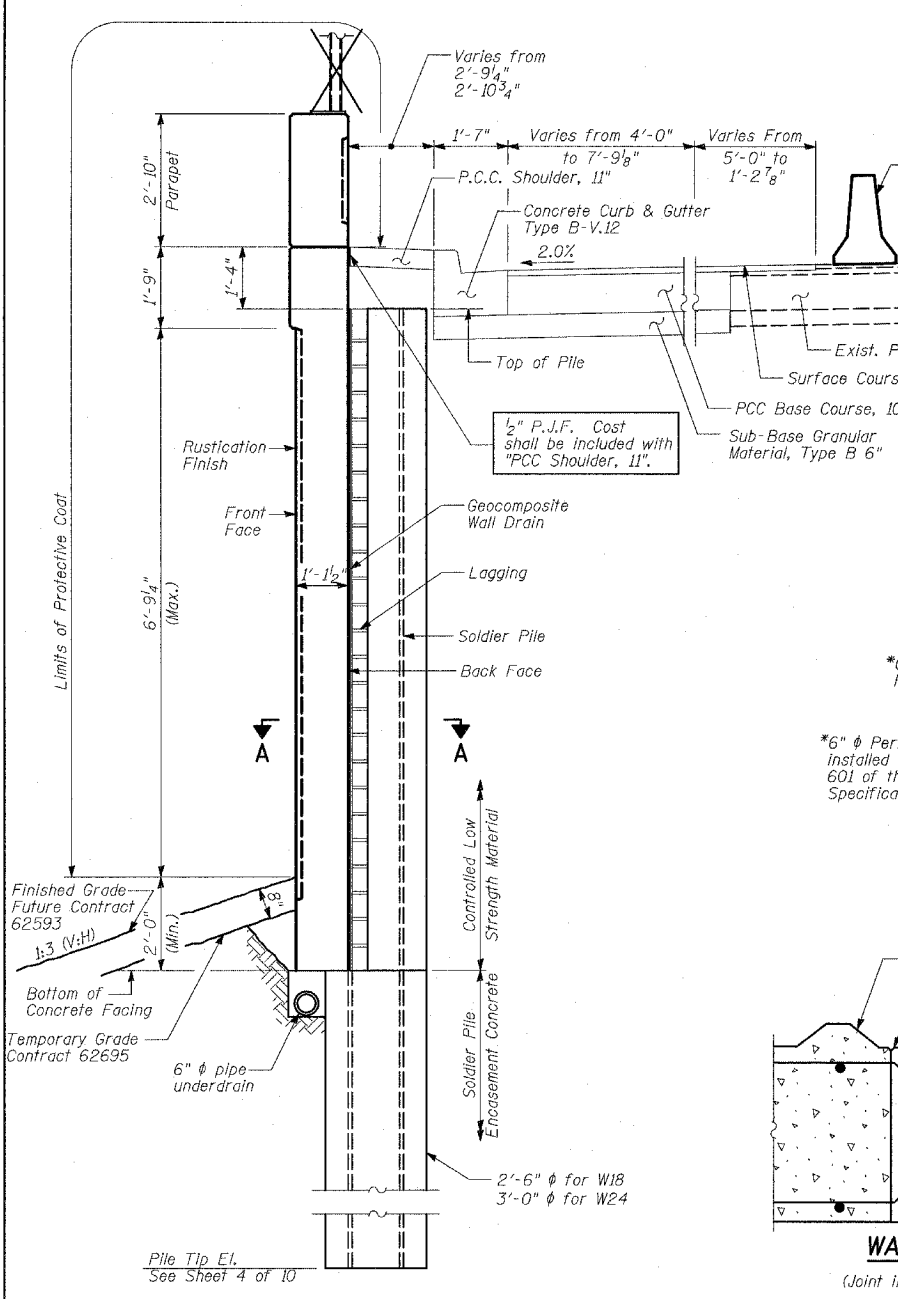
NOTES:

1. B.F. - denotes Back Face.
2. E.F. - denotes Each Face.
3. F.F. - denotes Front Face.
4. Work this Sheet with Sheets 5 thru 7 of 10.
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.

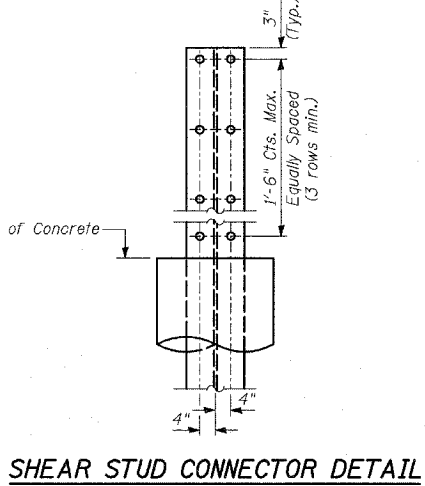
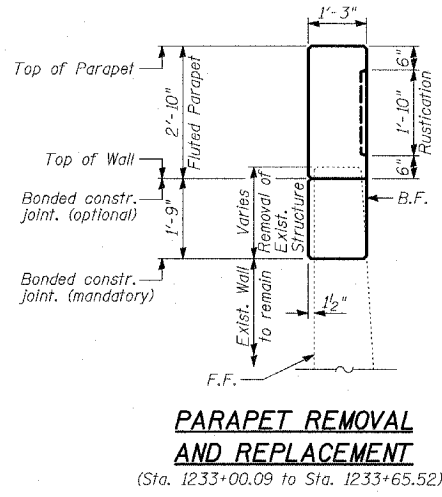
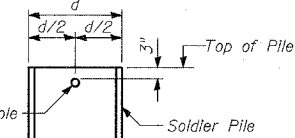
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
91ST ST. TO CRI&P RR WALL 37 - PLAN & ELEV. STA. 1234+25.52 TO STA. 1235+15.52,
PILE LAYOUT, DETAILS & BILL OF MATERIAL
 S.N. 016-W949
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

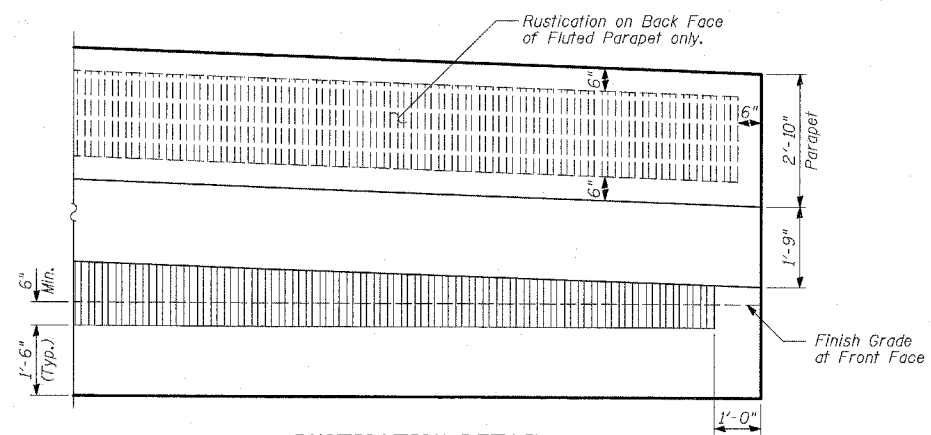
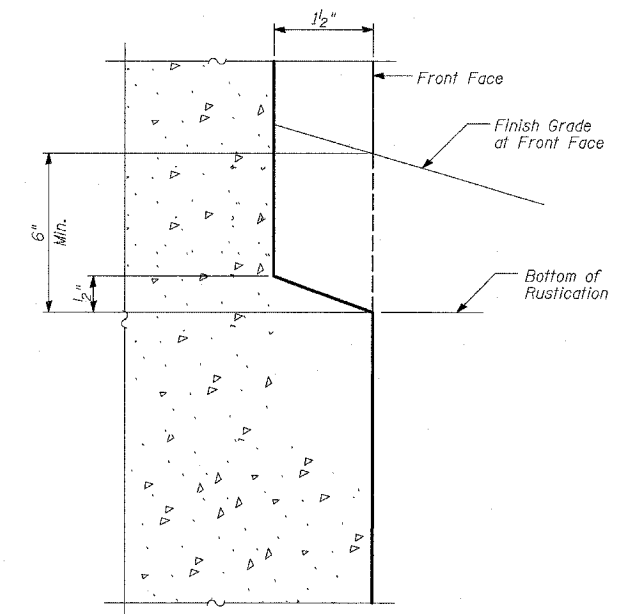
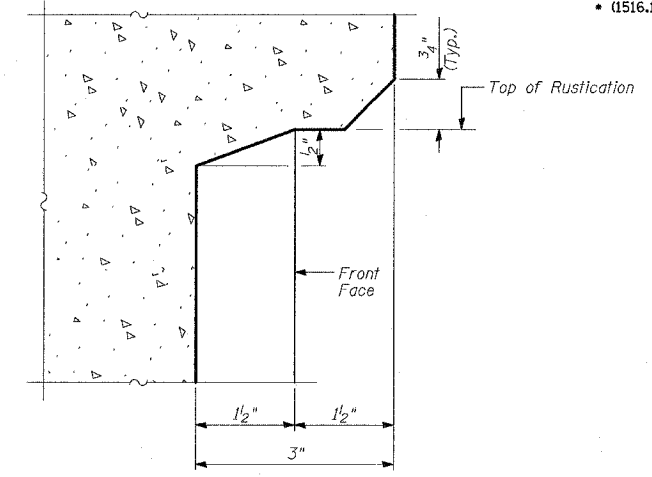
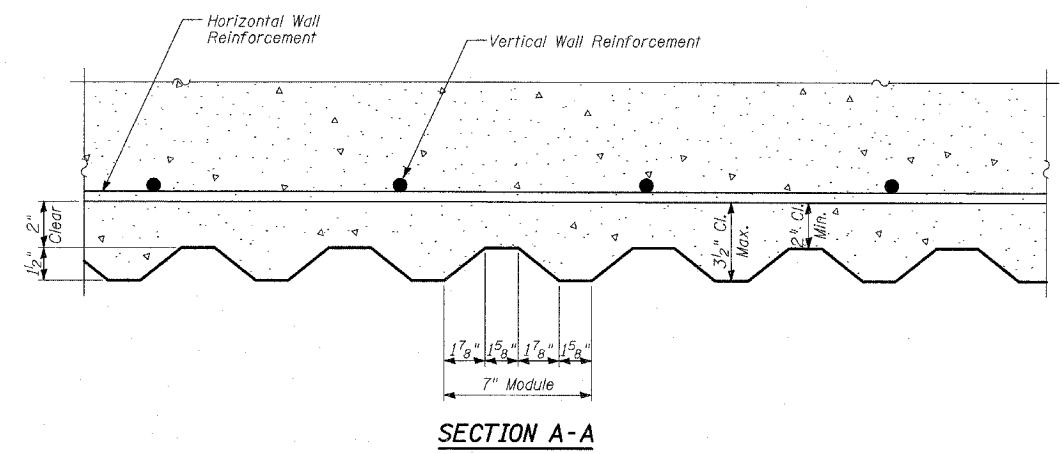
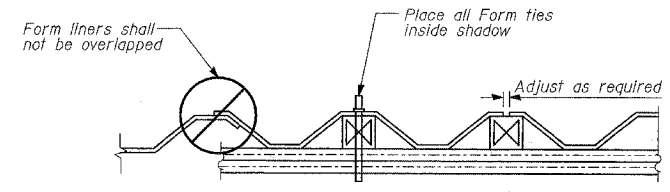
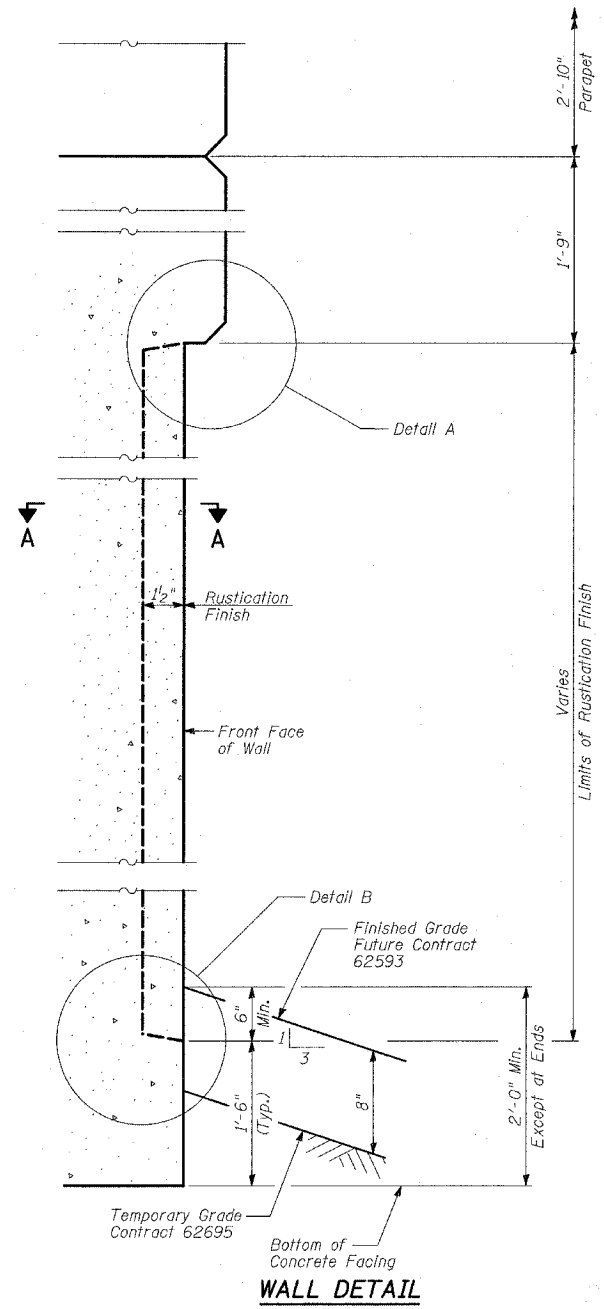
ITEM	UNIT	TOTAL
Stud Shear Connectors	EACH	276
Untreated Timber Lagging	SQ FT	912
Geocomposite Wall Drain	SQ YD	110
Pipe Underdrains for Structures, 6"	FOOT	150

TYLIN INTERNATIONAL

REVISIONS

NAME	DATE
REVISED	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
91ST ST. TO CR1&P RR
WALL 37
 S.N. 016-W949 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



NOTES

1. See Sheet 5 of 10 for expansion and construction joint details.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Rustication Finish	SO FT	976

REVISIONS

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
91ST ST. TO CRI&P RR
WALL 37
RUSTICATION DETAILS
S.N. 016-W949 DESIGNED BY: MI, MAF
SCALE: N.T.S. DRAWN BY: MAF, DJR
DATE: MARCH 25, 2005 CHECKED BY: TD, MI

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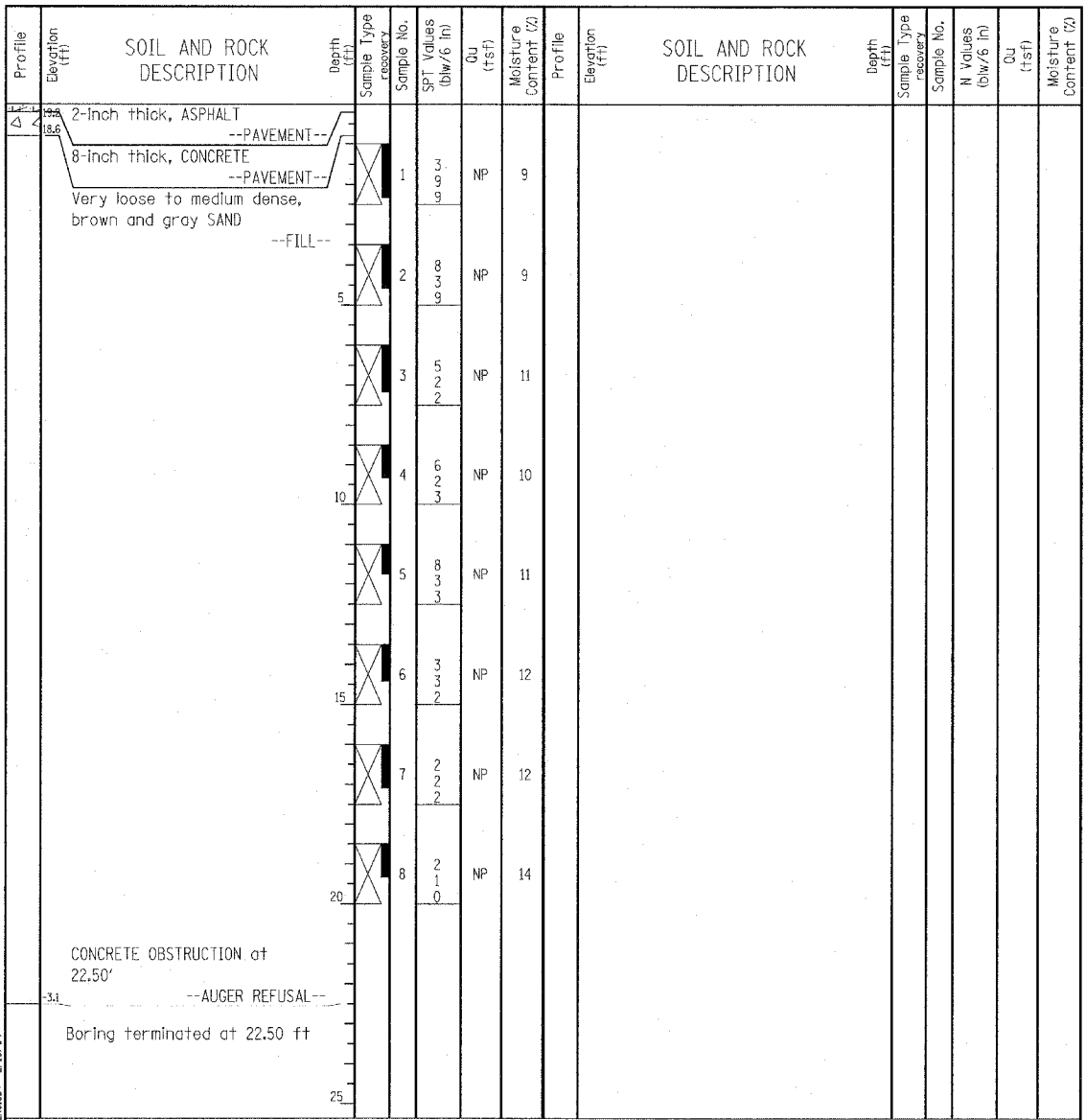
Wang Engineering, INC.
 Consulting Geotechnical and Environmental Engineers
 wangeng3@wangeng.com
 1145 Main Street
 Lombard, IL 60148
 Telephone: 630 953-9928
 Fax: 630 953-9938

BORING LOG SB 37-01

Page 1 of 1

WEI Job No.: 414-07-01
 Datum: CCD
 Elevation: 19.41 ft
 North: 1844693.83 ft
 East: 1177544.37 ft
 Station: 1233+44.9
 Offset: 138.366' LT

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	01-05-2004	Complete Drilling	01-05-2004	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				
				Depth to Water	▽ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.					

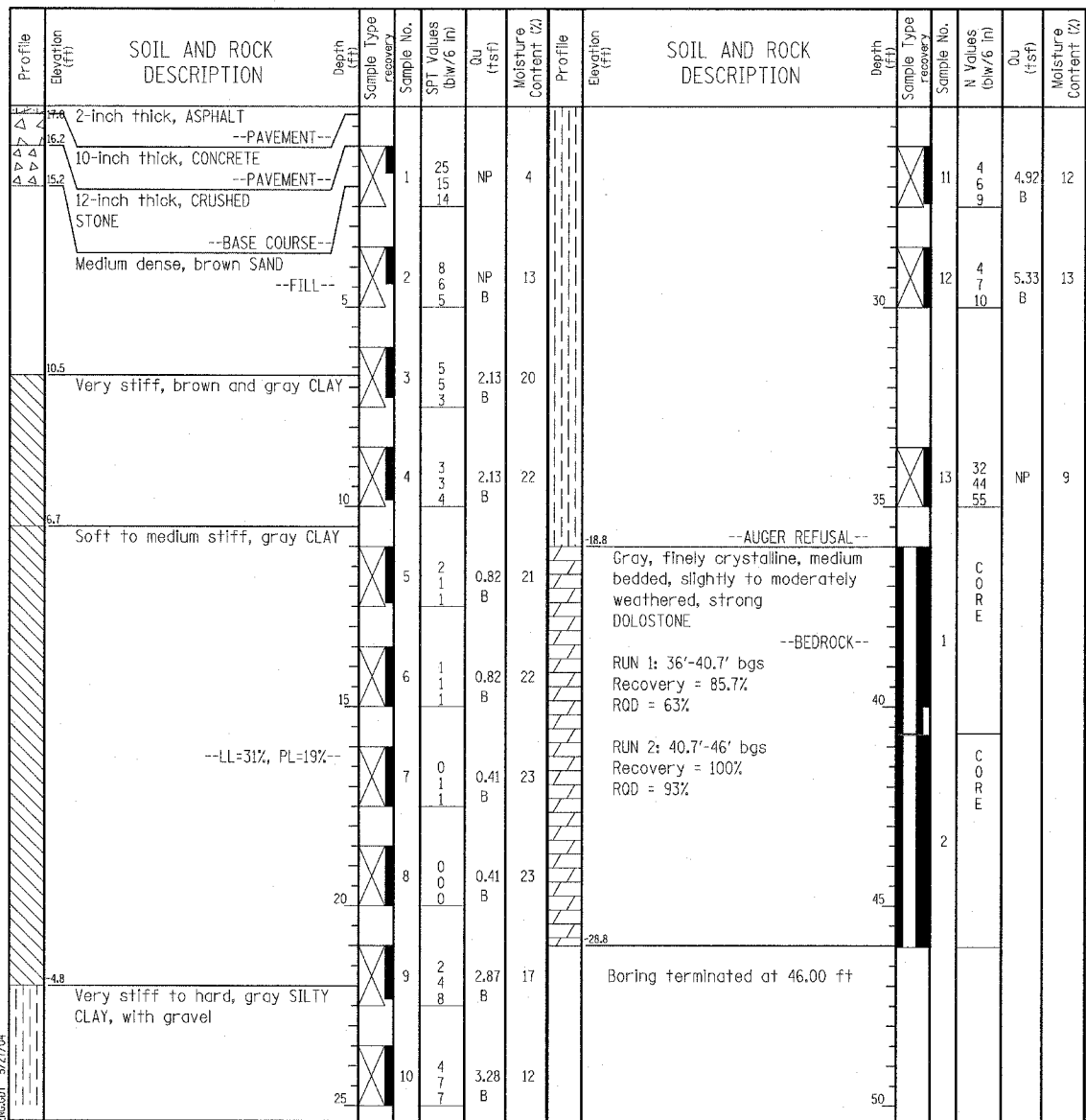
Wang Engineering, INC.
 Consulting Geotechnical and Environmental Engineers
 wangeng3@wangeng.com
 1145 Main Street
 Lombard, IL 60148
 Telephone: 630 953-9928
 Fax: 630 953-9938

BORING LOG SB 37-02

Page 1 of 1

WEI Job No.: 414-07-01
 Datum: CCD
 Elevation: 17.20 ft
 North: 1844771.00 ft
 East: 1177542.67 ft
 Station: 1233+49.2
 Offset: 137.852' LT

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	01-02-2004	Complete Drilling	01-02-2004	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				
				Depth to Water	▽ NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.					

WANGENG-4140701-01 WANGENG-GT 2/10/04

WANGENG-4140701-02 WANGENG-GT 5/27/04



REVISIONS	
NAME	DATE

SHEET 8 OF 10

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 91ST ST. TO CRI&P RR
 WALL 37
 BORING LOGS SB37-01 & SB37-02
 S.N. 016-W949
 SCALE: N.T.S.
 DATE: MARCH 25, 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 37-03 Page 1 of 1

WEI Job No.: 414-07-01
 Datum: CCD
 Elevation: 13.30 ft
 North: 1844844.28 ft
 East: 1177540.21 ft
 Station: 1234+65.4
 Offset: 138.213' LT

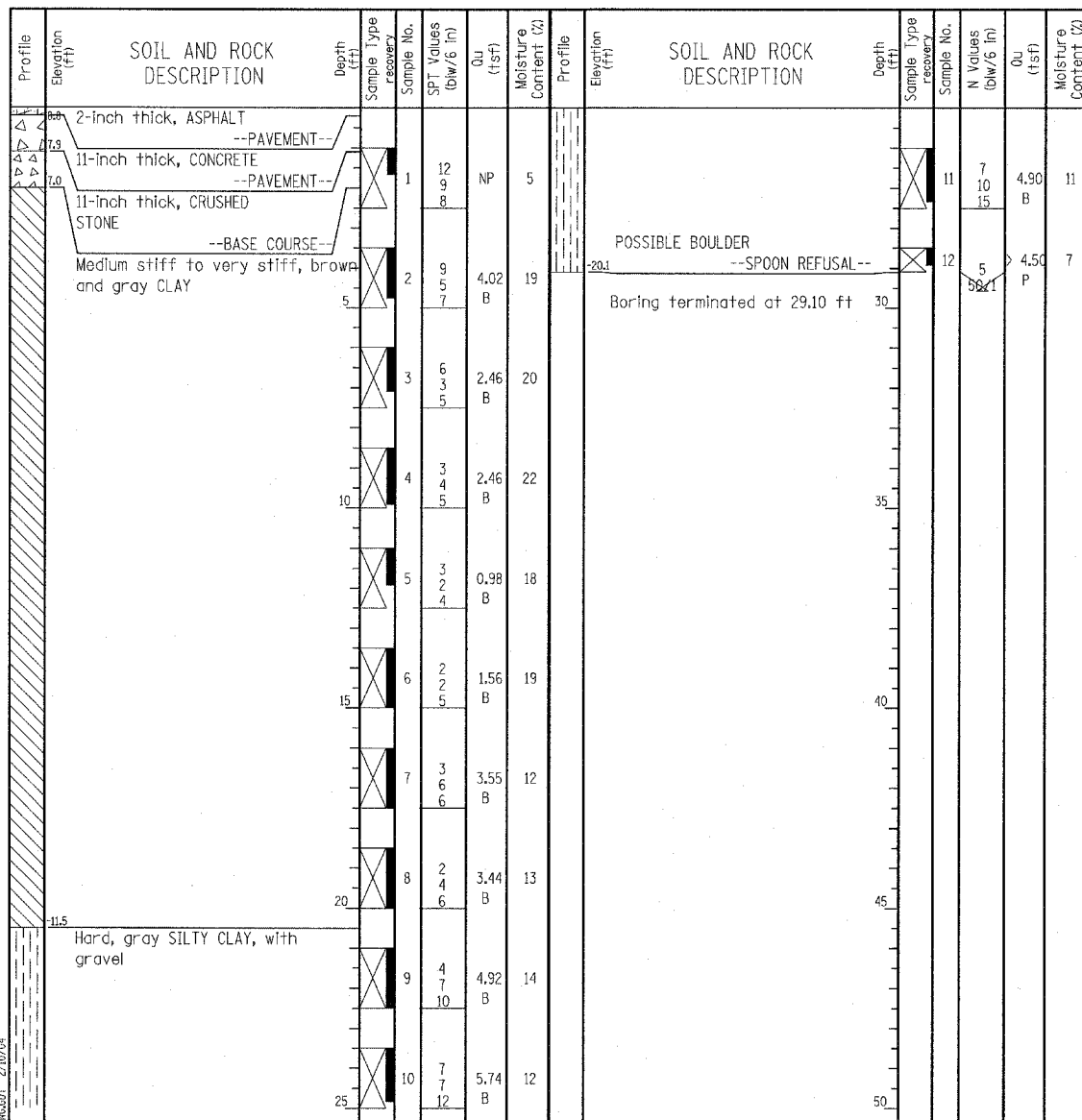
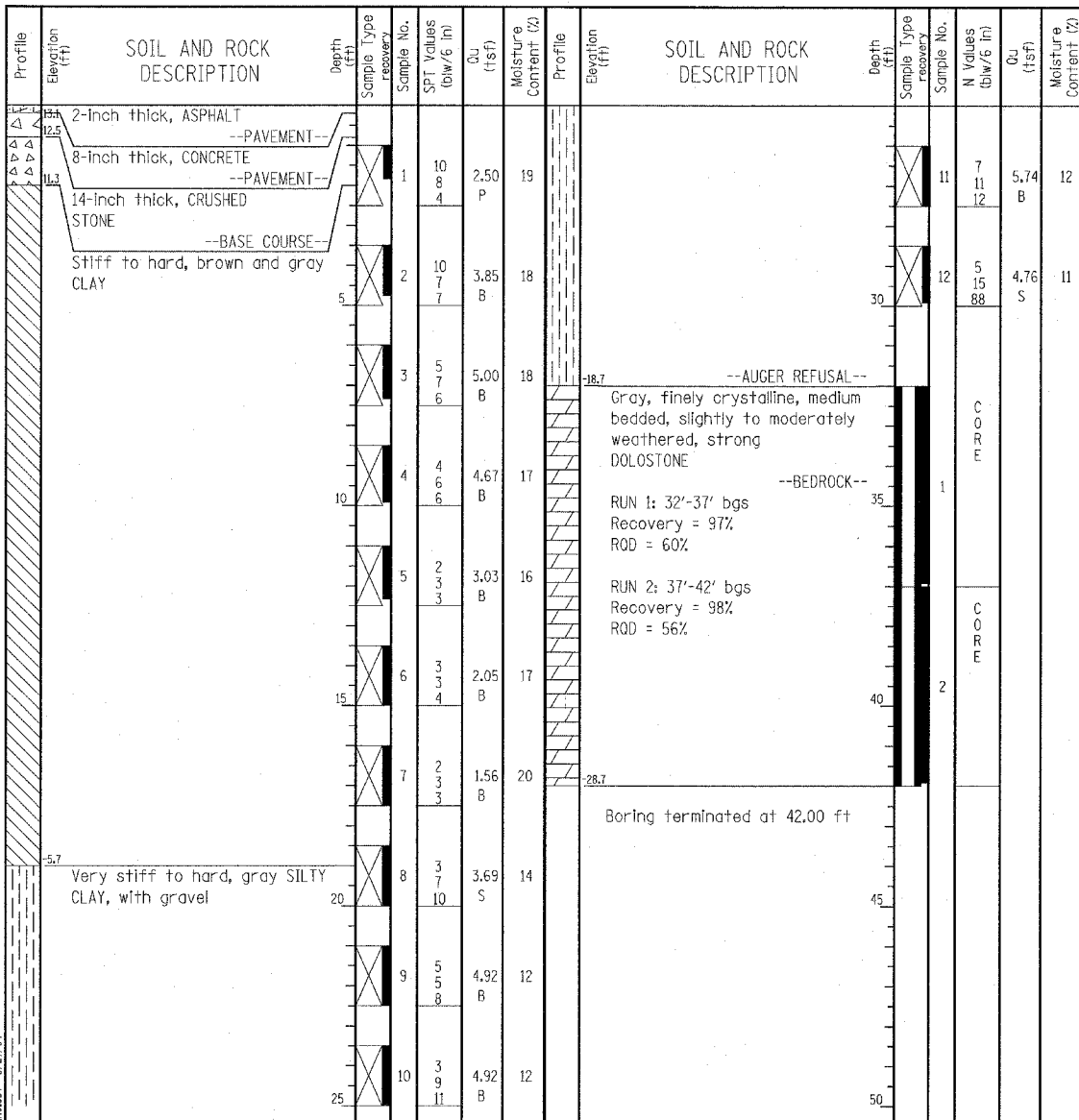
Client: T. Y. LIN International
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01
 Location: From 95th Street to South of 69th Street

Wang Engineering, Inc.
 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 37-04 Page 1 of 1

WEI Job No.: 414-07-01
 Datum: CCD
 Elevation: 8.98 ft
 North: 1844919.92 ft
 East: 1177539.09 ft
 Station: 1235+41.0
 Offset: 137.17' LT

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	01-05-2004	Complete Drilling	01-05-2004	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			Depth to Water	∇ NA

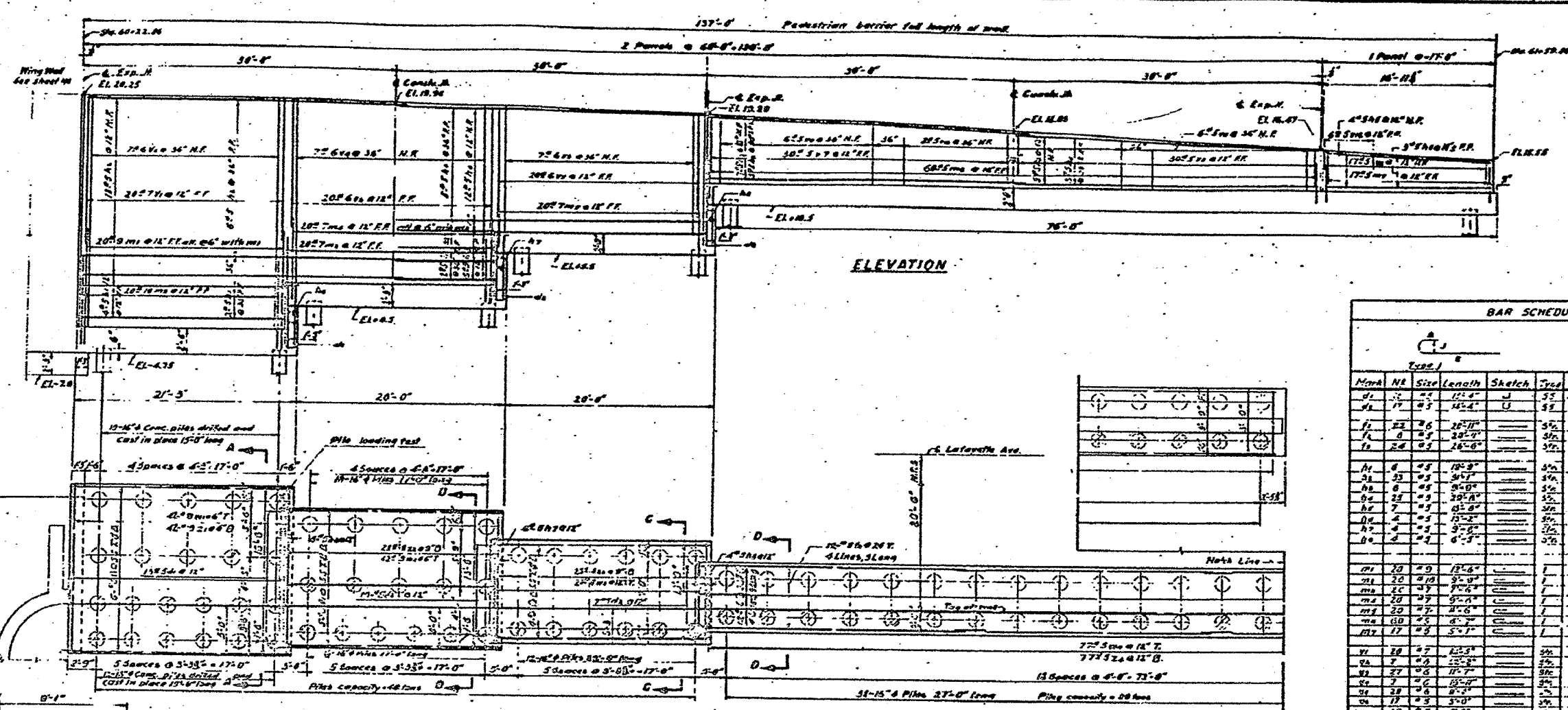
GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	01-02-2004	Complete Drilling	01-02-2004	While Drilling	∇ DRY
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇ DRY
Driller	J&L	Logger	K. Jacob	Time After Drilling	NA
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	∇ NA



REVISIONS	
NAME	DATE

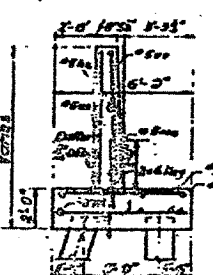
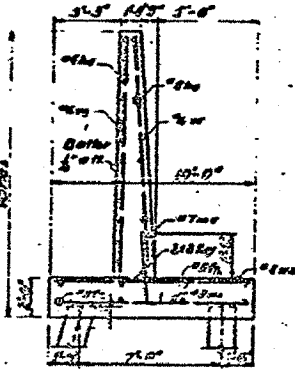
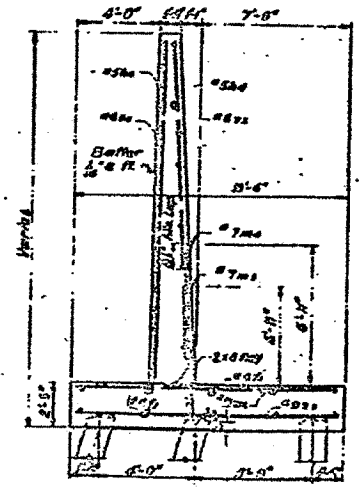
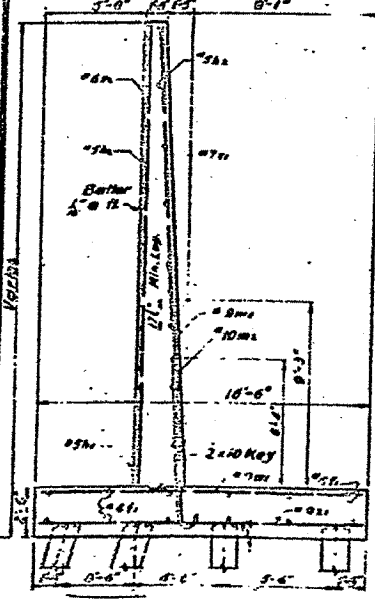
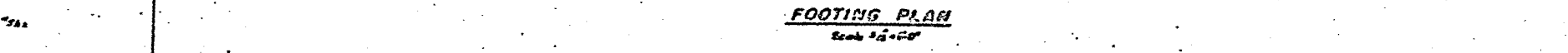
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 91ST ST. TO CRI&P RR
 WALL 37
 BORING LOGS SB37-03 & SB37-04
 S.N. 016-W949
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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



BAR SCHEDULE

Mark	NR	Size	Length	Sketch	Type	A	B	C	D	G	J
F1	1	#4	11'-4"	U	3						
F2	17	#3	14'-4"	U	3	4-2	1-3	2-3	3		
F3	22	#6	26'-7"		3%						
F4	8	#3	24'-0"		3%						
F5	24	#3	24'-6"		3%						
H1	8	#3	18'-9"		3%						
H2	23	#3	9'-7"		3%						
H3	8	#3	8'-0"		3%						
H4	22	#3	30'-8"		3%						
H5	7	#3	6'-8"		3%						
H6	4	#3	15'-2"		3%						
H7	4	#3	9'-8"		3%						
H8	3	#4	6'-3"		3%						
M1	20	#3	11'-6"		1%	1-3	1-3				1-3
M2	20	#3	9'-9"		1%	1-3	1-3				1-3
M3	20	#3	9'-9"		1%	1-3	1-3				1-3
M4	20	#3	9'-9"		1%	1-3	1-3				1-3
M5	20	#3	9'-9"		1%	1-3	1-3				1-3
M6	20	#3	9'-9"		1%	1-3	1-3				1-3
M7	17	#3	5'-1"		1%	7	7				7
W1	20	#3	15'-3"		3%						
W2	20	#3	15'-3"		3%						
W3	27	#3	17'-7"		3%						
W4	7	#3	15'-7"		3%						
W5	18	#3	8'-3"		3%						
W6	19	#3	7'-3"		3%						
W7	18	#3	6'-0"		3%						
W8	8	#3	6'-0"		3%						
W9	8	#3	5'-0"		3%						
W10	8	#3	5'-0"		3%						
W11	8	#3	5'-0"		3%						
W12	21	#3	15'-4"		3%						
W13	23	#3	18'-3"		3%						
W14	21	#3	9'-0"		3%						
W15	27	#3	6'-8"		3%						
S1	42	#3	15'-5"		3%						
S2	42	#3	15'-5"		3%						
S3	21	#3	9'-4"		3%						
S4	22	#3	6'-3"		3%						



BILL OF MATERIAL

Item	Quantity	Unit
Class 2 Concrete	1718	Cu Yds.
Reinforcement Bars	46228	LB.
1 1/2" Steel Grating	280	LIN. FT.
15" Dia. Piles	180	LIN. FT.
Pile Embedment Seal	1	CSK.
15" Dia. Piles drilled and cast in place	1492	LIN. FT.

NOTES:
 For General Plan of wall see sheet NR 22.
 For details of construction & expansion Jts. see sheet NR 22.
 For details of pedestrian barrier see sheet NR 23.
 For details of pile reinforcement see sheet NR 23.

REVISIONS

DATE	BY	DESCRIPTION

DEPARTMENT OF HIGHWAYS
 COOK COUNTY, ILLINOIS
 DANIEL RYAN WILLIAM J. MORTIMER
 91ST STREET GRADE SEPARATION
 OVER SOUTH ROUTE EXPRESSWAY
 PROJECT 61-04-B(47)
 SCALE: As Shown
 CHECKED: J.L.P.
 DATE: July 15, 1977
 SHEET 4 OF 27

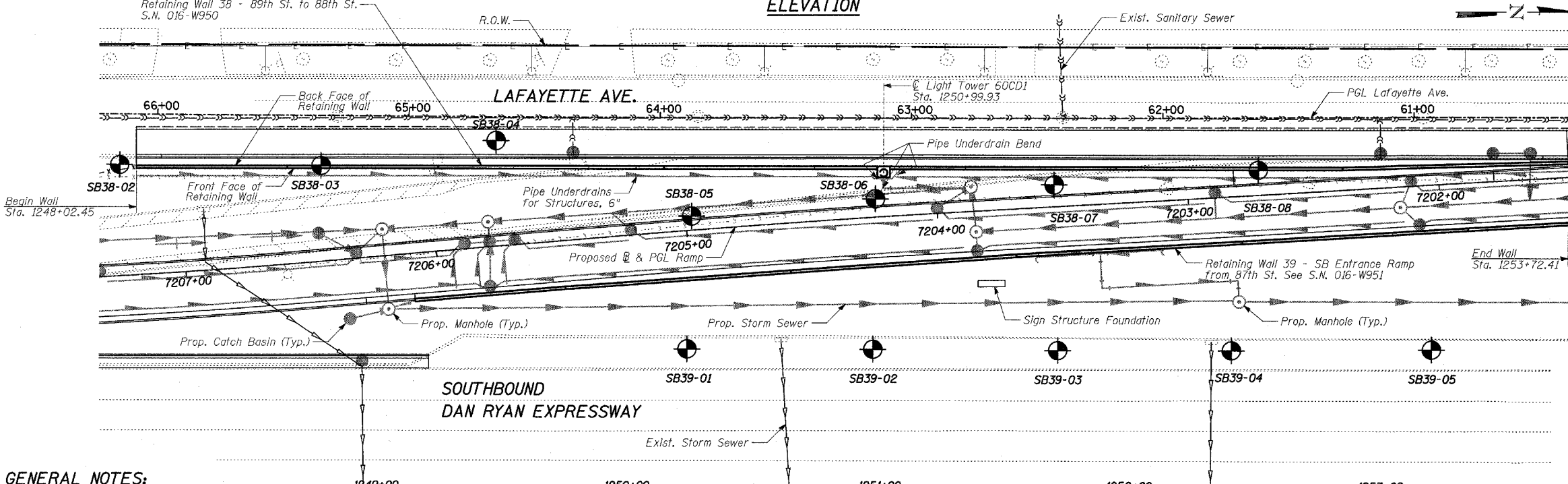
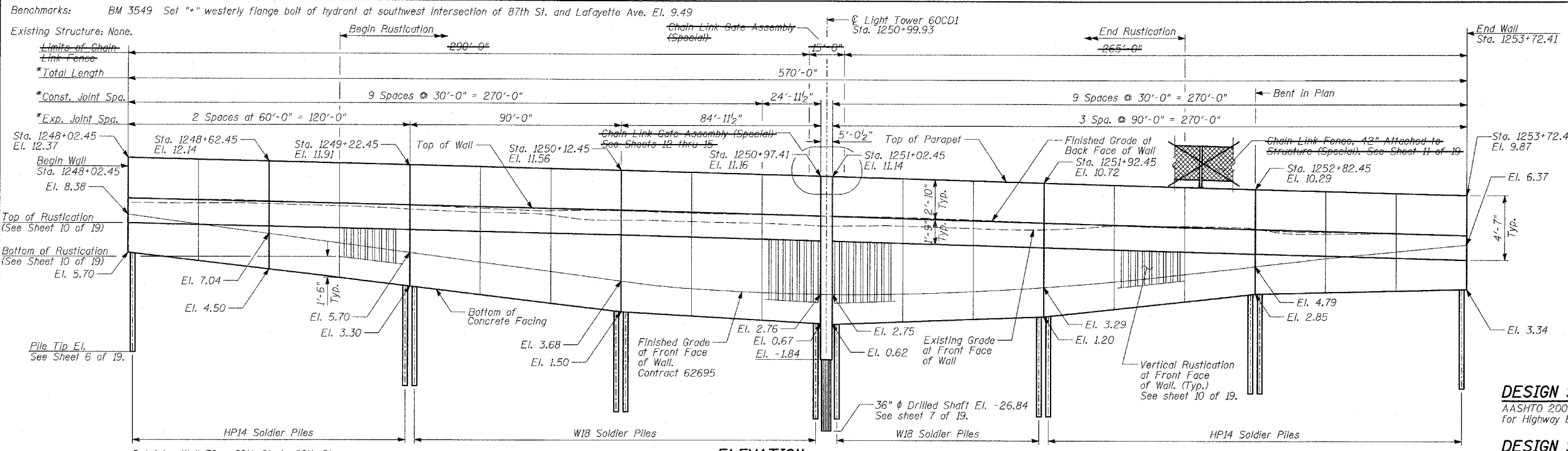
REVISIONS

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 91ST ST. TO CR&P RR
 WALL 37
 S.N. 016-W949 DESIGNED BY: DJR
 SCALE: N.T.S. DRAWN BY: DJR
 DATE: MARCH 18, 2005 CHECKED BY:

TYLIN INTERNATIONAL

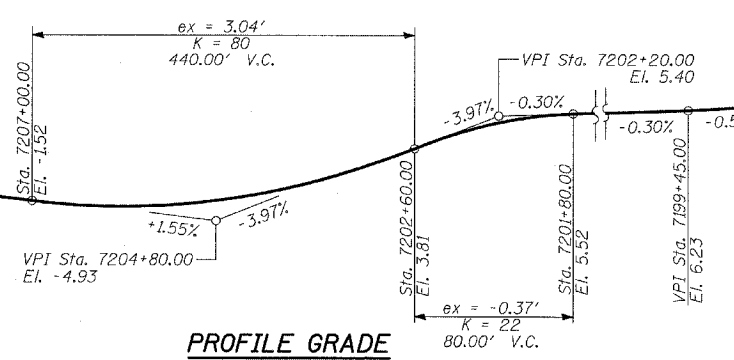
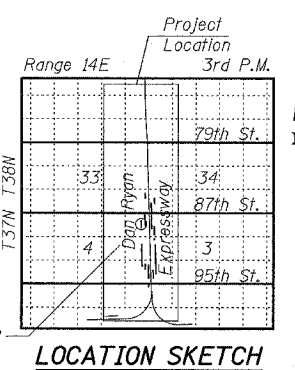
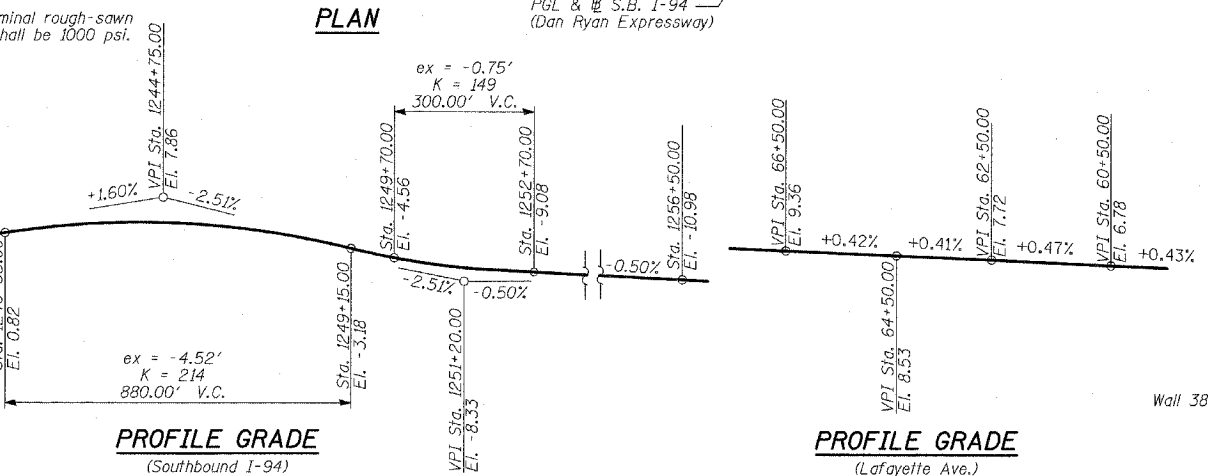
Do not work from this sheet.
 The information shown is for
 reference purposes only.
 No Pay Items are shown.



- GENERAL NOTES:**
1. Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
 2. 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.
 3. The soldier piles shall be cleaned and given one shop coat of Inorganic Zinc-Rich primer.
 4. All exposed concrete edges shall be chamfered 3/4" except as noted.
 5. Protective Coat shall be applied to exposed surfaces of the concrete facing.
 6. Existing utilities in conflict with soldier pile wall construction shall be abandoned or relocated according to directions given on the roadway plans.
 7. All construction joints shall be banded.
 8. 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)
 9. The wall shall be backfilled (where applicable) prior to placing the concrete facing.
 10. 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.

TYLIN INTERNATIONAL

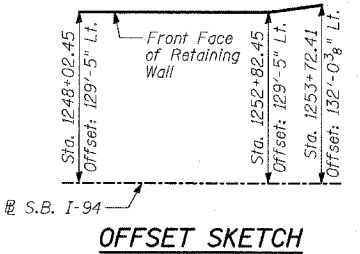


F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	907	517
STA. 1200+00.00 TO STA. 1365+00				
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	62695
			(1516.1, 1717 & 1818) R-9	

ITEM	UNIT	TOTAL
Structure Excavation	CU YD	378
Concrete Structures	CU YD	229
Protective Coat	SQ YD	694
Rustication Finish	SQ FT	2,280
Stud Shear Connectors	EACH	618
Untreated Timber Lagging	SQ FT	2,576
Furnishing Soldier Piles (HP Section)	FOOT	1,184
Furnishing Soldier Piles (W Section)	FOOT	1,143
Reinforcement Bars, Epoxy Coated	POUND	32,540
Geocomposite Wall Drain	SQ YD	318
Pipe Underdrains for Structures, 6"	FOOT	570
Drilling and Setting Soldier Piles (in Soil)	CU FT	11,787
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	555
Chain Link Gate Assembly (Special)	EACH	1
Drilled Shaft in Soil 36"	FOOT	30

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**
1. GENERAL PLAN
 2. PLAN AND ELEVATION STA. 1248+02.45 TO STA. 1249+22.45
 3. PLAN AND ELEVATION STA. 1249+22.45 TO STA. 1251+02.45
 4. PLAN AND ELEVATION STA. 1251+02.45 TO STA. 1252+82.45
 5. PLAN AND ELEVATION STA. 1252+82.45 TO STA. 1253+72.41
 6. PILE LAYOUT, DETAILS & BILL OF MATERIAL
 7. LIGHT TOWER 60CD1 FOUNDATION DETAILS
 8. WALL CROSS SECTIONS & DETAILS
 9. RUSTICATION DETAILS
 10. CHAIN LINK FENCE - 42" ATTACHED TO STRUCTURE (SPECIAL)
 11. GATE PLAN AND NOTES
 12. GATE ELEVATIONS
 13. GATE SECTIONS
 14. GATE SECTIONS AND DETAILS
 15. BORING LOGS SB38-02 & SB38-03
 16. BORING LOGS SB38-04 & SB38-05
 17. BORING LOGS SB38-06 & SB38-07
 18. BORING LOG SB38-08



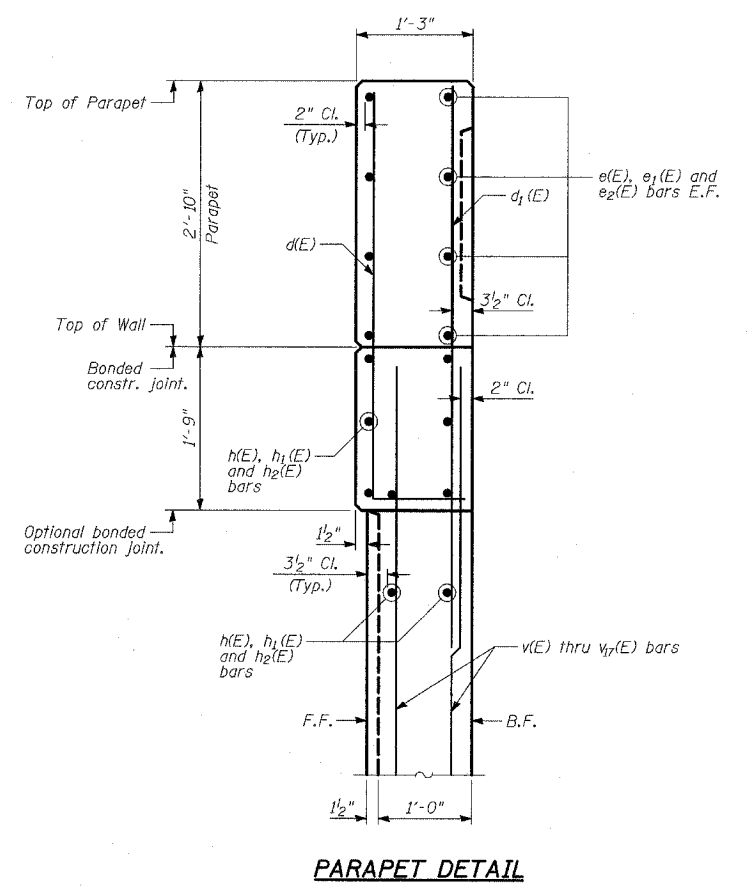
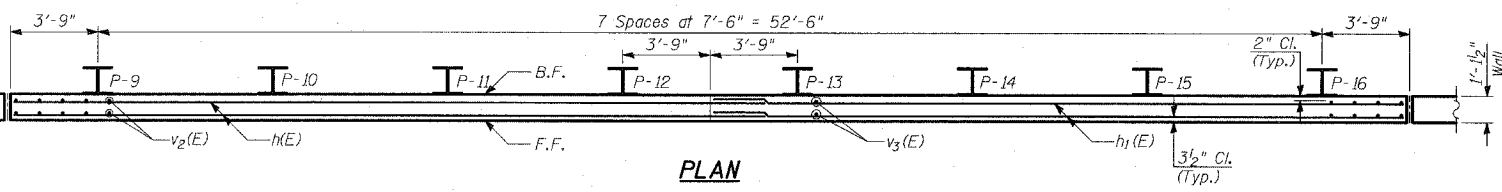
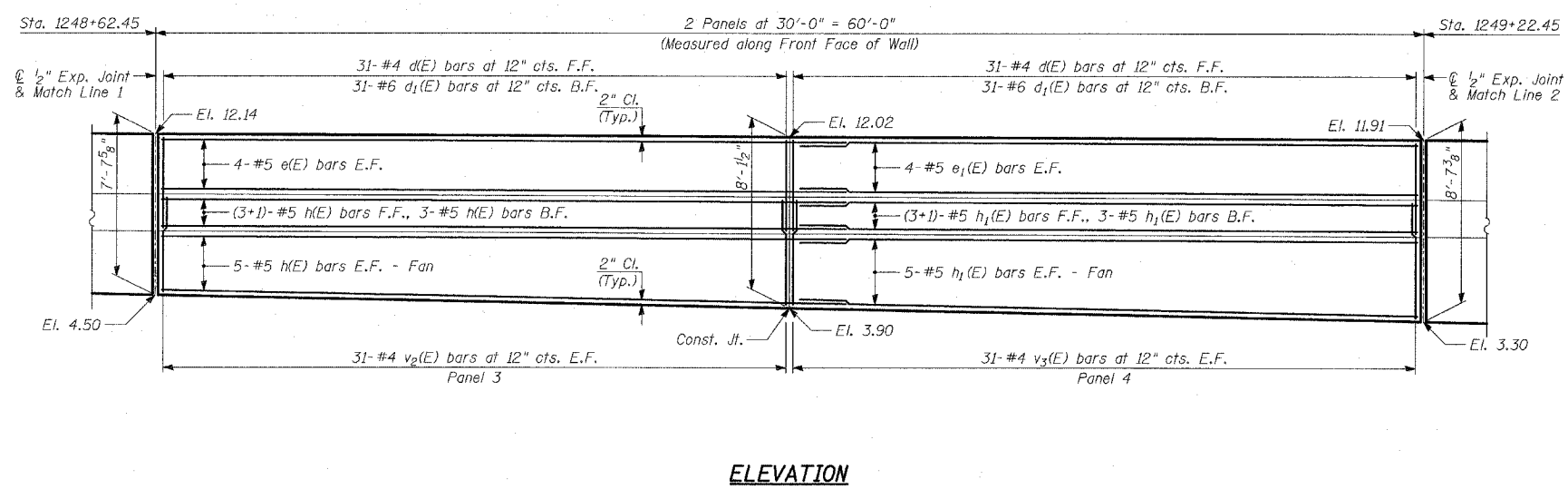
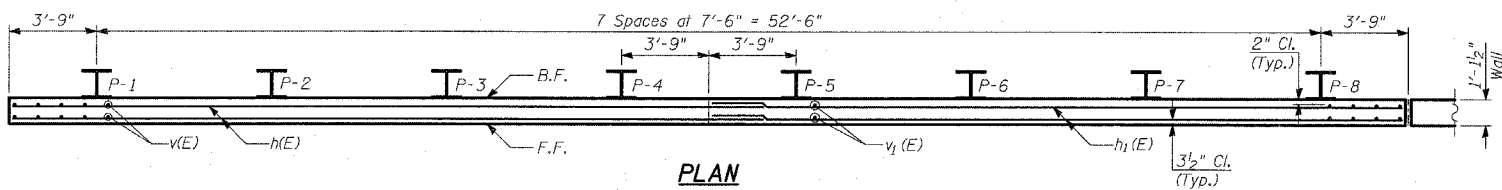
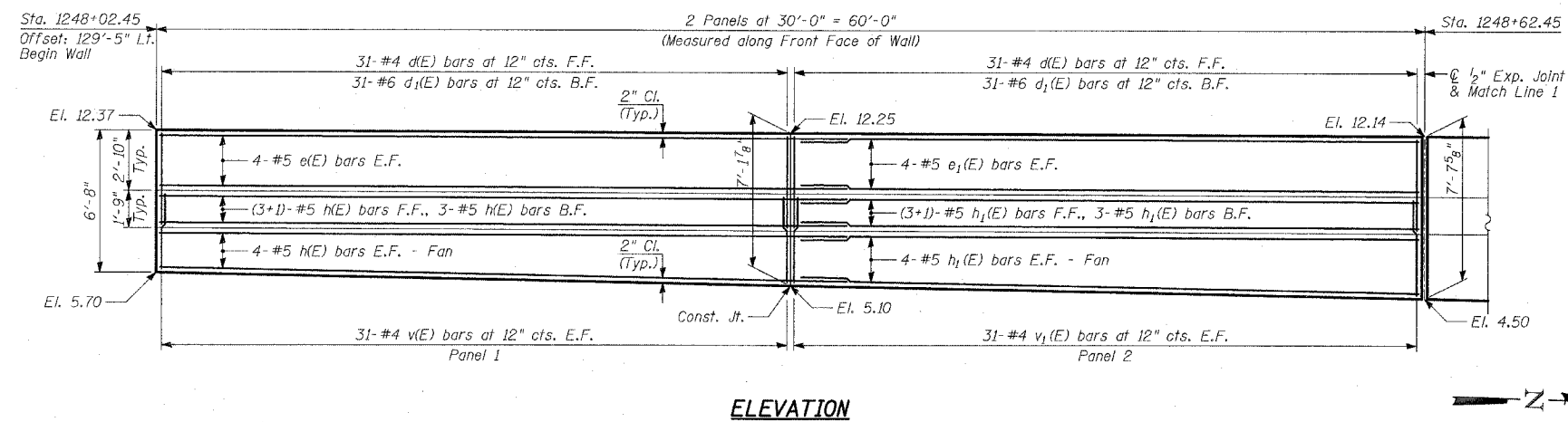
Signed: *Phillip D. Frey*
 PHILLIP D. FREY, S.E. II, Lic. No. 081-004826, Expires 11-30-2006.
 Date: 3/25/05

REVISIONS		DATE
NAME		

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
89TH ST. TO 88TH ST.
WALL 38 - GENERAL PLAN
STA. 1248+02.45 TO STA. 1253+72.41
 S.N. 016-W950
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

SHEET 1 OF 19



NOTES:

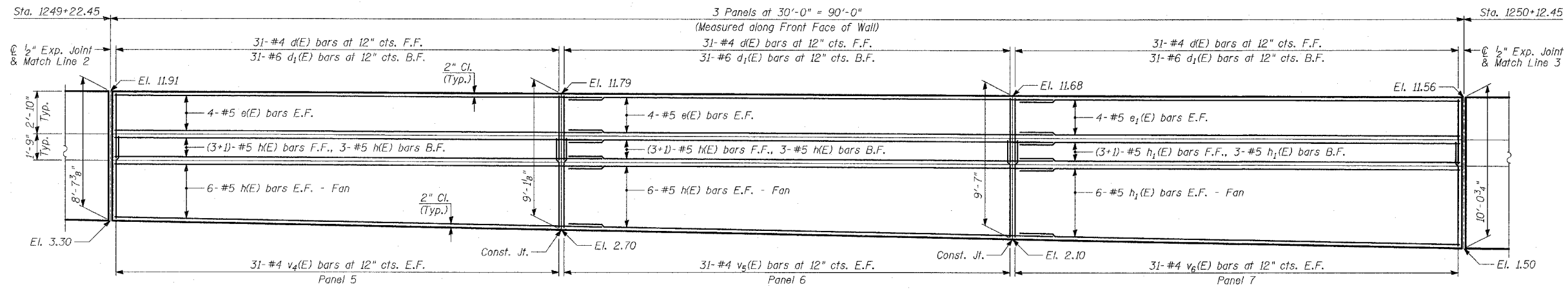
1. B.F. - denotes Back Face.
2. E.F. - denotes Each Face.
3. F.F. - denotes Front Face.
4. Work this Sheet with Sheets 6 and 9 thru 11 of 19.
5. Pile spacing measured along front face of wall.
6. For Lap Splices, see Sheet 6 of 19.

