WKE NOV 2018

PROJECT ID: 2405-00-74
WITH: N/A

COUNTY: MILWAUKEE

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
~~Section No.~~	~~8~~	~~Structure Plans~~
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 17





DESIGN DESIGNATION

A.A.D.T.	(2019)	=	6,300
A.A.D.T.	(2039)	=	6,900
D.H.V.	(2039)	=	987
D.D.		=	59/41
T.		=	2.9%
DESIGN SPEED		=	30 MPH
ESALS		=	445,300

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE (PL + 58.1)
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

W MORGAN AVENUE

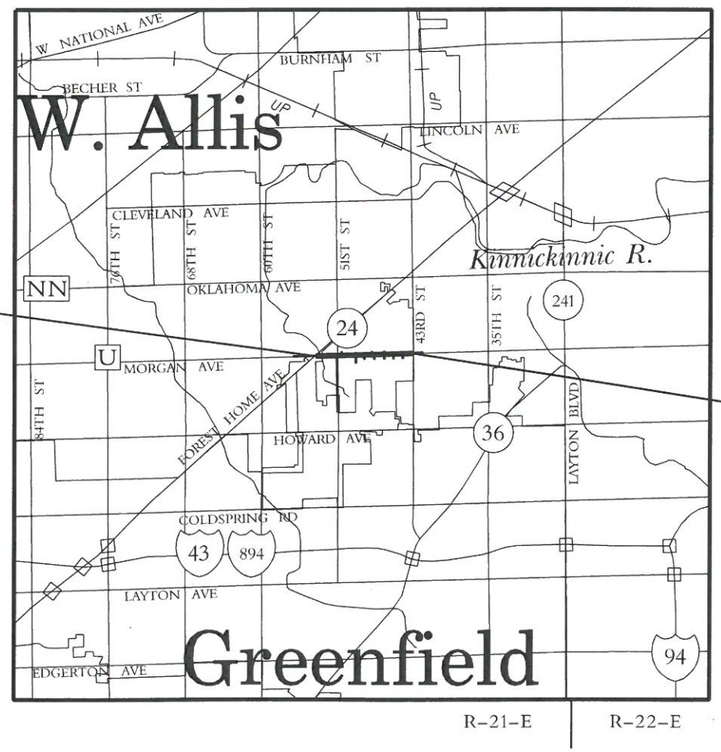
W FOREST HOME AVE TO S 43RD STREET

LOCAL STREET

MILWAUKEE COUNTY

STATE PROJECT NUMBER
2405-00-74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2405-00-74	WISC 2018441	1



BEGIN PROJECT 2405-00-74
STA. 109+00.00
X = 587,019.654
Y = 278,628.422

END PROJECT 2405-00-74
STA. 141+65.00

LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.618 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY, NAD83 (2011)
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICLE DATUM NAVD88 (2012)

APPROVED FOR CITY OF GREENFIELD

4-20-18 DATE

CITY ENGINEER

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES

WISCONSIN ROBERT J. STEWCK 41177 NEW BERLIN WI PROFESSIONAL ENGINEER

DATE 4/25/18

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES
Designer	AYRES ASSOCIATES
Project Manager	KATHY KRAMER
Regional Examiner	
Regional Supervisor	ADETOYE ADENIYI
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 4/25/18 K Kramer (Signature)

E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_010101_ti.dgn PLOT DATE : 4/13/2018 PLOT BY : sanderfoj PLOT NAME : PLOT SCALE : 1:5280

WISDOT/CADDS SHEET 15

GENERAL NOTES

1. THE CONTRACTOR SHALL NOT GO OUTSIDE OF THE EXISTING RIGHT-OF-WAY OR TEMPORARY LIMITED EASEMENTS TO ACCOMMODATE CONSTRUCTION ACTIVITIES.
2. THE LOCATIONS OF EXISTING OR PROPOSED UTILITIES, AS NOTED ON THE PLANS, ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
3. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPALITY OR PUBLIC AGENCY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
4. DIMENSIONS GIVEN FOR EXISTING FEATURES ARE APPROXIMATE AND SHOULD BE MEASURED IN THE FIELD BY THE CONTRACTOR FOR PRECISION.
5. STATIONS AND OFFSETS ARE REFERENCED TO THE NEAREST REFERENCE LINE UNLESS OTHERWISE NOTED.
6. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
7. EROSION CONTROL ITEMS SHOWN ON THE PLAN ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS AND DIMENSIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
8. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DEEMS THE MEASURE IS NO LONGER NECESSARY.
9. TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. NO WORK MAY BEGIN UNTIL PROPER TRAFFIC CONTROL DEVICES ARE PLACED AND APPROVED BY THE ENGINEER.
10. EXCAVATION BELOW SUBGRADE (EBS) SHALL BE MEASURED AND PAID FOR AS EXCAVATION COMMON. THE EXACT LOCATION OF EBS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
11. CURB AND GUTTER RADII AND LANE WIDTH DIMENSIONS ON THE PLANS ARE MEASURED TO THE FLANGE LINE.
12. EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL RADIUS POINTS IN THE CURB AND GUTTER.
13. THE ENGINEER WILL APPROVE THE LOCATION OF LONGITUDINAL JOINTS IN THE ASPHALTIC PAVEMENT.
14. PLACE A LAYER OF TACK COAT BETWEEN ALL HMA PAVEMENT LAYERS.
15. ACCESS SHALL BE MAINTAINED AT ALL TIMES FOR EACH PROPERTY. IF A PROPERTY ONLY HAS ONE DRIVEWAY, THE DRIVEWAY SHALL BE CONSTRUCTED HALF AT A TIME.
16. ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY THAT ARE NOT A RESULT OF CONTRACT WORK ITEMS SHALL BE LANDSCAPED AT THE CONTRACTOR'S EXPENSE.
17. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
18. TERRACE WALK AND WALKWAYS LEADING FROM SIDEWALK TO HOUSE ARE TO BE CONCRETE SIDEWALK 5-INCH AND MATCH THE EXISTING WIDTH OR AS DIRECTED BY THE ENGINEER.
19. RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND MULCH/EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS OUTSIDE THE ROADBED (I.E. BETWEEN CURBS AND SIDEWALKS, OUTSIDE OF WALKS, ETC.) ARE LEFT EXPOSED FOR MORE THAN SEVEN (7) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED AND MULCH.
20. STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN SEVEN (7) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED AND MULCH.
21. EROSION CONTROL BMP'S ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTORS ECIP AND BY THE ENGINEER. EROSION CONTROL BMP'S SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE BMP IS NO LONGER REQUIRED.

ORDER OF SECTION 2 SHEETS

GENERAL NOTES

CONTACT LIST

PROJECT OVERVIEW

TYPICAL SECTIONS

CONSTRUCTION DETAILS

CURB RAMP DETAILS

REMOVAL PLAN

PLAN DETAIL

PAVING GRADES

EROSION CONTROL PLAN

STORM SEWER

PERMANENT SIGNING/PAVEMENT MARKING

LIGHTING PLAN

TRAFFIC SIGNAL PLAN

TRAFFIC CONTROL

HMA PAVEMENT TABLE

DEPTH	LAYER	THICKNESS	PAVEMENT TYPE
4 3/4-INCH	UPPER	2-INCH	4 LT 58-28 S
	LOWER	2 3/4-INCH	3 LT 58-28 S

2

UTILITY CONTACTS

AMERICAN TRANSMISSION COMPANY, LLC
RON LATUS
W234 N2000 RIDGEVIEW PARKWAY COURT
WAUKESHA, WI 53187
262-832-8688

AT&T
MATTHEW DINNAUER
2005 PEWAUKEE ROAD
WAUKESHA, WI 53188
262-896-7690
MD9542@ATT.COM

CHARTER COMMUNICATIONS
STEVE CRAMER
1320 N. DR. MARTIN LUTHER KING JR DRIVE
MILWAUKEE, WI 53212
414-277-4045
414-688-2385 (CELL)

CITY OF GREENFIELD - FIBER OPTIC
GREG SELISSEN - MCE
PO BOX 11064
GREEN BAY, WI 54307
920-328-8452
GSELISSEN@MCAE.BIZ

CITY OF GREENFIELD - SANITARY SEWER
JEFF KATZ
7325 W FOREST HOME AVE
GREENFIELD, WI 53220
414-939-8322
JEFFK@GREENFIELDWI.US

CITY OF MILWAUKEE - SEWER
CHAD CHRISBAUM
841 NORTH BROADWAY
MILWAUKEE, WI 53202
414-286-0470
CCHRIS@MILWAUKEE.GOV

CITY OF MILWAUKEE - STREET LIGHTING
DENNIS MILLER
1540 WEST CANAL ST
MILWAUKEE, WI 53233
414-286-5942
414-708-4251 (CELL)

CITY OF MILWAUKEE - TRAFFIC SIGNALS
ALFONZO NICHOLS JR.
1540 WEST CANAL STREET
MILWAUKEE, WI 53233
414-286-5941
414-708-5148 (CELL)

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT
LARRY ANDERSON
260 W SEEBOTH ST
MILWAUKEE, WI 53204-1446
414-225-2241
414-617-1429 (CELL)

MILWAUKEE WATER WORKS
DAVE GOLDAPP
841 N BROADWAY, ROOM 409
MILWAUKEE, WI 53202
414-286-6301
414-708-2695 (CELL)

WE ENERGIES - ALL CORRESPONDENCE
NICOLE SMULLEN
333 W EVERETT ST
MILWAUKEE, WI 53203
414-221-5617
414-460-7190 (CELL)
NICOLE.SMULLEN@WECENERGYGROUP.COM

WE ENERGIES - ELECTRIC
KEN FRANECKI
500 S 116TH ST
WEST ALLIS, WI 53214
414-944-5531
KENNETH.FRANECKI@WE-ENERGIES.COM

WE ENERGIES - GAS
JACOB SPENCER
700 S KANE ST
BURLINGTON, WI 53105
262-763-1039
JACOB.SPENCER@WE-ENERGIES.COM

WISDOT SE REGION - SIGNALS
WISDOT ELECTRICAL FIELD UNIT
935 S 60TH ST
WEST ALLIS, WI 53214
414-266-1170
WISDOT SIGNAL OPERATIONS
141 NW BARSTOW ST
WAUKESHA, WI 53187
414-750-2605

PROJECT CONTACTS

CITY OF GREENFIELD
JEFF KATZ
7325 W FOREST HOME AVE
GREENFIELD, WI 53220
414-939-8322
JEFFK@GREENFIELDWI.US

AYRES ASSOCIATES
BOB STEUCK
N17 W24222 RIVERWOOD DR
SUITE 310
WAUKESHA, WI 53188
262-523-4488
262-522-4906 (DIRECT)
STEUCKR@AYRESASSOCIATES.COM

WDNR
KRISTINA BETZOLD
2300 N. DR. MARTIN LUTHER KING JR DR
MILWAUKEE, WI 53212
414-263-8517
414-507-4946 (cell)
KRISTINA.BETZOLD@WISCONSIN.GOV

CITY OF MILWAUKEE
CHAD CHRISBAUM
841 NORTH BROADWAY
MILWAUKEE, WI 53202
414-286-0470
CCHRIS@MILWAUKEE.GOV

SEWRPC
ROB MERRY, PLS
W239 N1812 ROCKWOOD DRIVE
P.O. BOX 1607
WAUKESHA, WI 53187
262-953-4289
RMERRY@SEWRPC.ORG

MILWAUKEE COUNTY TRANSIT SYSTEM
DAVID LOCHER
1942 N 17TH STREET
MILWAUKEE, WI 53205
414-343-1727
DLOCHER@MCTS.ORG

DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

2

CITY OF
MILWAUKEE

CITY OF
GREENFIELD

N

BEGIN PROJECT
STA. 109+00
Y = 278,628.422
X = 587,019.654

FOREST HOME AVE.

MEMORIAL UNITED
METHODIST
CHURCH

52ND ST.

50TH PL.

VOLLMER AVE.

SCHAUER DR.

STROTHMANN DR.

HOLT AVE.

ALLEY

COOPERS HAWK
PARK

ALLEY

ALVERNO
COLLEGE

MORGAN AVE.

MORGAN AVE.

MIDLAND DR.

51ST ST.

GLENWOOD
ELEMENTARY
SCHOOL

49TH ST.

48TH ST.

47TH ST.

46TH ST.

45TH ST.

44TH ST.

ALLEY

43RD ST.

ST. FRANCIS DR.

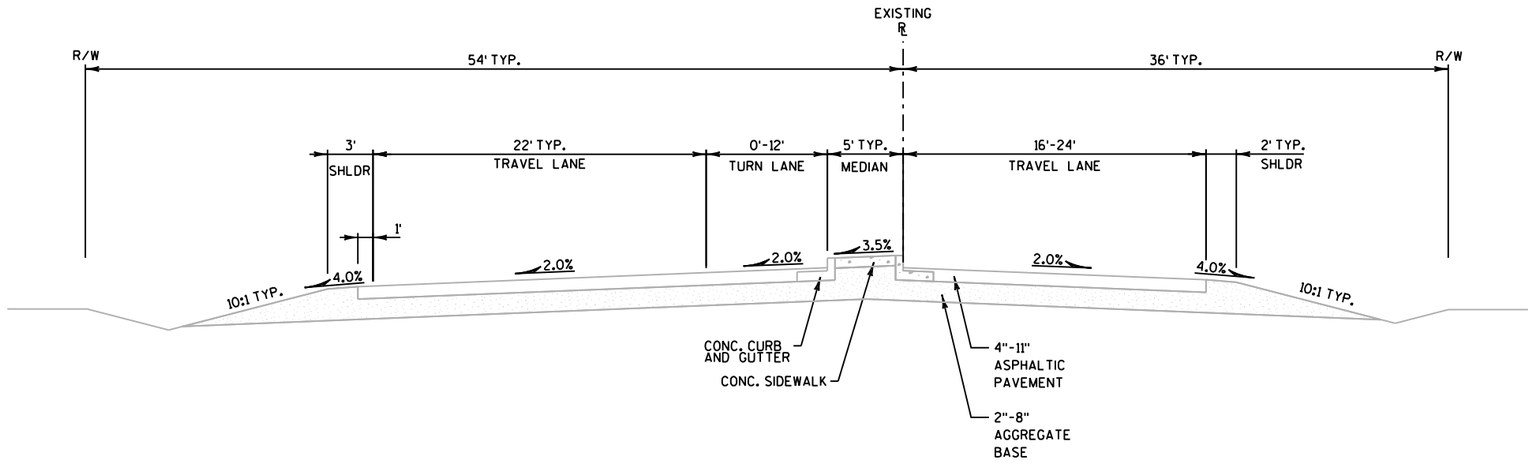
END PROJECT
STA. 141+65

CITY OF
MILWAUKEE

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 4	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_020201_po.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:300

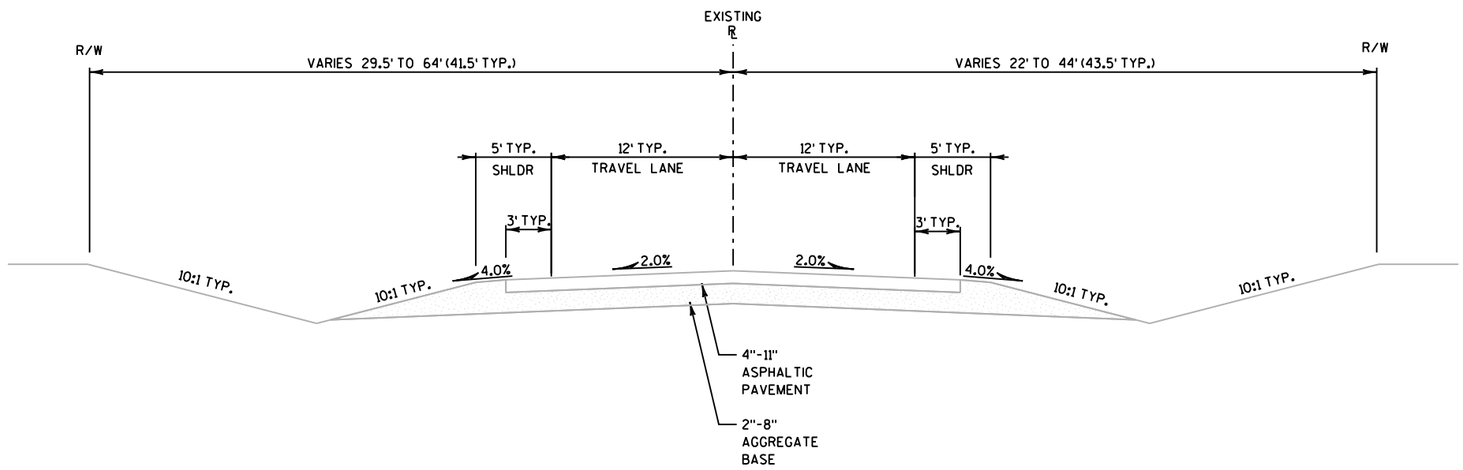
WISDOT/CADDS SHEET 42



TYPICAL EXISTING SECTION

W MORGAN AVE

STA. 109+00 TO STA. 111+81



TYPICAL EXISTING SECTION

W MORGAN AVE

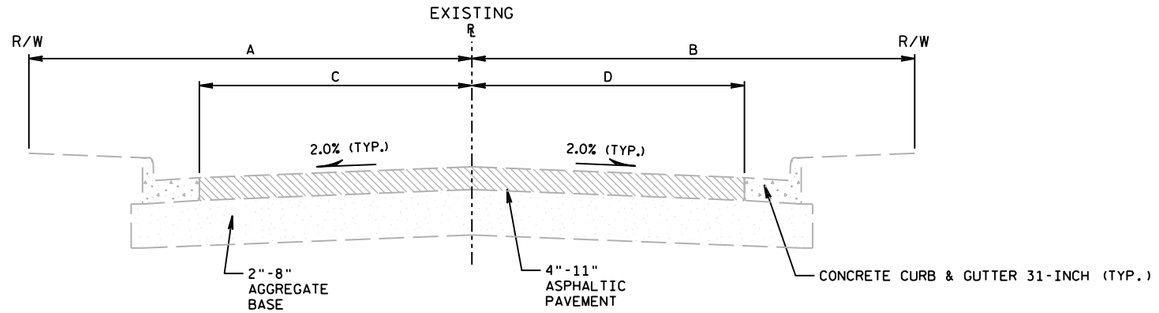
STA. 111+81 TO STA. 141+65

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	TYPICAL SECTION	SHEET 5	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_020301_ts.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 42

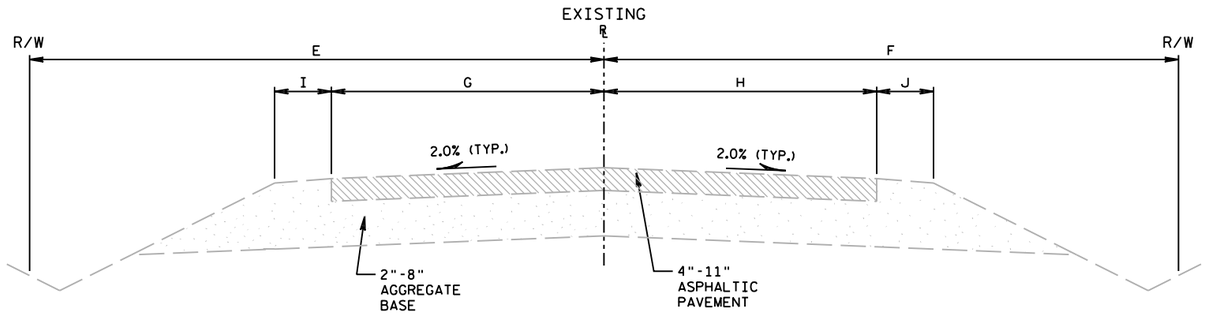
SIDE STREET	A FT	B FT	C FT	D FT
52ND STREET	15.75	14.25	10.0	10.0
50TH PLACE	24.0	26.0	10.0	10.0
SCHAUER DRIVE	30.0	30.0	10.0	10.0
STROTHMANN DRIVE	36.0	34.0	13.0	13.0
46TH STREET (NORTH APPROACH)	30.0	30.0	10.0	10.0
44TH STREET (NORTH APPROACH)	30.0	30.0	10.0	10.0



TYPICAL EXISTING SECTION

SIDE STREETS
SEE CHART

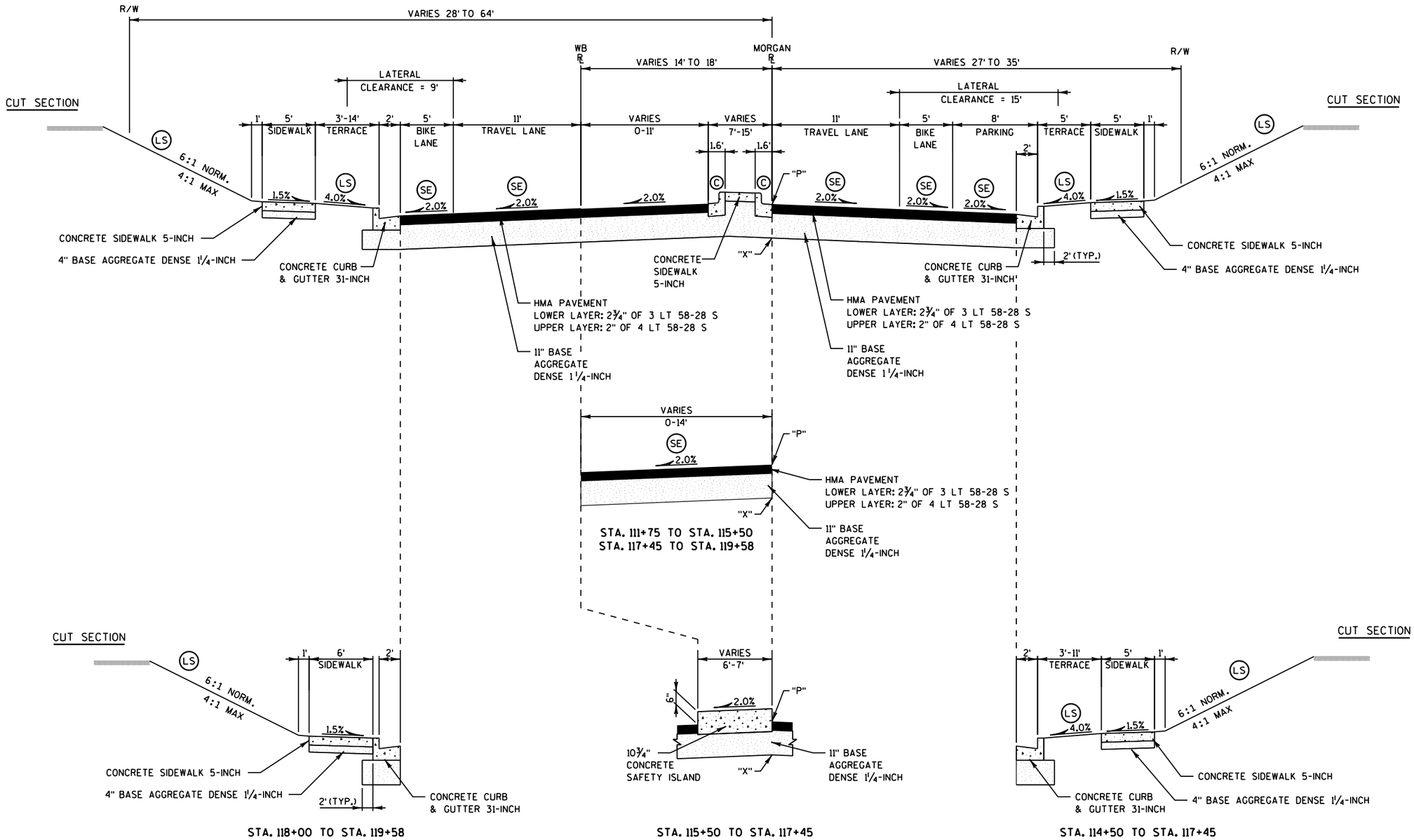
SIDE STREET	E FT	F FT	G FT	H FT	I FT	J FT
51ST STREET	45.0	45.0	12.0	23.0	3.0	3.0
49TH STREET	38.0	25.0	10.0	17.0	0.0	3.0
48TH STREET	30.0	30.0	13.0	12.0	3.0	3.0
47TH STREET	40.0	40.0	12.0	12.0	2.5	3.5
46TH STREET (SOUTH APPROACH)	30.0	30.0	14.0	12.0	2.5	2.0
45TH STREET	30.0	30.0	13.0	12.0	0.0	2.5
44TH STREET (SOUTH APPROACH)	30.0	30.0	13.0	14.0	2.0	1.0



TYPICAL EXISTING SECTION

SIDE STREETS
SEE CHART

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	TYPICAL SECTION	SHEET 6	E



TYPICAL FINISHED SECTION

W MORGAN AVE
STA. 109+00 TO STA. 119+58 MORGAN ℄
(STA. 209+00 TO STA. 219+58 WB ℄)

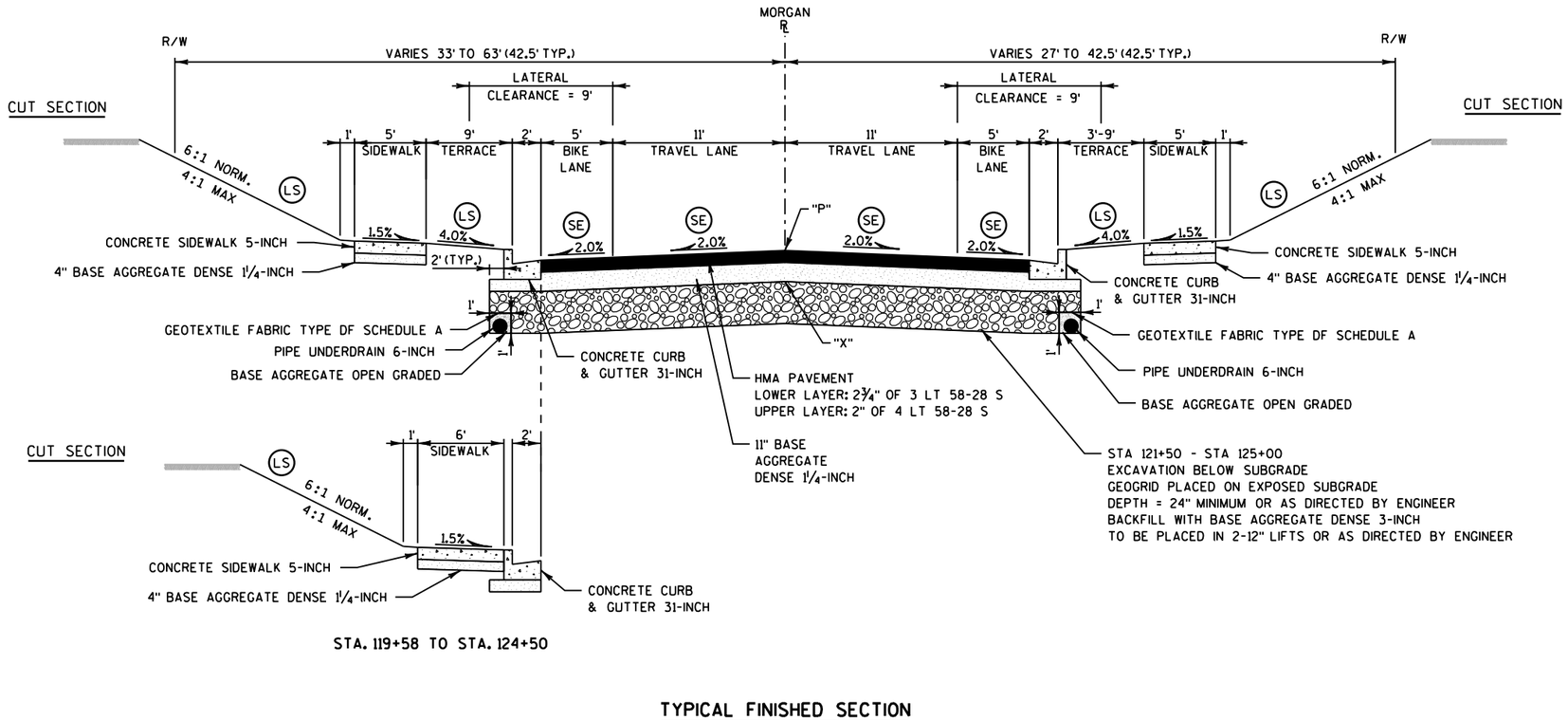
LEGEND

- "P" POINT REFERRED TO ON PROFILE
- "X" SUBGRADE POINT REFERRED TO ON CROSS SECTIONS
- (LS) TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE NO. 40, EROSION MAT SPECIAL
- (SE) SEE PAVING GRADES FOR PAVEMENT CROSS SLOPES
- (C) CONCRETE CURB & GUTTER 19-INCH

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	TYPICAL SECTION	SHEET 7	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_020302_ts.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:200

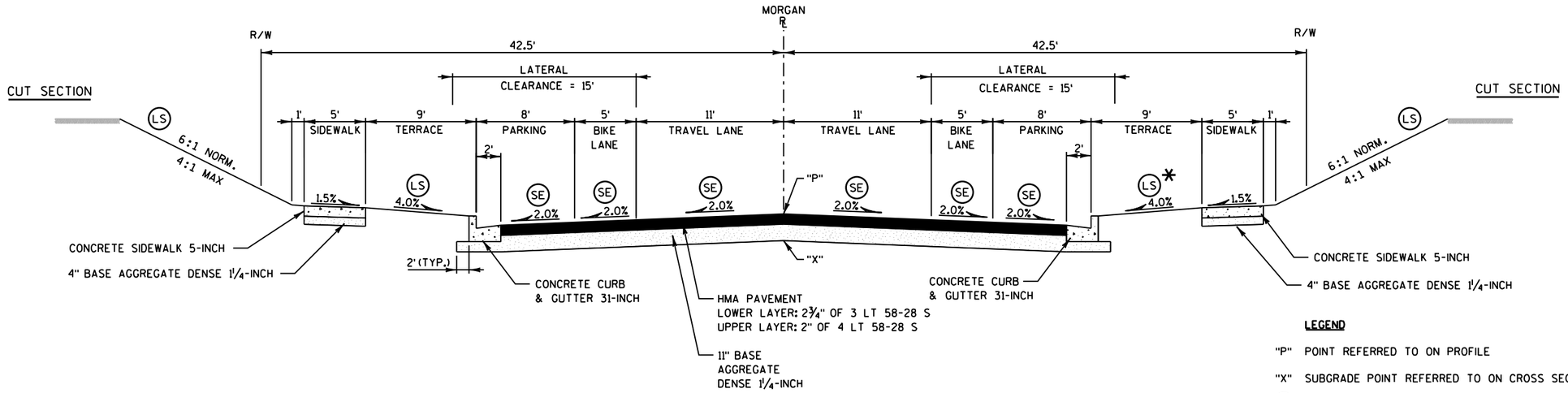
WISDOT/CADDS SHEET 42



STA. 119+58 TO STA. 124+50

TYPICAL FINISHED SECTION

W MORGAN AVE
STA. 119+58 TO STA. 128+50 MORGAN ℄



* SOD TO BE USED IN PLACE OF SEED AND EROSION MAT ALONG GLENWOOD ELEMENTARY SCHOOL.

