LETTING DATE 10-16-07

BRFIM-080-1(308)2--05-78

POTTAWATTAMIE COUNTY

POTTAWATTAMIE COUNTY - DESIGN NO. 508

CONVENTIONAL SIGNS

- DIVIDED HIGHWAY
- PAVED ROAD
- BITUMINOUS ROAD
- GRAVEL ROAD
- EARTH ROAD
- INTERSTATE HIGHWAY
- UNITED STATES HIGHWAY
- STATE HIGHWAY
- COUNTY HIGHWAY
- RAILROAD
- PIPELINE
- AIRPORT
- HYDROLOGY
- BRIDGE
- STATE BOUNDARY
- COUNTY BOUNDARY
- CORPORATE LIMIT LINE
- TOWNSHIP LINE
- SECTION LINE

Iowa Department of Transportation

Highway Division

PLANS OF PROPOSED IMPROVEMENTS ON THE

INTERSTATE ROAD SYSTEM

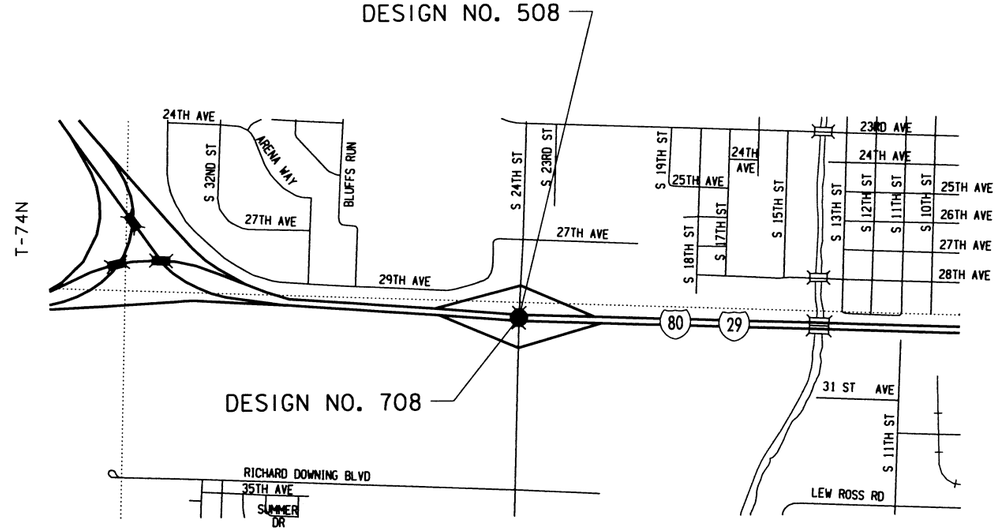
POTTAWATTAMIE COUNTY

BRIDGE REPLACEMENT-STEEL GIRDER ON 24TH STREET OVER I-80

THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2001, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS SHALL APPLY TO CONSTRUCTION WORK ON THIS PROJECT.

VALUE ENGINEERING SAVES. REFER TO THE GENERAL NOTES IN THESE PLANS.

DESIGN NO. 508



DESIGN NO. 708

N

LOCATION MAP

(PART OF CITY OF COUNCIL BLUFFS)

ALL WORKING DRAWINGS INCLUDING SHOP DRAWINGS AND FALSEWORK DRAWINGS WILL BE REVIEWED BY:

HDR ENGINEERING
BRIDGE SECTION
8404 INDIAN HILLS DRIVE
OMAHA, NE 68114

PROJECT DIRECTORY NAME: P8921997 / 7802901004

TOTAL SHEETS
66
PROJECT NUMBER
BRFIM-080-1(308)2--05-78
R.O.W. PROJECT NUMBER
PROJECT IDENTIFICATION NUMBER
04-78-029-010-02

INDEX OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2-3	GENERAL NOTES
4	BRIDGE ESTIMATE SHEET
5-63	BRIDGE DESIGN NO. 508
1-18	TERRACE WALLS DESIGN NO. 708
SPS.01-SPS.03	SOIL PROFILE SHEET

ENGLISH STANDARD BRIDGE PLANS

STANDARD	ISSUED	REVISED

STANDARD ROAD PLANS

STANDARD ROAD PLANS ARE LISTED ON SHEET 5

TRAFFIC ESTIMATE (24TH STREET)

A.A.D.T. = 15,000 VPD (2004)
A.A.D.T. = 24,400 VPD (2030)
D.H.V. = 2,930 VPH (2030)
19% TRUCKS

REVISIONS

SEE REVISION SHEET 1A 11-20-07

INDEX OF SEALS

SHEET NO.	NAME	TYPE
1	HUSSEIN H. KHALIL	STRUCTURAL DESIGN
SPS.01	ROBERT L. STANLEY	SOILS DESIGN

STRUCTURAL DESIGN

LICENSED PROFESSIONAL ENGINEER Hussein H. Khalil 18219 IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Signature Date 11/24/07

Hussein H. Khalil

Printed or Typed Name

My license renewal date is December 31, 2008

Pages or sheets covered by this seal: SHEETS 1 THRU 81 OF 81

DESIGN TEAM: HDR	ENGLISH	IOWA DOT * OFFICE OF BRIDGES AND STRUCTURES	FILE NO. 30169	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRFIM-080-1(308)2--05-78	SHEET NUMBER 1

C:\PWworking\OMA\d0217897\78080308.brg

LISTING OF PROJECT REVISIONS

DATE	SHEET NUMBER	DESCRIPTION OF REVISIONS
11-20-07	1A	REVISION SHEET ADDED.
11-20-07	65-76	WALL ELEVATIONS REVISED.
		REASON: GRADING CHANGES TO ACCOMMODATE 3' BERM IN FRONT OF ABUTMENTS.
11-20-07	80 & 81	SUBDRAIN ELEVATIONS REVISED.
		REASON: REVISED WALL ELEVATIONS.

DATE	SHEET NUMBER	DESCRIPTION OF REVISIONS

POTTAWATTAMIE COUNTY
DESIGN NOS. 508 & 708
REVISION SHEET
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM HHK/ /ACB | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 1A

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg

BENCH MARK NO. 521 - CUT "X" SW BOLT LUM BASE STA. 388+04.30, 65.50' RT ELEVATION 977.42

G = +0.0000% G = -0.5041% G = +0.0000%

V.P.I. STA. 34+12.27 ELEV. ~~983.20~~ 984.79
V.P.I. STA. 34+99.33 ELEV. ~~983.20~~ 984.79
V.P.I. STA. 36+18.35 ELEV. ~~982.60~~ 984.19
V.P.I. STA. 36+70.16 ELEV. ~~982.60~~ 984.19

TOP OF WALL PROFILE GRADE ON WALL SO

G = +0.0000%

V.P.I. STA. 14+76.42 ELEV. ~~988.20~~ 989.90
V.P.I. STA. 15+36.21 ELEV. ~~988.20~~ 989.90

TOP OF WALL PROFILE GRADE ON WALL SW

G = +0.0000%

V.P.I. STA. 57+40.28 ELEV. ~~988.90~~ 989.84
V.P.I. STA. 58+06.42 ELEV. ~~988.90~~ 989.84

TOP OF WALL PROFILE GRADE ON WALL NW

G = +0.0000% G = +0.5093% G = +0.0000%

V.P.I. STA. 47+10.92 ELEV. ~~982.60~~ 984.12
V.P.I. STA. 47+71.05 ELEV. ~~982.60~~ 984.12
V.P.I. STA. 49+22.25 ELEV. ~~983.37~~ 984.89
V.P.I. STA. 49+90.83 ELEV. ~~983.37~~ 984.89

TOP OF WALL PROFILE GRADE ON WALL NO

G = +0.0000%

V.P.I. STA. 24+14.38 ELEV. ~~988.20~~ 989.90
V.P.I. STA. 24+78.42 ELEV. ~~988.20~~ 989.90

TOP OF WALL PROFILE GRADE ON WALL SE

G = +0.0000%

V.P.I. STA. 69+12.08 ELEV. ~~989.20~~ 989.84
V.P.I. STA. 69+86.08 ELEV. ~~989.20~~ 989.84

TOP OF WALL PROFILE GRADE ON WALL NE

CURVE DATA

ON WALL SW

P.I. STA = 15+21.99
P.C. STA. = 14+98.59
P.T. STA. = 15+36.21
Δ = 86°13'50" (LT)
T = 23.407'
L = 37.625'
E = 9.248'
R = 25.000'

END WALL SO
STA. 36+70.16 = 40175+17.25, 113.07' LT. 24TH ST.

END WALL SW
STA. 15+36.21 = 40175+06.90, 100.95' LT. 24TH ST.

BEGIN WALL SW
STA. 14+76.42 = 40175+30.25, 53.83' LT. 24TH ST.

INLET & DRAINAGE STRUCTURE (TYP. 4 LOCATIONS) SEE ROADWAY PLANS FOR LOCATION & DETAILS

BASELINE WALL SW
LENGTH ALONG BASELINE = 59.79'

℄ EXISTING I-80

STA. 387+01.79, EXISTING I-80
STA. 40176+53.33, 24TH STREET

EXISTING GAS LINE

CONSTRUCTION OF THE NEW 24TH STREET BRIDGE (NOT A PART OF THIS DESIGN)

STA. 40176+95.25 PROPOSED 24TH ST. BRIDGE (NOT PART OF THIS DESIGN)

PI Sta 40174+38.19

40175 40176 40177 40178 40179

℄ PROPOSED 24TH ST.

BASELINE WALL NW
LENGTH ALONG BASELINE = 66.14'

BEGIN WALL NO
STA. 47+10.92 = 40178+82.61, 113.97' LT. 24TH ST.

BEGIN WALL NW
STA. 57+40.28 = 40178+91.88, 98.11' LT. 24TH ST.

END WALL NW
STA. 58+06.42 = 40178+60.25, 53.83' LT. 24TH ST.

2.5:1 2.6:1 2.7:1 ~~2.5:1~~

CONCRETE SLOPE PROTECTION (BY OTHERS)

℄ FUTURE I-80

STA. 7476+95.25, FUTURE I-80
STA. 40176+95.25, 24TH STREET

REMOVAL OF EXISTING 24TH STREET (NOT A PART OF THIS DESIGN)

CONCRETE SLOPE PROTECTION (BY OTHERS)

BASELINE WALL NO
LENGTH ALONG BASELINE = 279.91'

BASELINE WALL NE
LENGTH ALONG BASELINE = 74.00'

END WALL SE
STA. 24+78.42 = 40175+30.25, 51.83' RT. 24TH ST.

BEGIN WALL SE
STA. 24+14.38 = 40175+02.66, 98.86' RT. 24TH ST.

BEGIN WALL SO
STA. 34+12.27 = 40175+09.25, 112.00' RT. 24TH ST.

BASELINE WALL SO
LENGTH ALONG BASELINE = 257.89'

BASELINE WALL SE
LENGTH ALONG BASELINE = 64.04'

BEGIN WALL NE
STA. 69+12.08 = 40178+60.25, 51.83' RT. 24TH ST.

END WALL NE
STA. 69+86.08 = 40178+98.15, 94.41' RT. 24TH ST.

END WALL NO
STA. 49+90.83 = 40178+94.52, 108.39' RT. 24TH ST.

CURVE DATA

ON WALL NW

P.I. STA = 57+73.08
P.C. STA. = 57+40.28
P.T. STA. =57+86.25
Δ = 105°22'07" (LT)
T = 32.799'
L = 45.976'
E = 16.240'
R = 25.000'

NOTE:
BASELINE IS ALONG FRONT FACE OF WALL.