TYLIN INTERNATIONAL

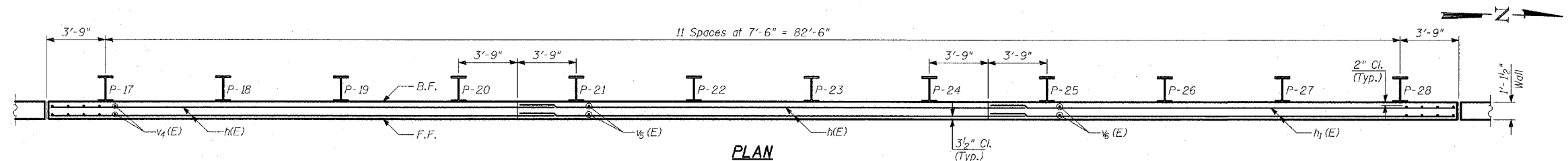
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
89TH ST. TO 88TH ST.
WALL 38 - PLAN AND ELEVATION
STA. 1248+02.45 TO STA. 1249+22.45
 S.N. 016-W950 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI

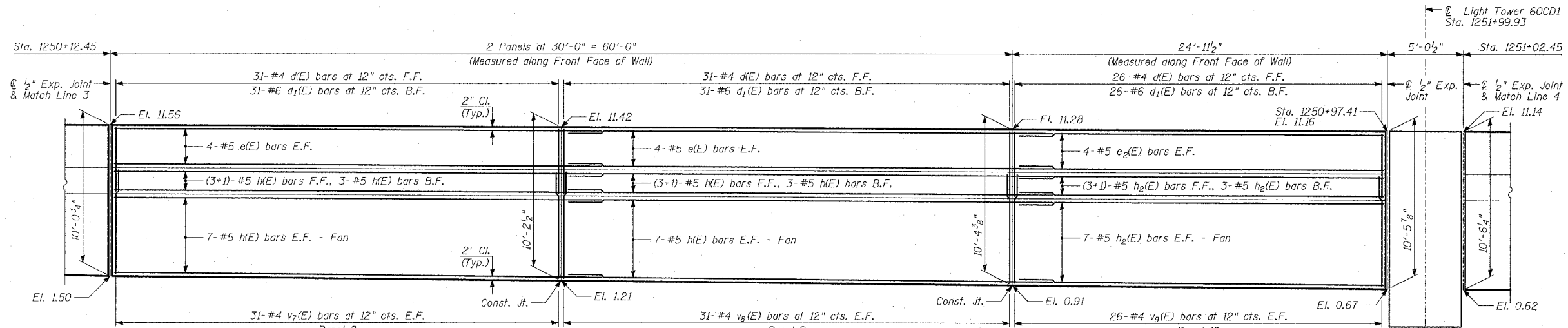
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	907	519
STA. 1200+00.00		TO STA. 1365+00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
• (1516.1, 1717 & 1818) R-9		62695		



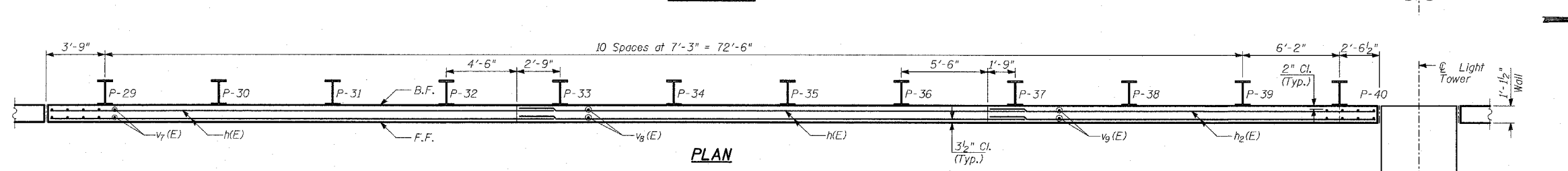
ELEVATION



PLAN



ELEVATION



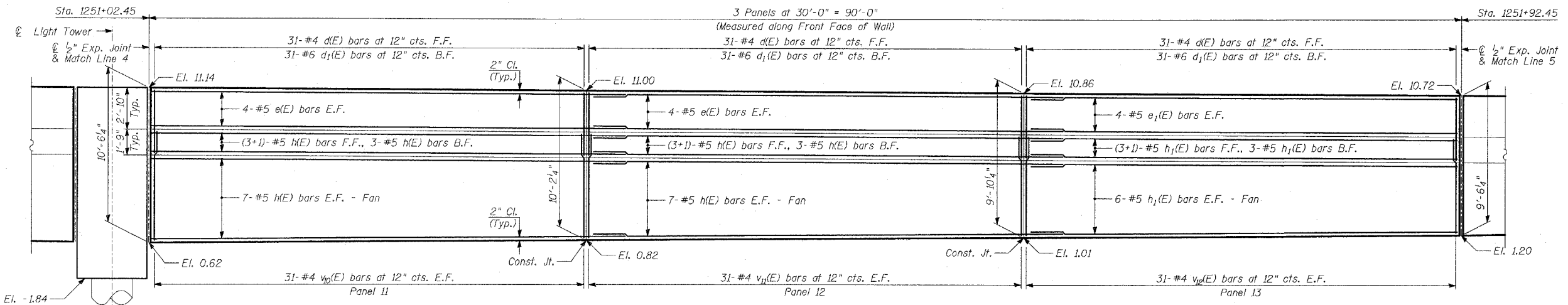
PLAN

- 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 thru 15 of 19.
 5. Pile spacing measured along front face of wall.
 6. For Lap Splices, see Sheet 6 of 19.

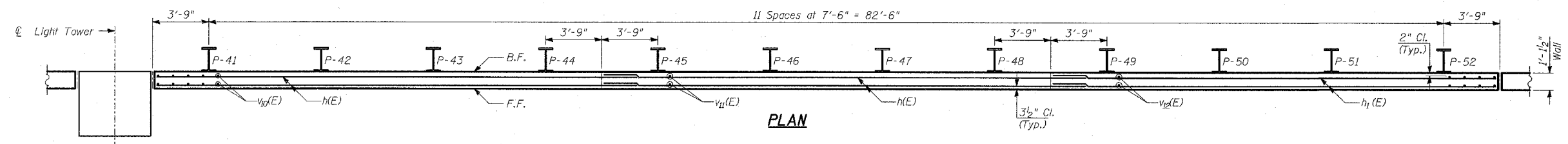
TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

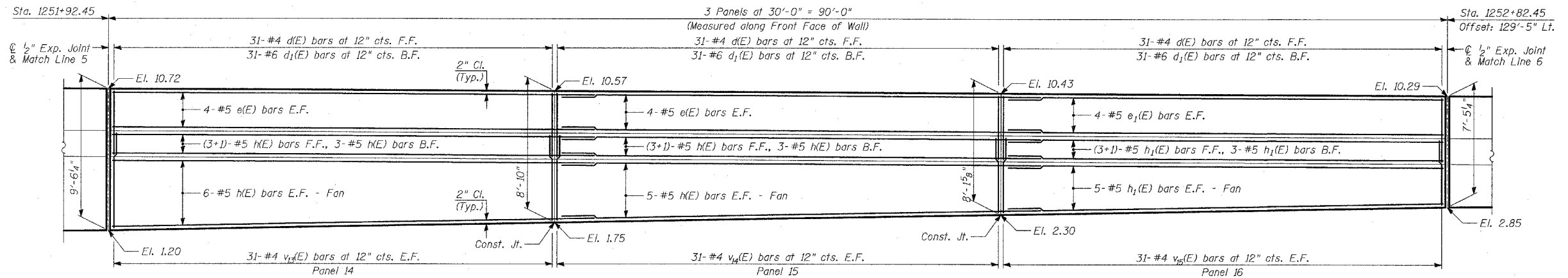
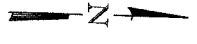
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
89TH ST. TO 88TH ST.
WALL 38 - PLAN AND ELEVATION
STA. 1249+22.45 TO STA. 1251+02.45
 S.N. 016-W950 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



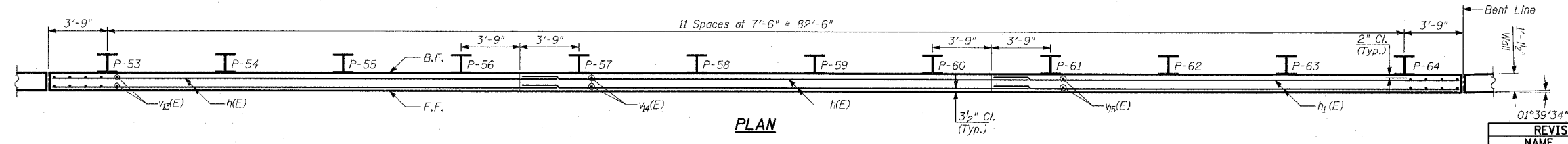
ELEVATION



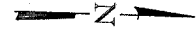
PLAN



ELEVATION



PLAN



NOTES:

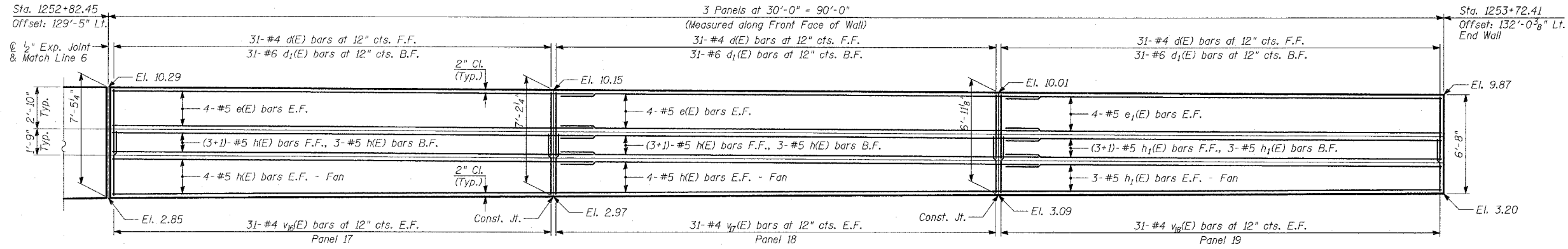
1. B.F. - denotes Back Face.
2. E.F. - denotes Each Face.
3. F.F. - denotes Front Face.
4. Work this Sheet with Sheets 6 and 9 thru 11 of 19.
5. Pile spacing measured along front face of wall.
6. For Lap Splices, see Sheet 6 of 19.

TYLIN INTERNATIONAL

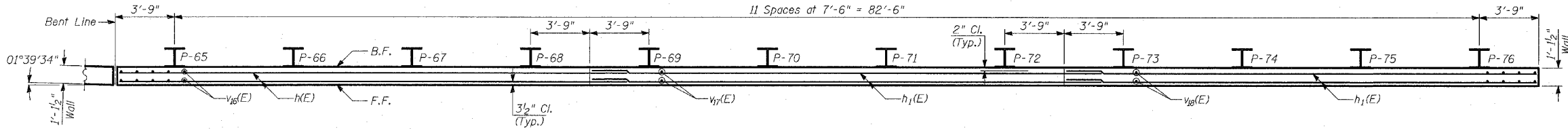
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
89TH ST. TO 88TH ST.
WALL 38 - PLAN AND ELEVATION
STA. 1251+02.45 TO STA. 1252+82.45
 S.N. 016-W950 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	907	521
STA. 1200+00.00		TO STA. 1365+00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
• (1516.1, 1717 & 1818) R-9		62695		



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 19.
5. Pile spacing measured along front face of wall.
6. For Lap Splices, see Sheet 6 of 19.

TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 88TH ST.
 WALL 38 - PLAN AND ELEVATION
 STA. 1252+82.45 TO STA. 1253+72.41
 S.N. 016-W950 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI

P:\02\31\Structur\Civil\Wall_38\WALL_38_Plan_03/29/2005_03:42:35.Plt

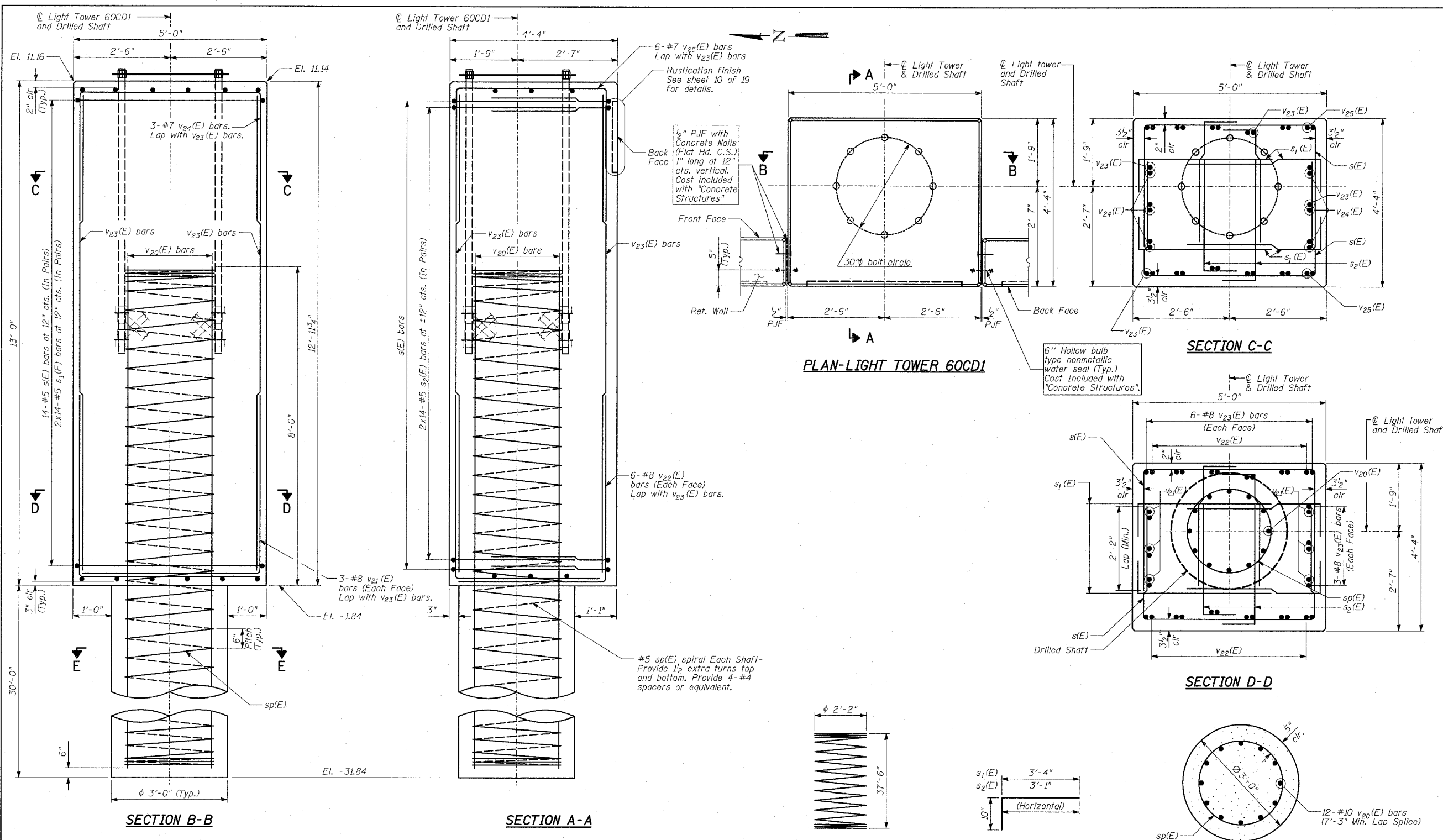
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s (E)	28	#5	10'-7"	┌
s ₁ (E)	56	#5	4'-2"	┌
s ₂ (E)	56	#5	3'-11"	┌
sp (E)	1	#5	37'-6"	
v ₂₀ (E)	12	#10	37'-6"	—
v ₂₁ (E)	6	#8	8'-11"	┌
v ₂₂ (E)	12	#8	8'-4"	┌
v ₂₃ (E)	18	#8	12'-6"	┌
v ₂₄ (E)	3	#7	11'-2"	┌
v ₂₅ (E)	6	#7	10'-8"	┌
Reinforcement Bars, Epoxy Coated		POUND	4,490	
Structure Excavation		CU YD	15	
Concrete Structures		CU YD	11	
Protective Coat		SQ YD	15	
Rustication Finish		SQ FT	8	
Drilled Shaft in Soil 36"		FOOT	30	

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".
- Concrete: f'c = 3,500 psi
Reinforcing: fy = 60,000 psi
- 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 19.
- Conduit is not shown for clarity. For location of conduit, see Sheet 8 of 19.
- Cost of anchor rod assembly, conduit and wires for grounding are included with "Concrete Structures".
- For Expansion Joint Details, see Sheet 9 of 19.
- Minimum lap for spirals = 2'-6"



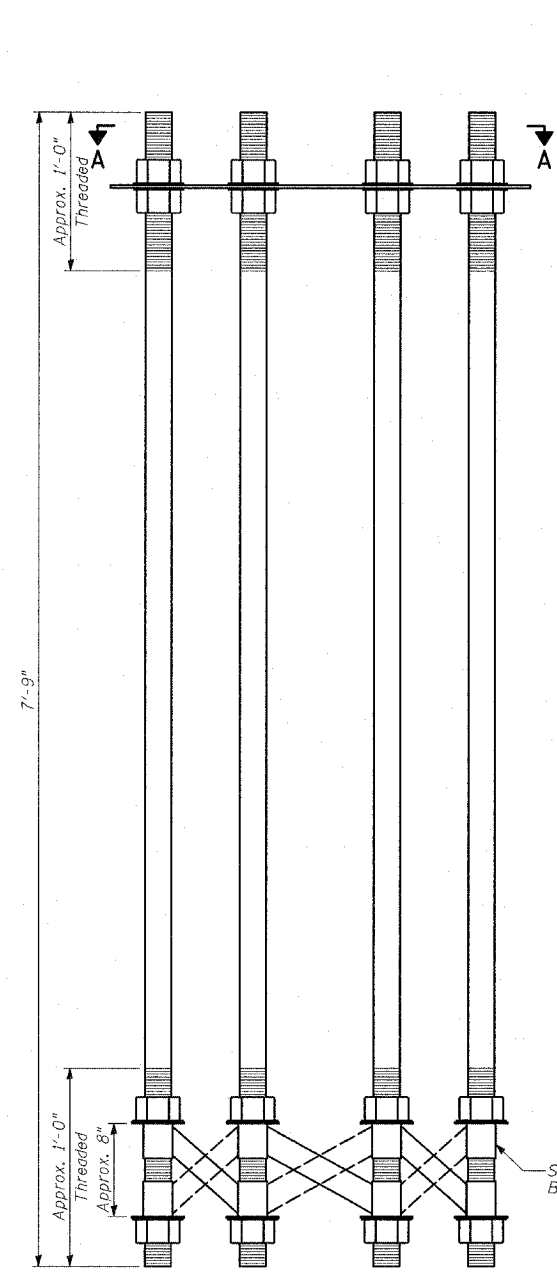
MARK TABLE

Bar	D
s (E)	4'-5"
v ₂₄ (E)	4'-4"
v ₂₅ (E)	3'-10"

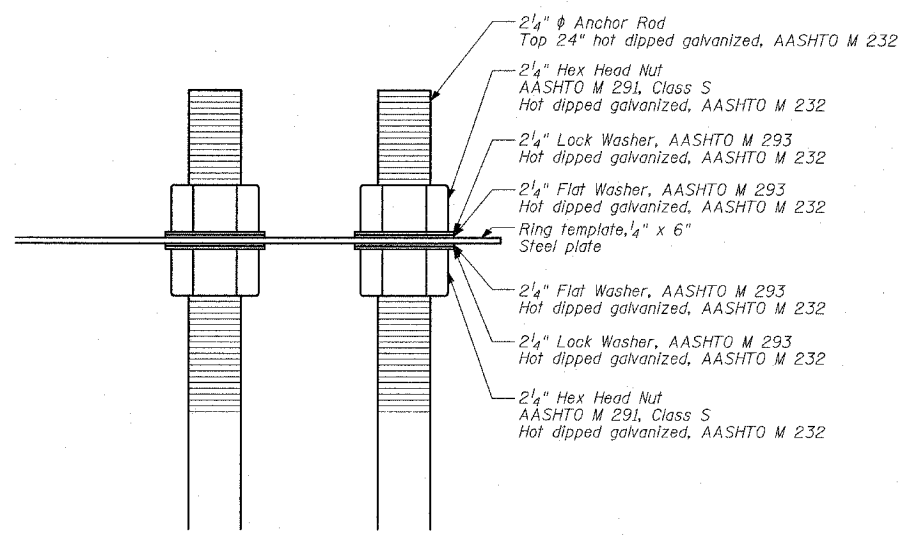
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 88TH ST.
 WALL 38
 LIGHT TOWER 60CD1 FOUNDATION DETAILS
 S.N. 016-W950
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

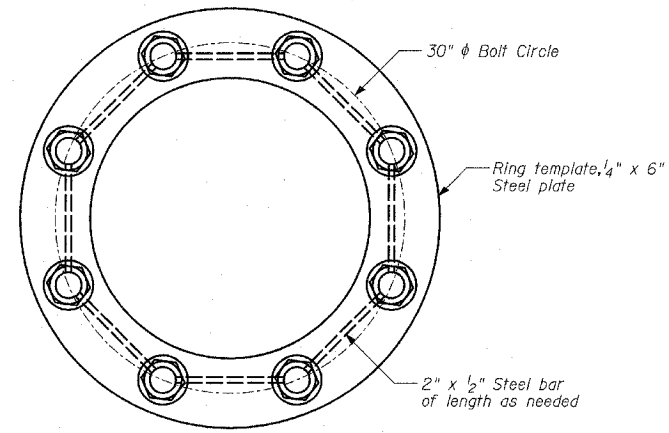
DESIGNED BY: TD, MAF
 DRAWN BY: MAF, DJR
 CHECKED BY: MI, TO



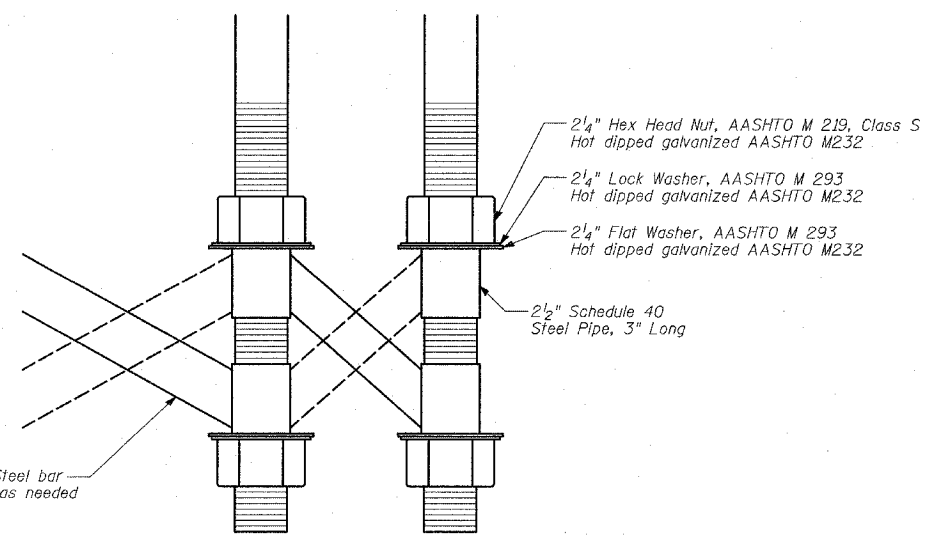
ANCHOR BOLT CAGE



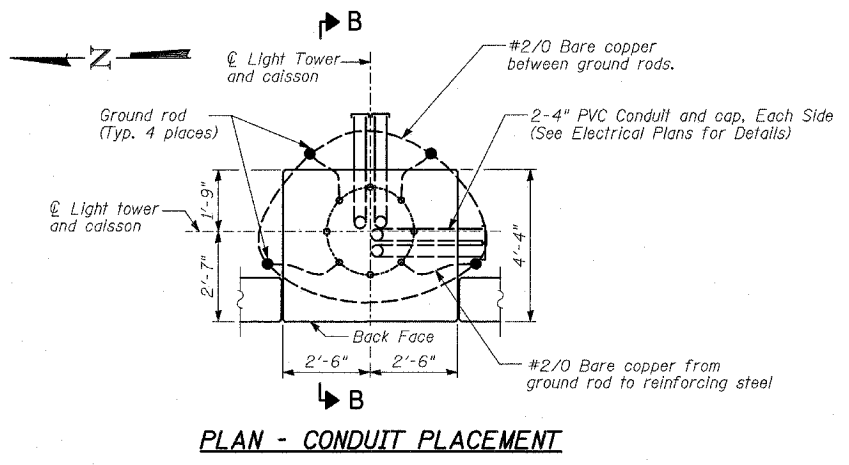
BOLT CAGE TOP



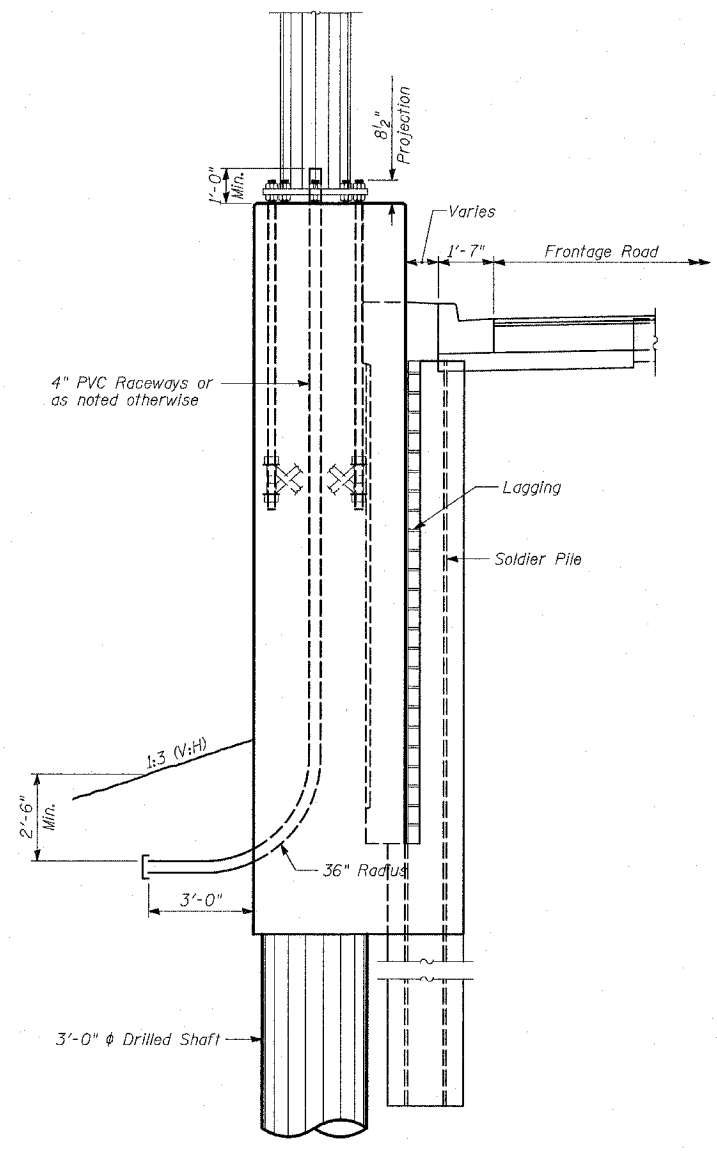
SECTION A-A



BOLT CAGE BOTTOM



PLAN - CONDUIT PLACEMENT

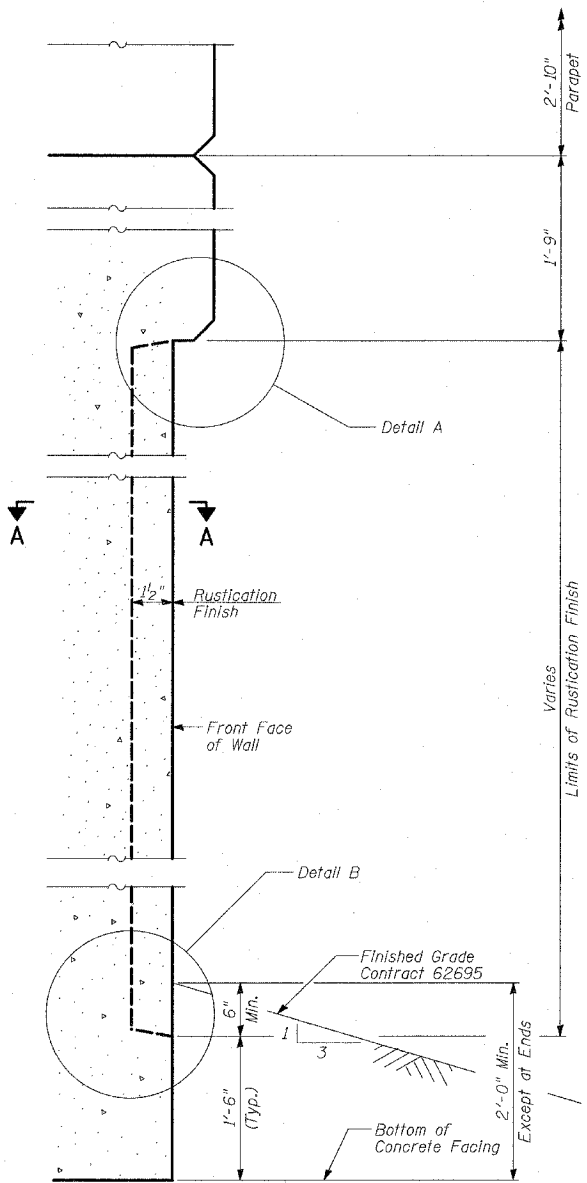


SECTION B-B

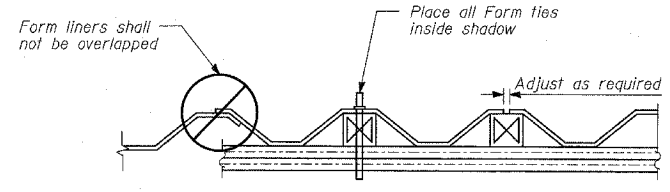
NOTES:

- 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. Cost included with "Light Tower" in Contract 62583.
- 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 BE501 for details.

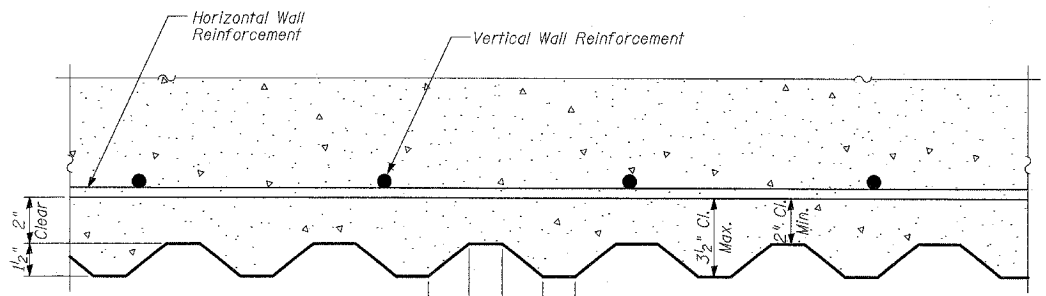
REVISIONS	
NAME	DATE



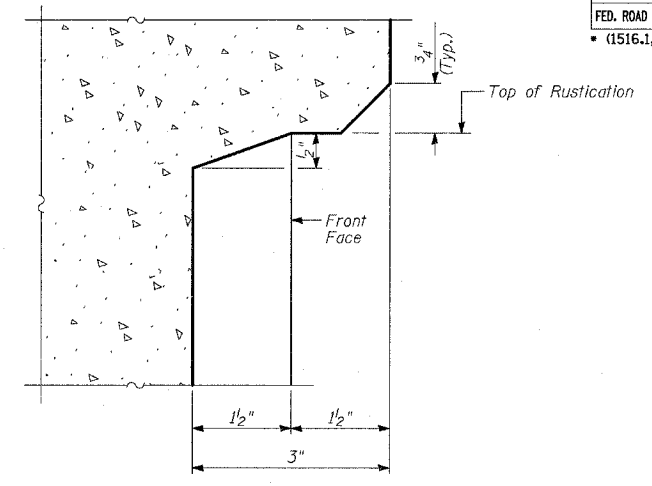
WALL DETAIL



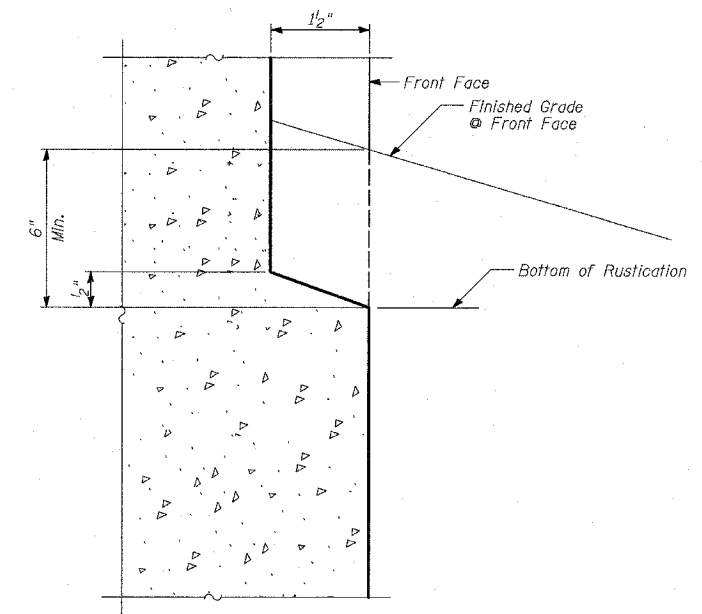
SUGGESTED FORMWORK DETAIL



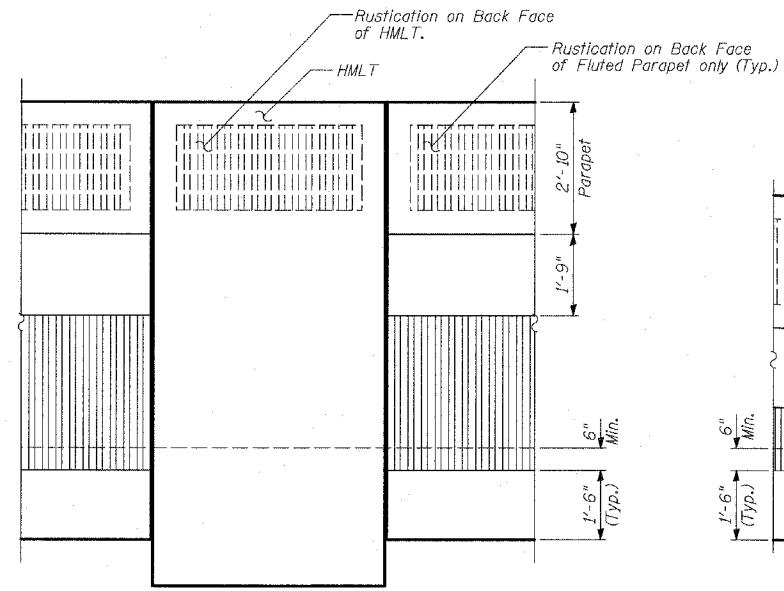
SECTION A-A



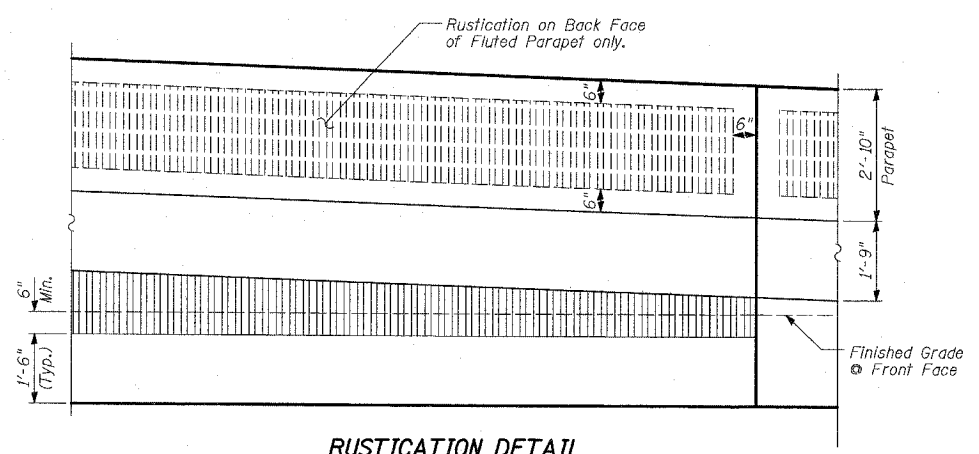
DETAIL A



DETAIL B



RUSTICATION DETAIL
(At HMLT with Embankment)



RUSTICATION DETAIL
(At Interior Panel with Embankment)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Rustication Finish	SQ FT	2,272

NOTES

1. See Sheet 9 of 19 for expansion and construction joint details.

SHEET 10 OF 19

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 88TH ST.
 WALL 38
 RUSTICATION DETAILS
 S.N. 016-W950
 SCALE: N.T.S.
 DATE: MARCH 25, 2005
 DESIGNED BY: MI, MAF
 DRAWN BY: MAF
 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 38-02 Page 1 of 2

WEI Job No.: 414-07-01
 Datum: CCD
 Elevation: 9.57 ft
 North: 1846174.33 ft
 East: 1177509.41 ft
 Station: 1247+95.8
 Offset: 130.934' LT

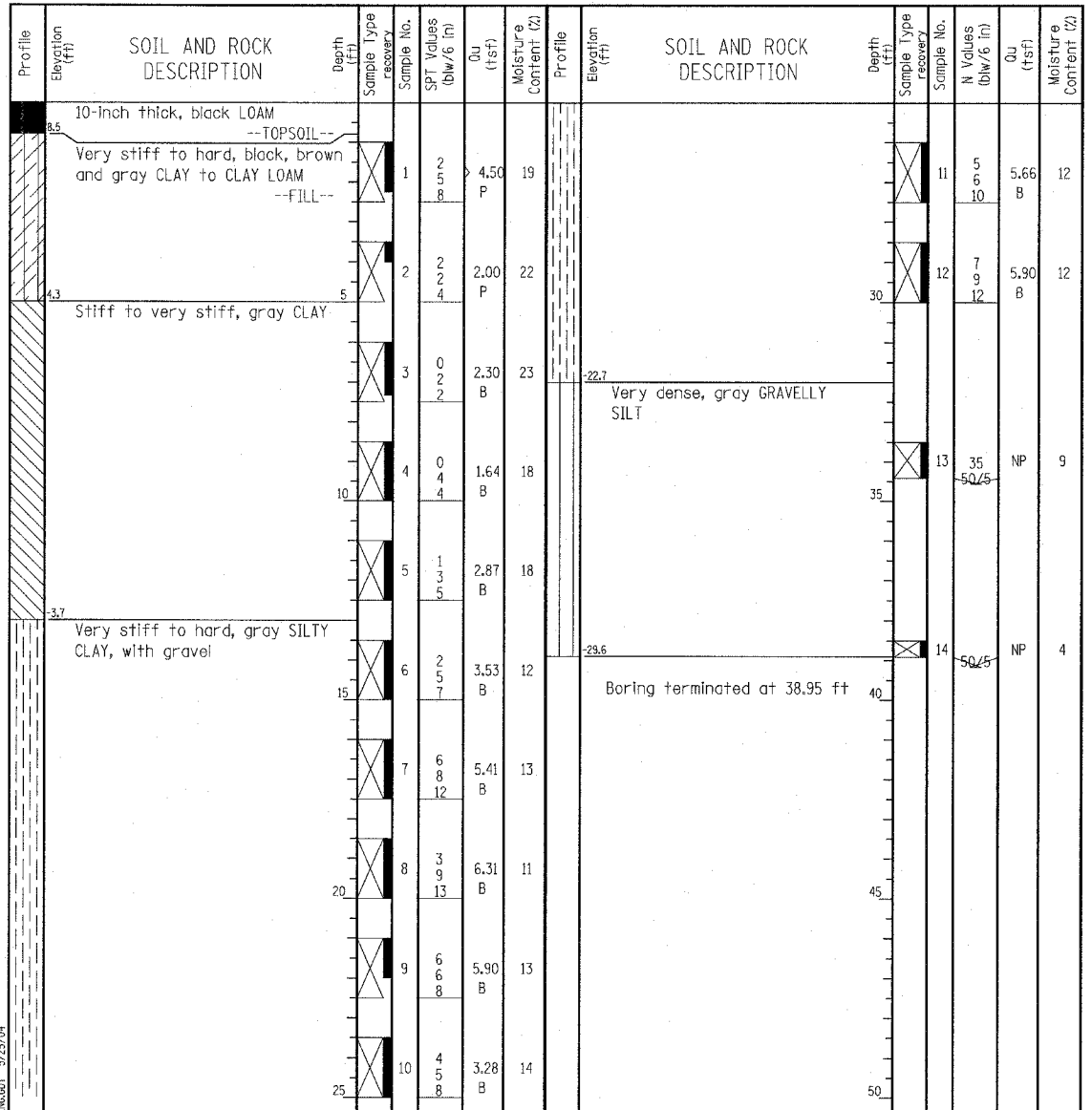
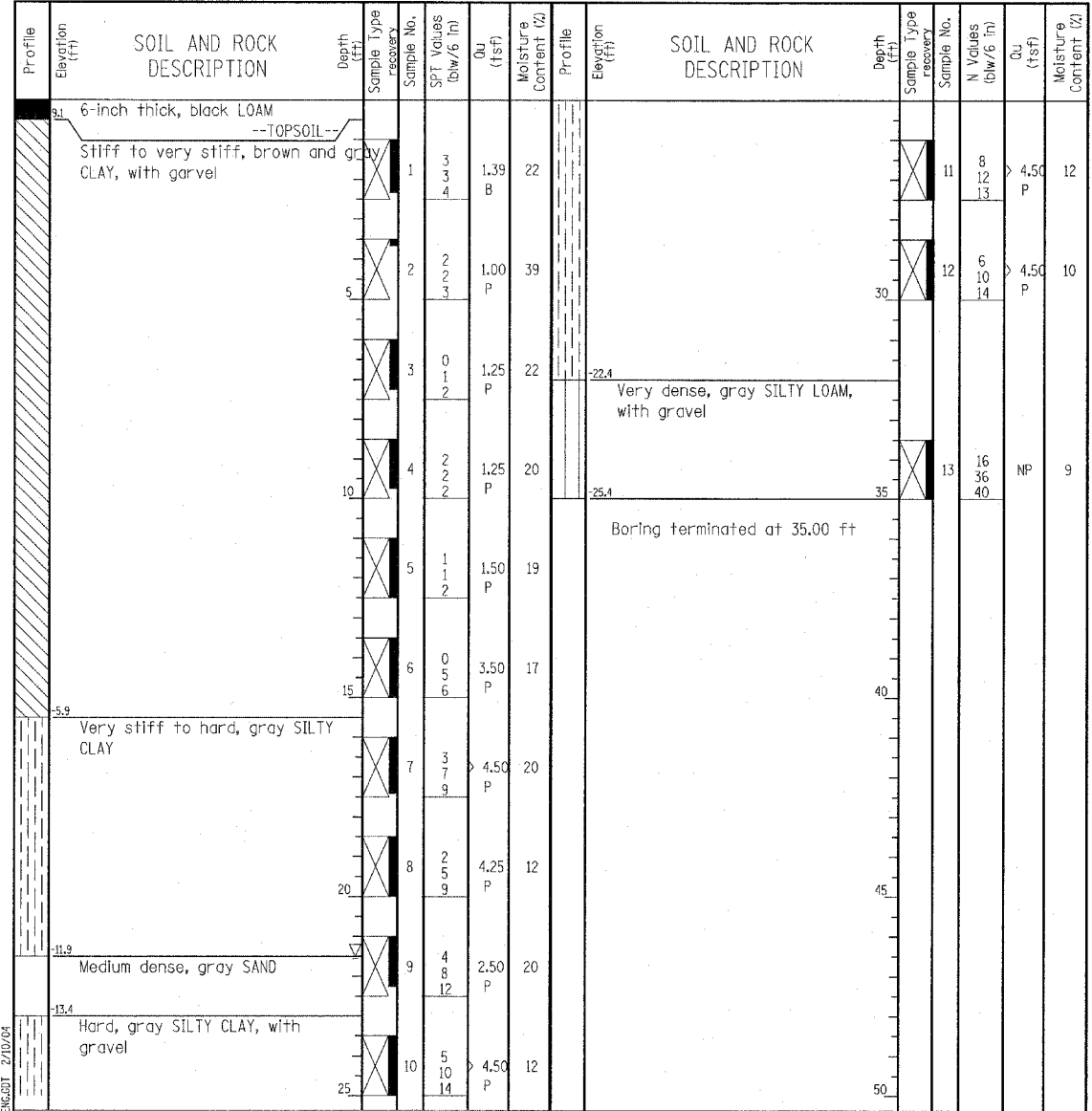
Client: T. Y. LIN International
 Project: Dan Ryan Improvements; IDOT No. D-91-421-01
 Location: From 95th Street to South of 69th Street

Wang Engineering, INC.
 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 38-03 Page 1 of 2

WEI Job No.: 414-07-01
 Datum: CCD
 Elevation: 9.32 ft
 North: 1846254.40 ft
 East: 1177507.48 ft
 Station: 1248+75.9
 Offset: 130.574' LT

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	01-08-2004	Complete Drilling	01-08-2004	While Drilling	▽ 21.50 ft
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				

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	01-02-2004	Complete Drilling	01-02-2004	While Drilling	▽ DRY
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽ DRY
Driller	T&B	Logger	Y. Shiu	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 LAFAYETTE AVE.
 89TH ST. TO 88TH ST.
 WALL 38
 BORING LOGS SB38-02 & SB38-03
 S.N. 016-W950
 SCALE: N.T.S.
 DATE: MARCH 25, 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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Fax: 630 953-9938

BORING LOG SB 38-04 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: 8.70 ft
North: 1846323.74 ft
East: 1177495.40 ft
Station: 1249+45.5
Offset: 140.655' LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
4.4	2-inch thick, ASPHALT --PAVEMENT--	0											
7.5	12-inch thick, CONCRETE --PAVEMENT--	0	1	6 6	4.50	21				11	3 5 7	5.58	14
7.0	6-inch thick, CRUSHED STONE --BASE COURSE--	0											
5.7	Stiff to hard, gray CLAY --FILL--	0	2	3 3	1.00	31				12	5 9 13	5.25	11
	Stiff, gray CLAY	5											
		10	3	2 2	1.50	20	22.3	Very dense, gray SILTY LOAM, with gravel	30				
		15	4	3 3	1.15	21			35	13	26 39 56	NP	9
		20	5	2 2	1.64	19	26.3	Boring terminated at 35.00 ft					
		25	6	2 2	1.80	16							
7.3	Hard, gray SILTY CLAY to SILTY CLAY LOAM, with gravel	35	7	6 15 16	4.50	11							
		40	8	4 9 11	6.31	9							
		45	9	4 8 11	7.13	12							
		50	10	4 9 9	5.41	12							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-29-2004	Complete Drilling	01-29-2004	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			Depth to Water	∇	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

Wang Engineering, INC.
Consulting Geotechnical and Environmental Engineers
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Telephone: 630 953-9928
Fax: 630 953-9938

BORING LOG SB 38-05 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: 8.15 ft
North: 1846402.00 ft
East: 1177523.20 ft
Station: 1250+23.5
Offset: 110.614' LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	2-inch thick, black LOAM --TOPSOIL--	0											
	Stiff to hard, brown and gray CLAY --FILL--	0	1	4 3 2	4.50	27				11	9 10	5.82	12
		5					19.9	Very dense, gray SILTY LOAM, with gravel	30				
	Stiff to very stiff, brown and gray CLAY	10	2	2 2 4	2.05	23			35	12	35 30 28	NP	10
		15	3	2 4 6	1.64	19							
		20	4	1 4 6	2.13	17			35	13	27 41 45	NP	9
		25	5	1 4 6	2.05	20	26.9	Boring terminated at 35.00 ft					
		30	6	2 6 10	2.95	19							
6.7	Hard, gray SILTY CLAY, with gravel and interbeds of silt	35	7	12 16 15	5.33	12							
		40	8	6 8 10	5.82	12							
		45	9	8 10 12	6.64	11							
		50	10	10 10 12	6.48	12							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-29-2004	Complete Drilling	01-29-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	T&D	Logger	S. Janowski	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 LAFAYETTE AVE.
89TH ST. TO 88TH ST.
WALL 38
BORING LOGS SB38-04 & SB38-05
S.N. 016-W950
SCALE: N.T.S.
DATE: MARCH 25, 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 38-06 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: 7.75 ft
 North: 1846475.44 ft
 East: 1177514.15 ft
 Station: 1250+96.6
 Offset: 117.576' LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
6.3	10-inch thick, black LOAM --TOPSOIL--														
	Medium stiff to stiff, black and gray CLAY to CLAY LOAM, with gravel --FILL--	1		1	8 4 5	4.10	22			11		11	8 8 10	4.10	12
		2		2	1 1 1	0.66	27			12		12	7 13 34	5.79	11
2.2	Stiff to very stiff, brown and gray CLAY	3		3	0 2 3	1.39	20	24.3	Very dense, gray GRAVELLY SILT	35		13	26 45 50/25	NP	
		4		4	0 22 10	1.80	20			35		13	26 45 50/25	NP	
		5		5	2 4 5	2.21	18								
6.3	Hard, gray SILTY CLAY, with gravel	6		6	1 7 13	4.10	19	31.5	Boring terminated at 39.25 ft	40		14	40 58/3	NP	
		7		7	8 9 12	4.59	11								
		8		8	10 13 14	4.67	11								
		9		9	8 11 15	6.31	12								
		10		10	8 10 15	5.58	12								

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-02-2004	Complete Drilling	01-02-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	T&B	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.							

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 38-07 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: 8.11 ft
 North: 1846546.38 ft
 East: 1177506.36 ft
 Station: 1251+67.8
 Offset: 123.33' LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
7.3	10-inch thick, black LOAM --TOPSOIL--														
	Hard, black and gray CLAY LOAM --FILL--	1		1	4 8 10	4.50	14			11		11	6 6 10	5.74	13
5.1	Stiff to very stiff, brown and gray CLAY	2		2	2 3 4	2.30	24			12		12	7 10 15	4.35	13
		3		3	0 3 3	1.39	21								
		4		4	0 3 3	1.56	19								
		5		5	2 4 7	3.44	18								
4.9	Hard, gray SILTY CLAY, with gravel	6		6	2 5 10	4.35	21								
		7		7	4 9 11	4.00	15								
		8		8	5 7 10	4.18	12								
		9		9	7 8 12	4.35	10								
		10		10	7 8 10	5.08	12								

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-02-2004	Complete Drilling	01-02-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	T&B	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.							


TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 88TH ST.
 WALL 38
 BORING LOGS SB38-06 & SB38-07
 S.N. 016-W950
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

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 WANGENG-41407-01-1 WANGENG-DT 2/10/04


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 38-08

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: 7.26 ft
 North: 1846627.39 ft
 East: 1177497.91 ft
 Station: 1252+49.0
 Offset: 129.457' LT

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 (%)
6.6	8-inch thick, black LOAM --TOPSOIL--														
	Stiff, black and gray CLAY --FILL--			1	3 4 4	1.50 P	32					11	5 8 11	5.99 S	13
4.3	Stiff to very stiff, gray CLAY			2	2 2 5	1.64 B	23					12	12 14 20	7.63 S	10
				3	1 1 3	2.08 B	16								
				4	1 3 3	2.08 B	15					13	22 37 50/4	4.50 P	8
				5	1 2 5	1.97 B	16	-27.7	Very dense, gray GRAVELLY SILT						
5.7	Hard, gray SILTY CLAY, with gravel			6	5 9 12	4.50 P	14					14	28 46 50/5	NP	
				7	2 7 9	5.74 B	12		Boring terminated at 39.90 ft						
				8	4 5 8	6.56 B	12								
				9	6 8 13	5.41 S	12								
				10	6 8 11	8.12 S	11								

GENERAL NOTES

Begin Drilling 01-26-2004 Complete Drilling 01-26-2004
 Drilling Contractor Patrick Drilling Drill Rig CME 75 TMR
 Driller T&B Logger B. Fugiel 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
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

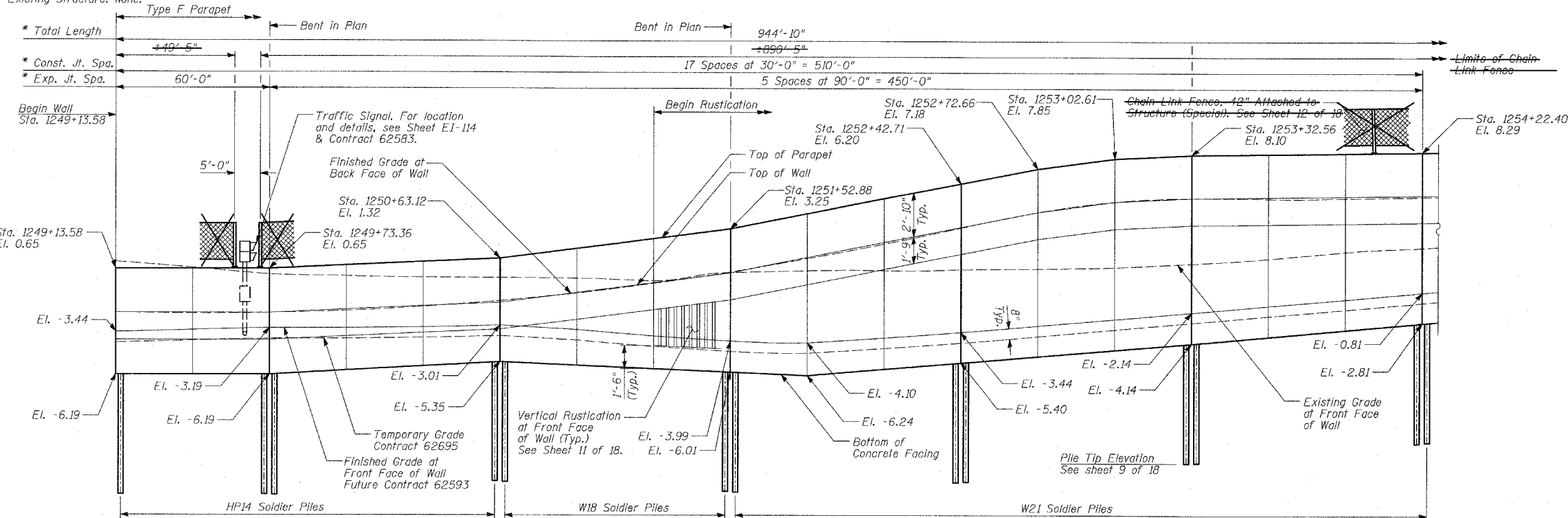
TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 88TH ST.
 WALL 38
 BORING LOG SB38-08
 S.N. 016-W950 DESIGNED BY: DJR
 SCALE: N.T.S. DRAWN BY: DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD

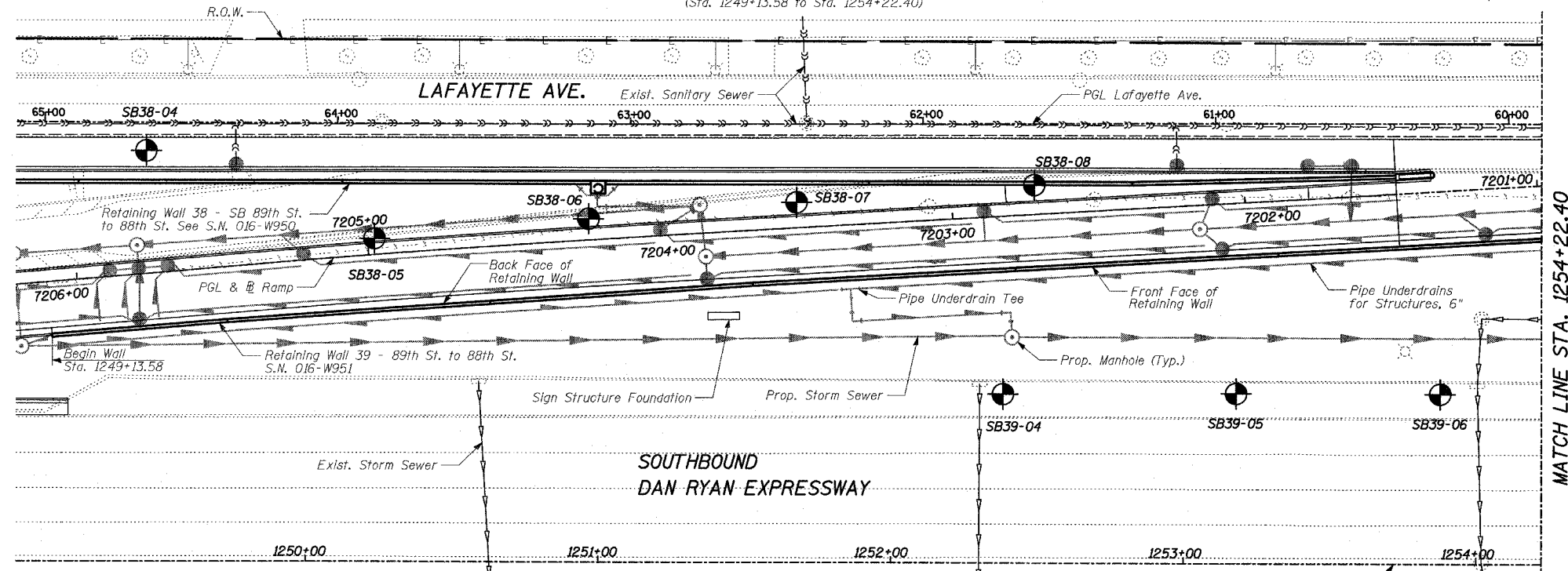
Benchmarks: BM 3549 Set "+" westerly flange bolt of hydrant at southwest intersection of 87th St. and Lafayette Ave., El. 9.49

Existing Structure: None.



ELEVATION

(Sta. 1249+13.58 to Sta. 1254+22.40)



PLAN

(Sta. 1249+13.58 to Sta. 1254+22.40)

LEGEND

- Boring Location
- * Measured along Front Face of Wall.

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.
- 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.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	907	536
STA. 1200+00.00 TO STA. 1365+00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
• (1516.1, 1717 & 1818) R-9				
62695				

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	CU YD	618
Concrete Structures	CU YD	372
Protective Coat	SQ YD	1,220
Rustication Finish	SQ FT	2,611
Stud Shear Connectors	EACH	1,178
Untreated Timber Lagging	SQ FT	4,754
Furnishing Soldier Piles (HP Section)	FOOT	434
Furnishing Soldier Piles (W Section)	FOOT	3,541
Reinforcement Bars, Epoxy Coated	POUND	52,320
Geocomposite Wall Drain	SQ YD	581
Pipe Underdrains for Structures, 6"	FOOT	945
Drilling and Setting Soldier Piles (in Soil)	CU FT	19,826
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	947

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

LOADING

Max. Soil Pressure Under Footing = 700 psf

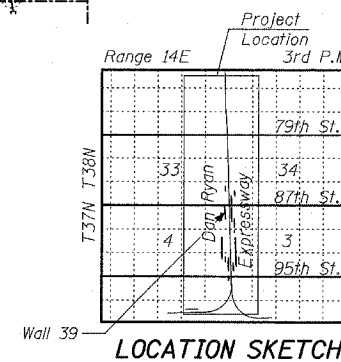
INDEX OF SHEETS

- GENERAL PLAN
- GENERAL PLAN
- PLAN AND ELEVATION STA. 1249+13.58 TO STA. 1250+63.12
- PLAN AND ELEVATION STA. 1250+63.12 TO STA. 1252+42.71
- PLAN AND ELEVATION STA. 1252+42.71 TO STA. 1254+22.40
- PLAN AND ELEVATION STA. 1254+22.40 TO STA. 1256+02.08
- PLAN AND ELEVATION STA. 1256+02.08 TO STA. 1257+57.82
- PLAN AND ELEVATION STA. 1257+57.82 TO STA. 1258+50.93
- PILE LAYOUT, DETAILS & BILL OF MATERIAL
- WALL CROSS SECTIONS & DETAILS
- RUSTICATION DETAILS
- CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)
- BORING LOGS SB38-04 & SB38-06
- BORING LOGS SB38-08 & SB39-04
- BORING LOGS SB39-05 & SB39-06
- BORING LOGS SB39-07 & SB39-08
- BORING LOGS SB39-09 & SB39-10
- BORING LOGS SB39-11 & SB39-12



Signed Phillip D. Frey
 Phillip D. Frey, S.E., Ill. Lic. No. 081-004826
 Expires 11-30-2006
 Date 3/25/05

SHEET 1 OF 18



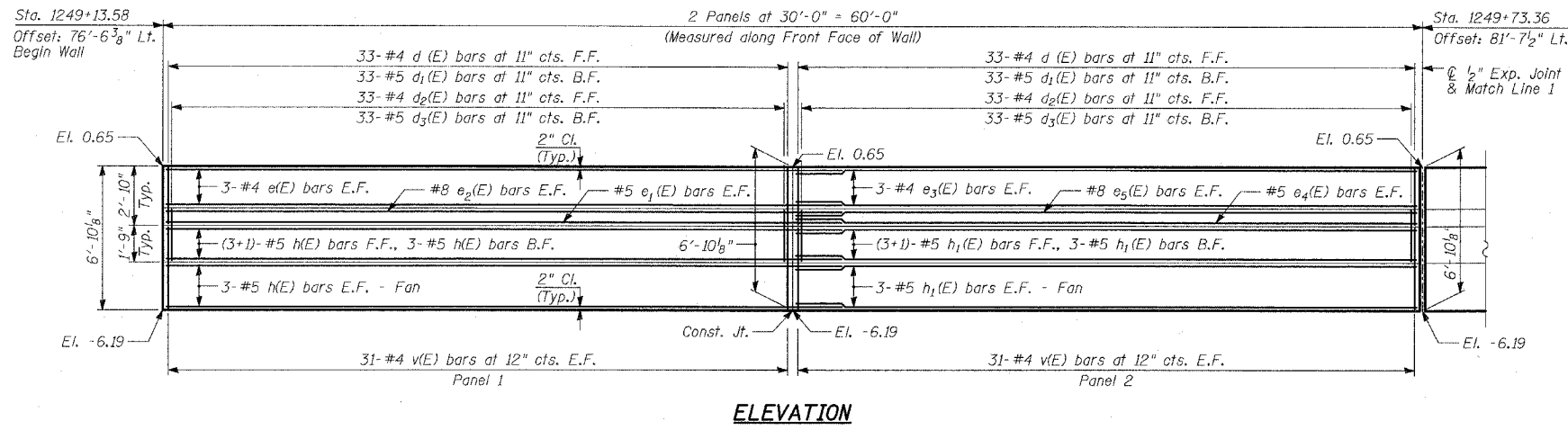
LOCATION SKETCH

TYLIN INTERNATIONAL

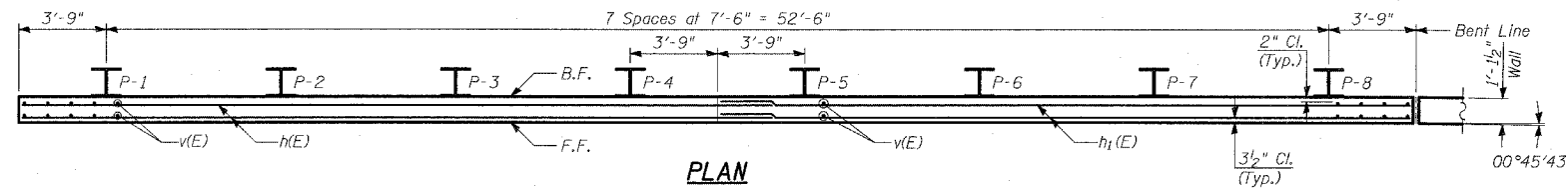
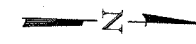
REVISIONS	
NAME	DATE
REVISED	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
89TH ST. TO 87TH ST.
WALL 39 - GENERAL PLAN
STA. 1249+13.58 TO STA. 1254+50.93
 S.N. 016-W951
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

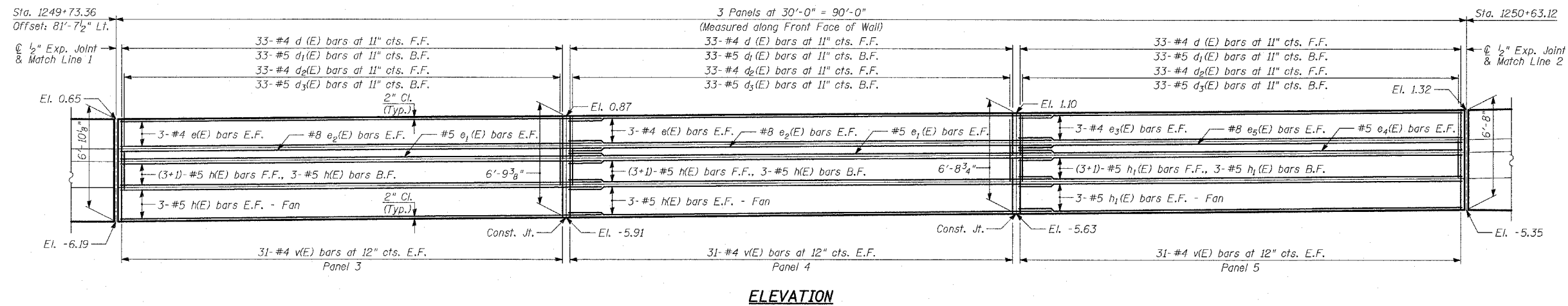
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 DRAWN BY: DJR, TB
 CHECKED BY: TD, MI



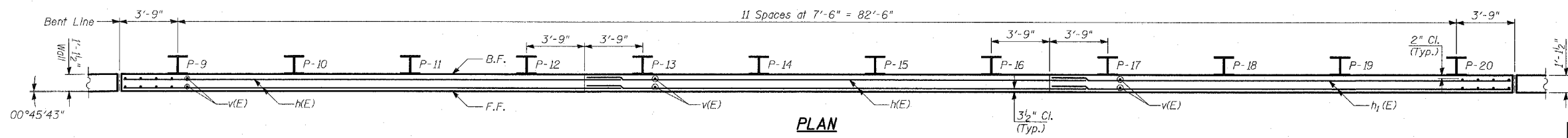
ELEVATION



PLAN



ELEVATION



PLAN

NOTES:

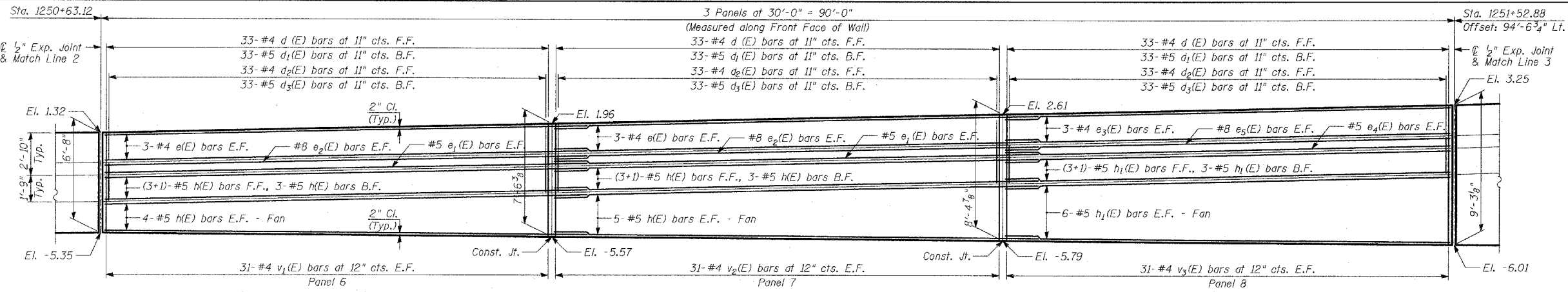
1. B.F. - denotes Back Face.
2. E.F. - denotes Each Face.
3. F.F. - denotes Front Face.
4. Work this Sheet with Sheets 9 thru 12 of 18.
5. Pile spacing measured along front face of wall.
6. For Lap Splices, see Sheet 9 of 18.