TYPICAL FINISHED SECTION

W MORGAN AVE
STA. 128+50 TO STA. 141+65 MORGAN ℄

LEGEND

"P" POINT REFERRED TO ON PROFILE

"X" SUBGRADE POINT REFERRED TO ON CROSS SECTIONS

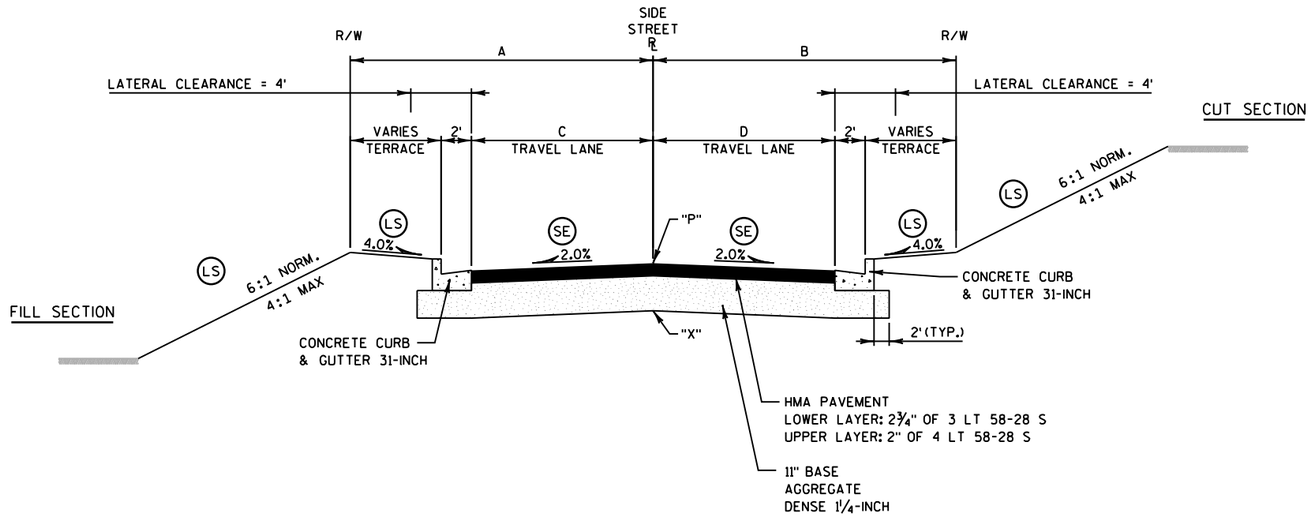
(LS) TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE NO. 40, EROSION MAT SPECIAL

(SE) SEE PAVING GRADES FOR PAVEMENT CROSS SLOPES

(C) CONCRETE CURB & GUTTER 19-INCH

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	TYPICAL SECTION	SHEET 8	E

2



SIDE STREET	A FT	B FT	C FT	D FT
52ND STREET	15.75	14.25	10.0	10.0
51ST STREET	45.0	45.0	12.0	24.0
50TH PLACE	24.0	26.0	10.0	10.0
49TH STREET	38.0	25.0	24.0	12.0
SCHAUER DRIVE (NORTH APPROACH)	30.0	30.0	10.0	10.0
48TH STREET (SOUTH APPROACH)	30.0	30.0	13.0	13.0
STROTHMANN DRIVE (NORTH APPROACH)	36.0	34.0	13.0	13.0
47TH STREET	40.0	40.0	13.0	13.0
46TH STREET (NORTH APPROACH)	30.0	30.0	10.0	10.0
46TH STREET (SOUTH APPROACH)	30.0	30.0	13.0	13.0
45TH STREET	30.0	30.0	13.0	13.0
44TH STREET (NORTH APPROACH)	30.0	30.0	10.0	10.0
44TH STREET (SOUTH APPROACH)	30.0	30.0	13.0	13.0

TYPICAL FINISHED SECTION

SIDE STREETS
SEE CHART

LEGEND

"P" POINT REFERRED TO ON PROFILE

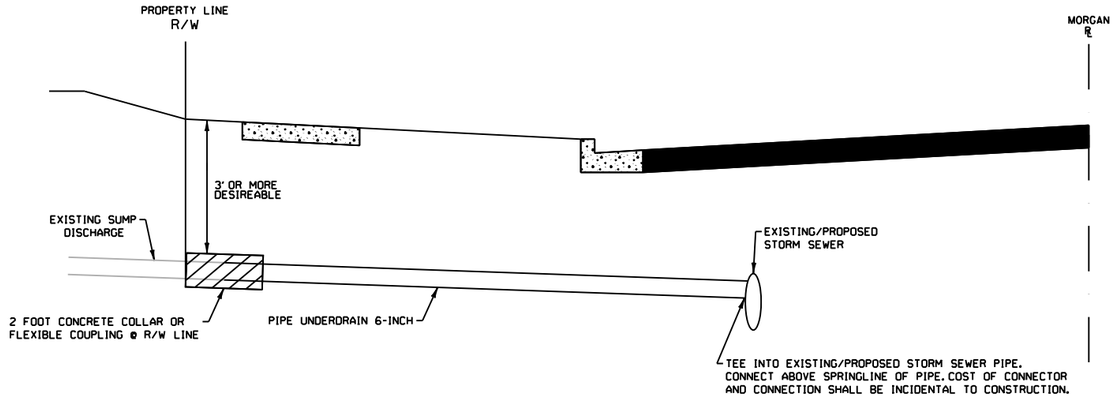
"X" SUBGRADE POINT REFERRED TO ON CROSS SECTIONS

(LS) TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE NO. 40, EROSION MAT SPECIAL

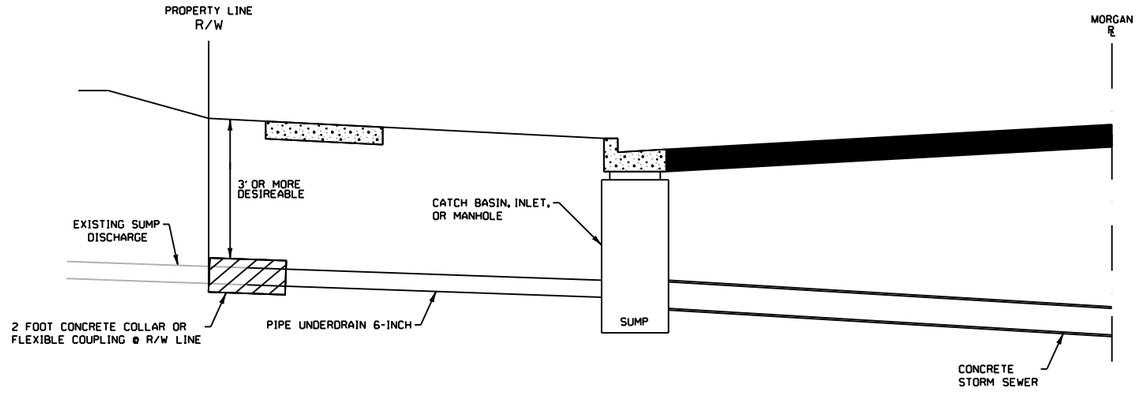
(SE) SEE PAVING GRADES FOR PAVEMENT CROSS SLOPES

(C) CONCRETE CURB & GUTTER 19-INCH

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	TYPICAL SECTION	SHEET 9	E

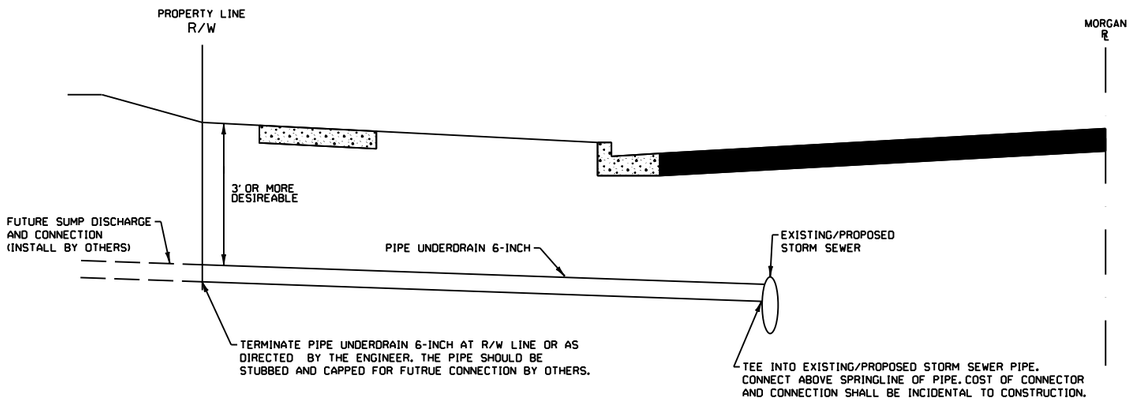


CONNECTION TO STORM SEWER PIPE

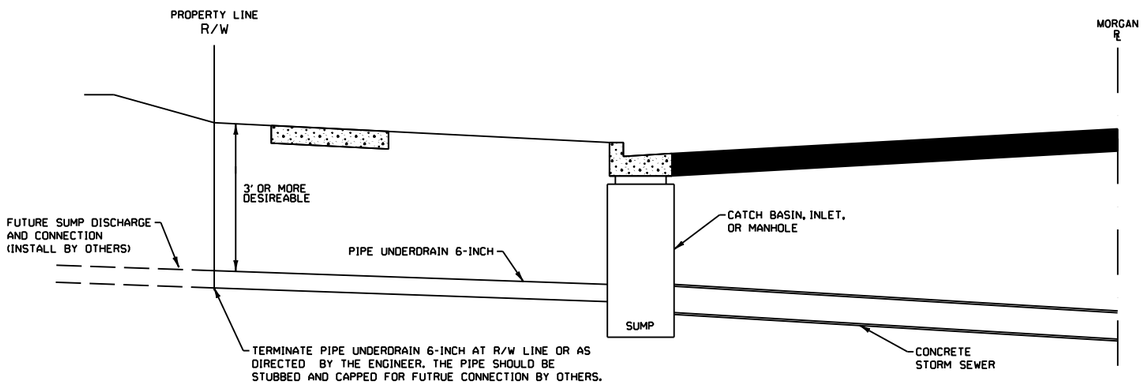


CONNECTION TO CATCH BASIN, INLET OR MANHOLE STRUCTURE

PRIVATE DRAIN RECONNECT EXISTING STORM SEWER LATERAL



CONNECTION TO STORM SEWER PIPE



CONNECTION TO CATCH BASIN, INLET OR MANHOLE STRUCTURE

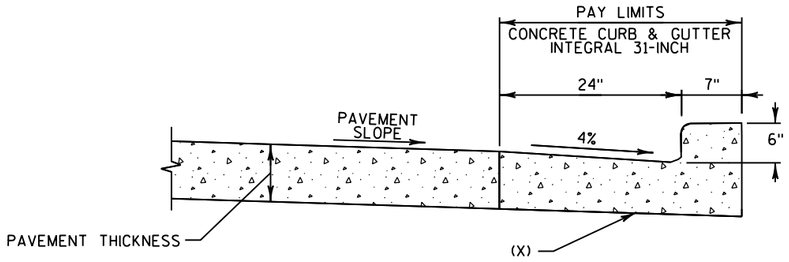
PRIVATE DRAIN INSTALL NEW STORM SEWER LATERAL

2

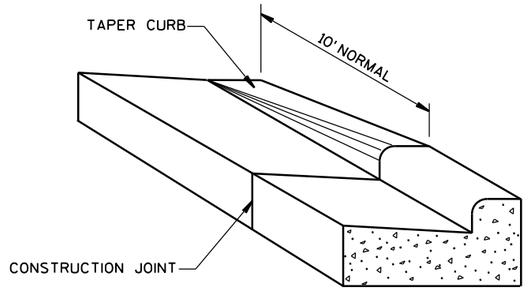
NOTES:

(X) THE BOTTOM OF CURB AND GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE. PROVIDE A MINIMUM GUTTER THICKNESS THAT MATCHES ADJACENT PAVEMENT.

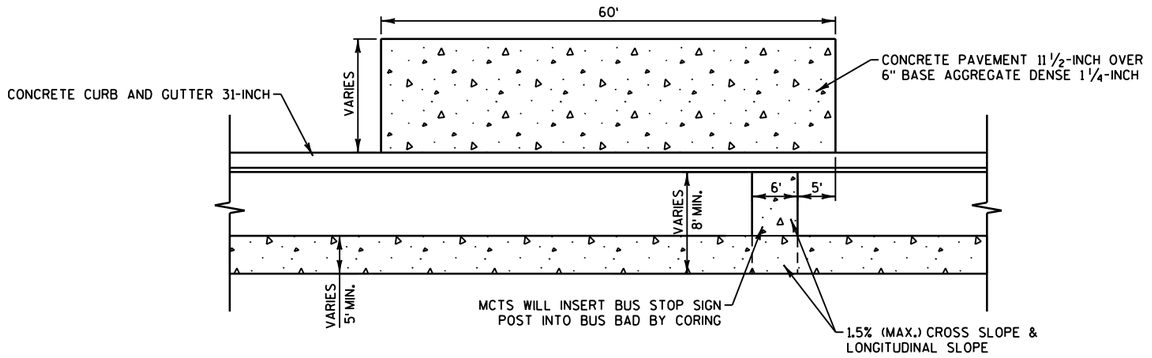
ALL OTHER DETAILS NOT SHOWN SHALL BE IN ACCORDANCE TO SDD CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES - CONCRETE CURB & GUTTER 31".



CONCRETE CURB & GUTTER INTEGRAL 31-INCH

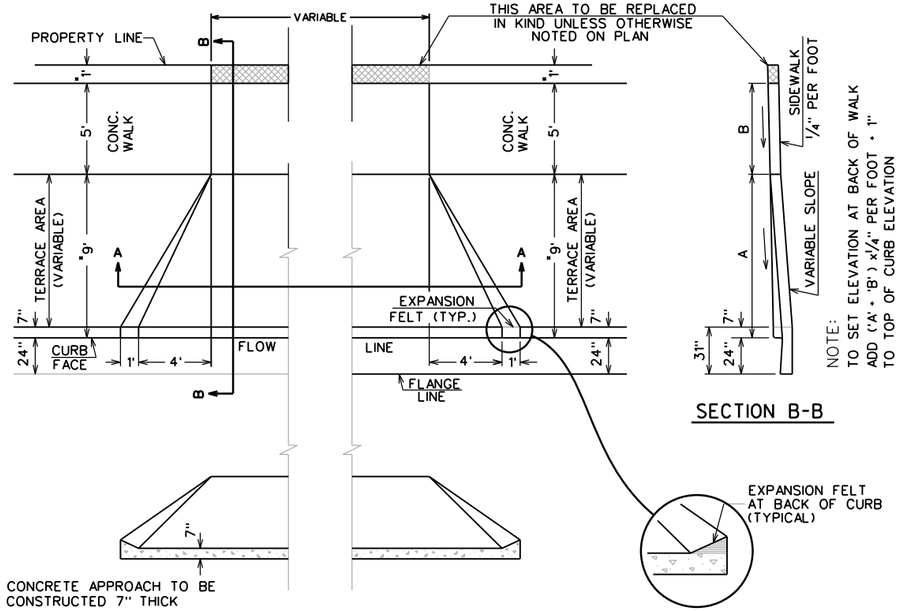


DETAIL OF CURB & GUTTER TERMINI



CONCRETE BUS STOP AND BUS STOPPING ZONE PAD

SEE PLAN DETAIL FOR LOCATIONS



SECTION B-B

SECTION A-A
(NOT TO SCALE)

NOTE:
TO SET ELEVATION AT BACK OF WALK ADD ('A' + 'B') x 1/4" PER FOOT + 1" TO TOP OF CURB ELEVATION

FLARED CONCRETE DRIVEWAY APPROACH WITH CONCRETE WALK

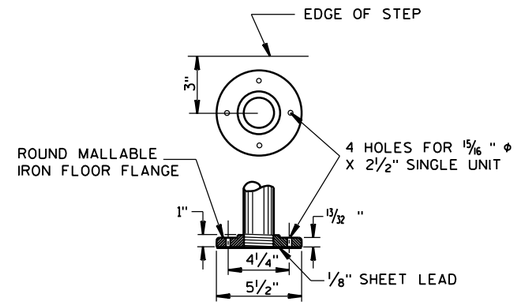
NOTES

MAXIMUM DRIVEWAY WIDTH IS 30 FEET
MINIMUM DRIVEWAY WIDTH IS 12 FEET
(AT PROPERTY LINE, NOT INCLUDING FLARES)

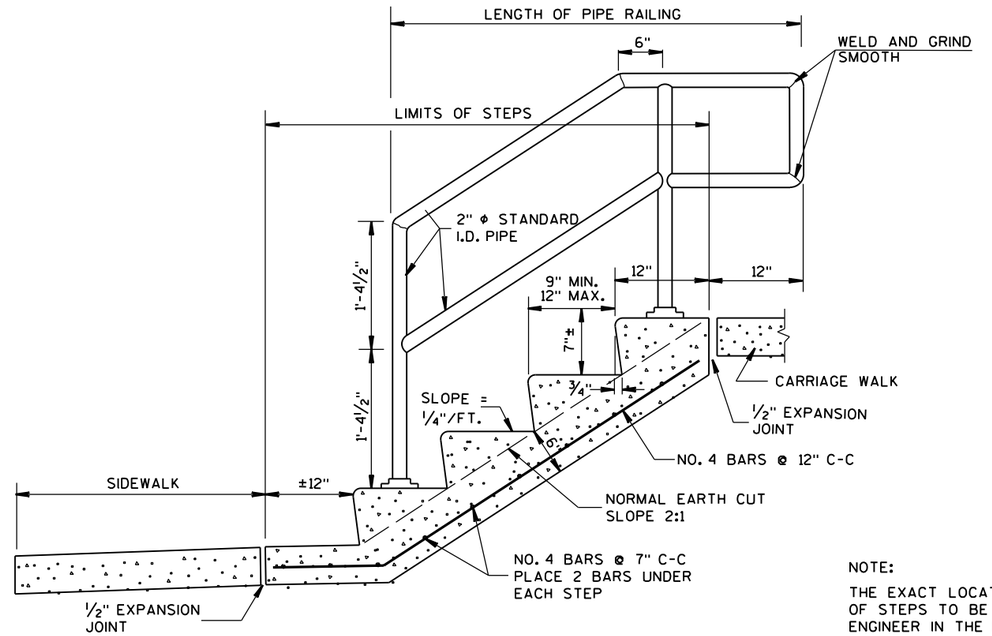
PLACE DUMMY JOINT AT CENTER OF DRIVEWAY OVER 14 FEET IN WIDTH AND/OR AT ALL JOINTS IN THE GUTTER

IF CURB & GUTTER SECTION TO BE REMOVED IS LESS THAN 5 FEET FROM EXISTING JOINT, THEN ALL CURB & GUTTER MUST BE REMOVED AND REPOURED UP TO JOINT.

* DIMMENSIONS MARKED WITH * ARE FOR 30 FOOT PAVEMENT (FACE TO FACE) IN A 60 FOOT WIDE RIGHT-OF-WAY. FOR OTHER CONDITIONS PLEASE CONTACT THE DEPARTMENT OF PUBLIC WORKS.



FLANGE DETAIL



CONCRETE STEPS DETAIL

NOTE:

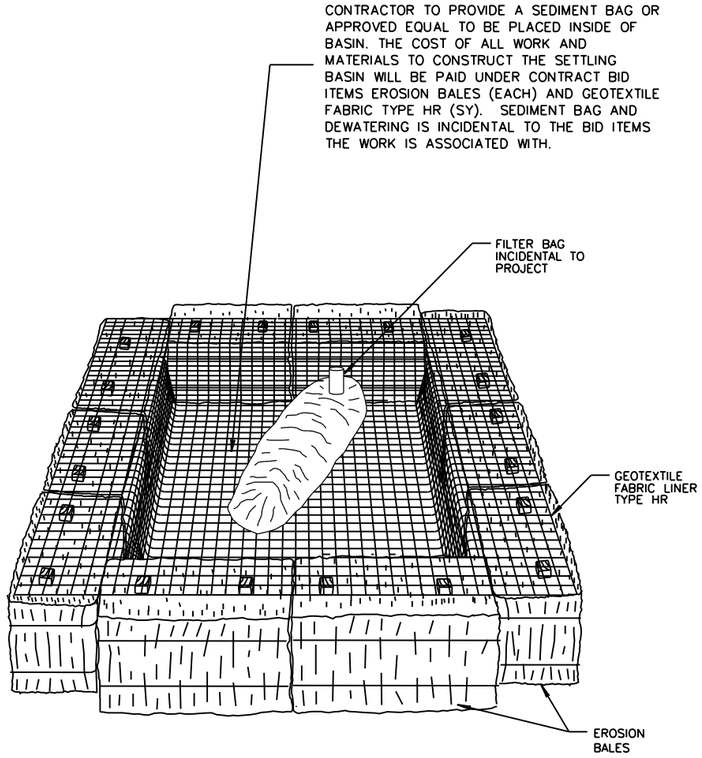
THE EXACT LOCATION, WIDTHS, & NUMBER OF STEPS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

STEEL REINFORCEMENT AND PIPE RAILING NOT REQUIRED ON STEPS WITH 2 RISERS OR LESS.

RAILING TO BE PLACED ON LEFT ASCENDING SIDE OF STEPS ONLY.

CARRIAGE WALK TO MATCH EXISTING WIDTH.

RAILING TO BE POWDER COATED COLOR BLACK.



TEMPORARY SETTLING BASIN WITH SEDIMENT BAG

(SIZE TO BE DETERMINED IN FIELD AS INDICATED BELOW:)

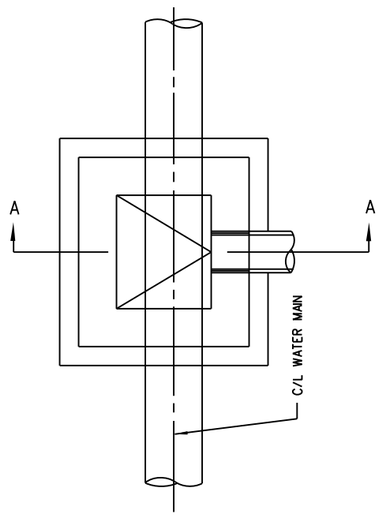
STORAGE VOLUME (C.F.) = 16 X GPM (PUMP RATE)

EXAMPLE:
CONTRACTOR INDICATES PUMP CAPABLE OF 50 GPM
HEIGHT OF BALES = 1.5 FT.

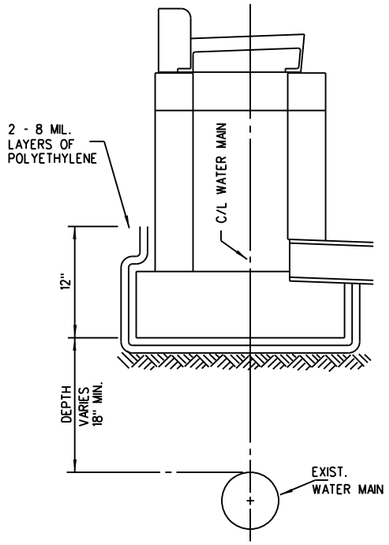
SOLUTION:
SV (C.F.) = 16 X 50
SV = 800 C.F.

$\frac{800 \text{ C.F.}}{1.5 \text{ FT.}}$ = 533 S.F.

USE A 20 FT. X 27 FT. BASIN



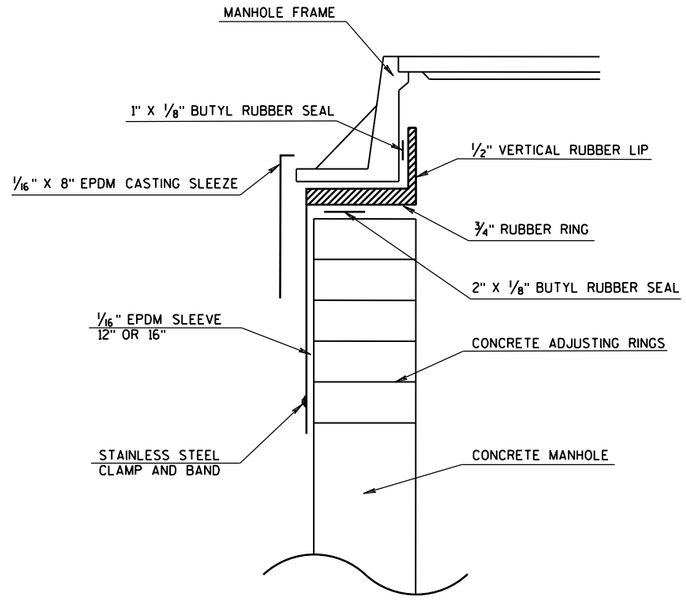
PLAN VIEW



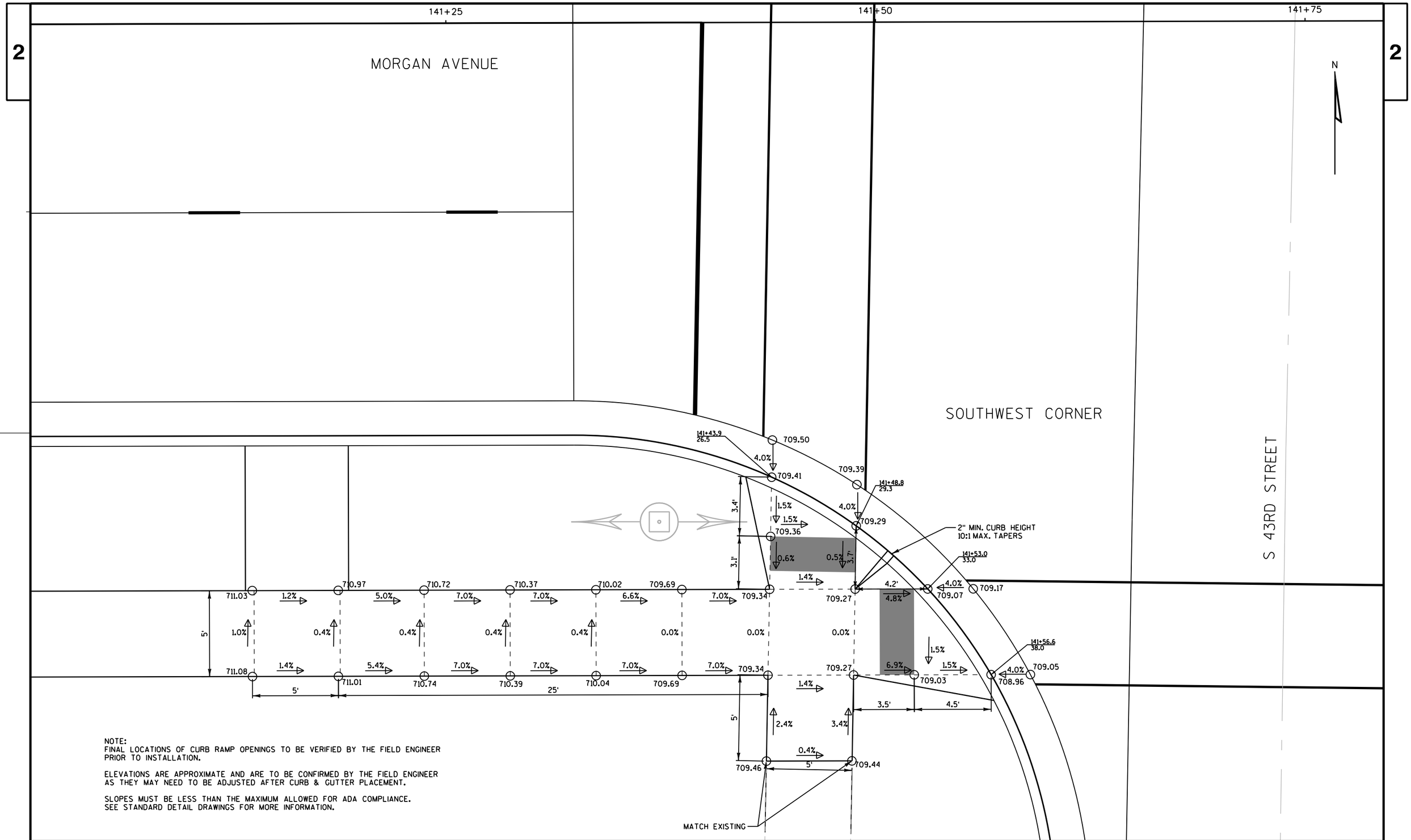
SECTION A-A

WATER MAIN PROTECTION

INSTALL ON ALL CATCH BASINS OR INLETS WITH
LESS THAN 24" HORIZONTAL OUT-TO-OUT CLEARANCE
FROM STRUCTURE TO WATER MAIN



SANITARY MANHOLE CHIMNEY SEAL INTERNAL/EXTERNAL SPECIAL



NOTE:
FINAL LOCATIONS OF CURB RAMP OPENINGS TO BE VERIFIED BY THE FIELD ENGINEER PRIOR TO INSTALLATION.

ELEVATIONS ARE APPROXIMATE AND ARE TO BE CONFIRMED BY THE FIELD ENGINEER AS THEY MAY NEED TO BE ADJUSTED AFTER CURB & GUTTER PLACEMENT.

SLOPES MUST BE LESS THAN THE MAXIMUM ALLOWED FOR ADA COMPLIANCE.
SEE STANDARD DETAIL DRAWINGS FOR MORE INFORMATION.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SHEET E

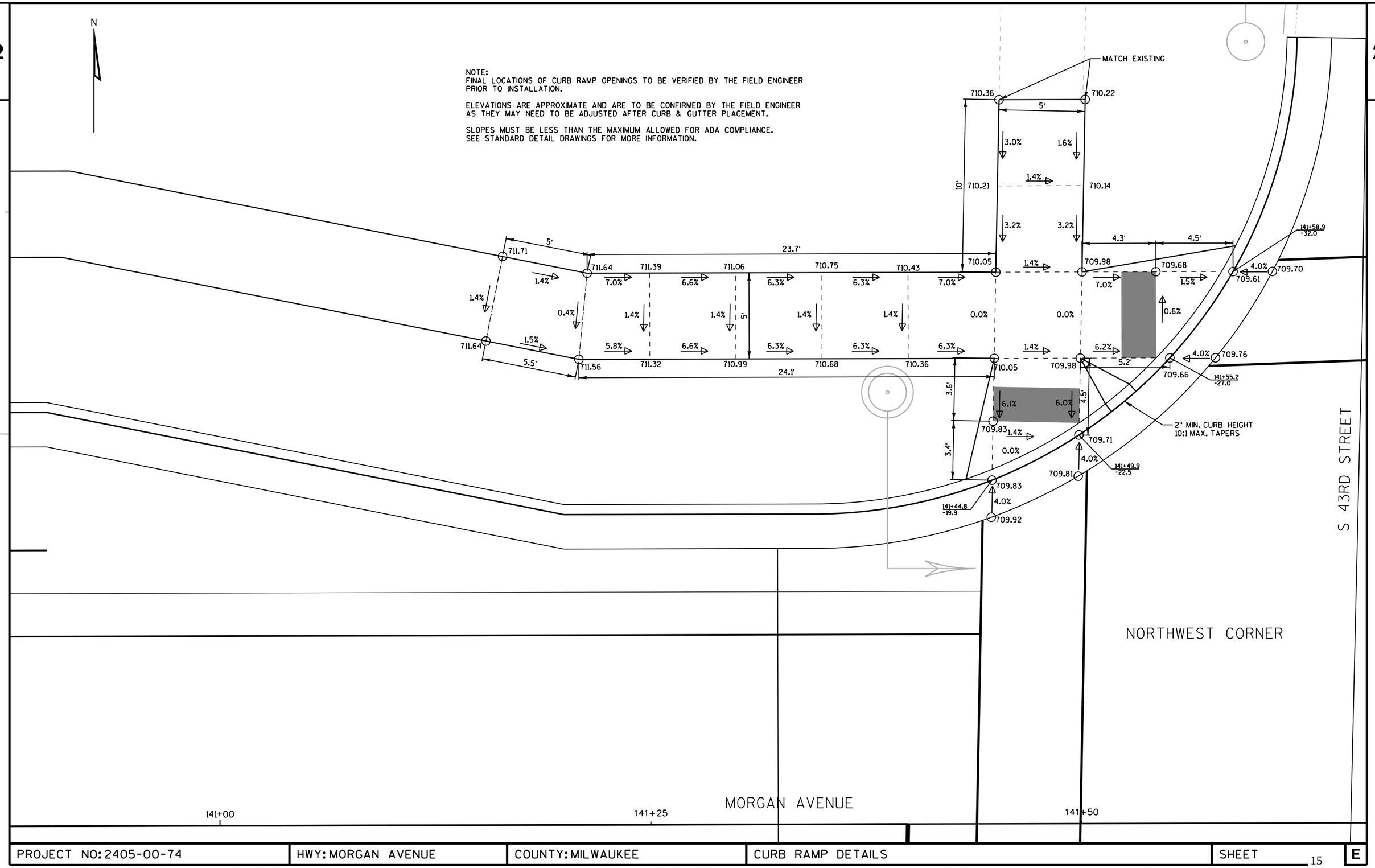
FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021105_rd.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:5

N

NOTE:
FINAL LOCATIONS OF CURB RAMP OPENINGS TO BE VERIFIED BY THE FIELD ENGINEER PRIOR TO INSTALLATION.