N

CURVE DATA

ON WALL NE

P.I. STA = 69+77.50
P.C. STA. = 69+33.25
P.T. STA. = 69+86.08
Δ = 121°04'13" (LT)
T = 44.25'
L = 52.83'
E = 25.82'
R = 25.000'

LOCATION

24TH ST OVER I-80
T-74 N R-44 W
SECTION 2/3/10/11
LEWIS TOWNSHIP
POTTAWATTAMIE COUNTY
CITY OF COUNCIL BLUFFS
BRIDGE MAINT. NO. 7801.70080
FHWA NO. 44691

CURVE DATA

ON WALL SE

P.I. STA = 24+42.13
P.C. STA. = 24+14.38
P.T. STA. = 24+56.25
Δ = 95°57'40" (LT)
T = 27.746'
L = 41.871'
E = 12.348'
R = 25.000'

CURVE DATA

ON WALL SO

P.I. STA = 34+47.27
P.C. STA. = 34+12.27
P.T. STA. = 34+67.25
Δ = 90°00'00" (LT)
T = 35.000'
L = 54.978'
E = 14.498'
R = 35.000'

P.I. STA = 36+50.99
P.C. STA. = 36+23.25
P.T. STA. = 36+70.16
Δ = 76°47'30" (LT)
T = 27.737'
L = 46.909'
E = 9.658'
R = 35.000'

REVISED 11-20-07; TOP OF WALL ELEVATIONS REVISED

CURVE DATA

ON WALL NO

P.I. STA = 47+47.30
P.C. STA. = 47+10.92
P.T. STA. = 47+67.25
Δ = 92°13'28" (LT)
T = 36.386'
L = 56.337'
E = 15.487'
R = 35.000'

P.I. STA = 49+74.41
P.C. STA. = 49+22.25
P.T. STA. = 49+90.83
Δ = 112°16'06" (LT)
T = 52.153'
L = 68.581'
E = 27.808'
R = 35.000'

SITUATION PLAN

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11

CONCRETE RETAINING WALLS

SITUATION PLAN

STA. 40176+95.25 (24TH STREET) JUNE, 2007

POTTAWATTAMIE COUNTY

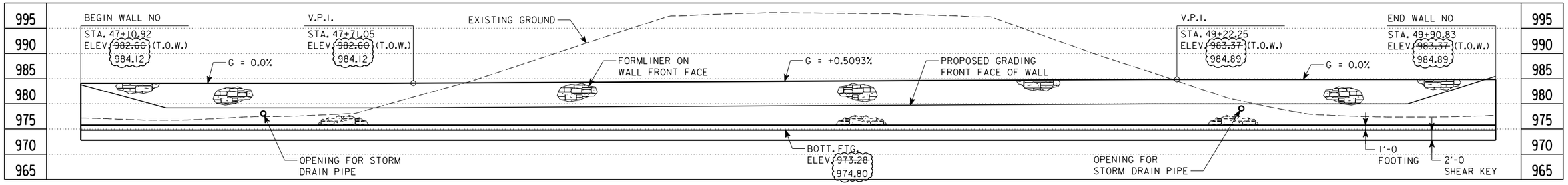
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 2 OF 18 FILE NO. 30169 DESIGN NO. 708

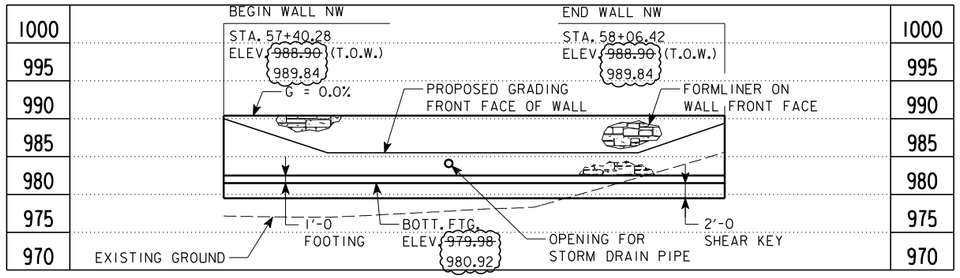
DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 65

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg

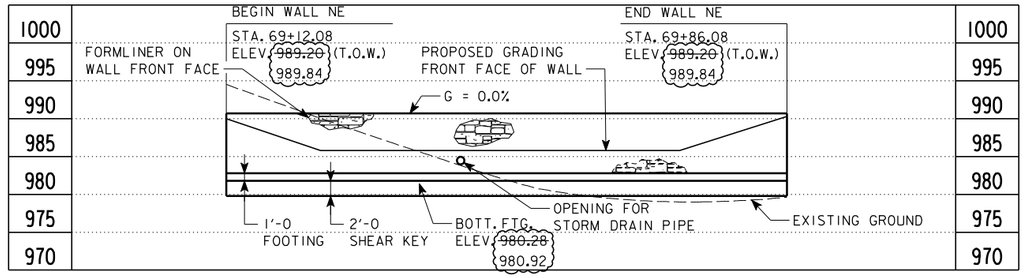
BENCH MARK NO. 521 - CUT "X" SW BOLT LUM BASE STA. 388+04.30, 65.50' RT ELEVATION 977.42



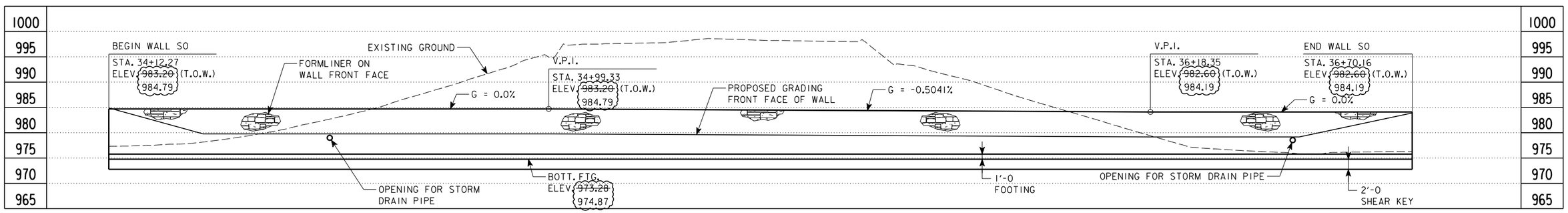
LONGITUDINAL SECTION ALONG ℄ WALL NO



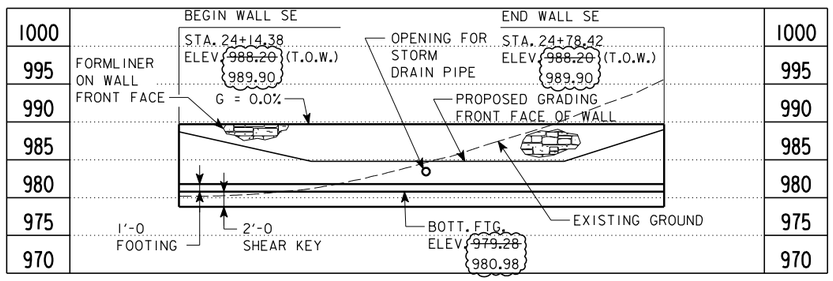
LONGITUDINAL SECTION ALONG ℄ WALL NW



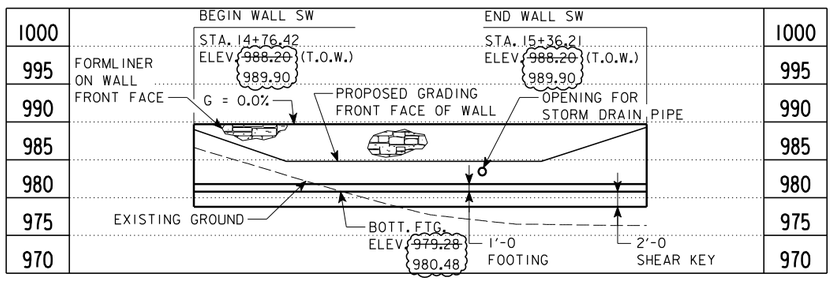
LONGITUDINAL SECTION ALONG ℄ WALL NE



LONGITUDINAL SECTION ALONG ℄ WALL SO



LONGITUDINAL SECTION ALONG ℄ WALL SE

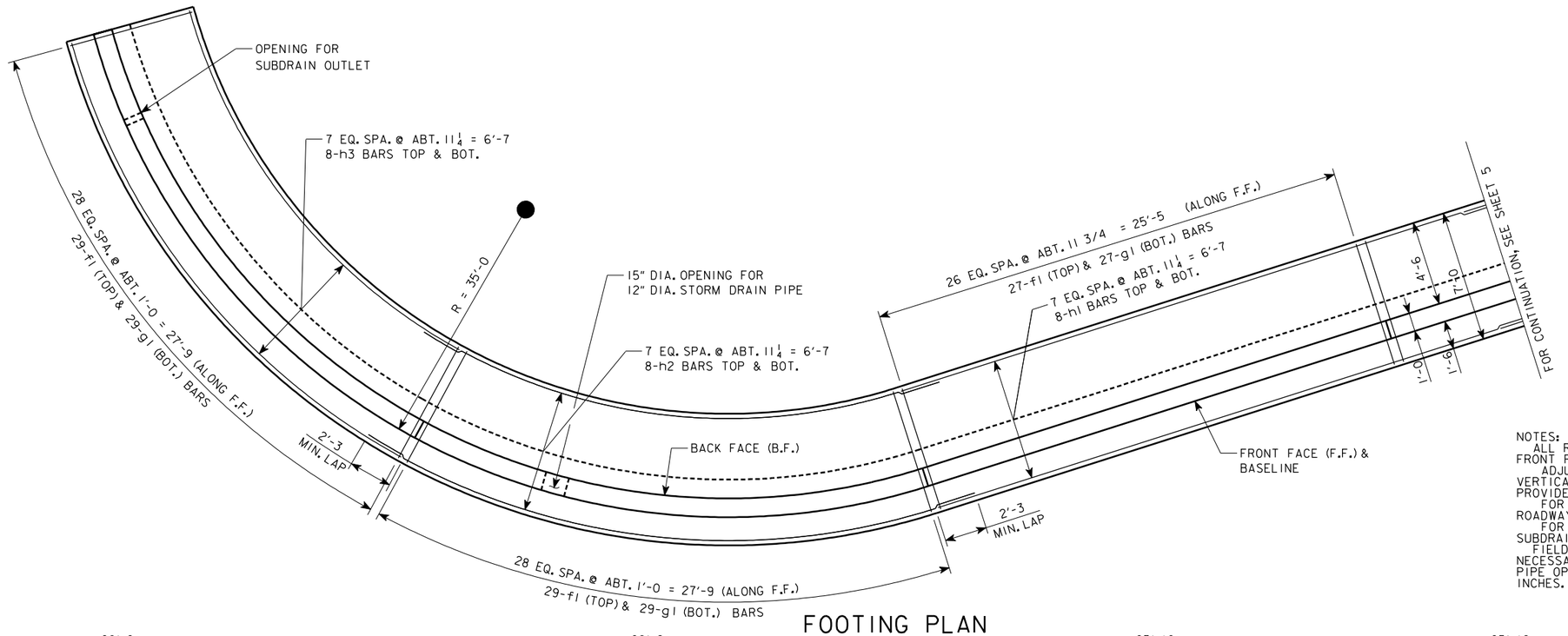


LONGITUDINAL SECTION ALONG ℄ WALL SW

NOTE:
FORMLINER PLACED ON WALL FRONT FACE FROM TOP OF WALL TO WITHIN APPROXIMATELY TWO INCHES FROM TOP OF FOOTING FROM BEGIN OF WALL TO END OF WALL (TYP.).

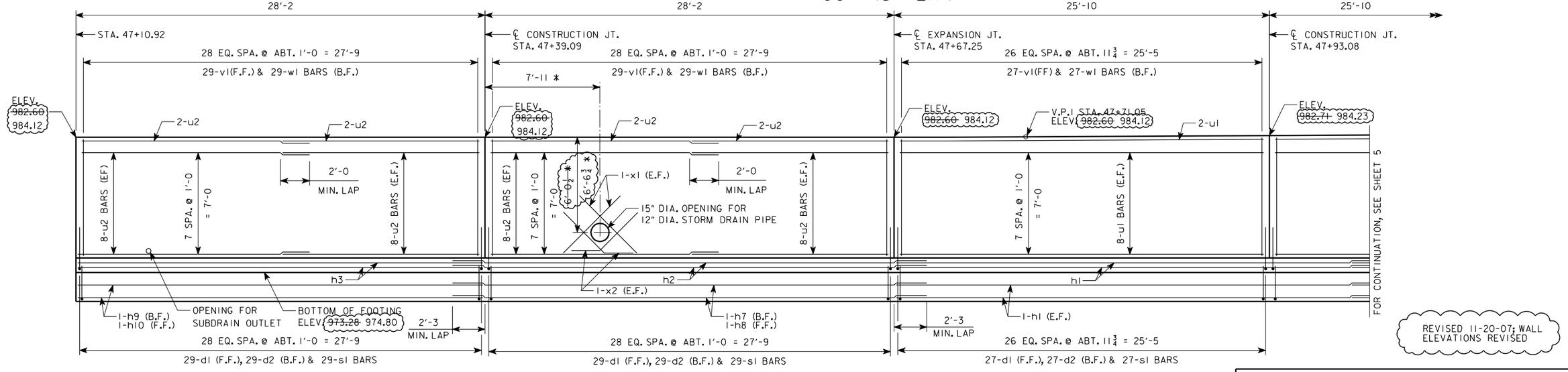
REVISED 11-20-07; WALL ELEVATIONS REVISED

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11,
279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11
CONCRETE RETAINING WALLS
RETAINING WALL ELEVATIONS
STA. 401+76+95.25 (24TH STREET) JUNE, 2007
POTTAWATTAMIE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 3 OF 18 FILE NO. 30169 DESIGN NO. 708



FOOTING PLAN

NOTES:
ALL REINFORCING DIMENSIONED ALONG FRONT FACE OF WALL & WALL BASELINE. ADJUST SPACING OF HORIZONTAL AND VERTICAL BARS AROUND PIPE OPENINGS. PROVIDE 2" MIN. CLR. AROUND OPENINGS.
FOR STORM DRAIN PIPE DETAILS, SEE ROADWAY PLANS.
FOR SUBDRAIN OUTLET DETAILS, SEE SUBDRAIN DETAILS SHEET.
FIELD BEND d1 AND d2 BARS AS NECESSARY TO CLEAR STORM DRAIN PIPE OPENING BY A MINIMUM OF 2 INCHES.