TYLIN INTERNATIONAL

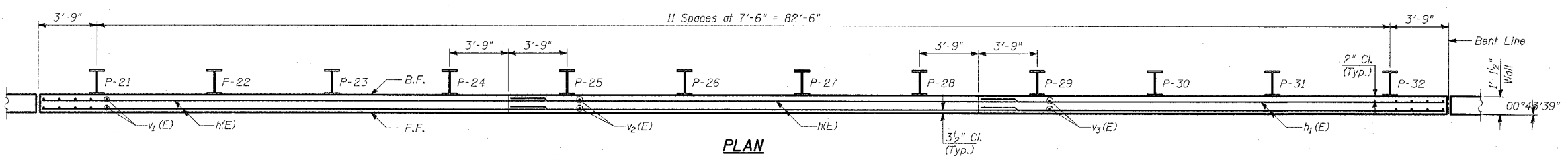
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 87TH ST.
 WALL 39 - PLAN AND ELEVATION
 STA. 1249+13.58 TO STA. 1250+63.12
 S.N. 016-W951 DESIGNED BY: MI, TB
 SCALE: N.T.S. DRAWN BY: DJR, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI

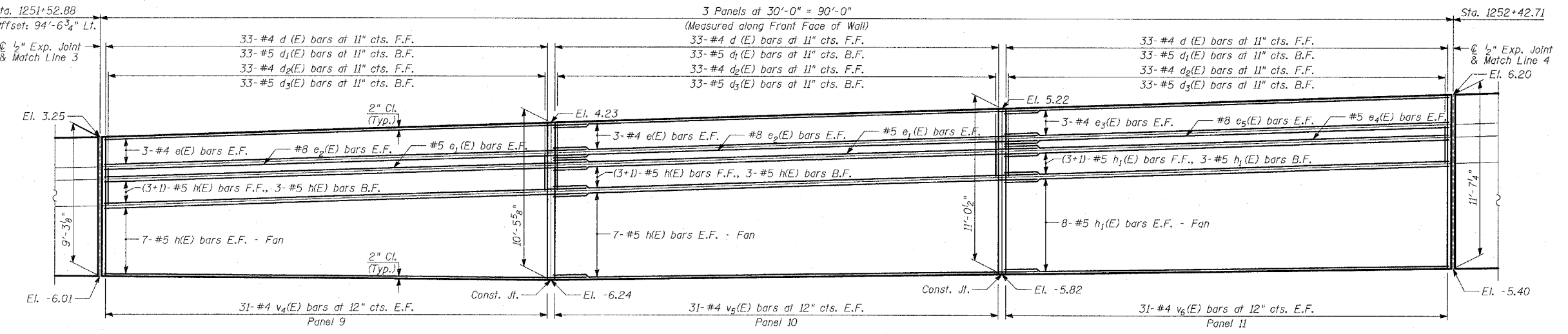
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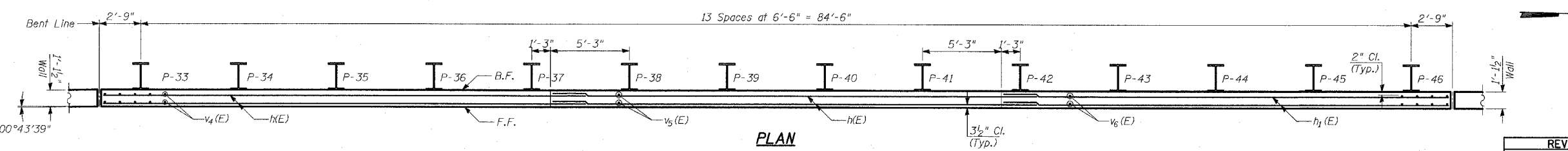
ELEVATION



PLAN



ELEVATION



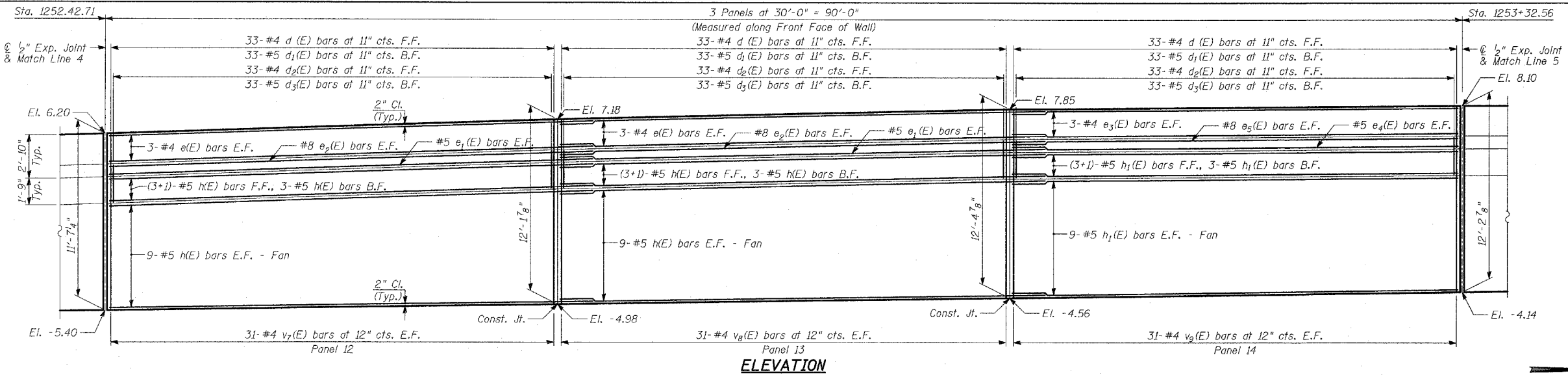
PLAN

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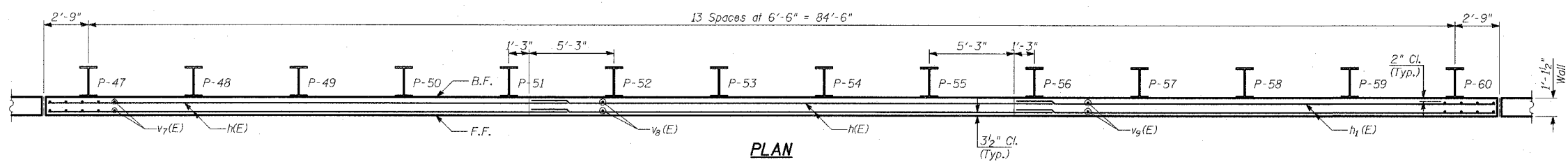
TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

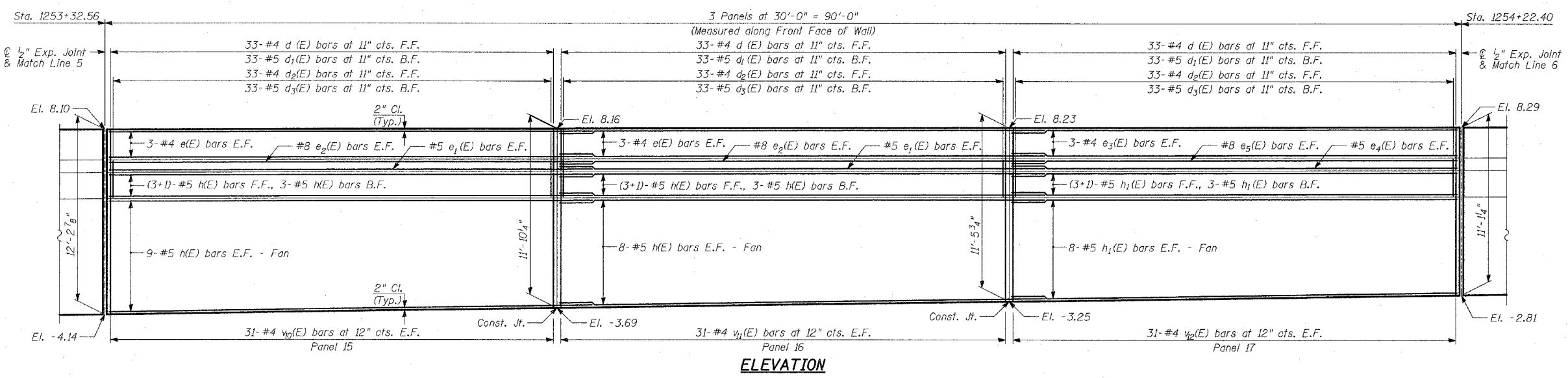
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 87TH ST.
WALL 39 - PLAN AND ELEVATION
 STA. 1250+63.12 TO STA. 1252+42.71
 S.N. 016-W951 DESIGNED BY: MI, TB
 SCALE: N.T.S. DRAWN BY: DJR, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



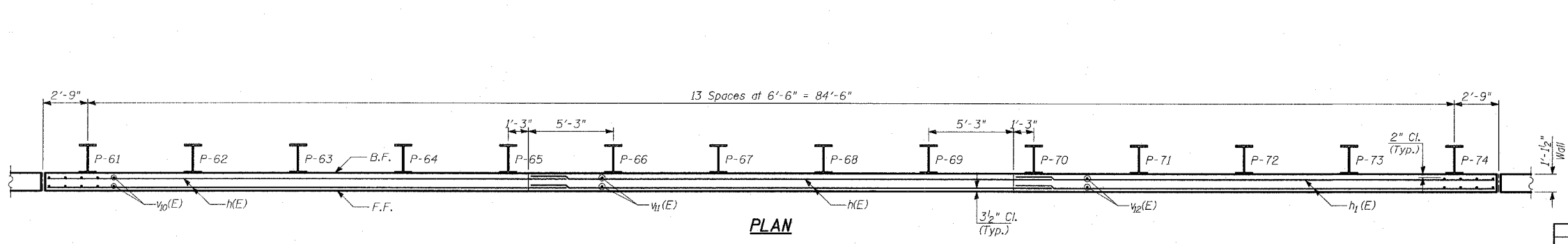
ELEVATION



PLAN



ELEVATION



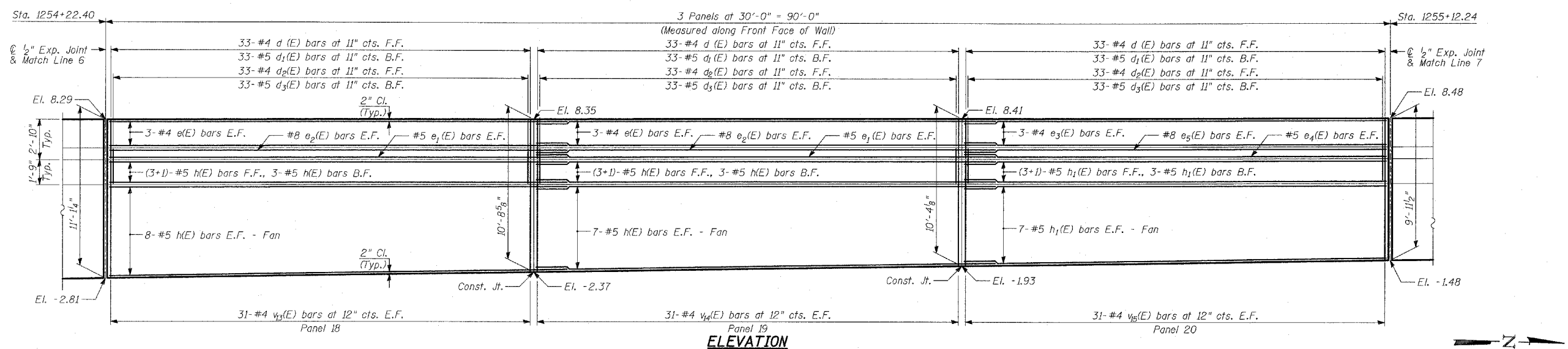
PLAN

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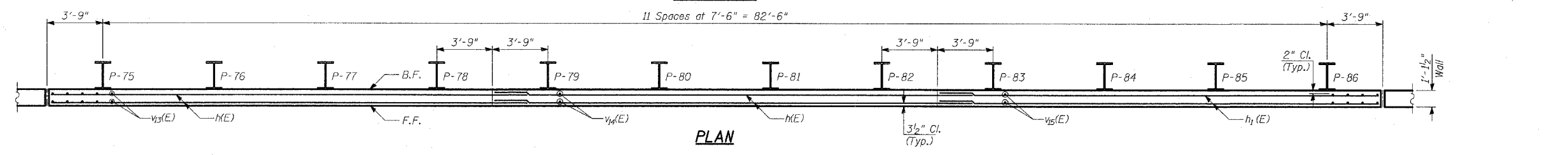
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REVISIONS	
NAME	DATE

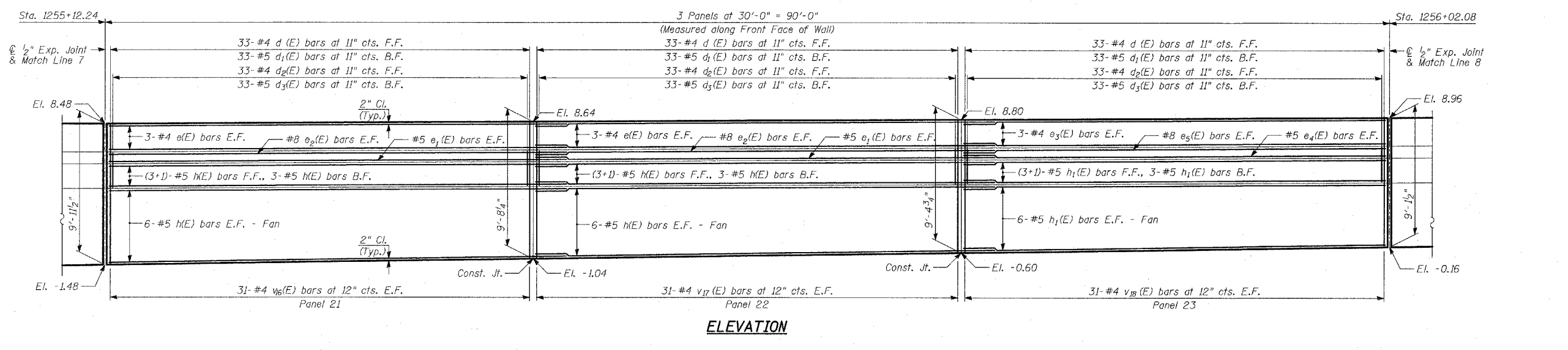
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
89TH ST. TO 87TH ST.
WALL 39 - PLAN AND ELEVATION
STA. 1252+42.71 TO STA. 1254+22.40
 S.N. 016-W951 DESIGNED BY: MI, TB
 SCALE: N.T.S. DRAWN BY: DJR, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



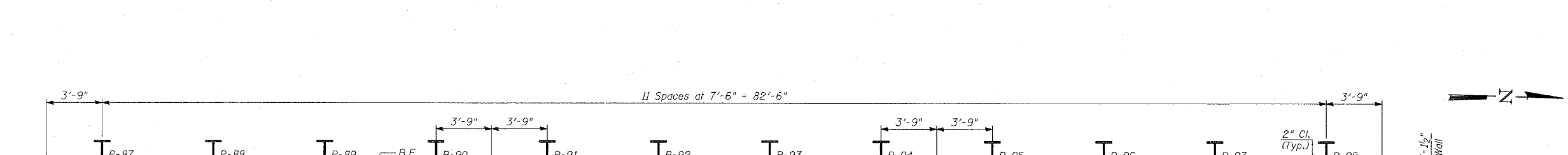
ELEVATION



PLAN



ELEVATION



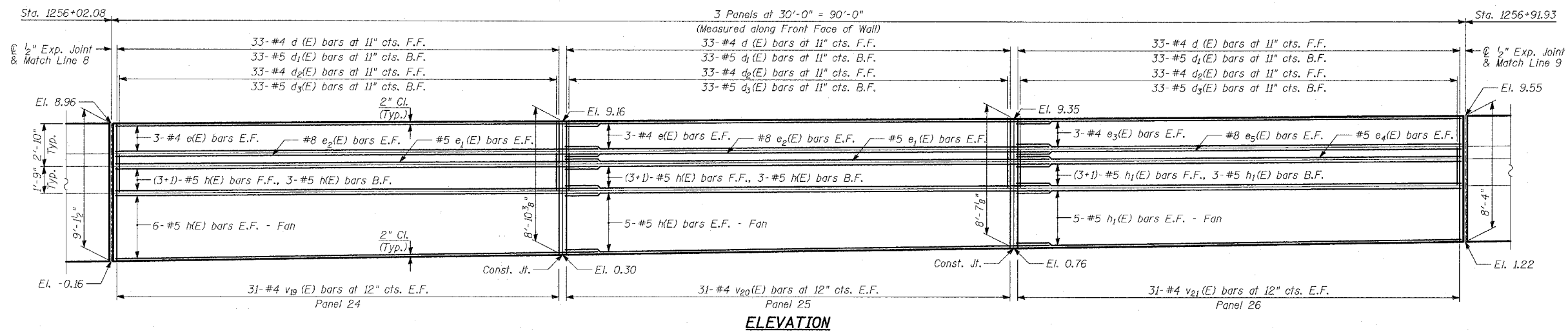
PLAN

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 6. For Lap Splices, see Sheet 9 of 18.

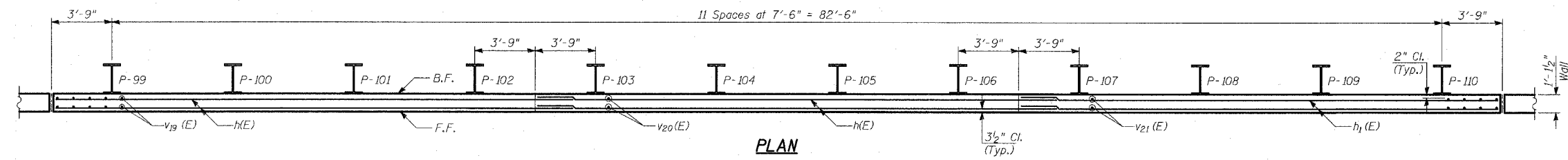
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REVISIONS	
NAME	DATE

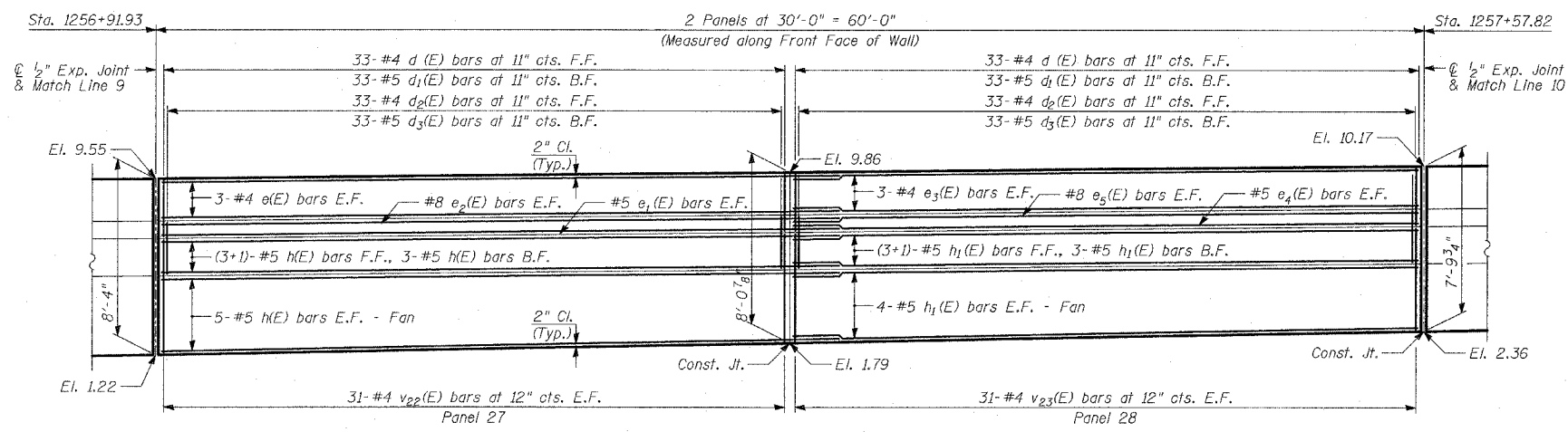
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
89TH ST. TO 87TH ST.
WALL 39 - PLAN AND ELEVATION
STA. 1254+22.40 TO STA. 1256+02.08
 S.N. 016-W951 DESIGNED BY: MI, TB
 SCALE: N.T.S. DRAWN BY: DJR, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



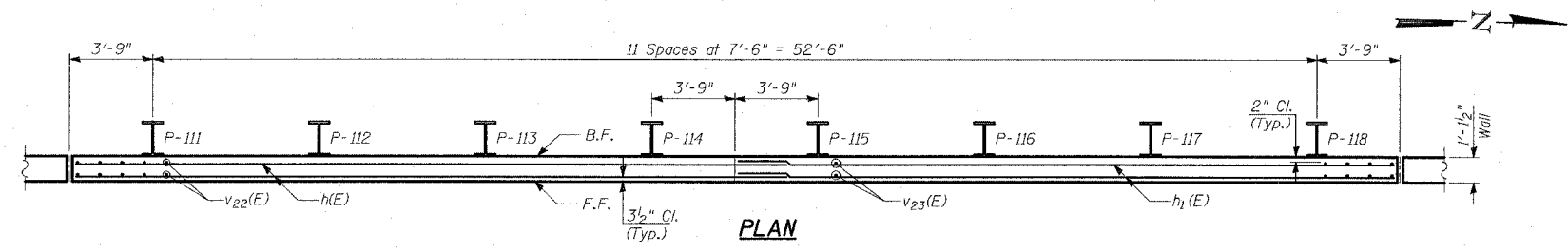
ELEVATION



PLAN



ELEVATION



PLAN

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 6. For Lap Splices, see Sheet 9 of 18.

TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
89TH ST. TO 87TH ST.
WALL 39 - PLAN AND ELEVATION
STA. 1256+02.08 TO STA. 1257+57.82
 S.N. 016-W951 DESIGNED BY: MI, TB
 SCALE: N.T.S. DRAWN BY: DJR, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI

PILE LAYOUT

Table with columns: Pile, Station at Working Point, Top of Parapet EL., Top of Pile EL., Bot. of Wall EL., Section, Pile Tip EL., Pile Length. Lists piles P-1 to P-65 with corresponding elevation and length data.

PILE LAYOUT

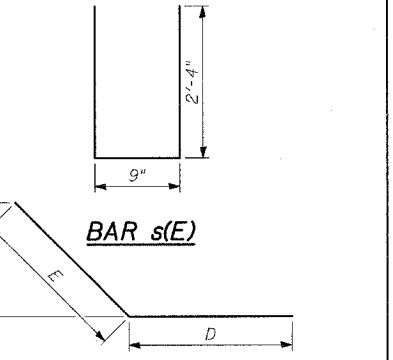
Table with columns: Pile, Station at Working Point, Top of Parapet EL., Top of Pile EL., Bot. of Wall EL., Section, Pile Tip EL., Pile Length. Lists piles P-66 to P-134 with corresponding elevation and length data.

BILL OF MATERIAL

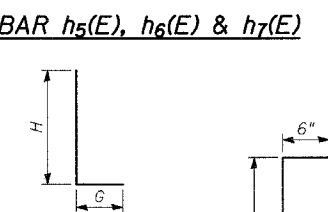
Table with columns: Bar, No., Size, Length, Shape. Lists reinforcement bars with quantities and dimensions.

BILL OF MATERIAL

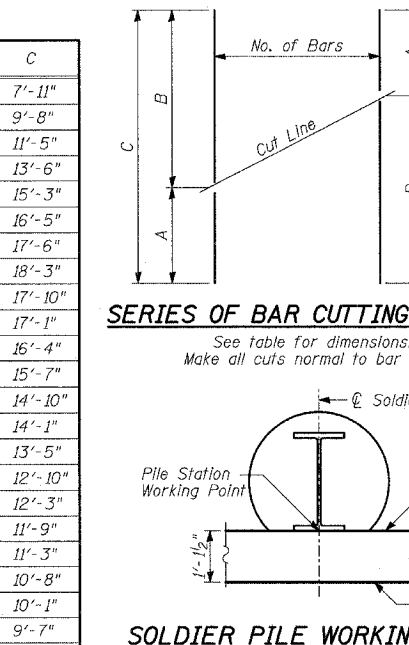
Table with columns: Bar, No., Size, Length, Shape. Lists reinforcement bars with quantities and dimensions.



MARK TABLE with columns: Bar, D, E, F. Lists dimensions for bars h5(E), h6(E), h7(E), h(E).



MARK TABLE with columns: Bar, G, H. Lists dimensions for bars d(E), d1(E), d6(E), d7(E).

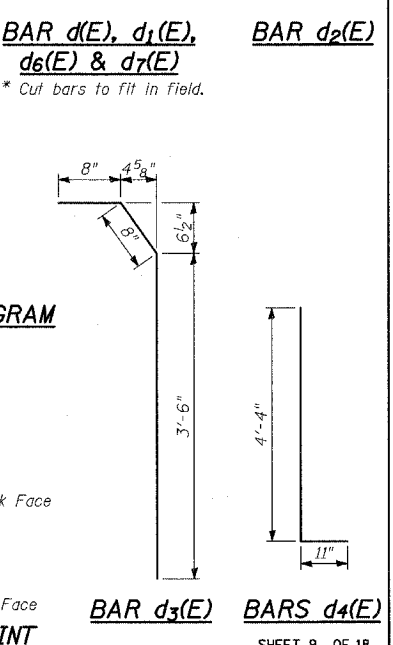


BAR TABLE SCHEDULE

Table with columns: Bar, No. of Sets Req'd, No. of Bars Per Set, A, B, C. Lists bars v1(E) through v26(E) with set and bar counts.

LAP SPLICES

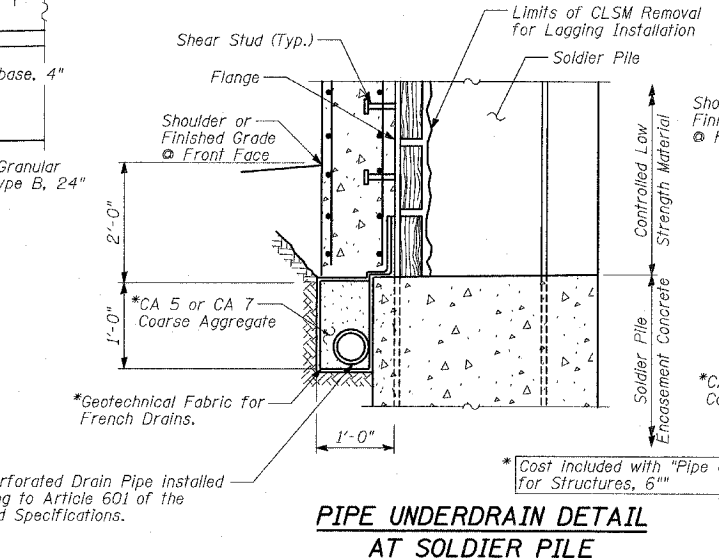
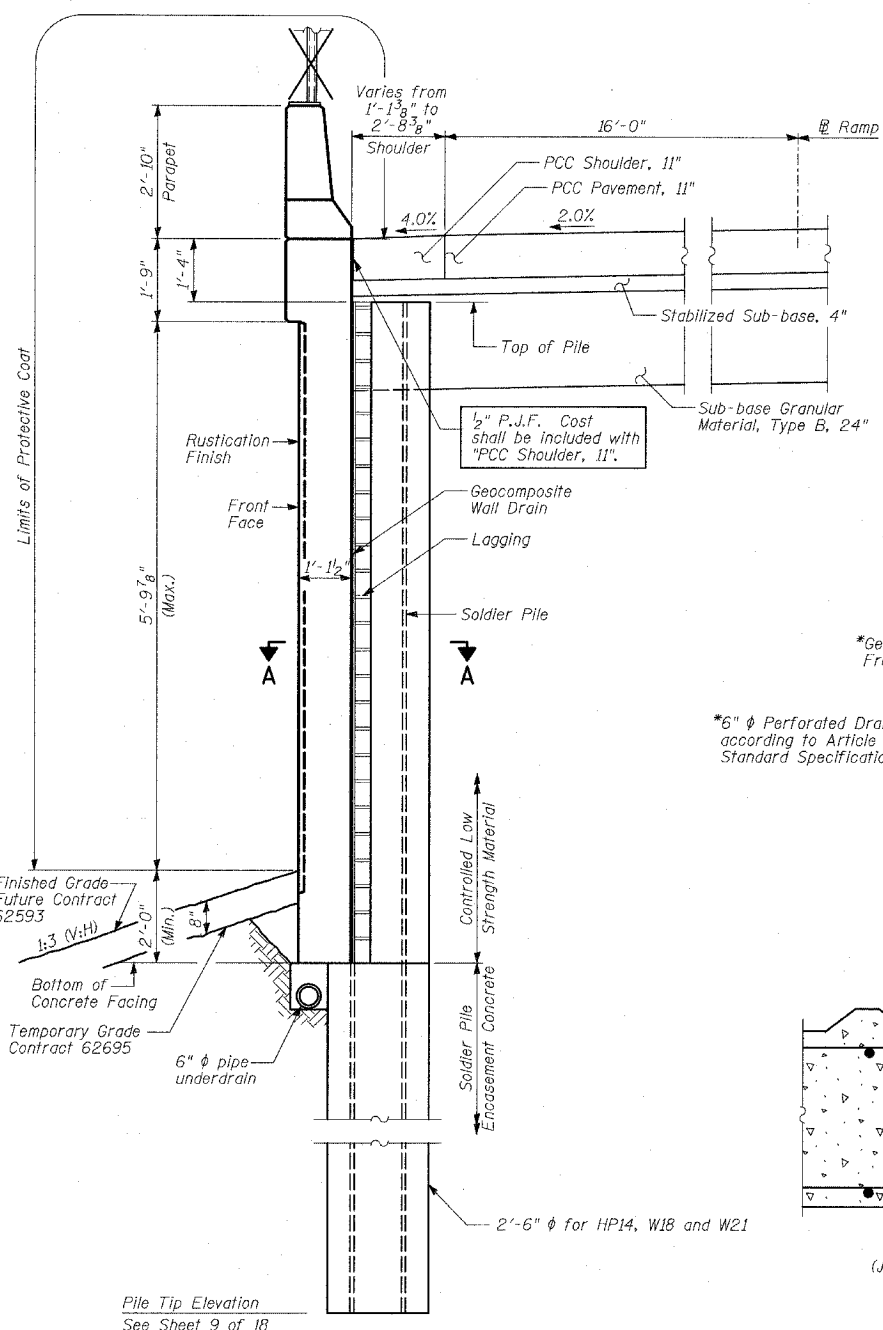
Table with columns: Bar, Lap. Lists lap lengths for bars #4 through #8.



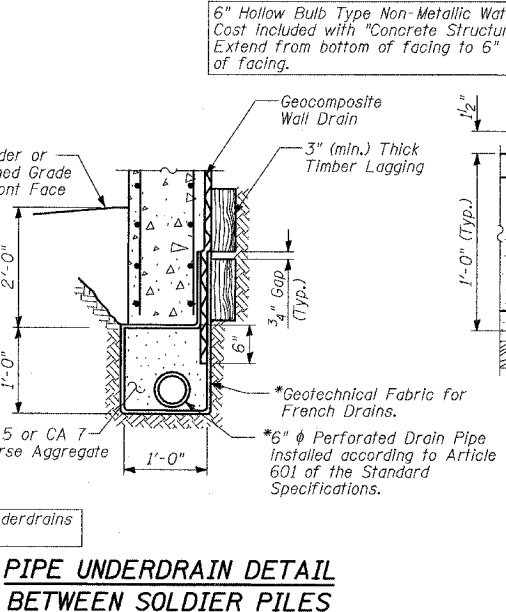
TYLIN INTERNATIONAL

ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94 (DAN RYAN EXPRESSWAY) RETAINING WALL ALONG LAFAYETTE AVE. 89TH ST. TO 87TH ST. WALL 39 PILE LAYOUT, DETAILS & BILL OF MATERIAL

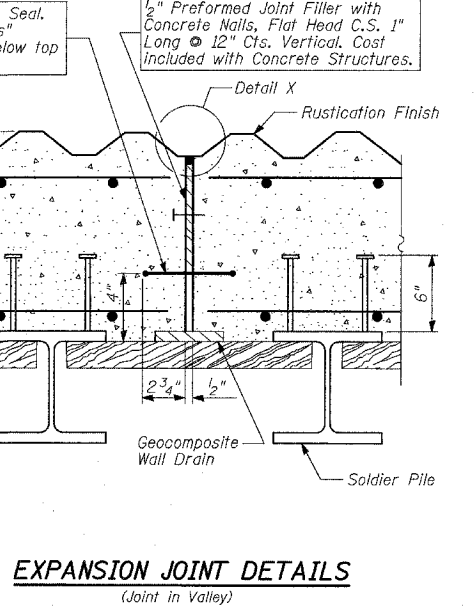
REVISIONS table with columns: NAME, DATE. Includes one revision dated 04/15/05.



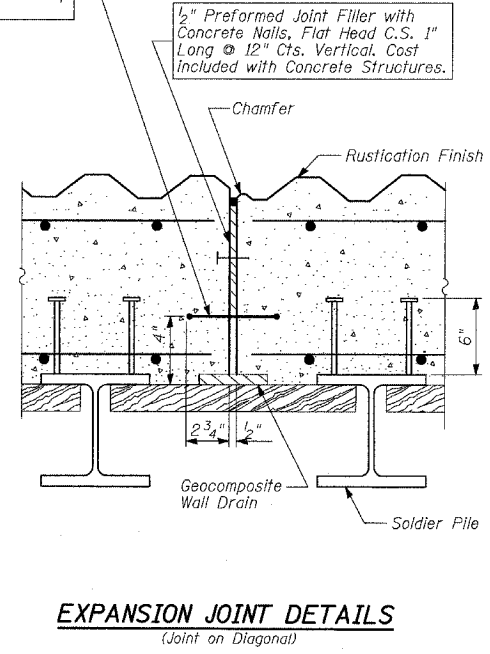
PIPE UNDERDRAIN DETAIL AT SOLDIER PILE



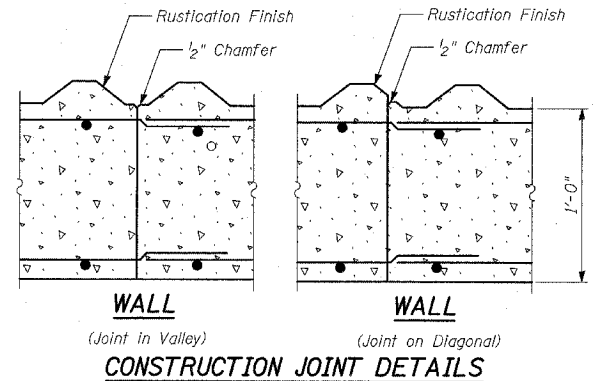
PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES



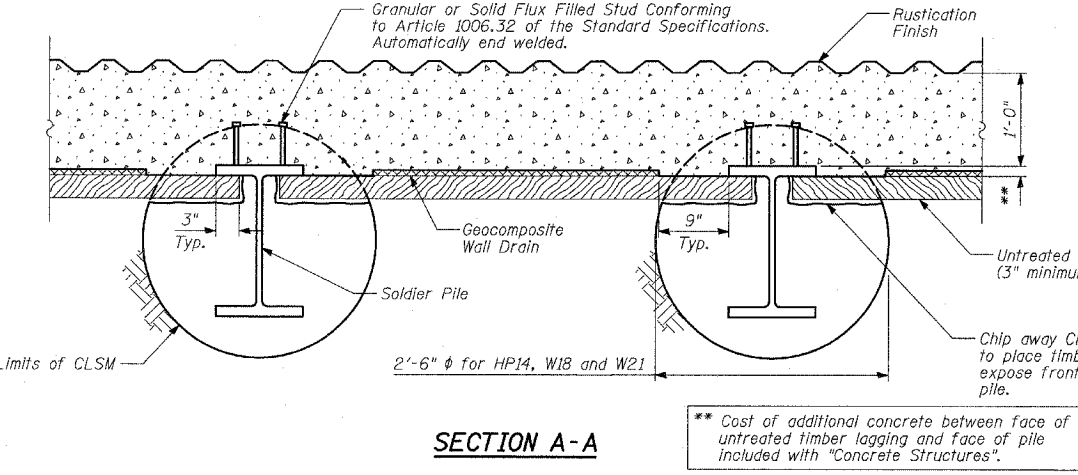
EXPANSION JOINT DETAILS (Joint in Valley)



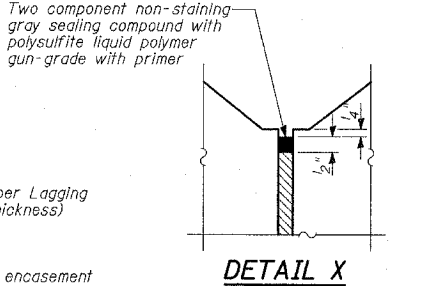
EXPANSION JOINT DETAILS (Joint on Diagonal)



CONSTRUCTION JOINT DETAILS



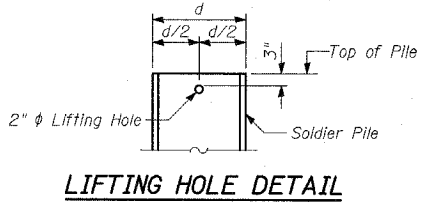
SECTION A-A



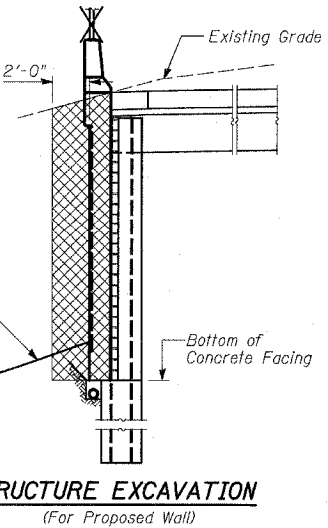
DETAIL X

CROSS SECTION THRU WALL

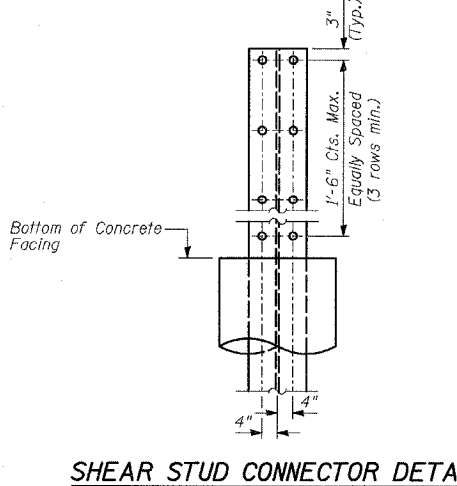
- NOTES:**
- The geocomposite wall drain shall be constructed according to Section 591 of the Standard Specifications.
 - The Contractor is responsible for the design and performance of the lagging using no less than 3" nominal rough-sawn thickness and the minimum tabulated unit stress in bending (f_b), 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.



LIFTING HOLE DETAIL



STRUCTURE EXCAVATION (For Proposed Wall)



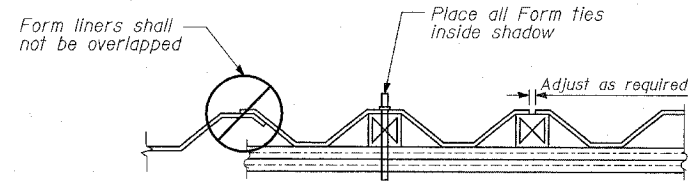
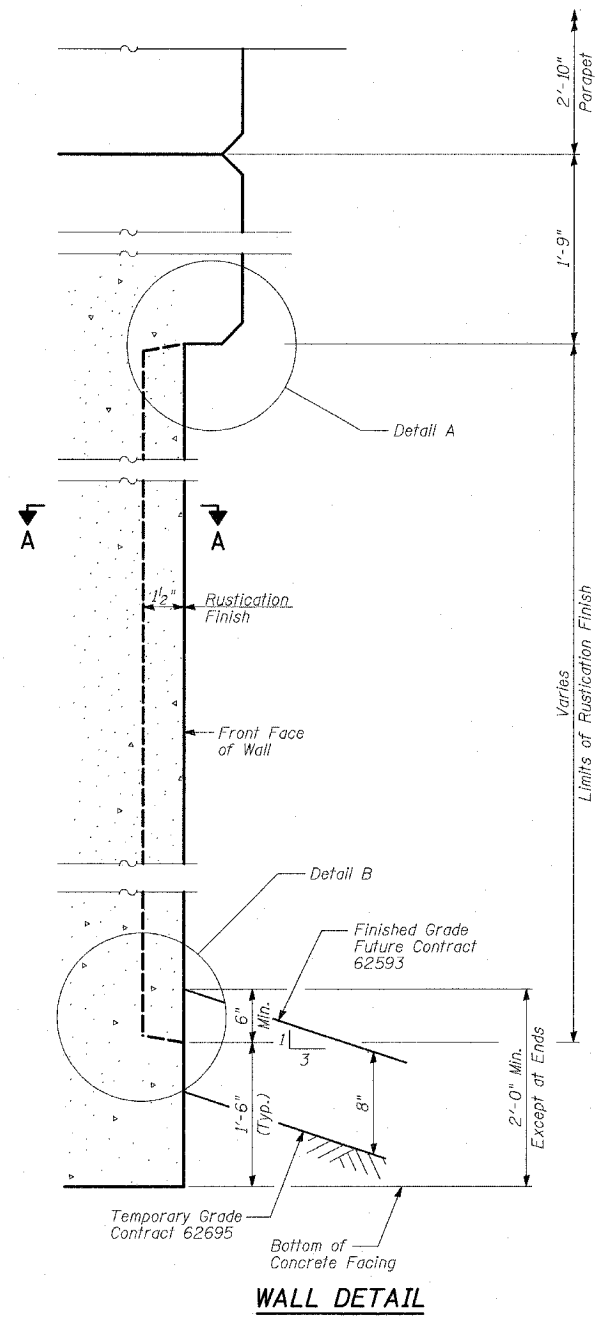
SHEAR STUD CONNECTOR DETAIL

BILL OF MATERIAL

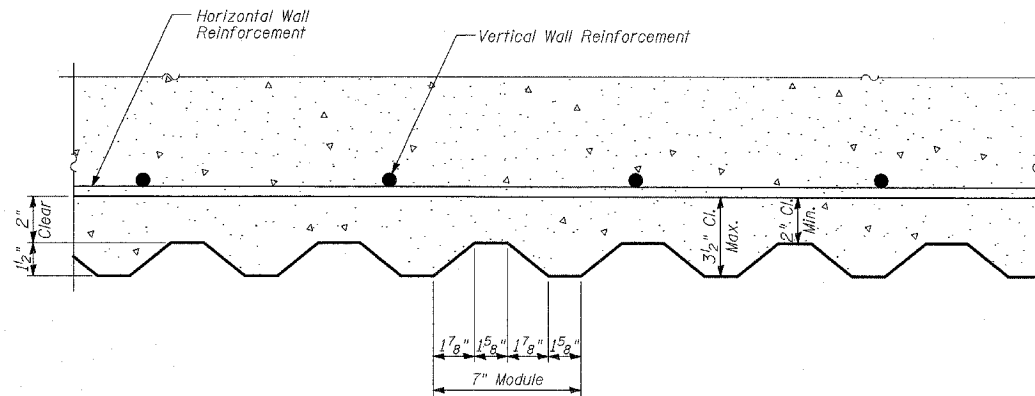
ITEM	UNIT	TOTAL
Structure Excavation	CU YD	618
Stud Shear Connectors	EACH	1,178
Untreated Timber Lagging	SQ FT	4,754
Geocomposite Wall Drain	SQ YD	581
Pipe Underdrains For Structures, 6"	FOOT	945

REVISIONS

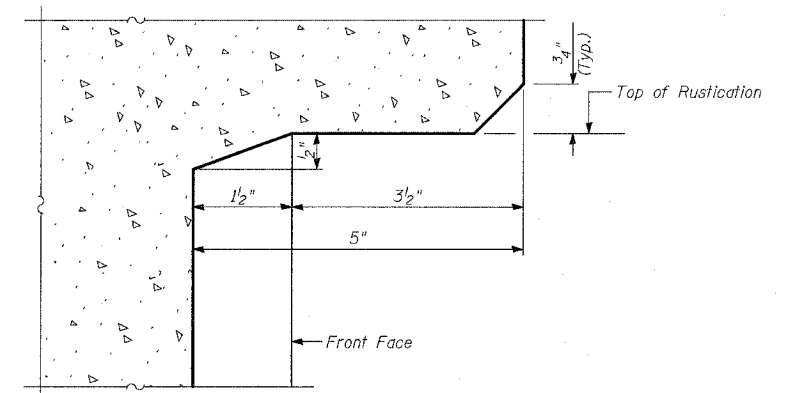
NAME	DATE
REVISION	04/15/05



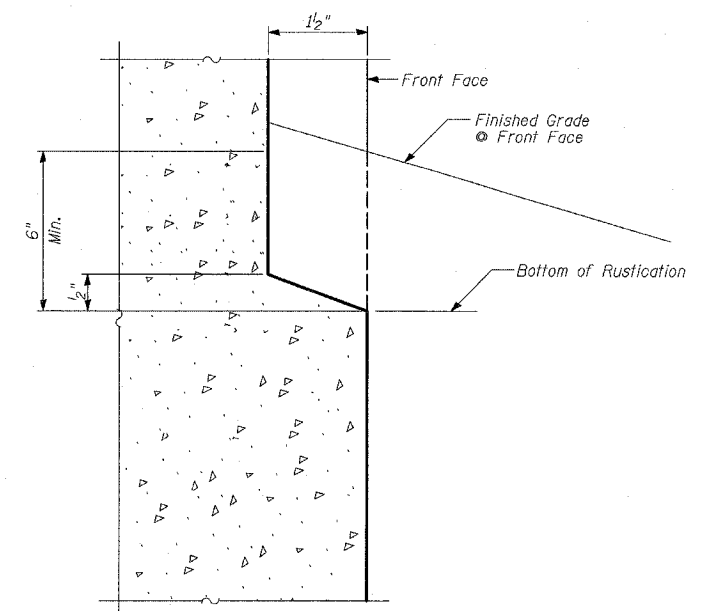
SUGGESTED FORMWORK DETAIL



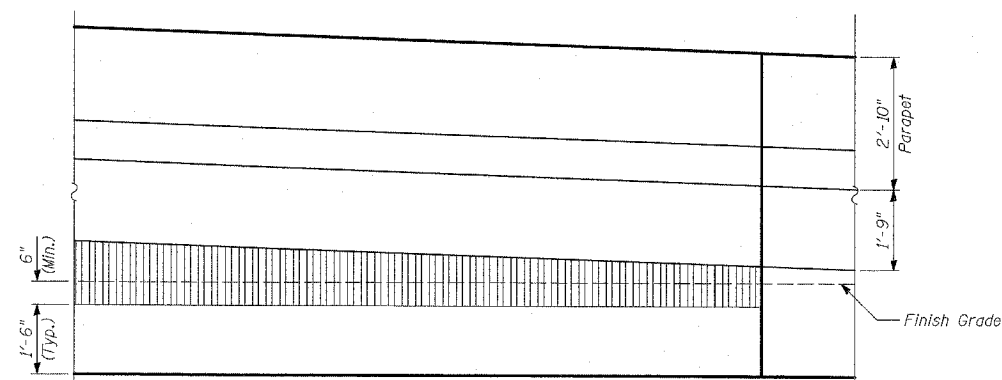
SECTION A-A



DETAIL A



DETAIL B



RUSTICATION DETAIL
(At Interior Panel with Embankment)

NOTES:

1. See Sheet 10 of 18 for expansion and construction joint details.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Rustication Finish	SQ FT	2,611

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 87TH ST.
 WALL 39
RUSTICATION DETAILS
 S.N. 016-W951 DESIGNED BY: MI
 SCALE: N.T.S. DRAWN BY: DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD

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BORING LOG SB 38-04 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: 8.70 ft
 North: 1846323.74 ft
 East: 1177495.40 ft
 Station: 1249+45.5
 Offset: 140.655' LT

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 (%)
8.5	2-inch thick, ASPHALT --PAVEMENT--	0							0				
7.5	12-inch thick, CONCRETE --PAVEMENT--	0							0				
6.0	6-inch thick, CRUSHED STONE --BASE COURSE--	0							0				
5.7	Stiff to hard, gray CLAY --FILL--	0							0				
	Stiff, gray CLAY	5	1	6 6 6	4.50 P	21			5	11	3 5 7	5.58 B	14
		10	2	3 3 3	1.00 P	31			10	12	5 9 13	5.25 B	11
		15	3	2 2 2	1.50 B	20	22.3	Very dense, gray SILTY LOAM, with gravel	15	3			
		20	4	3 2 3	1.15 B	21			20	4	26 39 56	NP	9
		25	5	2 2 4	1.64 B	19			25	5			
		30	6	2 2 4	1.80 B	16			30	6			
		35	7	6 15 16	4.50 P	11	26.3	Boring terminated at 35.00 ft	35	7			
		40	8	4 9 11	6.31 B	9			40	8			
		45	9	4 8 11	7.13 B	12			45	9			
		50	10	4 9 9	5.41 S	12			50	10			
7.3	Hard, gray SILTY CLAY to SILTY CLAY LOAM, with gravel	40							40				

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-29-2004	Complete Drilling	01-29-2004	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			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 38-06 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: 7.75 ft
 North: 1846475.44 ft
 East: 1177514.15 ft
 Station: 1250+96.6
 Offset: 117.576' LT

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 (%)
6.9	10-inch thick, black LOAM --TOPSOIL--	0							0				
	Medium stiff to stiff, black and gray CLAY to CLAY LOAM, with gravel --FILL--	0							0				
		5	1	8 4 5	1.00 P	22			5	11	8 8 10	4.10 B	12
		10	2	1 1 1	0.66 B	27			10	12	7 13 34	5.79 B	11
		15	3	0 2 3	1.39 B	20			15	13	26 45 50/25	NP	
		20	4	0 22 10	1.80 B	20			20	14	40 50/23	NP	
		25	5	2 4 5	2.21 B	18			25	14			
		30	6	1 7 13	4.10 B	19	24.3	Very dense, gray GRAVELLY SILT	30	14			
		35	7	8 9 12	4.59 S	11			35	14			
		40	8	10 13 14	4.67 S	11			40	14			
		45	9	8 11 15	6.31 B	12			45	14			
		50	10	8 10 15	5.58 B	12			50	14			
6.3	Hard, gray SILTY CLAY, with gravel	40							40				

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-02-2004	Complete Drilling	01-02-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	T&B	Logger	Y. Shiu	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			Depth to Water	▽	NA	
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TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 87TH ST.
 WALL 39
 BORING LOGS SB38-04 & SB38-06
 S.N. 016-W951
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

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 Consulting Geotechnical and Environmental Engineers
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BORING LOG SB 38-08 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: 7.26 ft
 North: 1846627.39 ft
 East: 1177497.91 ft
 Station: 1252+49.0
 Offset: 129.457' LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
5.6	8-inch thick, black LOAM --TOPSOIL-- Stiff, black and gray CLAY --FILL--	0	1	3 4 4	1.50 P	32				0	11	5 8 11	5.99 S	13	
4.3	Stiff to very stiff, gray CLAY	5	2	2 2 5	1.64 B	23				30	12	12 14 20	7.63 S	10	
		10	3	1 1 3	2.08 B	16				35	13	22 37 50/4	4.50 P	8	
		15	4	1 3 3	2.08 B	15		21.7	Very dense, gray GRAVELLY SILT	35	13	22 37 50/4	4.50 P	8	
		20	5	1 3 5	1.97 B	16				40	14	28 46 50/5	NP		
-5.7	Hard, gray SILTY CLAY, with gravel	25	6	5 9 12	4.50 P	14		-32.6	Boring terminated at 39.90 ft	40	14	28 46 50/5	NP		
		30	7	2 7 9	5.74 B	12				45	8	14 32 34	4.50 P	8	
		35	8	4 5 9	6.56 B	12				50	9	15 42 11	4.50 P	8	
		40	9	6 8 13	5.41 S	12					10	22 46 50/1	4.50 P	7	
		45	10	6 8 11	8.12 S	11									

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-26-2004	Complete Drilling	01-26-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	T&B	Logger	B. Fugiel	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion	Checked by	N. Davis	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 39-04 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: -8.88 ft
 North: 1846618.85 ft
 East: 1177569.95 ft
 Station: 1252+38.4
 Offset: 57.689' LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	Sample No. recovery	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
9.6	8-inch thick CONCRETE --PAVEMENT-- 6-inch thick CRUSHED STONE --BASE COURSE-- Medium dense to dense, black to brown SAND	0	1	12 24 20	NP	7				0	11	25 48 50/3	NP	10	
		5	2	24 12 6	NP	17				10	12	40 76/3	NP	8	
-13.4	Hard, gray CLAY	15	3	5 5 7	4.35 B	13				20	8	14 32 34	4.50 P	8	
		20	4	7 5 10	6.64 B	12				25	9	15 42 11	4.50 P	8	
		25	5	4 8 14	5.17 B	11				30	10	22 46 50/1	4.50 P	7	
-21.9	Hard, gray SILTY CLAY, with gravel	30	6	5 25 27	4.50 P	9		-34.4	Boring terminated at 29.25 ft	30	10	22 46 50/1	4.50 P	7	
		35	7	13 33 49	4.50 P	8				40	11	15 42 11	4.50 P	8	
		40	8	14 32 34	4.50 P	8				45	12	15 42 11	4.50 P	8	
		45	9	15 42 11	4.50 P	8				50	13	15 42 11	4.50 P	8	
		50	10	22 46 50/1	4.50 P	7									

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	J&L	Logger	K. Jacob	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion	Checked by	S. Janowski	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 LAFAYETTE AVE.
 89TH ST. TO 87TH ST.
 WALL 39
 BORING LOGS SB38-08 & SB39-04
 S.N. 016-W951
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	*	COOK	907	550
STA. 1200+00.00 TO STA. 1365+00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
* (1516.1, 1717 & 1818) R-9				

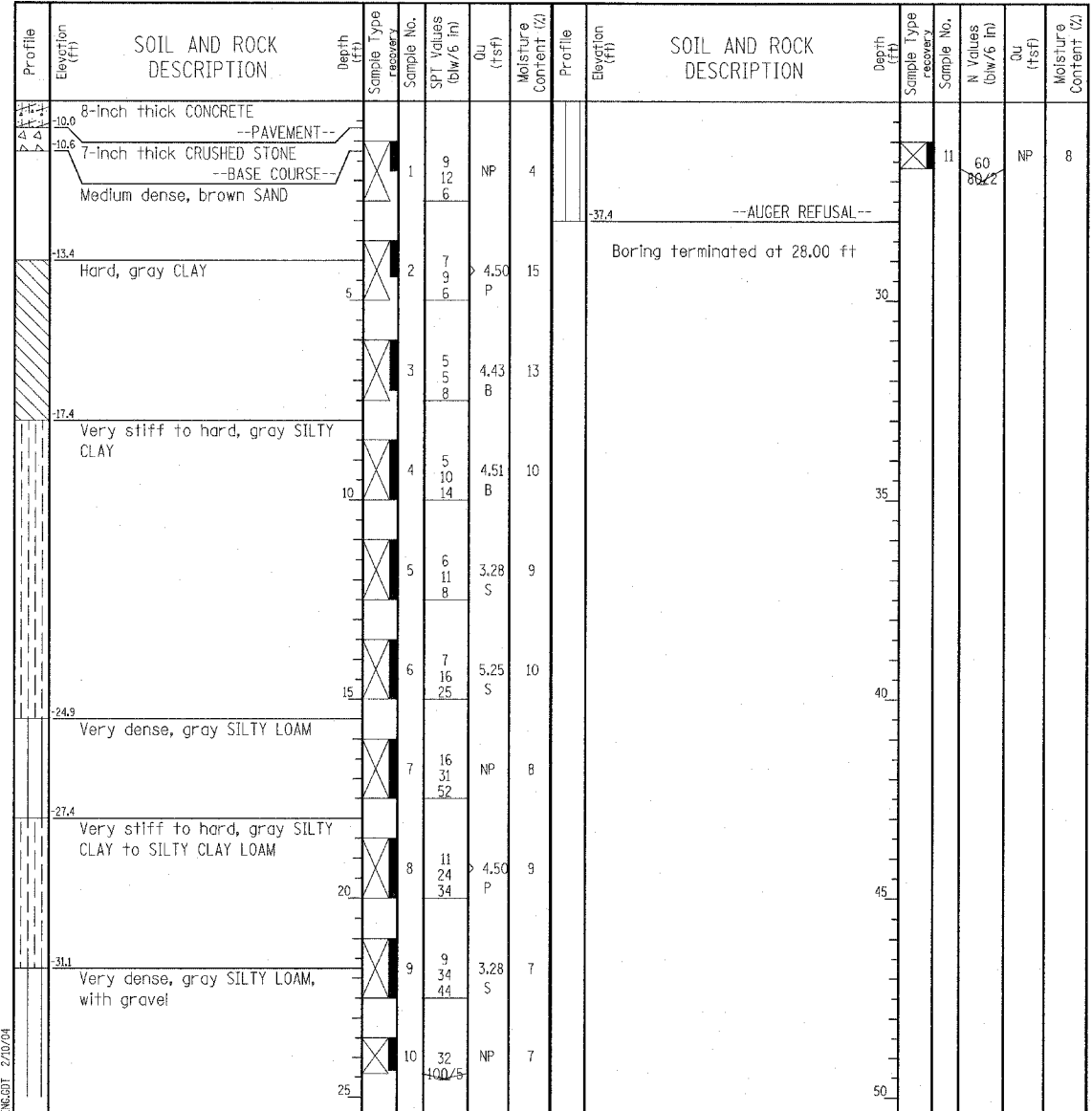
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BORING LOG SB 39-05 Page 1 of 1

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: -9.37 ft
 North: 1846698.46 ft
 East: 1177567.31 ft
 Station: 1253+18.0
 Offset: 58.059' LT



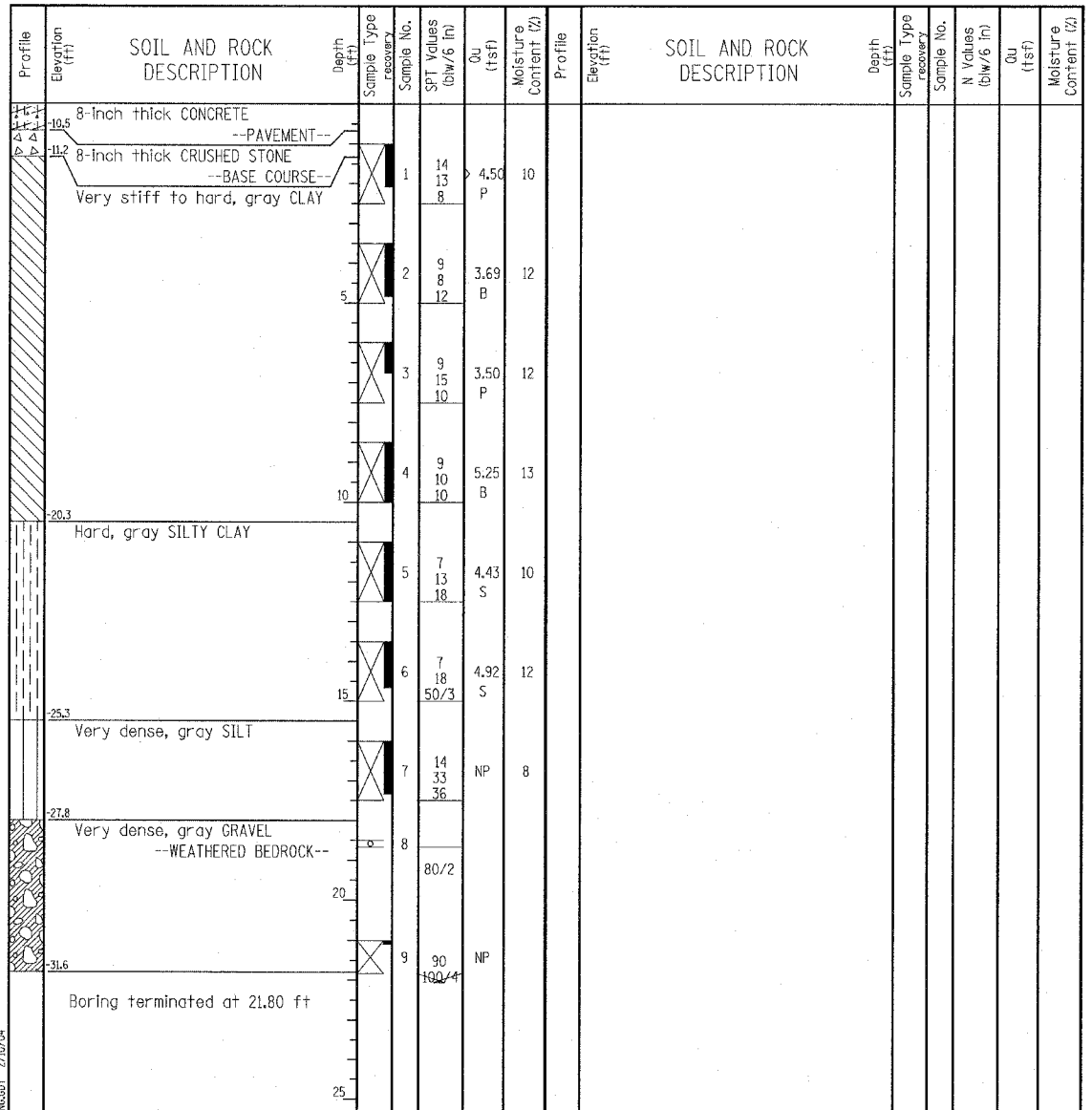
GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-28-2004	Complete Drilling	01-28-2004	While Drilling	☒	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	☒	DRY	
Driller	J&L	Logger	K. Jacob	Time After Drilling	NA		
Drilling Method	3.25" ID. HSA; Boring backfilled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

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BORING LOG SB 39-06 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: -9.82 ft
 North: 1846768.18 ft
 East: 1177565.37 ft
 Station: 1253+87.8
 Offset: 58.00' LT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-26-2004	Complete Drilling	01-28-2004	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			Depth to Water	☒	NA	
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.							