ELEVATIONS ARE APPROXIMATE AND ARE TO BE CONFIRMED BY THE FIELD ENGINEER AS THEY MAY NEED TO BE ADJUSTED AFTER CURB & GUTTER PLACEMENT.

SLOPES MUST BE LESS THAN THE MAXIMUM ALLOWED FOR ADA COMPLIANCE.
SEE STANDARD DETAIL DRAWINGS FOR MORE INFORMATION.



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021106_rd.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:5

WISDOT/CADDS SHEET 42

NOTE:
FINAL LOCATIONS OF CURB RAMP OPENINGS TO BE VERIFIED BY THE FIELD ENGINEER PRIOR TO INSTALLATION.

ELEVATIONS ARE APPROXIMATE AND ARE TO BE CONFIRMED BY THE FIELD ENGINEER AS THEY MAY NEED TO BE ADJUSTED AFTER CURB & GUTTER PLACEMENT.

SLOPES MUST BE LESS THAN THE MAXIMUM ALLOWED FOR ADA COMPLIANCE.
SEE STANDARD DETAIL DRAWINGS FOR MORE INFORMATION.

N

S 43RD STREET

MATCH EXISTING

708.04 — 1.2% — 1.4% — 708.13

5'

1.4%

707.98 — 5' — 708.05

6.0% — 6.7%

0.8%

707.68 — 707.72

10'

6.0% — 6.7%

10'

0.0%

707.38 — 707.38 — 1.7% — 1.7% — 707.55

MATCH EXISTING

1.4% — 1.4%

5'

1.5%

1.5% — 1.5%

707.31 — 707.46

142+30.9
-34.5

4.1' — 3.1'

0.0%

707.21 — 707.28

707.30 — 4.0% — 707.21 — 0.0% — 2.3% — 707.28

1.5% — 1.4% — 1.4%

2.5%

4.0% — 707.21 — 0.0% — 707.21

707.22 — 707.12 — 3.6'

142+34.4
-29.6

3.4' — 4.7% — 7.0% — 2.9'

707.01

2" MIN. CURB HEIGHT
10:1 MAX. TAPERS

707.05 — 1.5%

1.4% — 3.5'

142+37.9
-26.4

4.0% — 707.15

706.96

4.0%

707.05

142+42.9
-23.5

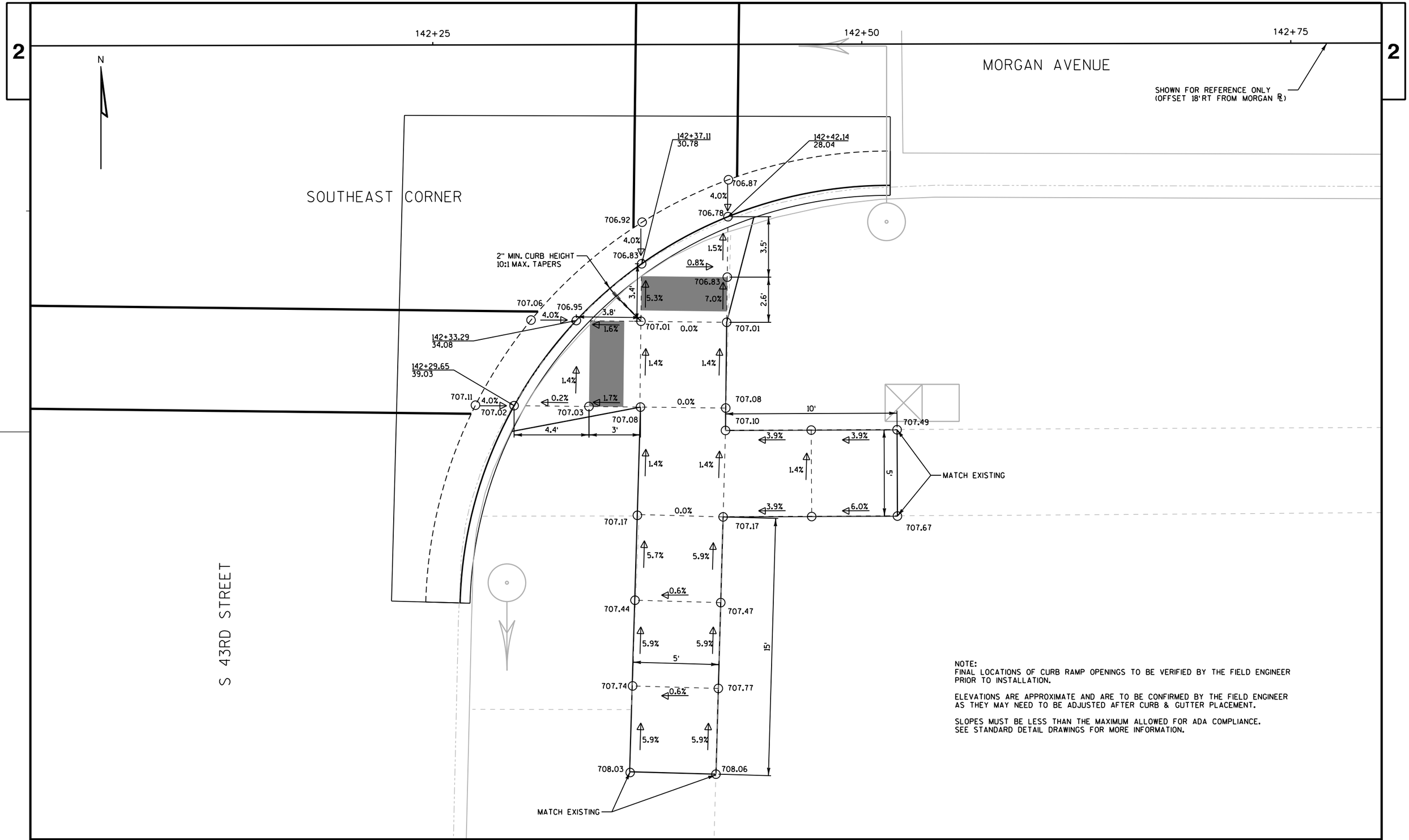
NORTHEAST CORNER

SHOWN FOR REFERENCE ONLY
(OFFSET 13'LT FROM MORGAN ℄)

142+25 — 142+50 — MORGAN AVENUE — 142+75

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021107_rd.dgn
PLOT DATE : 4/30/2018
PLOT BY : steuckr
PLOT NAME :
PLOT SCALE : 1:5
WISDOT/CADDS SHEET 42



NOTE:
FINAL LOCATIONS OF CURB RAMP OPENINGS TO BE VERIFIED BY THE FIELD ENGINEER PRIOR TO INSTALLATION.

ELEVATIONS ARE APPROXIMATE AND ARE TO BE CONFIRMED BY THE FIELD ENGINEER AS THEY MAY NEED TO BE ADJUSTED AFTER CURB & GUTTER PLACEMENT.

SLOPES MUST BE LESS THAN THE MAXIMUM ALLOWED FOR ADA COMPLIANCE.
SEE STANDARD DETAIL DRAWINGS FOR MORE INFORMATION.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CURB RAMP DETAILS	SHEET 17	E

2

2

W FOREST HOME AVENUE

W MORGAN AVENUE

N

STA. 113+00

MATCHLINE

SLOPE INTERCEPT

REMOVING STORM SEWER (12")

REMOVING STORM SEWER (12")

REMOVING LIGHT (BY OTHERS)

SAVE

52ND ST. ℄

S 52ND STREET

MORGAN ℄

107+00 108+00 109+00 110+00 111+00 112+00 113+00

209+00 210+00 211+00 212+00 213+00

5+00 6+00

12" SS

MH

ASPHALT

GRAVEL

RR TIES

12" CMCP

POST

MAILBOX

BUS STOP

24" 18" 12" 10" 8" 6" 30"

NOTES:

1) REFER TO PERMANENT SIGNING/PAVEMENT MARKING SHEETS FOR SIGN REMOVALS.

2) ALL LOCATIONS ARE APPROXIMATE. FINAL DETERMINATIION OF REMOVAL IS RESPONSIBILITY OF FIELD ENGINEER.

REMOVALS LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING PAVEMENT
- REMOVING INLET
- REMOVING MANHOLE
- REMOVING CURB & GUTTER
- XXXXX SAWING ASPHALT/CONCRETE
- REMOVING GUARDRAIL
- CLEARING & GRUBBING
- REMOVING SMALL PIPE CULVERTS
- REMOVING FENCE
- * REMOVAL IS INCIDENTAL TO EXCAVATION COMMON

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	REMOVAL PLAN	SHEET 18	E

2

STA. 113+00

STA. 119+00

2

REMOVALS LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING PAVEMENT
- REMOVING INLET
- REMOVING MANHOLE
- REMOVING CURB & GUTTER
- SAWING ASPHALT/CONCRETE
- REMOVING GUARDRAIL
- CLEARING & GRUBBING
- REMOVING SMALL PIPE CULVERTS
- REMOVING FENCE
- * REMOVAL IS INCIDENTAL TO EXCAVATION COMMON

N

S 50TH PLACE

REMOVE TO EXIST INLET THAT IS TO REMAIN (SEE STORM SEWER PLAN)

REMOVING STORM SEWER (12")

REMOVING STORM SEWER (12")

SLOPE INTERCEPT

SLOPE INTERCEPT

50TH PL. ℄

W/B ℄

MORGAN ℄

W MORGAN AVENUE

213+00 113+00

214+00 114+00

215+00 115+00

216+00 116+00

217+00 117+00

218+00 118+00

219+00 119+00

1014+00

51ST ST. ℄

S 51ST STREET

SLOPE INTERCEPT

SLOPE INTERCEPT

ASPHALT

ASPHALT

GRAVEL

GRAVEL

ASPHALT

RR TIES

STONE

CONCRETE

12" CMCP

12" CMCP

12" MAPLE

BLOCK

POST

MATCHLINE

MATCHLINE

NOTES:

1) REFER TO PERMANENT SIGNING/PAVEMENT MARKING SHEETS FOR SIGN REMOVALS.

2) ALL LOCATIONS ARE APPROXIMATE. FINAL DETERMINATIION OF REMOVAL IS RESPONSIBILITY OF FIELD ENGINEER.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	REMOVAL PLAN	SHEET 19	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021112_rp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

STA. 119+00

STA. 125+00

2

N

S SCHAUER AVENUE

W MORGAN AVENUE

S 48TH STREET

S 49TH STREET

MORGAN R

49TH ST. R

SLOPE INTERCEPT

REMOVING STORM SEWER (30")

REMOVING STORM SEWER (18")

REMOVING STORM SEWER (15")

REMOVING STORM SEWER (12")

REMOVING STORM SEWER (6")

SAVE

REMOVE TO NEW SS CONNECTION (SEE STORM SEWER PLAN)

BLOCK WALL

STACKED STONE

CLEANOUT

CONCRETE

ASPHALT

MH

219+00

119+00

120+00

121+00

122+00

123+00

124+00

125+00

45+00

44+00

34+00

33+00

MATCHLINE

MATCHLINE

NOTES:

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REMOVALS LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING PAVEMENT
- REMOVING INLET
- REMOVING MANHOLE
- REMOVING CURB & GUTTER
- XXXXX SAWING ASPHALT/CONCRETE
- REMOVING GUARDRAIL
- CLEARING & GRUBBING
- REMOVING SMALL PIPE CULVERTS
- REMOVING FENCE
- * REMOVAL IS INCIDENTAL TO EXCAVATION COMMON

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	REMOVAL PLAN	SHEET 20	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021113_rp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

STA. 125+00

STA. 131+00

N

STROTHMANN DR. ℄

SLOPE INTERCEPT

ASPHALT

ASPHALT

S STROTHMANN DR.

RR TIES

ALLEY

CONCRETE

SAVE

SLOPE INTERCEPT

WOOD PLANKS

*

125+00

126+00

MORGAN ℄

127+00

128+00

129+00

130+00

131+00

55+00

W MORGAN AVENUE

REMOVING LIGHT (BY OTHERS)

SLOPE INTERCEPT

STACKED STONE

CONCRETE

RR TIES

CONCRETE

CONCRETE

FLAG

S 47TH ST.

64+00

DECORATIVE WELL

POST

SLOPE INTERCEPT

FLAG

BLOCKS

REMOVING LIGHT (BY OTHERS)

47TH ST. ℄

MATCHLINE

MATCHLINE

REMOVALS LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING PAVEMENT
- REMOVING INLET
- REMOVING MANHOLE
- REMOVING CURB & GUTTER
- SAWING ASPHALT/CONCRETE
- REMOVING GUARDRAIL
- CLEARING & GRUBBING
- REMOVING SMALL PIPE CULVERTS
- REMOVING FENCE
- * REMOVAL IS INCIDENTAL TO EXCAVATION COMMON

NOTES:

1) REFER TO PERMANENT SIGNING/PAVEMENT MARKING SHEETS FOR SIGN REMOVALS.

2) ALL LOCATIONS ARE APPROXIMATE. FINAL DETERMINATIION OF REMOVAL IS RESPONSIBILITY OF FIELD ENGINEER.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	REMOVAL PLAN	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021114_rp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

2

STA. 131+00

STA. 137+00

2

N

REMOVE TO NEW SS CONNECTION (SEE STORM SEWER PLAN)

S 46TH ST.

REMOVING STORM SEWER (12")

SLOPE INTERCEPT

SAVE

ASPHALT

RR TIES

STONE

DECORATIVE BLOCKS

BLOCKS

STACKED STONE

12" SS

POST

131+00

75+00

132+00

MORGAN ℄

133+00

134+00

135+00

136+00

137+00

W MORGAN AVENUE

12" CMCP

REMOVING LIGHT (BY OTHERS)

S 45TH ST.

74+00

84+00

46TH ST. ℄

45TH ST. ℄

MATCHLINE

MATCHLINE

NOTES:

1) REFER TO PERMANENT SIGNING/PAVEMENT MARKING SHEETS FOR SIGN REMOVALS.

2) ALL LOCATIONS ARE APPROXIMATE. FINAL DETERMINATIION OF REMOVAL IS RESPONSIBILITY OF FIELD ENGINEER.

REMOVALS LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING PAVEMENT
- REMOVING INLET
- REMOVING MANHOLE
- REMOVING CURB & GUTTER
- XXXXX SAWING ASPHALT/CONCRETE
- REMOVING GUARDRAIL
- CLEARING & GRUBBING
- REMOVING SMALL PIPE CULVERTS
- REMOVING FENCE
- * REMOVAL IS INCIDENTAL TO EXCAVATION COMMON

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	REMOVAL PLAN	SHEET 22	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021115_rp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

STA. 137+00

N

W MORGAN AVENUE

137+00 | 138+00 | 139+00 | 140+00 | 141+00 | 142+00 | 143+00

MORGAN ℄

95+00

94+00

44TH ST. ℄

S 44TH ST.

S 43RD STREET

ALLEY

MATCHLINE

SLOPE INTERCEPT

REMOVING STORM SEWER (12")

REMOVING STORM SEWER (12")

SLOPE INTERCEPT

SLOPE INTERCEPT

SLOPE INTERCEPT

SLOPE INTERCEPT

FLAG

POST

BLOCKS

ASPHALT

DECORATIVE WELL

STONES

RR TIES

STACKED STONE

CONCRETE

BAMF

12" SS

42" SS

60" SS

MH

NOTES:

1) REFER TO PERMANENT SIGNING/PAVEMENT MARKING SHEETS FOR SIGN REMOVALS.

2) ALL LOCATIONS ARE APPROXIMATE. FINAL DETERMINATIION OF REMOVAL IS RESPONSIBILITY OF FIELD ENGINEER.

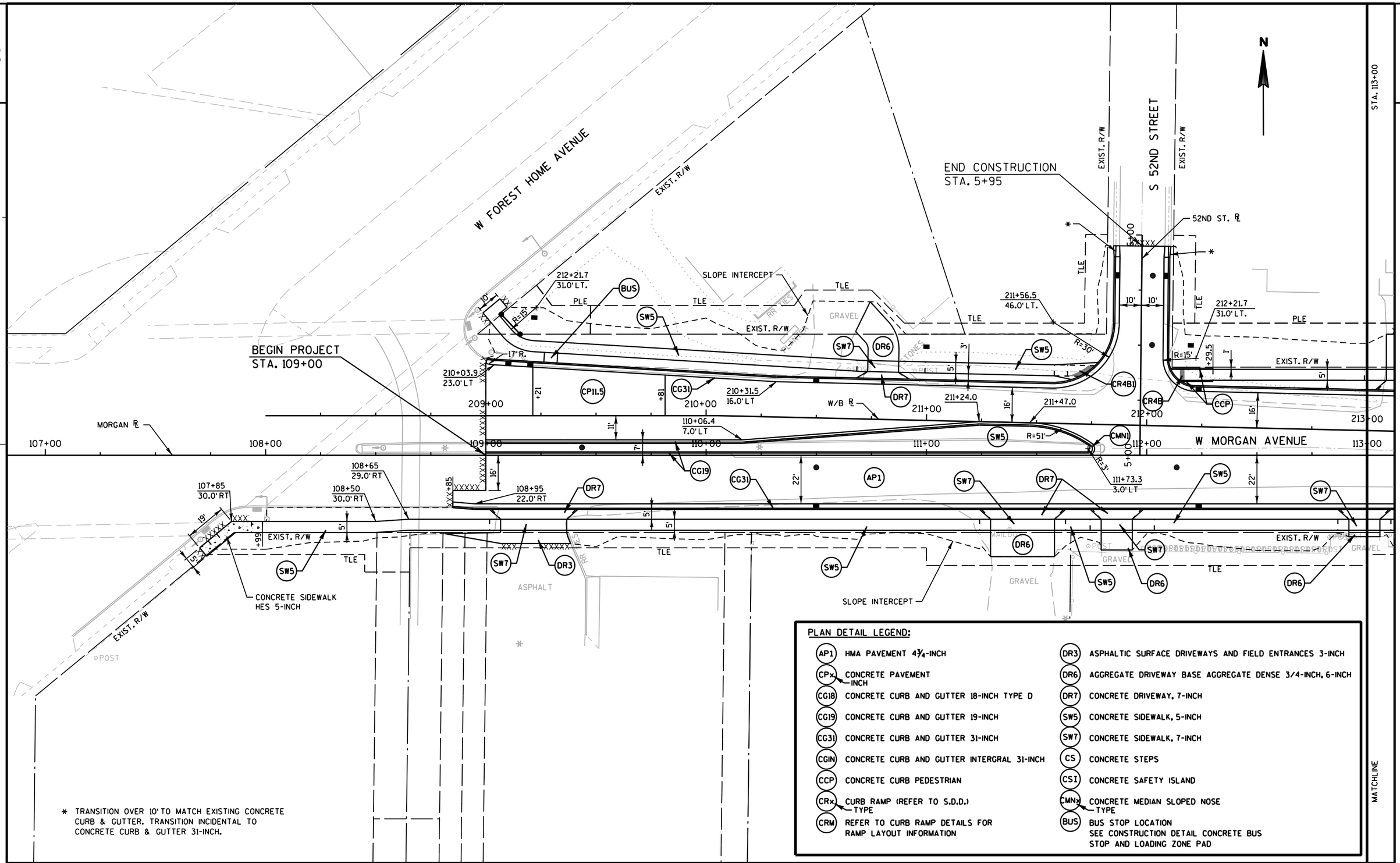
REMOVALS LEGEND

- REMOVING CONCRETE SIDEWALK
- REMOVING PAVEMENT
- REMOVING INLET
- REMOVING MANHOLE
- REMOVING CURB & GUTTER
- XXXXX SAWING ASPHALT/CONCRETE
- REMOVING GUARDRAIL
- CLEARING & GRUBBING
- REMOVING SMALL PIPE CULVERTS
- REMOVING FENCE
- * REMOVAL IS INCIDENTAL TO EXCAVATION COMMON

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	REMOVAL PLAN	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021116_rp.dgn | PLOT DATE : 4/30/2018 | PLOT BY : steuckr | PLOT NAME : | PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42



* TRANSITION OVER 10' TO MATCH EXISTING CONCRETE CURB & GUTTER. TRANSITION INCIDENTAL TO CONCRETE CURB & GUTTER 31-INCH.

PLAN DETAIL LEGEND:

AP1	HMA PAVEMENT 4¾-INCH	DR3	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES 3-INCH
CPx	CONCRETE PAVEMENT x-INCH	DR6	AGGREGATE DRIVEWAY BASE AGGREGATE DENSE 3/4-INCH, 6-INCH
CG18	CONCRETE CURB AND GUTTER 18-INCH TYPE D	DR7	CONCRETE DRIVEWAY, 7-INCH
CG19	CONCRETE CURB AND GUTTER 19-INCH	SW5	CONCRETE SIDEWALK, 5-INCH
CG31	CONCRETE CURB AND GUTTER 31-INCH	SW7	CONCRETE SIDEWALK, 7-INCH
CGIN	CONCRETE CURB AND GUTTER INTERGRAL 31-INCH	CS	CONCRETE STEPS
CCP	CONCRETE CURB PEDESTRIAN	CSI	CONCRETE SAFETY ISLAND
CRx	CURB RAMP (REFER TO S.D.D.) x-TYPE	CMNx	CONCRETE MEDIAN SLOPED NOSE x-TYPE
CRM	REFER TO CURB RAMP DETAILS FOR RAMP LAYOUT INFORMATION	BUS	BUS STOP LOCATION SEE CONSTRUCTION DETAIL CONCRETE BUS STOP AND LOADING ZONE PAD

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN DETAIL	SHEET 24	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021201_pd.dgn PLOT DATE : 5/1/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

* TRANSITION OVER 10' TO MATCH EXISTING CONCRETE CURB & GUTTER. TRANSITION INCIDENTAL TO CONCRETE CURB & GUTTER 31-INCH.

2

STA. 113+00

STA. 119+00

N

W MORGAN AVENUE

S 50TH PLACE

S 51ST STREET

END CONSTRUCTION
STA. 25+80

BEGIN CONSTRUCTION
STA. 1014+25

50TH PL. ℄

MORGAN ℄

W/B ℄

51ST ST. ℄

213+42.3
31.7'LT.

215+56.9
36.9'LT.

215+59.3
34.0'LT

SLOPE INTERCEPT

216+50.0
46.0'LT

115+52.4
2.0'LT

50'R.

117+41.9
3.0'LT.

114+84.6
46.0'RT

115+80.7
46.0'RT

217+30.0
46.0'LT

217+53.0
34.0'LT

218+00.0
24.6'LT

PLE

TLE

EXIST. R/W

ASPHALT

GRAVEL

CONCRETE

STONE

BLOCK WALL

POST

BUS

PLAN DETAIL LEGEND:

AP1	HMA PAVEMENT 4¾-INCH	DR3	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES 3-INCH
CPx	CONCRETE PAVEMENT — INCH	DR6	AGGREGATE DRIVEWAY BASE AGGREGATE DENSE 3/4-INCH, 6-INCH
CG18	CONCRETE CURB AND GUTTER 18-INCH TYPE D	DR7	CONCRETE DRIVEWAY, 7-INCH
CG19	CONCRETE CURB AND GUTTER 19-INCH	SW5	CONCRETE SIDEWALK, 5-INCH
CG31	CONCRETE CURB AND GUTTER 31-INCH	SW7	CONCRETE SIDEWALK, 7-INCH
CGIN	CONCRETE CURB AND GUTTER INTERGRAL 31-INCH	CS	CONCRETE STEPS
CCP	CONCRETE CURB PEDESTRIAN	CSI	CONCRETE SAFETY ISLAND
CRx	CURB RAMP (REFER TO S.D.D.) — TYPE	CMNx	CONCRETE MEDIAN SLOPED NOSE — TYPE
CRM	REFER TO CURB RAMP DETAILS FOR RAMP LAYOUT INFORMATION	BUS	BUS STOP LOCATION SEE CONSTRUCTION DETAIL CONCRETE BUS STOP AND LOADING ZONE PAD

MATCHLINE

MATCHLINE

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN DETAIL	SHEET 25	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021202_pd.dgn PLOT DATE : 5/1/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

STA. 119+00

PLAN DETAIL LEGEND:

- (AP1) HMA PAVEMENT 4¾-INCH
- (CPx) CONCRETE PAVEMENT — x = INCH
- (CG18) CONCRETE CURB AND GUTTER 18-INCH TYPE D
- (CG19) CONCRETE CURB AND GUTTER 19-INCH
- (CG31) CONCRETE CURB AND GUTTER 31-INCH
- (CGIN) CONCRETE CURB AND GUTTER INTERGRAL 31-INCH
- (CCP) CONCRETE CURB PEDESTRIAN
- (CRx) CURB RAMP (REFER TO S.D.D.) — x = TYPE
- (CRM) REFER TO CURB RAMP DETAILS FOR RAMP LAYOUT INFORMATION
- (DR3) ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES 3-INCH
- (DR6) AGGREGATE DRIVEWAY BASE AGGREGATE DENSE 3/4-INCH, 6-INCH
- (DR7) CONCRETE DRIVEWAY, 7-INCH
- (SW5) CONCRETE SIDEWALK, 5-INCH
- (SW7) CONCRETE SIDEWALK, 7-INCH
- (CS) CONCRETE STEPS
- (CSI) CONCRETE SAFETY ISLAND
- (CMNx) CONCRETE MEDIAN SLOPED NOSE — x = TYPE
- (BUS) BUS STOP LOCATION SEE CONSTRUCTION DETAIL CONCRETE BUS STOP AND LOADING ZONE PAD

N

S SCHAUER AVENUE

EXIST. R/W

STA. 125+00

END CONSTRUCTION
STA. 45+60

+13.7
46.0' LT

+93.4
46.0' LT

+20.8
32.9' LT

STACKED STONE

XXXX

10'

R=30'

SLOPE INTERCEPT

TLE

BLOCK WALL

CLEANOUT

CR2

CR4B1

CR3

AP1

SW5

CG31

DR7

SW7

CP11.5

+55

+15

16'

9'

5'

17'

45+00

124+00

123+00

122+00

121+00

120+00

219+00

119+00

W MORGAN AVENUE

MORGAN ℄

CCP

CR4B

3'

11'

+11.0

EXIST. R/W

XXXX ASPHALT

+33.5
46.0' RT

+29.8
46.0' RT

+23.4
46.0' RT

CONCRETE

ASPHALT

DR3

BUS

13'

+25

48TH ST. ℄

44+00

BEGIN CONSTRUCTION
STA. 44+10

S 48TH STREET

CS

24'

12'

+15

34+00

S 49TH STREET

+75

10'

+63.5
35.3' LT

+69

R=17'

49TH ST. ℄

+05.1
26.0' LT

+07

33+00

R=15'

BEGIN CONSTRUCTION
STA. 32+90

MATCHLINE

* TRANSITION OVER 10' TO MATCH EXISTING CONCRETE CURB & GUTTER. TRANSITION INCIDENTAL TO CONCRETE CURB & GUTTER 31-INCH.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN DETAIL	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021203_pd.dgn PLOT DATE : 5/1/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

* TRANSITION OVER 10' TO MATCH EXISTING CONCRETE CURB & GUTTER. TRANSITION INCIDENTAL TO CONCRETE CURB & GUTTER 31-INCH.

STA. 125+00

STA. 131+00

EXIST. R/W

S STROTHMANN DRIVE

55+00

END CONSTRUCTION
STA. 55+70

TIE TIES

STROTHMANN DR. ℄

ALLEY

CONCRETE

WOOD PLANKS

SLOPE INTERCEPT

+08.3
46.0' LT

+95.5
46.0' LT

+11.5
46.0' RT

+93.1
46.0' RT

+79.2
46.0' RT

TLE

ASPHALT

R=30'

13'

9'

5'

16'

22'

11'

+05

+65

+43

+73

+98

+99

+29

+96

+45

125+00

126+00

127+00

128+00

129+00

130+00

131+00

BUS

SW5

DR3

DR7

SW7

AP1

CG31

CR4BI

CR2

CR3

CP7

CS

CP11.5

W MORGAN AVENUE

CURB HEAD WITH REBAR ALONG EAST SIDE OF DRIVEWAY TO BE REPLACED IN KIND OUTSIDE OF RIGHT-OF-WAY. ALL WORK AND MATERIALS INCIDENTAL TO BID ITEM CONCRETE DRIVEWAY 7-INCH.