DEVELOPED ELEVATION

* COORDINATE LOCATION AND ELEVATIONS OF STORM DRAIN PIPE WITH ROADWAY SHEETS.

NOTES:
ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A $\frac{3}{4}$ INCH DRESSED AND BEVELED STRIP.
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.
REINFORCING STEEL IS TO BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS POURED.

BACKFILL BEHIND AND BELOW THE RETAINING WALL IS TO BE AS SHOWN ON THE SUBDRAIN DETAIL SHEET. THE REMAINDER OF RETAINING WALL EXCAVATION IS TO BE BACKFILLED WITH SOIL.
ALL ELEVATIONS AND STATIONS ARE IN FEET.
B.F. = BACK FACE
E.F. = EACH FACE
F.F. = FRONT FACE

REVISED 11-20-07; WALL ELEVATIONS REVISED

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11
CONCRETE RETAINING WALLS
WALL NO DETAILS

STA. 40176+95.25 (24TH STREET) JUNE, 2007

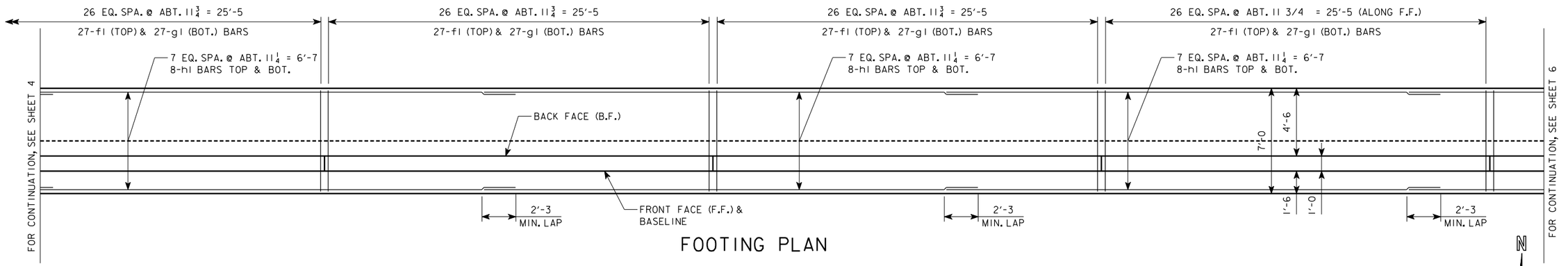
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 4 OF 18 FILE NO. 30169 DESIGN NO. 708

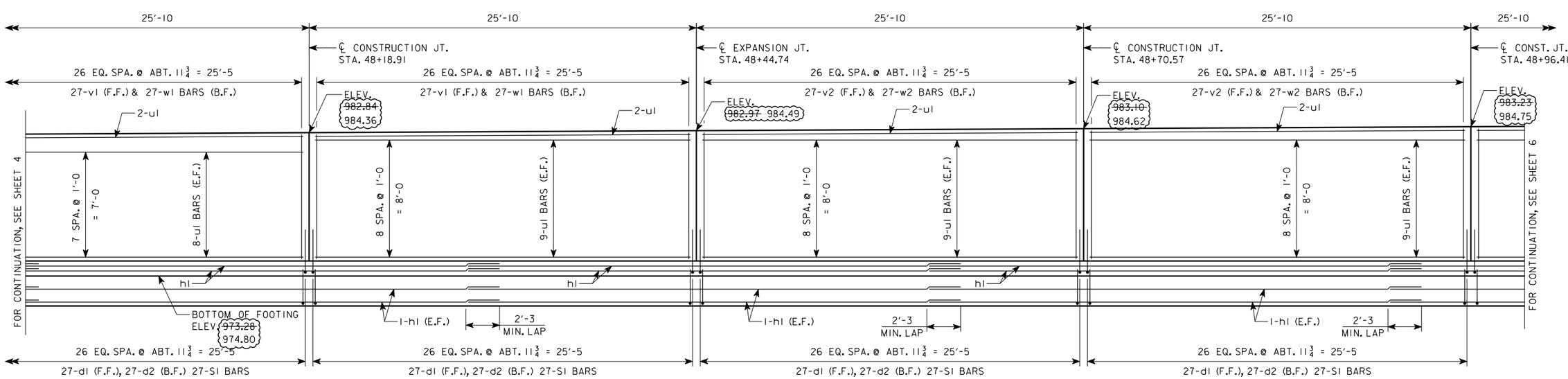
DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 67

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



FOOTING PLAN

N



DEVELOPED ELEVATION

REVISED 11-20-07; WALL ELEVATIONS REVISED

NOTE:
ALL REINFORCING DIMENSIONED ALONG FRONT FACE OF WALL & WALL BASELINE.

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11

CONCRETE RETAINING WALLS

WALL NO DETAILS

STA. 40176+95.25 (24TH STREET) JUNE, 2007

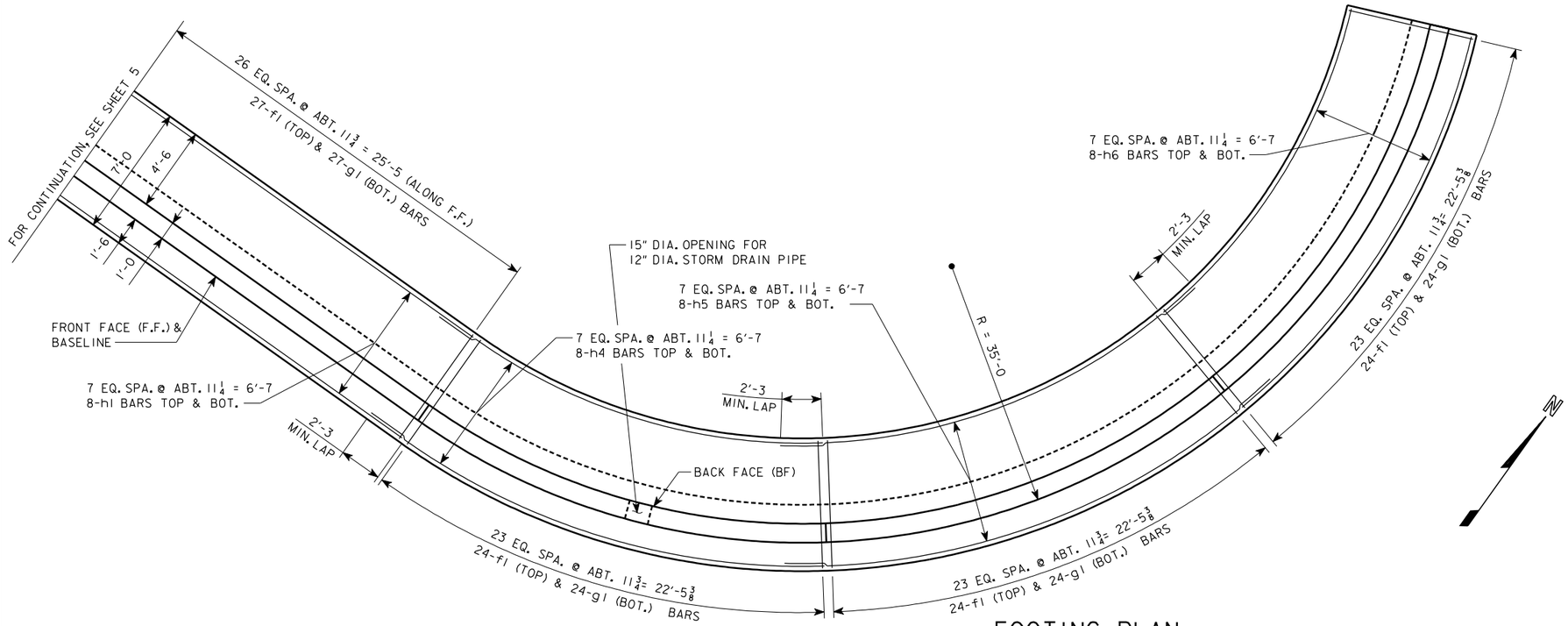
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

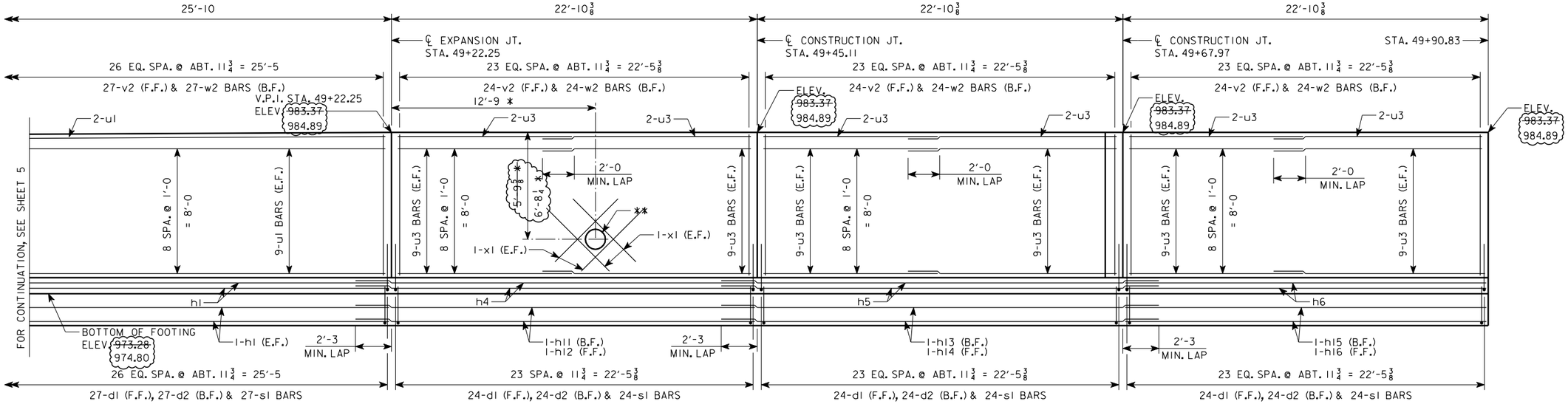
DESIGN SHEET NO. 5 OF 18 FILE NO. 30169 DESIGN NO. 708

DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 68

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



FOOTING PLAN



DEVELOPED ELEVATION

** 15" DIA. OPENING FOR 12" DIA. STORM DRAIN PIPE.

* COORDINATE LOCATION AND ELEVATIONS OF STORM DRAIN PIPE WITH ROADWAY SHEETS.

REVISED 11-20-07; WALL ELEVATIONS REVISED

NOTES:
ALL REINFORCING DIMENSIONED ALONG FRONT FACE OF WALL & WALL BASELINE.
ADJUST SPACING OF HORIZONTAL AND VERTICAL BARS AROUND PIPE OPENING. PROVIDE 2" MIN. CLR. AROUND OPENING.
FOR STORM DRAIN PIPE DETAILS, SEE ROADWAY PLANS.
FIELD BEND d1 AND d2 BARS AS NECESARY TO CLEAR STORM DRAIN PIPE OPENING BY A MINMUM OF 2 INCHES.