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
89TH ST. TO 87TH ST.
WALL 39
BORING LOGS SB39-05 & SB39-06
 S.N. 016-W951
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

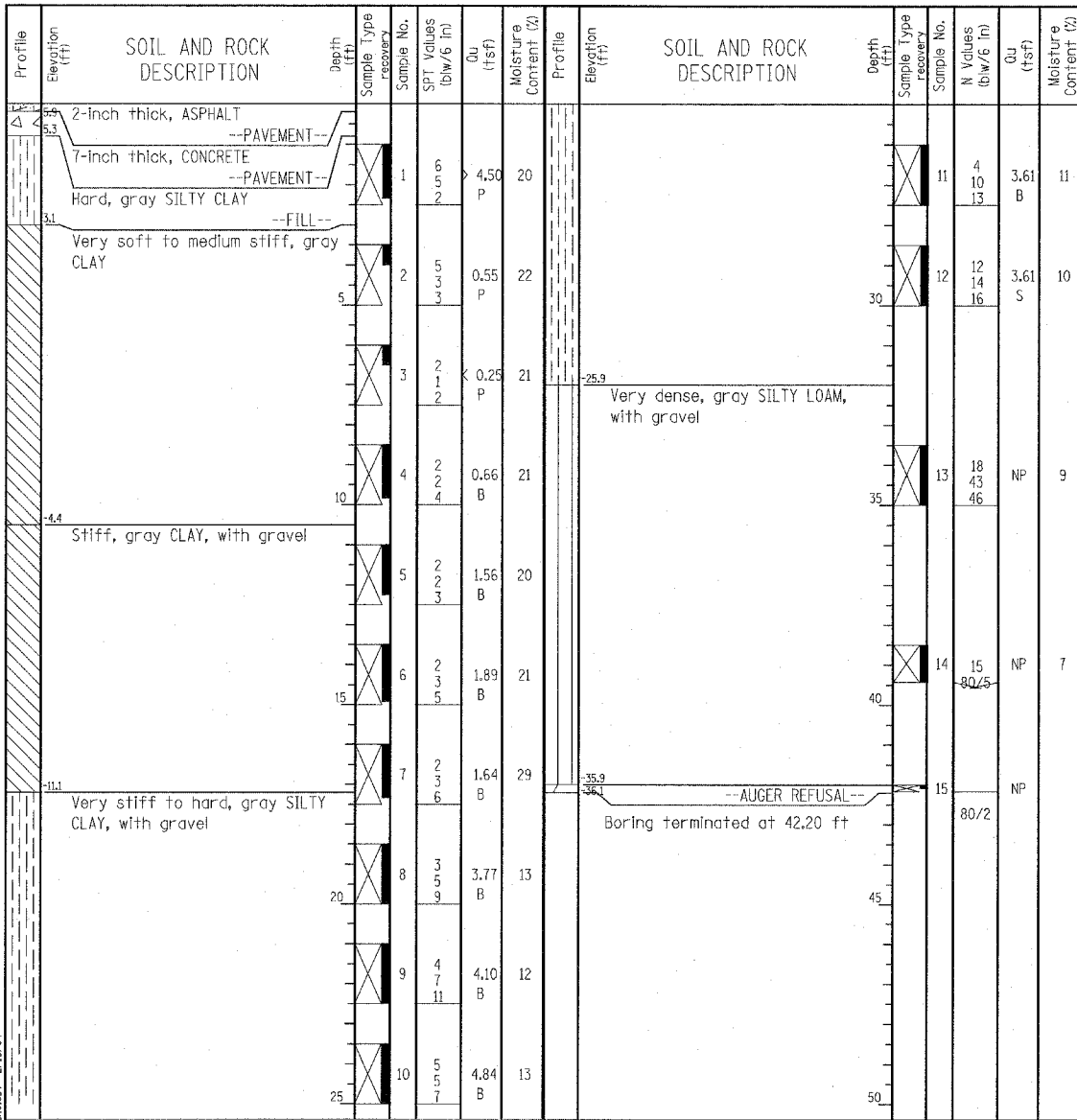
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BORING LOG SB 39-07 Page 1 of 1

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: 6.13 ft
 North: 1846841.63 ft
 East: 1177488.33 ft
 Station: 1254+63.4
 Offset: 132.908' LT



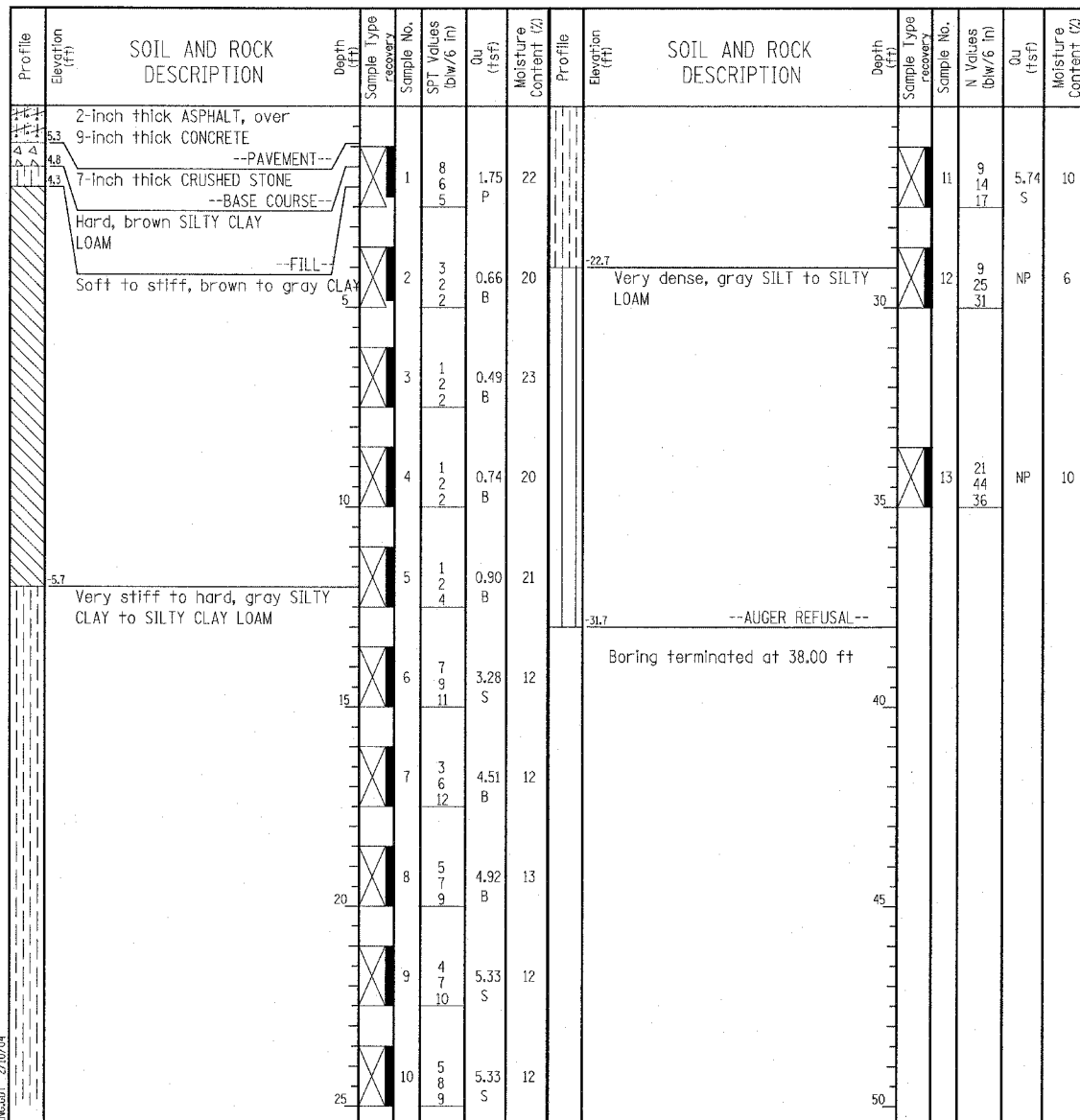
GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-05-2004	Complete Drilling	02-05-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick Drilling	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	DRY	
Driller	J&L	Logger	K. Jacob	Time After Drilling	NA		
Drilling Method	3.25" ID HSA; Boring backfilled with bentonite upon completion			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 39-08 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: 6.27 ft
 North: 1846914.00 ft
 East: 1177480.06 ft
 Station: 1255+36.0
 Offset: 139.101' LT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-03-2004	Complete Drilling	02-03-2004	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			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 LAFAYETTE AVE.
 89TH ST. TO 87TH ST.
 WALL 39
 BORING LOGS SB39-07 & SB39-08
 S.N. 016-W951
 SCALE: N.T.S.
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DESIGNED BY: DJR
 DRAWN BY: DJR
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 1145 Main Street
 Lombard, IL 60148
 Telephone: 630 953-9928
 Fax: 630 953-9938

BORING LOG SB 39-09 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: 6.60 ft
 North: 1846990.87 ft
 East: 1177478.02 ft
 Station: 1256+42.9
 Offset: 138.933' LT

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BORING LOG SB 39-10 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: 6.92 ft
 North: 1847067.23 ft
 East: 1177481.43 ft
 Station: 1256+89.1
 Offset: 133.348' LT

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 (%)
6.7	2-inch thick ASPHALT, over 9-inch thick CONCRETE	0	1	2 6	2.75	19	18.9	Dense, gray SILTY LOAM	0	11	11 17 20	NP	11
5.1	7-inch thick CRUSHED STONE	1	2	2 2	0.49	26			1	12	14 20 26	NP	11
3.6	Very stiff, brown SILTY CLAY LOAM	2	3	1 1 1	0.33	23			2	13	80 45	NP	7
	Soft, gray CLAY	5	4	1 1 1	0.41	23			3	14	40 80 92 4	NP	7
		10	5	1 10 12	NP	13			4	15		NP	14
	Medium dense, gray SILT, with sand and clay interbeds	15	6	3 5 6	2.87	14			5	20		NP	13
		20	7	2 3 6	3.28	14			6	25		NP	12
		25	8	3 6 9	5.66	13			7			NP	10
			9	5 10 11	5.08	12			8			NP	11
			10						9			NP	10
									10			NP	11

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 (%)
6.4	6-inch thick, SANDY LOAM, with gravel	0	1	8 5 5	NP	20			0	11	5 10 20	NP	11
	Medium dense, gray SANDY LOAM, with gravel	1	2	2 3 3	1.23	24			1	12	10 20 30	NP	11
	Medium stiff to very stiff, gray CLAY	5	3	1 1 1	0.74	24			2	13	16 44 58	NP	8
		10	4	1 1 2	0.57	41			3	14	50 4	NP	10
		15	5	1 2 4	1.56	18			4	15		NP	20
		20	6	3 4 7	2.38	20			5	20		NP	10
	Hard, gray SILTY CLAY, with gravel	25	7	3 6 13	4.18	B			6	25		NP	11
	Very stiff, gray CLAY	30	8	3 5 6	3.69	B			7	30		NP	13
		35	9	4 12 16	NP	10			8	35		NP	10
	Medium dense, gray SILT to SILTY LOAM	40	10	3 12 8	3.44	B			9	40		NP	11
	Very stiff, gray SILTY CLAY to CLAY	45							10	45		NP	11

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-03-2004	Complete Drilling	02-03-2004	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	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.							

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	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.							

WANGENG-4140701-01; WANGENG-02 2/10/04

WANGENG-4140701-01; WANGENG-02 2/10/04

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 87TH ST.
 WALL 39
 BORING LOGS SB39-09 & SB39-10
 S.N. 016-W951
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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



P:\2003\Structure\CI\Wall 39\SB10\Boring 39-10.dwg 03/29/2005 03:43:55 PM

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BORING LOG SB 39-11 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

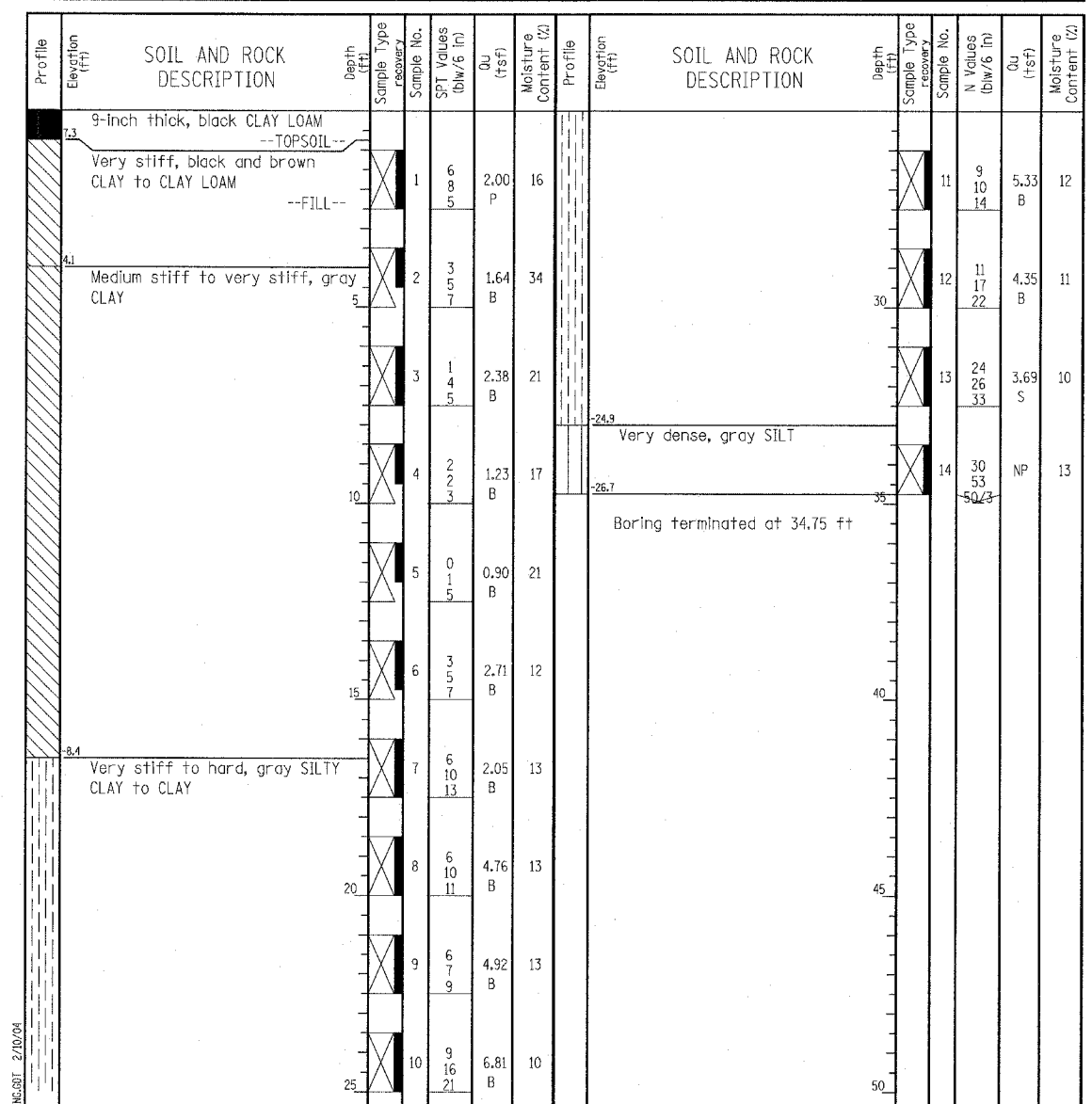
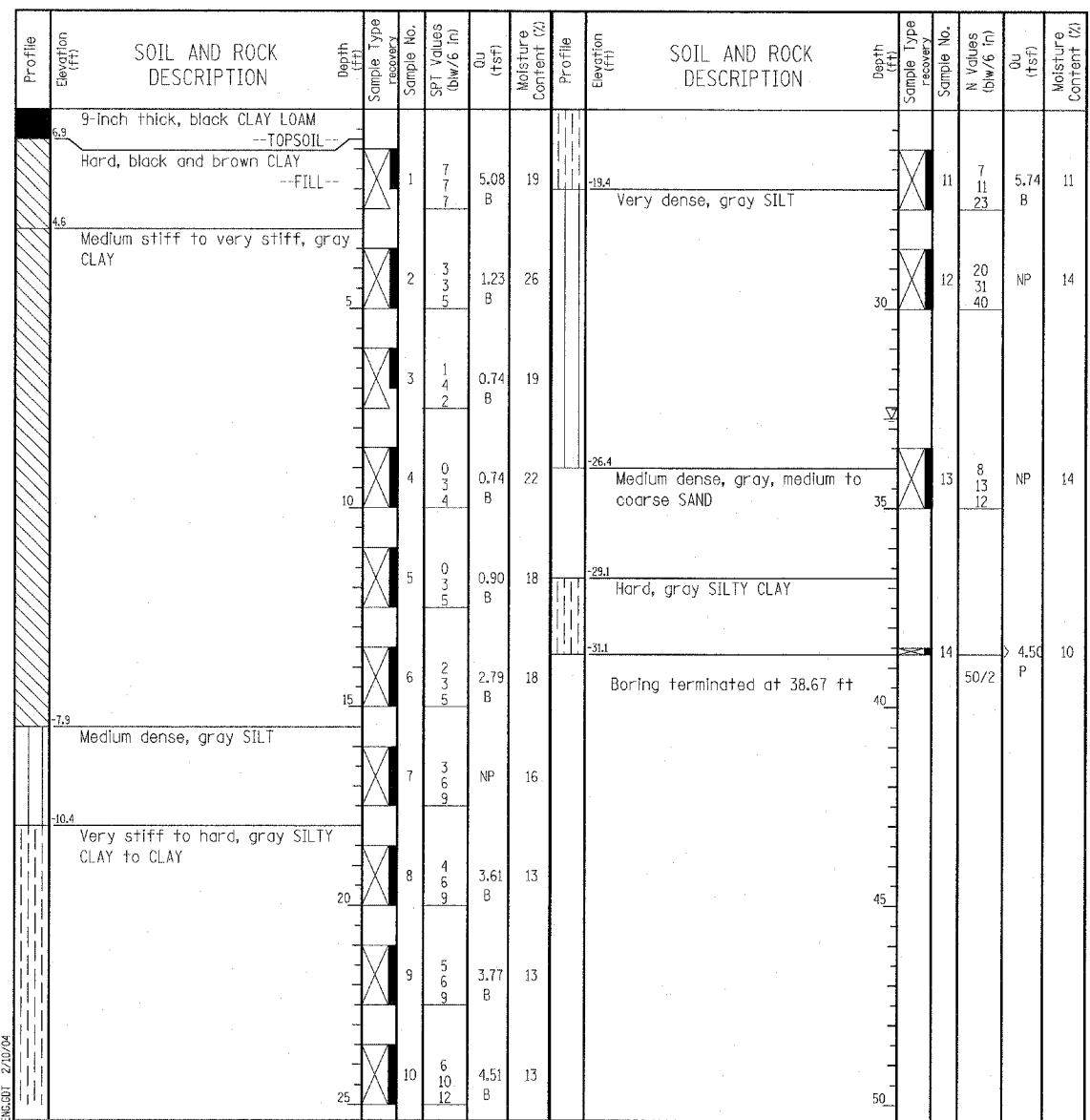
Datum: CCD
 Elevation: 7.62 ft
 North: 1847141.02 ft
 East: 1177480.17 ft
 Station: 1257+462.9
 Offset: 132.486' LT

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BORING LOG SB 39-12 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: 8.06 ft
 North: 1847203.82 ft
 East: 1177479.48 ft
 Station: 1258+25.7
 Offset: 131.38' LT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-03-2004	Complete Drilling	02-03-2004	While Drilling	▽	32.75 ft	
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	

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	02-03-2004	Complete Drilling	02-03-2004	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	

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REVISIONS	
NAME	DATE

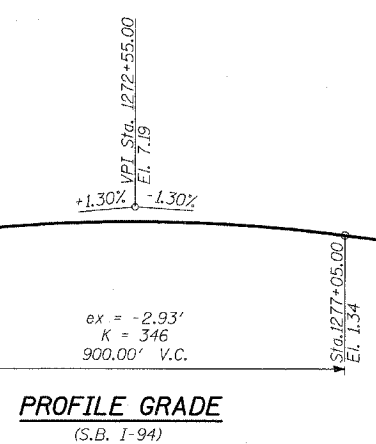
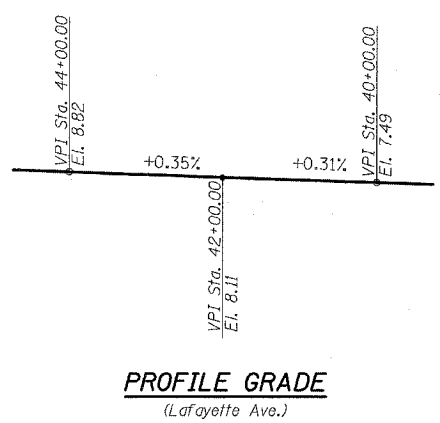
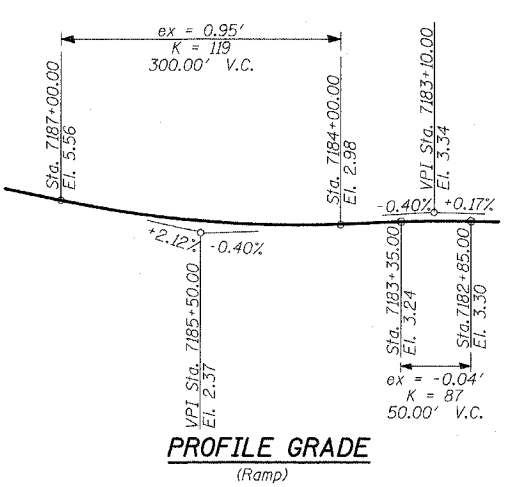
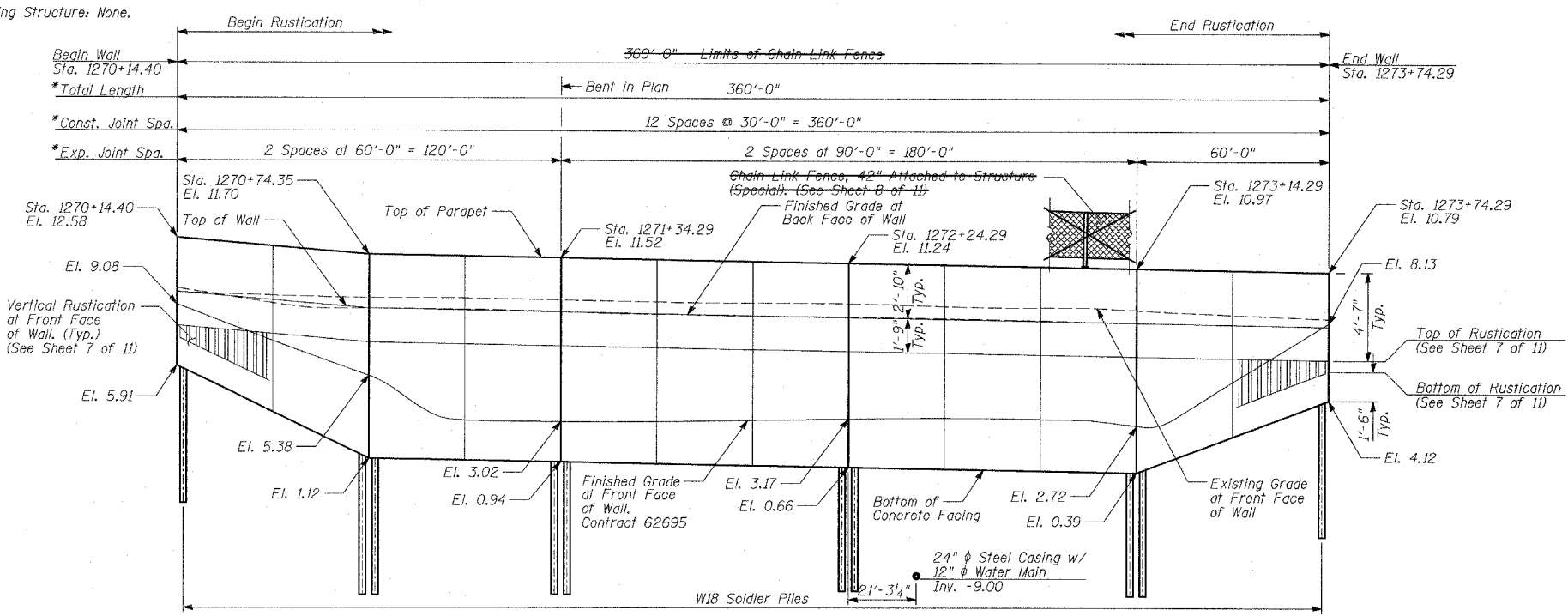
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 89TH ST. TO 87TH ST.
 WALL 39
 BORING LOGS SB39-11 & SB39-12
 S.N. 016-W951
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

Benchmarks: BM 3549 Set "+ westerly flange bolt of hydrant at southwest intersection of 87th St. and Lafayette Ave.. El. 9.49

Existing Structure: None.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	•	COOK	907	554
STA. 1200+00.00 TO STA. 1365+00				
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
(1516.1, 1717 & 1818) R-9		62695		



TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	CU YD	320
Concrete Structures	CU YD	157
Protective Coat	SQ YD	481
Rustication Finish	SQ FT	2,039
Stud Shear Connectors	EACH	444
Untreated Timber Lagging	SQ FT	2,076
Furnishing Soldier Piles (W Section)	FOOT	1,608
Reinforcement Bars, Epoxy Coated	POUND	19,350
Geocomposite Wall Drain	SQ YD	251
Pipe Underdrains For Structures, 6"	FOOT	360
Drilling and Setting Soldier Piles (In Soil)	CU FT	8,340
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	360

DESIGN SPECIFICATION

AASHTO 2002 Standard Specifications for Highway Bridges

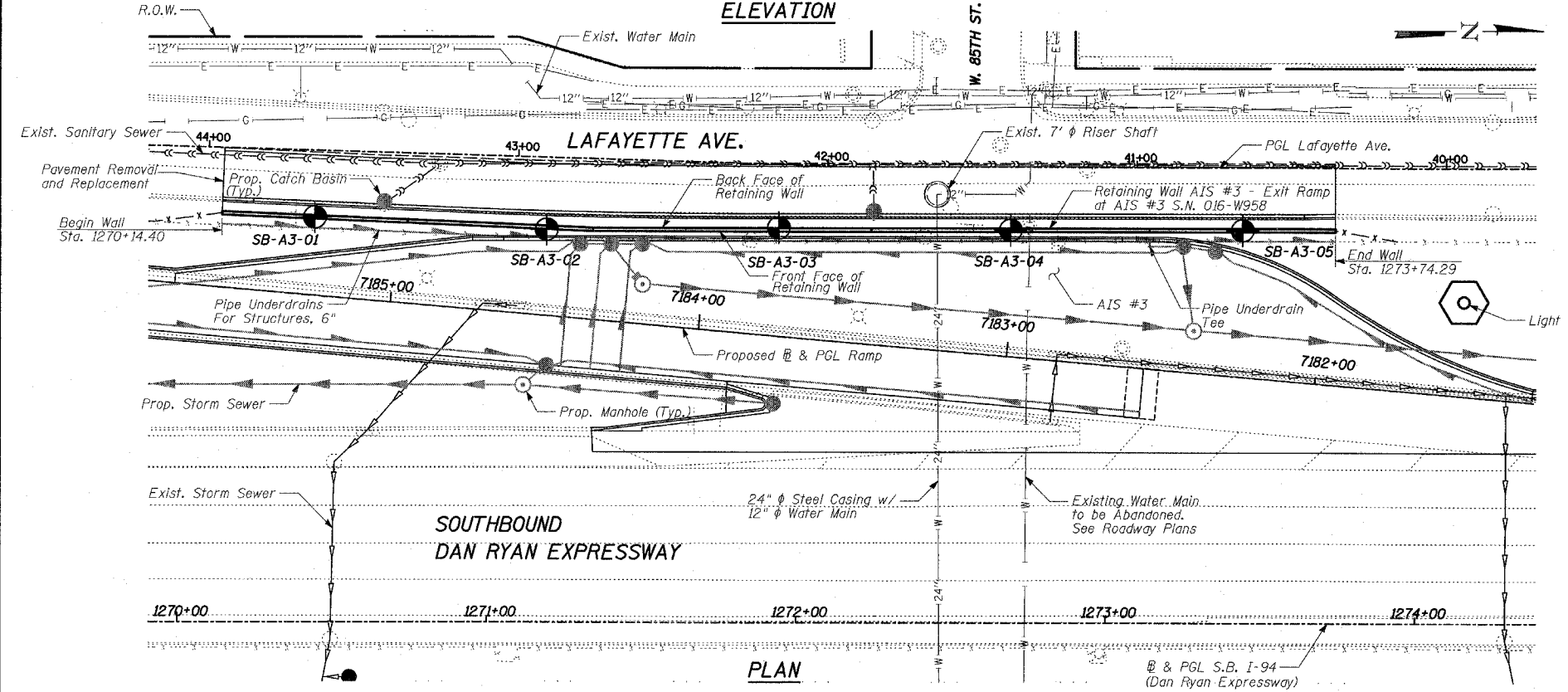
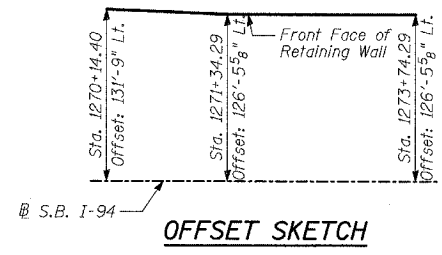
DESIGN STRESSES

FIELD UNITS

- f'c = 3,500 psi
- fy = 60,000 psi (Reinforcement)
- fy = 36,000 psi (M270 Grade 36) Soldier Piles

INDEX OF SHEETS

1. GENERAL PLAN
2. PLAN AND ELEVATION STA. 1270+14.40 TO STA. 1271+34.29
3. PLAN AND ELEVATION STA. 1271+34.29 TO STA. 1273+14.29
4. PLAN AND ELEVATION STA. 1273+14.29 TO STA. 1273+74.29
5. PILE LAYOUT, DETAILS & BILL OF MATERIAL
6. WALL CROSS SECTIONS & DETAILS
7. RUSTICATION DETAILS
8. CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)
9. BORING LOGS SB-A3-01 & SB-A3-02
10. BORING LOGS SB-A3-03 & SB-A3-04
11. BORING LOGS SB-A3-05



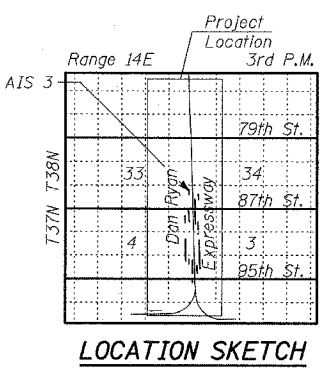
LEGEND

- Boring Location
- * Measured along Front Face of Wall.

GENERAL NOTES:

1. Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
2. 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 (fb), used in the design of timber lagging shall be 1000 psi.
3. The soldier piles shall be cleaned and given one shop coat of Inorganic Zinc-Rich primer.
4. All exposed concrete edges shall be chamfered 3/4" except as noted.
5. Protective Coat shall be applied to exposed surfaces of the concrete facing.
6. Existing utilities in conflict with soldier pile wall construction shall be abandoned or relocated according to directions given on the roadway plans.
7. All construction joints shall be bonded.
8. 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)
9. The wall shall be backfilled (where applicable) prior to placing the concrete facing.
10. Riser Shaft and Jacking Pit to have been constructed by others in Contract 24B.
11. The Contractor is responsible to coordinate all electrical crossings with this Contract and with Contract 62583.

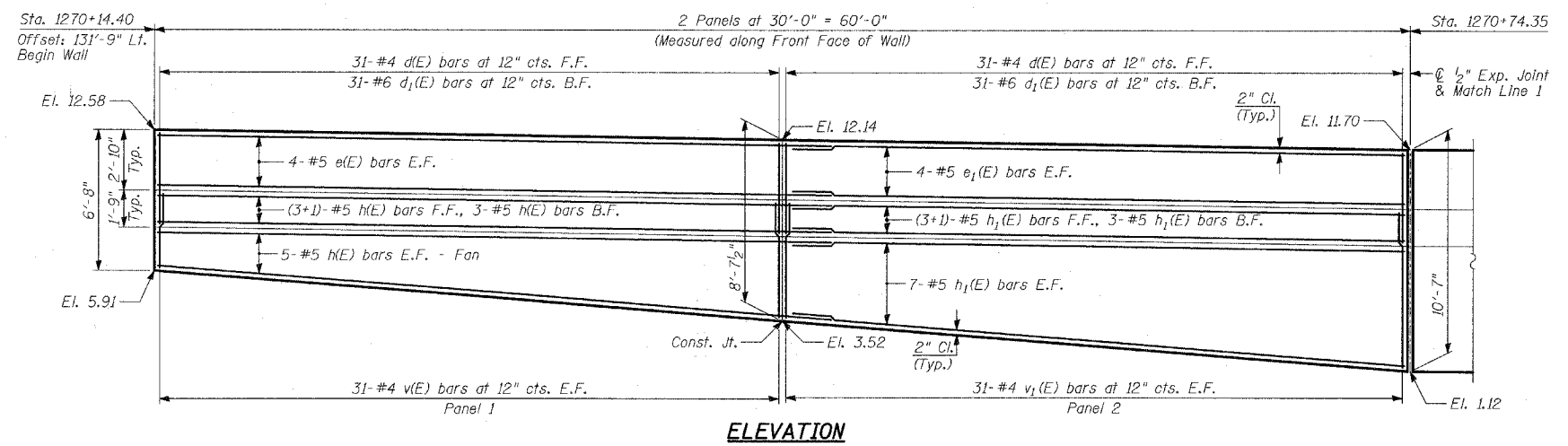
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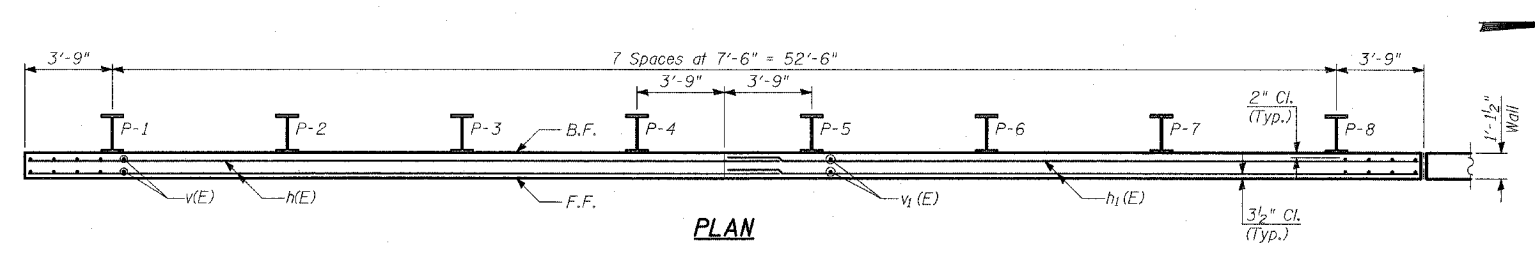
Signed: Phillip D. Frey
 Date: 3/25/05
 For drawings 1 thru 11 of 11

REVISIONS		DATE
NAME	DATE	

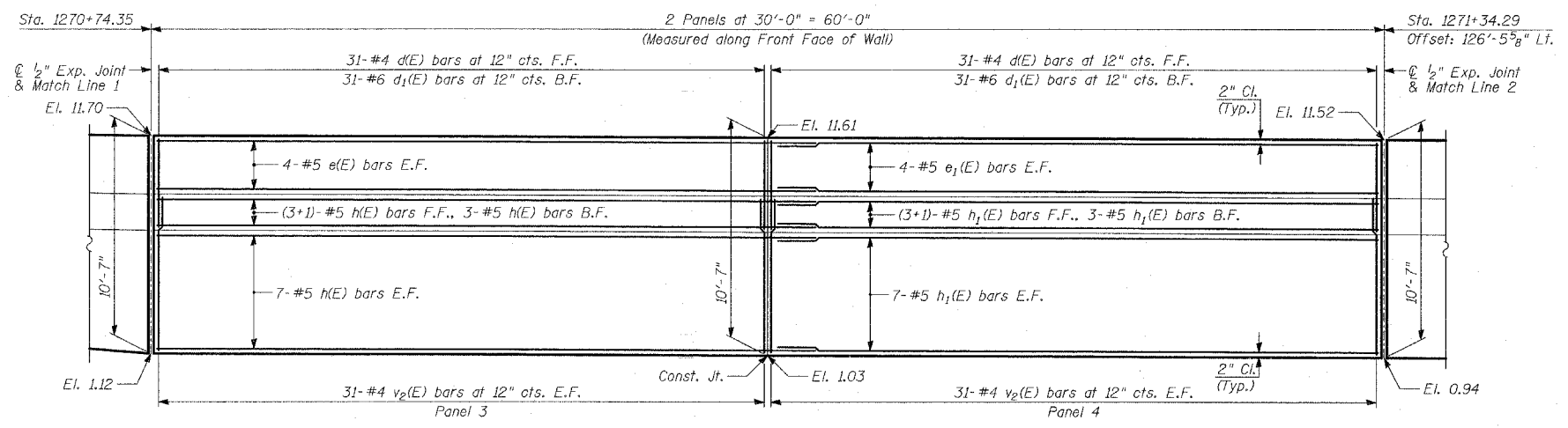
ILLINOIS DEPARTMENT OF TRANSPORTATION	
F.A.I. 94 (DAN RYAN EXPRESSWAY)	
RETAINING WALL ALONG LAFAYETTE AVE.	
EXIT RAMP AT AIS #3	
AIS 3 - GENERAL PLAN	
STA. 1270+14.40 TO STA. 1273+74.29	DESIGNED BY: MI, DJR
S.N. 016-W958	DRAWN BY: DJR, TB
SCALE: N.T.S.	CHECKED BY: TD, MI
DATE: MARCH 25, 2005	
REVISED	04/15/05



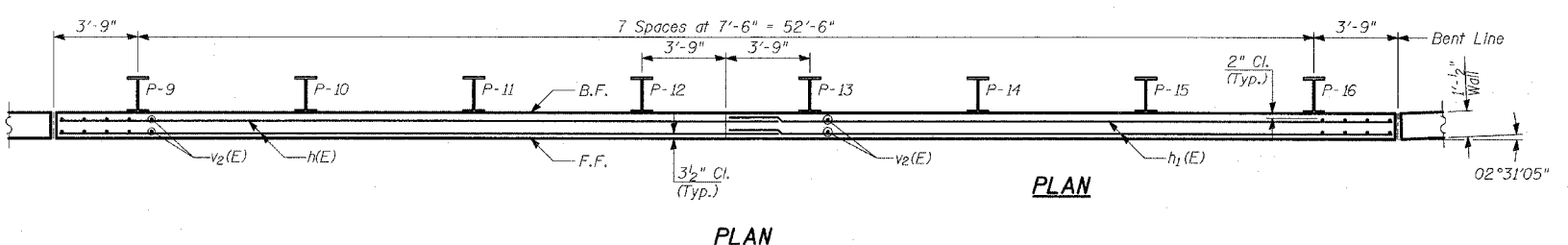
ELEVATION



PLAN



ELEVATION



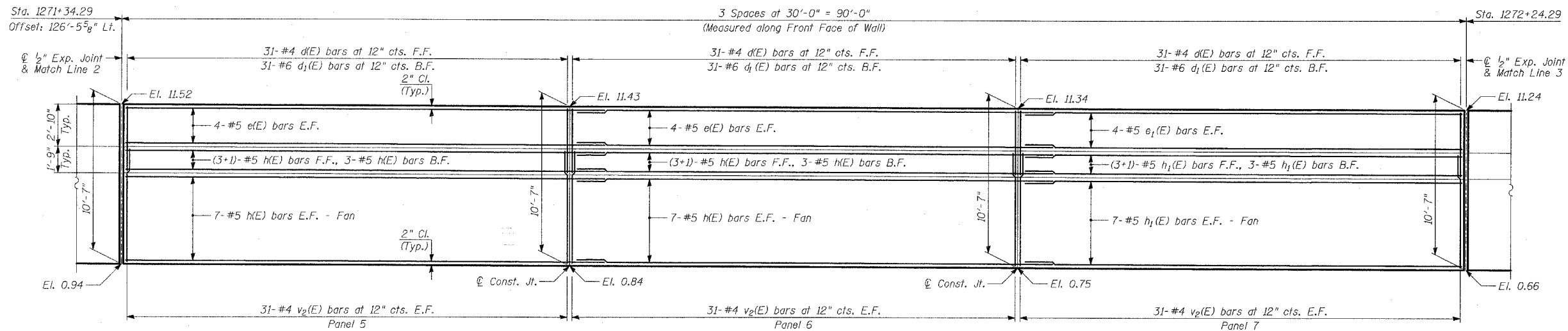
PLAN

- 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 4 thru 8 of 11.
 5. Pile spacing measured along front face of wall.
 6. For Lap Splices, see Sheet 5 of 11.

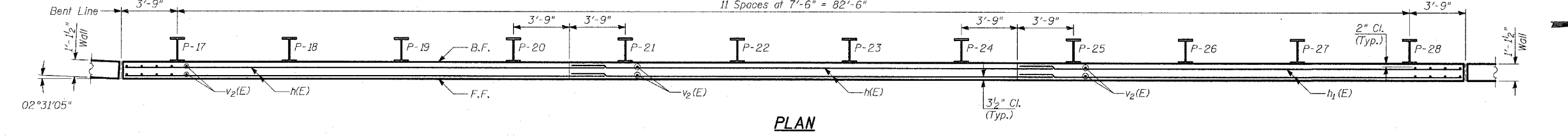
TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

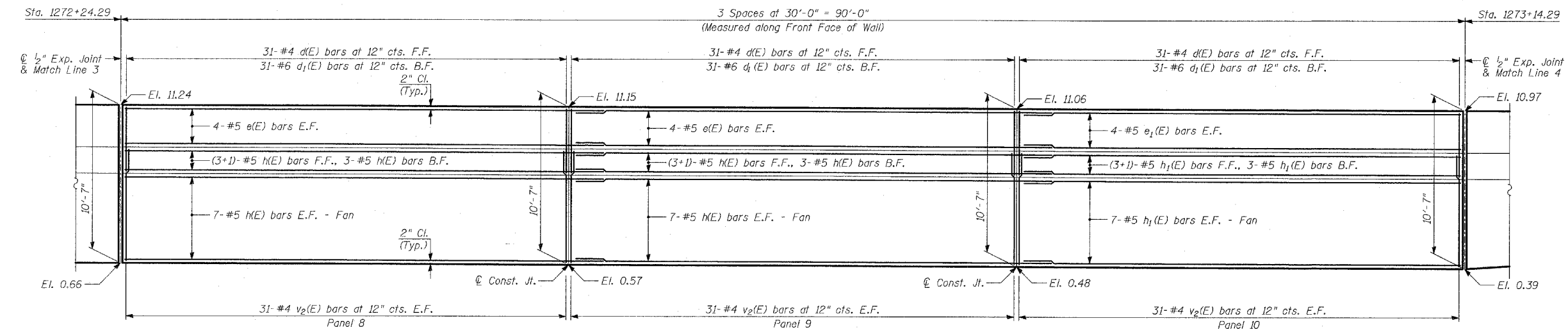
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 EXIT RAMP AT AIS #3
 AIS 3 - PLAN AND ELEVATION
 STA. 1270+14.40 TO STA. 1271+34.29
 S.N. 016-W958 DESIGNED BY: MI, DJR
 SCALE: N.T.S. DRAWN BY: DJR, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



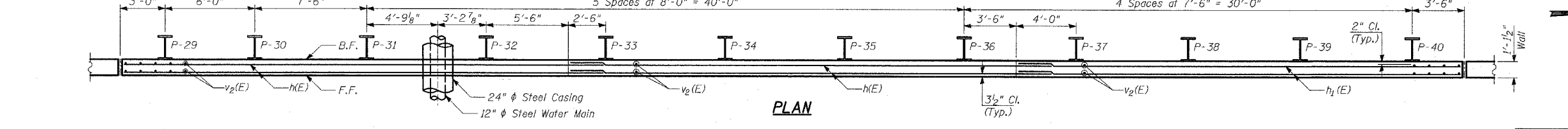
ELEVATION



PLAN



ELEVATION



PLAN

NOTES:

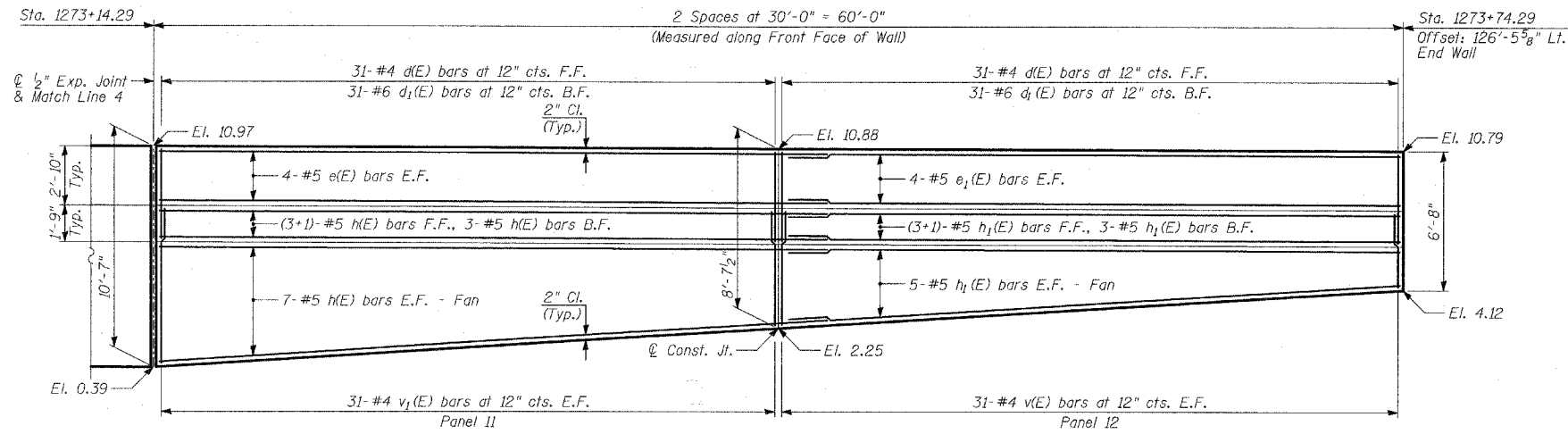
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3. F.F. - denotes Front Face.
4. Work this sheet with Sheets 4 thru 8 of 11.
5. Pile spacing measured along front face of wall.
6. For Lap Splices, see Sheet 5 of 11.

TYLIN INTERNATIONAL

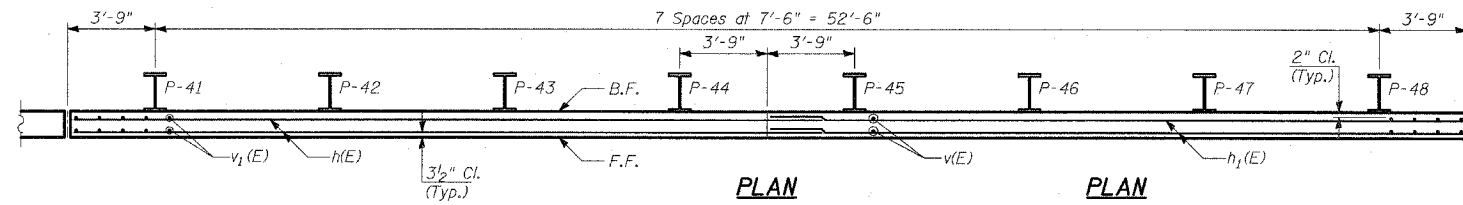
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
EXIT RAMP AT AIS #3
AIS 3 - PLAN AND ELEVATION
STA. 1271+34.29 TO STA. 1273+14.29
 S.N. 016-W958
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

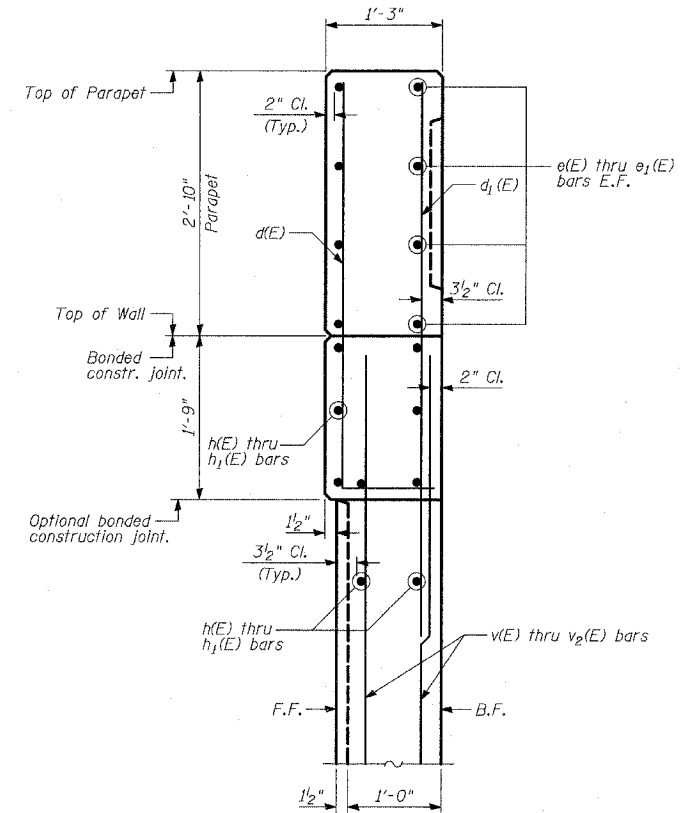


ELEVATION



PLAN

PLAN



FLUTED PARAPET DETAIL

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 4 thru 8 of 11.
5. Pile spacing measured along front face of wall.
6. For Lap Splices, see Sheet 5 of 11.

TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
EXIT RAMP AT AIS #3
AIS 3 - PLAN AND ELEVATION
STA. 1273+14.29 TO STA. 1273+74.29
 S.N. 016-W958 DESIGNED BY: MI, DJR
 SCALE: N.T.S. DRAWN BY: DJR, TB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI

PILE LAYOUT

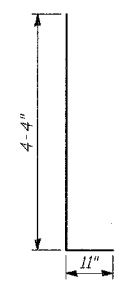
Pile	Station at Working Point	Top of Parapet El.	Top of Pile El.	Bot. of Wall El.	Section	Pile Tip El.	Pile Length
P-1	1270+18.20	12.52	8.36	5.61	W18x143	-21.39	29'-9"
P-2	1270+25.69	12.41	8.25	5.01		-22.00	30'-3"
P-3	1270+33.19	12.31	8.14	4.41		-22.61	30'-9"
P-4	1270+40.68	12.20	8.03	3.82		-23.22	31'-3"
P-5	1270+48.17	12.09	7.92	3.22		-23.83	31'-9"
P-6	1270+55.66	11.98	7.81	2.62		-24.44	32'-3"
P-7	1270+63.16	11.87	7.70	2.02		-25.05	32'-9"
P-8	1270+70.65	11.76	7.59	1.42		-25.66	33'-3"
P-9	1270+78.14	11.69	7.52	1.11		-26.98	34'-6"
P-10	1270+85.64	11.67	7.50	1.09		-27.00	34'-6"
P-11	1270+93.13	11.65	7.48	1.06		-27.02	34'-6"
P-12	1271+00.62	11.62	7.46	1.04		-27.04	34'-6"
P-13	1271+08.11	11.60	7.43	1.02		-27.07	34'-6"
P-14	1271+15.61	11.58	7.41	0.99		-27.09	34'-6"
P-15	1271+23.10	11.55	7.39	0.97		-27.11	34'-6"
P-16	1271+30.59	11.53	7.36	0.95		-27.14	34'-6"
P-17	1271+38.04	11.51	7.34	0.92		-27.16	34'-6"
P-18	1271+45.54	11.48	7.32	0.90		-27.18	34'-6"
P-19	1271+53.04	11.46	7.30	0.88		-27.20	34'-6"
P-20	1271+60.54	11.44	7.27	0.86		-27.23	34'-6"
P-21	1271+68.04	11.42	7.25	0.83		-27.25	34'-6"
P-22	1271+75.54	11.39	7.23	0.81		-27.27	34'-6"
P-23	1271+83.04	11.37	7.20	0.79		-27.30	34'-6"
P-24	1271+90.54	11.35	7.18	0.76		-27.32	34'-6"
P-25	1271+98.04	11.32	7.16	0.74		-27.34	34'-6"
P-26	1272+05.54	11.30	7.13	0.72		-27.37	34'-6"
P-27	1272+13.04	11.28	7.11	0.70		-27.39	34'-6"
P-28	1272+20.54	11.26	7.09	0.67		-27.41	34'-6"
P-29	1272+27.29	11.23	7.07	0.65		-27.43	34'-6"
P-30	1272+33.29	11.22	7.05	0.63		-27.45	34'-6"
P-31	1272+40.79	11.19	7.03	0.61		-27.47	34'-6"
P-32	1272+48.79	11.17	7.00	0.59		-27.50	34'-6"
P-33	1272+56.79	11.14	6.98	0.56		-27.52	34'-6"
P-34	1272+64.79	11.12	6.95	0.54		-27.55	34'-6"
P-35	1272+72.79	11.10	6.93	0.51		-27.57	34'-6"
P-36	1272+80.79	11.07	6.90	0.49		-27.60	34'-6"
P-37	1272+88.29	11.05	6.88	0.47		-27.62	34'-6"
P-38	1272+95.79	11.03	6.86	0.44		-27.64	34'-6"
P-39	1273+03.29	11.00	6.84	0.42		-27.66	34'-6"
P-40	1273+10.79	10.98	6.81	0.40		-27.69	34'-6"
P-41	1273+18.04	10.96	6.79	0.62		-26.46	33'-3"
P-42	1273+25.54	10.93	6.77	1.09		-25.98	32'-9"
P-43	1273+33.04	10.91	6.74	1.55		-25.51	32'-3"
P-44	1273+40.54	10.89	6.72	2.02		-25.03	31'-9"
P-45	1273+48.04	10.87	6.70	2.49		-24.55	31'-3"
P-46	1273+55.54	10.84	6.68	2.95		-24.07	30'-9"
P-47	1273+63.04	10.82	6.65	3.42		-23.60	30'-3"
P-48	1273+70.54	10.80	6.63	3.89	W18x143	-23.12	29'-9"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	372	#4	5'-3"	L
d ₁ (E)	372	#6	6'-6"	---
e(E)	56	#5	32'-2"	---
e ₁ (E)	40	#5	29'-8"	---
h(E)	143	#5	32'-2"	---
h ₁ (E)	101	#5	29'-8"	---
v(E)	62	#4	9'-1"	---
v ₁ (E)	62	#4	13'-0"	---
v ₂ (E)	496	#4	7'-5"	---
Reinforcement Bars, Epoxy Coated				
		POUND	19,350	
		Protective Coat	SQ YD	481
		Concrete Structures	CU YD	157
		Furnishing Soldier Piles (W Section)	FOOT	1,608
		Drilling and Setting Soldier Piles (in Soil)	CU FT	8,340

Reinforcement bars designated (E) shall be epoxy coated.

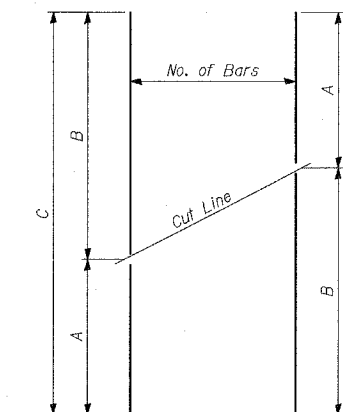
F.A.I. RTE. 94	SECTION *	COUNTY COOK	TOTAL SHEETS 907	SHEET NO. 558
STA. 1200+00.00 TO STA. 1365+00		ILLINOIS FED. AID PROJECT		
FED. ROAD DIST. NO. (1516.1, 1717 & 1818) R-9		62695		



BAR d(E)

BAR TABLE SCHEDULE

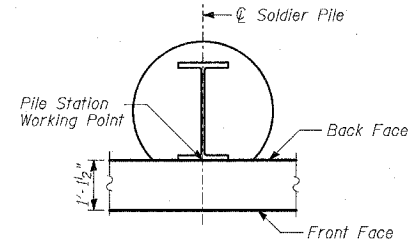
Bar	No. of Sets Req'd	No. of Bars Per Set	A	B	C
v(E)	2	31	3'-7"	5'-6"	9'-1"
v ₁ (E)	2	31	5'-6"	7'-6"	13'-0"



SERIES OF BAR CUTTING DIAGRAM
See table for dimensions.
Make all cuts normal to bar axis

LAP SPLICES

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



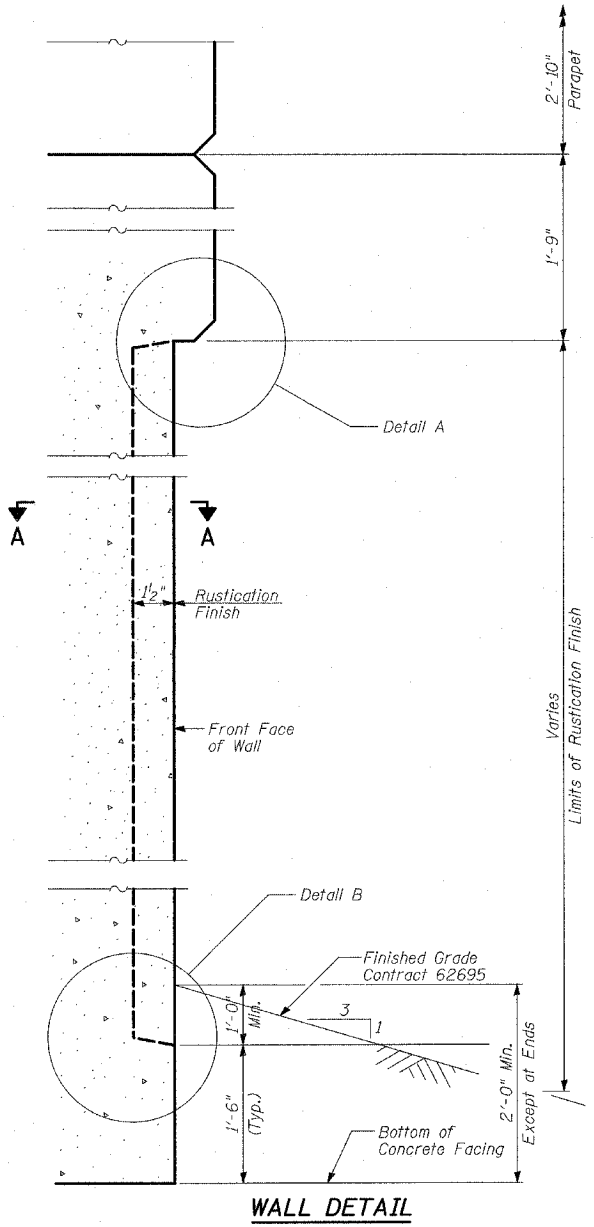
SOLDIER PILE WORKING POINT

TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

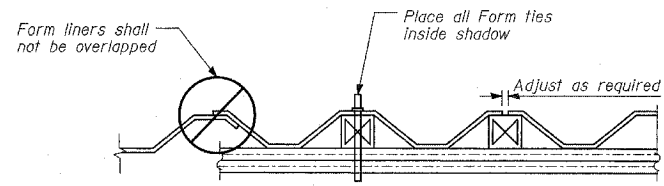
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
EXIT RAMP AT AIS #3
AIS 3 - PILE LAYOUT,
DETAILS & BILL OF MATERIAL
 S.N. 016-W958
 SCALE: N.T.S.
 DATE: MARCH 25, 2005
 DESIGNED BY: MI, DJR
 DRAWN BY: DJR, TB
 CHECKED BY: TD, MI

P:\0237_3\structure\CTD\Bals_3\mifb\BDR\0305_035624.dgn

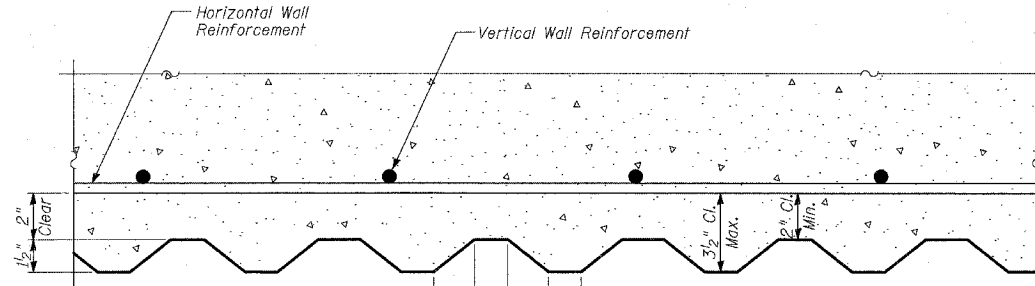


WALL DETAIL

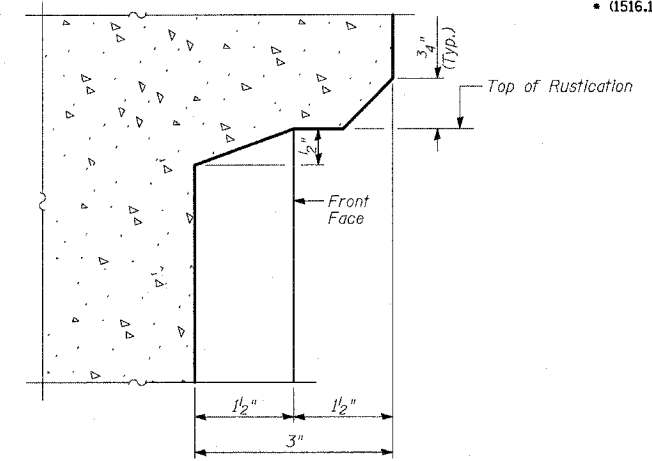
Varies
Limits of Rustication Finish



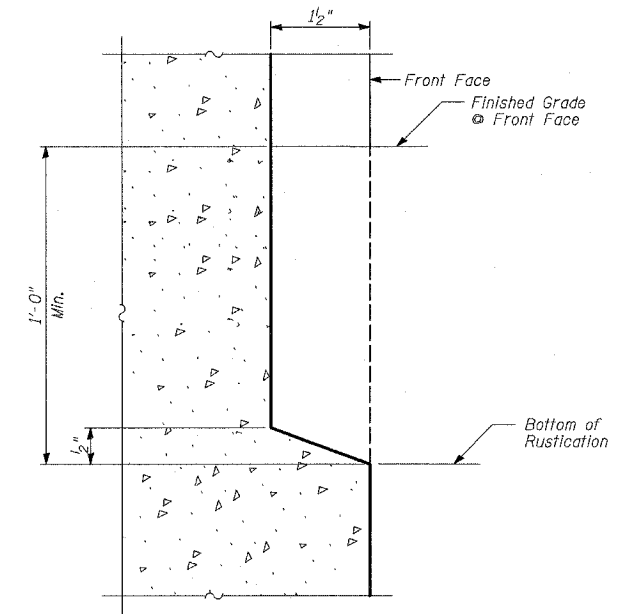
SUGGESTED FORMWORK DETAIL



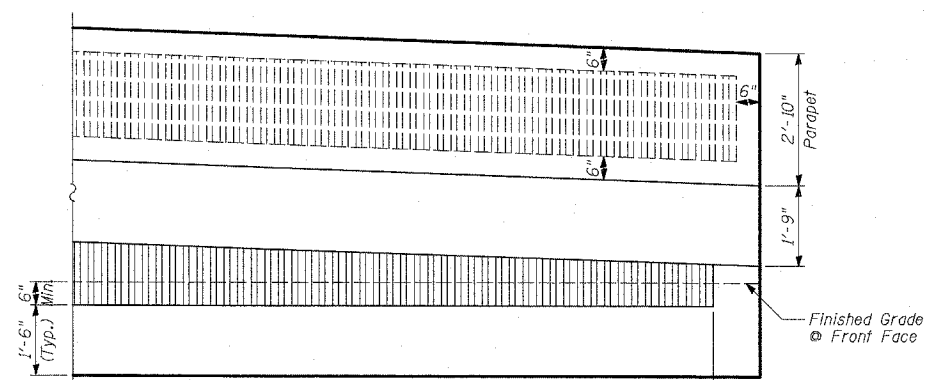
SECTION A-A



DETAIL A



DETAIL B



RUSTICATION DETAIL

NOTES

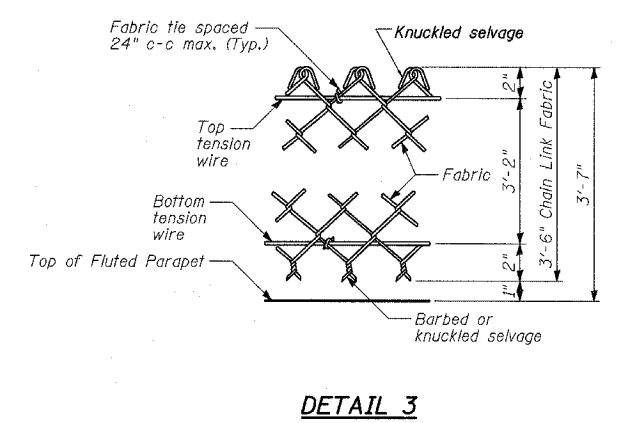
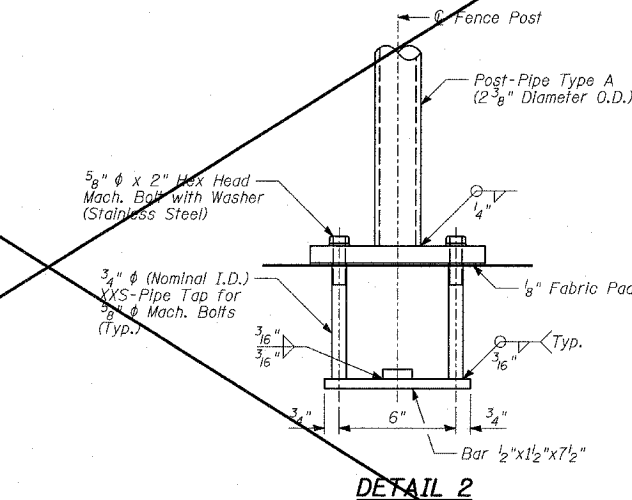
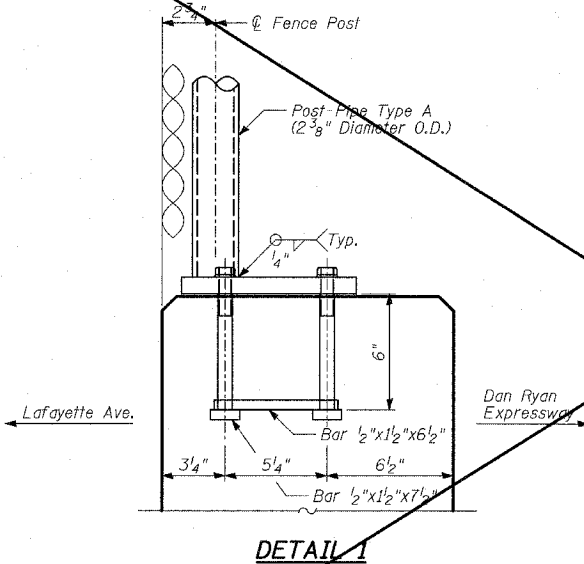
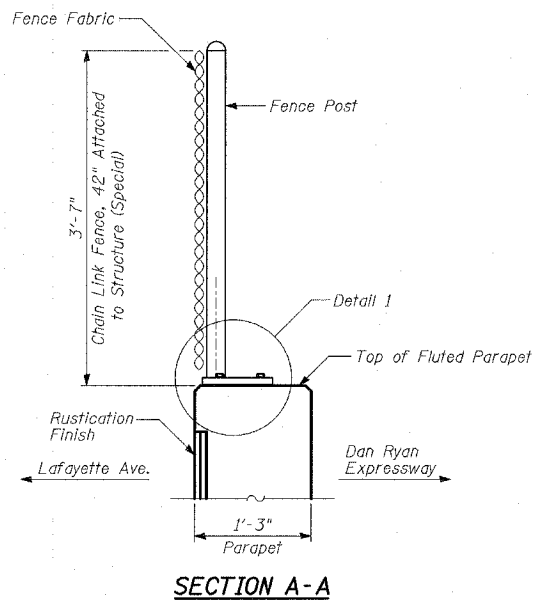
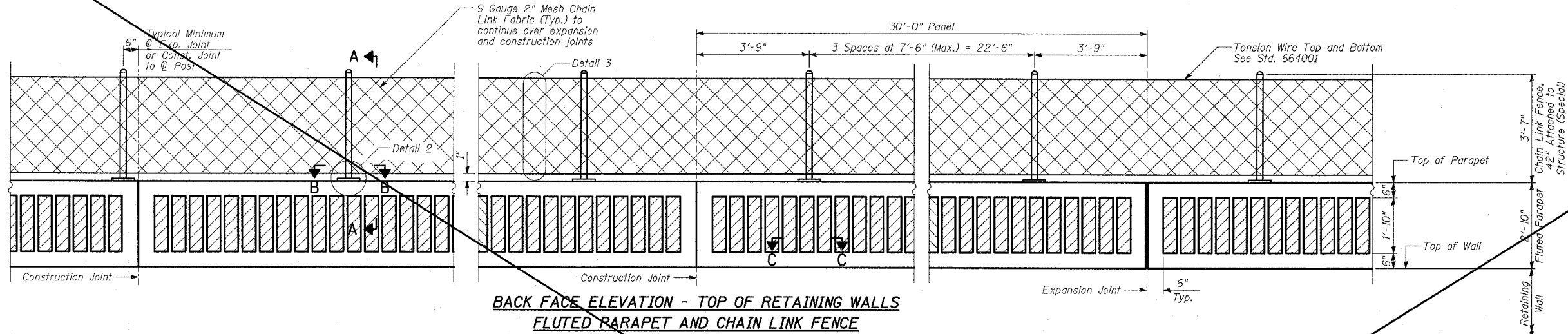
1. See Sheet 6 of 11 for expansion and construction joint details.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Rustication Finish	SQ FT	2,039

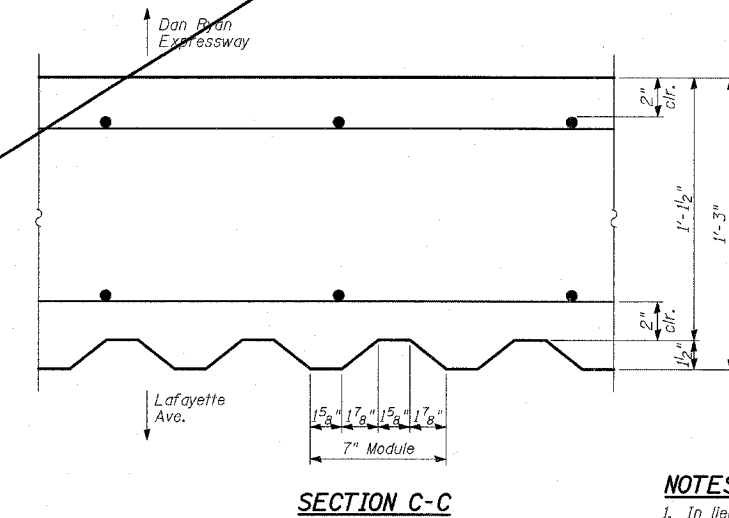
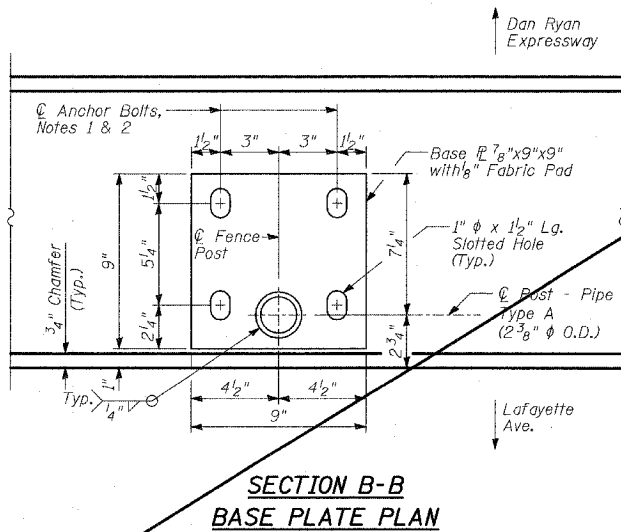
REVISIONS	
NAME	DATE
REVISOR	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
EXIT RAMP AT AIS #3
AIS 3
RUSTICATION DETAILS
 S.N. 016-W958 DESIGNED BY: MI, DJR
 SCALE: N.T.S. DRAWN BY: DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



BILL OF MATERIAL

ITEM	UNIT	TOTAL
Chain Link Fence, 42\"/>	FOOT	360



NOTES:

- 1. In lieu of the cast-in-place anchor bolt assembly shown, the Contractor has the option of drilling and epoxy grouting 5/8\"/>
- 2. For additional chain link details, see Std. 664001.