STACKED STONE

CONCRETE

DECORATIVE WEDGE

FLAG

BLOCKS

64+00

S 47TH STREET

BEGIN CONSTRUCTION
STA. 64+10

47TH ST. ℄

MATCHLINE

MATCHLINE

N

PLAN DETAIL LEGEND:

AP1	HMA PAVEMENT 4¾-INCH	DR3	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES 3-INCH
CPx	CONCRETE PAVEMENT x-INCH	DR6	AGGREGATE DRIVEWAY BASE AGGREGATE DENSE 3/4-INCH, 6-INCH
CG18	CONCRETE CURB AND GUTTER 18-INCH TYPE D	DR7	CONCRETE DRIVEWAY, 7-INCH
CG19	CONCRETE CURB AND GUTTER 19-INCH	SW5	CONCRETE SIDEWALK, 5-INCH
CG31	CONCRETE CURB AND GUTTER 31-INCH	SW7	CONCRETE SIDEWALK, 7-INCH
CGIN	CONCRETE CURB AND GUTTER INTERGRAL 31-INCH	CS	CONCRETE STEPS
CCP	CONCRETE CURB PEDESTRIAN	CSI	CONCRETE SAFETY ISLAND
CRx	CURB RAMP (REFER TO S.D.D.) x-TYPE	CMNx	CONCRETE MEDIAN SLOPED NOSE x-TYPE
CRM	REFER TO CURB RAMP DETAILS FOR RAMP LAYOUT INFORMATION	BUS	BUS STOP LOCATION SEE CONSTRUCTION DETAIL CONCRETE BUS STOP AND LOADING ZONE PAD

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN DETAIL	SHEET 27	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021204_pd.dgn PLOT DATE : 5/1/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

PLAN DETAIL LEGEND:

AP1	HMA PAVEMENT 4¾-INCH	DR3	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES 3-INCH
CPx	CONCRETE PAVEMENT x-INCH	DR6	AGGREGATE DRIVEWAY BASE AGGREGATE DENSE 3/4-INCH, 6-INCH
CG18	CONCRETE CURB AND GUTTER 18-INCH TYPE D	DR7	CONCRETE DRIVEWAY, 7-INCH
CG19	CONCRETE CURB AND GUTTER 19-INCH	SW5	CONCRETE SIDEWALK, 5-INCH
CG31	CONCRETE CURB AND GUTTER 31-INCH	SW7	CONCRETE SIDEWALK, 7-INCH
CGIN	CONCRETE CURB AND GUTTER INTERGRAL 31-INCH	CS	CONCRETE STEPS
CCP	CONCRETE CURB PEDESTRIAN	CSI	CONCRETE SAFETY ISLAND
CRx	CURB RAMP (REFER TO S.D.D.) x-TYPE	CMNx	CONCRETE MEDIAN SLOPED NOSE x-TYPE
CRM	REFER TO CURB RAMP DETAILS FOR RAMP LAYOUT INFORMATION	BUS	BUS STOP LOCATION SEE CONSTRUCTION DETAIL CONCRETE BUS STOP AND LOADING ZONE PAD

N

STA. 131+00

STA. 137+00

S 46TH STREET

EXIST. R/W

END CONSTRUCTION
STA. 75+95

SLOPE INTERCEPT

W MORGAN AVENUE

131+00 132+00 133+00 134+00 135+00 136+00 137+00

75+00

BEGIN CONSTRUCTION
STA. 74+20

74+00

46TH ST. ℄

BEGIN CONSTRUCTION
STA. 84+15

84+00

S 45TH STREET

45TH ST. ℄

MATCHLINE

* TRANSITION OVER 10' TO MATCH EXISTING CONCRETE CURB & GUTTER. TRANSITION INCIDENTAL TO CONCRETE CURB & GUTTER 31-INCH.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN DETAIL	SHEET 28	E

2

* TRANSITION OVER 10' TO MATCH EXISTING CONCRETE CURB & GUTTER. TRANSITION INCIDENTAL TO CONCRETE CURB & GUTTER 31-INCH.

N

STA. 137+00

S 44TH STREET

EXIST. R/W

END CONSTRUCTION
STA. 95+65

SLOPE INTERCEPT

ASPHALT

BLOCKS

DECORATIVE WELL

S 43RD STREET

END PROJECT
STA. 141+65

DRILLED TIE BARS

W MORGAN AVENUE

137+00 138+00 139+00 140+00 141+00 142+00 143+00

95+00 94+00

BEGIN CONSTRUCTION
STA. 94+35

ALLEY

44TH ST. ℄

MATCHLINE

+92.4 46.0' LT

+72.4 46.0' LT

+34.6 46.0' LT

+52.9 46.4' LT

+87.7 46.0' RT

+73.8 46.0' RT

+32.4 52.0' RT

+51.5 51.2' RT

R=30'

R=27'

TLE

10'

13'

PLAN DETAIL LEGEND:

AP1	HMA PAVEMENT 4¼-INCH	DR3	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES 3-INCH
CPx	CONCRETE PAVEMENT x-INCH	DR6	AGGREGATE DRIVEWAY BASE AGGREGATE DENSE 3/4-INCH, 6-INCH
CG18	CONCRETE CURB AND GUTTER 18-INCH TYPE D	DR7	CONCRETE DRIVEWAY, 7-INCH
CG19	CONCRETE CURB AND GUTTER 19-INCH	SW5	CONCRETE SIDEWALK, 5-INCH
CG31	CONCRETE CURB AND GUTTER 31-INCH	SW7	CONCRETE SIDEWALK, 7-INCH
CGIN	CONCRETE CURB AND GUTTER INTERGRAL 31-INCH	CS	CONCRETE STEPS
CCP	CONCRETE CURB PEDESTRIAN	CSI	CONCRETE SAFETY ISLAND
CRx	CURB RAMP (REFER TO S.D.D.) x-TYPE	CMNx	CONCRETE MEDIAN SLOPED NOSE x-TYPE
CRM	REFER TO CURB RAMP DETAILS FOR RAMP LAYOUT INFORMATION	BUS	BUS STOP LOCATION SEE CONSTRUCTION DETAIL CONCRETE BUS STOP AND LOADING ZONE PAD

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN DETAIL	SHEET 29 E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021206_pd.dgn PLOT DATE : 6/4/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

LEFT CROSS SLOPES		
STATION	LANE	SHOULDER
109+00.00	-1.40%	-1.40%
109+20.00	-2.00%	-2.00%
111+30.00	-2.00%	-2.00%
111+50.00	-3.00%	-3.00%
112+30.00	-3.00%	-3.00%
112+50.00	-3.00%	-4.00%

N

W FOREST HOME AVENUE

S 52ND STREET

STA. 113+00

BEGIN PROJECT
STA. 109+00

W/B ℄

MORGAN ℄

747.11 W MORGAN AVENUE

107+00 108+00 109+00 110+00 111+00 112+00 113+00

209+00 210+00 211+00 212+00 213+00

747.00 747.18 747.44 747.66 747.88 748.10 748.36 748.67 749.03 749.43 749.86 750.28 750.70 751.06 751.39 751.67 751.92 752.17 752.42

746.94 746.84 746.99 747.44 747.66 747.72 747.70 748.01 748.59 749.10 749.53 749.95 750.37 750.73 751.06 751.34 751.59 751.84 752.09

747.00 747.11 747.37 747.65 747.99 748.37 748.79 749.22 749.66 749.77 750.16 750.60 750.80 751.02 751.29 751.55

747.35 747.43 747.52 747.74 748.00 748.32 748.69 749.11 749.54 749.98 750.26 750.64 750.98 751.28 751.55 751.81 752.08

747.50 747.65 747.74 747.96 748.22 748.51 748.84 749.21 749.59

749.75 749.95 749.69 749.72 749.92 749.69 749.82 749.94 750.15 750.09 750.22 750.34 750.77

52ND ST. ℄

LP-749.70 +81.6

LP-749.64 +81.6

HP-750.07

750.05 749.88 750.46

22'

16'

12'

10' 10'

5'

5+00

I-BUS STOP

RIGHT CROSS SLOPES		
STATION	LANE	SHOULDER
109+00.00	-2.00%	-2.00%
109+20.00	-1.00%	-1.00%
109+60.00	-1.00%	-1.00%
110+00.00	-3.00%	-3.00%
110+30.00	-3.00%	-3.00%
110+60.00	-1.50%	-1.50%

NOTES:

1) ALL CURB & GUTTER GRADES ARE LABELED TO FLANGE/FLAG LINE.

MATCHLINE

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PAVING GRADES	SHEET 30	E

2

STA. 113+00

STA. 119+00

2

N

LEFT CROSS SLOPES

STATION	LANE	SHOULDER
115+00.00	-3.00%	-4.00%
115+20.00	-3.00%	-3.00%
115+40.00	-2.00%	-2.00%
116+30.00	-2.00%	-2.00%
116+50.00	-1.00%	-1.00%
116+90.00	-1.00%	-1.00%
117+10.00	-2.00%	-2.00%
117+80.00	-2.00%	-2.00%
118+60.00	2.00%	2.00%
119+00.00	2.00%	2.00%
119+80.00	-2.00%	-2.00%

50TH PL. ℄

S 50TH PLACE

26+00

757.58 757.63 757.53

LP-757.14 +56.0

LP-757.09 +56.0

10' 10'

757.15 757.20 757.22

HP-757.28 +28.9

757.11

HP-757.15

757.13

752.02 752.94 753.42 753.93 754.53 755.10 755.64 755.98

751.55 751.83 752.14 752.50 752.90 753.34 753.79 754.23 754.65 755.18 755.78 756.21 756.59 756.85 757.22 757.35

213+00 752.08 752.36 752.67 753.03 214+00 753.43 753.87 754.31 754.76 215+00 755.18 755.62 756.10 756.53 216+00 756.91 757.17 757.39 757.51

113+00 752.42 752.68 752.98 753.32 753.70 114+00 754.13 754.55 754.97 755.40 115+00 755.83 756.25 756.67 757.04 757.30 757.45 757.49 757.42

116+00 757.24 756.95 756.63 756.30 755.98 755.65 755.32 755.00 754.66

217+00 757.45 757.19 756.84 756.53 756.21 756.10 756.02 755.92 755.67 755.31

117+00 218+00 118+00 756.26 219+00 754.99

757.35 757.21 756.81 756.74 W/B ℄ 756.52

22' 16' 5' 6'

W MORGAN AVENUE

752.09 752.35 752.65 752.99 753.37 753.81 754.31 754.86 755.48 755.99

755.10 755.76

755.86 755.97 756.05 756.12

12' 24'

756.64 756.22 756.11

1014+00

S 51ST STREET

51ST ST. ℄

756.48 756.46 756.25 756.52 756.73 756.98 757.13 757.17 757.10 756.92 756.63 756.31 755.98 755.65 755.33 755.00 754.66

756.42 756.34 756.26 756.35 756.09

MORGAN ℄

MATCHLINE

MATCHLINE

RIGHT CROSS SLOPES

STATION	LANE	SHOULDER
114+60.00	-1.50%	-1.50%
115+10.00	1.00%	1.00%
115+30.00	1.00%	1.00%
115+90.00	-2.00%	-2.00%

NOTES:

1) ALL CURB & GUTTER GRADES ARE LABELED TO FLANGE/FLAG LINE.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PAVING GRADES	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021212_pg.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

STA. 119+00

STA. 125+00

N

LEFT CROSS SLOPES

STATION	LANE	SHOULDER
124+20.00	-2.00%	-2.00%
124+40.00	-2.00%	-3.00%
124+60.00	-3.00%	-4.00%
124+80.00	-3.00%	-5.00%

RIGHT CROSS SLOPES

STATION	LANE	SHOULDER
122+10.00	-2.00%	-2.00%
122+30.00	-3.00%	-3.00%
122+50.00	-3.00%	-4.00%
123+30.00	-3.00%	-4.00%
123+40.00	-3.00%	-3.33%
123+60.00	-2.00%	-2.00%
124+60.00	3.00%	3.00%

NOTES:

1) ALL CURB & GUTTER GRADES ARE LABELED TO FLANGE/FLAG LINE.

MATCHLINE

MATCHLINE

2

STA. 125+00

S STROTHMANN DRIVE

56+00

STROTHMANN DR. ℄

743.44

743.83

743.46

13'

13'

744.73

745.18

744.89

745.65

746.19

746.31

746.28

746.40

747.74

746.72

5'

ALLEY

5'

747.48 747.76 747.97 748.10 748.14 748.11 748.01 747.82 747.59 747.35 747.09 746.81 746.39 745.84 745.12 744.58 744.04 743.50 742.95 742.46 741.82 741.14 740.44 739.75

HP-746.95

746.88

125+00 126+00 127+00 128+00 129+00 130+00 131+00

16' 16' 22'

MORGAN ℄

747.70 748.06 748.34 748.55 748.67 748.72 748.69 748.59 748.40 748.17 747.90 747.69 747.34 746.92 746.42 745.89 745.35 744.81 744.27 743.72 743.12 742.48 741.80 741.10 740.40

748.31

748.36

W MORGAN AVENUE

748.54 748.82 749.03 749.15 749.20 749.17 749.07 748.88 748.65 748.43 748.17 747.94 748.00 LP-747.90 +00.6 747.52 747.03 746.32 745.84 745.45 744.93 744.38 743.78 743.14 742.46 741.76 741.06

5'

5'

LP-748.27 +71.8

748.41

749.05

748.40

748.52

747.86

747.73

747.85

748.73

749.15

749.26

749.25

749.48

13'

13'

750.09

750.36

750.05

750.33

750.46

750.90

750.58

64+00

S 47TH STREET

47TH ST. ℄

RIGHT CROSS SLOPES

STATION	LANE	SHOULDER
127+77.00	3.00%	3.00%
128+37.00	3.00%	6.00%
128+97.00	3.00%	3.00%

LEFT CROSS SLOPES

STATION	LANE	SHOULDER
127+40.00	-3.00%	-5.00%
127+60.00	-3.00%	-6.00%
128+00.00	-3.00%	-4.00%
129+80.00	-3.00%	-4.00%
130+00.00	-3.00%	-3.00%

NOTES:

1) ALL CURB & GUTTER GRADES ARE LABELED TO FLANGE/FLAG LINE.

MATCHLINE

MATCHLINE

2

N

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PAVING GRADES	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021214_pg.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

STA. 131+00

S 46TH STREET

N

STA. 137+00

2

LEFT CROSS SLOPES

STATION	LANE	SHOULDER
131+90.00	-3.00%	-3.00%
132+10.00	-2.00%	-2.00%
134+80.00	-2.00%	-2.00%
135+00.00	-3.00%	-3.00%
135+20.00	-3.00%	-4.00%
136+80.00	-3.00%	-4.00%
137+00.00	-3.00%	-3.00%

W MORGAN AVENUE

MORGAN ℄

131+00 132+00 133+00 134+00 135+00 136+00 137+00

LP-731.30 +78.5

LP-739.59 +71.3

74+00

84+00

S 46TH STREET

S 45TH STREET

46TH ST. ℄

45TH ST. ℄

MATCHLINE

MATCHLINE

RIGHT CROSS SLOPES

STATION	LANE	SHOULDER
131+90.00	3.00%	3.00%
132+90.00	-2.00%	-2.00%
133+30.00	-2.00%	-4.00%
133+60.00	-2.00%	-4.00%
134+00.00	-2.00%	-2.00%
135+00.00	3.00%	3.00%
137+00.00	3.00%	3.00%

NOTES:

1) ALL CURB & GUTTER GRADES ARE LABELED TO FLANGE/FLAG LINE.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PAVING GRADES	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021215_pg.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

2

STA. 137+00

LEFT CROSS SLOPES

STATION	LANE	SHOULDER
137+20.00	-2.00%	-2.00%
138+00.00	-2.00%	-2.00%
138+32.00	-1.45%	-0.44%
138+64.00	-2.00%	-2.00%
139+00.00	-2.00%	-2.00%
140+00.00	3.00%	3.00%
140+50.00	3.00%	3.00%
141+30.00	-1.00%	-1.00%
141+50.00	-1.00%	-1.00%
141+65.00	0.00%	0.00%

N

S 44TH STREET

S 43RD STREET

719.59 719.33 719.01 719.64 719.26 718.92 719.85 719.97 718.76 718.65 719.33 717.80 719.61 718.60 718.09 717.99 717.03 716.59 716.21 715.86 715.51 714.85 714.12 713.04 711.88 710.74 709.38 707.80 708.71 708.49 709.43 710.35 706.79

724.78 723.91 722.80 721.73 720.93 719.82 718.86 718.04 717.35 716.72 716.10 715.47 714.85 714.19 713.46 712.65 711.77 710.86 709.95 709.32

137+00 138+00 139+00 140+00 141+00 142+00 143+00

MORGAN ℄ W MORGAN AVENUE

END PROJECT STA. 141+65

726.10 724.70 723.28 721.93 721.24 719.84 719.72 719.50 719.10 718.85 719.32 719.21 719.06 718.40 717.91 717.81 717.59 718.47 HP-718.51 +61.9 718.48 718.40 718.27 718.70 716.82 716.19 715.57 714.94 714.32 713.62 712.80 711.99 711.12 710.20 709.93 709.00 708.56 706.60 707.27

94+00

ALLEY

RAMP

MATCHLINE

44TH ST. ℄

RIGHT CROSS SLOPES

STATION	LANE	SHOULDER
138+00.00	-2.00%	-2.00%
138+50.00	-2.00%	-2.00%
138+70.00	-3.00%	-3.00%
138+90.00	-3.00%	-4.00%
140+30.00	-3.00%	-4.00%
140+50.00	-3.00%	-3.00%
141+35.00	-3.00%	-3.00%
141+50.00	-2.50%	-2.50%
141+65.00	-1.50%	-1.50%

NOTES:

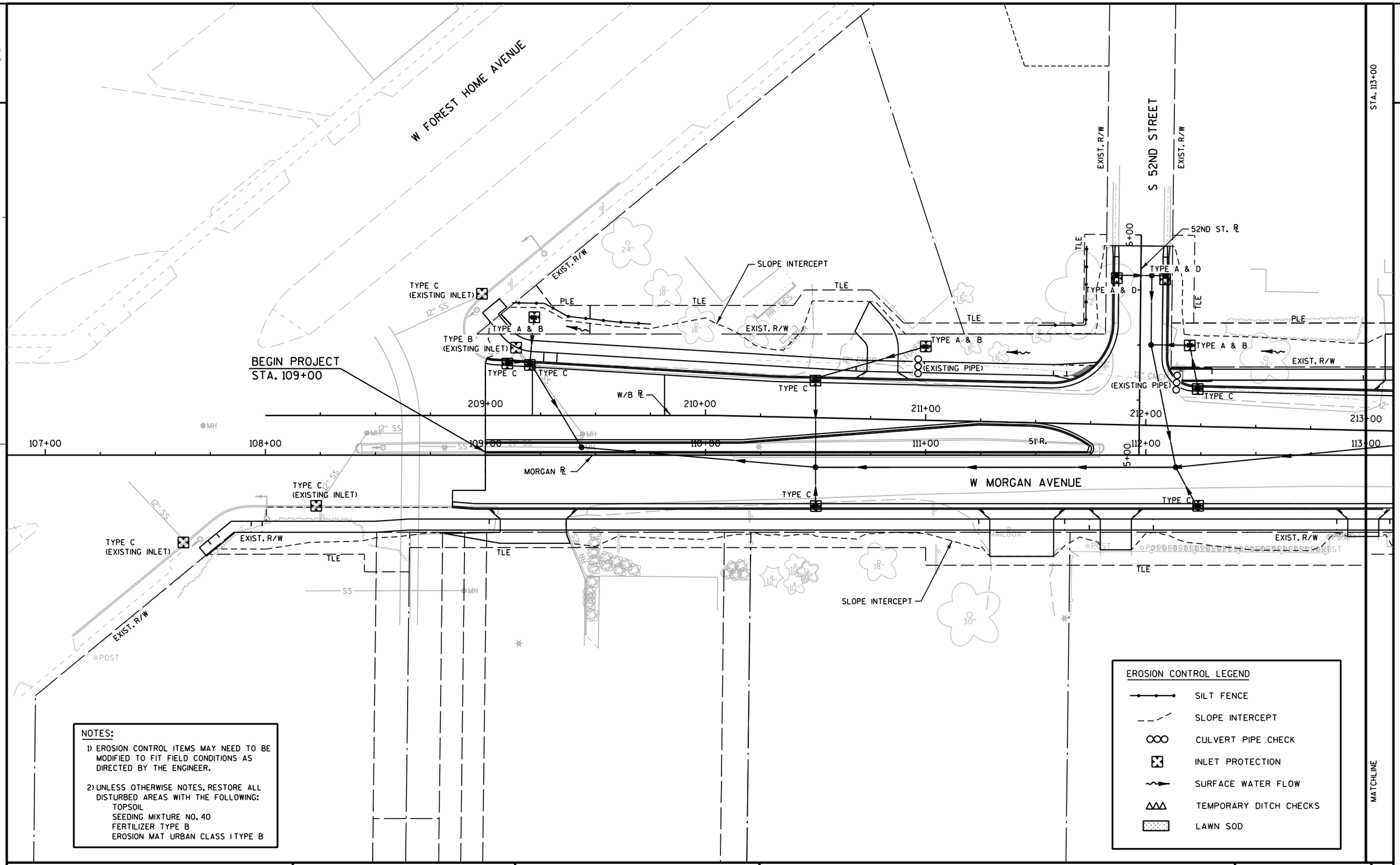
1) ALL CURB & GUTTER GRADES ARE LABELED TO FLANGE/FLAG LINE.

(*) SEE CURB RAMP DETAILS FOR MORE INFORMATION.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PAVING GRADES	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_021216_pg.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42



NOTES:

1) EROSION CONTROL ITEMS MAY NEED TO BE MODIFIED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2) UNLESS OTHERWISE NOTES, RESTORE ALL DISTURBED AREAS WITH THE FOLLOWING:
   - TOPSOIL
   - SEEDING MIXTURE NO. 40
   - FERTILIZER TYPE B
   - EROSION MAT URBAN CLASS I TYPE B

EROSION CONTROL LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- CULVERT PIPE CHECK
- INLET PROTECTION
- SURFACE WATER FLOW
- TEMPORARY DITCH CHECKS
- LAWN SOD

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	EROSION CONTROL PLAN	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022001_ec.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

STA. 113+00

EROSION CONTROL LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- CULVERT PIPE CHECK
- INLET PROTECTION
- SURFACE WATER FLOW
- TEMPORARY DITCH CHECKS
- LAWN SOD

STA. 119+00

2

SLOPE INTERCEPT
PLE
TLE
TYPE A & B
EXIST. R/W
TYPE C
12" CMCP
(EXISTING PIPE)
213+00
113+00
214+00
114+00
W/B ℄
215+00
115+00
W MORGAN AVENUE
MORGAN ℄
216+00
116+00
TYPE C
TYPE B
(EXISTING INLET)
TYPE A & D
EXIST. R/W
S. 50TH PLACE
26+00
50TH PL. ℄
217+00
117+00
TYPE C
TYPE B
(EXISTING INLET)
TYPE A & D
EXIST. R/W
SLOPE INTERCEPT
TLE
EXIST. R/W
218+00
118+00
219+00
119+00
TYPE C
TYPE C
TYPE C
TYPE C
EXIST. R/W
TLE
SLOPE INTERCEPT
TLE
TLE
RR TIES
TLE
SLOPE INTERCEPT
TYPE C
TYPE C
TLE
(EXISTING PIPE)
12" CMCP
EXIST. R/W
1014+00
S 51ST STREET
EXIST. R/W
12" CMCP
51ST ST. ℄
MATCHLINE
MATCHLINE

NOTES:

1) EROSION CONTROL ITEMS MAY NEED TO BE MODIFIED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2) UNLESS OTHERWISE NOTES, RESTORE ALL DISTURBED AREAS WITH THE FOLLOWING:
   TOPSOIL
   SEEDING MIXTURE NO. 40
   FERTILIZER TYPE B
   EROSION MAT URBAN CLASS I TYPE B

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	EROSION CONTROL PLAN	SHEET 37	E

2

STA. 119+00

EXIST. R/W

SLOPE INTERCEPT

TLE

TYPE A & B

TYPE C

219+00

120+00

121+00

122+00

123+00

124+00

125+00

W MORGAN AVENUE

MORGAN R

TYPE A & B (EXISTING INLET)

TYPE A & D

TYPE B (EXISTING INLET)

TYPE B

TYPE C

S SCHAUER AVENUE

STACKED STONE

BLOCK WALL

ANGLE

MH

SS

18"

30"

48"

12"

STA. 125+00

TYPE A & B

SLOPE INTERCEPT

48TH ST. R

44+00

S 48TH STREET

EXIST. R/W

Z

TYPE A & D

TYPE B (EXISTING INLET)

34+00

S 49TH STREET

SLOPE INTERCEPT

49TH ST. R

33+00

EXIST. R/W

MATCHLINE

MATCHLINE

EROSION CONTROL LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- CULVERT PIPE CHECK
- INLET PROTECTION
- SURFACE WATER FLOW
- TEMPORARY DITCH CHECKS
- LAWN SOD

NOTES:

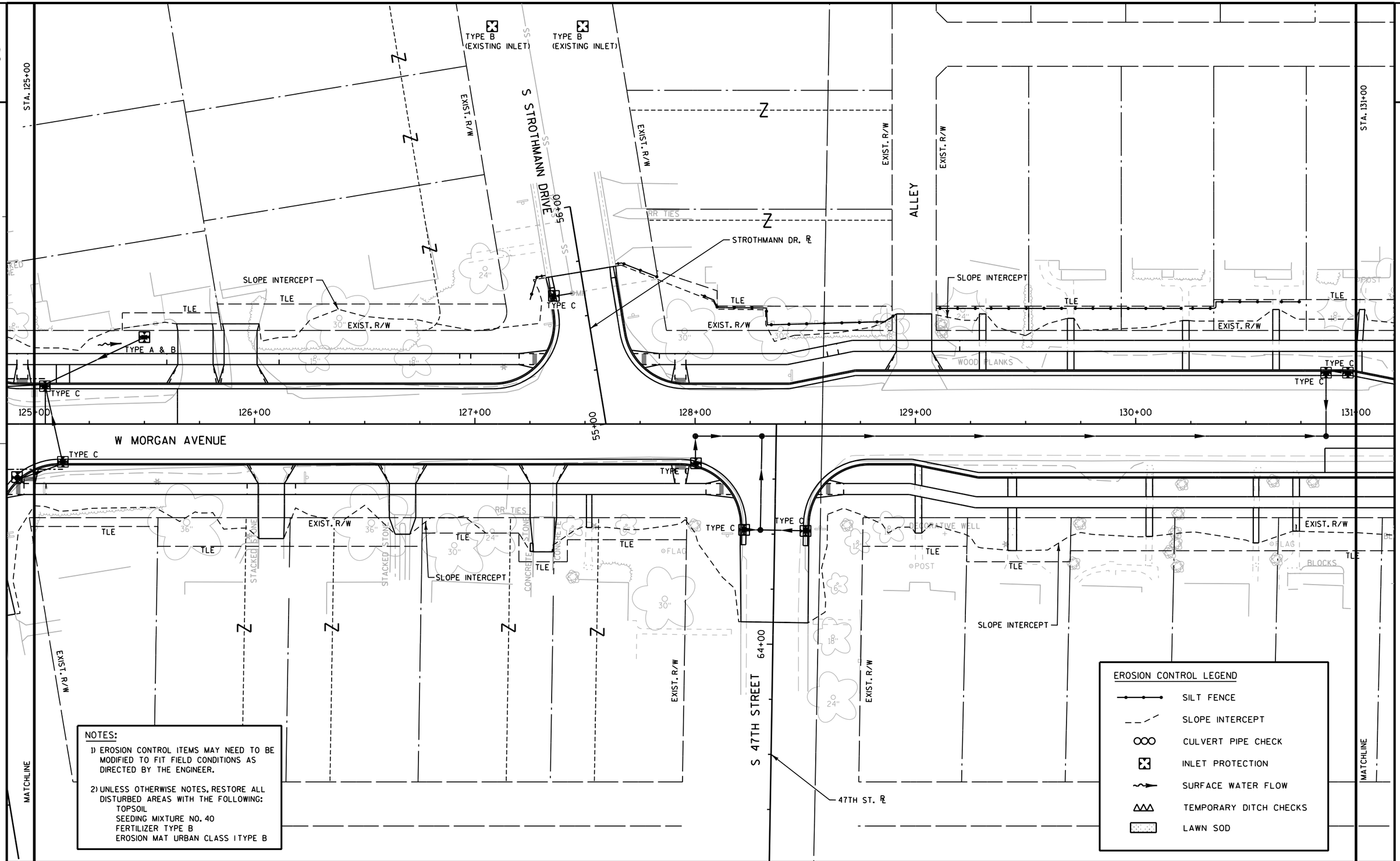
1) EROSION CONTROL ITEMS MAY NEED TO BE MODIFIED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2) UNLESS OTHERWISE NOTES, RESTORE ALL DISTURBED AREAS WITH THE FOLLOWING:
   TOPSOIL
   SEEDING MIXTURE NO. 40
   FERTILIZER TYPE B
   EROSION MAT URBAN CLASS I TYPE B

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	EROSION CONTROL PLAN	SHEET 38	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022003_ec.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

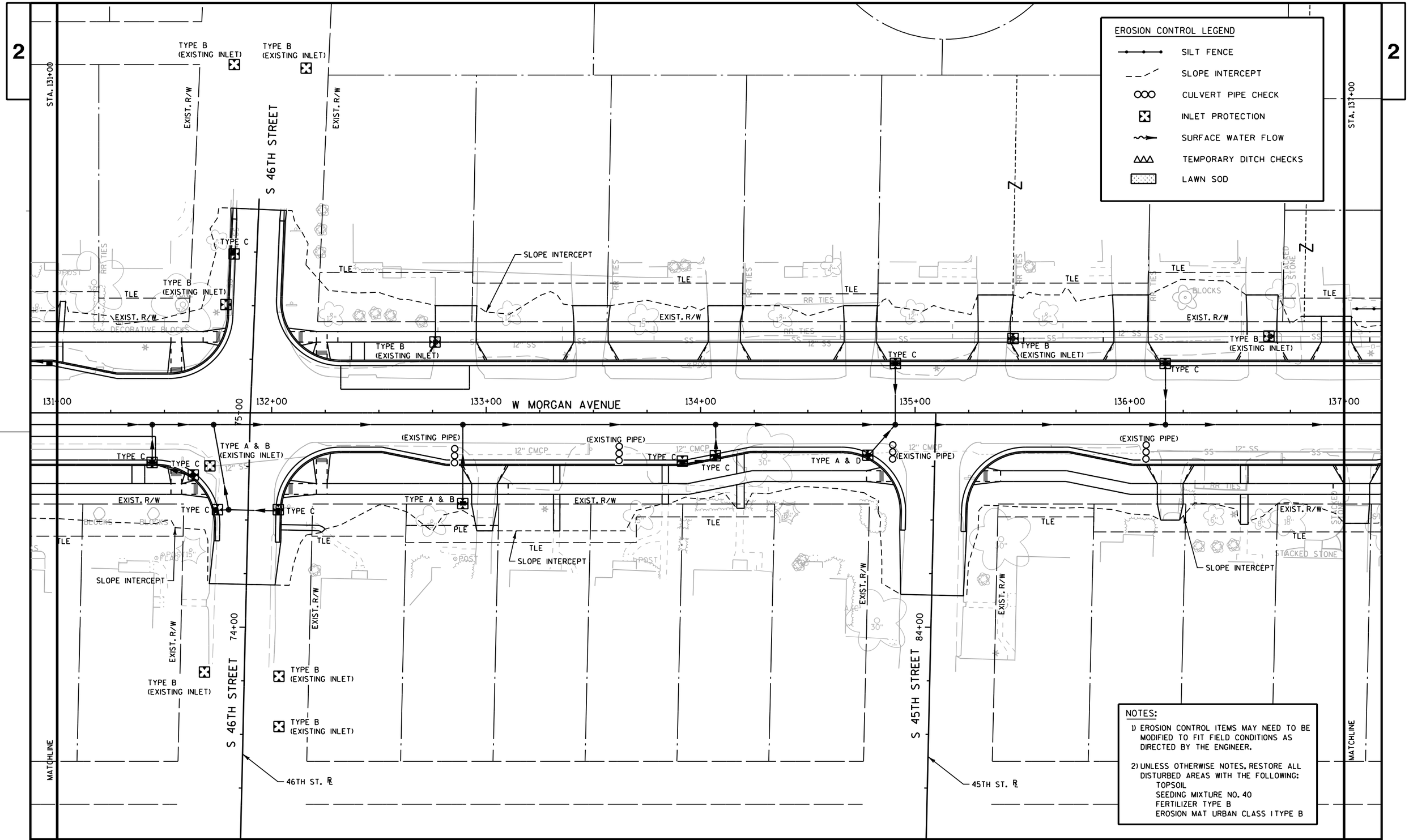
WISDOT/CADDS SHEET 42



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	EROSION CONTROL PLAN	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022004_ec.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	EROSION CONTROL PLAN	SHEET 40	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022005_ec.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

NOTES:

1) EROSION CONTROL ITEMS MAY NEED TO BE MODIFIED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

2) UNLESS OTHERWISE NOTES, RESTORE ALL DISTURBED AREAS WITH THE FOLLOWING:
TOPSOIL
SEEDING MIXTURE NO. 40
FERTILIZER TYPE B
EROSION MAT URBAN CLASS I TYPE B

EROSION CONTROL LEGEND

- SILT FENCE
- SLOPE INTERCEPT
- CULVERT PIPE CHECK
- INLET PROTECTION
- SURFACE WATER FLOW
- TEMPORARY DITCH CHECKS
- LAWN SOD

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	EROSION CONTROL PLAN	SHEET 41 E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022006_ec.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

N

5225 FOREST HOME AVE.
1-PRIVATE DRAIN, INSTALL
NEW SS LATERAL

W FOREST HOME AVENUE

1-CATCH BASINS 4-FT. DIAMETER
1-INLET COVERS TYPE "C" 80

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" 75

1-CATCH BASINS 4-FT. DIAMETER
1-INLET COVERS TYPE "C" 76

1-CATCH BASINS 4-FT. DIAMETER
1-INLET COVERS TYPE "W" 77

81 1-CATCH BASINS 4-FT DIAMTER
1-INLET COVERS TYPE "W"

5225

1-MANHOLES 4-FT DIAMETER
1-MANHOLE COVERS TYPE "Q" 69

1-INLETS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" 67

1-MANHOLES 4-FT DIAMETER
1-MANHOLE COVERS TYPE "Q" 72

52ND ST. ℄

68 1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W"

71 1-INLETS MEDIAN 1 GRATE
1-INLET COVERS TYPE "MS"

749.08 749.25 749.39 749.81 750.23 750.66

EXIST. R/W

S 52ND STREET

CAUTION
W/B ℄

MORGAN ℄

107+00 108+00 109+00 110+00 111+00 112+00 113+00
209+00 210+00 211+00 212+00 213+00
5+00 6+00

AMC

W MORGAN AVENUE

ADJUST INLET

1-MANHOLES 4-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q" 82

1-MANHOLES 5-FT DIAMETER
1-MANHOLE COVERS TYPE "Q" 79

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" 78

1-MANHOLES 5-FT DIAMETER
1-MANHOLE COVERS TYPE "Q" 74

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" 70

73 1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "W"

SANITARY LEGEND:

RMC — RECONSTRUCT MANHOLE AND INSTALL CHIMNEY SEAL (SAN)

AMC — ADJUST MANHOLE AND INSTALL CHIMNEY SEAL (SAN)

765 760 755 750 745 740 735 730

82 RIM: 748.27
742.42
739.60
737.60
EXIST SSPRC 21" @ 1.00%
106.7' SSPRC CL III 21" @ 2.00%

79 RIM: 748.92
744.33
744.08
743.55
741.73
163.6' SSPRC CL III 21" @ 1.50%

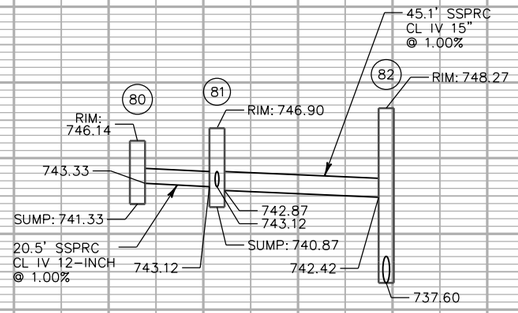
74 RIM: 751.46
746.50
746.00
109.8' SSPRC CL III 21" @ 1.00%

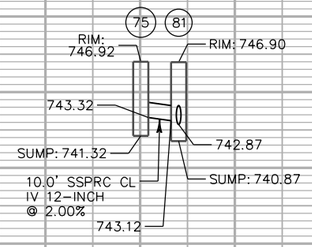
FINISHED PROFILE AT STORM SEWER TRUNKLINE
EXISTING PROFILE AT STORM SEWER TRUNKLINE

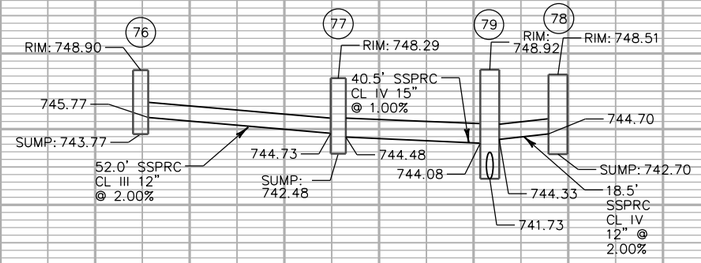
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 42	E

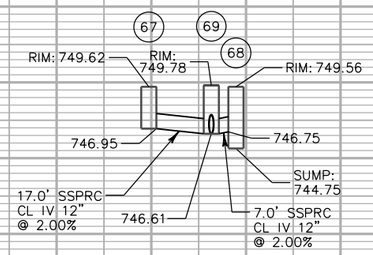
FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022501_ss.dgn PLOT DATE : 8/21/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

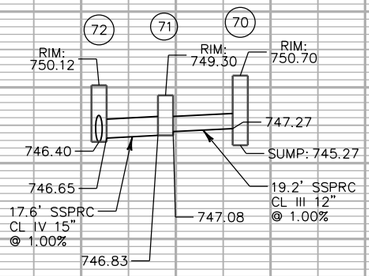
WISDOT/CADDS SHEET 30

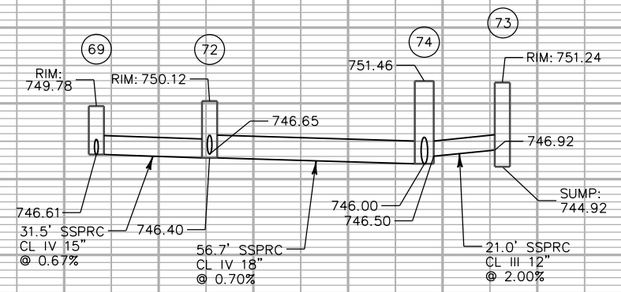






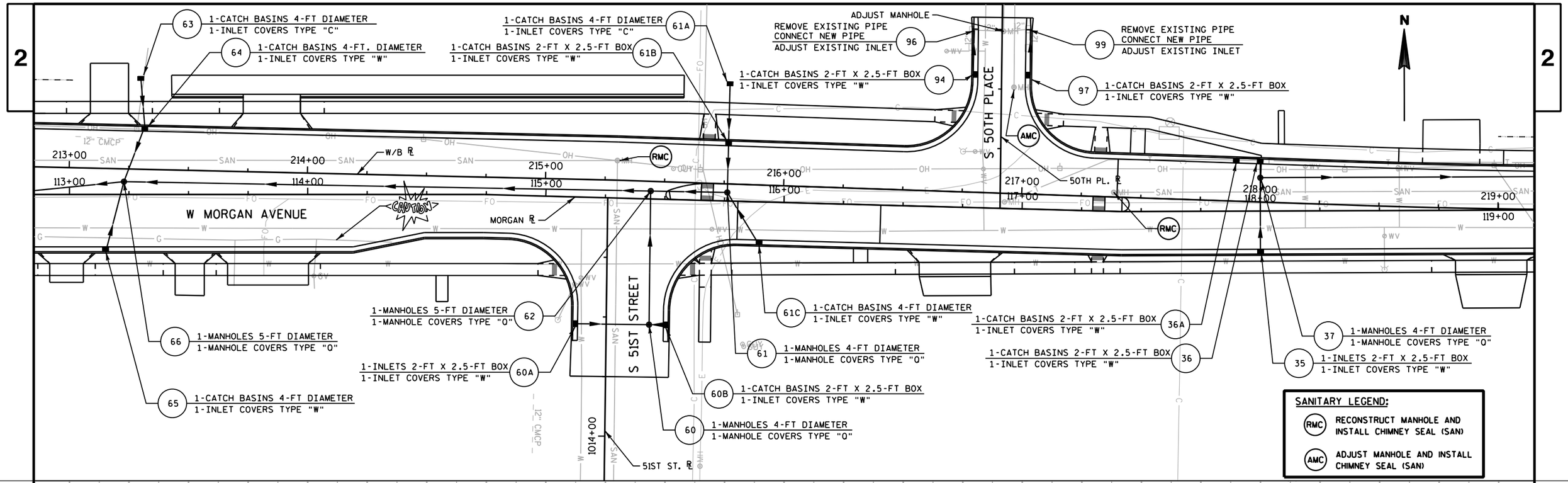


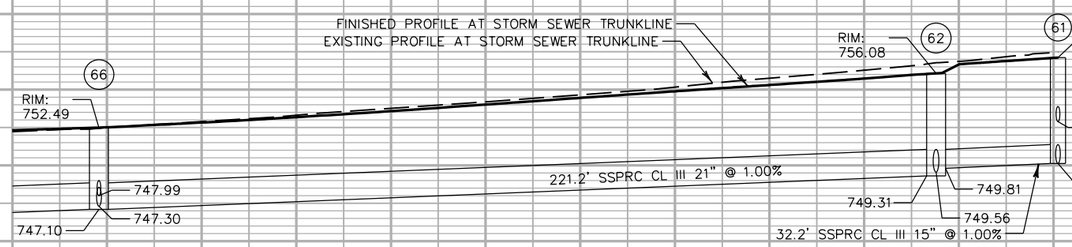


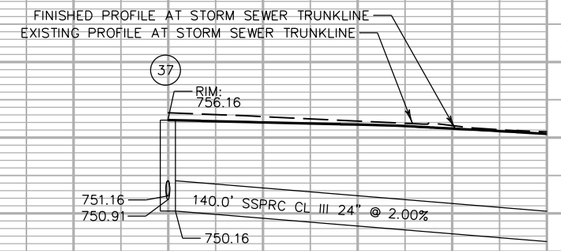


PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 43	E

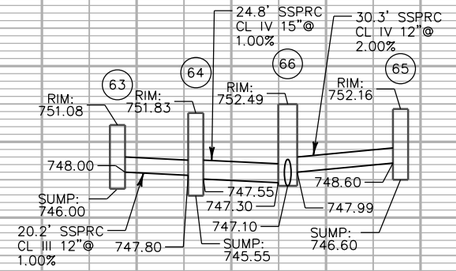
FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022501a_ss.dgn PLOT DATE : 8/21/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

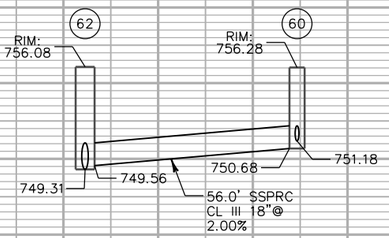


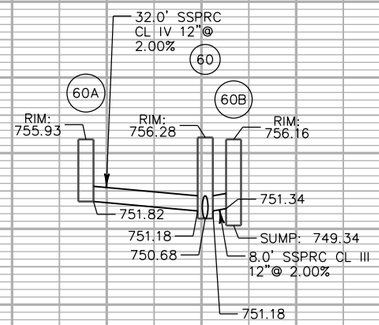


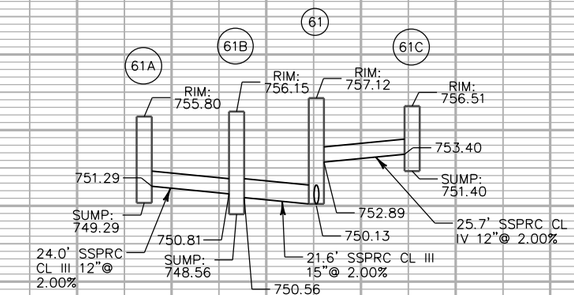


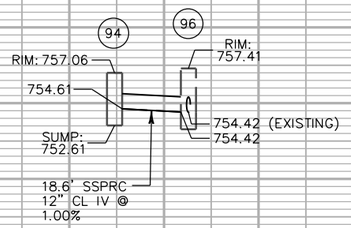
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 44	E

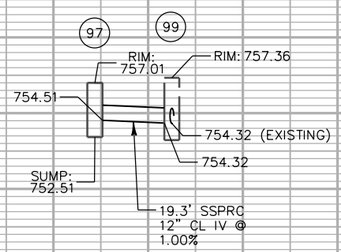


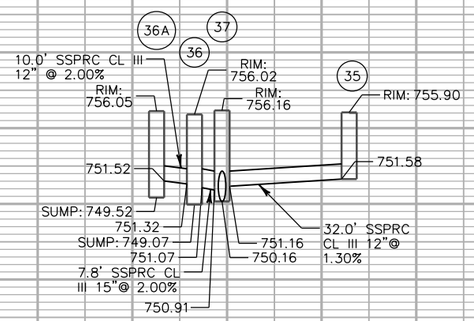












PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 45	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022502a_ss.dgn PLOT DATE : 8/21/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

SANITARY LEGEND:

- (RMC) RECONSTRUCT MANHOLE AND INSTALL CHIMNEY SEAL (SAN)
- (AMC) ADJUST MANHOLE AND INSTALL CHIMNEY SEAL (SAN)

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" — 39A

1-MANHOLES 4-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q" — 39

38A — 1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "C"

38 — 1-MANHOLES 4-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q"

1-MANHOLES 6-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q" — G1

SEE 49TH ST STORM SEWER FOR DETAILS — G1A

1-CATCH BASINS 2-FT x 2.5-FT BOX
1-INLET COVERS TYPE "W"
(CONNECT PIPE UNDERDRAIN) — 50

1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "C" — 48

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" — 49

EXISTING MANHOLE
ADJUST MANHOLE COVER — 55

1-MANHOLES 6-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q" — 54

1-MANHOLES 5-FT DIAMETER
1-MANHOLE COVERS TYPE "Q" — 47

1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "X" — 45

SLOTTED VANE DRAIN 15 LF
15-IN DIAMETER PVC SDR-35 — G10

1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "W"
(CONNECT PIPE UNDERDRAIN) — 46

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" — 39B

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" — 52

1-MANHOLES 4-FT DIAMETER
1-MANHOLE COVERS TYPE "Q" — 53

1-INLETS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" — 51

1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "C" — 52A

PIPE UNDERDRAIN 6-INCH

PIPE UNDERDRAIN 6-INCH

W MORGAN AVENUE

S 49TH STREET

S SCHAUER AVENUE

S 48TH STREET

MORGAN ℄

49TH ST. ℄

48TH ST. ℄

3501

CAUTION

AMC

RMC

RMC

RMC

N

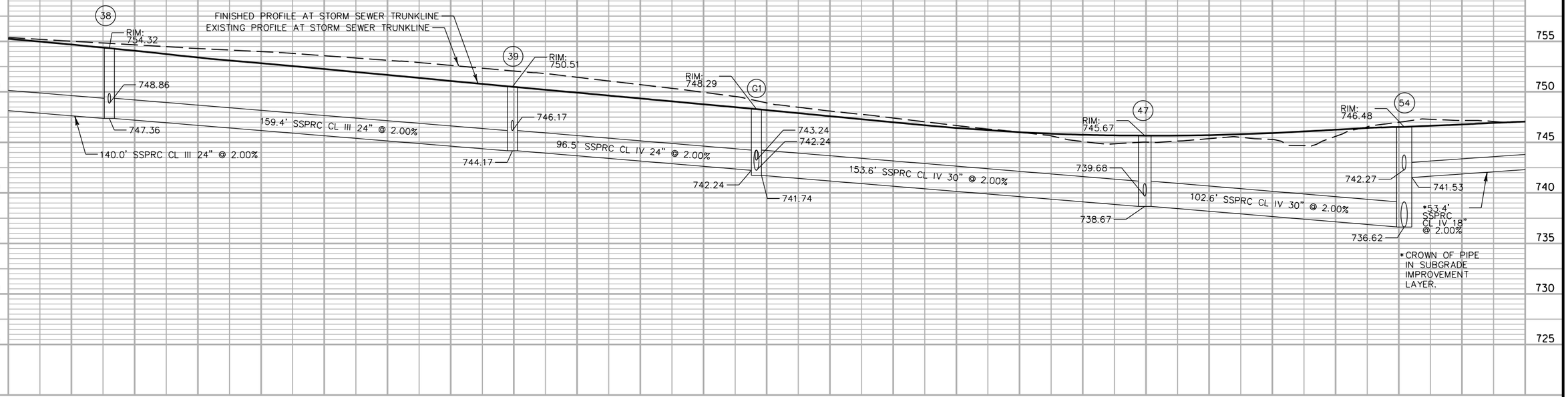
755.00 754.50 754.20 745.60 744.20 744.00 744.25 744.50 745.00

219+00 119+00 120+00 121+00 122+00 123+00 124+00 125+00 48+00

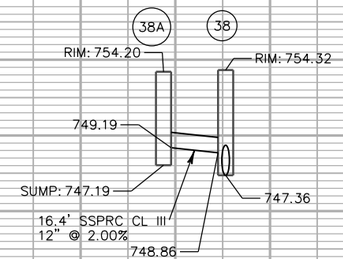
NOTES:
1-CONNECTING PIPE UNDERDRAIN TO STORM SEWER STRUCTURES IS INCIDENTAL TO BID ITEM "PIPE UNDERDRAIN 6-INCH".

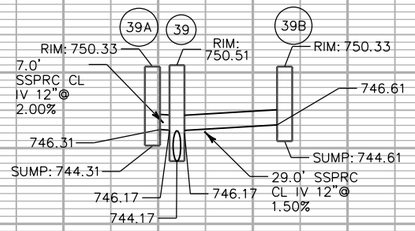
2-3501 48TH STREET, EXISTING PRIVATE ROOF DRAINS. MAINTAIN DRAINAGE OVER SIDEWALK USING PIPE UNDERDRAIN UNPERFORATED BID ITEMS, AS DIRECTED BY THE ENGINEER.

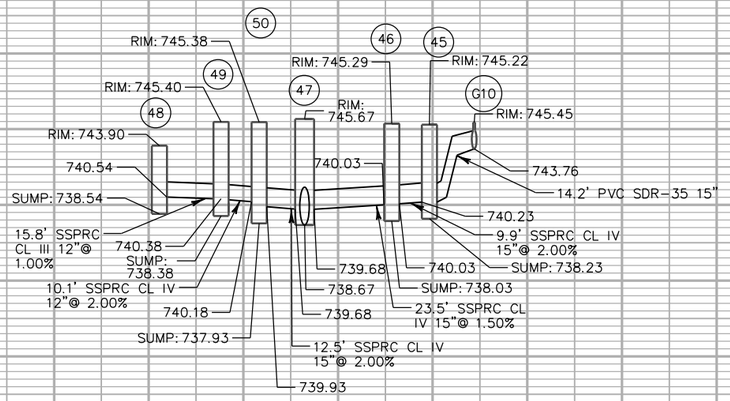
3501 48TH ST.
2-PRIVATE DRAIN, INSTALL NEW SS LATERAL

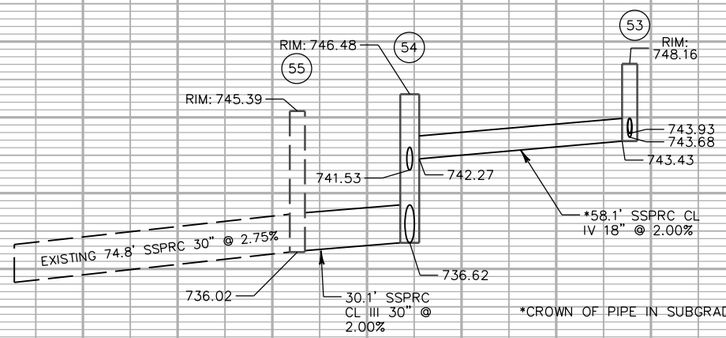


PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 46	E

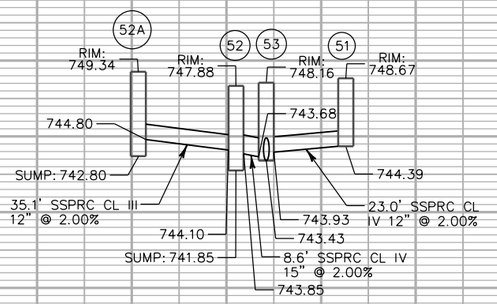








*CROWN OF PIPE IN SUBGRADE IMPROVEMENT LAYER.



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 47	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022503a_ss.dgn PLOT DATE : 8/21/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

PIPE UNDERDRAIN 6-INCH

31 1-CATCH BASINS 4-FT. DIAMETER
1-INLET COVERS TYPE "W"

32 1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "C"

1-CATCH BASINS 2-FT X 2.5-FT BOX 28A
1-INLET COVERS TYPE "W"

28 1-CONNECT TO EXISTING MANHOLE
1-ADJUST MANHOLE COVER

27 1-MANHOLES 4-FT DIAMETER
1-MANHOLE COVERS TYPE "O"

1-CATCH BASINS 2-FT X 2.5-FT BOX 90B
1-INLET COVERS TYPE "W"

1-CATCH BASINS 2-FT X 2.5-FT BOX 90A
1-INLET COVERS TYPE "W"

ALLEY

N

4622

S STROTHMANN DR.

STROTHMANN DR. ℄

MORGAN ℄

W MORGAN AVENUE

CAUTION

125+00 126+00 127+00 128+00 129+00 130+00 131+00

55+00

747.96 747.75 747.62 747.50 747.38 745.12 745.90 746.15

AMC

30 1-INLETS 4-FT DIAMETER
1-INLET COVERS TYPE "W"

PIPE UNDERDRAIN 6-INCH

PRIVATE GUTTER DRAIN TO BE ADJUSTED OUTSIDE OF GRADING LIMITS AS DIRECTED BY ENGINEER. TO BE REPLACED IN KIND. ALL WORK AND MATERIALS ARE INCIDENTAL TO BID ITEM EXCAVATION COMMON.

1-CATCH BASINS 2-FT X 2.5-FT BOX 27A
1-INLET COVERS TYPE "W"

1-MANHOLES 4-FT DIAMETER 26
1-MANHOLE COVERS TYPE "O"

1-CATCH BASINS 2-FT X 2.5-FT BOX 25A
1-INLET COVERS TYPE "W"

30A 1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "X"

S 47TH ST.

4+00

47TH ST. ℄

25B 1-INLETS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W"

25 1-MANHOLES 4-FT DIAMETER
1-MANHOLE COVERS TYPE "O"

1-MANHOLES 4-FT DIAMETER 90
1-MANHOLE COVERS TYPE "O"

4609

4622 MORGAN AVE.
1-PRIVATE DRAIN, INSTALL NEW SS LATERAL

4609 MORGAN AVE.
1-PRIVATE DRAIN, INSTALL NEW SS LATERAL

SANITARY LEGEND:

RMC RECONSTRUCT MANHOLE AND INSTALL CHIMNEY SEAL (SAN)

AMC ADJUST MANHOLE AND INSTALL CHIMNEY SEAL (SAN)

760 755 750 745 740 735 730 725

31 RIM: 747.12
743.10
742.85
742.60
SUMP: 740.60
*53.4' SSPRC CL IV 18" @ 2.00%
*CROWN OF PIPE IN SUBGRADE IMPROVEMENT LAYER.

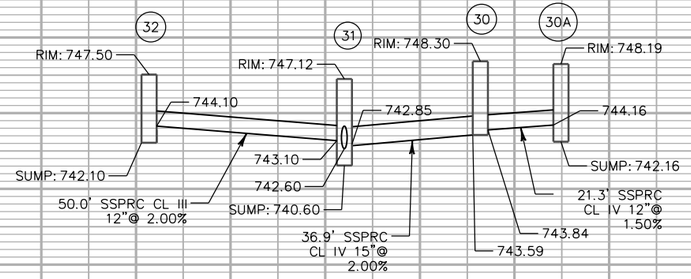
27 RIM: 747.51
743.78
742.18
30.2' SSPRC CL III 15" @ 2.00%

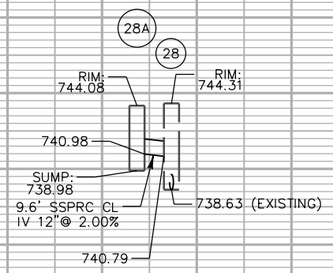
26 RIM: 746.99
743.00
741.58
741.33

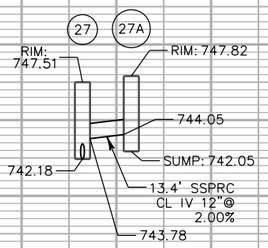
FINISHED PROFILE AT STORM SEWER TRUNKLINE
EXISTING PROFILE AT STORM SEWER TRUNKLINE
256.1' SSPRC CL IV 18" @ 2.00%

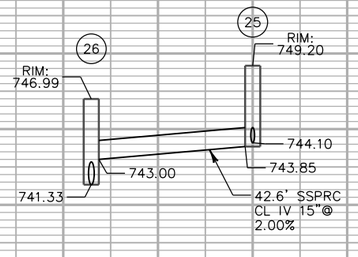
90 RIM: 740.95
736.86
736.21
58' SSPRC CL IV 18" @ 2.00%

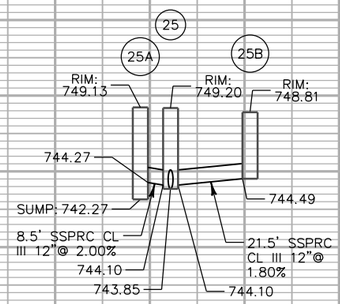
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 48	E

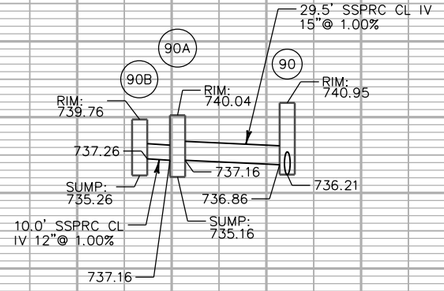












PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 49	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022504a_ss.dgn PLOT DATE : 8/21/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

2

1-MANHOLES 5-FT DIAMETER
1-MANHOLE COVERS TYPE "Q"
3
4600

2 1-MANHOLES 4-FT DIAMETER
1-MANHOLE COVERS TYPE "Q"

92 1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W"
CONNECT TO EXIST. STORM SEWER

18E 1-MANHOLES 4-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q"

5 1-MANHOLES 4-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q"

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W"
9

7 1-MANHOLES 4-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q"

1-MANHOLES 4-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q"
18D

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W"
11A

1-MANHOLES 4-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q"
18C

N

2

S 46TH ST.

4736.65

4737.00

+736.23

+729.25

+726.28

46TH ST. ℄

MORGAN ℄

131+00 | 132+00 | 133+00 | 134+00 | 135+00 | 136+00 | 137+00

W MORGAN AVENUE

RMC

12" CMCP

12" SS

4521

4735.97

S 46TH ST.

S 45TH ST.

45TH ST. ℄

CAUTION

4+00

4+00

1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "W"
2A

1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "X"
2B

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W"
1A

1 1-MANHOLES 5-FT DIAMETER
1-MANHOLE COVERS TYPE "Q"

1B 1-INLETS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W"

4 1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "C"

1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "W"
6A

1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "W"
6

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W"
8

10 1-MANHOLES 5-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q"

11 1-MANHOLES 4-FT DIAMETER
1-MANHOLE COVERS TYPE "Q"

SANITARY LEGEND:

RMC RECONSTRUCT MANHOLE AND INSTALL CHIMNEY SEAL (SAN)

AMC ADJUST MANHOLE AND INSTALL CHIMNEY SEAL (SAN)

4600 MORGAN AVE.
1-PRIVATE DRAIN, INSTALL NEW SS LATERAL

4521 MORGAN AVE.
1-PRIVATE DRAIN, INSTALL NEW SS LATERAL

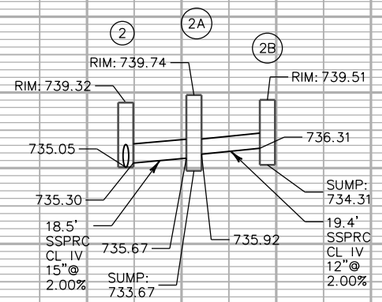
745 740 735 730 725 720 715 710

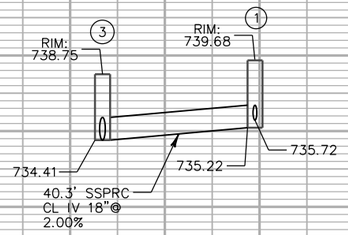
RIM: 739.32
735.30
735.05
28.6' SSPRC CL IV 18" @ 2.25%
58' SSPRC CL IV 18" @ 2.00%
734.41
RIM: 738.75
116.2' SSPRC CL IV 18" @ 2.25%
RIM: 735.80
731.80
731.30
730.80
117.9' SSPRC CL IV 18" @ 2.00%
FINISHED PROFILE AT STORM SEWER TRUNKLINE
EXISTING PROFILE AT STORM SEWER TRUNKLINE
RIM: 732.51
728.54
728.44
727.73
83.8' SSPRC CL IV 18" @ 2.00%
RIM: 730.81
727.12
726.42
726.05
725.55
126.0' SSPRC CL IV 24" @ 2.60%
RIM: 728.40
724.19
722.27
126.0' SSPRC CL IV 24" @ 2.60%

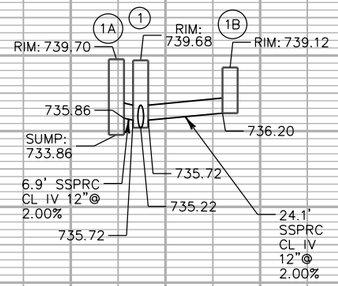
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 50	E

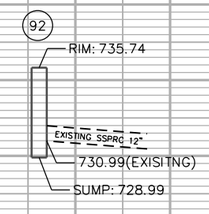
FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022505_ss.dgn PLOT DATE : 8/21/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

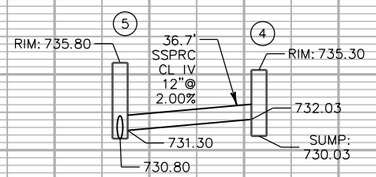
WISDOT/CADDS SHEET 30

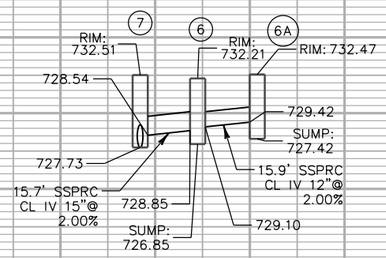


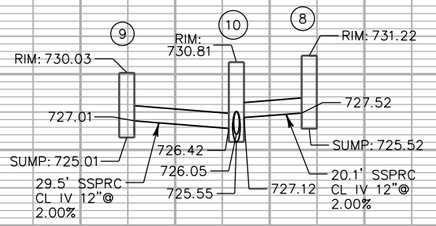


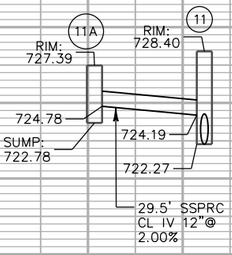












PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022505a_ss.dgn PLOT DATE : 8/21/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

(12) 1-MANHOLES 4-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q"

(12A) 1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W"

RECONSTRUCT EXISTING MANHOLE
1-MANHOLE COVERS TYPE "Q" (18B)

(14) 1-CATCH BASINS 4-FT. DIAMETER
1-INLET COVERS TYPE "W"

(15) 1-CATCH BASINS 5-FT. DIAMETER
1-INLET COVERS TYPE "W"

(16) 1-MANHOLES 5-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q"

(20A) 1-CATCH BASINS 4-FT. DIAMETER
1-INLET COVERS TYPE "W"

1-INLETS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" (22)

S 44TH ST.