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11
CONCRETE RETAINING WALLS
WALL NO DETAILS

STA. 40176+95.25 (24TH STREET) JUNE, 2007

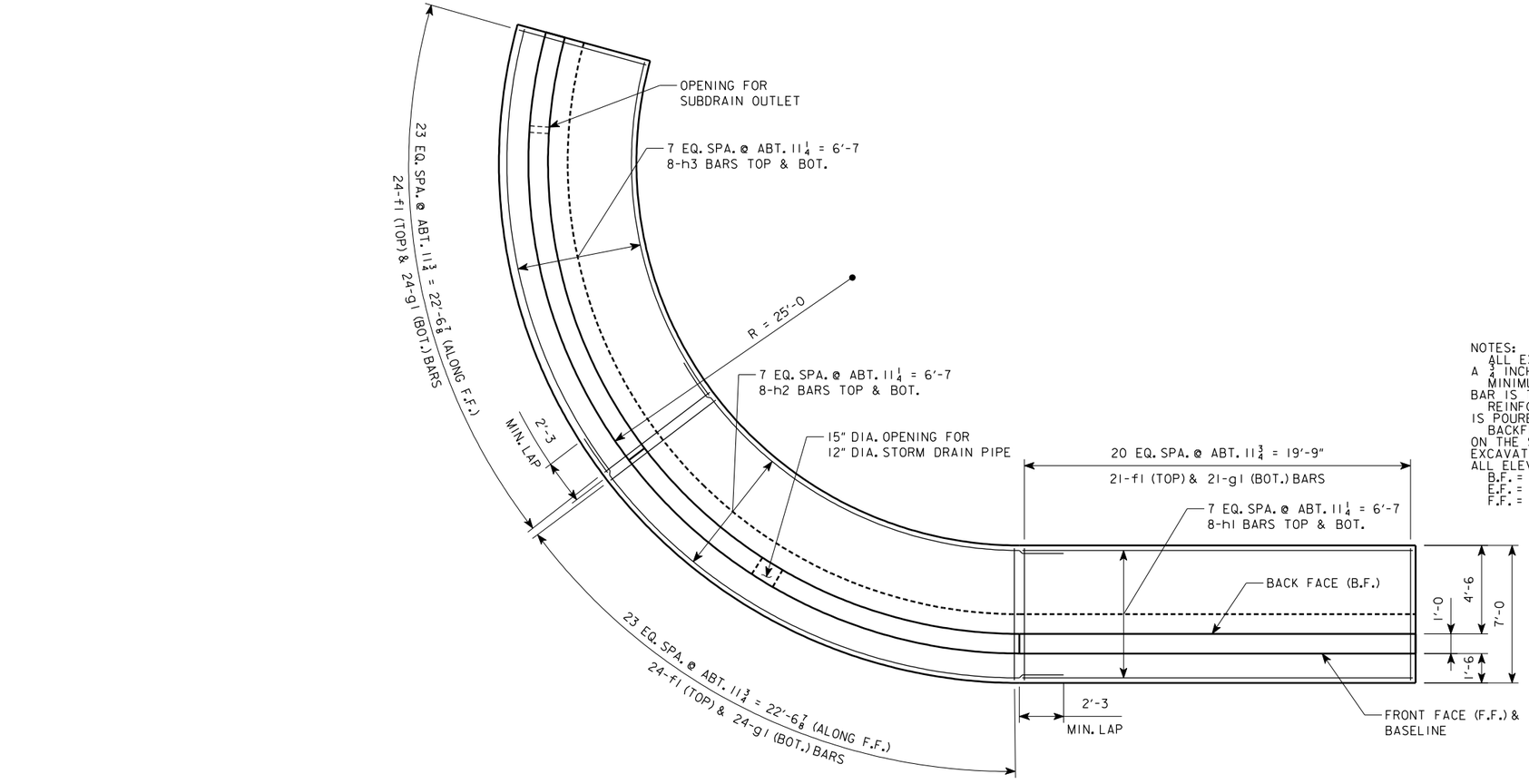
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 6 OF 18 FILE NO. 30169 DESIGN NO. 708

DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 69

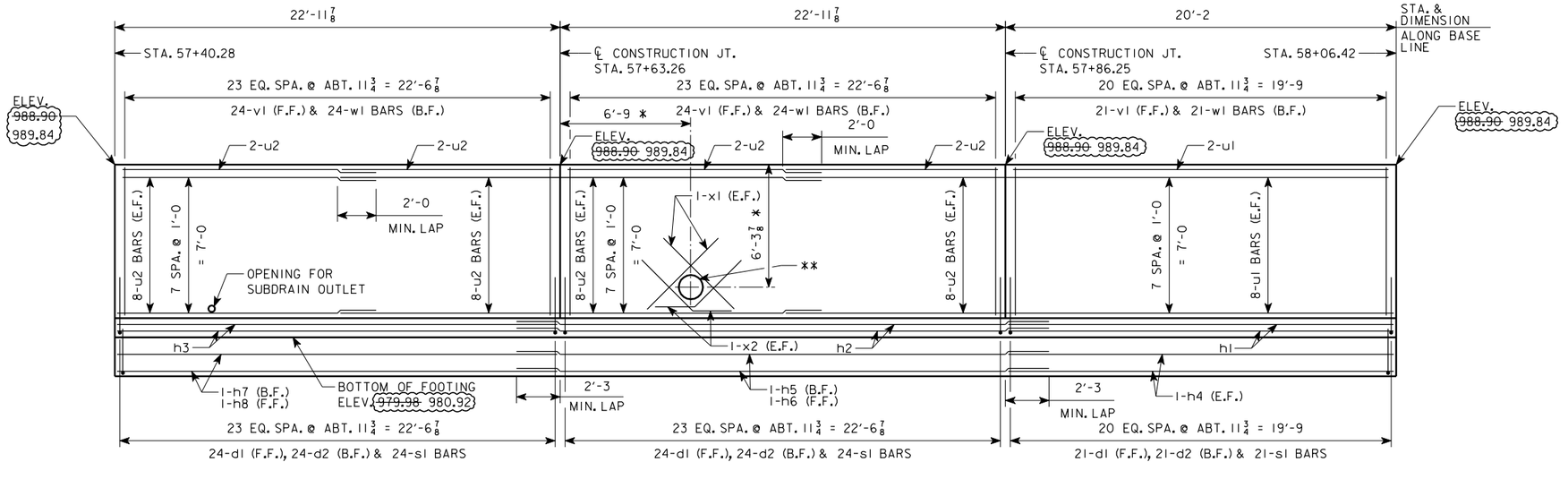
11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



FOOTING PLAN

NOTES:
ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A $\frac{3}{4}$ INCH DRESSED AND BEVELED STRIP.
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.
REINFORCING STEEL IS TO BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS POURED.
BACKFILL BEHIND AND BELOW THE RETAINING WALL IS TO BE AS SHOWN ON THE SUBDRAIN DETAIL SHEET. THE REMAINDER OF RETAINING WALL EXCAVATION IS TO BE BACKFILLED WITH SOIL.
ALL ELEVATIONS AND STATIONS ARE IN FEET.
B.F. = BACK FACE
E.F. = EACH FACE
F.F. = FRONT FACE

NOTES:
ALL REINFORCING DIMENSIONED ALONG FRONT FACE OF WALL & WALL BASELINE.
ADJUST SPACING OF HORIZONTAL AND VERTICAL BARS AROUND PIPE OPENINGS. PROVIDE 2" MIN. CLR. AROUND OPENINGS.
FOR STORM DRAIN PIPE DETAILS, SEE ROADWAY PLANS.
FOR SUBDRAIN OUTLET DETAILS, SEE SUBDRAIN DETAILS SHEET.
FIELD BEND d1 AND d2 BARS AS NECESSARY TO CLEAR STORM DRAIN PIPE OPENING BY A MINIMUM OF 2 INCHES.



DEVELOPED ELEVATION

* COORDINATE LOCATION AND ELEVATIONS OF STORM DRAIN PIPE WITH ROADWAY SHEETS.

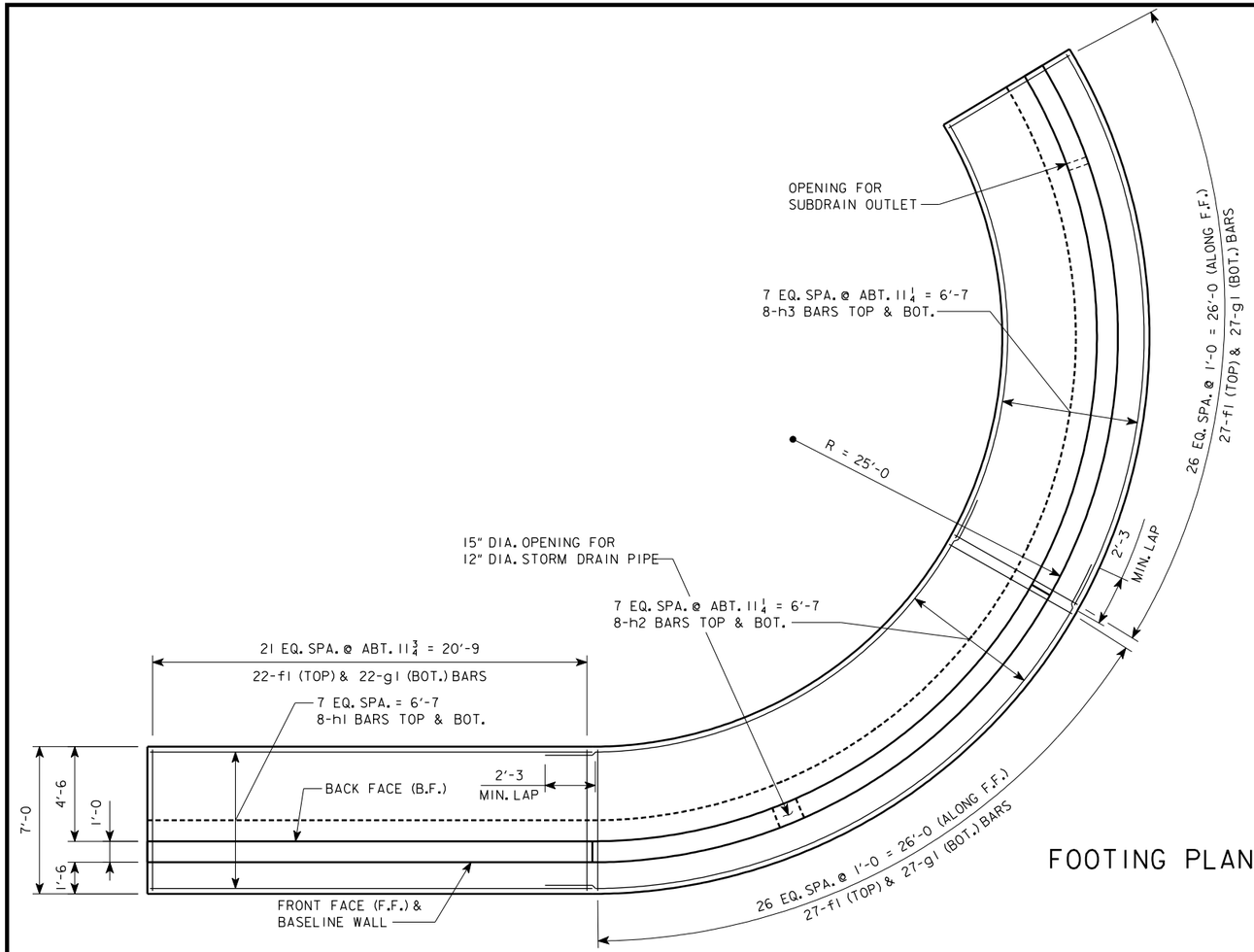
** 15" DIA. OPENING FOR 12" DIA. STORM DRAIN PIPE