REVISIONS	
NAME	DATE
REVISOR	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
EXIT RAMP AT AIS #3
AIS #3 - CHAIN LINK FENCE, 42\"/>

S.N. 016-W958
SCALE: N.T.S.
DATE: MARCH 25, 2005

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

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 Lombard, IL 60148
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 Fax: 630 953-9938

BORING LOG SB A3-01 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: 8.75 ft
 North: 1.00 ft
 East: 0.00 ft
 Station: 1267+14.64
 Offset: 142.85' LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
8.75	17-inch thick TOPSOIL														
7.3	Very loose, brown SANDY GRAVEL --FILL--	1	1	5		NP				11	11	6	11	8.20	S
5.0	Medium stiff to stiff, gray CLAY	2	2	1	1	NP				30	12	6	11	7.38	B
		3	3	2	2		1.56				13	16	29	9.84	S
		4	4	3	3		1.56			35	13	16	29	9.84	S
		5	5	0	1		0.49				14	35	38	8.53	S
		6	6	1	3		0.74		30.3	30.3	14	35	38	8.53	S
		7	7	2	4		1.56								
3.3	Very stiff to hard, gray SILTY CLAY with Gravel	8	8	6	12		3.36								
		9	9	4	7		4.51								
		10	10	4	7		5.33								

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-26-2004	Complete Drilling	04-26-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	K&A	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.			

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 Fax: 630 953-9938

BORING LOG SB A3-02 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: 9.38 ft
 North: 2.00 ft
 East: 0.00 ft
 Station: 1267+89.63
 Offset: 142.20' LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	N Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
8.6	10-inch thick TOPSOIL														
7.6	Hard, black CLAY LOAM --FILL--	1	1	3	7	NP				11	11	5	10	5.99	B
	Loose, brown and gray SAND to SANDY LOAM --FILL--	2	2	3	2	NP				30	12	4	10	7.05	B
	Medium stiff to stiff, gray CLAY	3	3	2	4		1.72				13	12	32	8.12	S
		4	4	2	3		1.50			35	13	12	32	8.12	S
		5	5	0	2		0.90				14	21	32	9.43	S
		6	6	1	2		1.23		30.6	30.6	14	21	32	9.43	S
		7	7	3	6		1.89								
9.1	Very stiff to hard, gray SILTY CLAY with Gravel	8	8	4	2		2.46								
		9	9	6	9		4.10								
		10	10	4	8		6.56								

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-26-2004	Complete Drilling	04-26-2004	While Drilling	∇	DRY	
Drilling Contractor	Patrick	Drill Rig	CME 75 TMR	At Completion of Drilling	∇	DRY	
Driller	K&A	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 LAFAYETTE AVE.
 EXIT RAMP AT AIS #3
 AIS 3
 BORING LOGS SB A3-01 & SB A3-02
 S.N. 016-W958
 SCALE: N.T.S.
 DATE: MARCH 25, 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 A3-03 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: 9.51 ft
 North: 3.00 ft
 East: 0.00 ft
 Station: 1268+64.56
 Offset: 138.90' LT

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 Fax: 630 953-9938

BORING LOG SB A3-04 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: 9.85 ft
 North: 4.00 ft
 East: 0.00 ft
 Station: 1269+39.49
 Offset: 135.60' LT

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 (%)
8.7	10-inch thick TOPSOIL														
8.0	Loose, gray SANDY GRAVEL														
	Loose, brown SAND	1	X	1	3 4 5	NP	15			11	X	11	9 15 24	6.89	B
		2	X	2	2 2 3	NP	19			12	X	12	11 17 18	5.91	B
4.0	Very soft to medium stiff, gray CLAY	3	X	3	2 2 3		23			13	X	13	25 37 55	> 4.50	P
		4	X	4	2 2 3	0.74	23			14	X	14	26 39 40	5.33	S
		5	X	5	0 1 3	0.16	23								
		6	X	6	0 0 3	0.41	21								
6.0	Hard, gray SILTY CLAY with Gravel	7	X	7	4 12 15	4.92	17								
		8	X	8	10 14 15	6.56	12								
		9	X	9	7 11 15	5.82	B								
		10	X	10	4 11 15	5.41	B								

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 (%)
8.7	14-inch thick TOPSOIL														
	Loose to medium dense, brown SAND	1	X	1	6 5 5	NP	14			11	X	11	7 9 13	6.72	B
		2	X	2	5 4 4	NP	18			12	X	12	6 8 12	4.92	B
4.4	Medium stiff to stiff, gray CLAY	3	X	3	2 3 5	1.80	21			13	X	13	16 25 29	NP	19
		4	X	4	2 2 5	0.74	21			14	X	14	21 23 31	> 4.50	P
		5	X	5	1 2 3	0.66	21								
		6	X	6	1 1 4	0.82	20								
		7	X	7	3 9 14	NP	16								
		8	X	8	6 8 11	4.51	14								
		9	X	9	6 8 8	4.84	13								
		10	X	10	4 6 9	3.77	13								

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-20-2004	Complete Drilling	04-26-2004	While Drilling	▽	DRY	
Drilling Contractor	Patrick	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.							

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	04-20-2004	Complete Drilling	04-20-2004	While Drilling	▽	41.00 ft	
Drilling Contractor	Patrick	Drill Rig	CME 75 TMR	At Completion of Drilling	▽	29.00 ft	
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.							

TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 EXIT RAMP AT AIS #3
 AIS 3
 BORING LOGS SB A3-03 & SB A3-04
 S.N. 016-W958
 SCALE: N.T.S.
 DATE: MARCH 25, 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 A3-03

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: 9.51 ft
 North: 3.00 ft
 East: 0.00 ft
 Station: 1268+64.56
 Offset: 138.90' LT

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 (%)
6.7	10-inch thick TOPSOIL														
8.0	Loose, gray SANDY GRAVEL			1	3 4 5	NP	15					9	6.89		
	Loose, brown SAND											15			
				2	2 2 3	NP	19					11	5.91		
4.0	Very soft to medium stiff, gray CLAY			3	2 2 3							11			
				4	2 2 3							17	4.50		
				5	0 1 3							25			
				6	0 0 3							26	5.33		
5.0	Hard, gray SILTY CLAY with Gravel			7	4 12 15							37			
				8	10 14 15							55			
				9	7 11 15										
				10	4 11 15										

GENERAL NOTES

Begin Drilling 04-20-2004 Complete Drilling 04-26-2004
 Drilling Contractor Patrick Drill Rig CME 75 TMR
 Driller K&L Logger N. Davis Checked by MLS
 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
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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BORING LOG SB A3-04

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: 9.85 ft
 North: 4.00 ft
 East: 0.00 ft
 Station: 1269+39.49
 Offset: 135.60' LT

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 (%)
6.7	14-inch thick TOPSOIL														
	Loose to medium dense, brown SAND			1	6 5 5	NP	14					7	6.72		
				2	5 4 4	NP	18					8			
4.4	Medium stiff to stiff, gray CLAY			3	2 3 5							12	4.92		
				4	2 2 3							16			
				5	1 2 3							21			
				6	1 1 4							21			
				7	3 9 14	NP	16					23			
				8	6 8 11							19			
				9	6 8 8							19			
				10	4 6 9							19			

GENERAL NOTES

Begin Drilling 04-20-2004 Complete Drilling 04-20-2004
 Drilling Contractor Patrick Drill Rig CME 75 TMR
 Driller K&L Logger N. Davis Checked by MLS
 Drilling Method 3.25" ID. HSA; Boring backfilled with bentonite upon completion

WATER LEVEL DATA

While Drilling 41.00 ft
 At Completion of Drilling 29.00 ft
 Time After Drilling NA
 Depth to Water NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

TYLIN INTERNATIONAL

REVISIONS

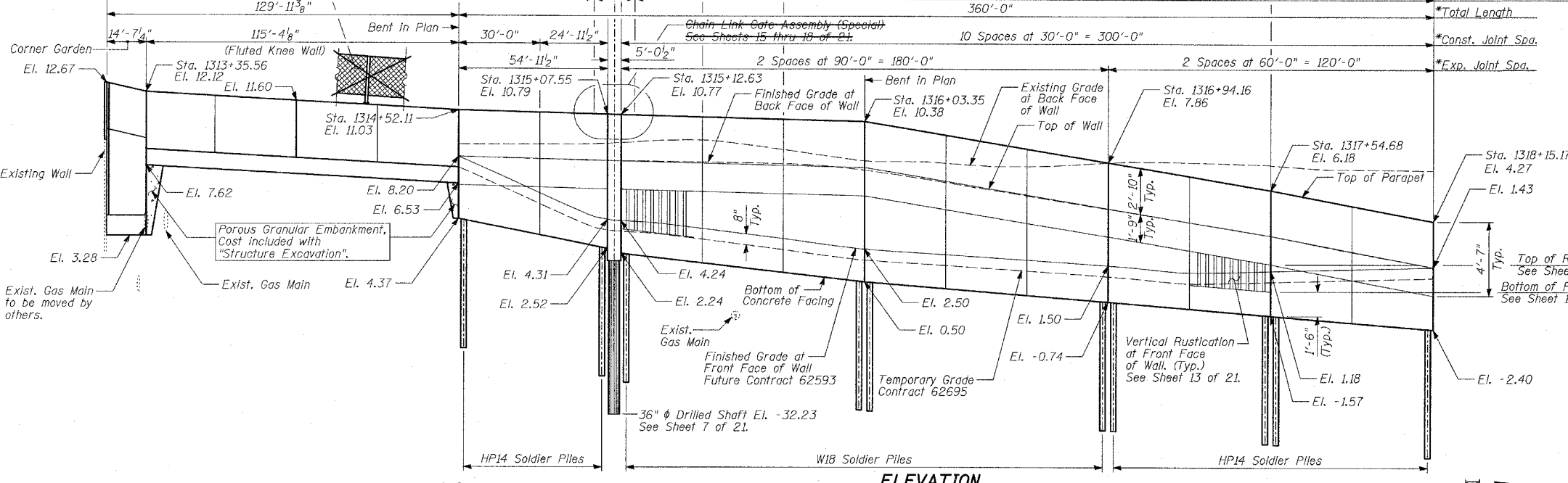
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 EXIT RAMP AT AIS #3
 AIS 3
 BORING LOG SB A3-05
 S.N. 016-W958 DESIGNED BY: DJR
 SCALE: N.T.S. DRAWN BY: DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD

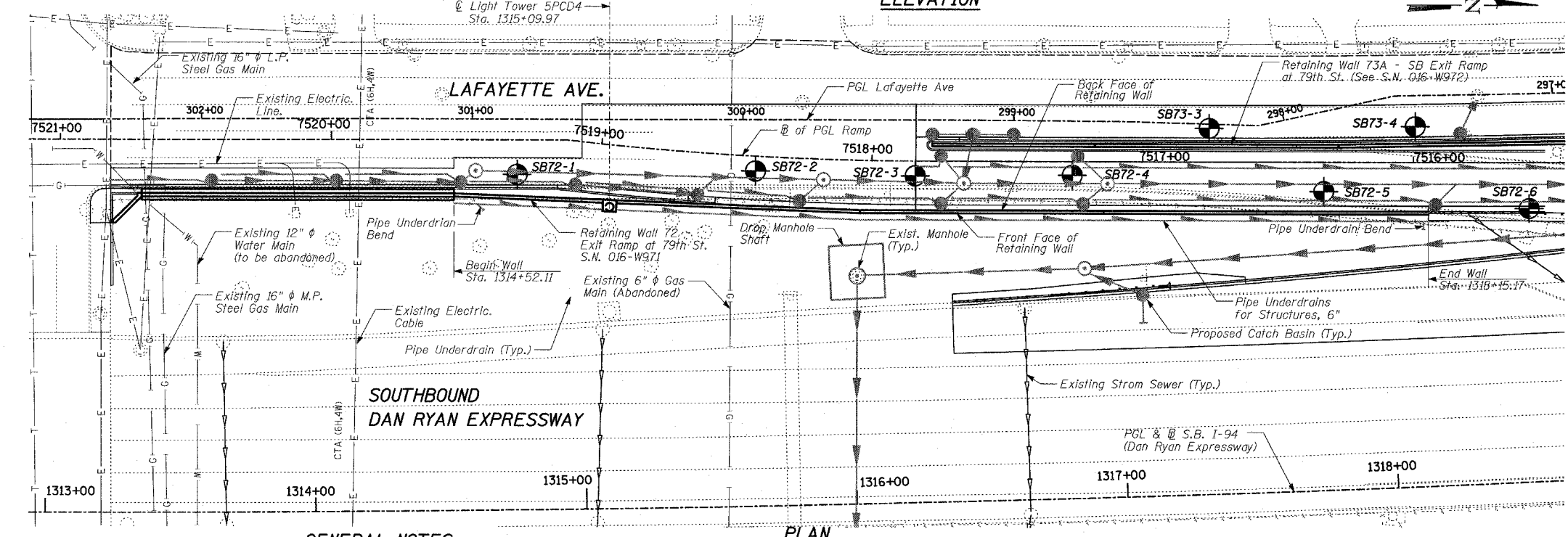
03/29/2005 03:56:27 PM

Benchmarks: BM 3810 Cut square on southerly corner of metal base for overhead sign, on the westerly side of southbound Dan Ryan, opposite of West 77th Place, approximately 1000 feet north of 79th Street bridge. Elev. 0.29 feet.
 BM 3811 Cut square on southeasterly corner of metal base for overhead sign, on the westerly side of southbound Dan Ryan approximately 840 feet southerly of 83rd Street. Elev. 1.95 feet.

Existing Structure: None. Chain Link Fence, 42" Attached to Structure (Special). See Sheet 14 of 21. Begin Wall Sta. 1314+52.11. Light Tower 5PCD4 Sta. 1315+09.97. Parapet Sta. 1315+73.12. Fluted Parapet Transition Type F Parapet. End Wall Sta. 1318+15.17. Limits of Chain Link Fence. Total Length. Const. Joint Spa. Exp. Joint Spa.



ELEVATION



PLAN

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

LOADING

Maximum soil pressure under footings is 2,250 psf.

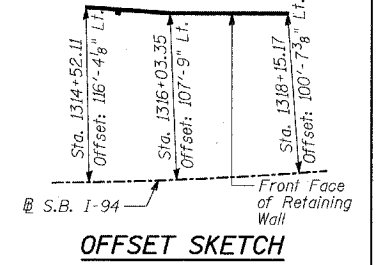
INDEX OF SHEETS

1. GENERAL PLAN
2. PLAN AND ELEVATION STA. 1314+52.11 TO STA. 1316+03.35
3. PLAN AND ELEVATION STA. 1316+03.35 TO STA. 1317+54.68
4. PLAN AND ELEVATION STA. 1317+54.68 TO STA. 1318+15.17
5. PARAPET TRANSITION
6. PILE LAYOUT, DETAILS & BILL OF MATERIAL
7. LIGHT TOWER 5PCD4 FOUNDATION DETAILS
8. LIGHT TOWER DETAILS
9. PLAN AND ELEVATION - FLUTED KNEE WALL (1 OF 2)
10. PLAN AND ELEVATION - FLUTED KNEE WALL (2 OF 2)
11. TYPICAL SECTIONS, ELEVATIONS AND DETAILS - FLUTED KNEE WALL
12. WALL CROSS SECTIONS & DETAILS
13. RUSTICATION DETAILS
14. CHAIN LINK FENCE, 42" ATTACHED TO STRUCTURE (SPECIAL)
15. GATE PLAN AND NOTES
16. GATE ELEVATIONS
17. GATE SECTIONS
18. GATE SECTIONS AND DETAILS
19. BORING LOGS SB72-01 & SB72-02
20. BORING LOGS SB72-03 & SB72-04
21. BORING LOGS SB72-05 & SB72-06

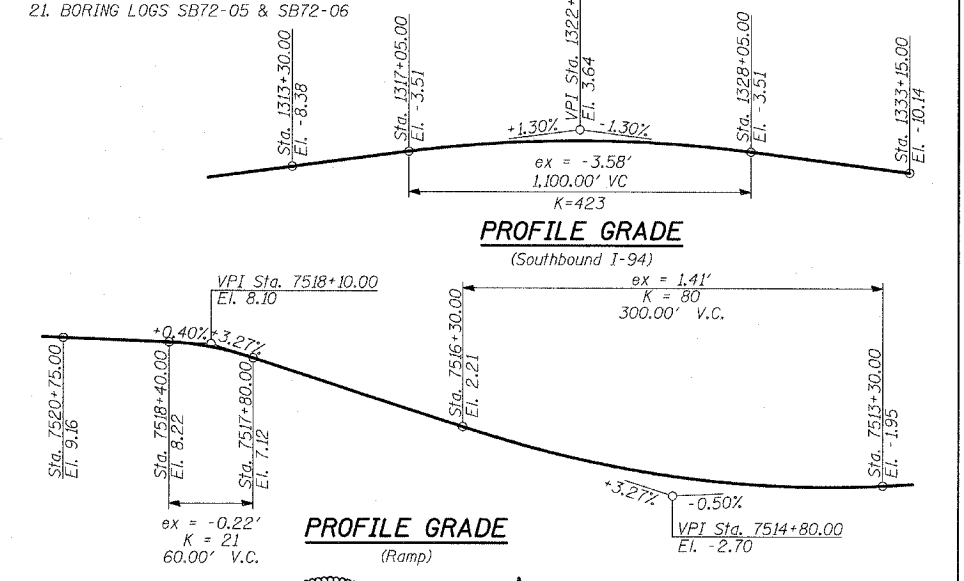
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94		COOK	907	565
STA. 1200+00.00 TO STA. 1365+00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
• (1516.1, 1717 & 1818) R-9				
62695				

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	CU YD	1
Structure Excavation	CU YD	416
Concrete Structures	CU YD	181
Protective Coat	SQ YD	543
Rustication Finish	SQ FT	1,091
Stud Shear Connectors	EACH	368
Untreated Timber Lagging	SQ FT	1,515
Furnishing Soldier Piles (HP Section)	FOOT	644
Furnishing Soldier Piles (W Section)	FOOT	747
Reinforcement Bars, Epoxy Coated	POUND	27,370
Removing and Re-Erecting Existing Railing	FOOT	11
Geocomposite Wall Drain	SQ YD	189
Pipe Underdrains for Structures, 6"	FOOT	360
Drilling and Setting Soldier Piles (in Soil)	CU FT	7,669
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	475
Chain Link Gate Assembly (Special)	EACH	1
Drilled Shaft in Soil 36"	FOOT	34



OFFSET SKETCH



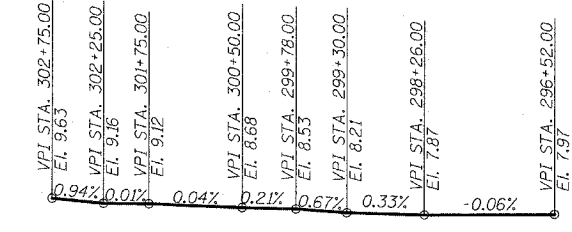
PROFILE GRADE (Ramp)

LEGEND

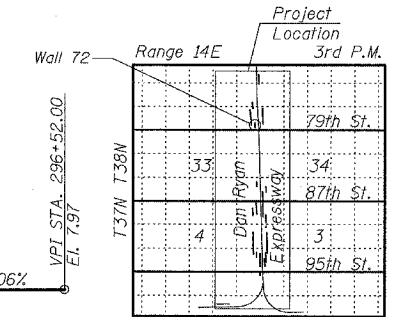
- Boring Location
- Measured along Front Face of Wall.

GENERAL NOTES:

1. Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
2. 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.
3. 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.
4. The soldier piles shall be cleaned and given one shop coat of Inorganic Zinc-Rich primer.
5. All exposed concrete edges shall be chamfered 3/4" except as noted.
6. Protective Coat shall be applied to exposed surfaces of the concrete facing.
7. Existing utilities in conflict with soldier pile wall construction shall be abandoned or relocated according to directions given on the roadway plans.
8. All construction joints shall be bonded.
9. 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)
10. The wall shall be backfilled (where applicable) prior to placing the concrete facing.
11. The Contractor is responsible to coordinate all electrical crossings with this Contract and with Contract 62583.



PROFILE GRADE (Lafayette Ave.)



LOCATION SKETCH

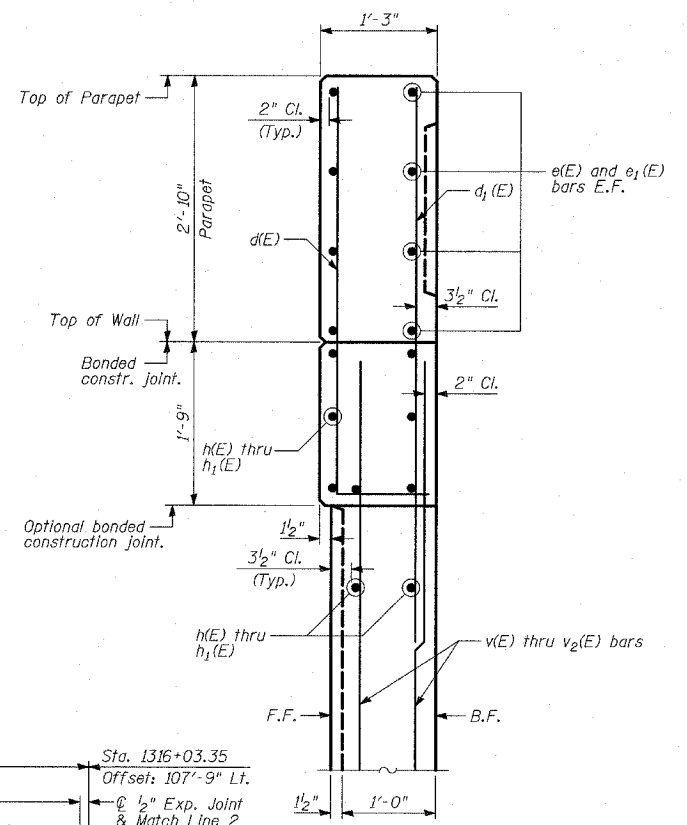
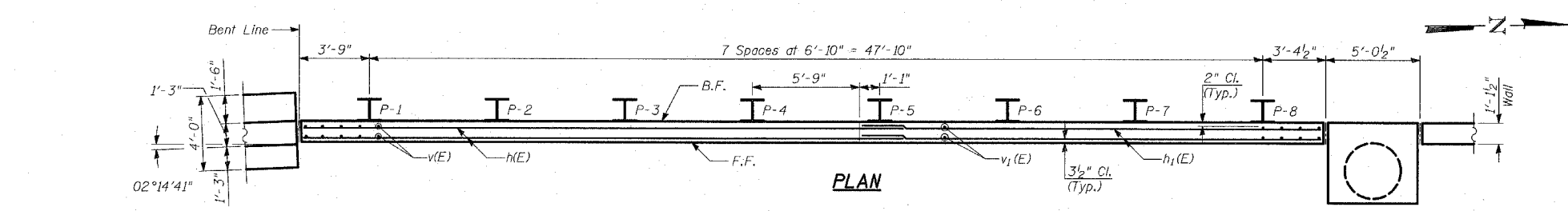
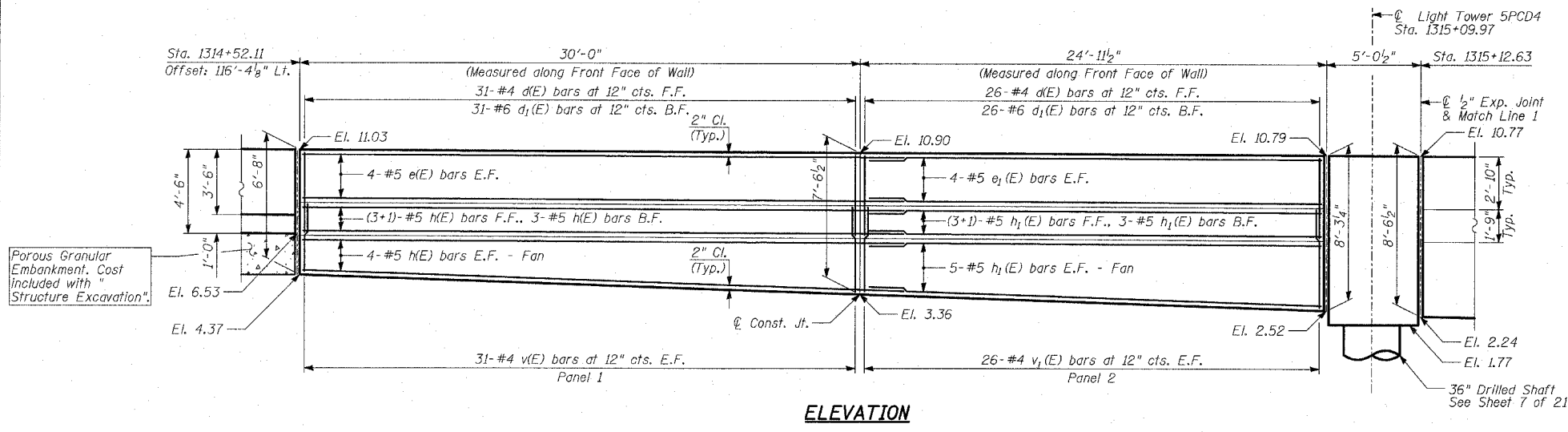


Philipp D. Frey
 Phillip D. Frey, S.E., Ill. Lic. No. 081-004826
 Expires 11-30-2006
 Date: 3/25/05

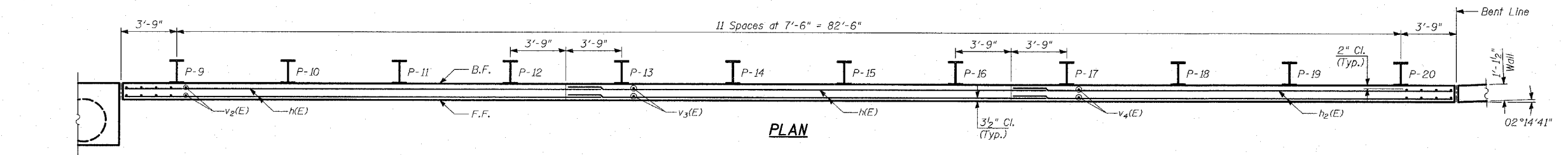
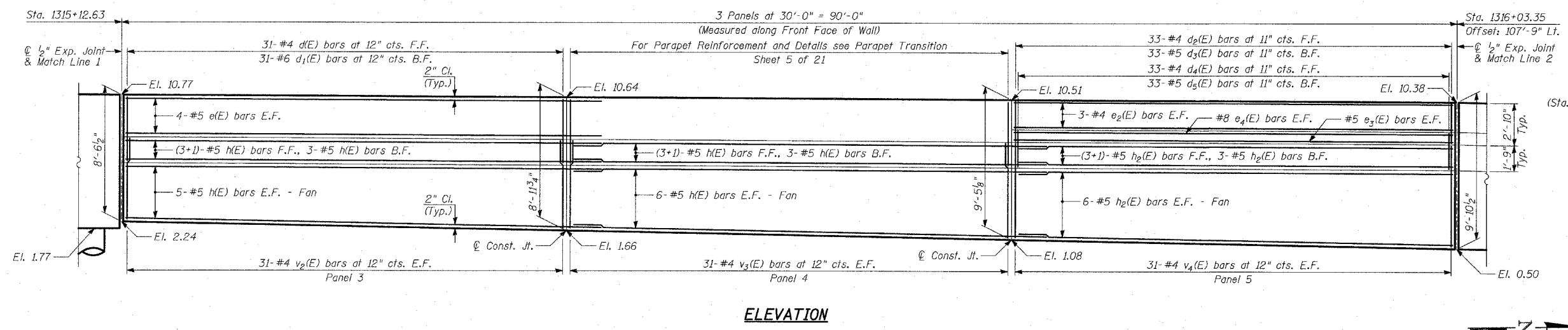
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 SOUTHBOUND EXIT RAMP RETAINING WALL
 AT 79TH ST.
 WALL 72 - GENERAL PLAN
 STA. 1314+52.11 TO STA. 1318+15.17
 S.N. O16-W971
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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



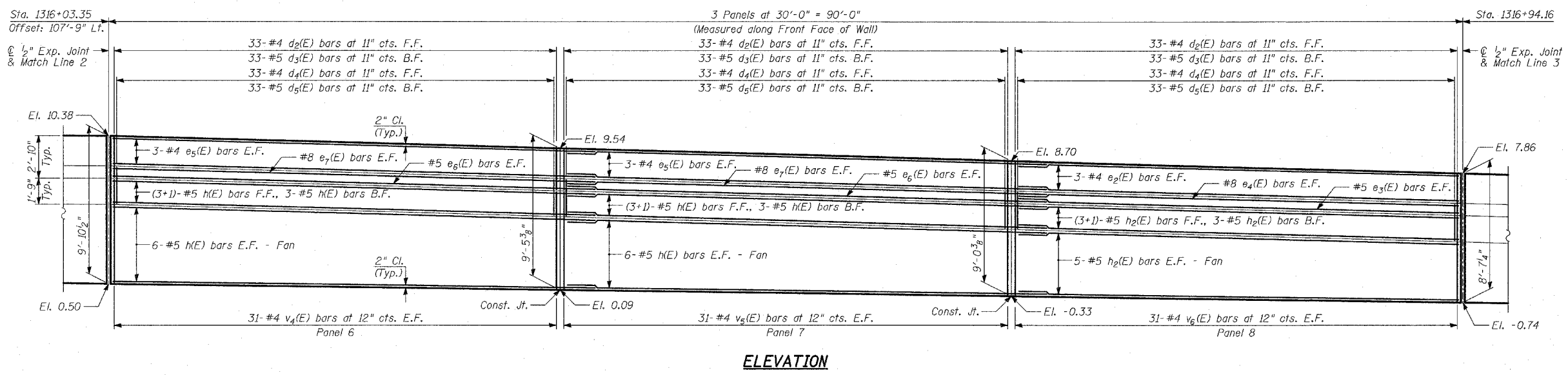
PARAPET DETAIL
(Sta. 1314+52.11 to Sta. 1315+42.88)



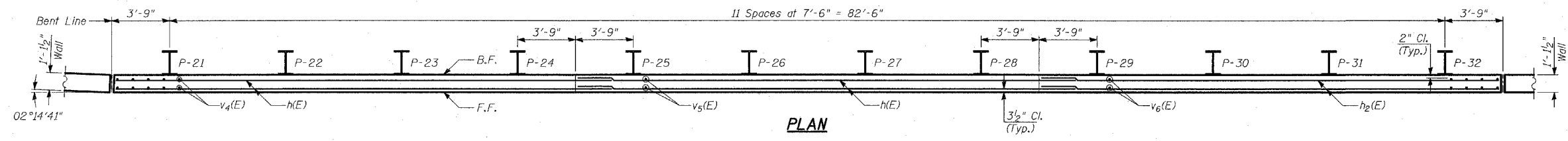
- NOTES:**
1. B.F. - denotes Back Face.
 2. E.F. - denotes Each Face.
 3. F.F. - denotes Front Face.
 4. Work this Sheet with Sheets 6 thru 8 and 12 thru 18 of 21.
 5. Pile spacing measured along front face of wall.
 6. For Lap Splices, see Sheet 6 of 21.

REVISIONS	
NAME	DATE

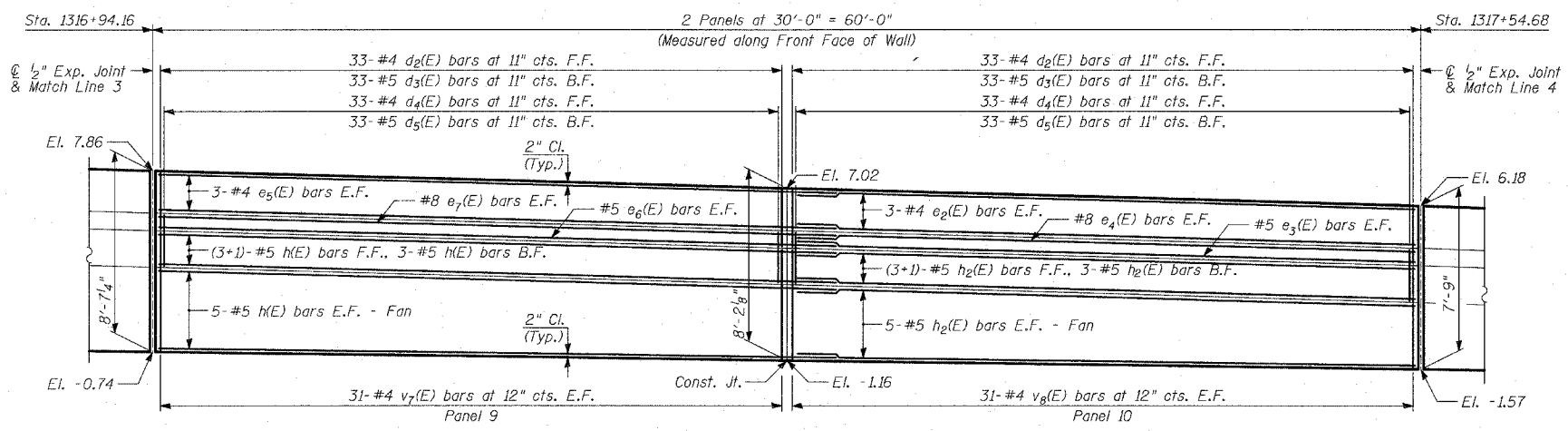
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 SOUTHBOUND EXIT RAMP RETAINING WALL
 AT 79TH ST.
 WALL 72 - PLAN AND ELEVATION
 STA. 1314+52.11 TO STA. 1316+03.35
 S.N. 016-W971 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



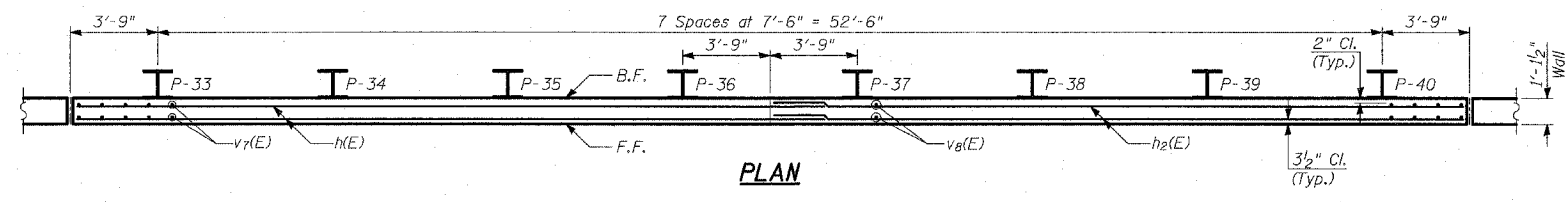
ELEVATION



PLAN



ELEVATION



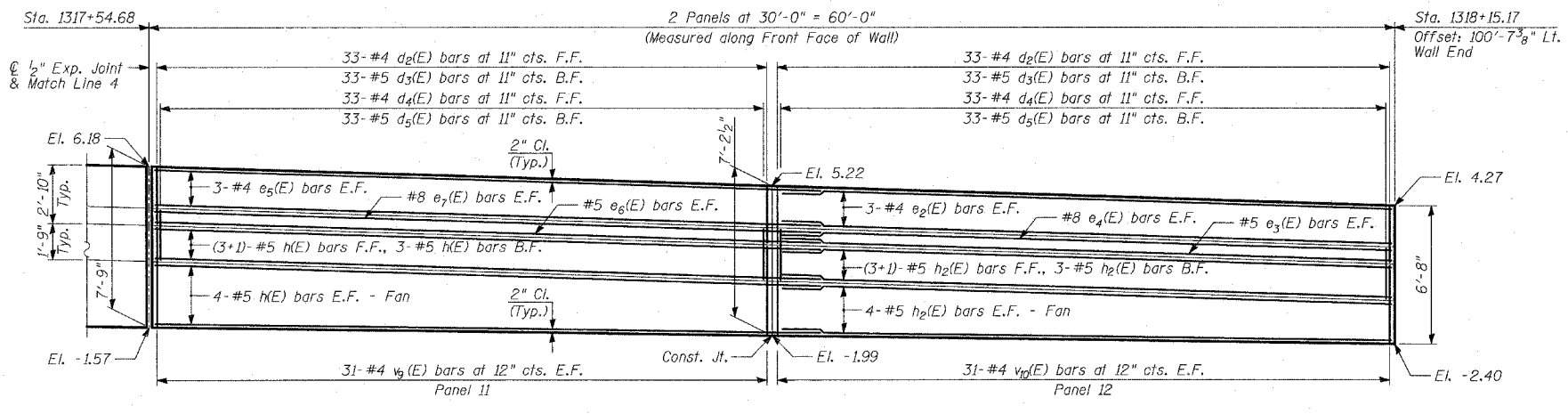
PLAN

- 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 12 thru 14 of 21.
 5. Pile spacing measured along front face of wall.
 6. For Lap Splices, see Sheet 6 of 21.

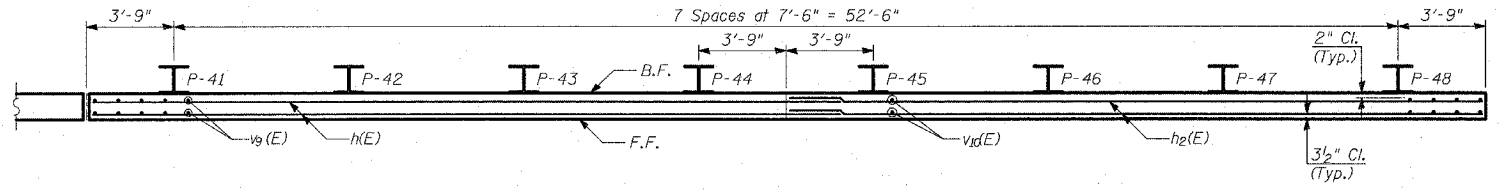
TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

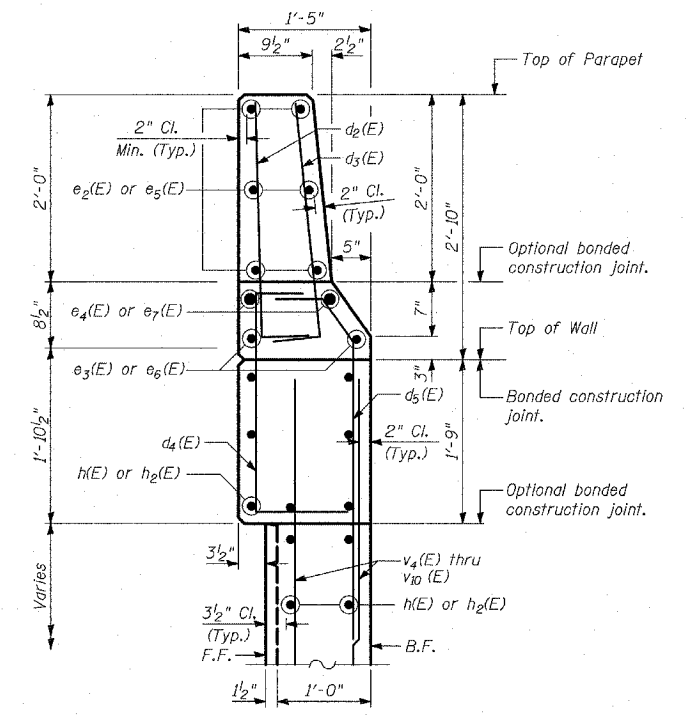
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
SOUTHBOUND EXIT RAMP RETAINING WALL
AT 79TH ST.
WALL 72 - PLAN AND ELEVATION
STA. 1316+03.35 TO STA. 1317+54.68
 S.N. 016-W971 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



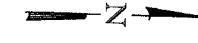
ELEVATION



PLAN



**SECTION B-B
TYPE F BARRIER DETAIL**
(Sta. 1315+73.12 to Sta. 1318+15.17)

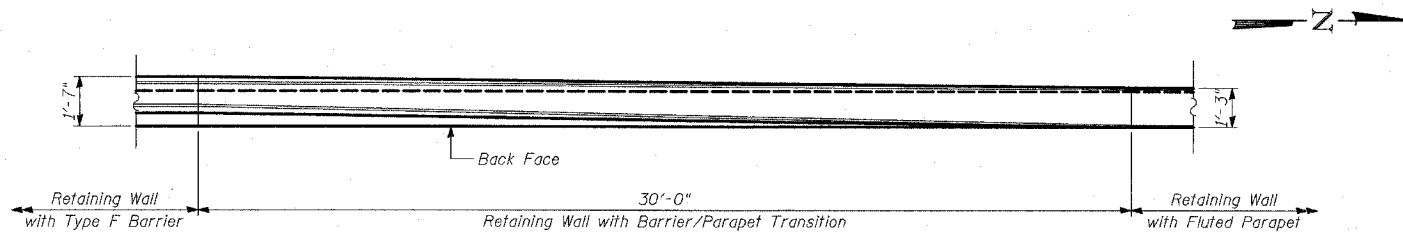


- NOTES:**
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 3. F.F. - denotes Front Face.
 4. Work this Sheet with Sheets 6 and 12 thru 14 of 21.
 5. Pile spacing measured along front face of wall.
 6. For Lap Splices, see Sheet 6 of 21.

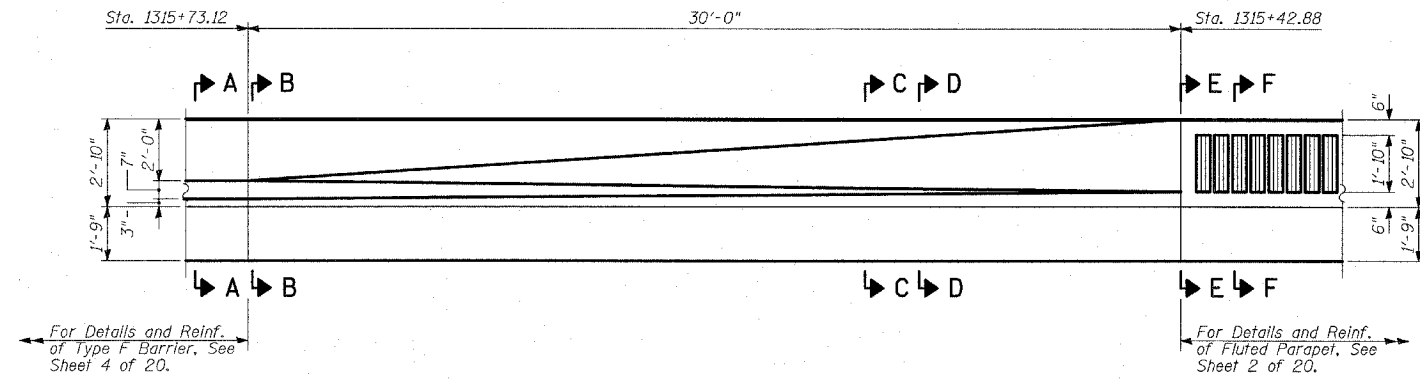
TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

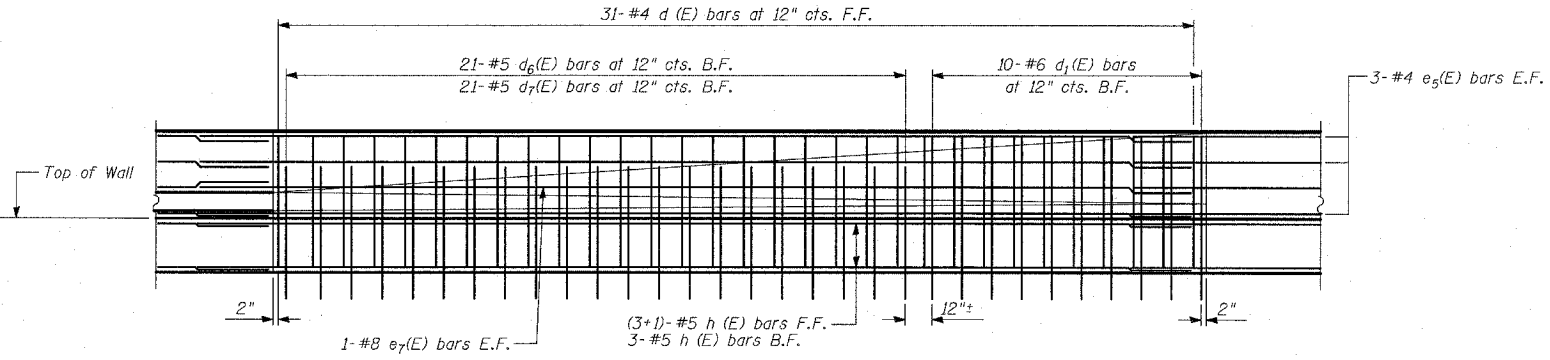
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
SOUTHBOUND EXIT RAMP RETAINING WALL
AT 79TH ST.
WALL 72 - PLAN AND ELEVATION
STA. 1317+54.68 TO STA. 1318+15.17
 S.N. 016-W971 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



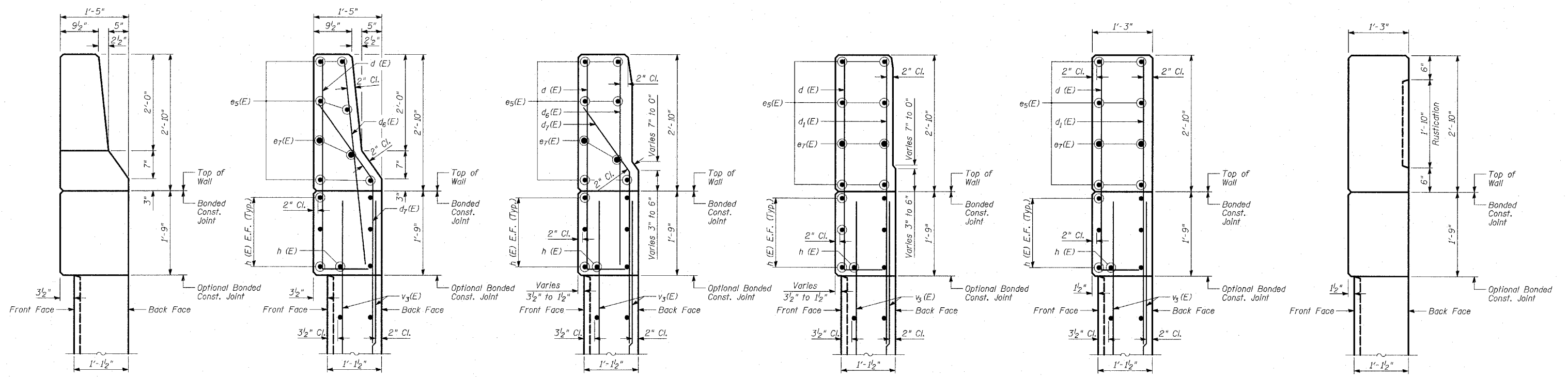
PLAN



BACK FACE ELEVATION - TRANSITION - MODIFIED TYPE F BARRIER TO FLUTED PARAPET - CONCRETE DIMENSIONS
(From Sta. 1315+42.88 to Sta. 1315+73.12)



BACK FACE ELEVATION - TRANSITION - MODIFIED TYPE F BARRIER TO FLUTED PARAPET - REINFORCEMENT
(From Sta. 1315+42.88 to Sta. 1315+73.12)



SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

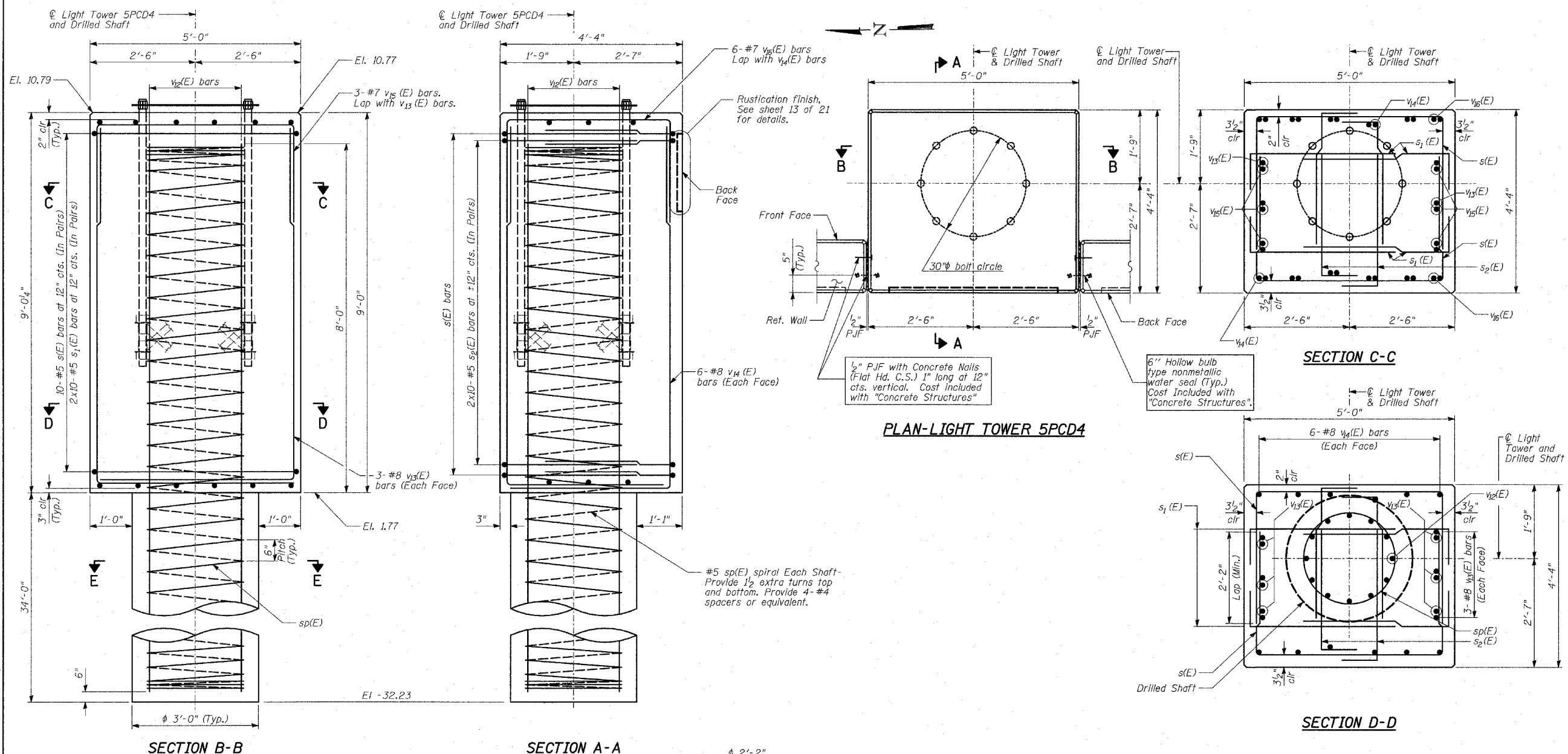
SECTION F-F

- 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 2 and 6 of 21.
 5. For Lap Splices, see Sheet 6 of 21.

TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
SOUTHBOUND EXIT RAMP RETAINING WALL
AT 79TH ST.
WALL 72
PARAPET TRANSITION
 S.N. 016-W971
 SCALE: N.T.S.
 DATE: MARCH 25, 2005
 DESIGNED BY: MI, MAF
 DRAWN BY: MAF, DJR
 CHECKED BY: TD, MI

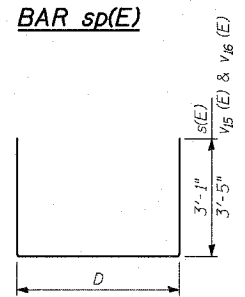
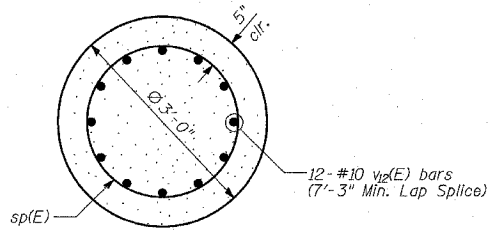
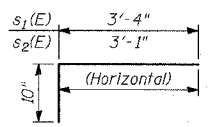
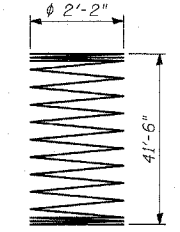


BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s(E)	20	#5	10'-7"	□
s ₁ (E)	40	#5	4'-2"	□
s ₂ (E)	40	#5	3'-11"	□
sp(E)	1	#5	41'-6"	
v ₁₂ (E)	12	#10	41'-6"	—
v ₁₃ (E)	6	#8	12'-10"	L
v ₁₄ (E)	12	#8	12'-3"	L
v ₁₅ (E)	3	#7	11'-2"	□
v ₁₆ (E)	6	#7	10'-8"	□
Reinforcement Bars, Epoxy Coated		POUND	4,120	
Structure Excavation		CU YD	11	
Concrete Structures		CU YD	8	
Protective Coat		SQ YD	13	
Rustication Finish		SQ FT	8	
Drilled Shaft in Soil 36"		FOOT	34	

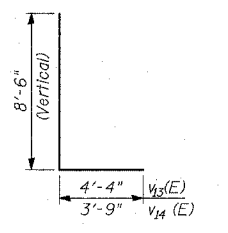
Reinforcement bars designated (E) shall be epoxy coated.

- 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 2 of 21.
 - Conduit is not shown for clarity. For location of conduit, see Sheet 8 of 21.
 - Cost of anchor rod assembly, conduit and wires for grounding are included with "Concrete Structures".
 - Minimum lap for spirals = 2'-6"



MARK TABLE

Bar	D
s (E)	4'-5"
v ₁₅ (E)	4'-4"
v ₁₆ (E)	3'-10"



BARS s(E), v₁₅(E) & v₁₆(E)

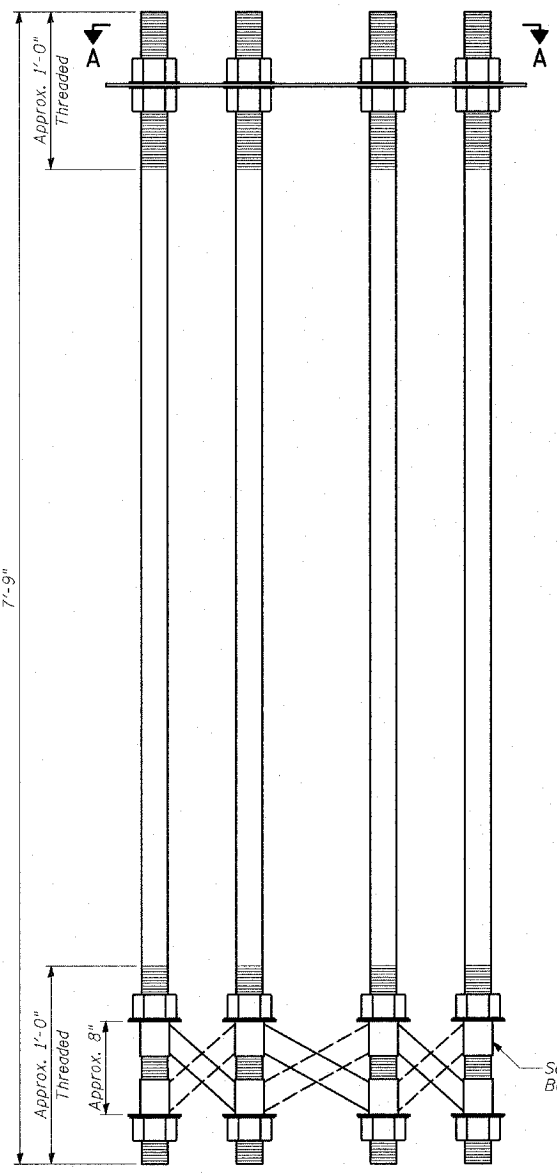
BARS v₁₃(E) & v₁₄(E)

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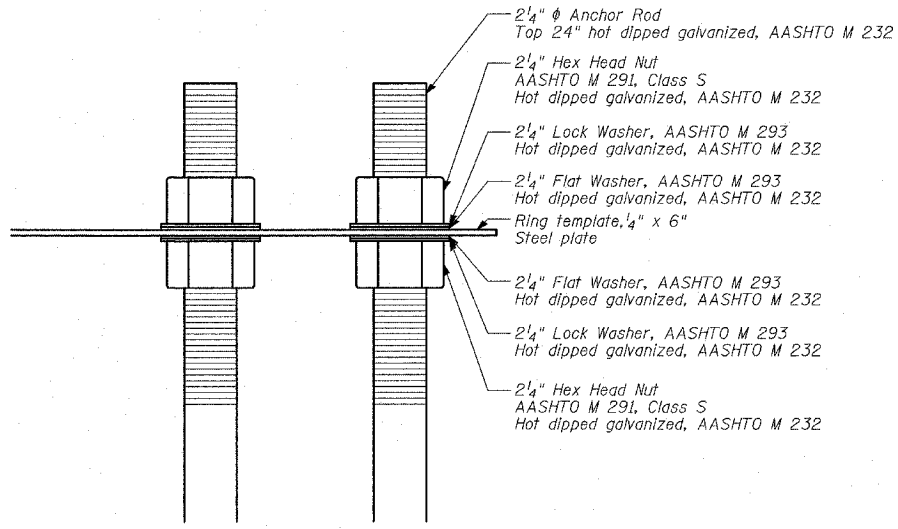
REVISIONS

NAME	DATE

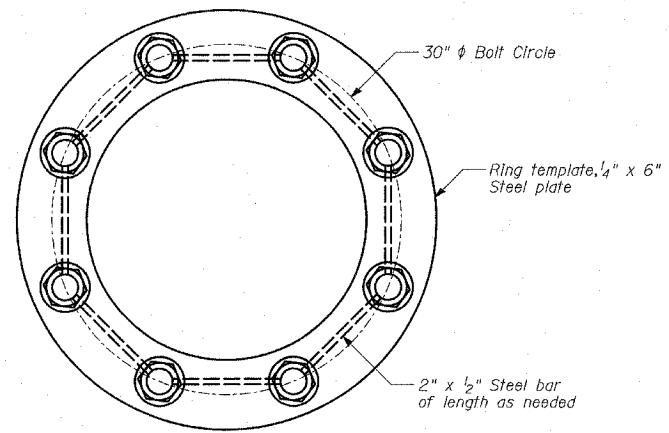
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
SOUTHBOUND EXIT RAMP RETAINING WALL
AT 79TH ST.
WALL 72
LIGHT TOWER 5PCD4 FOUNDATION DETAILS
 S.N. 016-W971 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



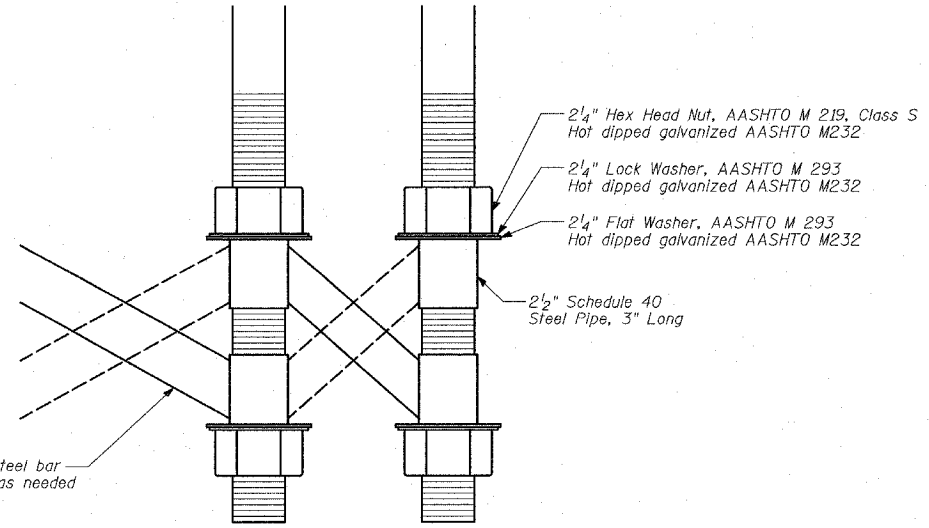
ANCHOR BOLT CAGE



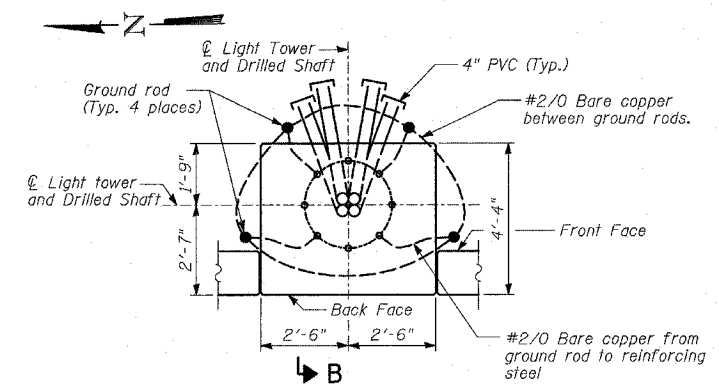
BOLT CAGE TOP



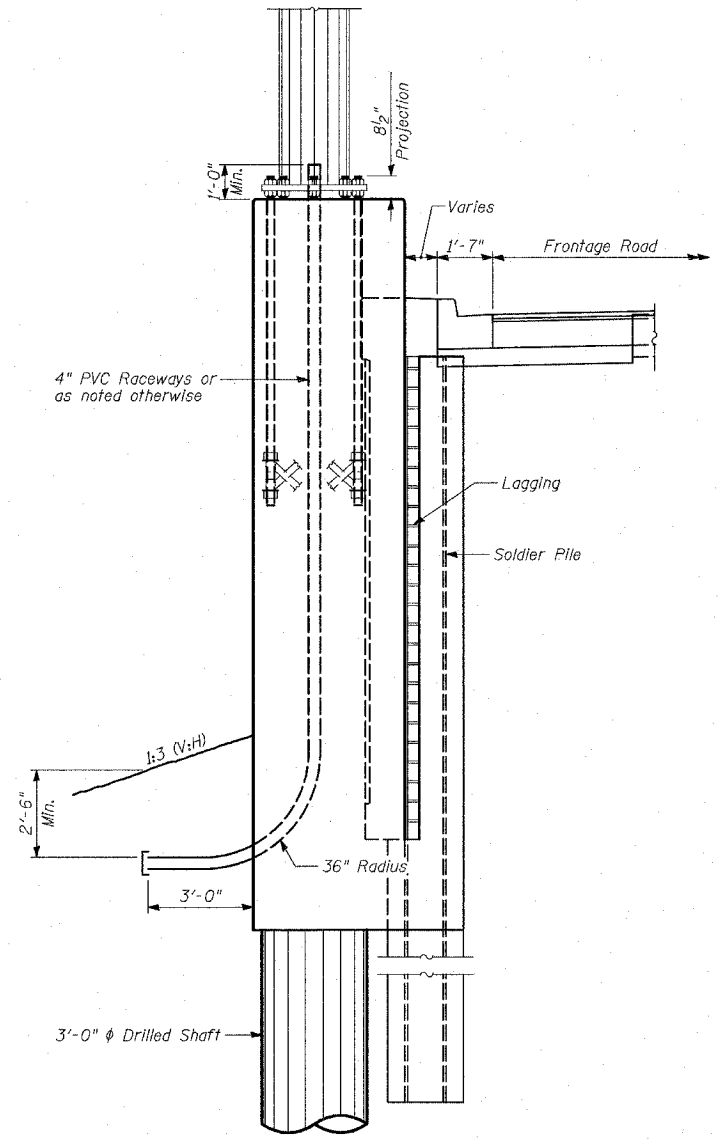
SECTION A-A



BOLT CAGE BOTTOM



PLAN - CONDUIT PLACEMENT



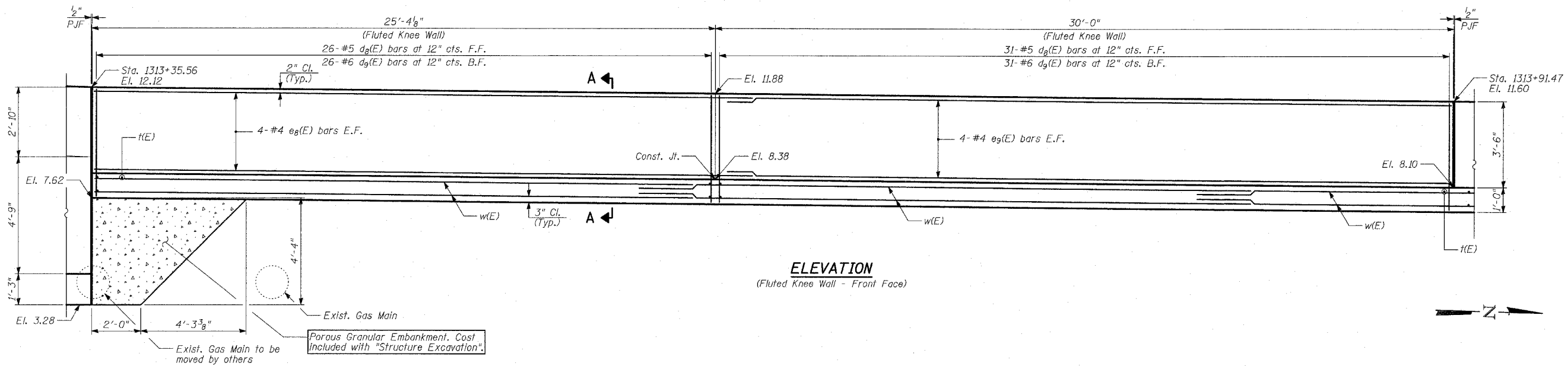
SECTION B-B

NOTES:

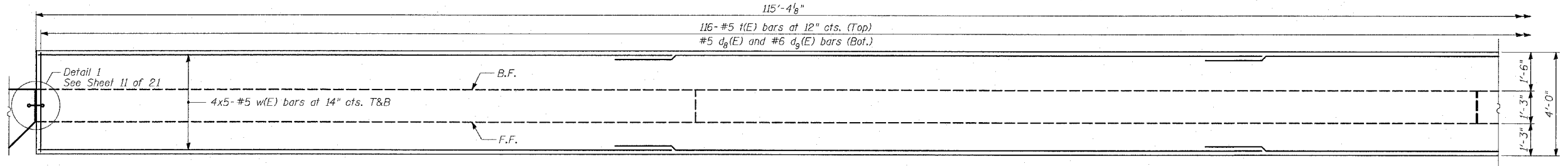
- Anchor rods shall be straight and shall be according to AASHTO M 314 or ASTM F1554, Grade 105 and galvanized according to Article 1006.09.
- Anchor rod information shall be submitted for approval and shall be fully coordinated with tower manufacturer's requirements.
- The Anchor Rods shall be vertical. 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. Cost included with "Light Tower" in Contract 62583.
- 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 BE501 for details.