S 43RD STREET

N

MORGAN ℄

137+00 | 138+00 | 139+00 | 140+00 | 141+00 | 142+00 | 143+00

W MORGAN AVENUE

CAUTION

95+00

RMC

723.46 | 721.63 | 719.80

(12B) 1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "W"

1-INLETS MEDIAN 1 GRATE
1-INLET COVERS TYPE "MS" (13)

44TH ST. ℄

1-INLETS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" (17)

4+00

S 44TH ST.

(18A) 1-CATCH BASINS 4-FT. DIAMETER
1-INLET COVERS TYPE "C"

(19) 1-MANHOLES 8-FT. DIAMETER
1-MANHOLE COVERS TYPE "Q"

(18) 1-CATCH BASINS 4-FT DIAMETER
1-INLET COVERS TYPE "W"

(20) EXISTING MANHOLE
ADJUST MANHOLE COVER

(21) EXISTING MANHOLE
ADJUST MANHOLE COVER

ALLEY

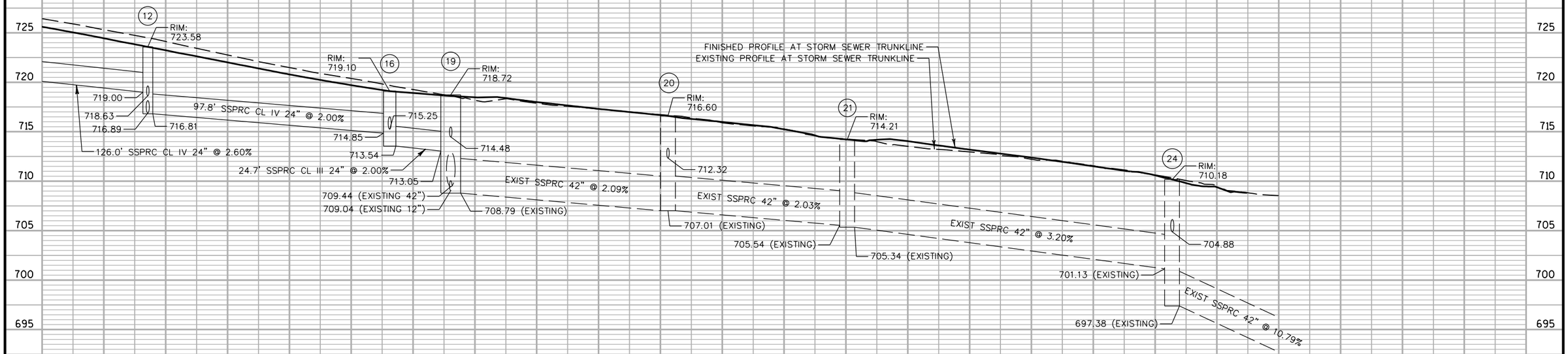
EXISTING MANHOLE
ADJUST MANHOLE COVER (24)

1-CATCH BASINS 2-FT X 2.5-FT BOX
1-INLET COVERS TYPE "W" (23)

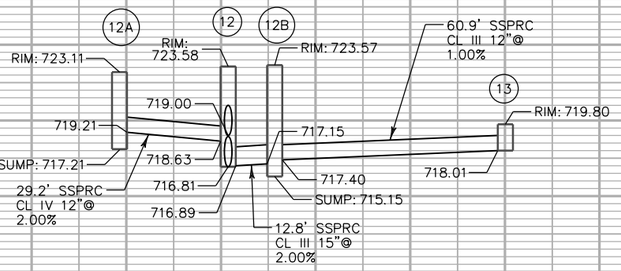
SANITARY LEGEND:

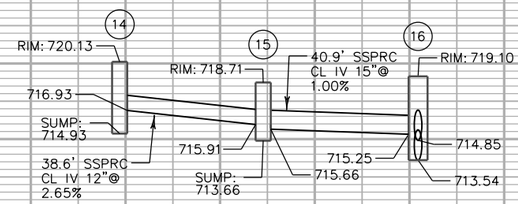
(RMC) RECONSTRUCT MANHOLE AND INSTALL CHIMNEY SEAL (SAN)

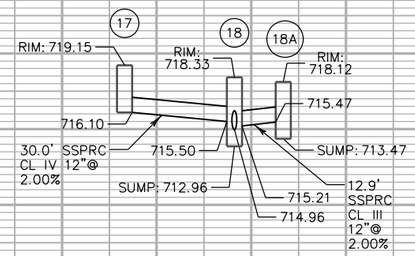
(AMC) ADJUST MANHOLE AND INSTALL CHIMNEY SEAL (SAN)

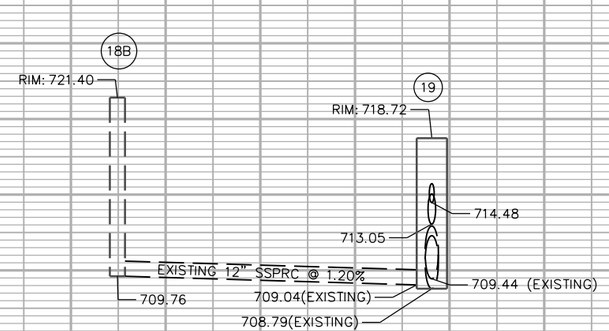


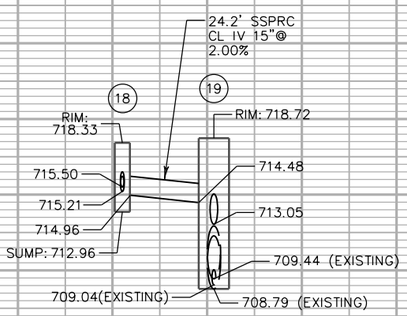
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 52	E

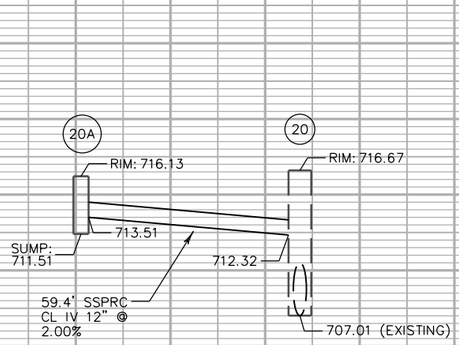


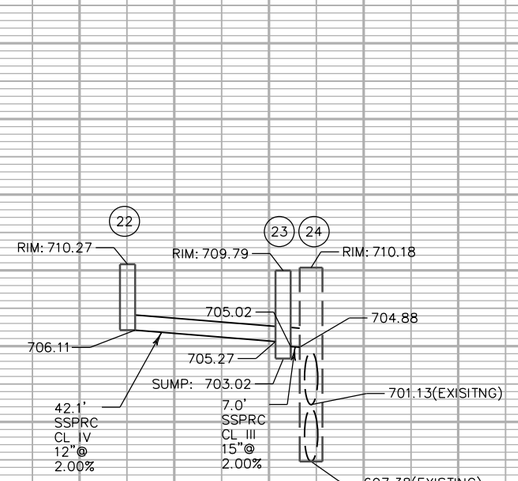






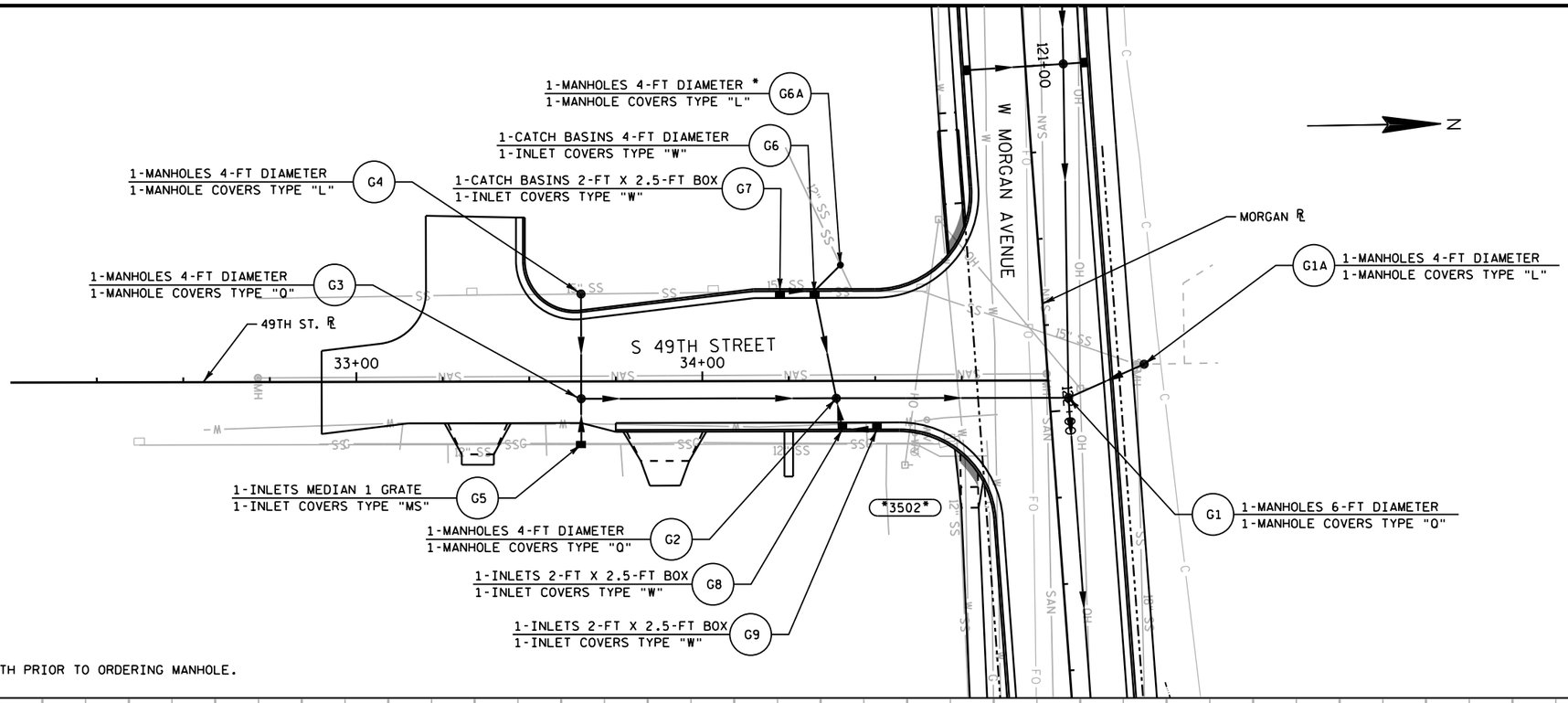






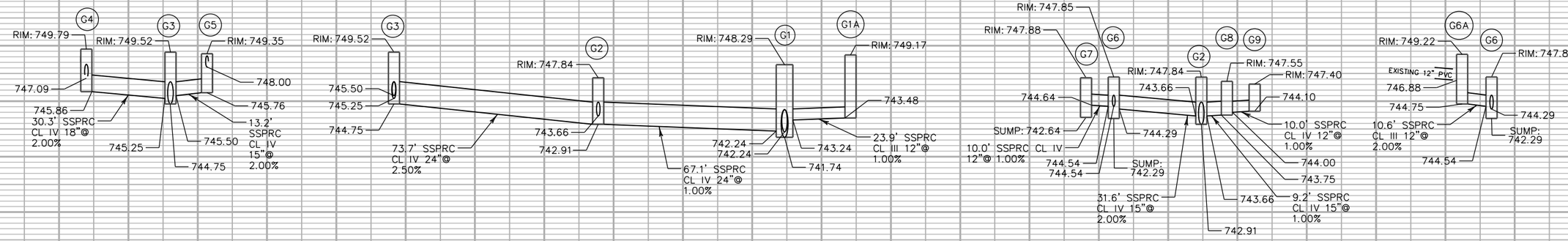
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022506a_ss.dgn PLOT DATE : 8/21/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40



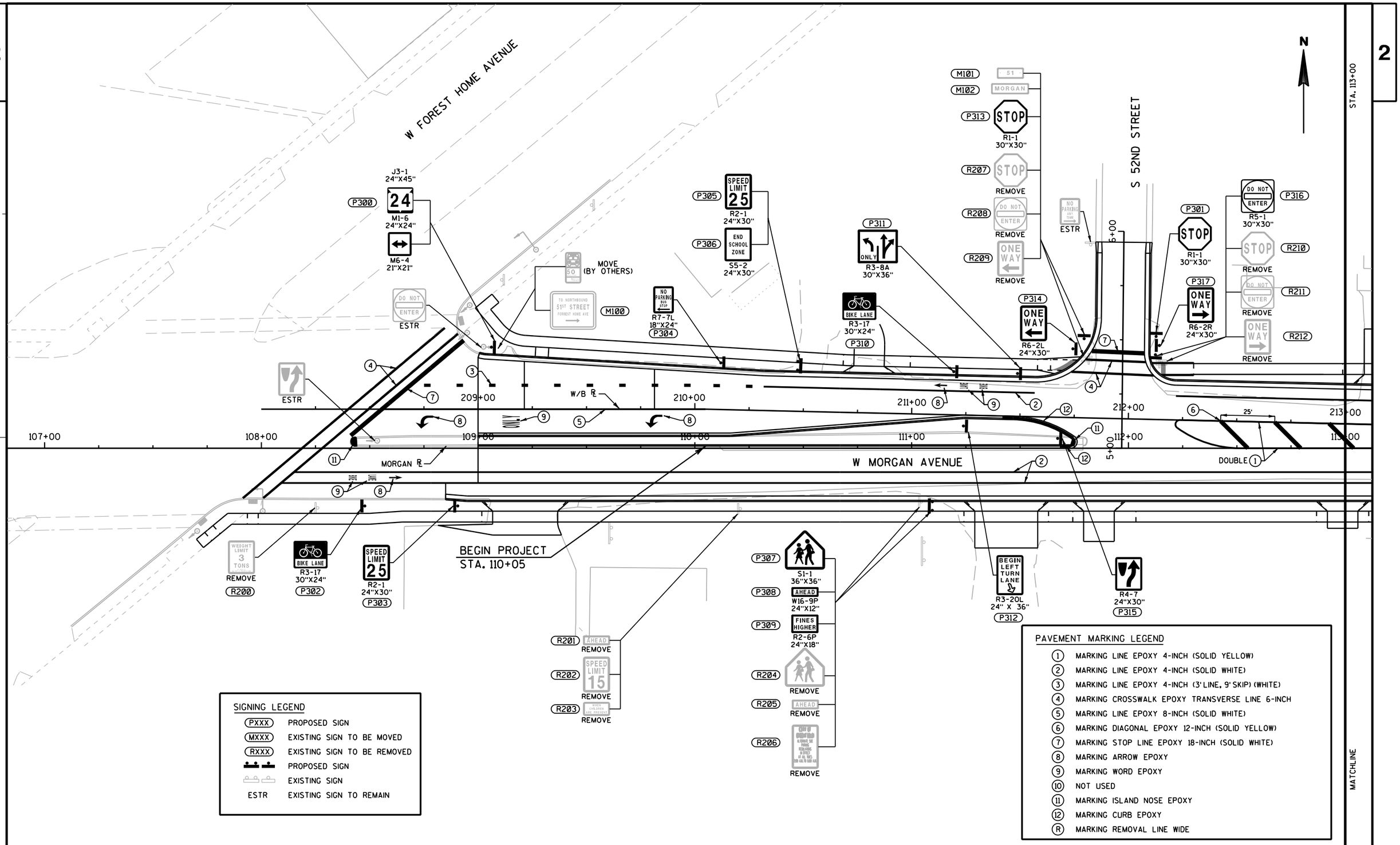
3502 49TH ST.
1-PRIVATE DRAIN,
INSTALL NEW SS LATERAL

*VERIFY EXISTING PIPE DEPTH PRIOR TO ORDERING MANHOLE.



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	STORM SEWER	SHEET 54	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_022507_ss.dgn | PLOT DATE : 8/21/2018 | PLOT BY : steuckr | PLOT NAME : | PLOT SCALE : 1:40



SIGNING LEGEND

(PXXX)	PROPOSED SIGN
(MXXX)	EXISTING SIGN TO BE MOVED
(RXXX)	EXISTING SIGN TO BE REMOVED
▬ ▬	PROPOSED SIGN
▭ ▭	EXISTING SIGN
ESTR	EXISTING SIGN TO REMAIN

PAVEMENT MARKING LEGEND

(1)	MARKING LINE EPOXY 4-INCH (SOLID YELLOW)
(2)	MARKING LINE EPOXY 4-INCH (SOLID WHITE)
(3)	MARKING LINE EPOXY 4-INCH (3'LINE, 9' SKIP) (WHITE)
(4)	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
(5)	MARKING LINE EPOXY 8-INCH (SOLID WHITE)
(6)	MARKING DIAGONAL EPOXY 12-INCH (SOLID YELLOW)
(7)	MARKING STOP LINE EPOXY 18-INCH (SOLID WHITE)
(8)	MARKING ARROW EPOXY
(9)	MARKING WORD EPOXY
(10)	NOT USED
(11)	MARKING ISLAND NOSE EPOXY
(12)	MARKING CURB EPOXY
(R)	MARKING REMOVAL LINE WIDE

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET 55	E

PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (SOLID YELLOW)
2. MARKING LINE EPOXY 4-INCH (SOLID WHITE)
3. MARKING LINE EPOXY 4-INCH (3' LINE, 9' SKIP) (WHITE)
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING LINE EPOXY 8-INCH (SOLID WHITE)
6. MARKING DIAGONAL EPOXY 12-INCH (SOLID YELLOW)
7. MARKING STOP LINE EPOXY 18-INCH (SOLID WHITE)
8. MARKING ARROW EPOXY
9. MARKING WORD EPOXY
10. NOT USED
11. MARKING ISLAND NOSE EPOXY
12. MARKING CURB EPOXY
R. MARKING REMOVAL LINE WIDE

N

STA. 113+00

STA. 119+00

"MEMORIAL CHURCH UNITED METHODIST" SIGN ESTR

W3-3 36" X 36" P319

M103 TO NORTHBOUND 51ST STREET FORREST HOME AVE

P320 W1-7 48" X 24"

R213 REMOVE

P322 S1-1 36"X36"

P323 W16-7L 24" X 12"

P324 BIKE LANE R3-17 30"X24"

M104 50

M105 MORGAN

R218 ONE WAY REMOVE

R219 ONE WAY REMOVE

ESTR EXEMPT FROM ALTERNATE SIDE PARKING

P329 ONE WAY R6-2R 24"X30"

P330 ONE WAY R6-2L 24"X30"

S 50TH PLACE

50TH PL. ℄

26+00

ESTR

P333 ONE WAY R6-2L 24"X30"

P334 ONE WAY R6-2R 24"X30"

R220 ONE WAY REMOVE

R221 ONE WAY REMOVE

M108 WEIGHT LIMIT 3 TONS

MOVE (BY OTHERS) 50

P335 S1-1 36"X36"

P336 W16-7L 24" X 12"

R222 REMOVE

R223 REMOVE

P339 R3-4 24"X24"

213+00 113+00 214+00 114+00 215+00 115+00 216+00 116+00 217+00 117+00 218+00 118+00 219+00 119+00

25'

W MORGAN AVENUE

DOUBLE (1)

SCHOOL SPEED LIMIT 15 WHEN CHILDREN ARE PRESENT S4-51 24"X48" P318

R4-7 24"X30" P321

DOUBLE (1)

AHEAD ESTR

S 51ST STREET 1014+00

51ST ST. ℄

NO PARKING ANY TIME ESTR

ONLY ONLY R3-8F 36" X 30" P328

P325 S1-1 36"X36"

P326 W16-7L 24" X 12"

BIKE LANE R3-17 30"X24" P331

MOVE (BY OTHERS) 50

REMOVE R215

W6-2 36"X36" P332

M106 51

M107 MORGAN

STOP P327 R1-1 36"X36"

STOP R214 REMOVE

R216 NO PARKING ANY TIME REMOVE

P337 S1-1 36"X36"

P338 W16-7L 24" X 12"

P340 R4-7 24"X30"

P341 R7-1D 18"X24"

R217 NO PARKING ANY TIME REMOVE

MATCHLINE

MATCHLINE

SIGNING LEGEND

(PXXX)	PROPOSED SIGN
(MXXX)	EXISTING SIGN TO BE MOVED
(RXXX)	EXISTING SIGN TO BE REMOVED
▬▬	PROPOSED SIGN
▭▭	EXISTING SIGN
ESTR	EXISTING SIGN TO REMAIN

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_023202_ps.dgn PLOT DATE : 5/31/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (SOLID YELLOW)
2. MARKING LINE EPOXY 4-INCH (SOLID WHITE)
3. MARKING LINE EPOXY 4-INCH (3' LINE, 9' SKIP) (WHITE)
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING LINE EPOXY 8-INCH (SOLID WHITE)
6. MARKING DIAGONAL EPOXY 12-INCH (SOLID YELLOW)
7. MARKING STOP LINE EPOXY 18-INCH (SOLID WHITE)
8. MARKING ARROW EPOXY
9. MARKING WORD EPOXY
10. NOT USED
11. MARKING ISLAND NOSE EPOXY
12. MARKING CURB EPOXY
R. MARKING REMOVAL LINE WIDE

2

STA. 119+00

STA. 125+00

N

W MORGAN AVENUE

S 49TH STREET

S 48TH STREET

S SCHAUER AVENUE

49TH ST. ℄

48TH ST. ℄

MATCHLINE

MATCHLINE

219+00

119+00

120+00

121+00

122+00

123+00

124+00

125+00

34+00

44+00

45+00

DOUBLE (1)

R224 REMOVE

R225 AHEAD REMOVE

W6-1 36"X36" P360

P344 S4-51 24"X48" SCHOOL SPEED LIMIT 15 WHEN CHILDREN ARE PRESENT

R228 AHEAD REMOVE

R229 SPEED LIMIT 15 REMOVE

R230 WHEN CHILDREN ARE PRESENT REMOVE

P351 S1-1 36"X36"

P351A AHEAD W16-9P 24"X12"

P351B FINES HIGHER R2-6P 24"X18"

R237 REMOVE

P352 P353 STOP R1-1 30"X30" BOTH SIDES OF POLE

P354 ALL WAY R1-3P 18"X6" EAST SIDE OF POLE

R238 R238A STOP REMOVE

R239 4-WAY REMOVE

P355 P356 STOP R1-1 30"X30" BOTH SIDES OF POLE

P357 ALL WAY R1-3P 18"X6" NORTH SIDE OF POLE

R240 STOP REMOVE

R241 4-WAY REMOVE

SPEED LIMIT 25 R2-1 24"X30" P348

BIKE LANE R3-17 30"X24" P358

ESTR

M113 WEIGHT LIMIT 3 TONS

P342 W3-1 36"X36"

P343 NO PARKING ANY TIME R7-1D 18"X24"

R226 STOP AHEAD REMOVE

R227 NO PARKING ANY TIME REMOVE

P345 S4-51 24"X48" SCHOOL SPEED LIMIT 15 WHEN CHILDREN ARE PRESENT

R231 AHEAD REMOVE

R232 SPEED LIMIT 15 REMOVE

R233 WHEN CHILDREN ARE PRESENT REMOVE

P346 NO PARKING ANY TIME R7-1L 18"X24"

R234 NO PARKING ANY TIME REMOVE

P347 NO PARKING ANY TIME R7-1R 18"X24"

R235 NO PARKING ANY TIME REMOVE

BIKE LANE R3-17 30"X24" P350

49 MORGAN M109 M110

STOP R1-1 36"X36" P349

STOP R236 REMOVE

ONLY ONLY R3-8F 36" X 30" P347A

ESTR

P359A SPEED LIMIT 25 R2-1 24"X30"

P359 END SCHOOL ZONE S5-2 24"X30"

M111 M112 48 MORGAN

P361 P362 STOP R1-1 30"X30" BOTH SIDES OF POLE

P363 ALL WAY R1-3P 18"X6" WEST SIDE OF POLE

R242 R243 STOP REMOVE

R244 4-WAY REMOVE

MOVE (BY OTHERS)

ESTR

P364 P365 STOP R1-1 30"X30" BOTH SIDES OF POLE

P366 ALL WAY R1-3P 18"X6" SOUTH SIDE OF POLE

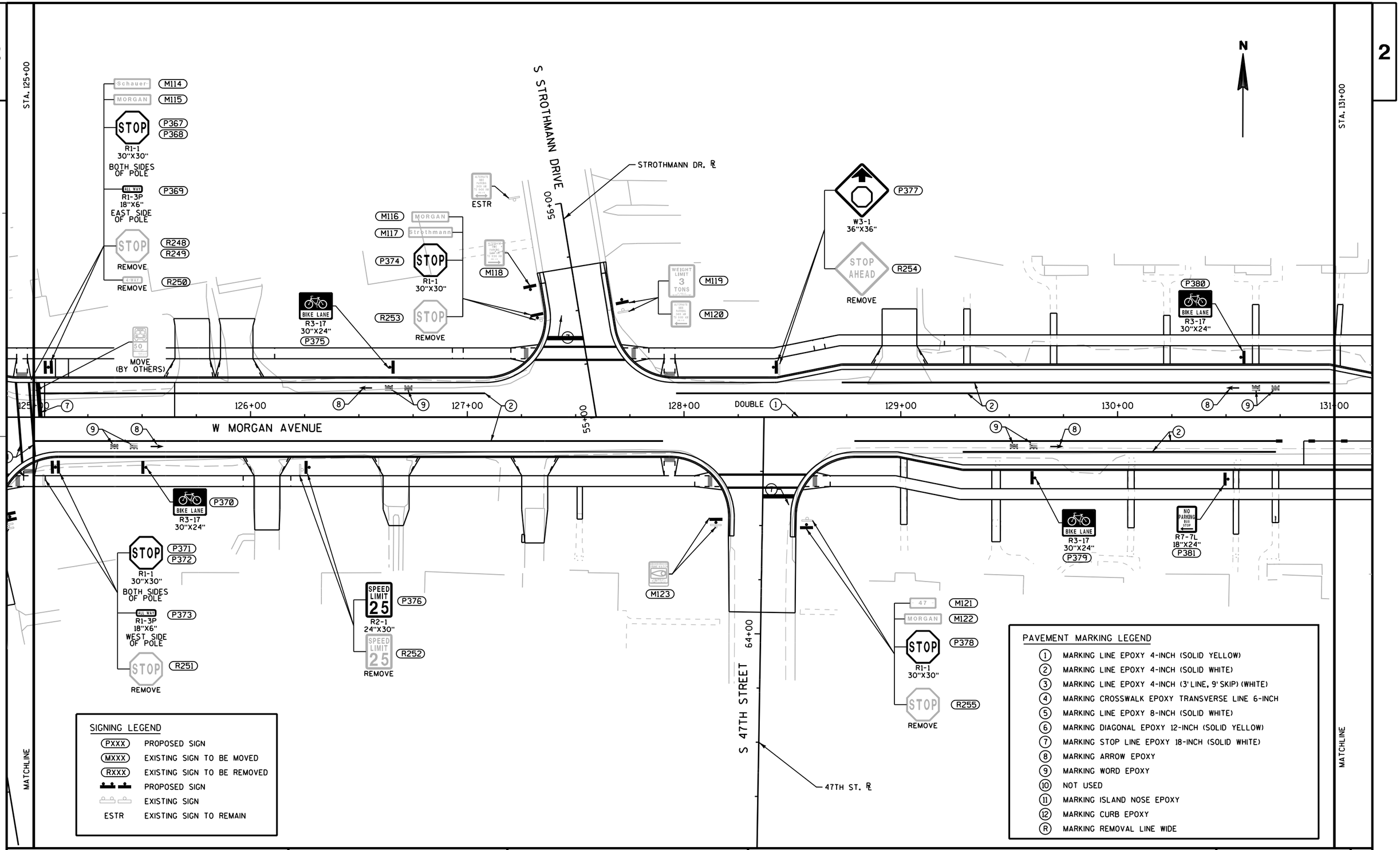
R245 R246 STOP REMOVE

R247 4-WAY REMOVE

SIGNING LEGEND

- PXXX PROPOSED SIGN
- MXXX EXISTING SIGN TO BE MOVED
- RXXX EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- EXISTING SIGN
- ESTR EXISTING SIGN TO REMAIN

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET 57 E



SIGNING LEGEND

(PXXX)	PROPOSED SIGN
(MXXX)	EXISTING SIGN TO BE MOVED
(RXXX)	EXISTING SIGN TO BE REMOVED
▬▬	PROPOSED SIGN
▭▭	EXISTING SIGN
ESTR	EXISTING SIGN TO REMAIN

PAVEMENT MARKING LEGEND

(1)	MARKING LINE EPOXY 4-INCH (SOLID YELLOW)
(2)	MARKING LINE EPOXY 4-INCH (SOLID WHITE)
(3)	MARKING LINE EPOXY 4-INCH (3' LINE, 9' SKIP) (WHITE)
(4)	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
(5)	MARKING LINE EPOXY 8-INCH (SOLID WHITE)
(6)	MARKING DIAGONAL EPOXY 12-INCH (SOLID YELLOW)
(7)	MARKING STOP LINE EPOXY 18-INCH (SOLID WHITE)
(8)	MARKING ARROW EPOXY
(9)	MARKING WORD EPOXY
(10)	NOT USED
(11)	MARKING ISLAND NOSE EPOXY
(12)	MARKING CURB EPOXY
(R)	MARKING REMOVAL LINE WIDE

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_023204_ps.dgn PLOT DATE : 5/31/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

SIGNING LEGEND

(PXXX)	PROPOSED SIGN
(MXXX)	EXISTING SIGN TO BE MOVED
(RXXX)	EXISTING SIGN TO BE REMOVED
▬▬	PROPOSED SIGN
▭▭	EXISTING SIGN
ESTR	EXISTING SIGN TO REMAIN

PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (SOLID YELLOW)
2. MARKING LINE EPOXY 4-INCH (SOLID WHITE)
3. MARKING LINE EPOXY 4-INCH (3' LINE, 9' SKIP) (WHITE)
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING LINE EPOXY 8-INCH (SOLID WHITE)
6. MARKING DIAGONAL EPOXY 12-INCH (SOLID YELLOW)
7. MARKING STOP LINE EPOXY 18-INCH (SOLID WHITE)
8. MARKING ARROW EPOXY
9. MARKING WORD EPOXY
10. NOT USED
11. MARKING ISLAND NOSE EPOXY
12. MARKING CURB EPOXY
R. MARKING REMOVAL LINE WIDE

N

STA. 131+00

S 46TH STREET

P382 STOP R1-1 30"X30"

R256 STOP REMOVE

M124

M125 WEIGHT LIMIT 3 TONS

MOVE (BY OTHERS)

P384 NO PARKING BUS STOP R7-7L 18"X24"

P385 SPEED LIMIT 25 R2-1 24"X30"

P388 BIKE LANE R3-17 30"X24"

STA. 137+00

131+00 132+00 133+00 W MORGAN AVENUE 134+00 DOUBLE 135+00 136+00 137+00

75+00

MOVE (BY OTHERS)

P386 BIKE LANE R3-17 30"X24"

P387 SPEED LIMIT 25 R2-1 24"X30"

R258 SPEED LIMIT 25 REMOVE

74+00

S 46TH STREET

M126 45 MORGAN

M127

P383 STOP R1-1 30"X30"

R257 STOP REMOVE

46TH ST.

84+00

S 45TH STREET

P390 BIKE LANE R3-17 30"X24"

NO PARKING ANY TIME REMOVE R260

M128 45 MORGAN

M129

P389 STOP R1-1 30"X30"

R259 STOP REMOVE

45TH ST.