REVISED 11-20-07; WALL ELEVATIONS REVISED

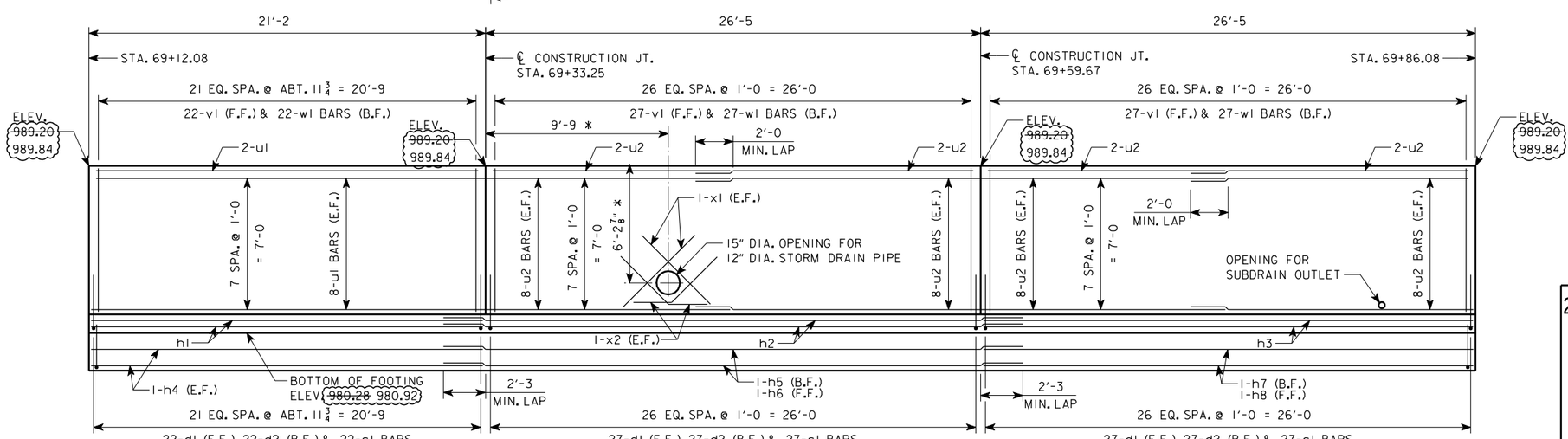
257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11,
279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11
CONCRETE RETAINING WALLS
NW WALL PLAN & ELEVATION
STA. 40176+95.25 (24TH STREET) JUNE, 2007
POTTAWATTAMIE COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. 7 OF 18 FILE NO. 30169 DESIGN NO. 708

DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 70

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



FOOTING PLAN



* CORDINATE LOCATION AND ELEVATIONS OF STORM DRAIN PIPE WITH ROADWAY SHEETS.

DEVELOPED ELEVATION

N

NOTES:
ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A ¾ INCH DRESSED AND BEVELED STRIP.
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.
REINFORCING STEEL IS TO BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS POURED.
BACKFILL BEHIND AND BELOW THE RETAINING WALL IS TO BE AS SHOWN ON THE SUBDRAIN DETAIL SHEET. THE REMAINDER OF RETAINING WALL EXCAVATION IS TO BE BACKFILLED WITH SOIL.
ALL ELEVATIONS AND STATIONS ARE IN FEET.
B.F. = BACK FACE
E.F. = EACH FACE
F.F. = FRONT FACE

NOTES:
ALL REINFORCING DIMENSIONED ALONG FRONT FACE OF WALL & WALL BASELINE.
ADJUST SPACING OF HORIZONTAL AND VERTICAL BARS AROUND PIPE OPENING. PROVIDE 2" MIN. CLR. AROUND OPENING.
FOR STORM DRAIN PIPE DETAILS, SEE ROADWAY PLANS.
FOR SUBDRAIN OUTLET DETAILS, SEE SUBDRAIN DETAILS SHEET.
FIELD BEND d1 AND d2 BARS AS NECESSARY TO CLEAR STORM DRAIN PIPE OPENING BY MINIMUM OF 2 INCHES.

REVISED 11-20-07; WALL ELEVATIONS REVISED

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11 CONCRETE RETAINING WALLS NE WALL PLAN & ELEVATION

STA. 40176+95.25 (24TH STREET) JUNE, 2007

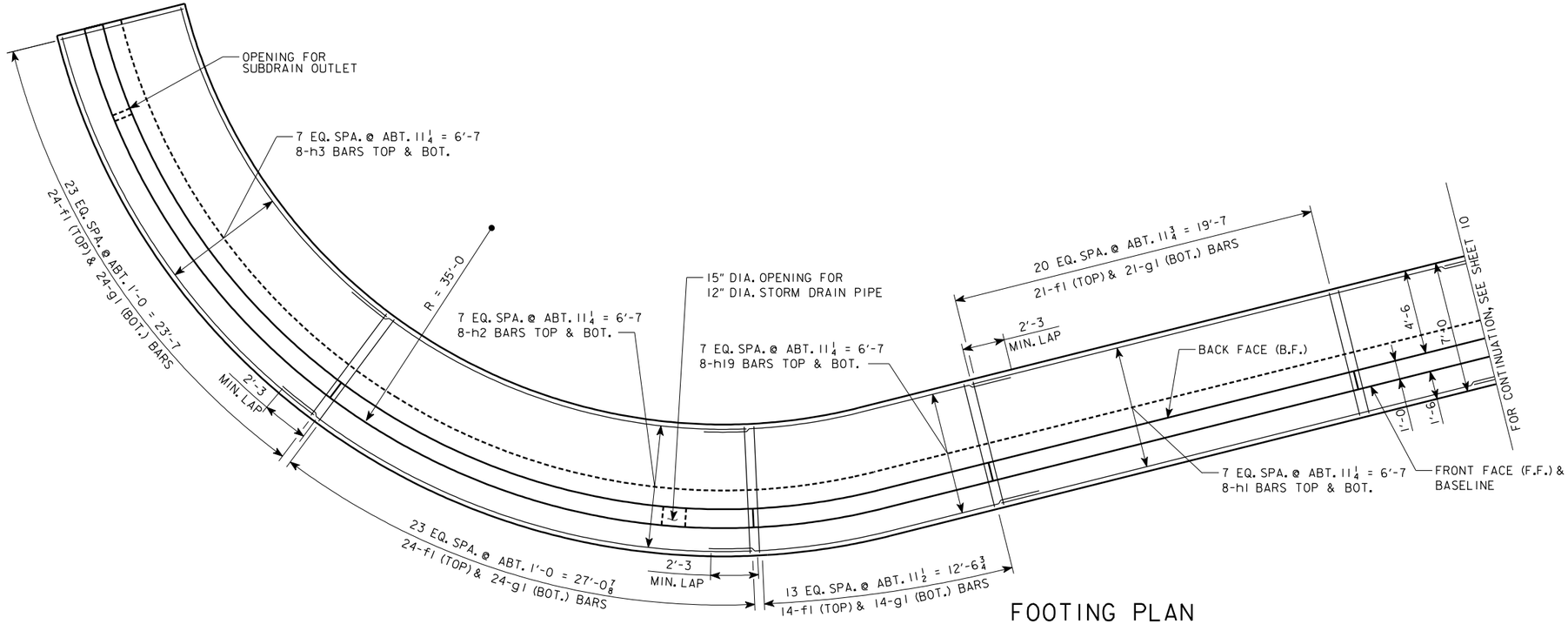
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

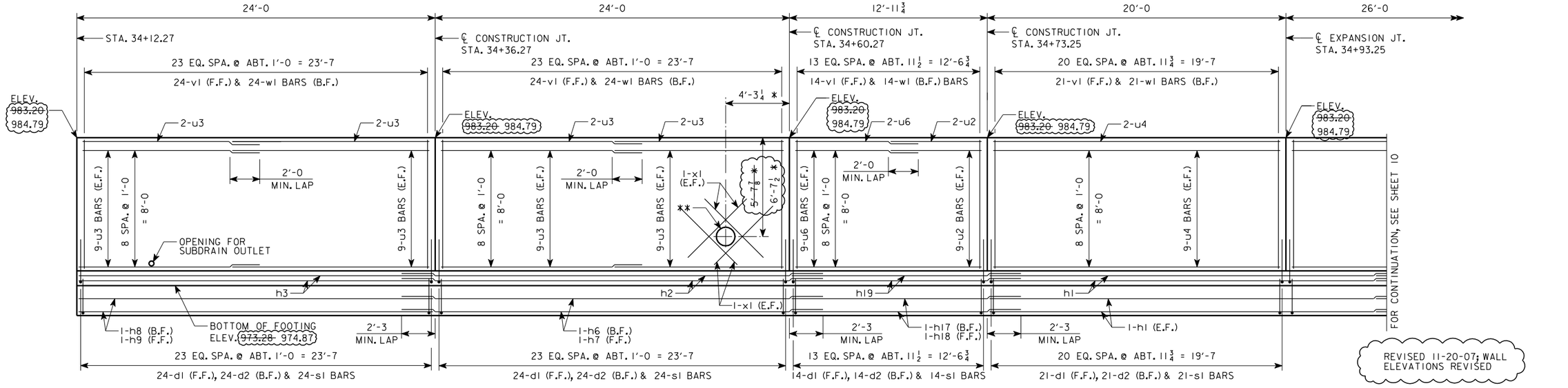
DESIGN SHEET NO. 8 OF 18 FILE NO. 30169 DESIGN NO. 708

DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 71

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



FOOTING PLAN



DEVELOPED ELEVATION

REVISED 11-20-07; WALL ELEVATIONS REVISED

* COORDINATE LOCATION AND ELEVATIONS OF STORM DRAIN PIPE WITH ROADWAY SHEETS.

** 15" DIA. OPENING FOR 12" DIA. STORM DRAIN PIPE

NOTES:
ALL REINFORCING DIMENSIONED ALONG FRONT FACE OF WALL & WALL BASELINE.
ADJUST SPACING OF HORIZONTAL AND VERTICAL BARS AROUND PIPE OPENINGS. PROVIDE 2" MIN. CLR. AROUND OPENINGS.
FOR STORM DRAIN PIPE DETAILS, SEE ROADWAY PLANS.
FOR SUBDRAIN OUTLET DETAILS, SEE SUBDRAIN DETAILS SHEET.

NOTES:
ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A ¾ INCH DRESSED AND BEVELED STRIP.
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.
REINFORCING STEEL IS TO BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS POURED.

BACKFILL BEHIND AND BELOW THE RETAINING WALL IS TO BE AS SHOWN ON THE SUBDRAIN DETAIL SHEET. THE REMAINDER OF RETAINING WALL EXCAVATION IS TO BE BACKFILLED WITH SOIL.
ALL ELEVATIONS AND STATIONS ARE IN FEET.
B.F. = BACK FACE
E.F. = EACH FACE
F.F. = FRONT FACE

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11
CONCRETE RETAINING WALLS
WALL SO DETAILS

STA. 40176+95.25 (24TH STREET) JUNE, 2007

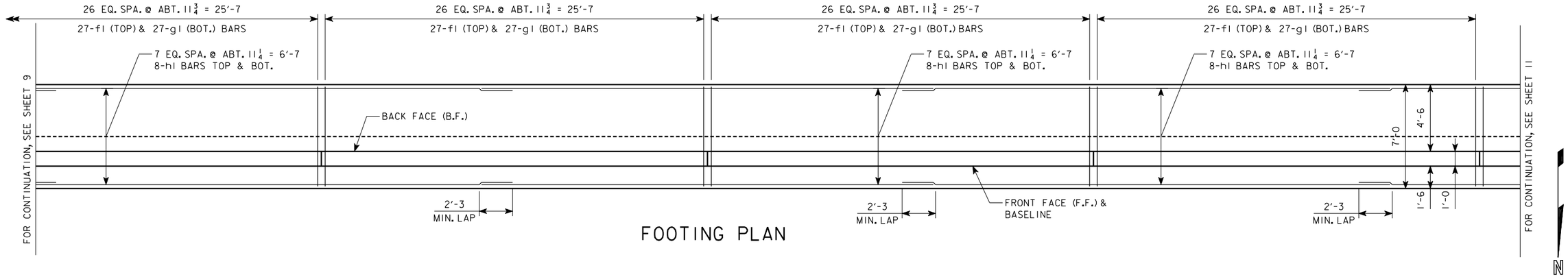
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