REVISIONS	
NAME	DATE

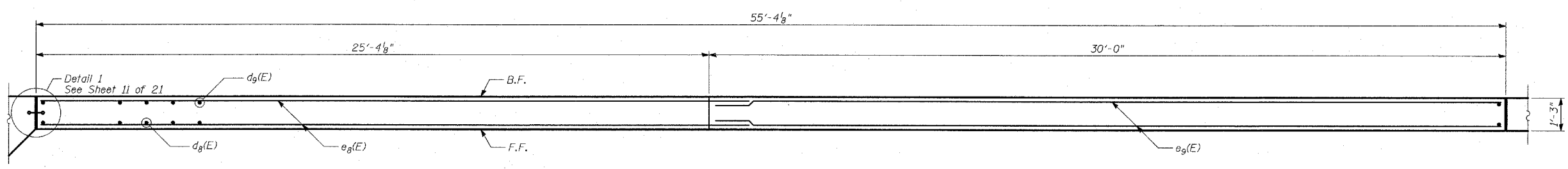
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
SOUTHBOUND EXIT RAMP RETAINING WALL
AT 79TH ST.
WALL 72
LIGHT TOWER DETAILS
 S.N. 016-W971 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



ELEVATION
(Fluted Knee Wall - Front Face)



FOOTING PLAN



WALL PLAN
(Footing omitted for clarity)

- NOTES:**
1. B.F. - denotes Back Face.
 2. E.F. - denotes Each Face.
 3. F.F. - denotes Front Face.
 4. Work this Sheet with Sheet 11 of 21.
 5. For Lap Splices, see Sheet 6 of 21.

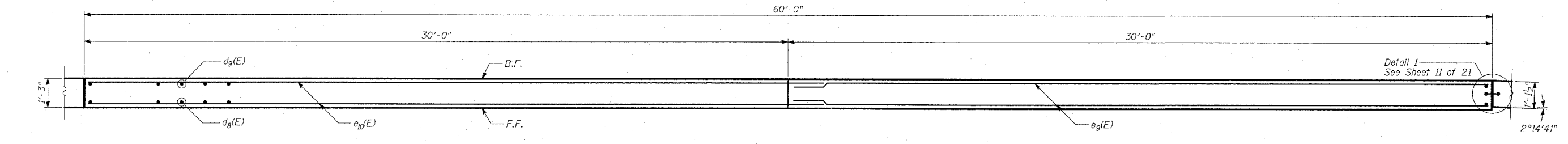
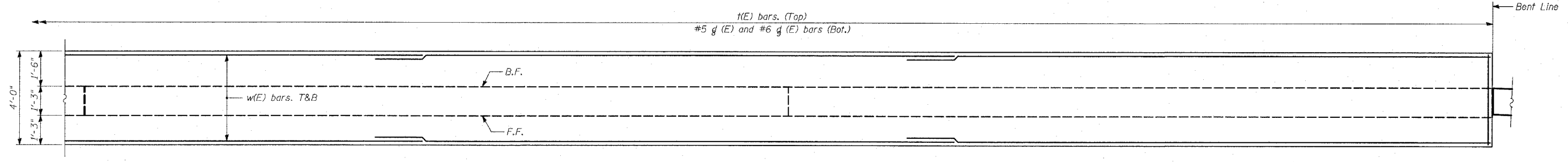
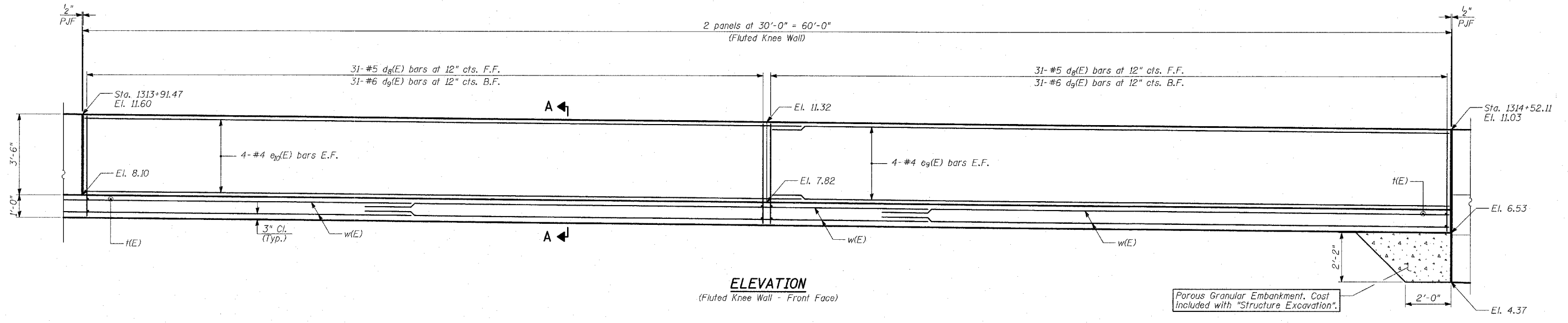
TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
SOUTHBOUND EXIT RAMP RETAINING WALL
AT 79TH ST. - WALL 72
PLAN AND ELEVATION - FLUTED KNEE WALL
(1 OF 2)

S.N. 016-W971
SCALE: N.T.S.
DATE: MARCH 25, 2005

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

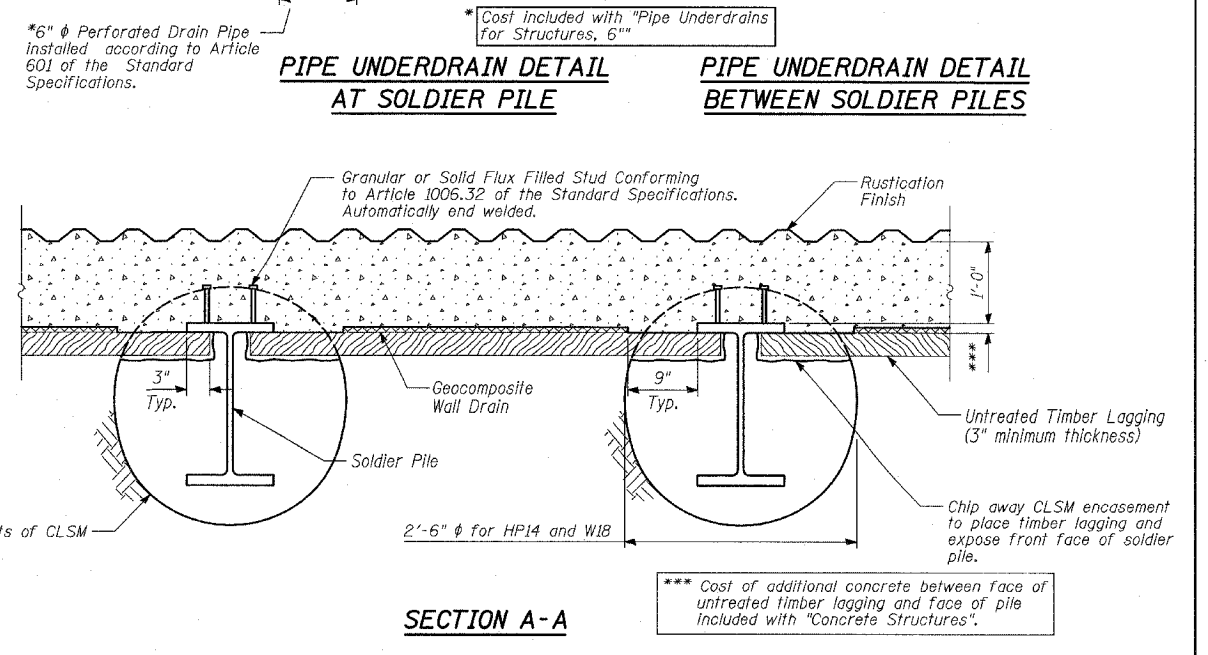
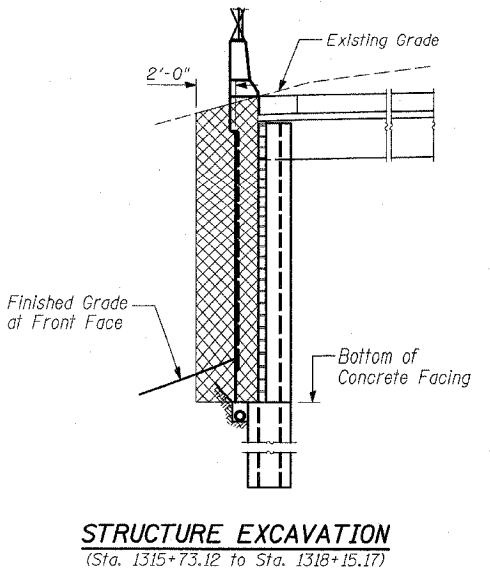
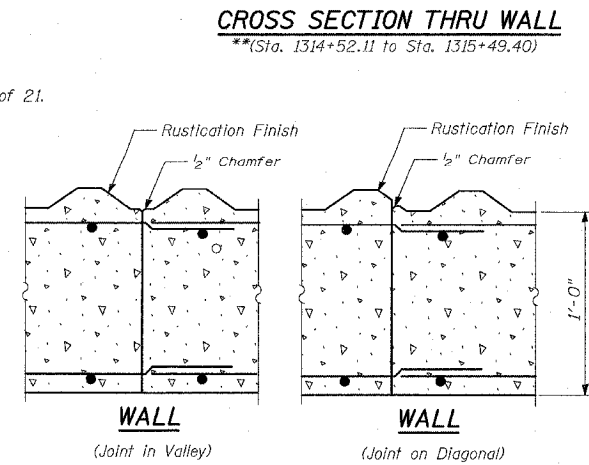
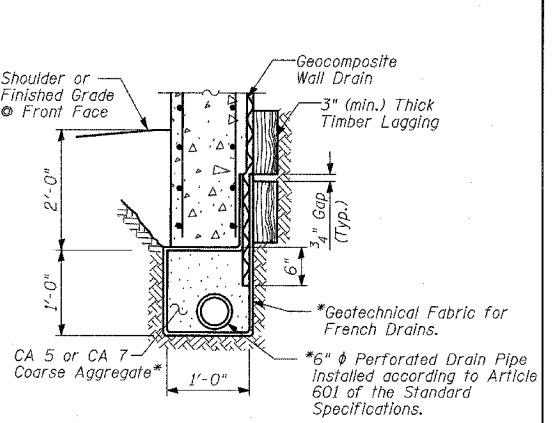
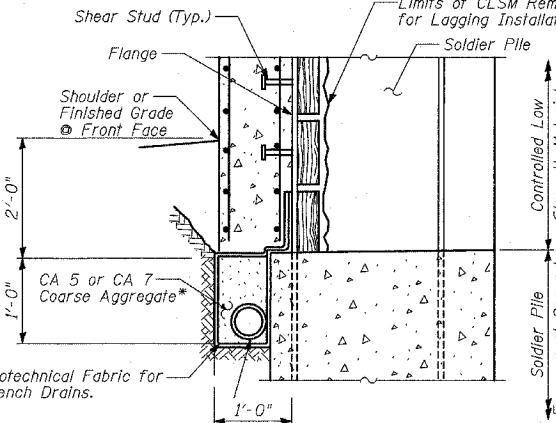
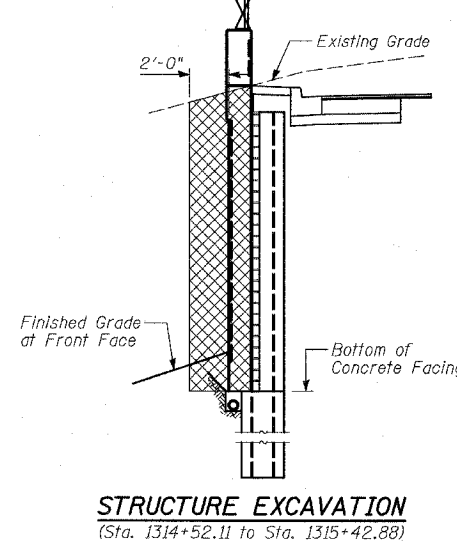
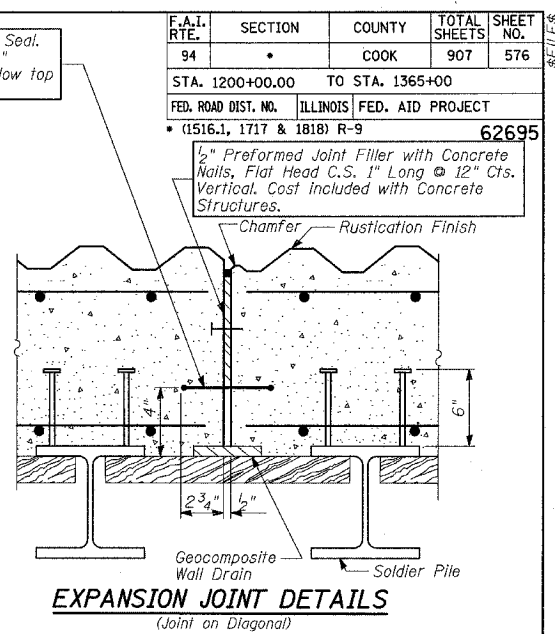
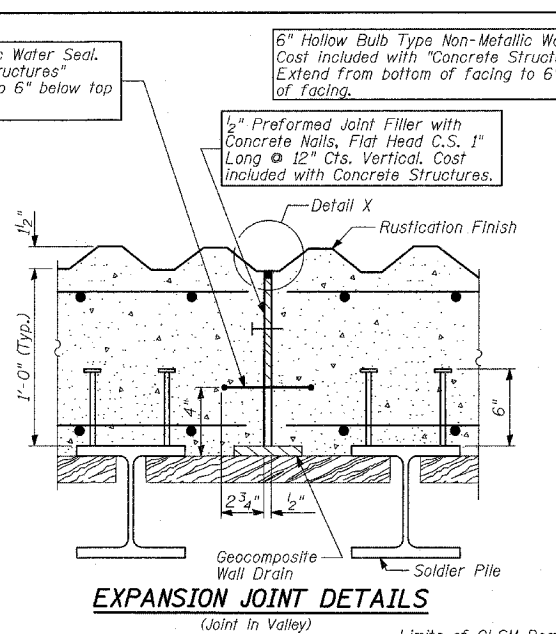
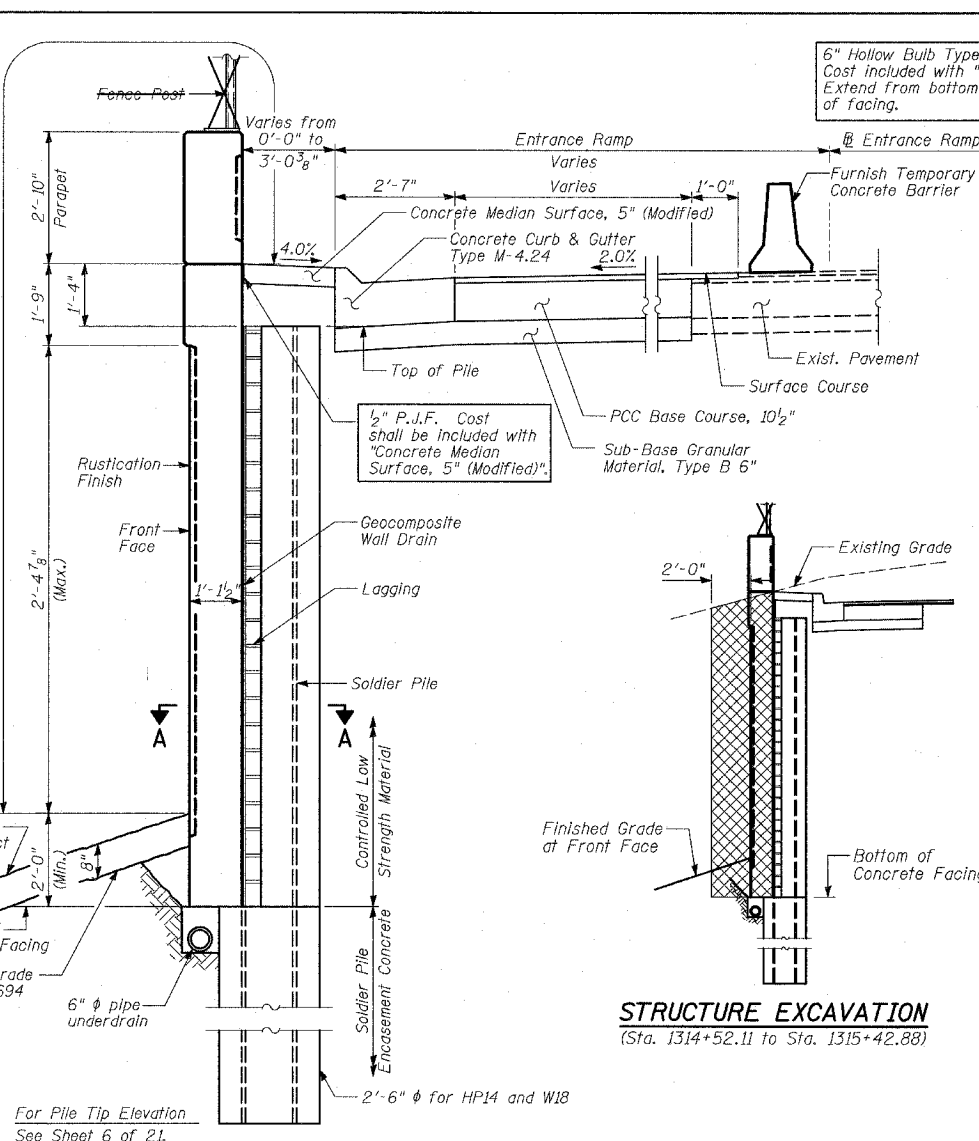
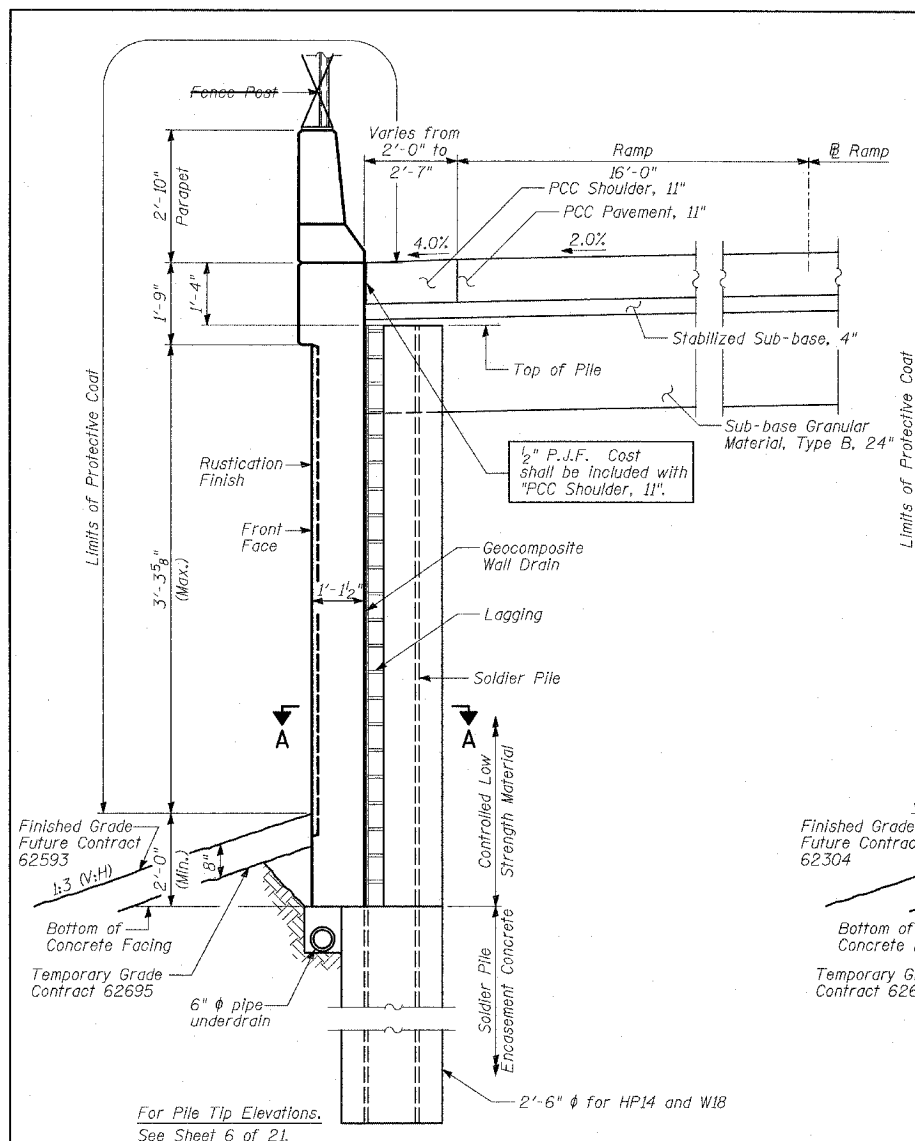


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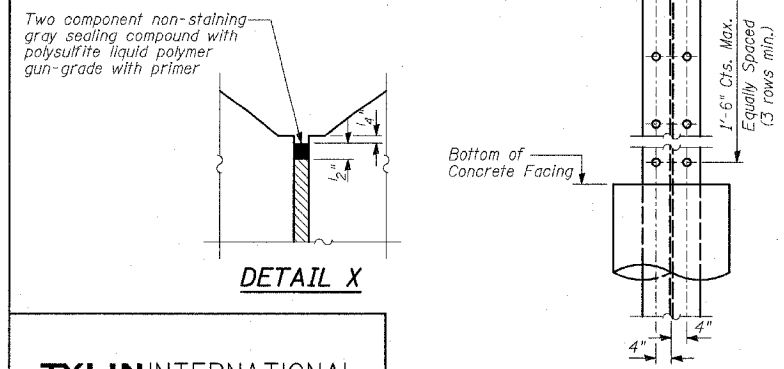
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 SOUTHBOUND EXIT RAMP RETAINING WALL
 AT 79TH ST. - WALL 72
 PLAN AND ELEVATION - FLUTED KNEE WALL
 (2 OF 2)

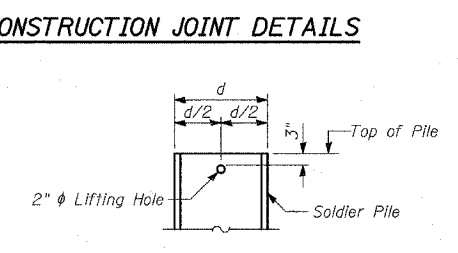
S.N. 016-W971 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



- 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_b), 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.



SHEAR STUD CONNECTOR DETAIL



LIFTING HOLE DETAIL

BILL OF MATERIAL

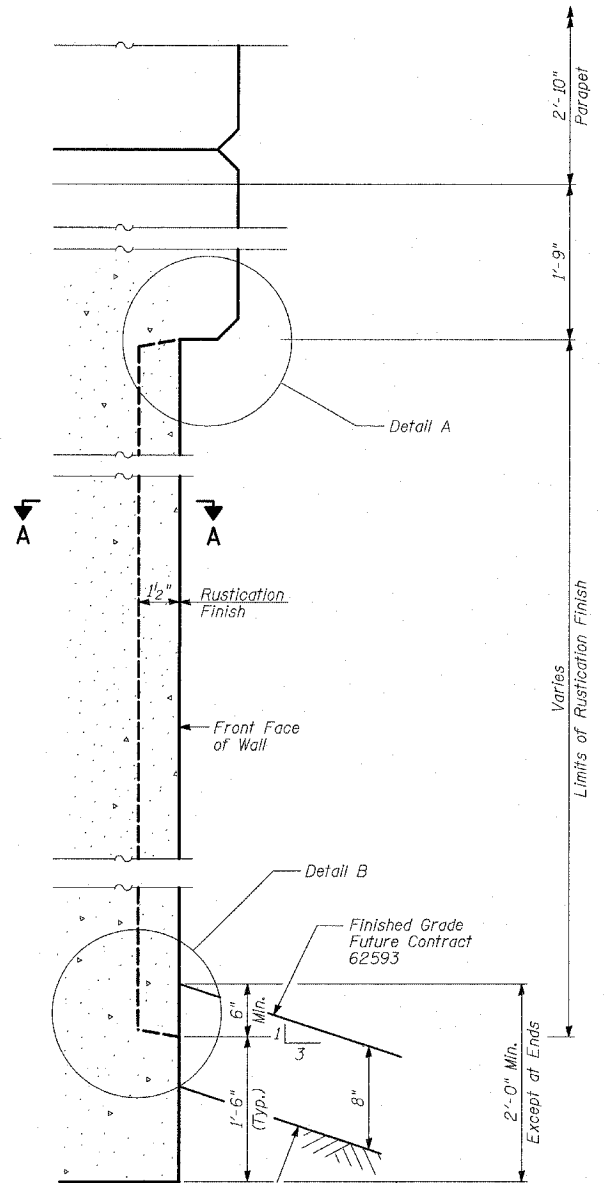
ITEM	UNIT	TOTAL
Structure Excavation	CU YD	324
Stud Shear Connectors	EACH	368
Untreated Timber Lagging	SQ FT	1,515
Geocomposite Wall Drain	SQ YD	189
Pipe Underdrains for Structures, 6"	FOOT	360

REVISIONS

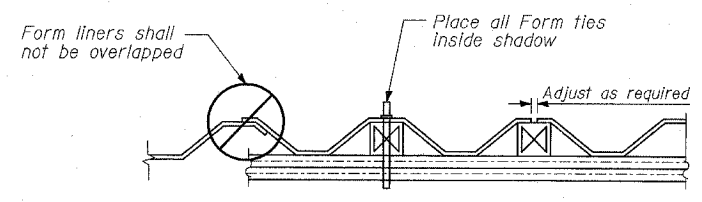
NAME	DATE
REVISED	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 SOUTHBOUND EXIT RAMP RETAINING WALL
 AT 79TH ST.
 WALL 72
 S.N. 016-W971
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

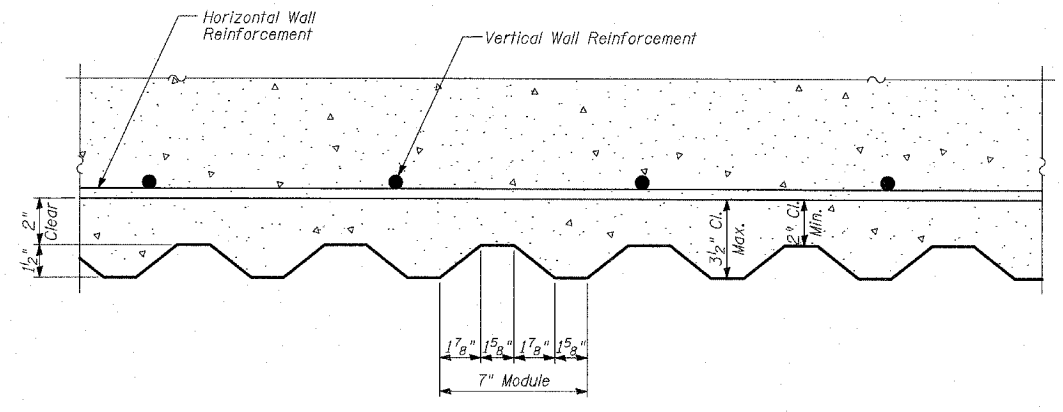
DESIGNED BY: MI, MAF
 DRAWN BY: MAF, DJR
 CHECKED BY: TD, MI



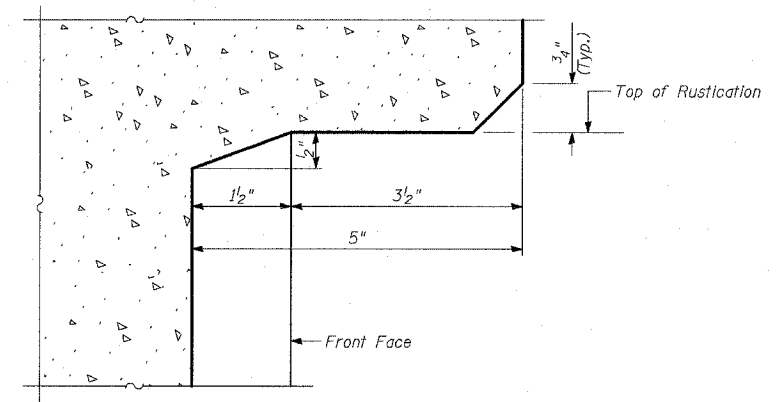
WALL DETAIL



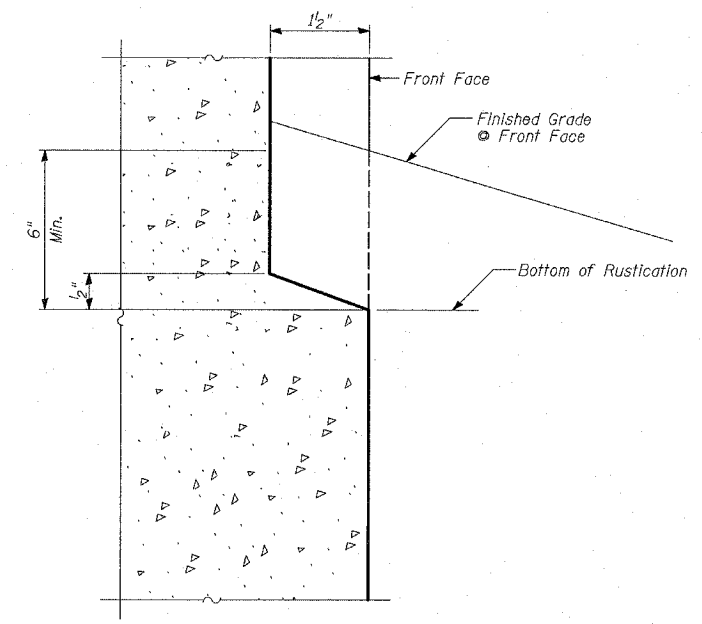
SUGGESTED FORMWORK DETAIL



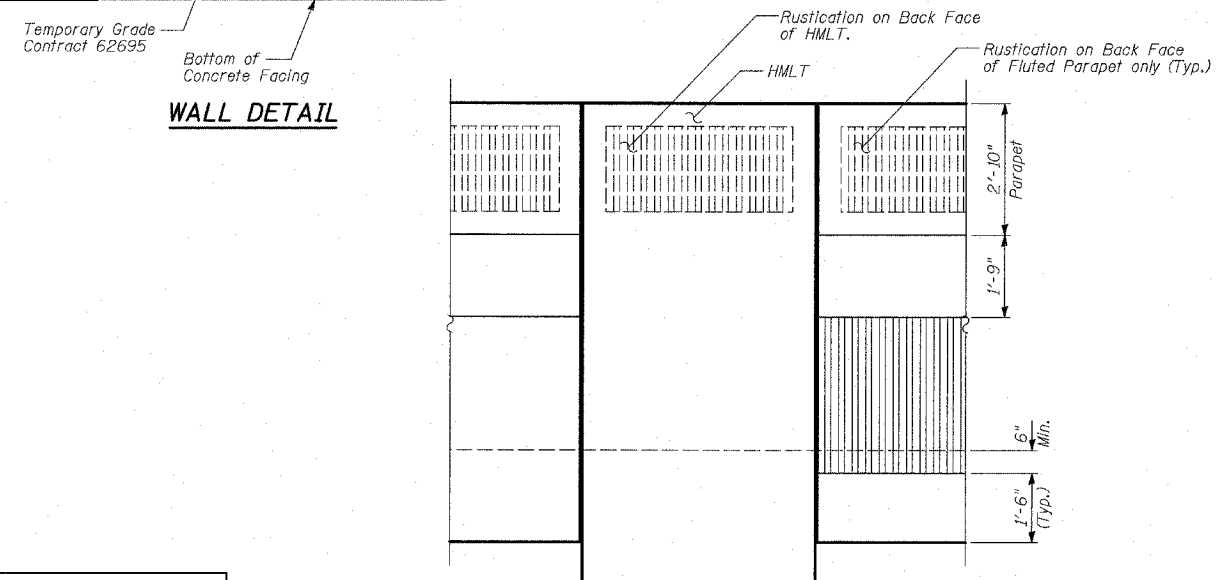
SECTION A-A



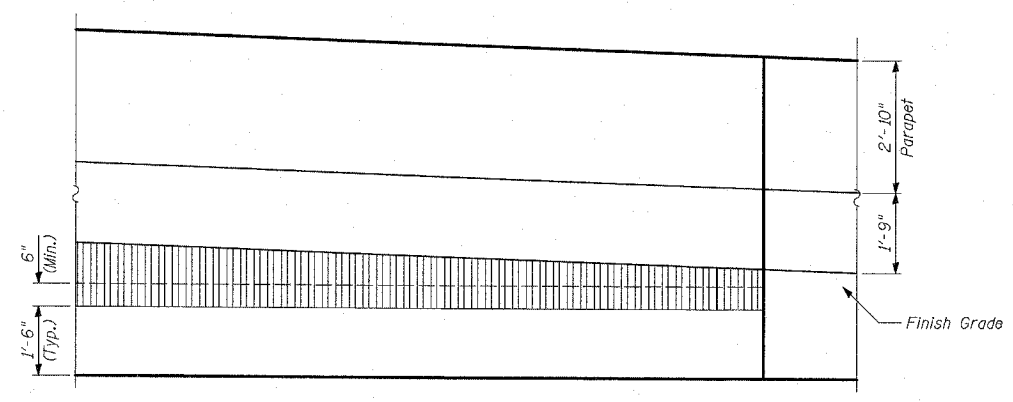
DETAIL A



DETAIL B



RUSTICATION DETAIL
(At HMLT with Embankment)



RUSTICATION DETAIL
(At Interior Panel with Embankment)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Rustication Finish	SQ FT	847

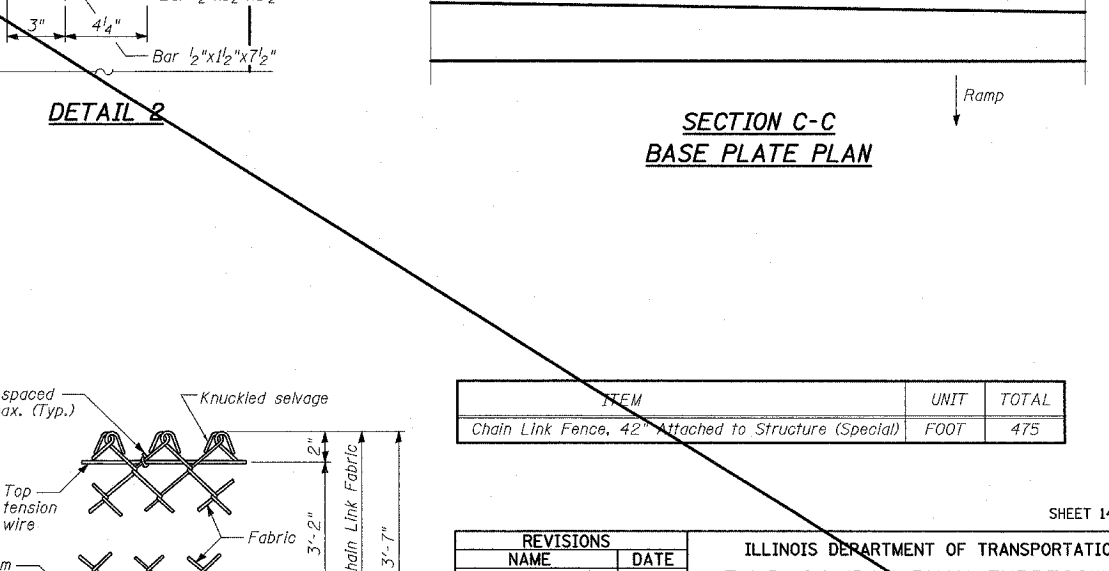
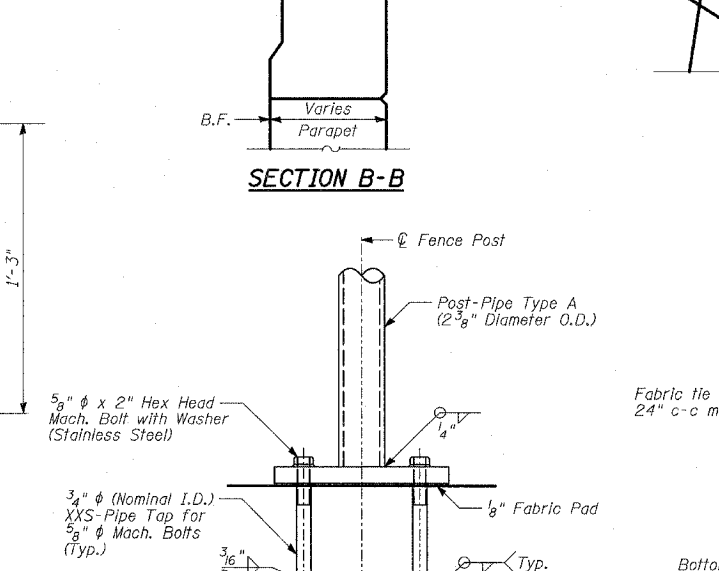
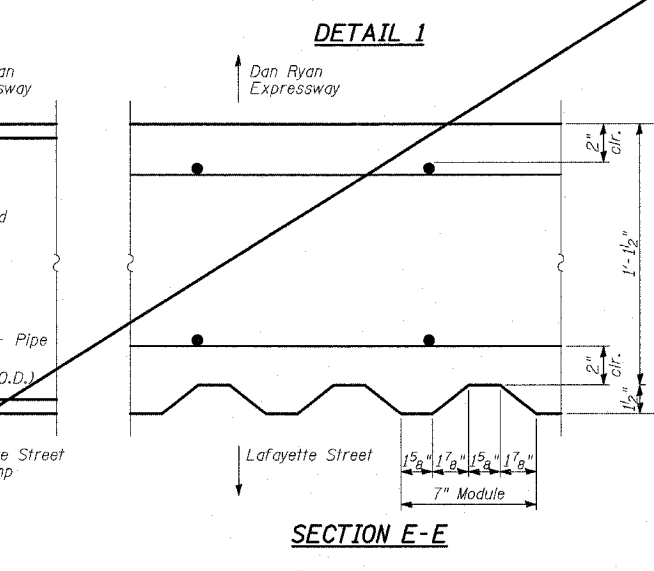
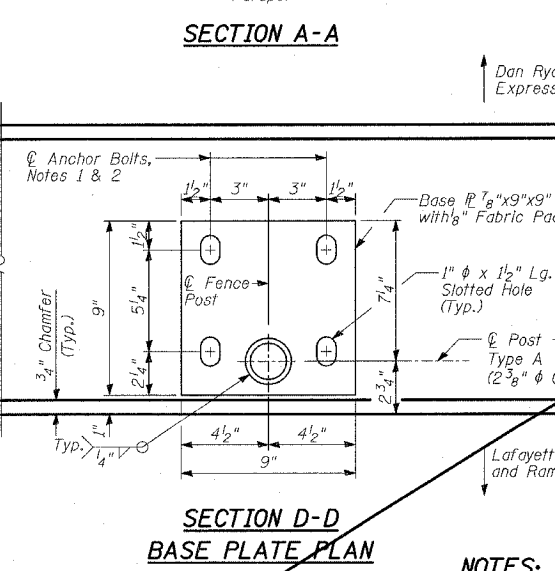
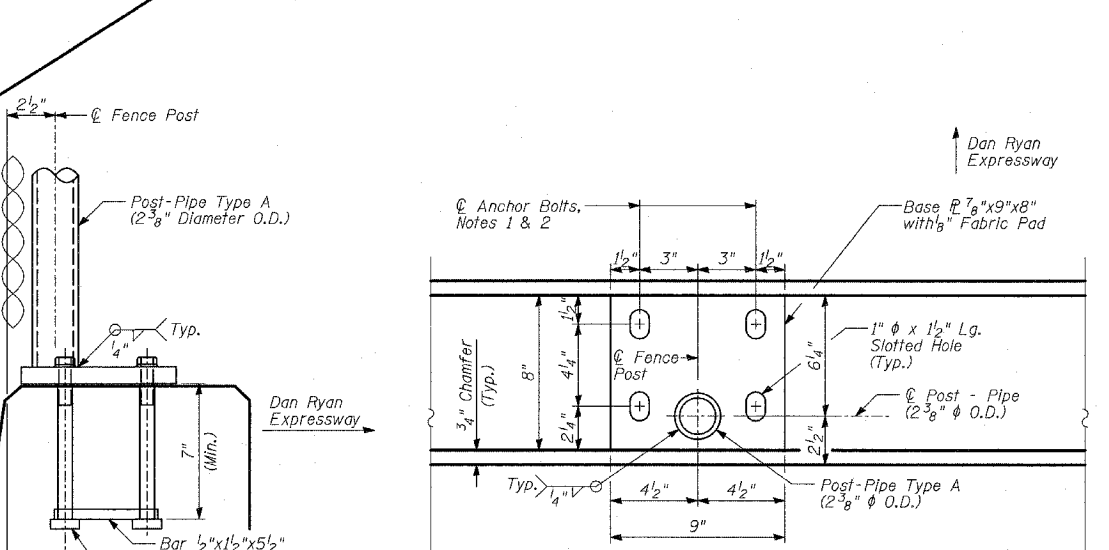
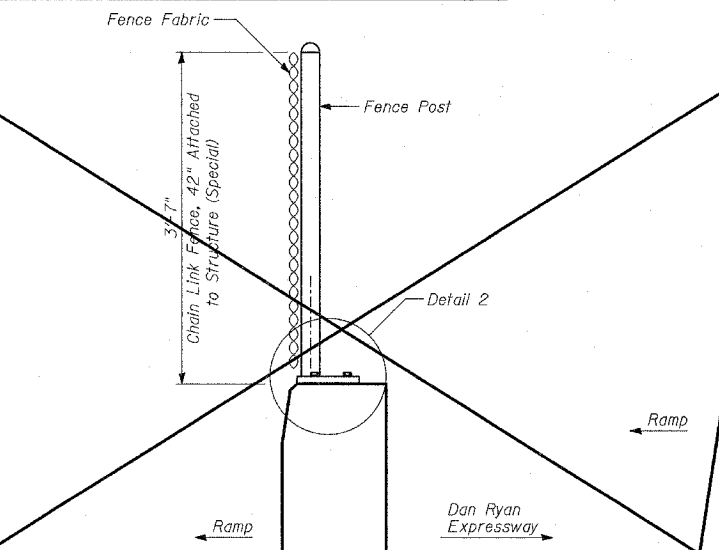
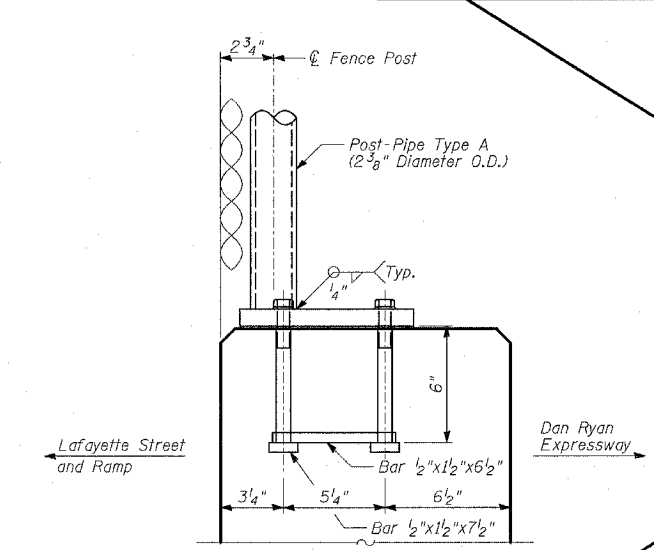
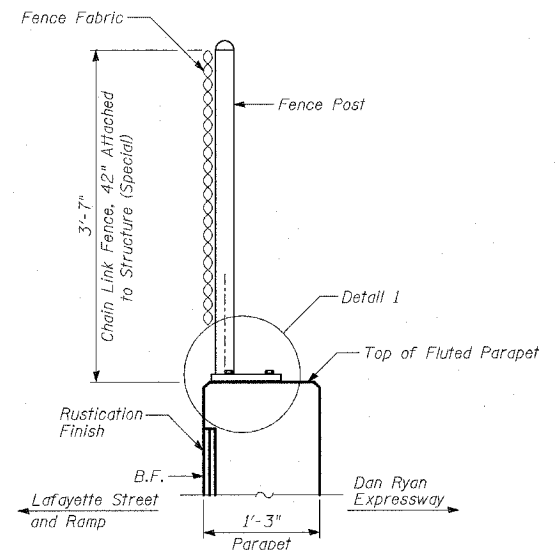
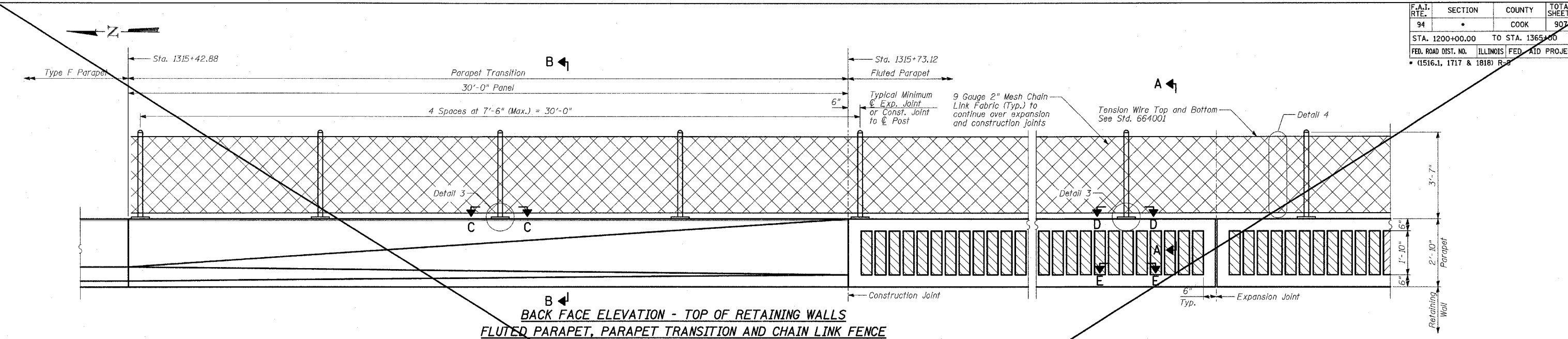
NOTES:

1. See Sheet 12 of 21 for expansion and construction joint details.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
SOUTHBOUND EXIT RAMP RETAINING WALL
AT 79TH ST.
WALL 72
RUSTICATION DETAILS
 S.N. 016-W971 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI

F.A.I. RTE. 94	SECTION	COUNTY COOK	TOTAL SHEETS 907	SHEET NO. 578
STA. 1200+00.00		TO STA. 1365+00		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		(1516J, 1717 & 1818) R-2	
				62695



ITEM	UNIT	TOTAL
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	475

NOTES:

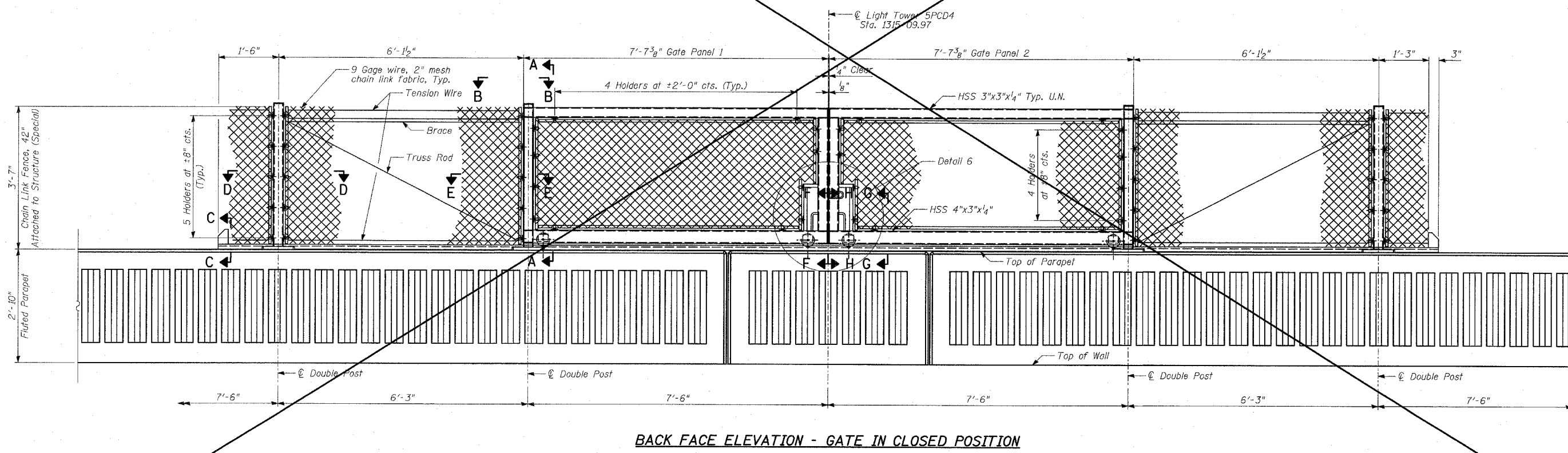
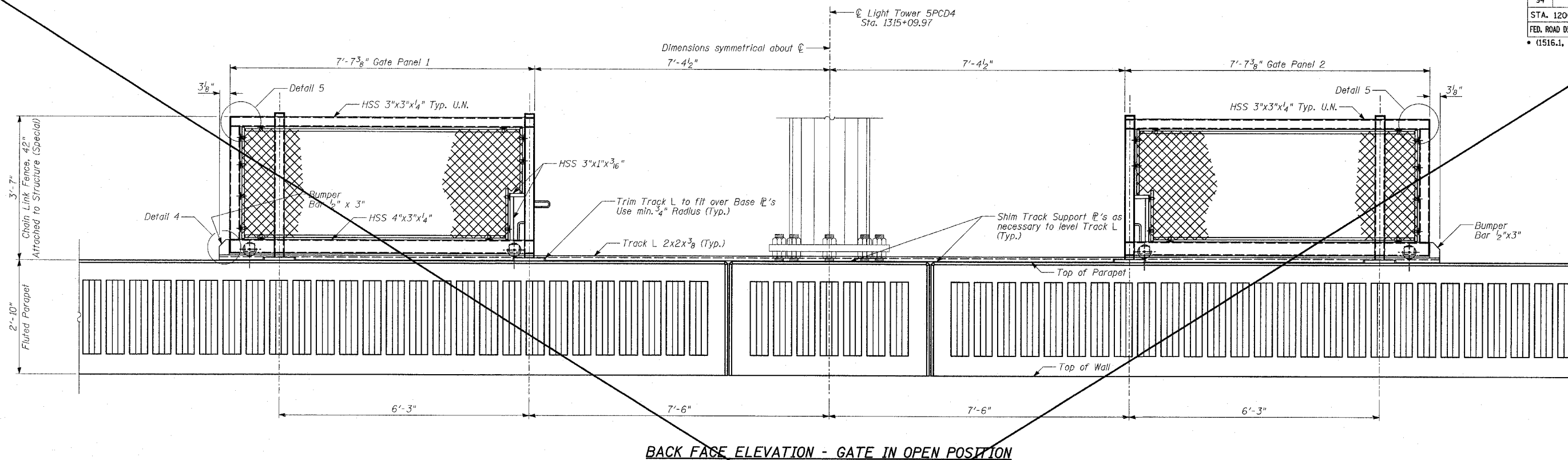
- In lieu of the cast-in-place anchor bolt assembly shown, the Contractor has the option of drilling and epoxy grouting 3/8" diameter anchor rods with 1/4" diameter washers. The Contractor shall use the capsule or the adhesive cartridge type anchor rods that have been previously tested and given prior 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 Std. 664001.

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SHEET 14 OF 21

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 SOUTHBOUND EXIT RAMP RETAINING WALL
 AT 79TH ST. - WALL 72
 CHAIN LINK FENCE, 42"
 ATTACHED TO STRUCTURE (SPECIAL)

S.N. 016-W971 DESIGNED BY: MAF, MAF
 SCALE: N.T.S. DRAWN BY: MAF, BJR
 REVISED: 04/15/05 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



BACK FACE ELEVATION - GATE IN CLOSED POSITION

- NOTES:**
- For notes, see Sheet 15 of 21.
 - For Sections A-A, B-B, D-D & E-E, see Sheet 17 of 21.
 - For Sections C-C, F-F, G-G, H-H, J-J and Details 4, 5, 6 & 7, see Sheet 18 of 21.

REVISIONS	
NAME	DATE
REVISION	04/15/05

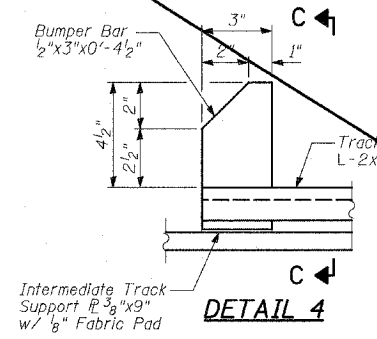
SHEET 16 OF 21

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
SOUTHBOUND EXIT RAMP RETAINING WALL
AT 79TH ST.
WALL 72
GATE ELEVATIONS

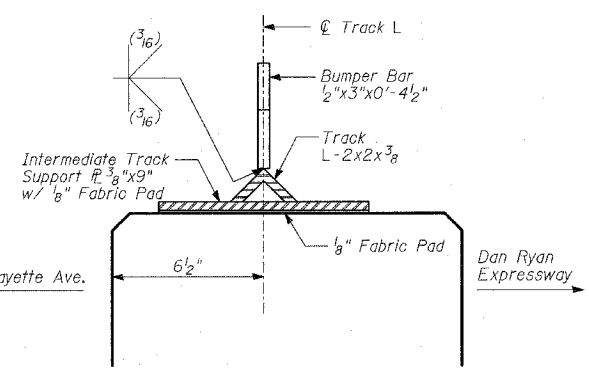
S.N. 016-W971
SCALE: N.T.S. DATE: MARCH 25, 2005

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

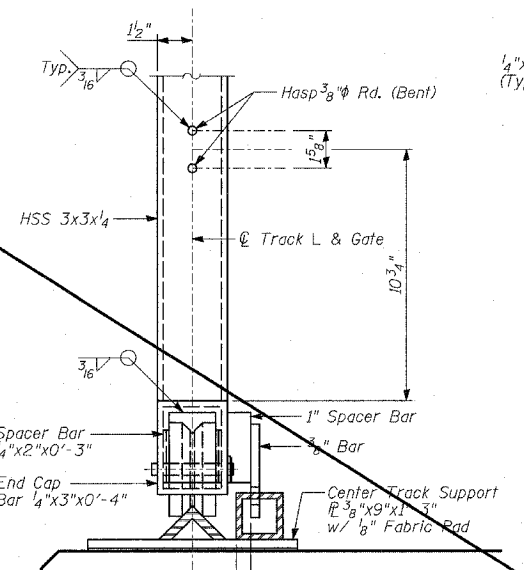
TYLIN INTERNATIONAL



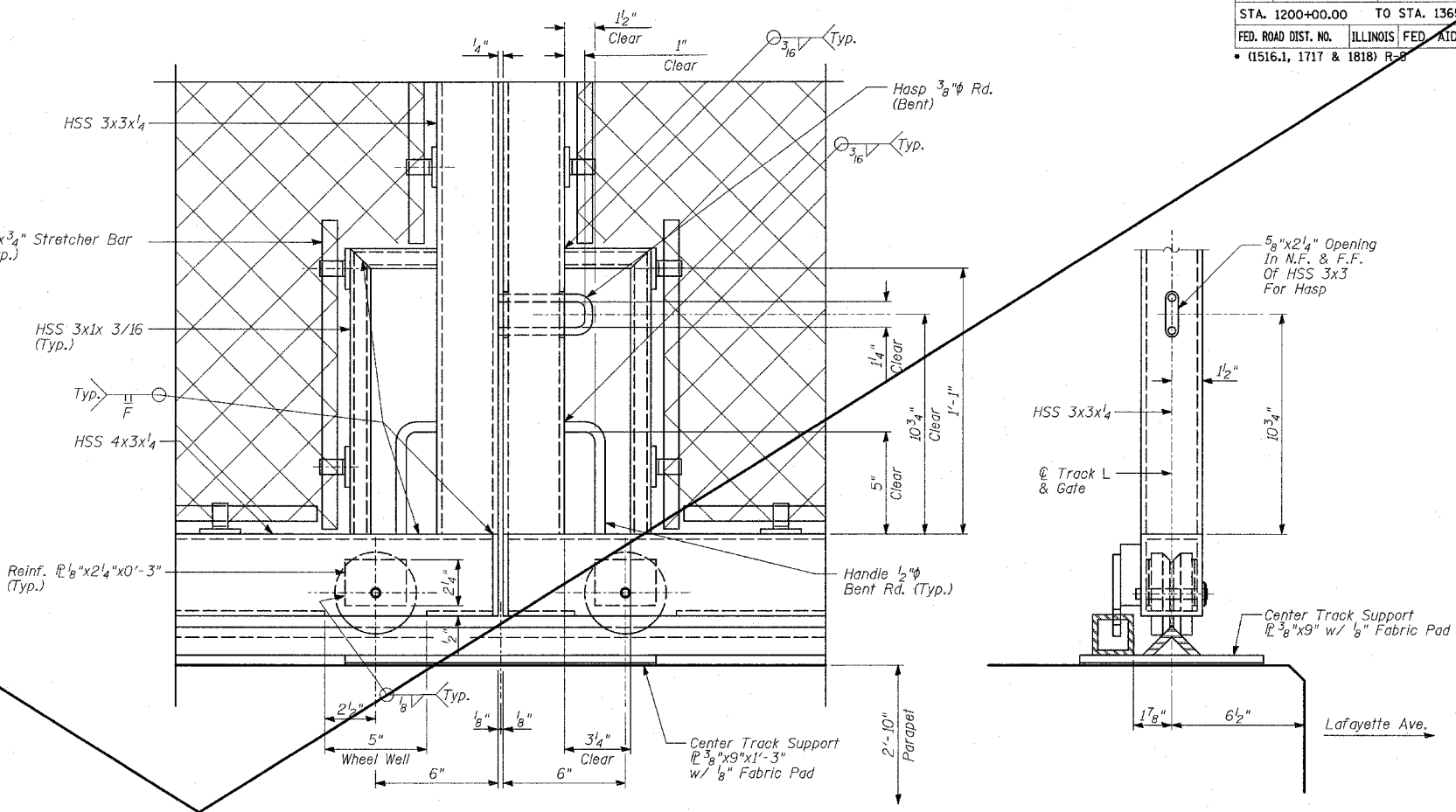
DETAIL 4



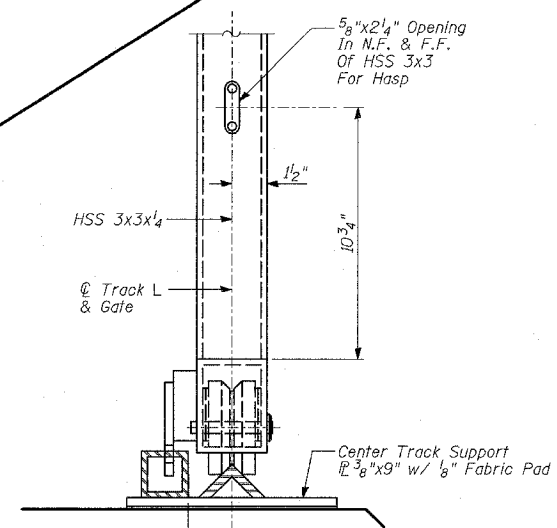
SECTION C-C



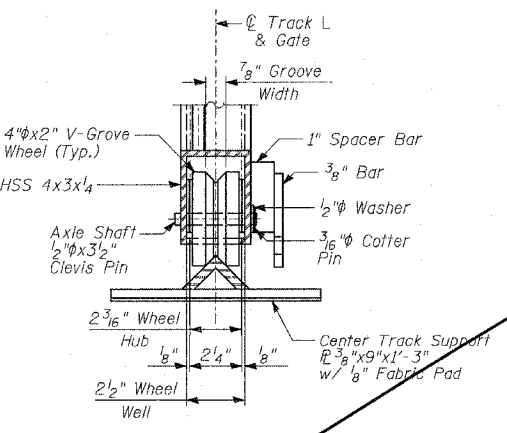
SECTION F-F



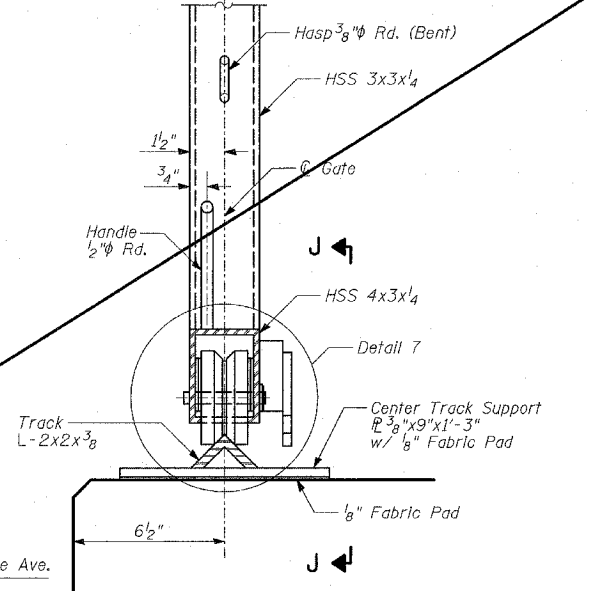
DETAIL 6



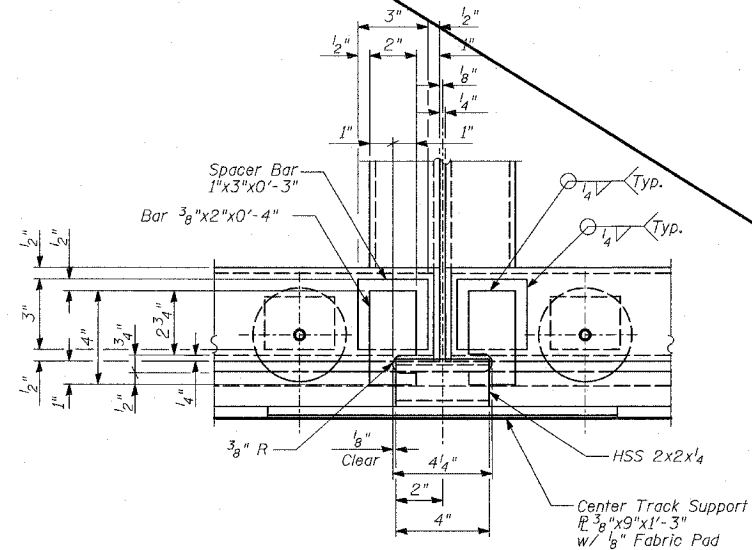
SECTION H-H



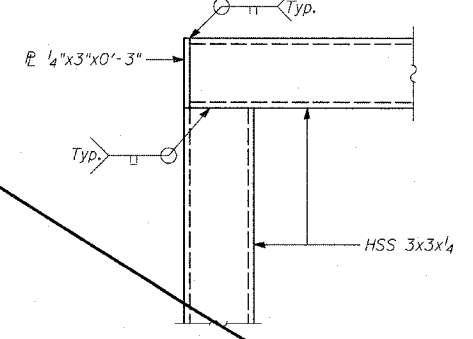
DETAIL 7



SECTION G-G



SECTION J-J



DETAIL 5

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- NOTES:**
- For notes, see Sheet 15 of 21.
 - For Anchor Bolt locations, see Sheet 15 of 21.
 - For Anchor Bolt details, see Sheet 17 of 21.
 - N.F. - denotes Near Face.
 - F.F. - denotes Far Face.