MATCHLINE

MATCHLINE

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET 59	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_023205_ps.dgn PLOT DATE : 5/31/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

SIGNING LEGEND

(PXXX)	PROPOSED SIGN
(MXXX)	EXISTING SIGN TO BE MOVED
(RXXX)	EXISTING SIGN TO BE REMOVED
▬▬	PROPOSED SIGN
▭▭	EXISTING SIGN
ESTR	EXISTING SIGN TO REMAIN

PAVEMENT MARKING LEGEND

(1)	MARKING LINE EPOXY 4-INCH (SOLID YELLOW)
(2)	MARKING LINE EPOXY 4-INCH (SOLID WHITE)
(3)	MARKING LINE EPOXY 4-INCH (3' LINE, 9' SKIP) (WHITE)
(4)	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
(5)	MARKING LINE EPOXY 8-INCH (SOLID WHITE)
(6)	MARKING DIAGONAL EPOXY 12-INCH (SOLID YELLOW)
(7)	MARKING STOP LINE EPOXY 18-INCH (SOLID WHITE)
(8)	MARKING ARROW EPOXY
(9)	MARKING WORD EPOXY
(10)	NOT USED
(11)	MARKING ISLAND NOSE EPOXY
(12)	MARKING CURB EPOXY
(R)	MARKING REMOVAL LINE WIDE

STA. 137+00

S 44TH STREET

S 43RD STREET

P391 STOP R1-1 30"X30"

R261 STOP REMOVE

WEIGHT LIMIT 3 TONS M130

P394 SPEED LIMIT 25 R2-1 24"X30"

R264 SPEED LIMIT 25 REMOVE

P395 BIKE LANE R3-17 30"X24"

ESTR

END PROJECT STA. 141+65

137+00 DOUBLE (1) 138+00 139+00 DOUBLE (1) 140+00 141+00 142+00 143+00

95+00

W MORGAN AVENUE

NO PARKING BUS STOP REMOVE R262

W3-3 36" X 36" P398

BIKE LANE R3-17 30"X24" P393

44 M131

MORGAN M132

STOP P392 R1-1 30"X30"

STOP R263 REMOVE

R7-7L 18"X24" P396

RAMP

NO OUTLET P397 W14-2 30"X30"

NO OUTLET R265 REMOVE

MOVE (BY OTHERS)

94+00

S 44TH STREET

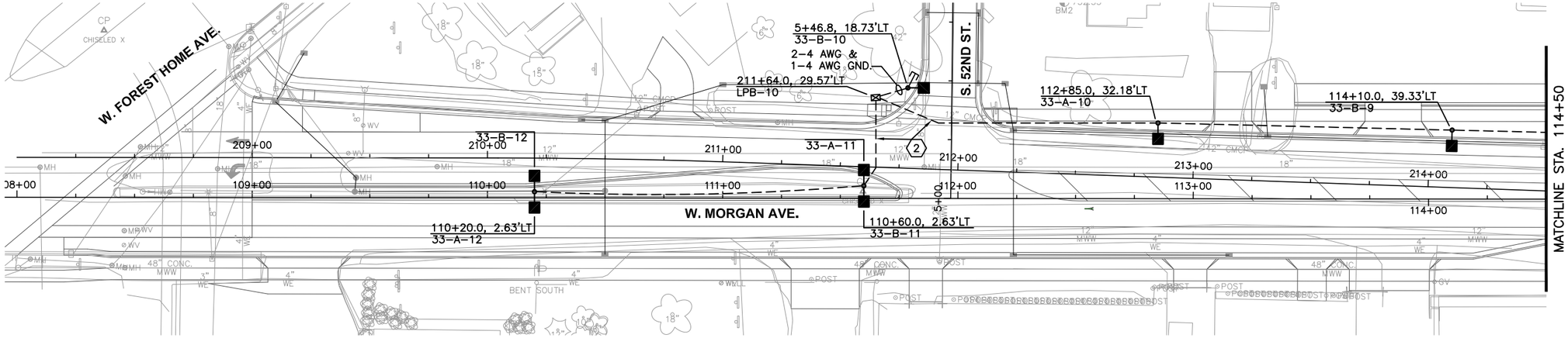
S 43RD STREET

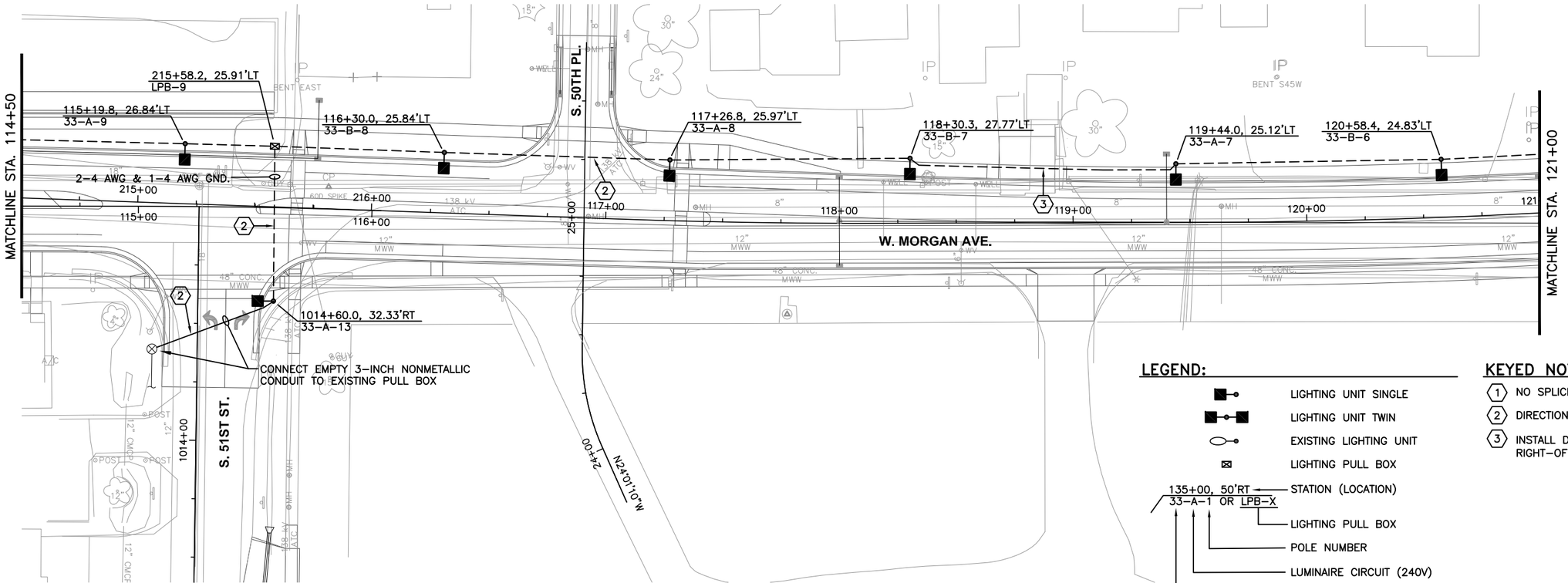
MATCHLINE

44TH ST. ℄

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PERMANENT SIGNING/PAVEMENT MARKING	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_023206_ps.dgn PLOT DATE : 5/31/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40





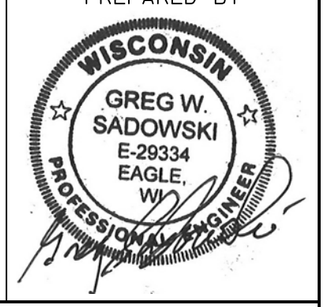
LEGEND:

- LIGHTING UNIT SINGLE
- LIGHTING UNIT TWIN
- EXISTING LIGHTING UNIT
- LIGHTING PULL BOX
- 135+00, 50'RT / 33–A–1 OR LPB–X — STATION (LOCATION); LIGHTING PULL BOX; POLE NUMBER; LUMINAIRE CIRCUIT (240V); CONTROL CABINET (SOURCE)
- CONDUIT AS NOTED
- CONDUCTORS IN DUCT: 3–4 AWG & 1–4 AWG GND. IN 1 1/2–INCH HDPE DUCT, UNLESS NOTED
- E — CONDUIT STUB–OUT CAPPED

KEYED NOTES:

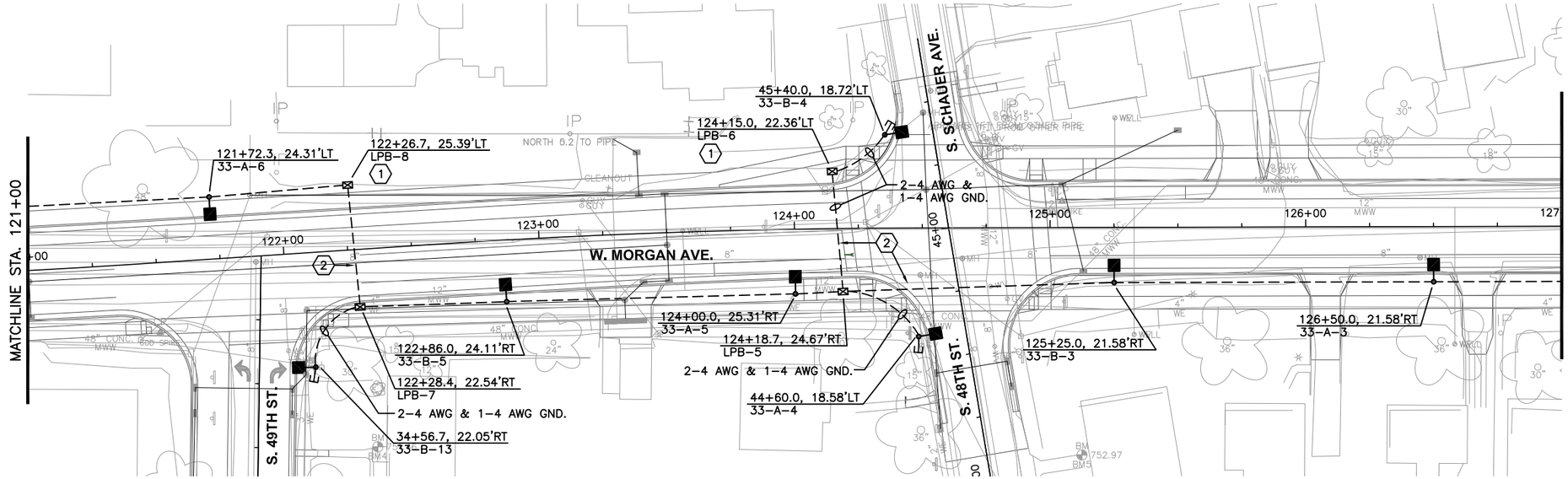
1. NO SPLICES ALLOWED IN PULL BOX.
2. DIRECTIONAL BORE DUCT OR CONDUIT UNDER ROADWAY.
3. INSTALL DUCT BELOW SIDEWALK (TO BE WITHIN RIGHT–OF–WAY) BETWEEN LIGHTING UNITS.

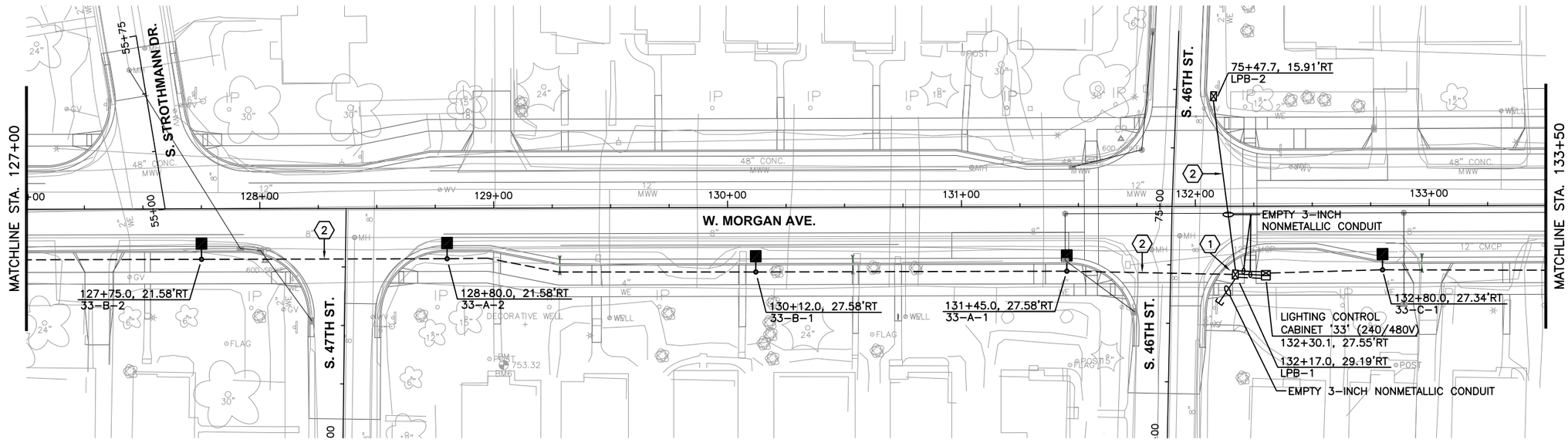
LIGHTING PLANS PREPARED BY



DESIGNED BY: POWRTEK ENGINEERING, INC. SHEET 1 OF 5

PROJECT NO: 2405-00-74	HWY: MORGAN AVE.	COUNTY: MILWAUKEE	LIGHTING PLAN	SHEET NO: 61	E





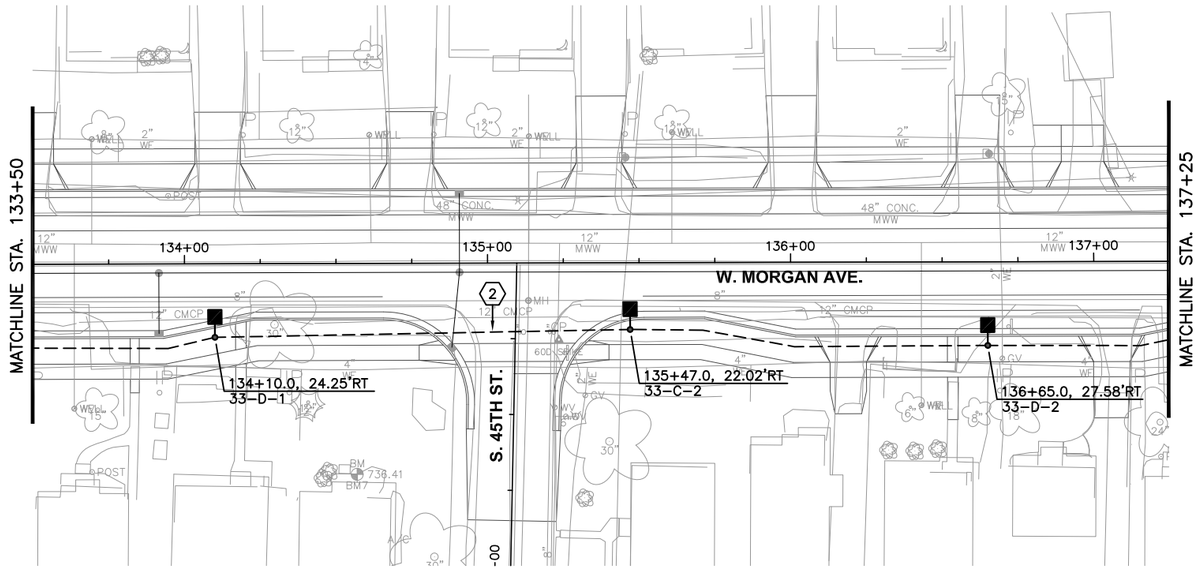
LEGEND:

- LIGHTING UNIT SINGLE
- LIGHTING UNIT TWIN
- EXISTING LIGHTING UNIT
- LIGHTING PULL BOX
- 135+00, 50'RT / 33-A-1 OR LPB-X — STATION (LOCATION)
  - LIGHTING PULL BOX
  - POLE NUMBER
  - LUMINAIRE CIRCUIT (240V)
  - CONTROL CABINET (SOURCE)
- CONDUIT AS NOTED
- CONDUCTORS IN DUCT: 3-4 AWG & 1-4 AWG GND. IN 1 1/2-INCH HDPE DUCT, UNLESS NOTED
- E — CONDUIT STUB-OUT CAPPED

N

KEYED NOTES:

1. NO SPLICES ALLOWED IN PULL BOX.
2. DIRECTIONAL BORE DUCT OR CONDUIT UNDER ROADWAY.
3. INSTALL DUCT BELOW SIDEWALK (TO BE WITHIN RIGHT-OF-WAY) BETWEEN LIGHTING UNITS.



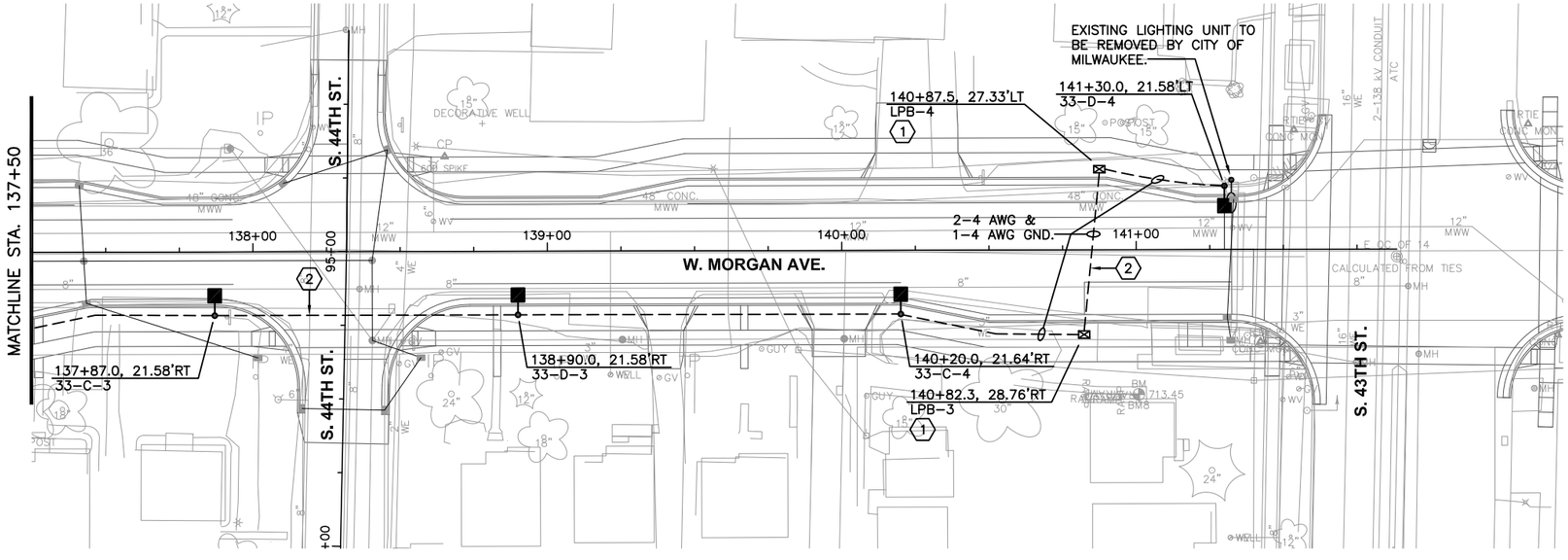
LEGEND:

- LIGHTING UNIT SINGLE
- LIGHTING UNIT TWIN
- EXISTING LIGHTING UNIT
- LIGHTING PULL BOX
- 135+00, 50'RT — STATION (LOCATION)
- 33-A-1 OR LPB-X
  - LIGHTING PULL BOX
  - POLE NUMBER
  - LUMINAIRE CIRCUIT (240V)
  - CONTROL CABINET (SOURCE)
- CONDUIT AS NOTED
- CONDUCTORS IN DUCT: 3-4 AWG & 1-4 AWG GND. IN 1 1/2-INCH HDPE DUCT, UNLESS NOTED
- E — CONDUIT STUB-OUT CAPPED

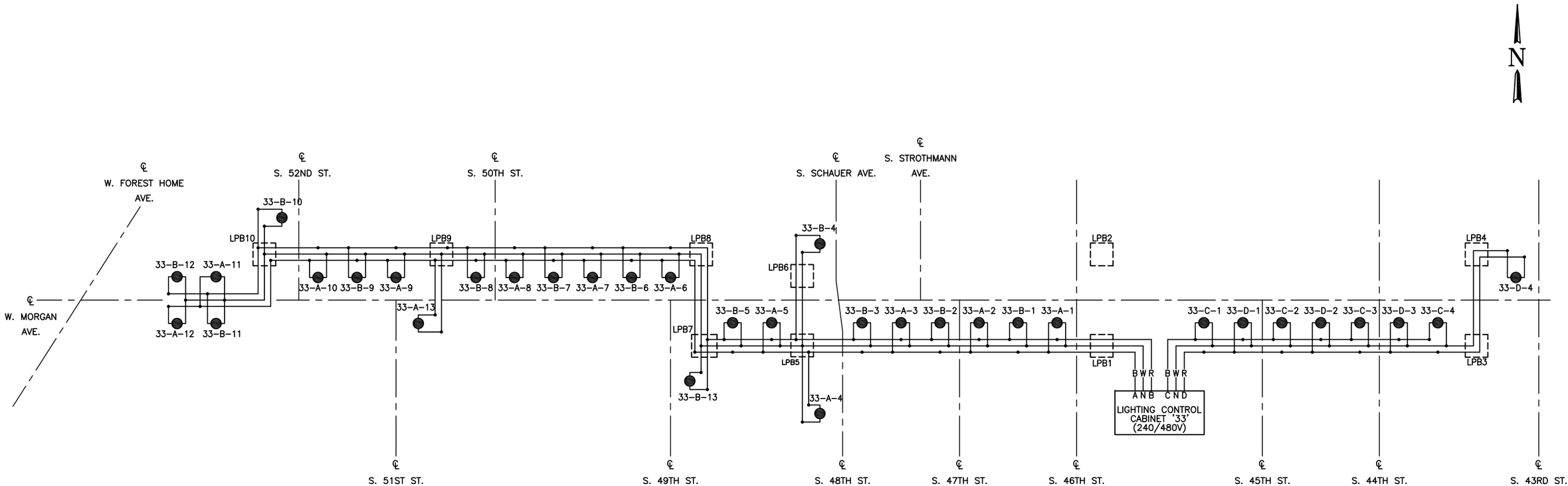
KEYED NOTES:

1. NO SPLICES ALLOWED IN PULL BOX.
2. DIRECTIONAL BORE DUCT OR CONDUIT UNDER ROADWAY.
3. INSTALL DUCT BELOW SIDEWALK (TO BE WITHIN RIGHT-OF-WAY) BETWEEN LIGHTING UNITS.

N



2



LEGEND:

- 105 WATT LED LUMINAIRE
- SPLICE

COLOR CODE:

B – BLUE
R – RED
W – WHITE

NOTES:

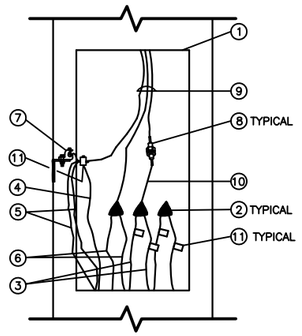
1. SPLICES ONLY ALLOWED IN PULL BOXES, WHERE INDICATED.
2. GROUND CONDUCTOR (GREEN) REQUIRED, NOT SHOWN.

FIELD WIRING DIAGRAM

NOT TO SCALE

DESIGNED BY: POWRTEK ENGINEERING, INC. SHEET 4 OF 5

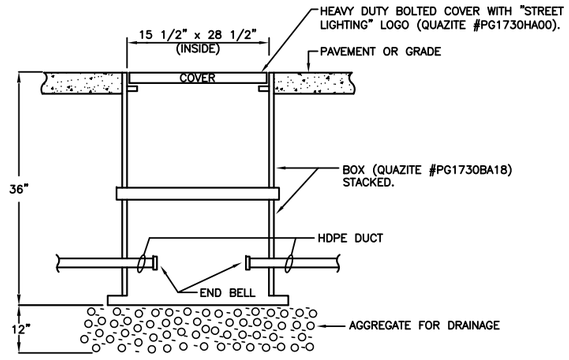
2



POLE WIRING NOTES:

1. TRANSFORMER BASE HAND HOLE AND COVER
2. INSULATED SPLICE
3. UNGROUNDED CONDUCTORS
4. #8 CONDUCTOR TO GROUND ROD
5. SYSTEM GROUNDING CONDUCTORS
6. GROUNDED CONDUCTOR (NEUTRAL)
7. HAND HOLE GROUNDING LUG
8. INLINE 1–POLE FUSE ASSEMBLY AND 5A FUSES. WEATHERPROOF BOOTS.
9. 3#12 RHW/USE (XLP) TO LUMINAIRE
10. 12" PIGTAIL BETWEEN SPLICE AND FUSE ASSEMBLY
11. CIRCUIT TAG
12. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTION (NOT INSULATED)

POLE WIRING DETAIL
NO SCALE



LIGHTING PULL BOX NOTES:

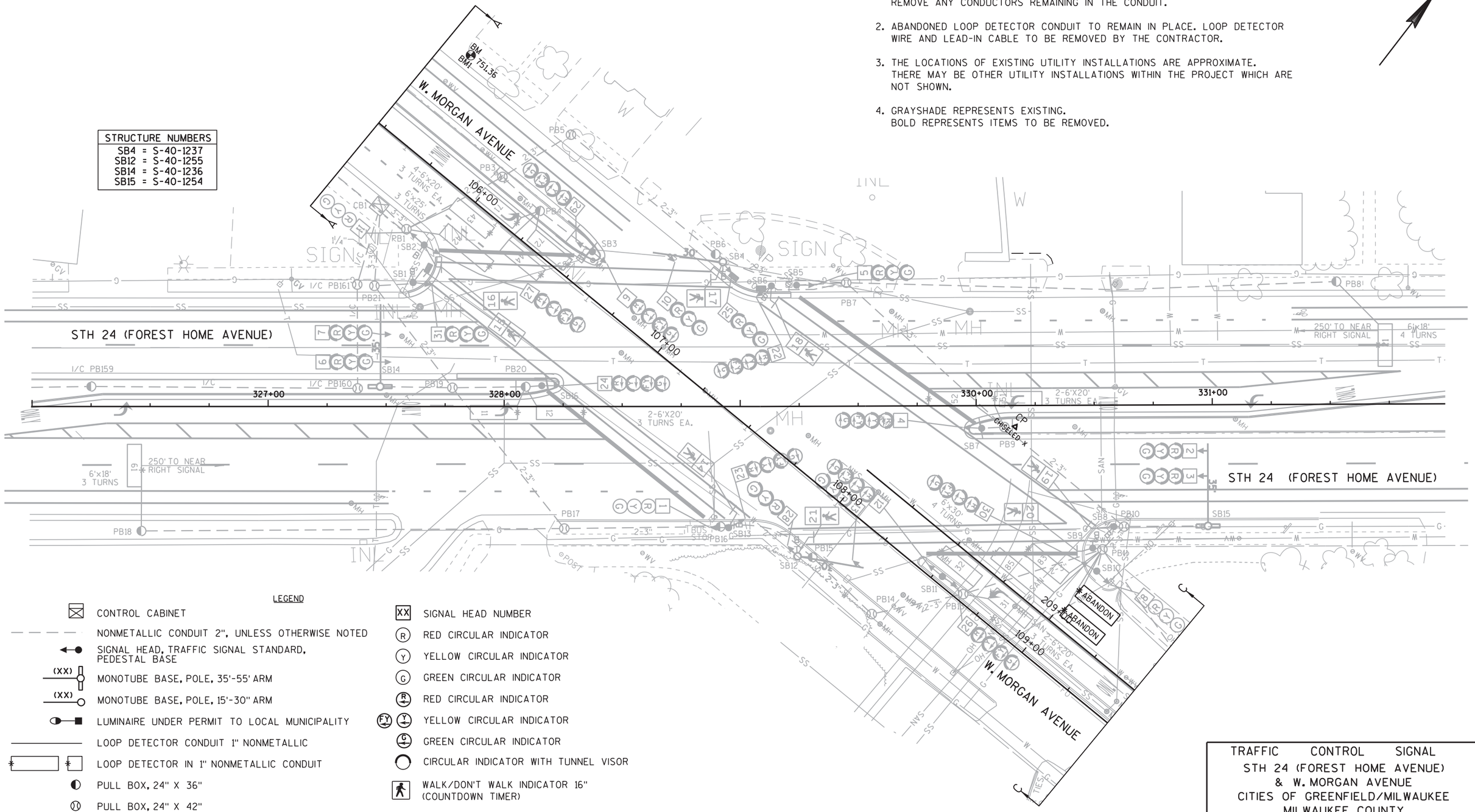
1. PULLBOX IS A UL LISTED CONCRETE COMPOSITE.
2. SHIM BETWEEN SECTIONS AS REQUIRED SO BOX IS LEVEL WITH FINAL GRADE/PAVEMENT.

LIGHTING PULL BOX
NO SCALE

CONSTRUCTION NOTES:

1. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.
2. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
3. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
4. GRAYSHADE REPRESENTS EXISTING. BOLD REPRESENTS ITEMS TO BE REMOVED.