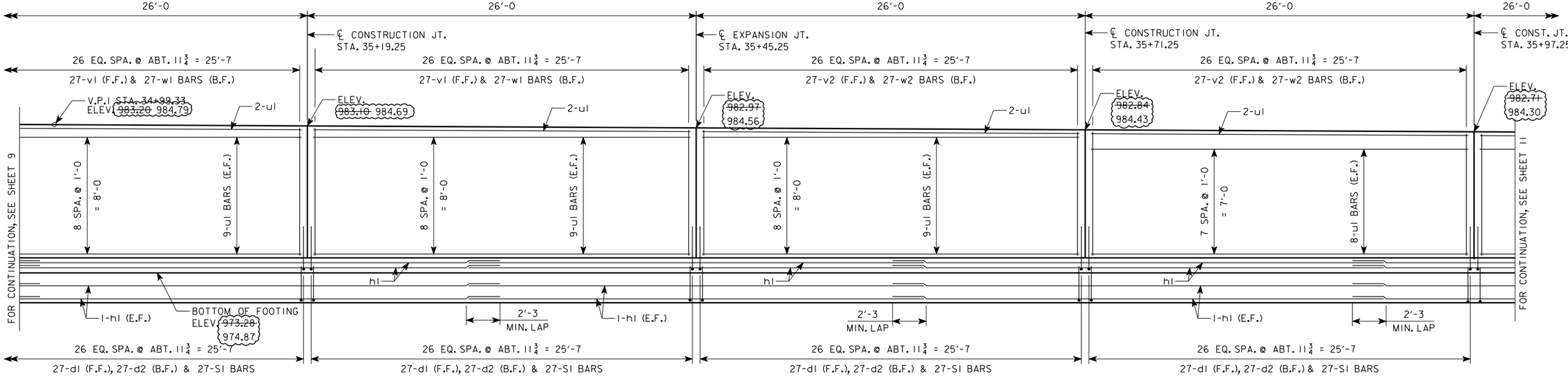
DESIGN SHEET NO. 9 OF 18 FILE NO. 30169 DESIGN NO. 708

DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 72

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



FOOTING PLAN



DEVELOPED ELEVATION

REVISED 11-20-07; WALL ELEVATIONS REVISED

NOTE:
ALL REINFORCING DIMENSIONED ALONG FRONT FACE OF WALL & WALL BASELINE.
B.F. = BACK FACE
E.F. = EACH FACE
F.F. = FRONT FACE

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11
CONCRETE RETAINING WALLS
WALL SO DETAILS

STA. 401+76.25 (24TH STREET) JUNE, 2007

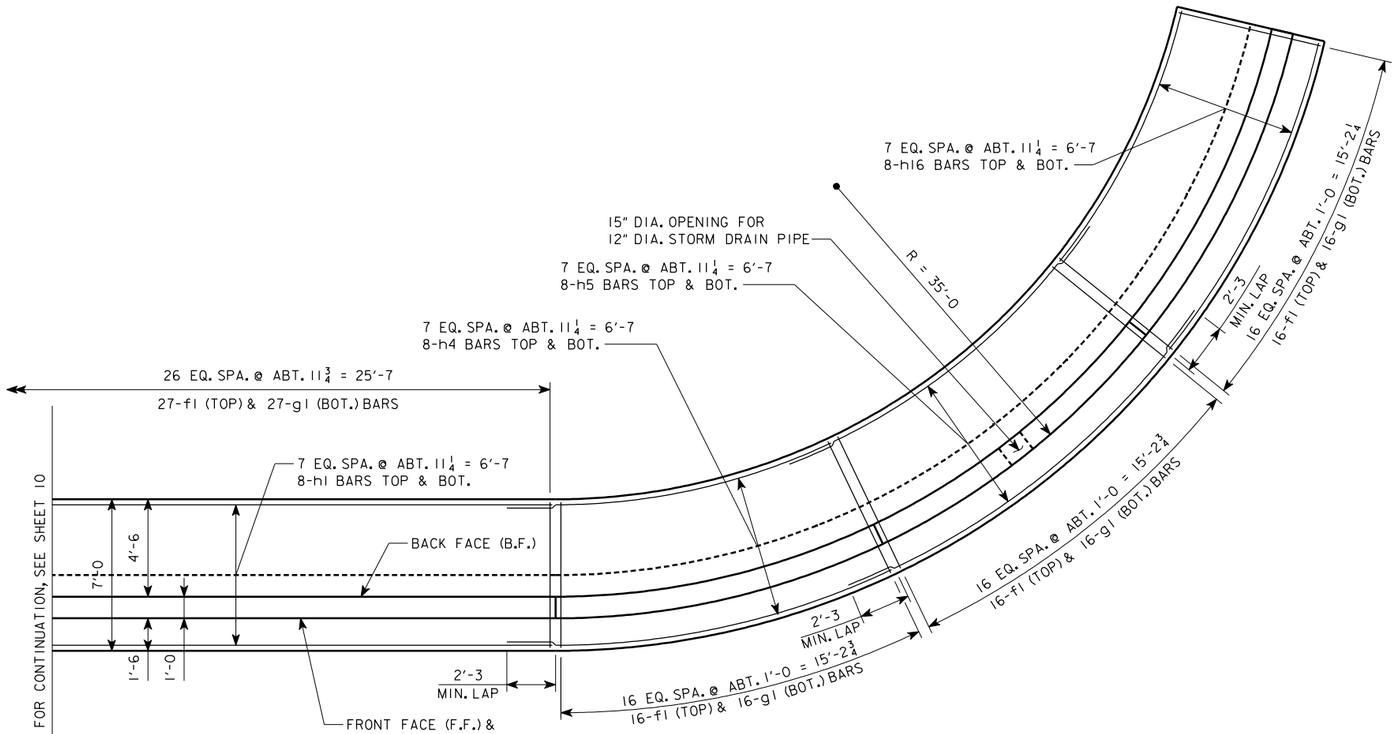
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

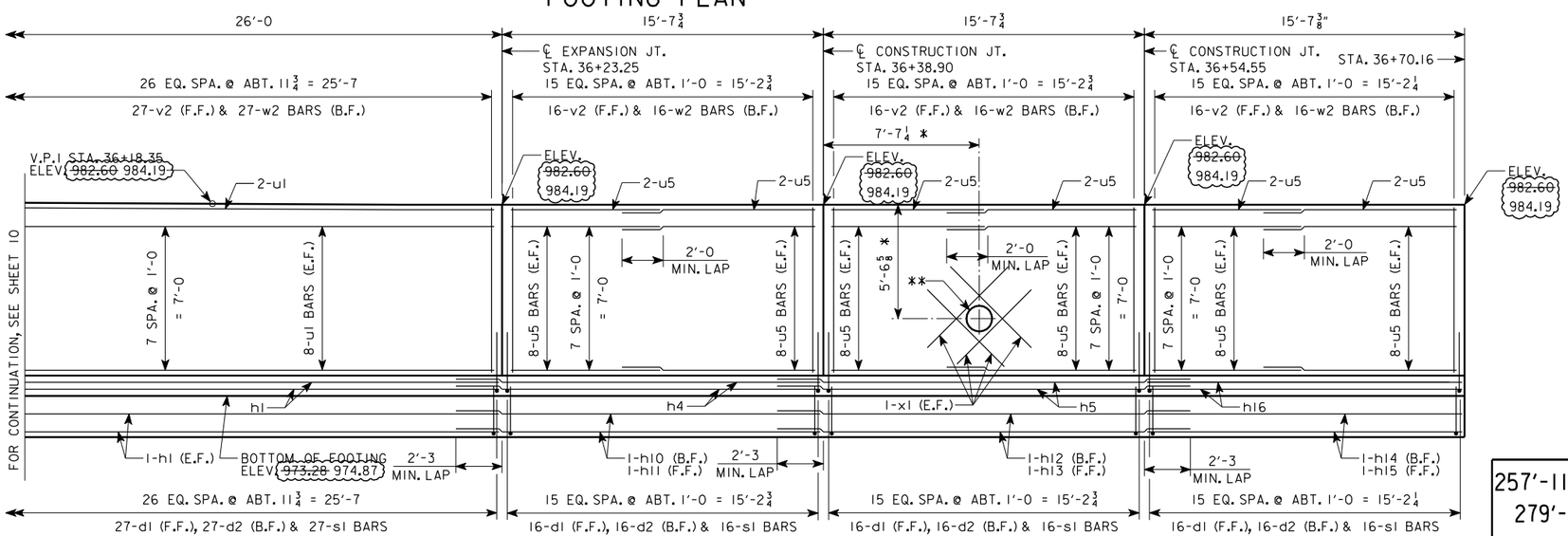
DESIGN SHEET NO. 10 OF 18 FILE NO. 30169 DESIGN NO. 708

DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 73

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



FOOTING PLAN



DEVELOPED ELEVATION

** 15" DIA. OPENING FOR
12" DIA. STORM DRAIN PIPE.

* COORDINATE LOCATION AND
ELEVATIONS OF STORM DRAIN PIPE
WITH ROADWAY SHEETS.

NOTES:
ALL REINFORCING DIMENSIONED ALONG FRONT FACE OF WALL & WALL BASELINE.
ADJUST SPACING OF HORIZONTAL AND VERTICAL BARS AROUND PIPE OPENING. PROVIDE 2" MIN. CLR. AROUND OPENING.
FOR STORM DRAIN PIPE DETAILS, SEE ROADWAY PLANS.
FIELD BEND d1 AND d2 BARS AS NECESSARY TO CLEAR DRAIN PIPE OPENING BY A MINIMUM OF 2 INCHES.
FOR SUBDRAIN OUTLET DETAILS, SEE SUBDRAIN DETAILS SHEET.
B.F. = BACK FACE
E.F. = EACH FACE
F.F. = FRONT FACE

REVISED 11-20-07; WALL ELEVATIONS REVISED

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11

CONCRETE RETAINING WALLS

WALL SO DETAILS

STA. 40176+95.25 (24TH STREET) JUNE, 2007

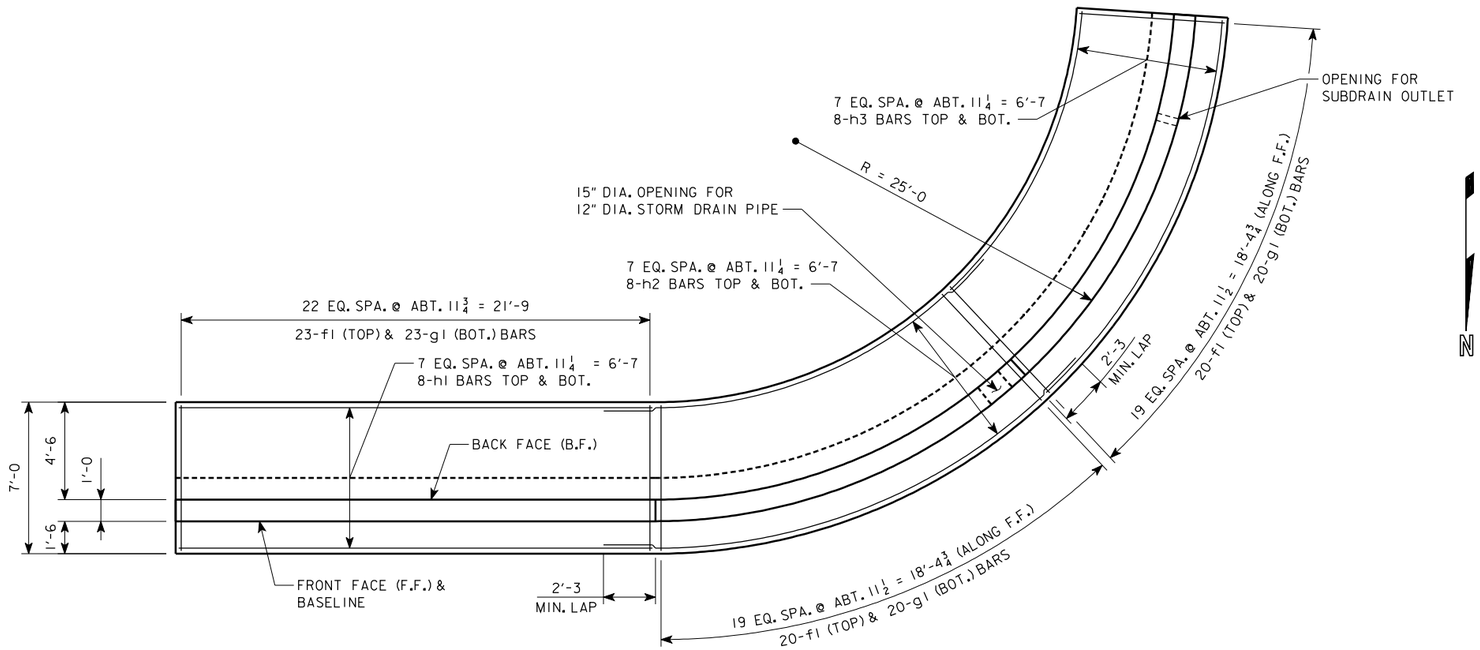
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 11 OF 18 FILE NO. 30169 DESIGN NO. 708