REVISIONS	
NAME	DATE
REVISION	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 SOUTHBOUND EXIT RAMP RETAINING WALL
 AT 79TH ST.
WALL 72
GATE SECTIONS AND DETAILS
 S.N. 016-W971 DESIGNED BY: MI, MAF
 SCALE: N.T.S. DRAWN BY: MAF, DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI

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 72-01 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 69th Street

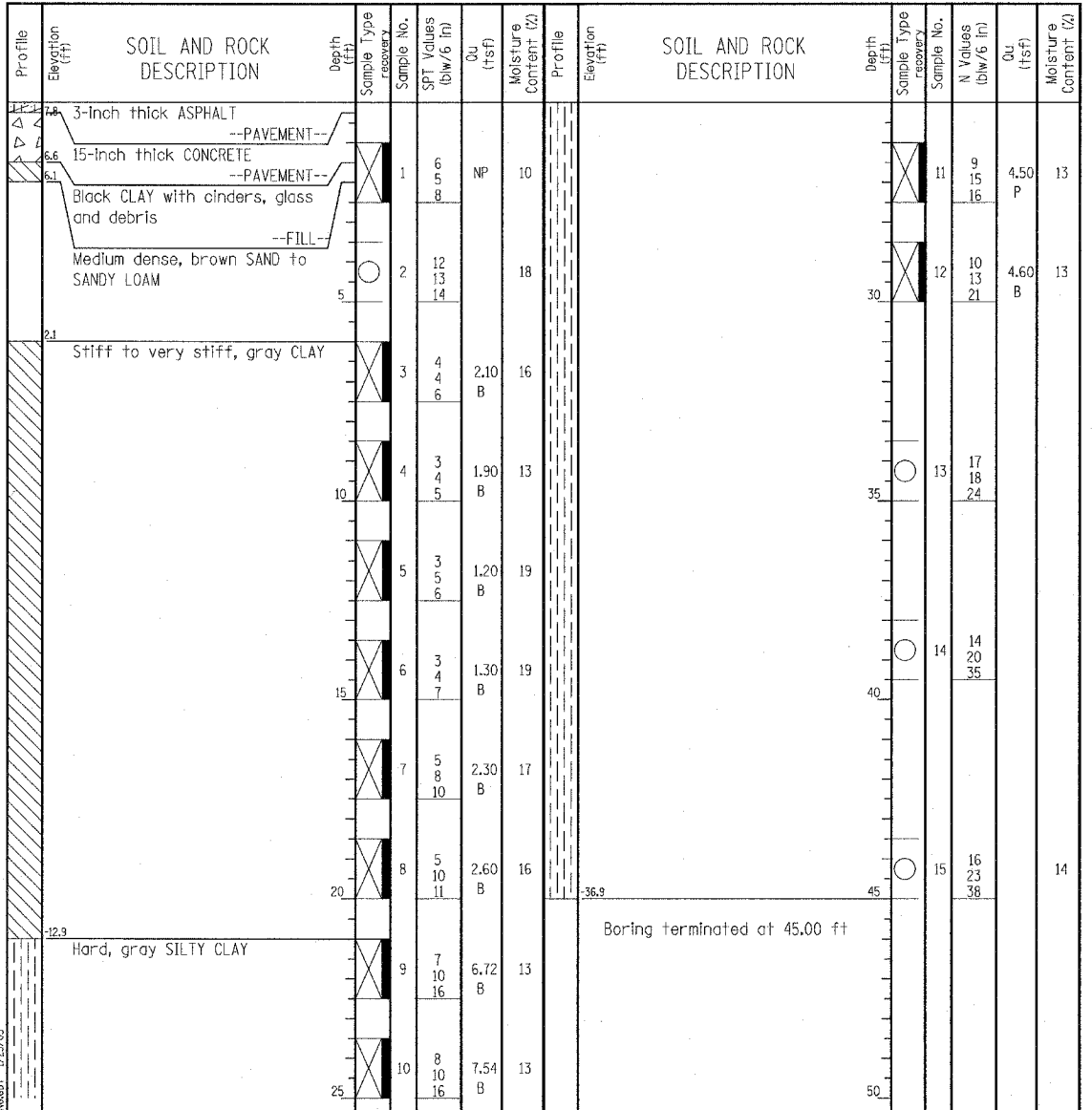
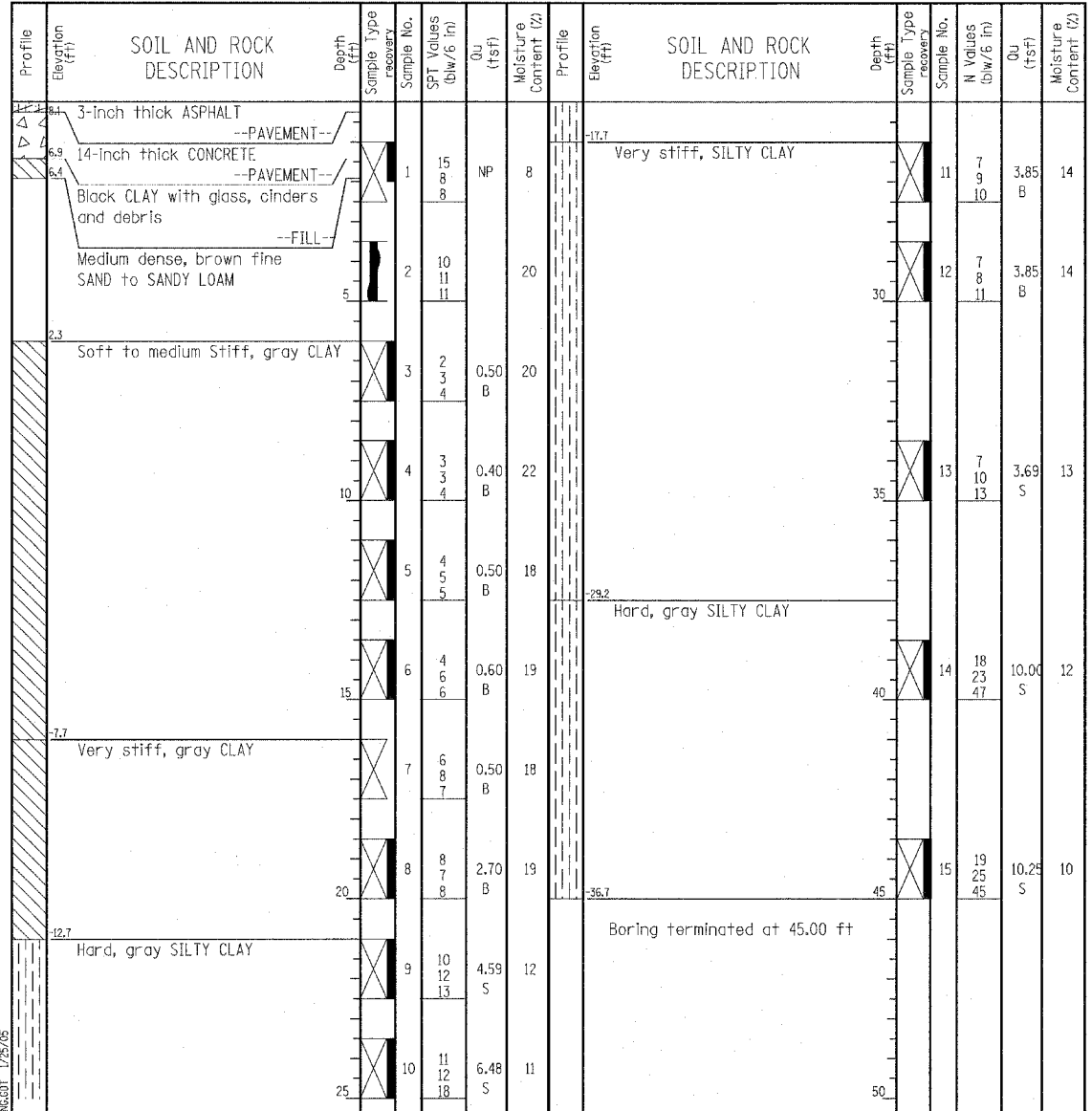
Datum: CCD
 Elevation: 8.32 ft
 North: 1852850.00 ft
 East: 1177324.00 ft
 Station: 1314+76
 Offset: 124' LT

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 Fax: 630 953-9938

BORING LOG SB 72-02 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 69th Street

Datum: CCD
 Elevation: 8.09 ft
 North: 1852938.00 ft
 East: 1177320.00 ft
 Station: 1315+65
 Offset: 124' LT



GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-05-2004	Complete Drilling	01-05-2005	While Drilling	☒	DRY	
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	☒	DRY	
Driller	E&J	Logger	B. Panozzo	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	01-05-2004	Complete Drilling	01-05-2004	While Drilling	☒	DRY	
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59	At Completion of Drilling	☒	DRY	
Driller	E&J	Logger	B. Panozzo	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)
 SOUTHBOUND EXIT RAMP RETAINING WALL
 AT 79TH ST.
 WALL 72
 BORING LOGS SB72-01 & SB72-02
 S.N. 016-W971
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

P:\0237\Structural\01\Wall 72\SB72-01\02\03\04\05\06\07\08\09\10\11\12\13\14\15\16\17\18\19\20\21\22\23\24\25\26\27\28\29\30\31\32\33\34\35\36\37\38\39\40\41\42\43\44\45\46\47\48\49\50\51\52\53\54\55\56\57\58\59\60\61\62\63\64\65\66\67\68\69\70\71\72\73\74\75\76\77\78\79\80\81\82\83\84\85\86\87\88\89\90\91\92\93\94\95\96\97\98\99\100

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BORING LOG SB 72-03 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 69th Street

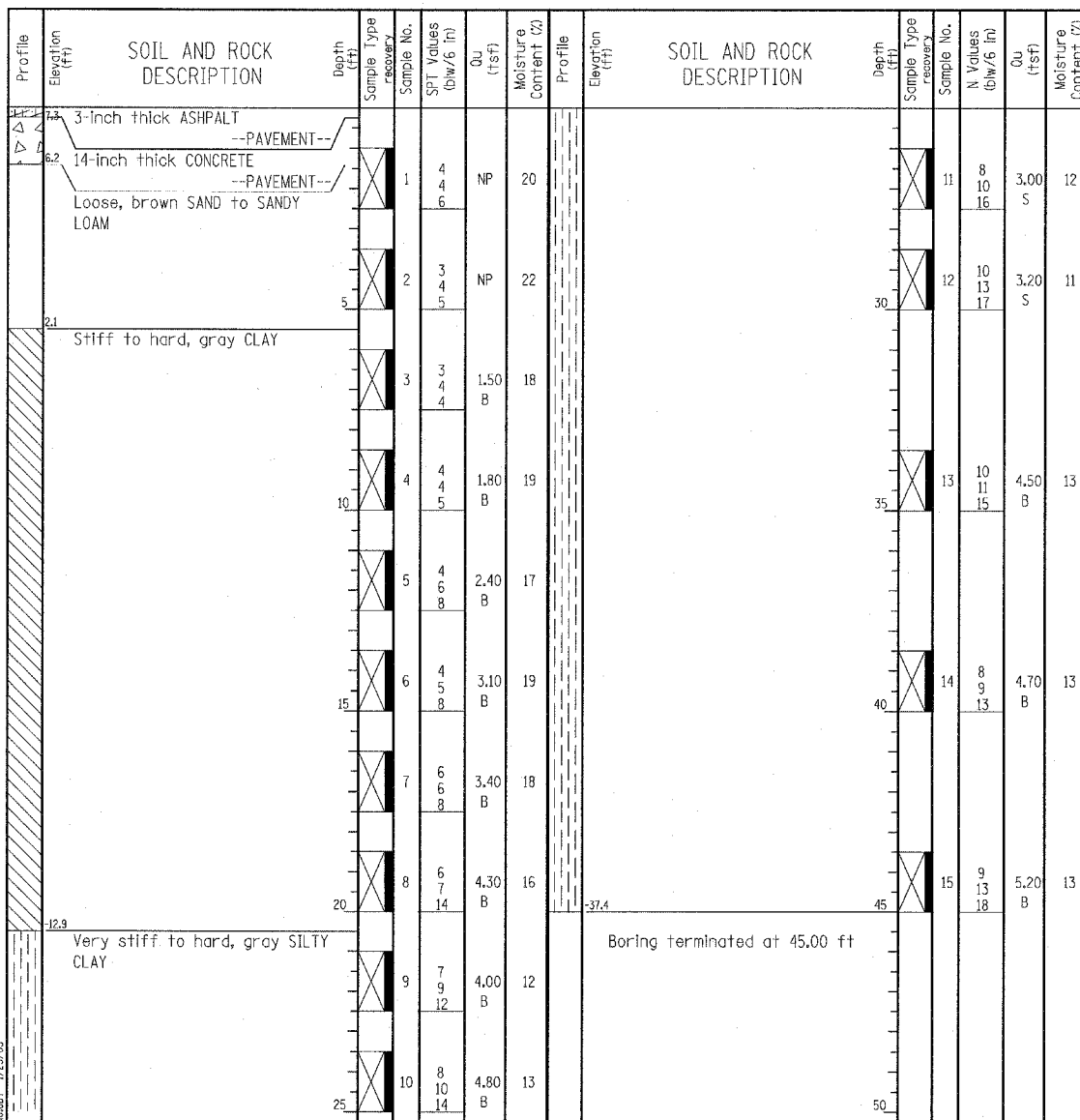
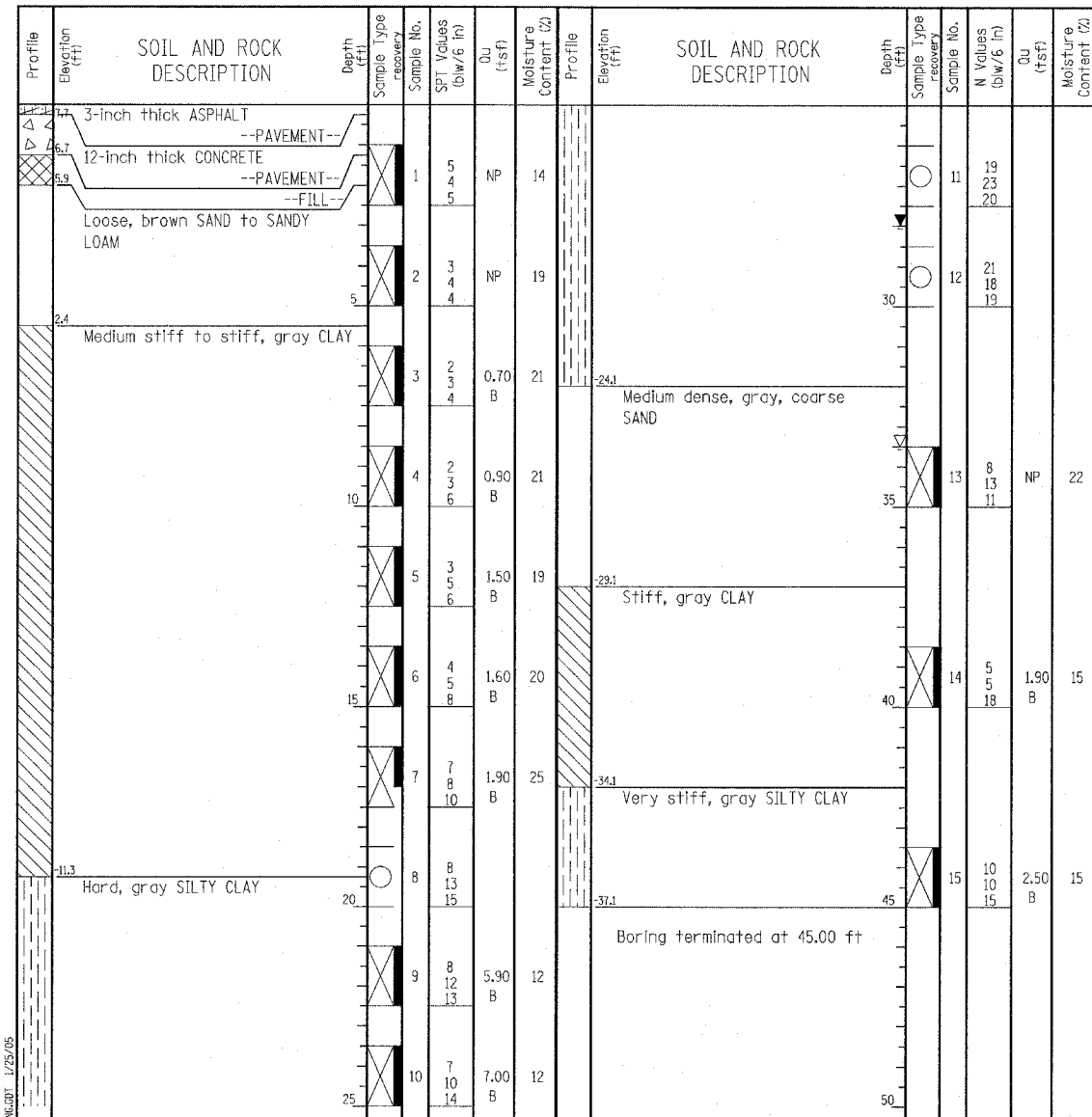
Datum: CCD
 Elevation: 7.92 ft
 North: 1852997.00 ft
 East: 1177320.00 ft
 Station: 1316+25
 Offset: 121' LT

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BORING LOG SB 72-04 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 69th Street

Datum: CCD
 Elevation: 7.57 ft
 North: 1853055.00 ft
 East: 1177318.00 ft
 Station: 1316+83
 Offset: 119' LT



GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	01-06-2005	Complete Drilling	01-06-2005	While Drilling	▽ 33.50 ft
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	▽ 28.00 ft
Driller	E&J	Logger	B. Panozzo	Time After Drilling	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	01-06-2005	Complete Drilling	01-06-2005	While Drilling	▽ DRY
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	▽ DRY
Driller	E&J	Logger	B. Panozzo	Time After Drilling	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)
 SOUTHBOUND EXIT RAMP RETAINING WALL
 AT 79TH ST.
 WALL 72
 BORING LOGS SB72-03 & SB72-04
 S.N. 016-W971
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

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 Lombard, IL 60148
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BORING LOG SB 72-05 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 69th Street

Datum: CCD
 Elevation: 7.25 ft
 North: 1853148.00 ft
 East: 1177321.00 ft
 Station: 1317+77
 Offset: 110' LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
7.25	3-inch thick ASPHALT	0					7.25		0				
6.3	9-inch thick CONCRETE	1	1	4 3 4	NP	18	6.3		1	11	13 15 16	5.08 S	13
5.3	3-inch thick CRUSHED STONE	2	2	1 2 3	NP	24	5.3		2	12	15 15 17		13
4.4	Loose, brown and gray SANDY LOAM	3	3	3 4 6	1.23 B	21	4.4		3	13	11 12 15	6.23 B	14
1.8	Stiff, brown and gray CLAY	4	4	2 3 5	1.48 B	20	1.8		4	14	8 12 14	4.84 B	
-0.8	Stiff to very stiff, gray CLAY	5	5	3 4 6	1.64 B	20	-0.8		5				
		6	6	5 5 7	1.72 B	22			6				
		7	7	7 9 13	2.95 B	18			7				
		8	8	5 7 17	4.18 B	15			8				
-12.3	Hard, gray SILTY CLAY	9	9	7 9 13	4.67 B	14			9				
		10	10	9 10 20	5.08 B	12			10				
		11							11				
		12							12				
		13							13				
		14							14				
		15							15				
		16							16				
		17							17				
		18							18				
		19							19				
		20							20				
		21							21				
		22							22				
		23							23				
		24							24				
		25							25				

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	12-30-2004	Complete Drilling	01-04-2005	While Drilling	4.60 ft
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	NA
Driller	E&B	Logger	E. Datz	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 72-06 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 69th Street

Datum: CCD
 Elevation: 6.24 ft
 North: 1853224.00 ft
 East: 1177325.00 ft
 Station: 1318+53
 Offset: 101' LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
6.24	1.5-inch thick ASPHALT	0					6.24		0				
5.3	10.5-inch thick CONCRETE	1	1	17 14 8	NP	17	5.3		1	11	6 9 14	7.30 B	13
4.3	4-inch thick CRUSHED STONE	2	2	1 1 2	0.98 B	25	4.3		2	12	8 10 15	5.41 B	13
2.5	Medium dense, brown and gray, fine SANDY LOAM	3	3	2 3 6	1.64 B	21	2.5		3	13	7 8 11	4.10 B	13
2.0	Very soft, brown and gray SANDY CLAY	4	4	2 3 6	1.56 B	19	2.0		4	14	21 28 42	4.50 P	11
0.7	Medium stiff, brown and gray CLAY	5	5	3 4 7	2.05 B	19	0.7		5				
	Stiff to very stiff, gray CLAY	6	6	3 4 7	2.62 B	19			6				
		7	7	4 5 10	4.67 B	14			7				
		8	8	6 9 13	5.49 B	13			8				
		9	9	7 7 10	5.00 B	13			9				
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		24							24				
		25							25				

GENERAL NOTES				WATER LEVEL DATA	
Begin Drilling	12-30-2004	Complete Drilling	12-30-2004	While Drilling	DRY
Drilling Contractor	DLZ Drilling	Drill Rig	Mobile B-59 TMR	At Completion of Drilling	DRY
Driller	E&B	Logger	J. Kasnick	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.					



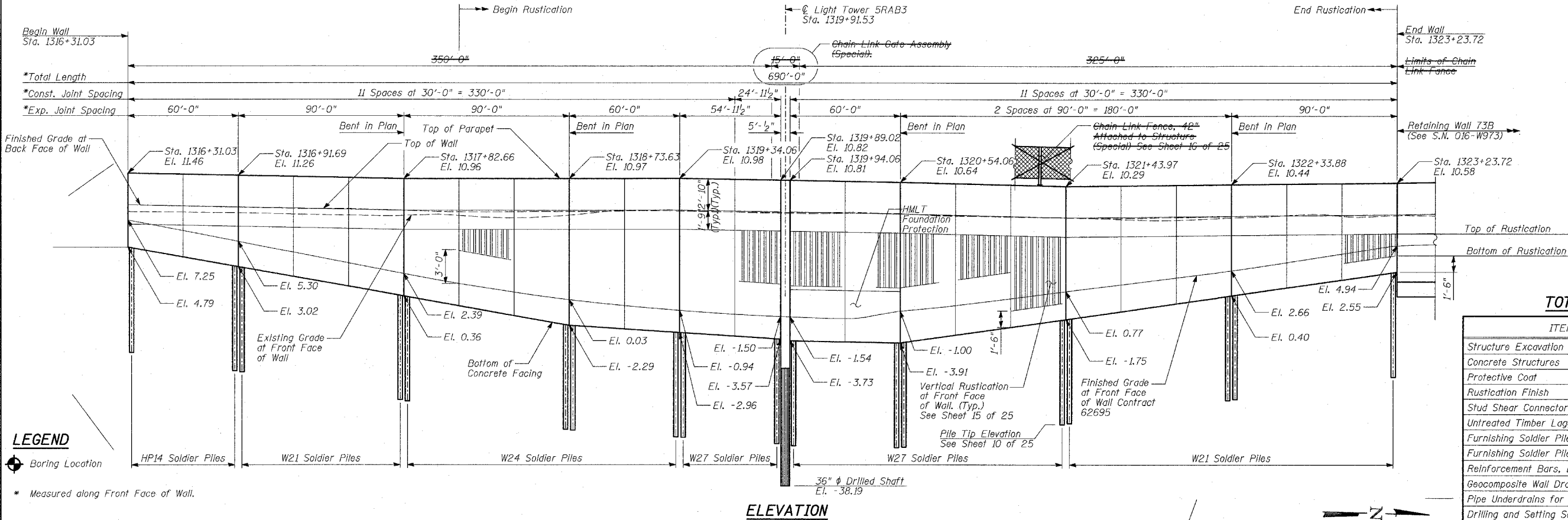
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 SOUTHBOUND EXIT RAMP RETAINING WALL
 AT 79TH ST.
 WALL 72
 BORING LOGS SB72-05 & SB72-06
 S.N. 016-W971
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

Benchmarks: BM 3810 Cut square on southerly corner of metal base for overhead sign, on the westerly side of southbound Dan Ryan, opposite of West 77th Place, approximately 1000 feet north of 79th Street bridge. Elev. 0.29 feet.
Existing Structure: None.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	*	COOK	907	586
STA. 1200+00.00		TO STA. 1365+00		
FED. ROAD DIST. NO.		ILLINOIS		FED. AID PROJECT
(1516.1, 1717 & 1818) R-9				62695



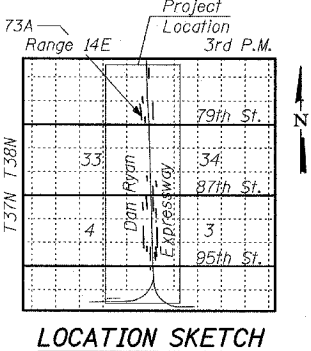
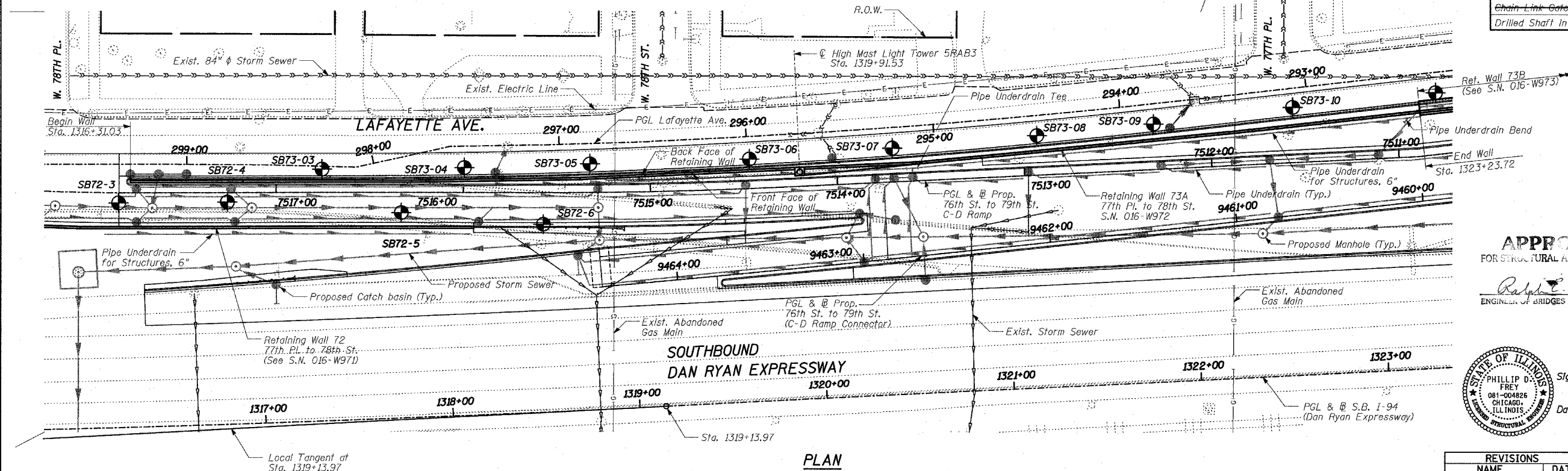
LEGEND
Boring Location
* Measured along Front Face of Wall.

DESIGN SPECIFICATION
AASHTO 2002 Standard Specifications for Highway Bridges

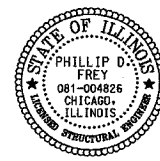
DESIGN STRESSES FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36) Soldier Piles

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	CU YD	734
Concrete Structures	CU YD	373
Protective Coat	SQ YD	1,061
Rustication Finish	SQ FT	3,373
Stud Shear Connectors	EACH	1,042
Untreated Timber Lagging	SQ FT	4,757
Furnishing Soldier Piles (HP Section)	FOOT	232
Furnishing Soldier Piles (W Section)	FOOT	3,233
Reinforcement Bars, Epoxy Coated	POUND	46,680
Geocomposite Wall Drain	SQ YD	567
Pipe Underdrains for Structures, 6"	FOOT	690
Drilling and Setting Soldier Piles (in Soil)	CU FT	22,031
Chain Link Fence, 42" Attached to Structure (Special)	FOOT	675
Chain Link Gate Assembly (Special)	EACH	1
Drilled Shaft in Soil 36"	FOOT	32



APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Orlow
ENGINEER OF BRIDGES AND STRUCTURES



Signed *Phillip D. Frey*
Phillip D. Frey, P.E., Ill. Lic. No. 081-004826
CHICAGO, ILLINOIS
Expires 11-30-2008
Date 3/25/05
For drawings 1 thru 25 of 25

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
77TH PL. TO 78TH ST.
WALL 73A - GENERAL PLAN
STA. 1316+31.03 TO STA. 1323+23.72
S.N. 016-W972
SCALE: N.T.S.
DATE: MARCH 25, 2005
DESIGNED BY: MI, DJR
DRAWN BY: DJR, MAF
CHECKED BY: TD, MI

NOTE:
For General Notes and Index of Sheets, see Sheet 2 of 25.

TYLIN INTERNATIONAL

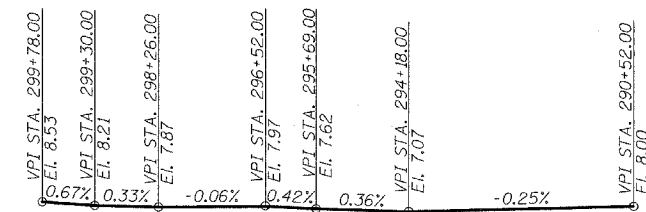
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	*	COOK	907	587
STA. 1200+00.00 TO STA. 1365+00				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
• (1516.1, 1717 & 1818) R-9				62695

GENERAL NOTES:

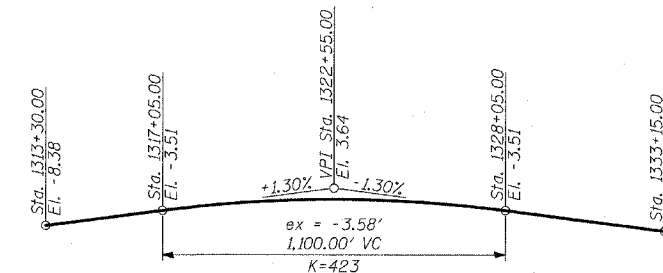
- Reinforcement bars shall conform to the requirements of AASHTO M31 or M322 Grade 60.
- The Contractor is responsible for the design and performance of the lagging using no less than 3" nominal rough-sawn thickness and the minimum tabulated unit stress in bending (f_b), used in the design of timber 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.

INDEX OF SHEETS

- GENERAL PLAN
- GENERAL NOTES AND INDEX OF SHEETS
- PLAN AND ELEVATION STA. 1316+31.03 TO STA. 1317+82.66
- PLAN AND ELEVATION STA. 1317+82.66 TO STA. 1319+34.06
- PLAN AND ELEVATION STA. 1319+34.06 TO STA. 1320+54.06
- PLAN AND ELEVATION STA. 1320+54.06 TO STA. 1322+33.88
- PLAN AND ELEVATION STA. 1322+33.88 TO STA. 1323+23.72
- HIGH MAST TOWER FOUNDATION PROTECTION
- HIGH MAST TOWER FOUNDATION PROTECTION SECTIONS
- PILE LAYOUT, DETAILS & BILL OF MATERIAL
- LIGHT TOWER SRAB3 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 SB72-03 & SB72-04
- BORING LOGS SB73-03 & SB73-04
- BORING LOGS SB73-05 & SB73-06
- BORING LOGS SB73-07 & SB73-08
- BORING LOGS SB73-09 & SB73-10



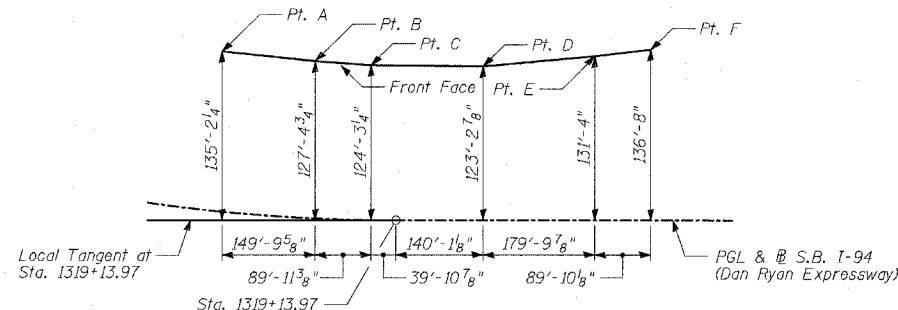
PROFILE GRADE
(Lafayette Ave.)



PROFILE GRADE
(S.B. I-94)

CURVE DATA

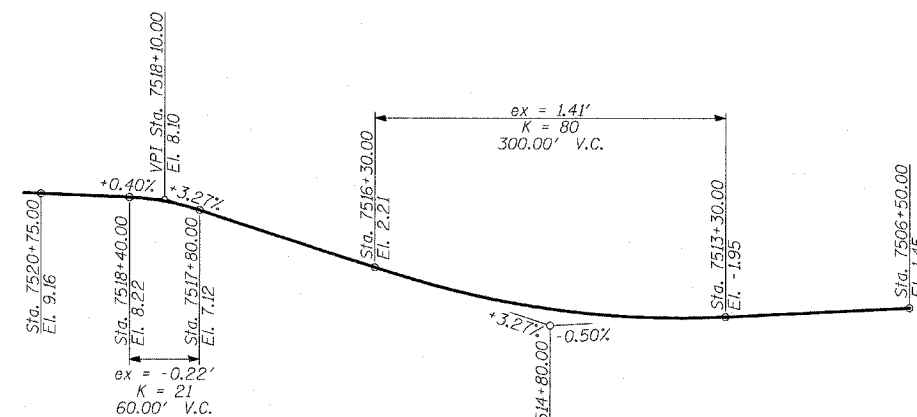
S.B. Exit Ramp: Δ = 2° 48' 22.72" (RT) D = 2° 18' 23.74" R = 2,484.00 L = 121.66 E = 0.75 T = 60.84 P.C. STA = 7514+29.88 P.I. STA = 7514+90.72 P.T. STA = 7515+51.54	S.B. I-94 Curve 1: Δ = 2° 58' 38.60" (LT) D = 0° 30' 08.86" R = 11,403.00 L = 592.56 E = 3.85 T = 296.35 P.C. STA = 1313+21.41 P.I. STA = 1316+17.76 P.T. STA = 1319+13.97
--	---



OFFSET SKETCH

OFFSET SKETCH

Point	Station	Offset to @ S.B. I-94
A	1316+31.03	131'-8 ⁵ / ₈ " Lt.
B	1317+82.66	126'-7 ³ / ₄ " Lt.
C	1318+73.63	124'-2 ³ / ₈ " Lt.
D	1320+54.06	123'-2 ⁷ / ₈ " Lt.
E	1322+33.88	131'-4" Lt.
F	1323+23.72	136'-8" Lt.



PROFILE GRADE
(76th to 79th St.)
(C-D Ramp)

SHEET 2 OF 25

REVISIONS	
NAME	DATE
REVISION	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
77TH PL. TO 78TH ST.
WALL 73A - GENERAL NOTES
AND INDEX OF SHEETS

S.N. 016-W972

SCALE: N.T.S.

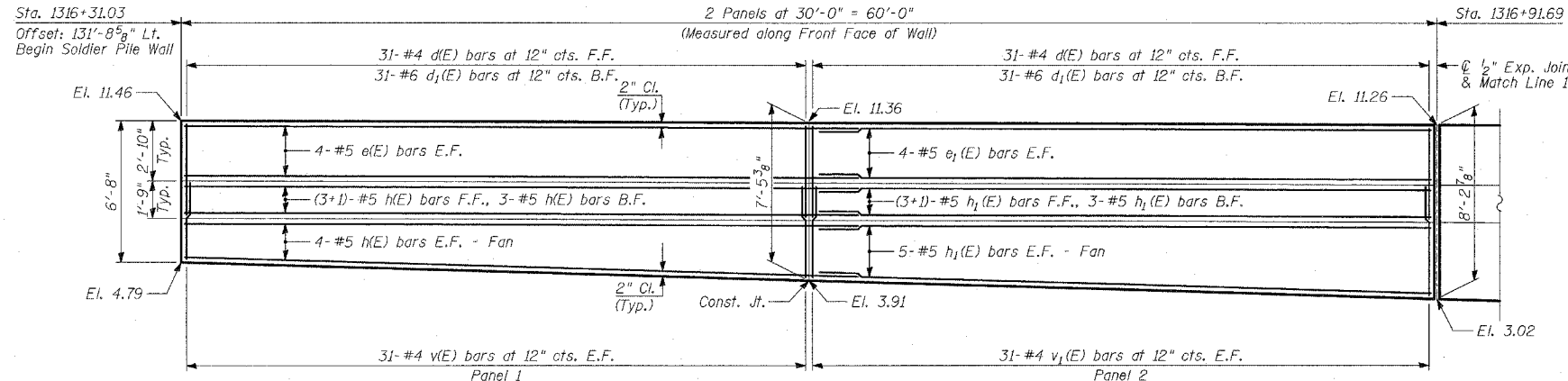
DATE: MARCH 25, 2005

DESIGNED BY: MI, DJR

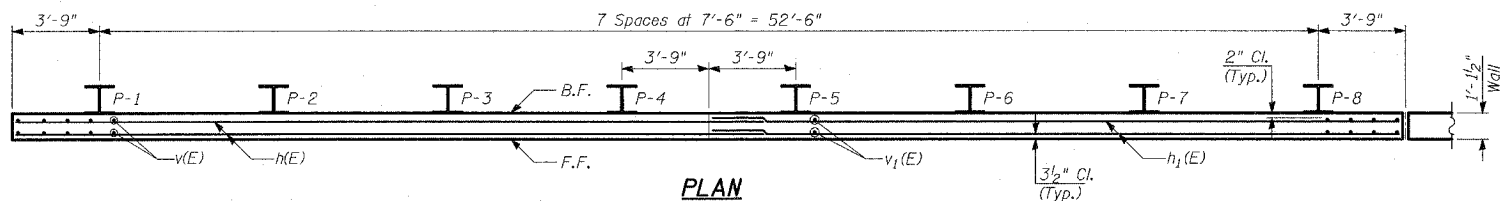
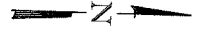
DRAWN BY: DJR,MAF

CHECKED BY: TD, MI

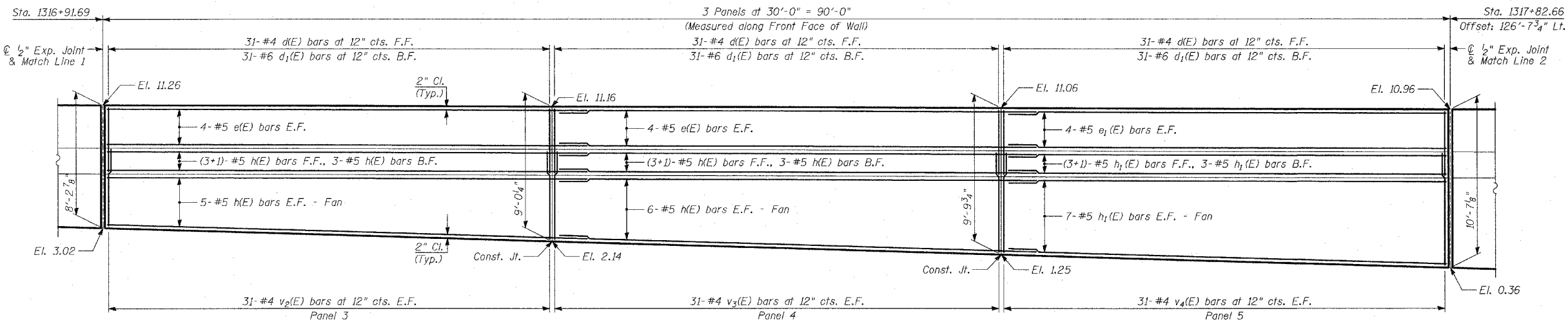
TYLIN INTERNATIONAL



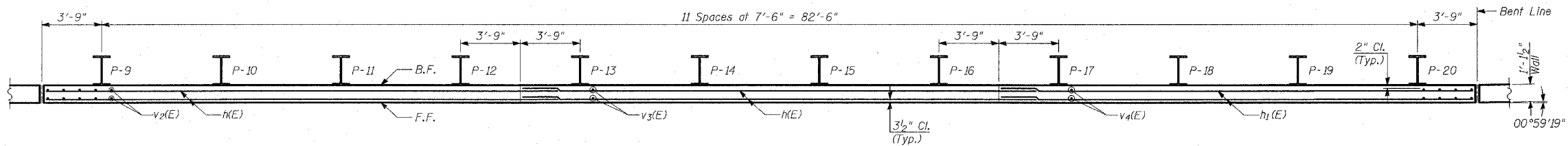
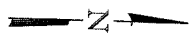
ELEVATION



PLAN



ELEVATION



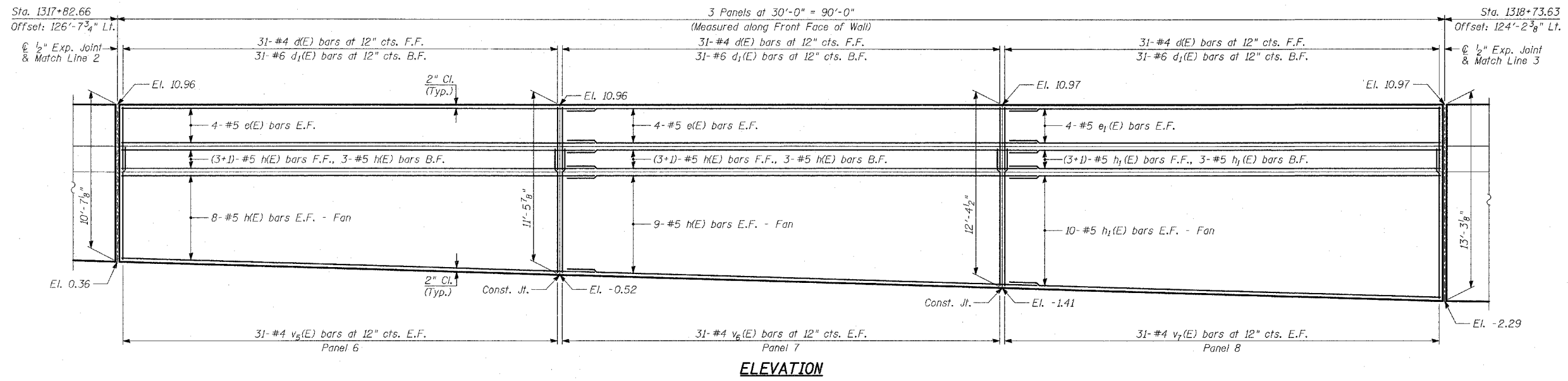
PLAN

- 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 10 and 13 thru 16 of 25.
 5. Pile spacing measured along front face of wall.
 6. For Lap Splices, see Sheet 10 of 25.

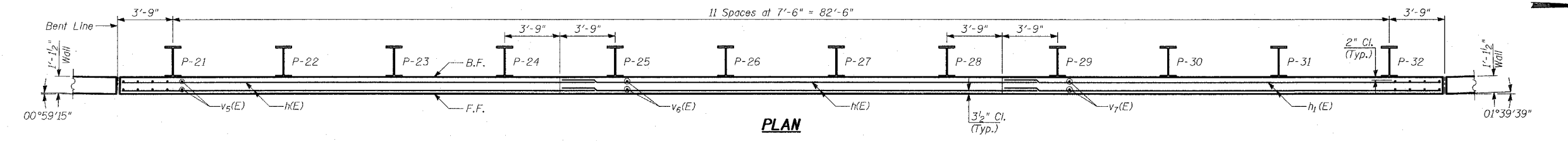
TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

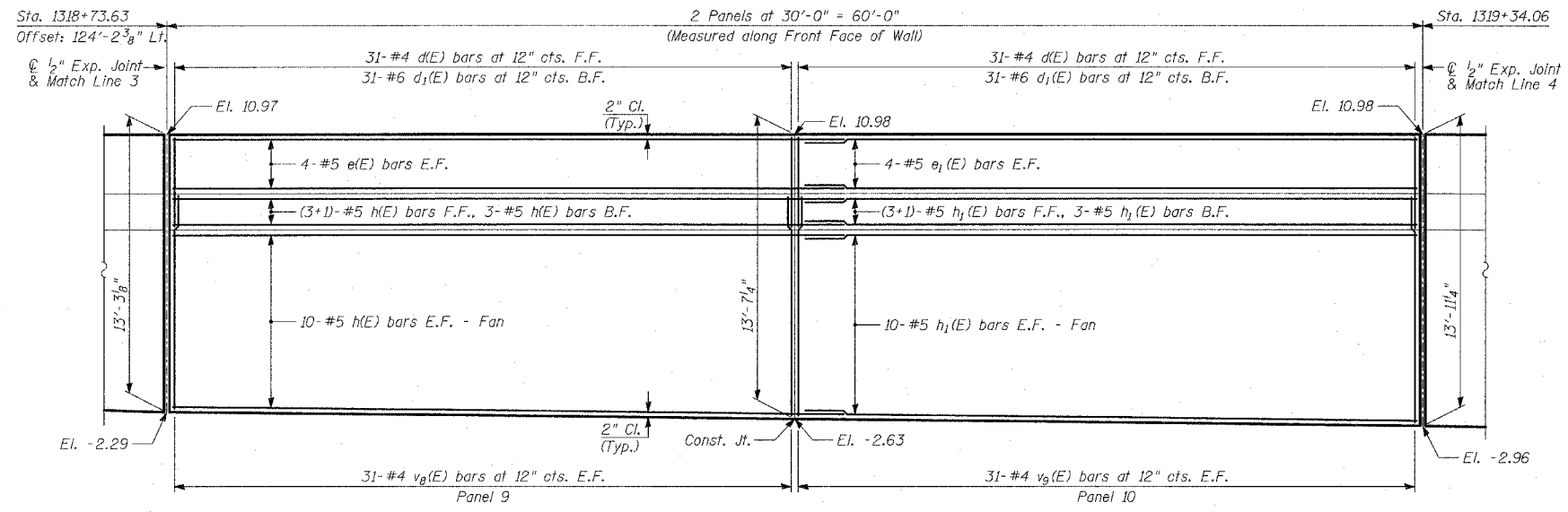
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
77TH PL. TO 78TH ST.
WALL 73A - PLAN AND ELEVATION
STA. 1316+31.03 TO STA. 1317+82.66
 S.N. 016-W972 DESIGNED BY: MI, DJR
 SCALE: N.T.S. DRAWN BY: DJR, SNB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



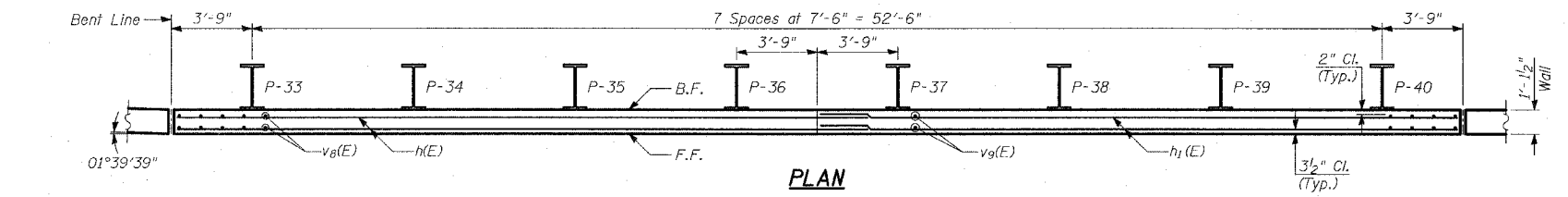
ELEVATION



PLAN



ELEVATION



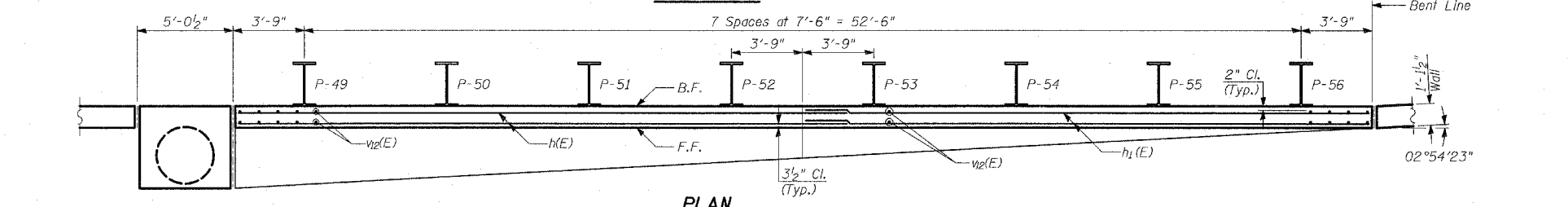
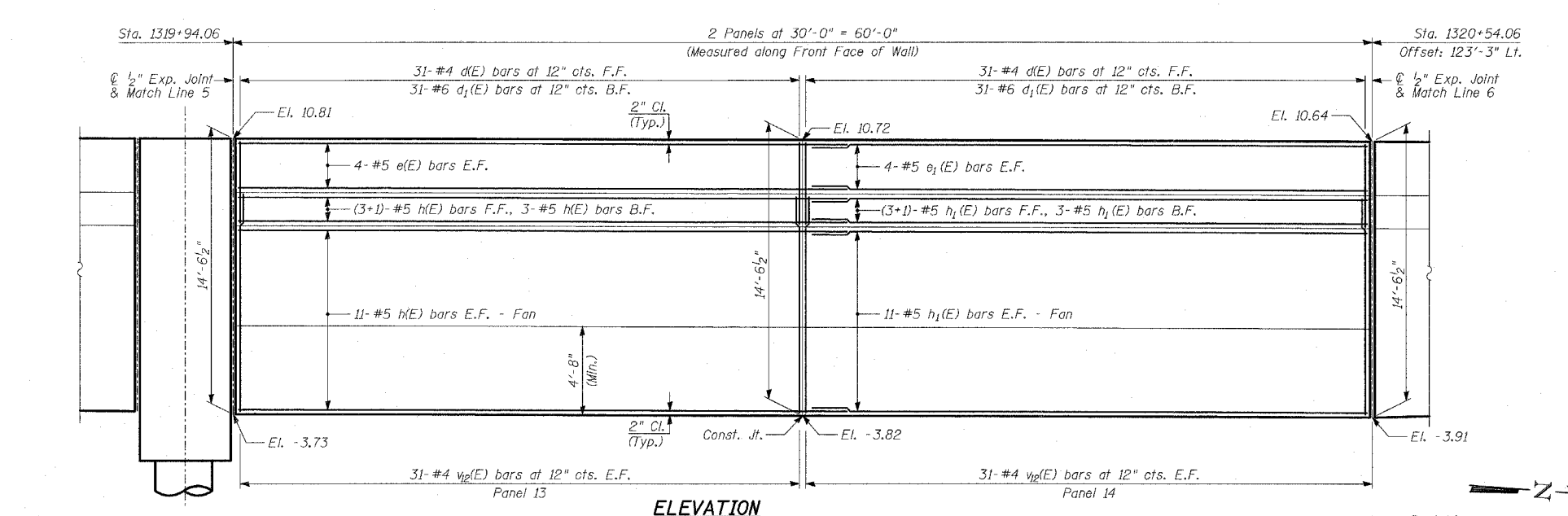
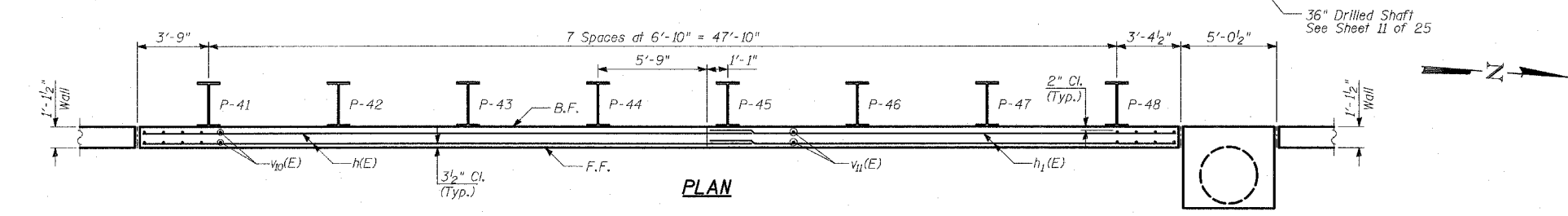
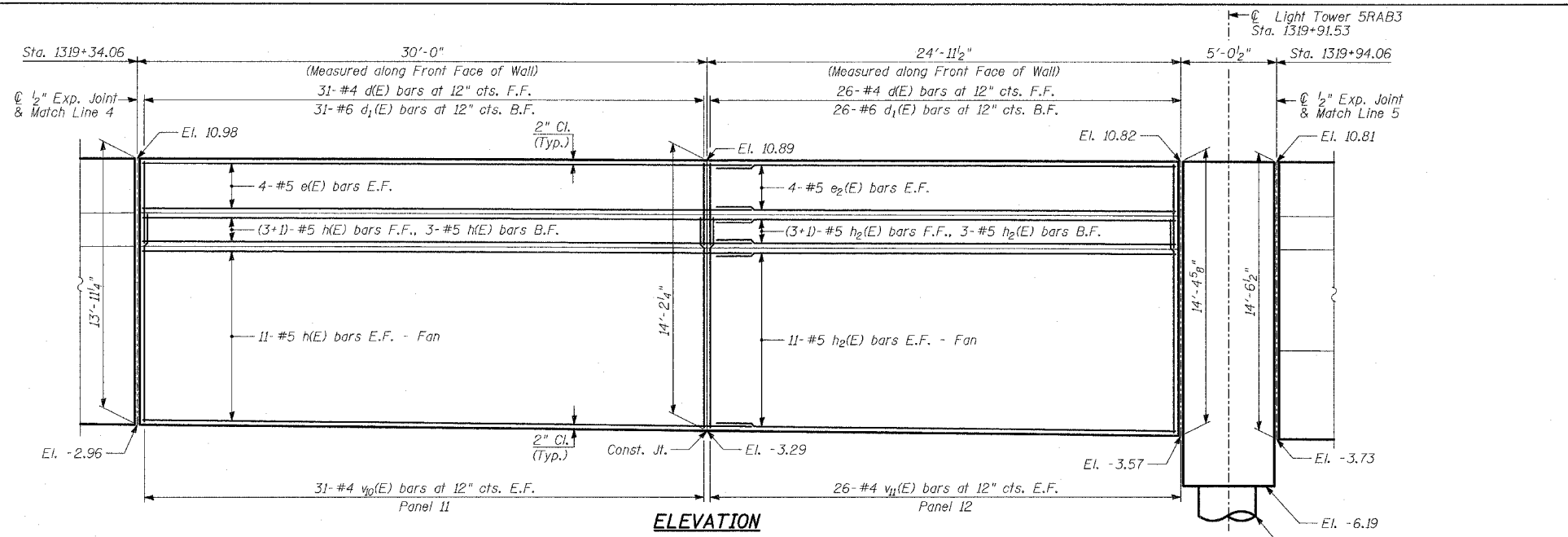
PLAN

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TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
77TH PL. TO 78TH ST.
WALL 73A - PLAN AND ELEVATION
STA. 1317+82.66 TO STA. 1319+34.06
 S.N. 016-W972 DESIGNED BY: MI, DJR
 SCALE: N.T.S. DRAWN BY: DJR, SNB
 DATE: MARCH 25, 2005 CHECKED BY: TD, MI



- NOTES:**
1. B.F. - denotes Back Face.
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 3. F.F. - denotes Front Face.
 4. Work this Sheet with Sheets 8 thru 20 of 25.
 5. Pile spacing measured along front face of wall.
 6. For Lap Splices, see Sheet 10 of 25.

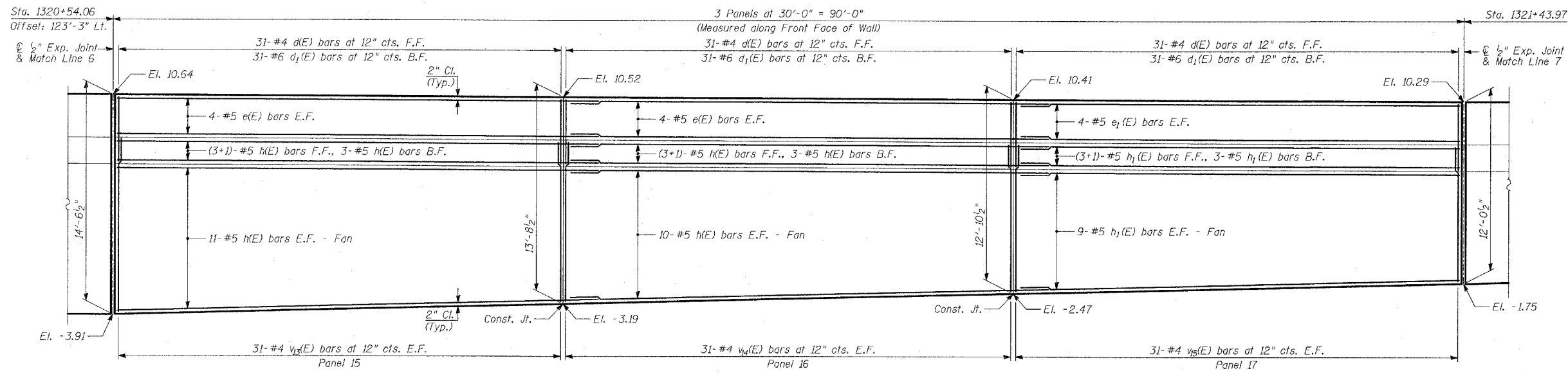
TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

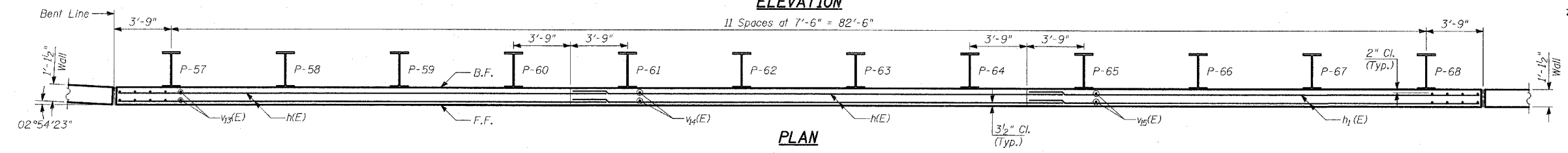
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
77TH PL. TO 78TH ST.
WALL 73A - PLAN AND ELEVATION
STA. 1319+34.06 TO STA. 1320+54.06
 S.N. 016-W972
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

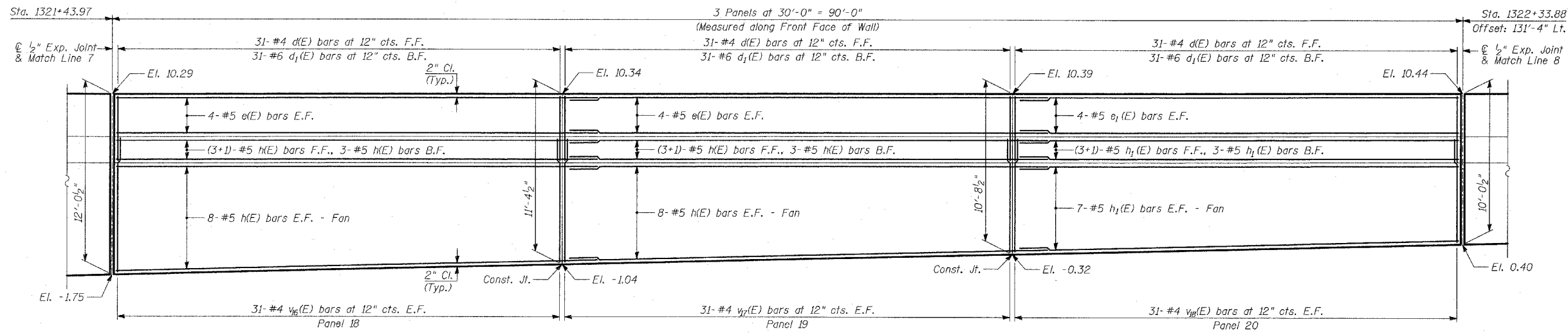
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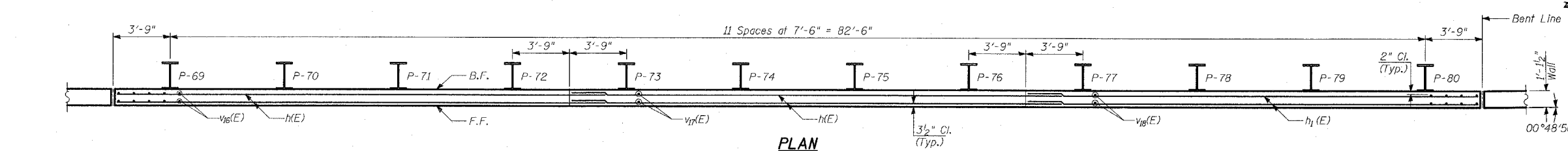
ELEVATION



PLAN



ELEVATION



PLAN

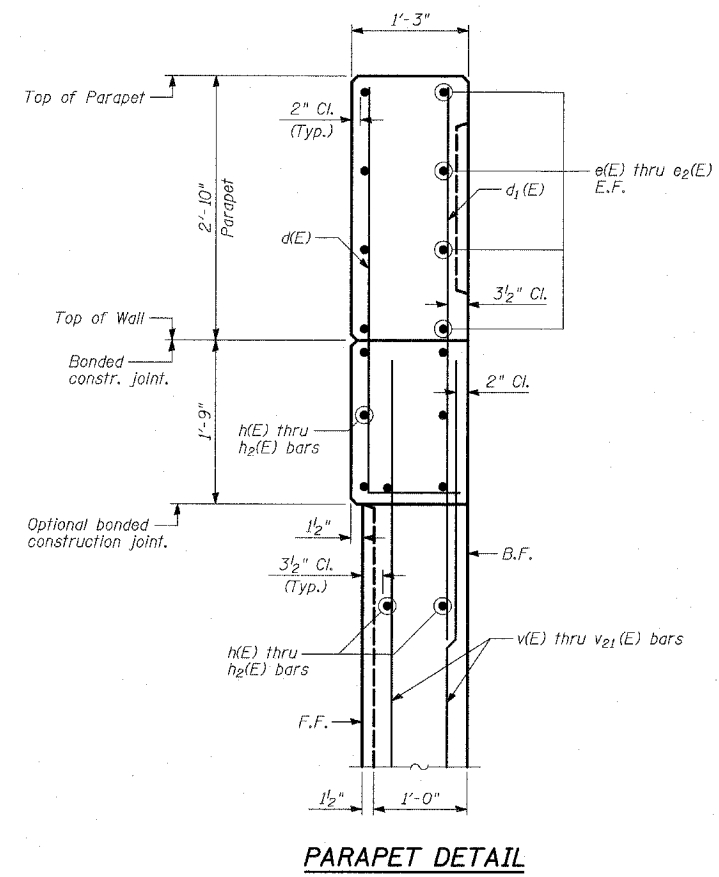
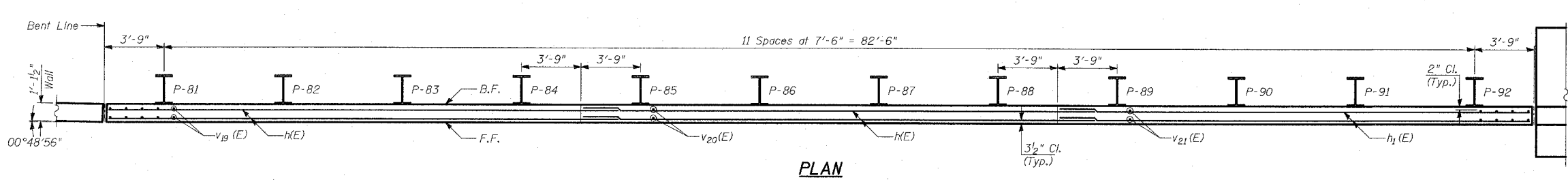
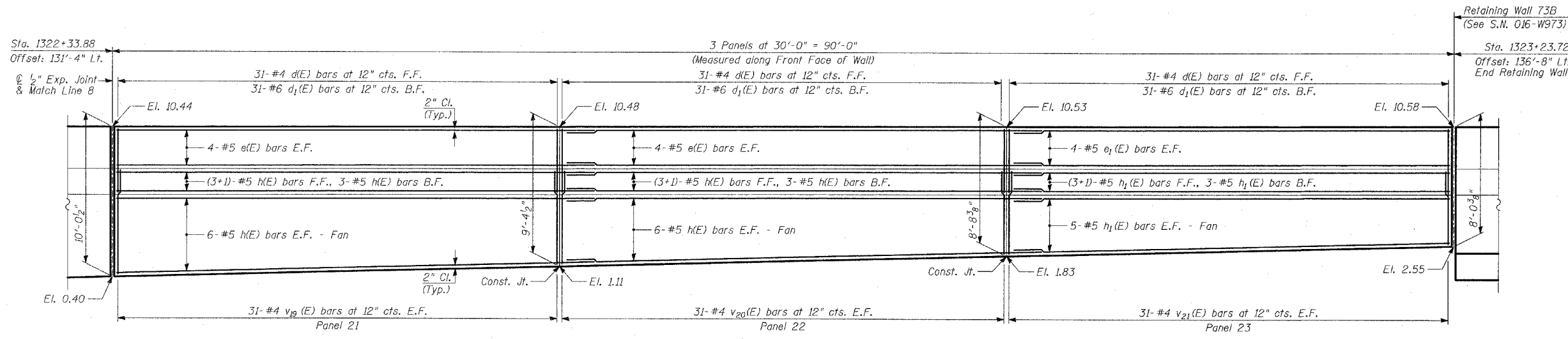
- NOTES:**
1. B.F. - denotes Back Face.
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 3. F.F. - denotes Front Face.
 4. Work this Sheet with Sheets 10 and 13 thru 16 of 25.
 5. Pile spacing measured along front face of wall.
 6. For Lap Splices, see Sheet 10 of 25.

TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 77TH PL. TO 78TH ST.
 WALL 73A - PLAN AND ELEVATION
 STA. 1320+54.06 TO STA. 1322+33.88
 S.N. 016-W972
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

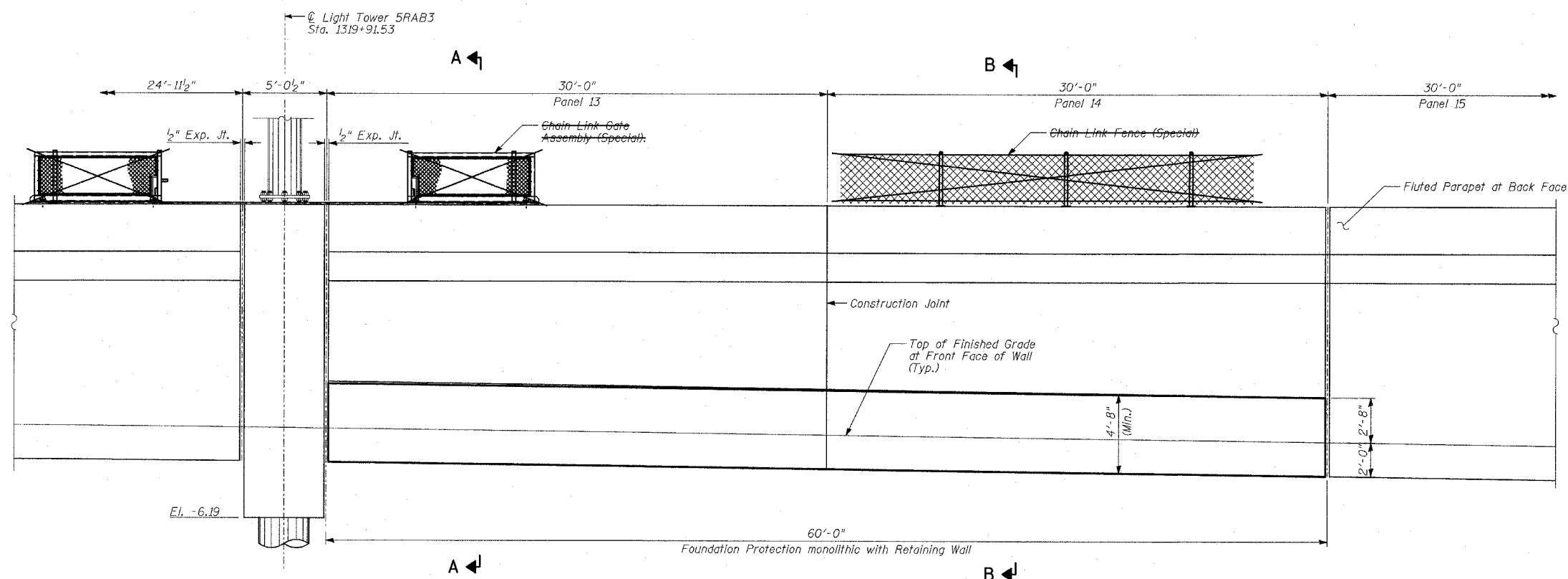
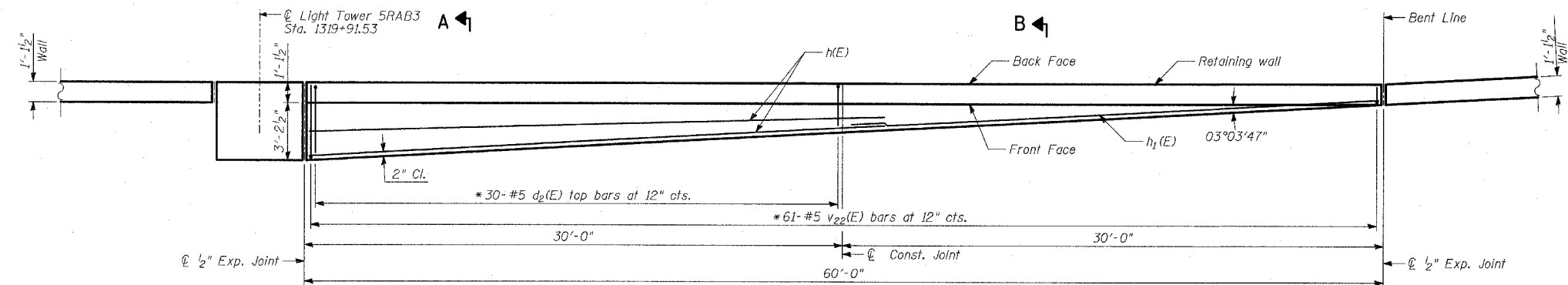


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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
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 STA. 1322+33.88 TO STA. 1323+23.72
 S.N. 016-W972
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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



TYPICAL ELEVATION
HIGH MAST LIGHT TOWER FOUNDATION PROTECTION DETAILS
AT RETAINING WALL

NOTES:

1. For Sections A-A & B-B, see Sheet 9 of 25.

TYLIN INTERNATIONAL

REVISIONS	
NAME	DATE
REVISED	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE
77TH PL. TO 78TH ST.
WALL 73A - TYPICAL HIGH MAST TOWER
FOUNDATION PROTECTION

S.N. 016-W972 DESIGNED BY: DJR, MI
 SCALE: N.T.S. DRAWN BY: DJR
 DATE: MARCH 25, 2005 CHECKED BY: TD

PILE LAYOUT

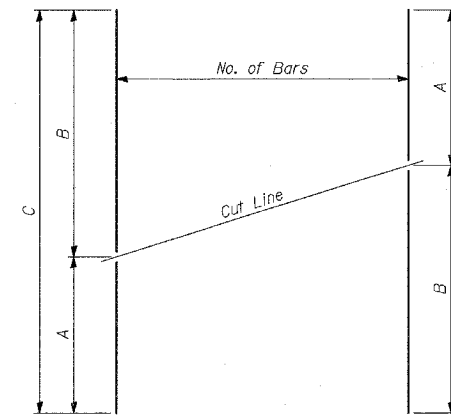
Pile	Station at Working Point	Top of Parapet El.	Top of Pile El.	Bot. of Wall El.	Section	Pile Tip El.	Pile Length
P-1	1316+34.85	11.45	6.95	4.68	HP14x117	-21.38	28'-4"
P-2	1316+42.43	11.42	6.92	4.46	↑	-21.58	28'-6"
P-3	1316+50.02	11.40	6.90	4.24		-21.77	28'-8"
P-4	1316+57.60	11.37	6.87	4.02	↓	-22.04	28'-11"
P-5	1316+65.19	11.35	6.85	3.80		-22.24	29'-1"
P-6	1316+72.77	11.32	6.82	3.58	↑	-22.43	29'-3"
P-7	1316+80.36	11.30	6.80	3.35		-22.70	29'-6"
P-8	1316+87.94	11.27	6.77	3.13	HP14x117	-22.89	29'-8"
P-9	1316+95.52	11.25	6.75	2.91	W21x147	-28.17	34'-11"
P-10	1317+03.11	11.22	6.72	2.69	↑	-28.36	35'-1"
P-11	1317+10.69	11.20	6.70	2.47		-28.55	35'-3"
P-12	1317+18.27	11.17	6.67	2.25	↓	-28.83	35'-6"
P-13	1317+25.85	11.15	6.65	2.03		-29.02	35'-8"
P-14	1317+33.43	11.12	6.62	1.80	↑	-29.21	35'-10"
P-15	1317+41.01	11.10	6.60	1.58		-29.49	36'-1"
P-16	1317+48.60	11.07	6.57	1.36	↓	-29.68	36'-3"
P-17	1317+56.18	11.05	6.55	1.14		-29.87	36'-5"
P-18	1317+63.76	11.02	6.52	0.92	↑	-30.14	36'-8"
P-19	1317+71.34	11.00	6.50	0.70		-30.34	36'-10"
P-20	1317+78.91	10.97	6.47	0.47	W21x147	-30.53	37'-0"
P-21	1317+86.48	10.96	6.46	0.25	W24x176	-30.79	37'-3"
P-22	1317+94.06	10.96	6.46	0.03	↑	-31.04	37'-6"
P-23	1318+01.64	10.96	6.46	-0.19		-31.21	37'-8"
P-24	1318+09.22	10.96	6.46	-0.41	↓	-31.45	37'-11"
P-25	1318+16.80	10.96	6.46	-0.63		-31.70	38'-2"
P-26	1318+24.39	10.96	6.46	-0.85	↑	-31.87	38'-4"
P-27	1318+31.97	10.97	6.47	-1.08		-32.12	38'-7"
P-28	1318+39.55	10.97	6.47	-1.30	↓	-32.37	38'-10"
P-29	1318+47.13	10.97	6.47	-1.52		-32.53	39'-0"
P-30	1318+54.71	10.97	6.47	-1.74	↑	-32.78	39'-3"
P-31	1318+62.29	10.97	6.47	-1.96		-33.03	39'-6"
P-32	1318+69.87	10.97	6.47	-2.18	↓	-33.20	39'-8"
P-33	1318+77.42	10.97	6.47	-2.34		-33.36	39'-10"
P-34	1318+85.00	10.97	6.47	-2.42	↑	-33.44	39'-11"
P-35	1318+92.59	10.97	6.47	-2.50		-33.53	40'-0"
P-36	1319+00.17	10.97	6.47	-2.58	↓	-33.61	40'-1"
P-37	1319+07.75	10.98	6.48	-2.67		-33.69	40'-2"
P-38	1319+15.32	10.98	6.48	-2.75	↑	-33.77	40'-3"
P-39	1319+22.82	10.98	6.48	-2.83		-33.86	40'-4"
P-40	1319+30.32	10.98	6.48	-2.92	W24x176	-33.94	40'-5"
P-41	1319+37.82	10.97	6.47	-3.00	W27x178	-36.03	42'-6"
P-42	1319+44.65	10.95	6.45	-3.07	↓	-36.13	42'-7"
P-43	1319+51.49	10.93	6.43	-3.15		-36.15	42'-7"
P-44	1319+58.32	10.91	6.41	-3.23	↑	-36.26	42'-8"
P-45	1319+65.15	10.89	6.39	-3.30		-36.36	42'-9"
P-46	1319+71.99	10.87	6.37	-3.38	↓	-36.38	42'-9"
P-47	1319+78.82	10.85	6.35	-3.45		-36.48	42'-10"
P-48	1319+85.65	10.83	6.33	-3.53	↑	-36.59	42'-11"
P-49	1319+92.82	10.80	6.30	-3.74		-36.79	43'-1"
P-50	1320+05.32	10.78	6.28	-3.77	↓	-36.81	43'-1"
P-51	1320+12.82	10.75	6.25	-3.79		-36.83	43'-1"
P-52	1320+20.32	10.73	6.23	-3.81	↑	-36.85	43'-1"
P-53	1320+27.82	10.71	6.21	-3.83		-36.87	43'-1"
P-54	1320+35.32	10.69	6.19	-3.85	↓	-36.89	43'-1"
P-55	1320+42.82	10.67	6.17	-3.87		-36.92	43'-1"
P-56	1320+50.32	10.65	6.15	-3.89	↑	-36.94	43'-1"
P-57	1320+57.76	10.62	6.12	-3.82		-35.88	42'-0"
P-58	1320+65.25	10.59	6.09	-3.64	↓	-35.66	41'-9"
P-59	1320+72.74	10.56	6.06	-3.46		-35.52	41'-7"
P-60	1320+80.23	10.54	6.04	-3.28	↑	-35.30	41'-4"
P-61	1320+87.73	10.51	6.01	-3.10		-35.16	41'-2"
P-62	1320+95.22	10.48	5.98	-2.92	↓	-34.94	40'-11"
P-63	1321+02.71	10.45	5.95	-2.74		-34.80	40'-9"
P-64	1321+10.20	10.42	5.92	-2.56	↑	-34.58	40'-6"
P-65	1321+17.70	10.39	5.89	-2.38		W27x178	-34.44

PILE LAYOUT

Pile	Station	Top of Parapet El.	Top of Pile El.	Bot. of Wall El.	Section	Pile Tip El.	Pile Length
P-66	1321+25.19	10.36	5.86	-2.20	W27x178	-34.22	40'-1"
P-67	1321+32.68	10.33	5.83	-2.02	W27x178	-34.08	39'-11"
P-68	1321+40.17	10.31	5.81	-1.84	W27x178	-33.86	39'-8"
P-69	1321+47.67	10.30	5.80	-1.66	W21x147	-29.70	35'-6"
P-70	1321+55.16	10.31	5.81	-1.48	↑	-29.52	35'-4"
P-71	1321+62.65	10.32	5.82	-1.31		-29.35	35'-2"
P-72	1321+70.14	10.33	5.83	-1.13	↓	-29.17	35'-0"
P-73	1321+77.64	10.35	5.85	-0.95		-28.99	34'-10"
P-74	1321+85.13	10.36	5.86	-0.77	↑	-28.81	34'-8"
P-75	1321+92.62	10.37	5.87	-0.59		-28.63	34'-6"
P-76	1322+00.11	10.38	5.88	-0.41	↓	-28.45	34'-4"
P-77	1322+07.61	10.39	5.89	-0.23		-28.27	34'-2"
P-78	1322+15.10	10.41	5.91	-0.05	↑	-28.09	34'-0"
P-79	1322+22.59	10.42	5.92	0.13		-27.92	33'-10"
P-80	1322+30.08	10.43	5.93	0.31	W21x147	-27.74	33'-8"
P-81	1322+37.56	10.44	5.94	0.49	W21x147	-30.56	36'-6"
P-82	1322+45.04	10.45	5.95	0.67	↓	-30.38	36'-4"
P-83	1322+52.53	10.47	5.97	0.85		-30.20	36'-2"
P-84	1322+60.02	10.48	5.98	1.03	↑	-30.02	36'-0"
P-85	1322+67.50	10.49	5.99	1.20		-29.84	35'-10"
P-86	1322+74.99	10.50	6.00	1.38	↓	-29.66	35'-8"
P-87	1322+82.48	10.51	6.01	1.56		-29.49	35'-6"
P-88	1322+89.96	10.53	6.03	1.74	↑	-29.31	35'-4"
P-89	1322+97.45	10.54	6.04	1.92		-29.13	35'-2"
P-90	1323+04.94	10.55	6.05	2.10	↓	-28.95	35'-0"
P-91	1323+12.42	10.56	6.06	2.28		-28.77	34'-10"
P-92	1323+19.91	10.57	6.07	2.46	W21x147	-28.59	34'-8"

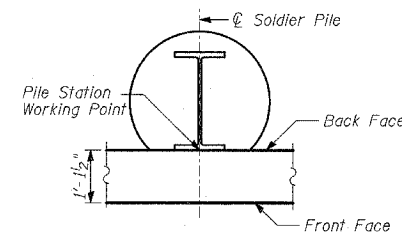
BAR TABLE SCHEDULE

Bar	No. of Sets	No. of Bars Req'd	No. of Bars Per Set	A	B	C
v(E)	1	31	31	3'-7"	4'-4"	7'-11"
v1(E)	1	31	31	4'-4"	5'-1"	9'-5"
v2(E)	1	31	31	5'-1"	5'-11"	11'-0"
v3(E)	1	31	31	5'-11"	6'-8"	12'-7"
v4(E)	1	31	31	6'-8"	7'-6"	14'-2"
v5(E)	1	31	31	7'-6"	8'-4"	15'-10"
v6(E)	1	31	31	8'-4"	9'-3"	17'-7"
v7(E)	1	31	31	9'-3"	10'-2"	19'-5"
v8(E)	1	31	31	10'-2"	10'-6"	20'-8"
v9(E)	1	31	31	10'-6"	10'-10"	21'-4"
v10(E)	1	31	31	10'-10"	11'-1"	21'-11"
v11(E)	1	31	31	11'-1"	10'-7"	22'-0"
v12(E)	1	31	31	10'-7"	9'-9"	20'-4"
v13(E)	1	31	31	9'-9"	8'-11"	18'-8"
v14(E)	1	31	31	8'-11"	8'-3"	17'-2"
v15(E)	1	31	31	8'-3"	7'-7"	15'-10"
v16(E)	1	31	31	7'-7"	6'-11"	14'-6"
v17(E)	1	31	31	6'-11"	6'-3"	13'-2"
v20(E)	1	31	31	6'-3"	5'-7"	11'-10"
v21(E)	1	31	31	5'-7"	4'-11"	10'-6"

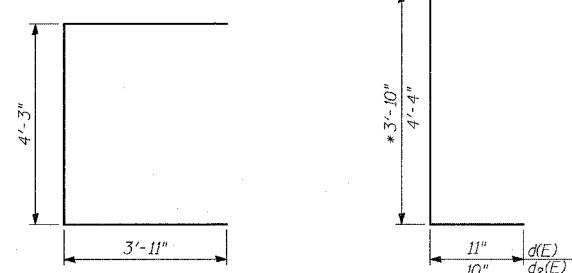


SERIES OF BAR CUTTING DIAGRAM

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



SOLDIER PILE WORKING POINT



BARS *v22(E) and BARS d1(E) and d2(E)
* Cut bars to fit in field.

LAP SPLICES

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

REVISIONS	
NAME	DATE

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d1(E)	708	#4	5'-3"	L
d1(E)	708	#6	6'-6"	—
d2(E)	30	#5	4'-8"	L
e(E)	112	#5	32'-2"	—
e1(E)	64	#5	29'-8"	—
e2(E)	8	#5	24'-8"	—
h(E)	331	#5	32'-2"	—
h1(E)	189	#5	29'-8"	—
h2(E)	29	#5	24'-8"	—
v(E)	31	#4	7'-11"	—
v1(E)	31	#4	9'-5"	—
v2(E)	31	#4	11'-0"	—
v3(E)	31	#4	12'-7"	—
v4(E)	31	#4	14'-2"	—
v5(E)	31	#4	15'-10"	—
v6(E)	31	#4	17'-7"	—
v7(E)	31	#4	19'-5"	—
v8(E)	31	#4	20'-8"	—
v9(E)	31	#4	21'-4"	—
v10(E)	31	#4	21'-11"	—
v11(E)	52	#4	11'-2"	—
v12(E)	124	#4	11'-5"	—
v13(E)	31	#4	22'-0"	—
v14(E)	31	#4	20'-4"	—
v15(E)	31	#4	18'-8"	—
v16(E)	31	#4	17'-2"	—
v17(E)	31	#4	15'-10"	—
v18(E)	31	#4	14'-6"	—
v19(E)	31	#4	13'-2"	—
v20(E)	31	#4	11'-10"	—
v21(E)	31	#4	10'-6"	—
v22(E)	61	#5	12'-1"	C

Reinforcement Bars, Epoxy Coated	POUND	41,310
Concrete Structures	CU YD	359
Protective Coat	SQ YD	1041
Furnishing Soldier Piles (HP Section)	FOOT	232
Furnishing Soldier Piles (W Section)	FOOT	3,233
Drilling and Setting Soldier Piles (in Soil)	CU FT	22,031

Reinforcement bars designated (E) shall be epoxy coated.

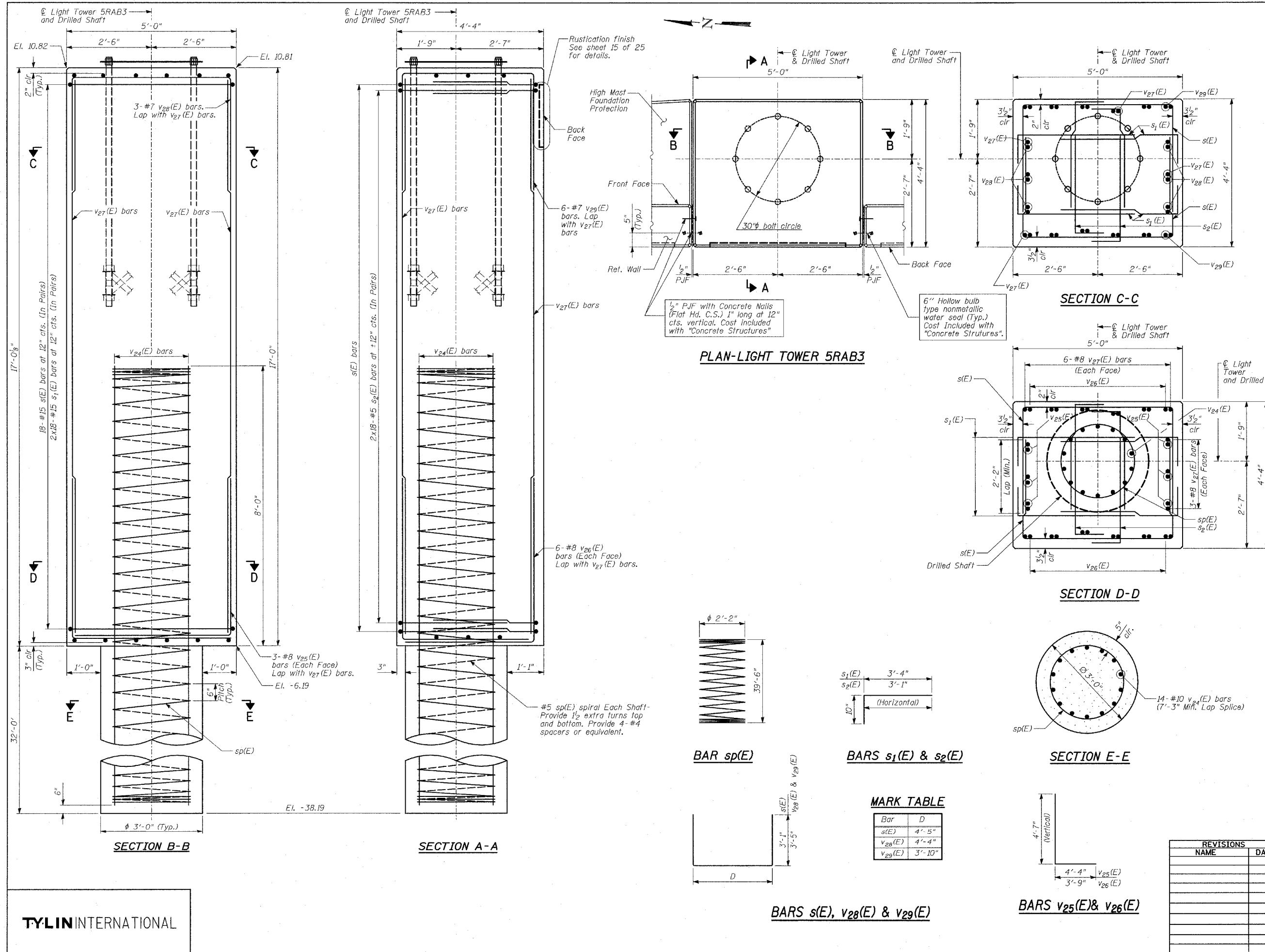
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
s(E)	36	#5	10'-7"	┌
s ₁ (E)	72	#5	4'-2"	┌
s ₂ (E)	72	#5	3'-11"	┌
sp(E)	1	#5	39'-6"	
v ₂₄ (E)	14	#10	39'-6"	—
v ₂₅ (E)	6	#8	8'-11"	┌
v ₂₆ (E)	12	#8	8'-4"	┌
v ₂₇ (E)	18	#8	16'-6"	—
v ₂₈ (E)	3	#7	11'-2"	┌
v ₂₉ (E)	6	#7	10'-8"	┌
Reinforcement Bars, Epoxy Coated		POUND	5,370	
Structure Excavation		CU YD	22	
Concrete Structures		CU YD	14	
Protective Coat		SQ YD	20	
Rustication Finish		SQ FT	8	
Drilled Shaft in Soil 36"		FOOT	32	

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 5 of 25.
- Conduit is not shown for clarity. For location of conduit, see Sheet 12 of 25.
- Cost of anchor rod assembly, conduit and wires for grounding are included with "Concrete Structures".
- Minimum lap for spirals = 2'-6"

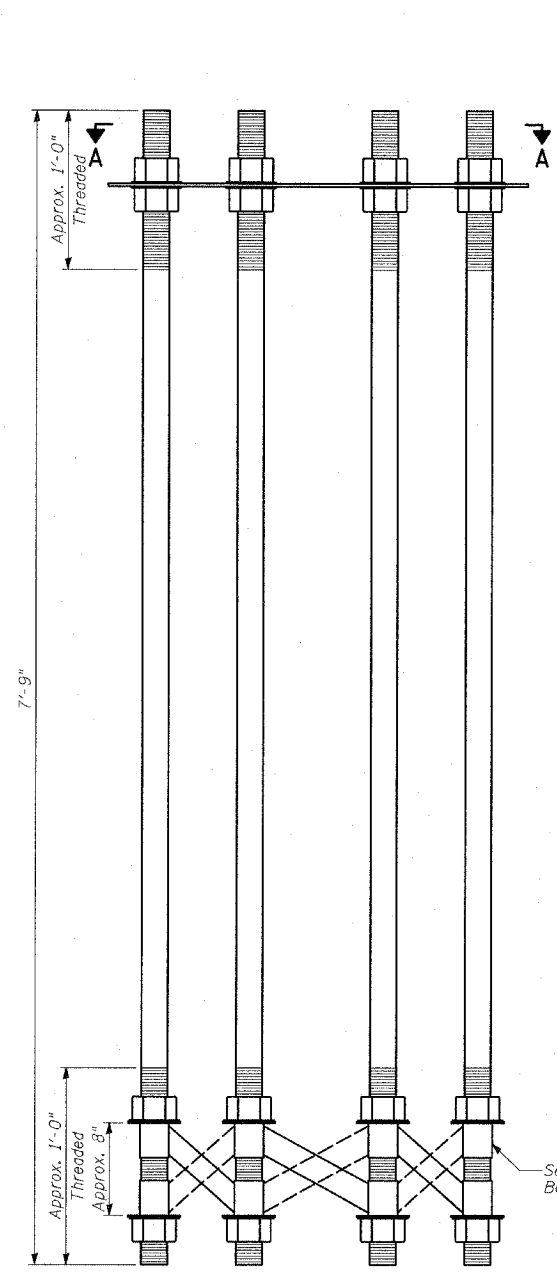


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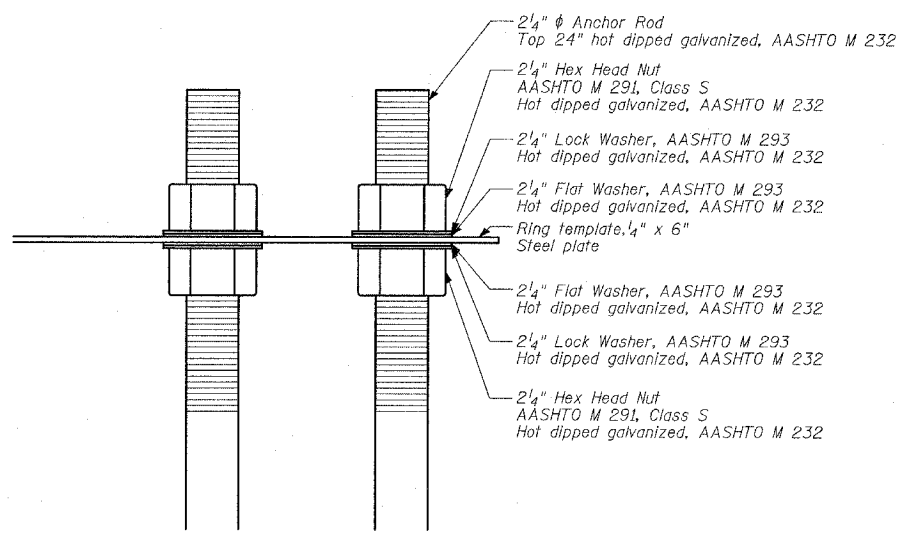
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 77TH PL. TO 78TH ST.
 WALL 73A - LIGHT TOWER 5RAB3
 FOUNDATION DETAILS

S.N. 016-W972
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

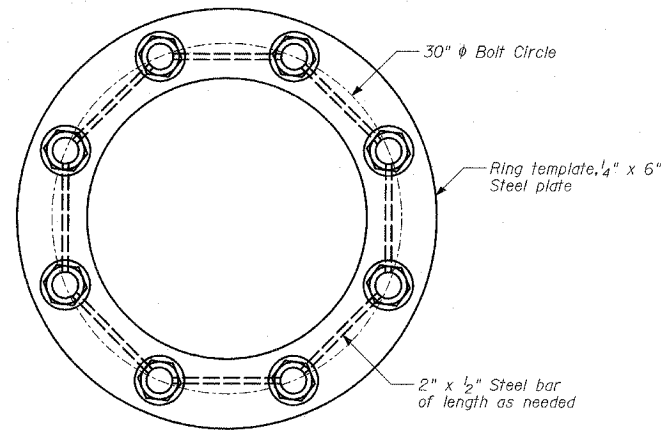
DESIGNED BY: TD, MAF
 DRAWN BY: MAF, DJR
 CHECKED BY: MI, TD



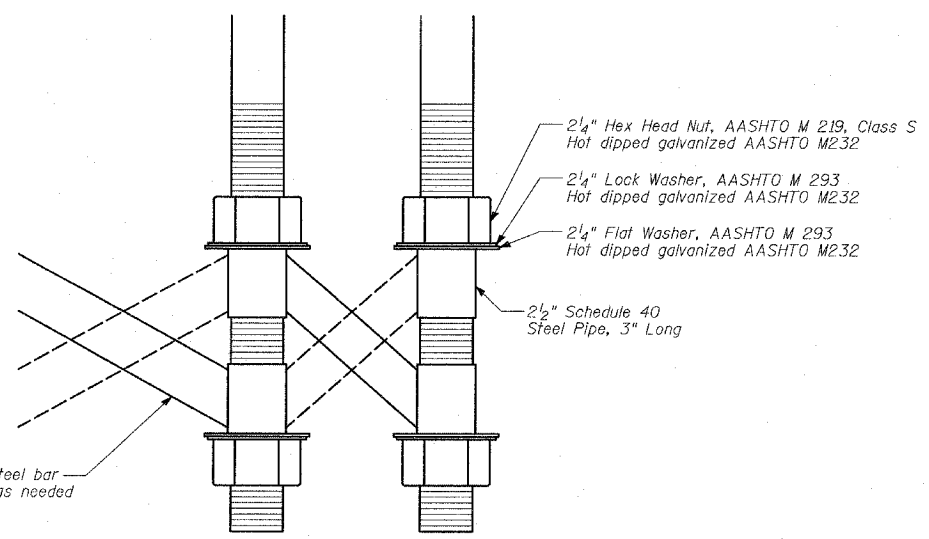
ANCHOR BOLT CAGE



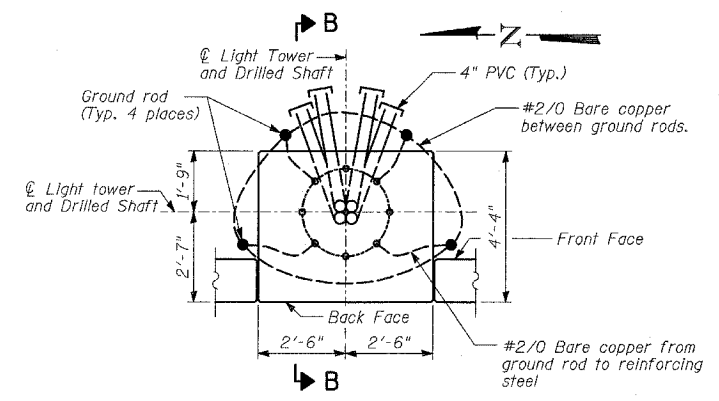
BOLT CAGE TOP



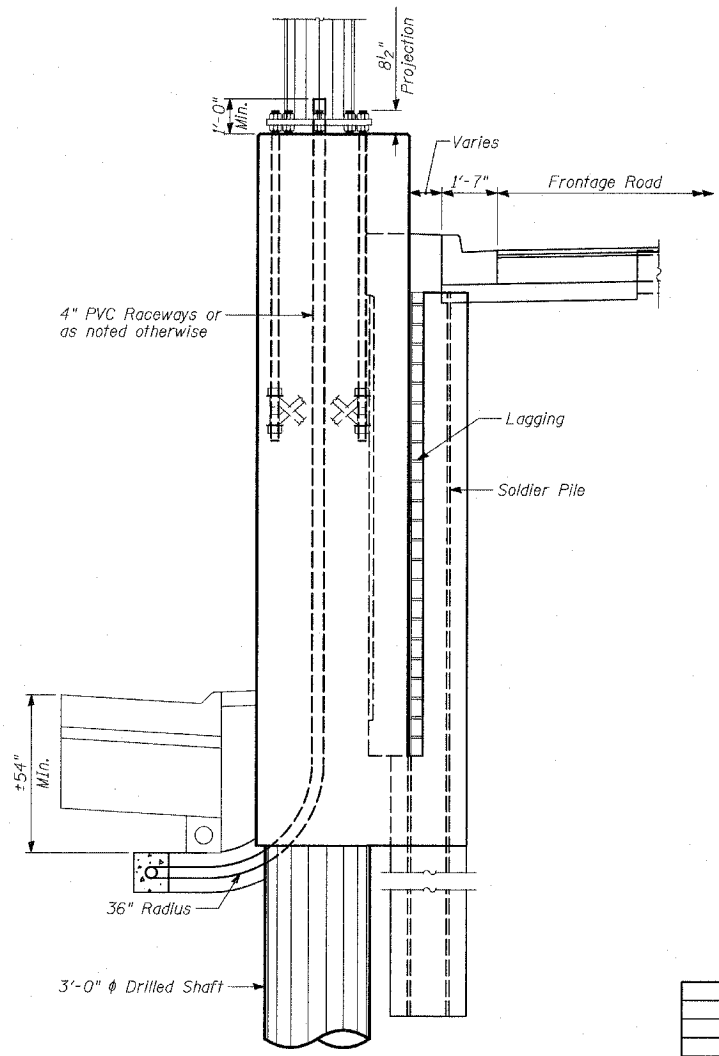
SECTION A-A



BOLT CAGE BOTTOM



PLAN - 60MN2 CONDUIT PLACEMENT



SECTION B-B

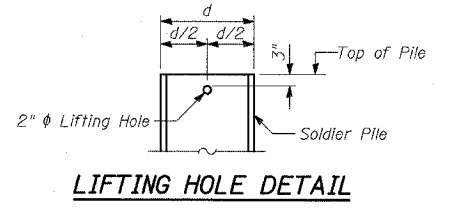
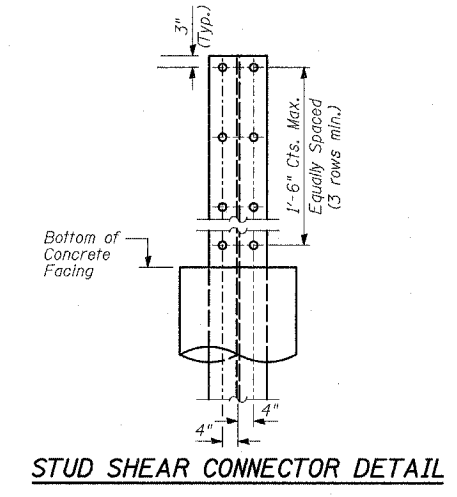
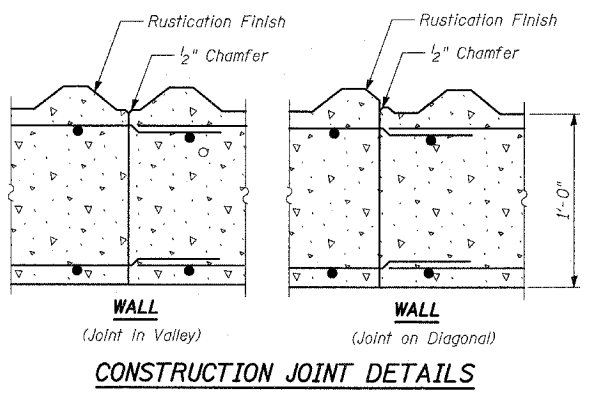
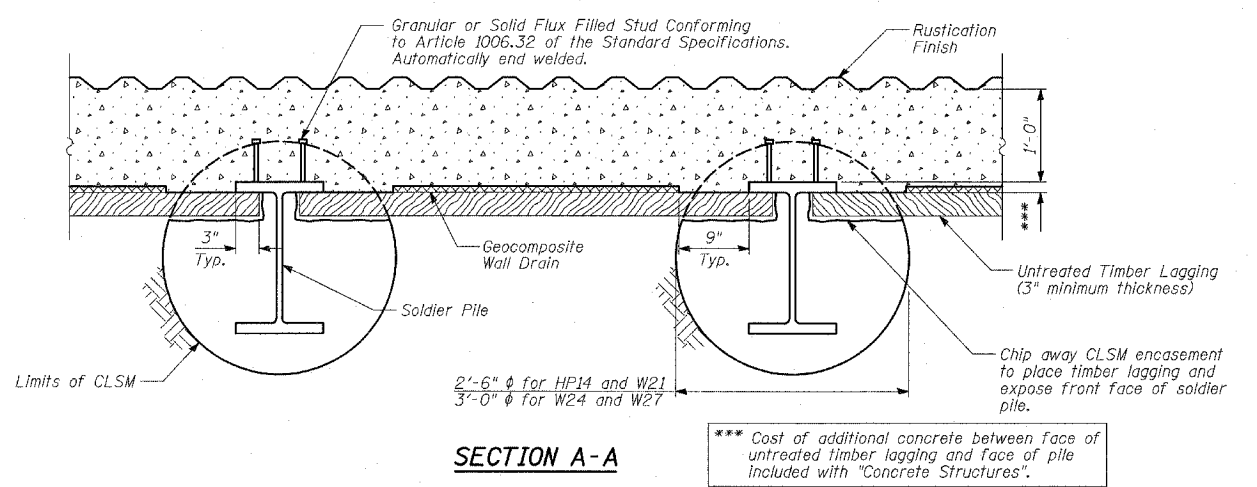
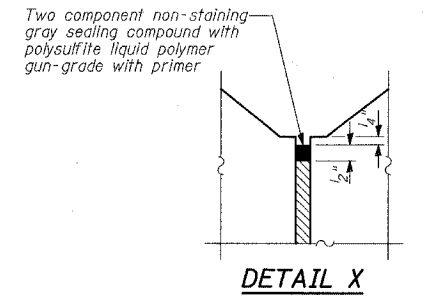
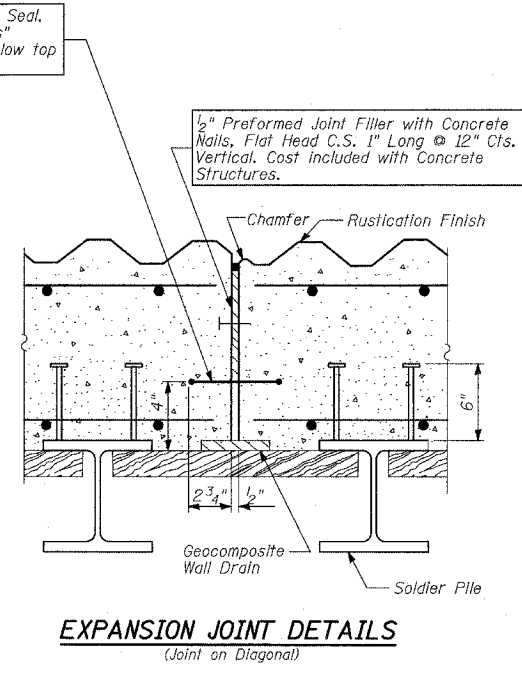
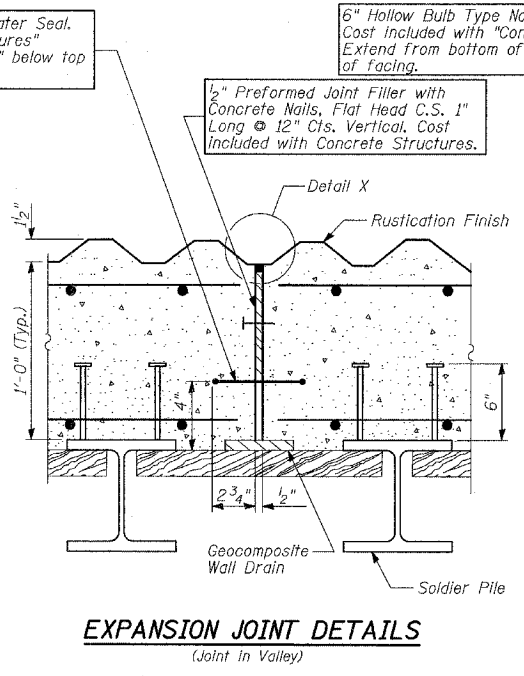
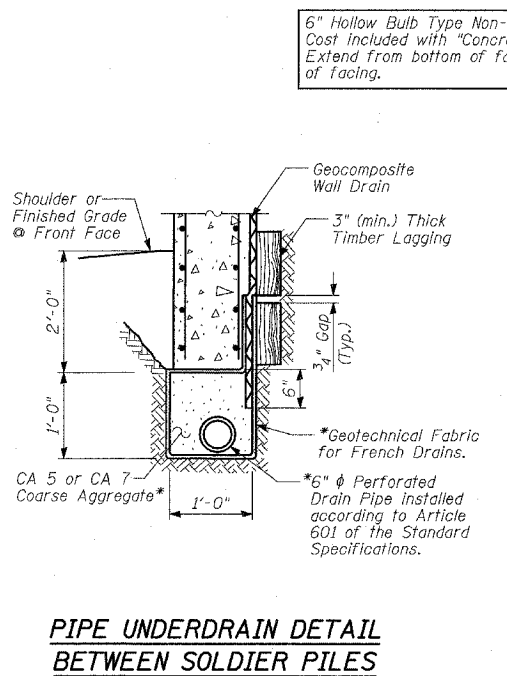
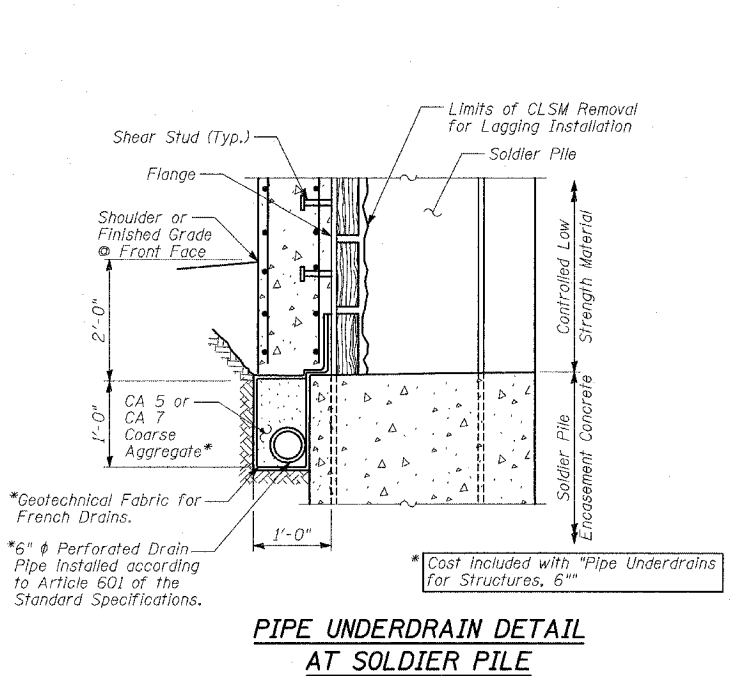
NOTES:

- 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. Cost included with "Light Tower" in Contract 62583.
- 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 BE501 for details.

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94 (DAN RYAN EXPRESSWAY)
RETAINING WALL ALONG LAFAYETTE AVE.
77TH PL. TO 78TH ST.
WALL 73A
LIGHT TOWER DETAILS
 S.N. 016-W972 DESIGNED BY: TD, DJR
 SCALE: N.T.S. DRAWN BY: DJR
 DATE: MARCH 25, 2005 CHECKED BY: MI, TD



- 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.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	CU YD	712
Stud Shear Connectors	EACH	1,042
Untreated Timber Lagging	SQ FT	4,757
Geocomposite Wall Drain	SQ YD	567
Pipe Underdrains for Structures, 6"	FOOT	690

REVISIONS

NAME	DATE

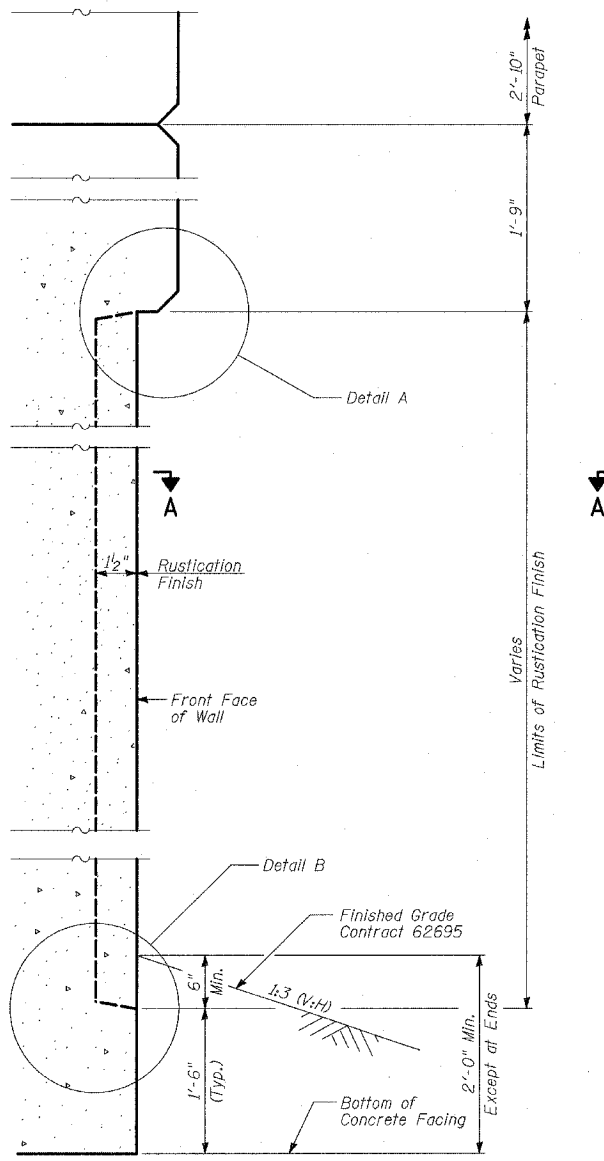
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 77TH PL. TO 78TH ST.
 WALL 73A
 WALL CROSS SECTIONS & DETAILS (2 OF 2)
 S.N. 016-W972
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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

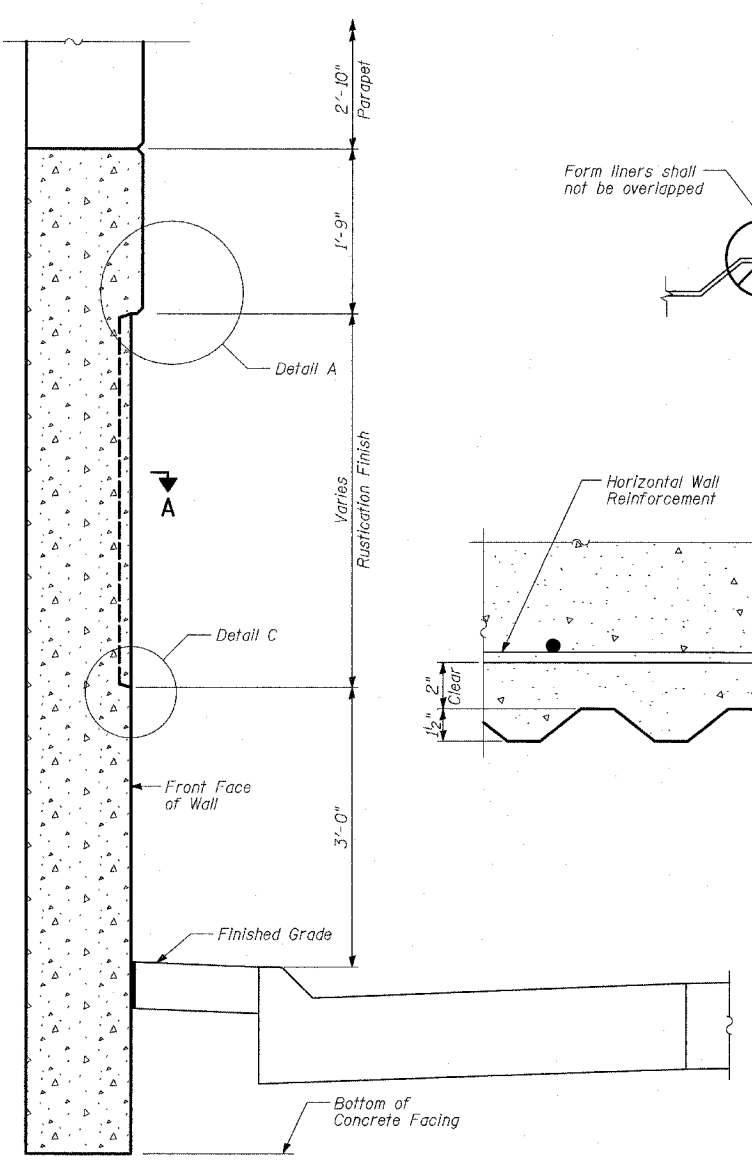
TYLIN INTERNATIONAL

F.A.I. RTE. 94	SECTION •	COUNTY COOK	TOTAL SHEETS 907	SHEET NO. 600
STA. 1200+00.00 TO STA. 1365+00		ILLINOIS FED. AID PROJECT		
FED. ROAD DIST. NO.		• (1516.1, 1717 & 1818) R-9		

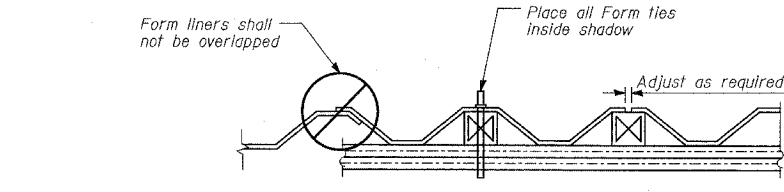
62695



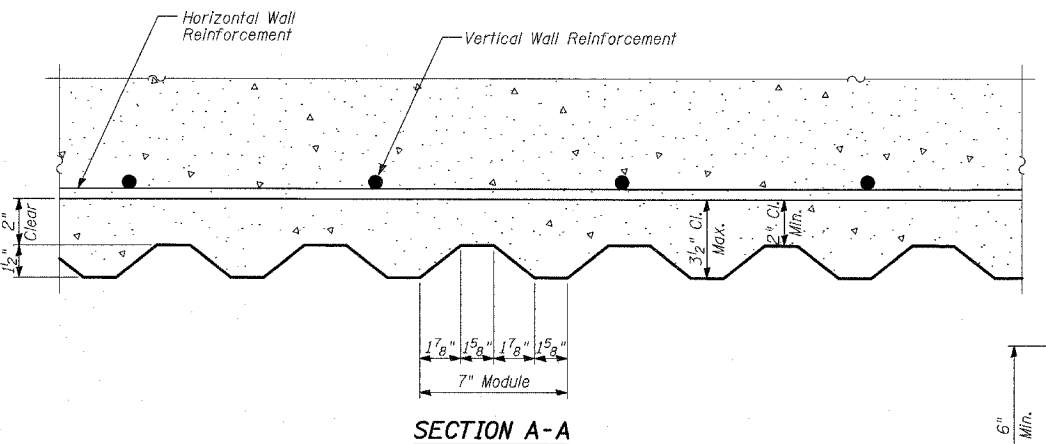
WALL DETAIL
(Wall at Embankment)



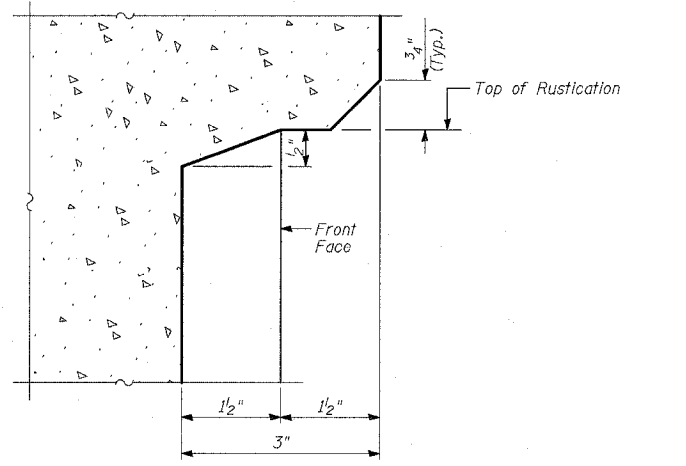
WALL DETAIL
(Wall at Curb)



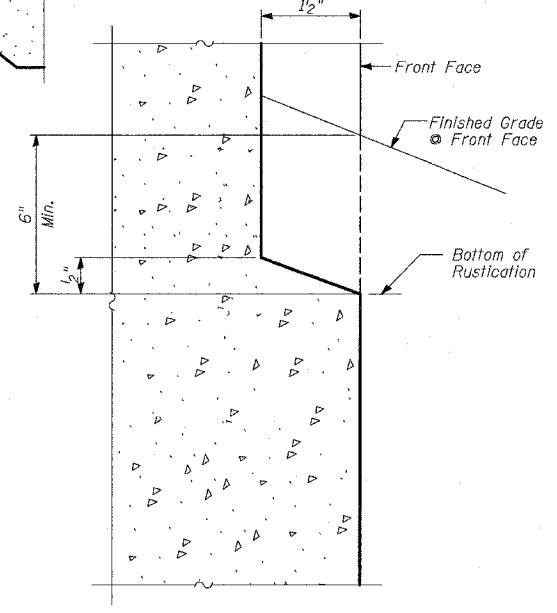
SUGGESTED FORMWORK DETAIL



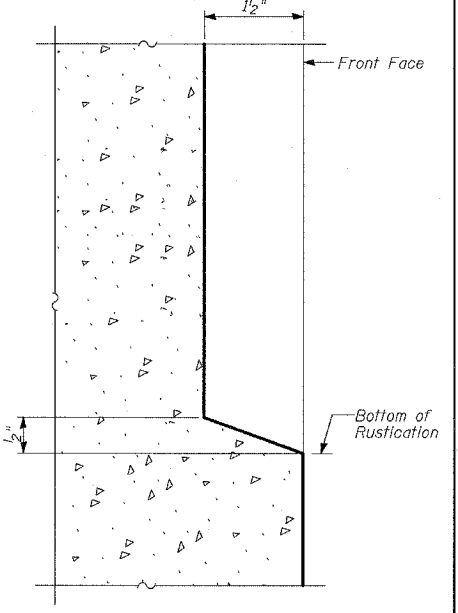
SECTION A-A



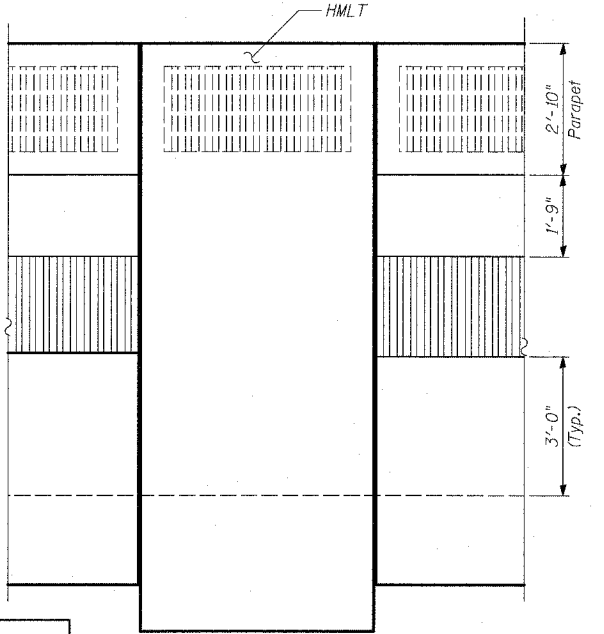
DETAIL A



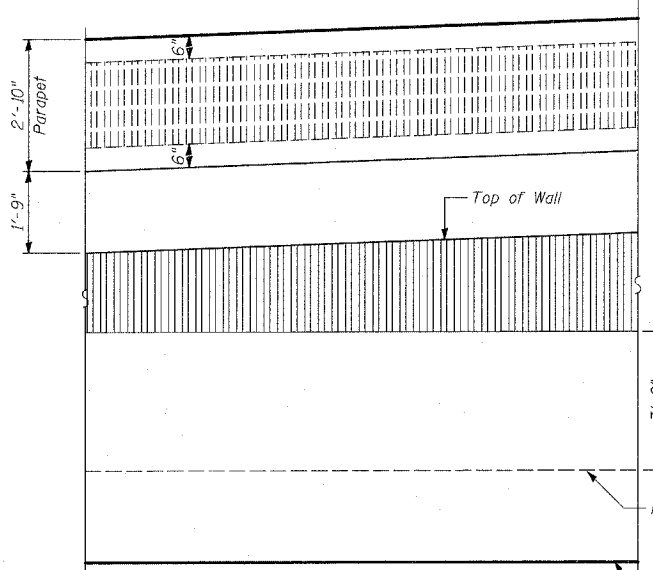
DETAIL B



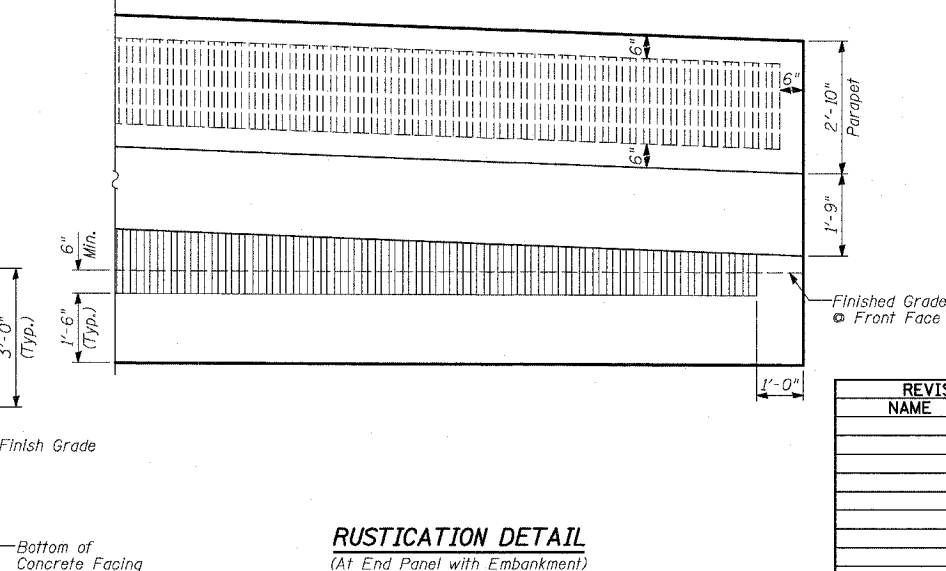
DETAIL C



RUSTICATION DETAIL
(At HMLT Panel with Curb)



RUSTICATION DETAIL
(At Interior Panel with Curb)



RUSTICATION DETAIL
(At End Panel with Embankment)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Rustication Finish	SQ FT	3,365

NOTES

1. See Sheet 14 of 25 for expansion and construction joint details.

SHEET 15 OF 25

REVISIONS	
NAME	DATE
REVISIONED	04/15/05

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94 (DAN RYAN EXPRESSWAY)
 RETAINING WALL ALONG LAFAYETTE AVE.
 77TH PL. TO 78TH ST.
 WALL 73A
 RUSTICATION DETAILS
 S.N. 016-W972
 SCALE: N.T.S.
 DATE: MARCH 25, 2005

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