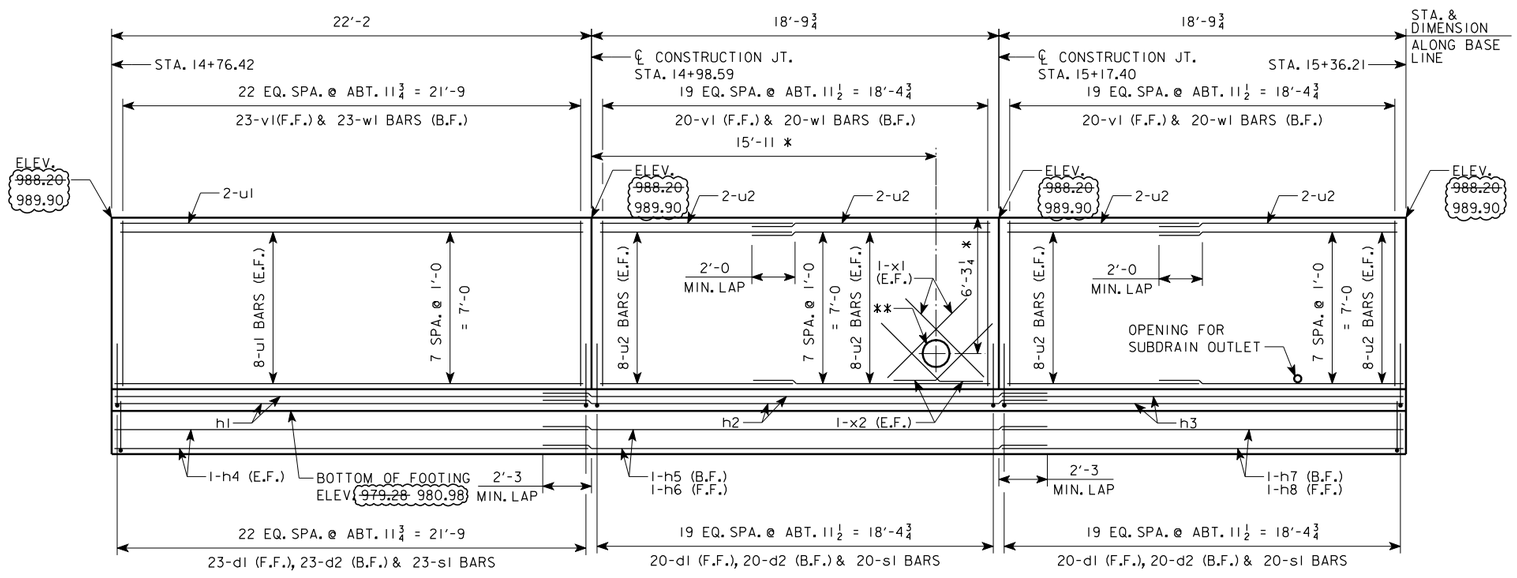
DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 74

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



FOOTING PLAN

NOTES:
ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A $\frac{3}{4}$ INCH DRESSED AND BEVELED STRIP.
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.
REINFORCING STEEL IS TO BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS POURED.
BACKFILL BEHIND AND BELOW THE RETAINING WALL IS TO BE AS SHOWN ON THE SUBDRAIN DETAIL SHEET. THE REMAINDER OF RETAINING WALL EXCAVATION IS TO BE BACKFILLED WITH SOIL.
ALL ELEVATIONS AND STATIONS ARE IN FEET.
B.F. = BACK FACE
E.F. = EACH FACE
F.F. = FRONT FACE



DEVELOPED ELEVATION

* COORDINATE LOCATION AND ELEVATION OF STORM DRAIN PIPE WITH ROADWAY SHEETS.

** 15" DIA. OPENING FOR 12" DIA. STORM DRAIN PIPE.

NOTES:
ALL REINFORCING DIMENSIONED ALONG FRONT FACE OF WALL & WALL BASELINE.
ADJUST SPACING OF HORIZONTAL AND VERTICAL BARS AROUND PIPE OPENINGS. PROVIDE 2" MIN. CLR. AROUND OPENINGS.
FOR STORM DRAIN PIPE DETAILS, SEE ROADWAY PLANS.
FOR SUBDRAIN OUTLET DETAILS, SEE SUBDRAIN DETAILS SHEET.
FIELD BEND d1 AND d2 BARS AS NECESSARY TO CLEAR STORM DRAIN PIPE OPENING BY A MINIMUM OF 2 INCHES.

REVISED 11-20-07; WALL ELEVATIONS REVISED

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11
CONCRETE RETAINING WALLS
WALL SW DETAILS

STA. 401+76.25 (24TH STREET) JUNE, 2007

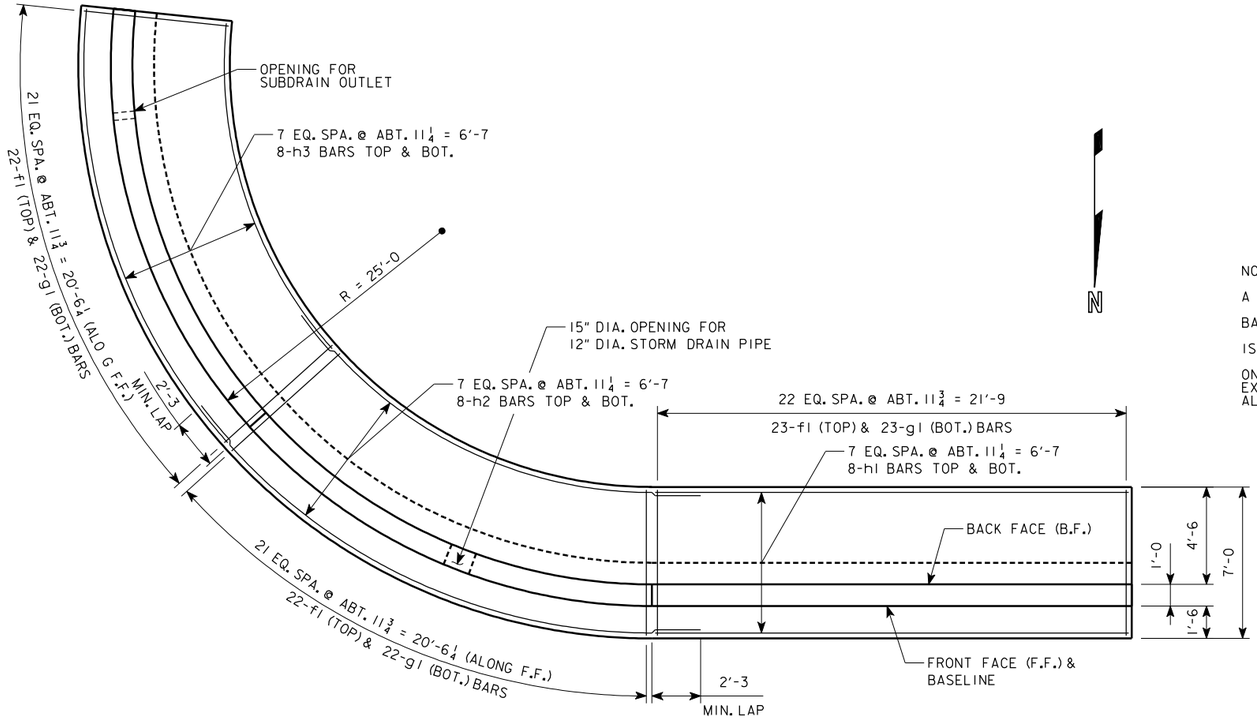
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 12 OF 18 FILE NO. 30169 DESIGN NO. 708

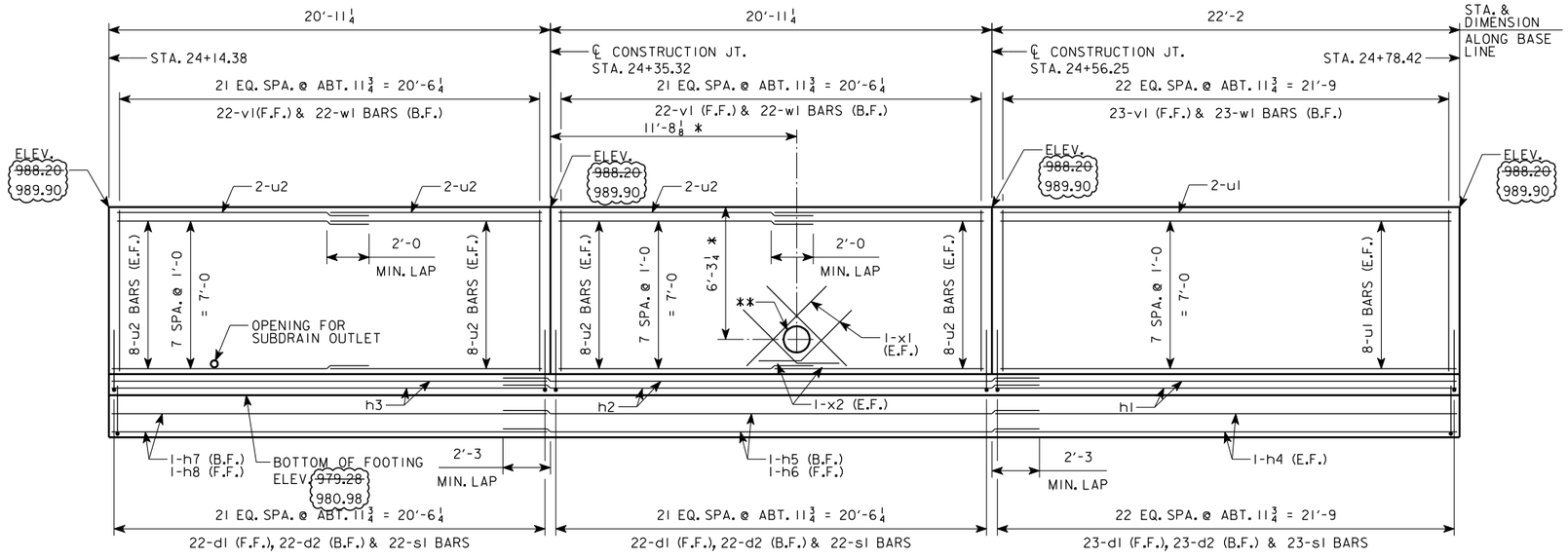
DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 75

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



FOOTING PLAN

NOTES:
ALL EXPOSED CORNERS 90° OR SHARPER ARE TO BE FILLETED WITH A $\frac{3}{4}$ INCH DRESSED AND BEVELED STRIP.
MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.
REINFORCING STEEL IS TO BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS POURED.
BACKFILL BEHIND AND BELOW THE RETAINING WALL IS TO BE AS SHOWN ON THE SUBDRAIN DETAIL SHEET. THE REMAINDER OF RETAINING WALL EXCAVATION IS TO BE BACKFILLED WITH SOIL.
ALL ELEVATIONS AND STATIONS ARE IN FEET.
B.F. = BACK FACE
E.F. = EACH FACE
F.F. = FRONT FACE



** 15" DIA. OPENING FOR 12" DIA. STORM DRAIN PIPE.

DEVELOPED ELEVATION

* COORDINATE LOCATION AN D ELEVATIONS OF STORM DRAIN PIPE WITH ROADWAY SHEETS.

NOTES:
ALL REINFORCING DIMENSIONED ALONG FRONT FACE OF WALL & WALL BASELINE.
ADJUST SPACING OF HORIZONTAL AND VERTICAL BARS AROUND PIPE OPENINGS. PROVIDE 2" MIN. CLR. AROUND OPENINGS.
FOR STORM DRAIN PIPE DETAILS, SEE ROADWAY PLANS.
FOR SUBDRAIN OUTLET DETAILS, SEE SUBDRAIN DETAILS SHEET.
FIELD BEND d1 AND d2 BARS AS NECESSARY TO CLEAR STORM DRAIN PIPE OPENING BY A MINIMUM OF 2 INCHES.

REVISED 11-20-07; WALL ELEVATIONS REVISED

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11 CONCRETE RETAINING WALLS WALL SE DETAILS

STA. 40176+95.25 (24TH STREET) JUNE, 2007

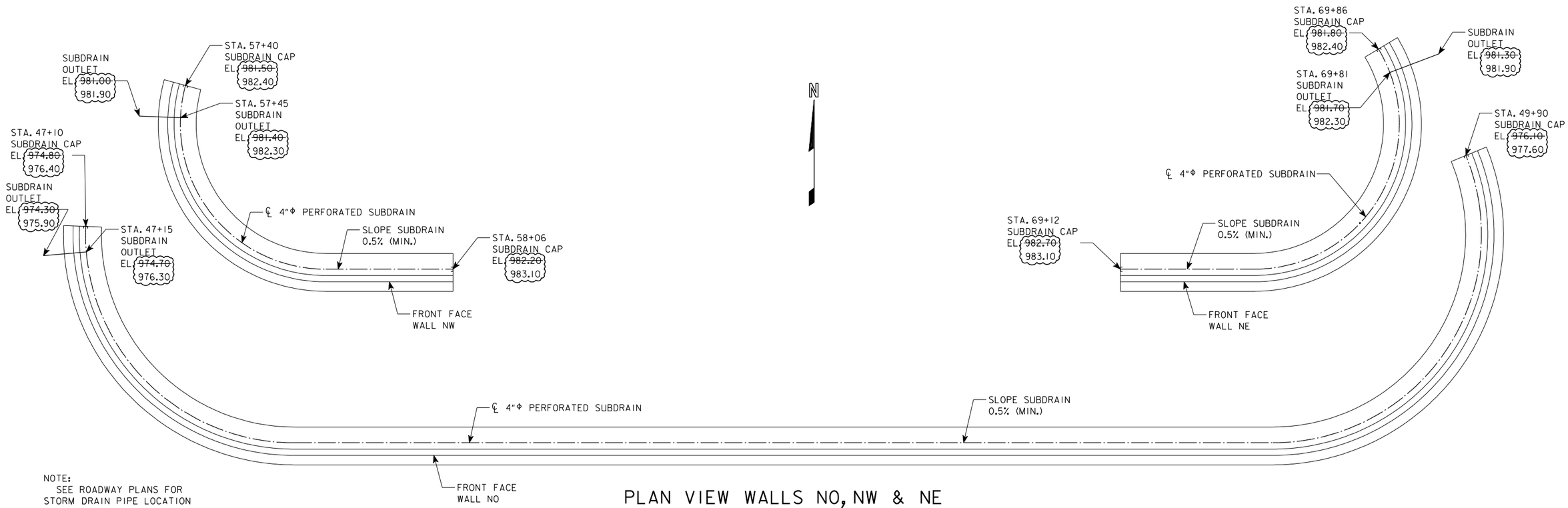
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 13 OF 18 FILE NO. 30169 DESIGN NO. 708

DESIGN TEAM DLS/HHK/JAS	POTTAWATTAMIE COUNTY	PROJECT NUMBER BRFIM-080-1(308)2--05-78	SHEET NUMBER 76

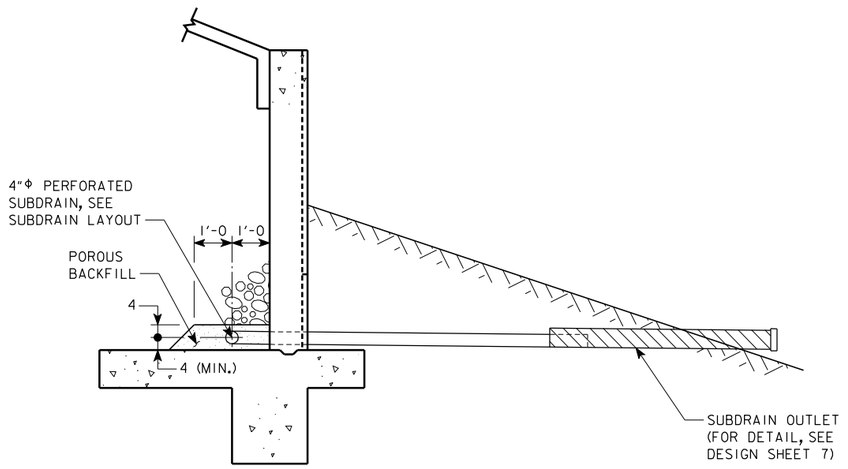
11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



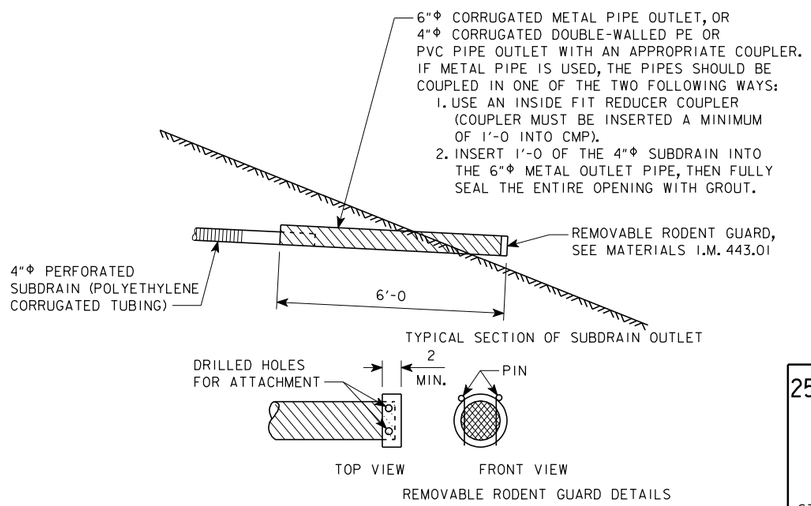
NOTE:
SEE ROADWAY PLANS FOR STORM DRAIN PIPE LOCATION AND ELEVATIONS. COORDINATE SUBDRAIN PLACEMENT AND SLOPE TO DRAIN.

PLAN VIEW WALLS NO, NW & NE

(SHOWING SUBDRAIN LAYOUT, NOT TO SCALE)



TYPICAL SECTION



OUTLET DETAILS

REVISED 11-20-07; SUBDRAIN ELEVATIONS REVISED

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11

CONCRETE RETAINING WALLS

SUBDRAIN DETAILS

STA. 40176+95.25 (24TH STREET) JUNE, 2007

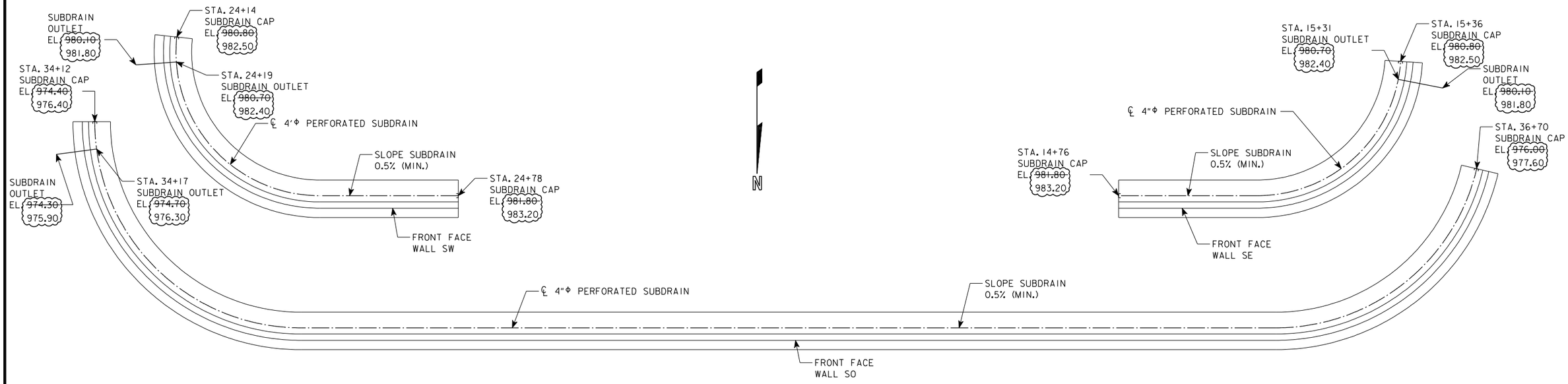
POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 17 OF 18 FILE NO. 30169 DESIGN NO. 708

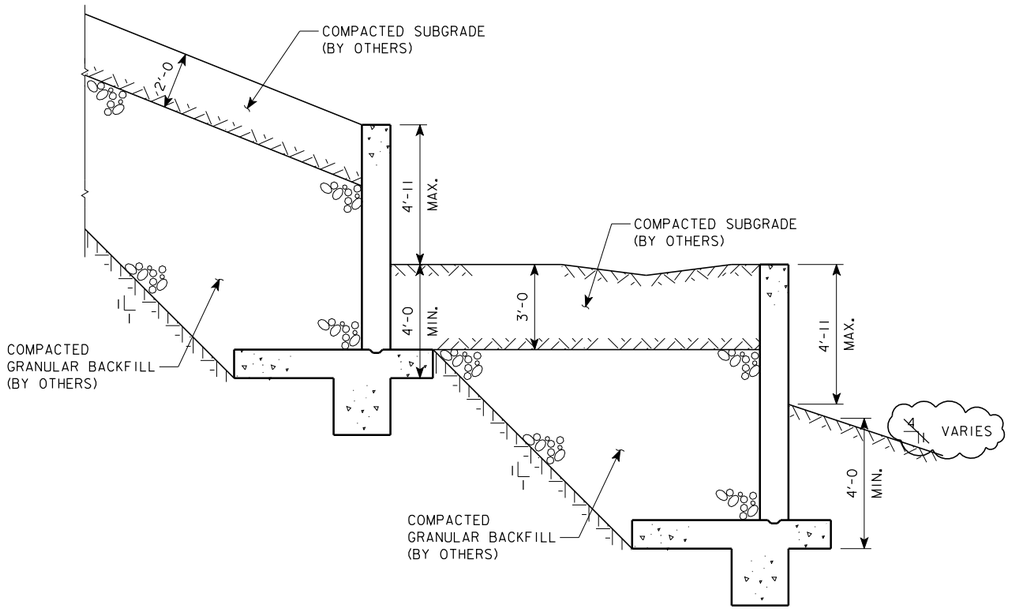
DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 80

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg



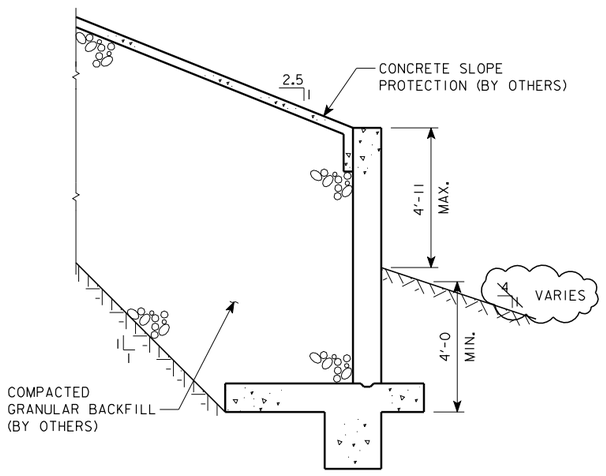
PLAN VIEW WALLS SO, SW & SE

(SHOWING SUBDRAIN LAYOUT, NOT TO SCALE)



TYPICAL SECTION

(OUTSIDE BRIDGE LIMITS)



TYPICAL SECTION

(UNDER BRIDGE)

NOTE:
SEE ROADWAY PLANS FOR STORM DRAIN PIPE LOCATION AND ELEVATIONS. COORDINATE SUBDRAIN PLACEMENT AND SLOPE TO DRAIN.

REVISED 11-20-07; SUBDRAIN ELEVATIONS REVISED

257'-11 x VAR, 64'-0 x 7'-11, 59'-10 x 7'-11, 279'-11 x VAR, 74'-0 x 7'-11, 66'-2 x 7'-11 CONCRETE RETAINING WALLS SUBDRAIN DETAILS

STA. 40176+95.25 (24TH STREET) JUNE, 2007

POTTAWATTAMIE COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 18 OF 18 FILE NO. 30169 DESIGN NO. 708

DESIGN TEAM DLS/HHK/JAS | POTTAWATTAMIE COUNTY | PROJECT NUMBER BRFIM-080-1(308)2--05-78 | SHEET NUMBER 81

11/26/2007 aboro C:\PWworking\OMA\d0217897\78080308.brg