STRUCTURE NUMBERS
SB4 = S-40-1237
SB12 = S-40-1255
SB14 = S-40-1236
SB15 = S-40-1254



LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- (XX) MONOTUBE BASE, POLE, 15'-30" ARM
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED CIRCULAR INDICATOR
- FY Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- CIRCULAR INDICATOR WITH TUNNEL VISOR
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

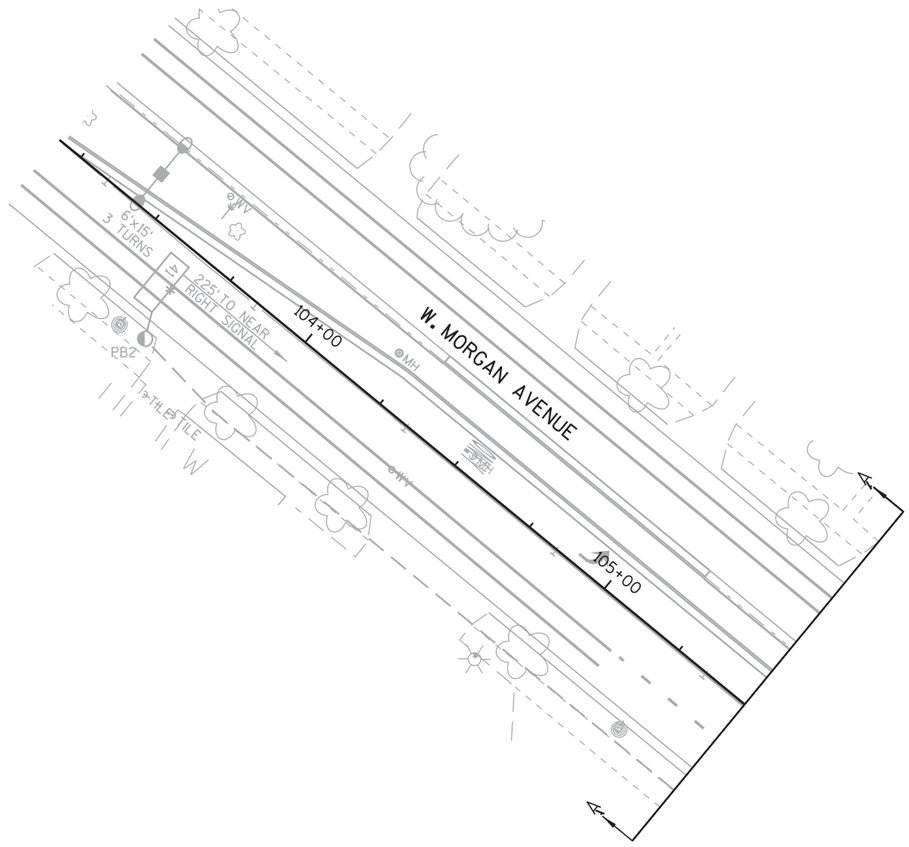
TRAFFIC CONTROL SIGNAL
STH 24 (FOREST HOME AVENUE)
& W. MORGAN AVENUE
CITIES OF GREENFIELD/MILWAUKEE
MILWAUKEE COUNTY

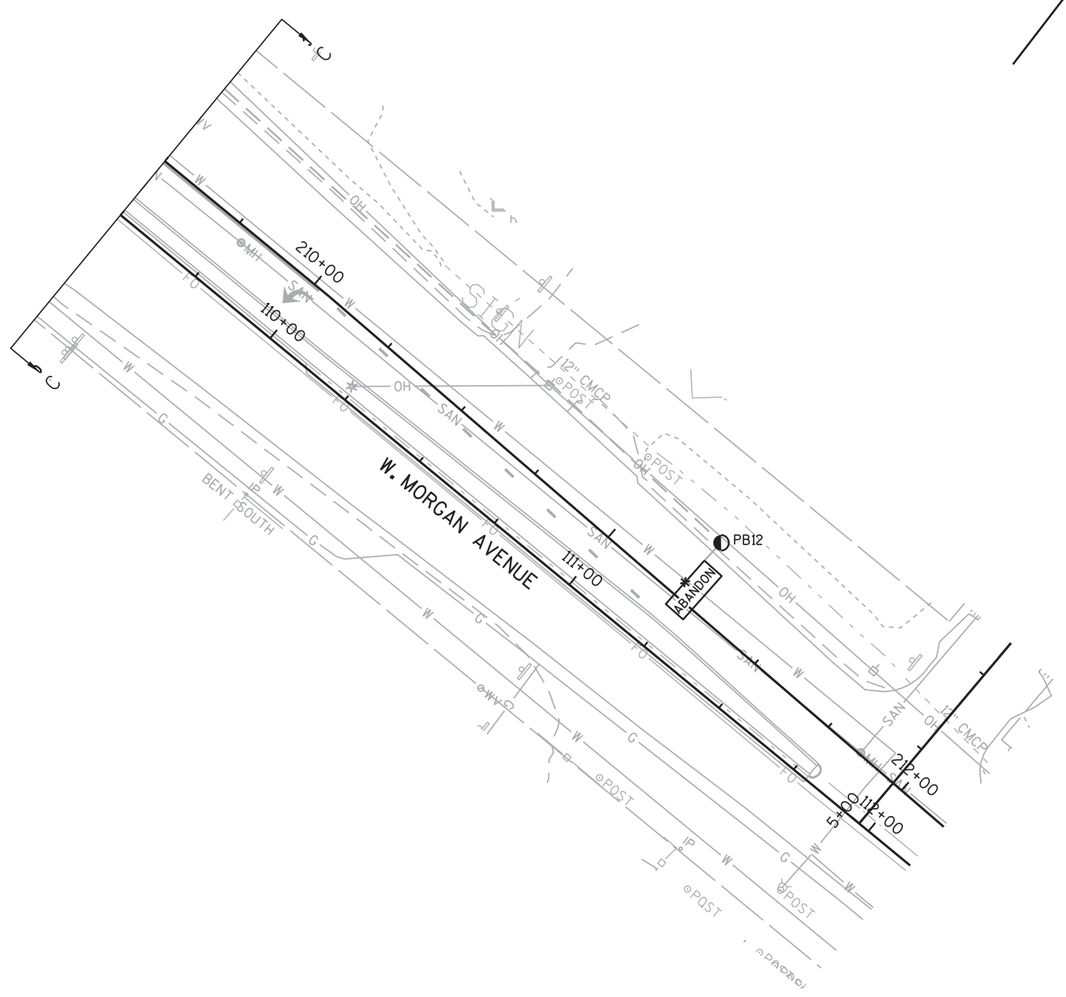
SIGNAL NO. S40-1108

REGION CONTACT: S. SWARD
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 1 OF 2

PROJECT NO: 2405-00-74	HWY: STH 24	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 66	E





TRAFFIC CONTROL SIGNAL
STH 24 (FOREST HOME AVENUE)
& W. MORGAN AVENUE
CITIES OF GREENFIELD/MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO. S40-1108

REGION CONTACT: S. SWARD
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 2 OF 2

PROJECT NO: 2405-00-74	HWY: STH 24	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 67	E

CONSTRUCTION NOTES:

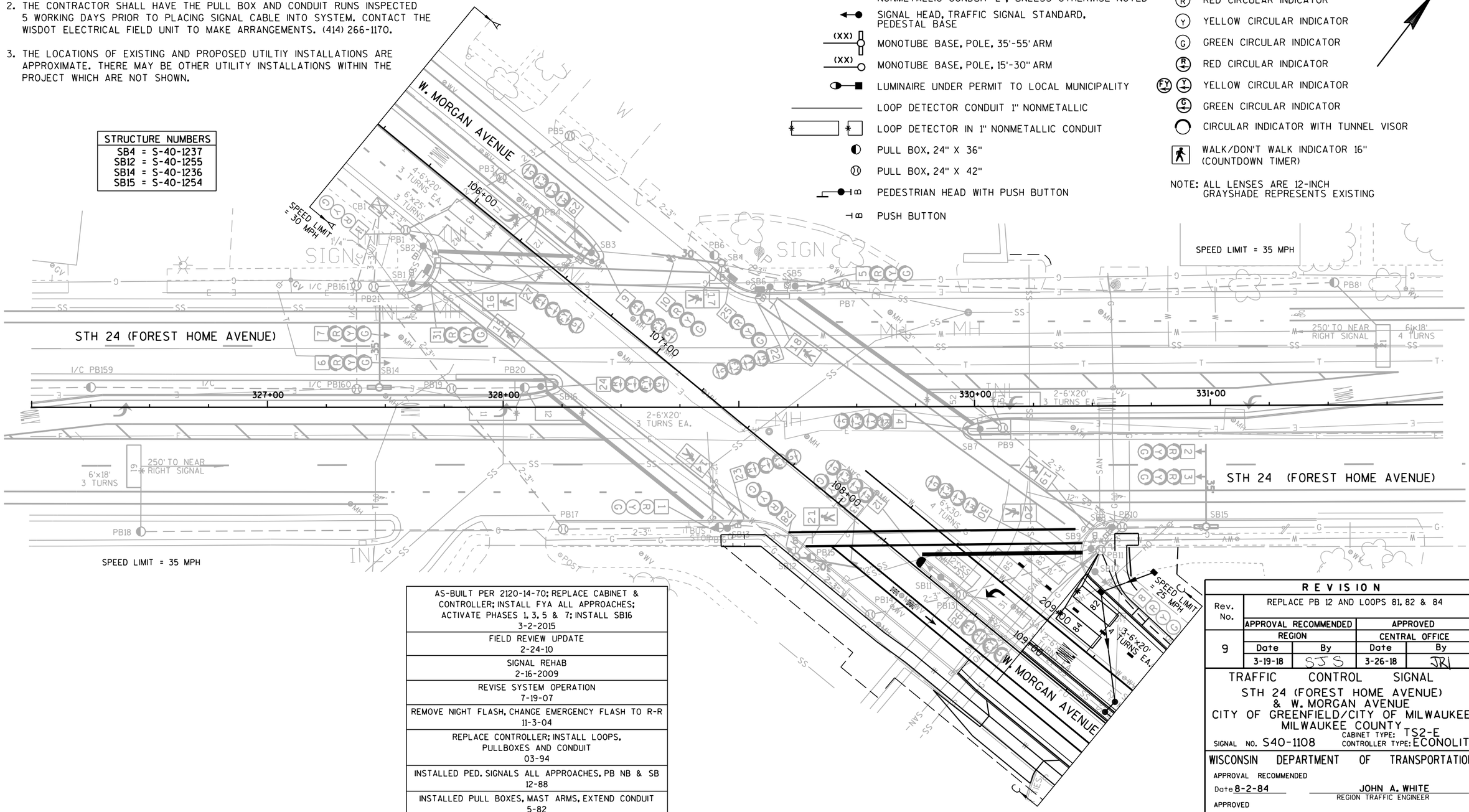
1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOX AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.
3. THE LOCATIONS OF EXISTING AND PROPOSED UTILTIY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.

STRUCTURE NUMBERS
SB4 = S-40-1237
SB12 = S-40-1255
SB14 = S-40-1236
SB15 = S-40-1254

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE BASE, POLE, 35'-55' ARM
- (XX) MONOTUBE BASE, POLE, 15'-30" ARM
- LUMINAIRE UNDER PERMIT TO LOCAL MUNICIPALITY
- LOOP DETECTOR CONDUIT 1" NONMETALLIC
- * LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
- PULL BOX, 24" X 36"
- PULL BOX, 24" X 42"
- PEDESTRIAN HEAD WITH PUSH BUTTON
- PUSH BUTTON
- XX SIGNAL HEAD NUMBER
- R RED CIRCULAR INDICATOR
- Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- R RED CIRCULAR INDICATOR
- FY Y YELLOW CIRCULAR INDICATOR
- G GREEN CIRCULAR INDICATOR
- CIRCULAR INDICATOR WITH TUNNEL VISOR
- WALK/DON'T WALK INDICATOR 16" (COUNTDOWN TIMER)

NOTE: ALL LENSES ARE 12-INCH GRAYSHADE REPRESENTS EXISTING



REVISION				
Rev. No.	REPLACE PB 12 AND LOOPS 81, 82 & 84			
	APPROVAL RECOMMENDED		APPROVED	
	REGION		CENTRAL OFFICE	
9	Date	By	Date	By
	3-19-18	SJS	3-26-18	JRJ

AS-BUILT PER 2120-14-70; REPLACE CABINET & CONTROLLER; INSTALL FYA ALL APPROACHES; ACTIVATE PHASES 1, 3, 5 & 7; INSTALL SB16 3-2-2015
FIELD REVIEW UPDATE 2-24-10
SIGNAL REHAB 2-16-2009
REVISE SYSTEM OPERATION 7-19-07
REMOVE NIGHT FLASH, CHANGE EMERGENCY FLASH TO R-R 11-3-04
REPLACE CONTROLLER; INSTALL LOOPS, PULLBOXES AND CONDUIT 03-94
INSTALLED PED. SIGNALS ALL APPROACHES, PB NB & SB 12-88
INSTALLED PULL BOXES, MAST ARMS, EXTEND CONDUIT 5-82
INSTALLED PRETIMED CONTROLLER, INTERCONNECT CABLE 12-71
INITIAL INSTALL 01-66

TRAFFIC CONTROL SIGNAL

STH 24 (FOREST HOME AVENUE) & W. MORGAN AVENUE

CITY OF GREENFIELD/CITY OF MILWAUKEE

MILWAUKEE COUNTY

SIGNAL NO. S40-1108

CABINET TYPE: TS2-E

CONTROLLER TYPE: ECONOLITE

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED

Date 8-2-84 — JOHN A. WHITE, REGION TRAFFIC ENGINEER

APPROVED

Date _____ — STATE TRAFFIC ENGINEER

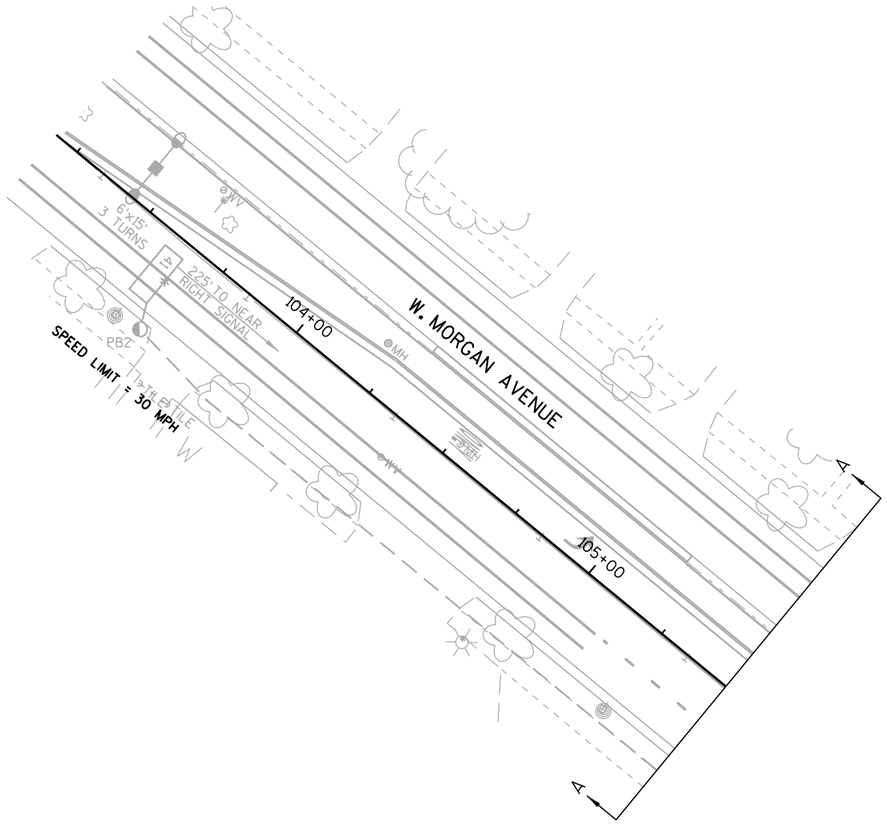
REGION CONTACT: S. SWARD
DESIGNED BY:
REVISED BY: C. VANDE LEEST

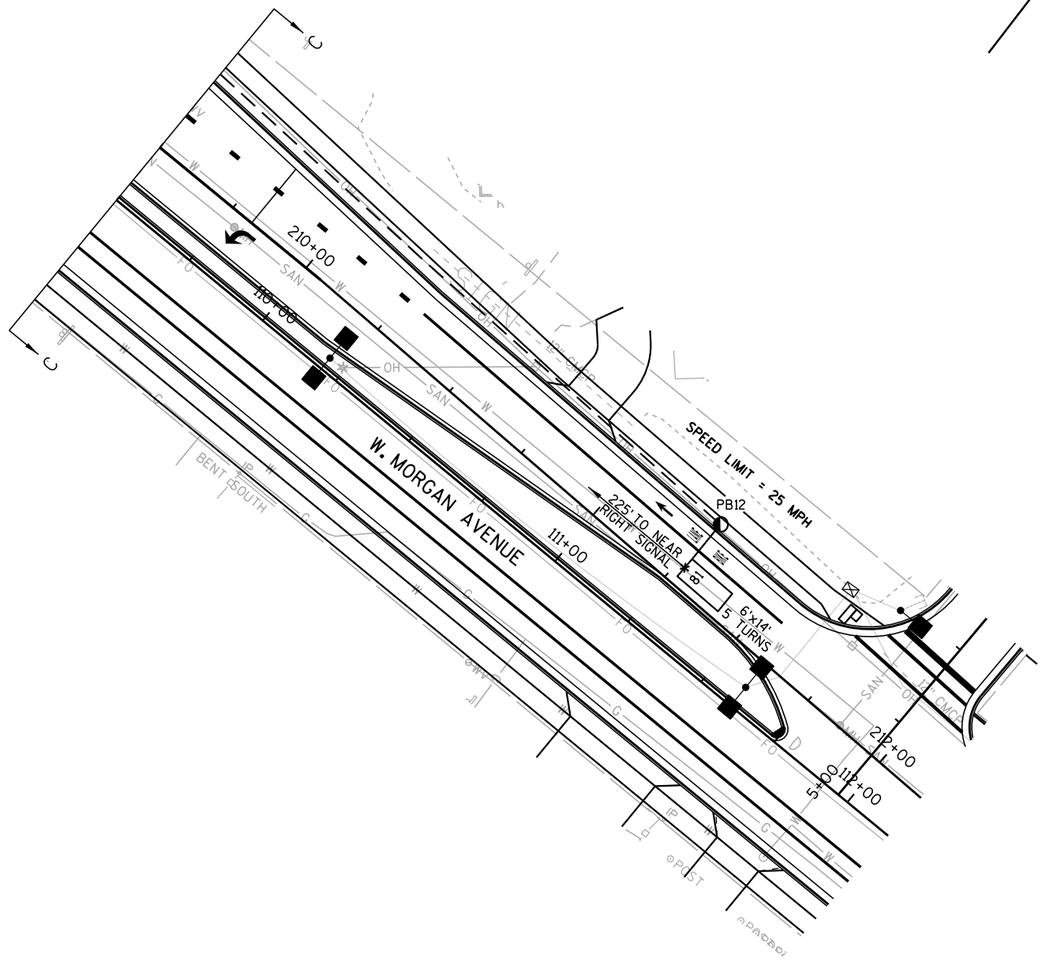
PAGE 1 OF 3

PROJECT NO: 2405-00-74	HWY: STH 24	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 68 E

FILE NAME : J:\projects\d2_24050024\S40-1108\S40-1108_J_Plan_pg1.dgn PLOT DATE : 06-APR-2018 13:16 PLOT BY : dotcmv PLOT NAME : PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42





TRAFFIC CONTROL SIGNAL
STH 24 (FOREST HOME AVENUE)
& W. MORGAN AVENUE
CITIES OF GREENFIELD/MILWAUKEE
MILWAUKEE COUNTY

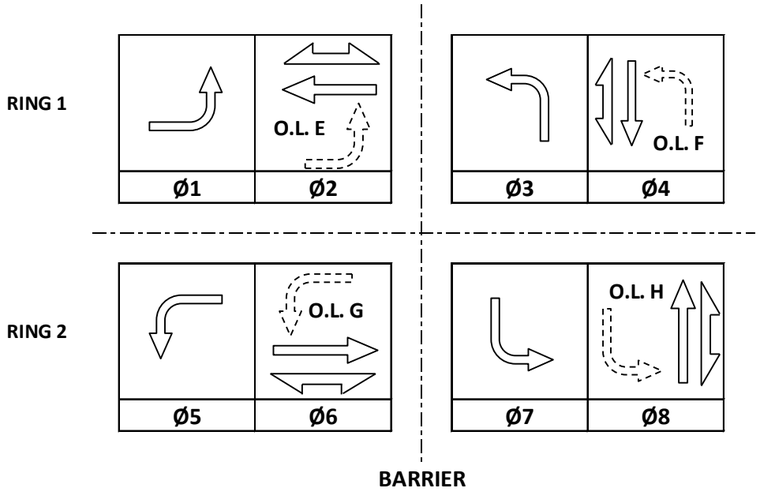
SIGNAL NO. S40-1108

REGION CONTACT: S. SWARD
DESIGNED BY:
REVISED BY: C. VANDE LEEST

PAGE 2 OF 3

PROJECT NO: 2405-00-74	HWY: STH 24	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 69	E

	HEAD NUMBERS	FLASH
Ø1	4,22	R ←
Ø2	5,6,7	R
Ø3	9,26,27	R ←
Ø4	11, 13, 28	R
Ø5	23,24	R ←
Ø6	1,2,3	R
Ø7	12,29,30	R ←
Ø8	8,10,25	R
Ø2P	16,17	
Ø4P	14,15	
Ø6P	20,21	
Ø8P	18,19	
OLE	4,22	-
OLF	9,26,27	-
OLG	23,24	-
OLH	12,29,30	-



CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2	X	6	MIN	X
3		8		X
4		8		X
5		2		X
6	X	2	MIN	X
7		4		X
8		4		X

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	X
RADIO	
CELL MODEM	

TYPE OF COORDINATION	
NONE	
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER CONTROLLER NO:	S- 1089
SIGNAL SYSTEM NO:	SS- 0003

TYPE OF LIGHTING	
BY OTHER AGENCY	X
IN TRAFFIC CABINET	
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	X
RAILROAD	
EMERGENCY VEHICLE	
GTT	
TOMAR	
HARDWIRE	
OTHER	
LIFT BRIDGE	
QUEUE DETECTION	

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13	19	17	23	21	27	25	31	29
PLAN LOOP DETECTOR*(S)	21	11	42	32	52	44	81	71	85	83						
CALLED PHASE	2	1	4	3	5	4	8	7	8	8						
CALL OPTION	X	X	X	X	X	X		X	X	X						
DELAY TIME			X							X						
EXTENTION OPTION	X	X	X	X	X	X	X	X	X	X						
EXTEND TIME							X									
USE ADDED INITIAL	X															
CROSS SWITCH PHASE		2		4	6			8								

DETECTOR INPUT	4	2	8	6	12	10	16	14	20	18	24	22	28	26	32	30
PLAN LOOP DETECTOR*(S)	31	12	43	41	61	51	82	72		84						
CALLED PHASE	3	1	4	4	6	5	8	7		8						
CALL OPTION	X	X	X		X	X	X	X		X						
DELAY TIME							X									
EXTENTION OPTION	X	X	X	X	X	X	X	X		X						
EXTEND TIME				X												
USE ADDED INITIAL					X											
CROSS SWITCH PHASE	4	2				6		8								

STH 24 (FOREST HOME AVENUE & W. MORGAN AVENUE
CITIES OF GREENFIELD/MILWAUKEE
MILWAUKEE COUNTY

SIGNAL NO: S40-1108 CABINET TYPE: TS2-E
CONTROLLER TYPE: ECONOLITE
DATE: 12/17 PAGE NO. 3 OF 3

PROJECT NO: 2405-00-74	HWY: STH 24	COUNTY: MILWAUKEE	SEQUENCE OF OPERATIONS	SHEET NO: 70	E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

NOTES;

1) SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C AND DETAIL E

2) SEE SDD BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES DETAIL 4. INSTALL TEMPORARY STOP SIGNS (R1-1, 30"x30") ON SIDE ROADS.

3) SEE SDD BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES DETAIL 1

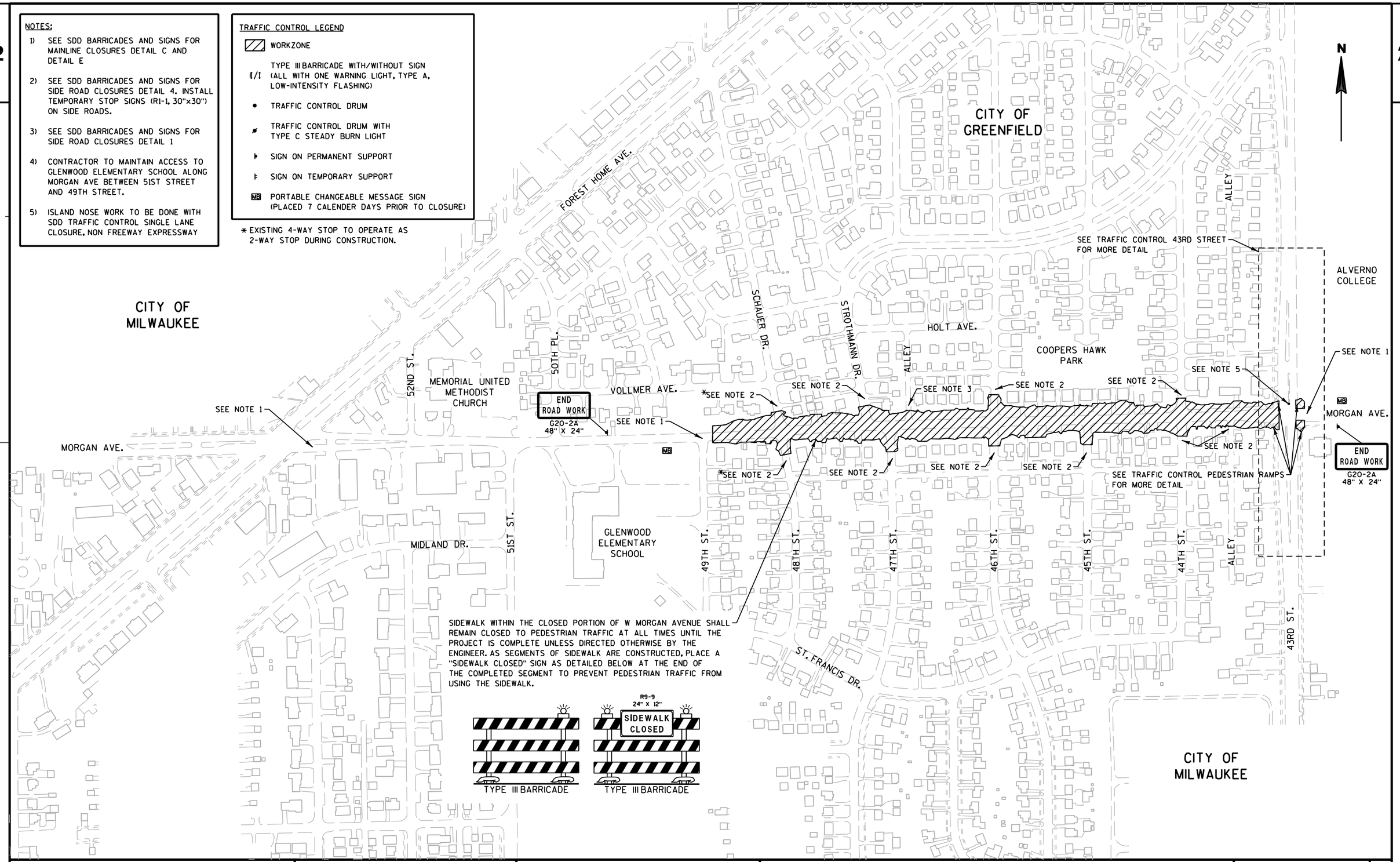
4) CONTRACTOR TO MAINTAIN ACCESS TO GLENWOOD ELEMENTARY SCHOOL ALONG MORGAN AVE BETWEEN 51ST STREET AND 49TH STREET.

5) ISLAND NOSE WORK TO BE DONE WITH SDD TRAFFIC CONTROL SINGLE LANE CLOSURE, NON FREEWAY EXPRESSWAY

TRAFFIC CONTROL LEGEND

- WORKZONE
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- MB PORTABLE CHANGEABLE MESSAGE SIGN (PLACED 7 CALENDER DAYS PRIOR TO CLOSURE)

* EXISTING 4-WAY STOP TO OPERATE AS 2-WAY STOP DURING CONSTRUCTION.



SIDEWALK WITHIN THE CLOSED PORTION OF W MORGAN AVENUE SHALL REMAIN CLOSED TO PEDESTRIAN TRAFFIC AT ALL TIMES UNTIL THE PROJECT IS COMPLETE UNLESS DIRECTED OTHERWISE BY THE ENGINEER. AS SEGMENTS OF SIDEWALK ARE CONSTRUCTED, PLACE A "SIDEWALK CLOSED" SIGN AS DETAILED BELOW AT THE END OF THE COMPLETED SEGMENT TO PREVENT PEDESTRIAN TRAFFIC FROM USING THE SIDEWALK.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 71	E

NOTES:

1) SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C AND DETAIL E

2) SEE SDD BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES DETAIL 4. INSTALL TEMPORARY STOP SIGNS (R1-1, 30"x30") ON SIDE ROADS.

3) SEE SDD BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES DETAIL 1

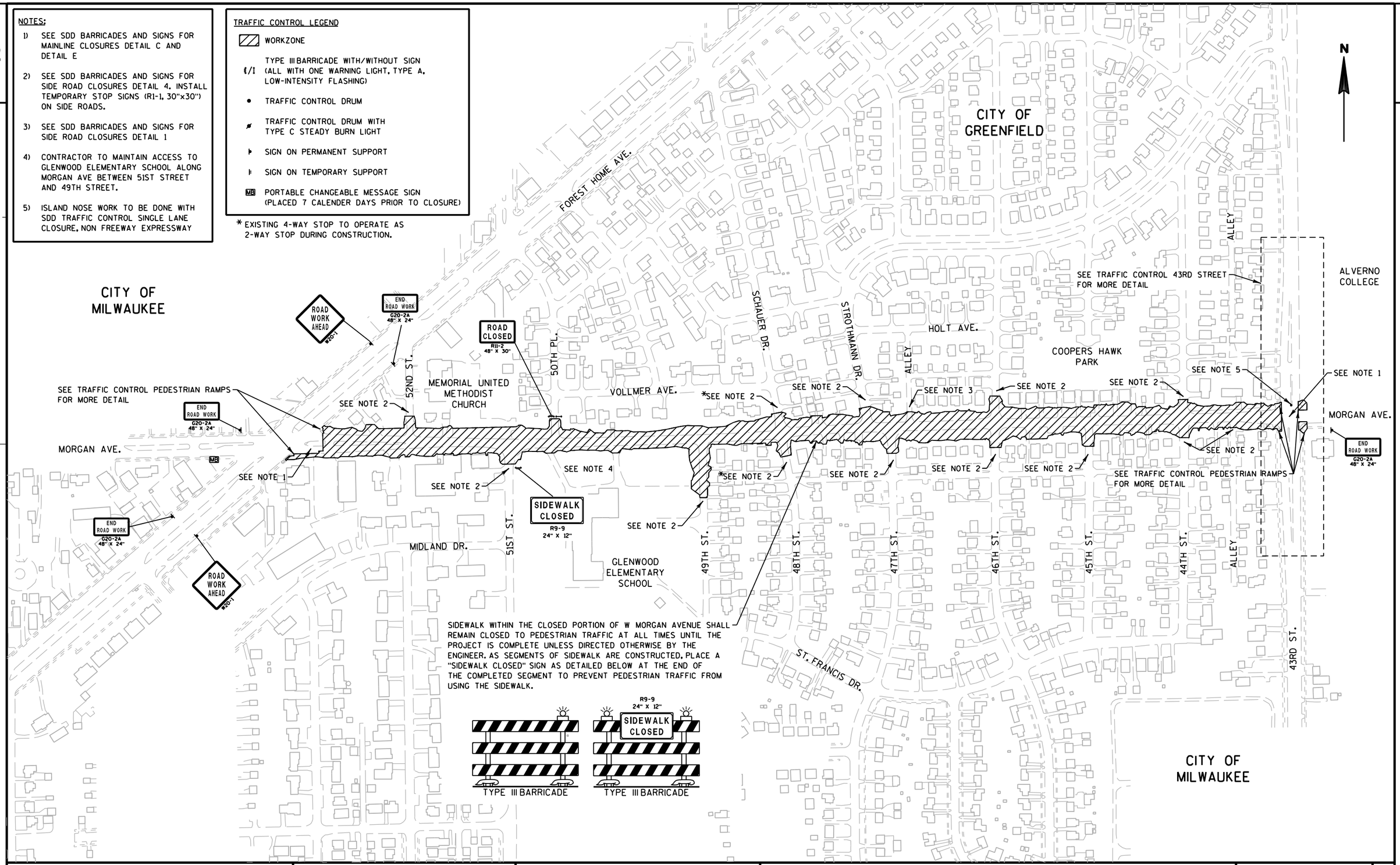
4) CONTRACTOR TO MAINTAIN ACCESS TO GLENWOOD ELEMENTARY SCHOOL ALONG MORGAN AVE BETWEEN 51ST STREET AND 49TH STREET.

5) ISLAND NOSE WORK TO BE DONE WITH SDD TRAFFIC CONTROL SINGLE LANE CLOSURE, NON FREEWAY EXPRESSWAY

TRAFFIC CONTROL LEGEND

- WORKZONE
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- MB PORTABLE CHANGEABLE MESSAGE SIGN (PLACED 7 CALENDER DAYS PRIOR TO CLOSURE)

* EXISTING 4-WAY STOP TO OPERATE AS 2-WAY STOP DURING CONSTRUCTION.



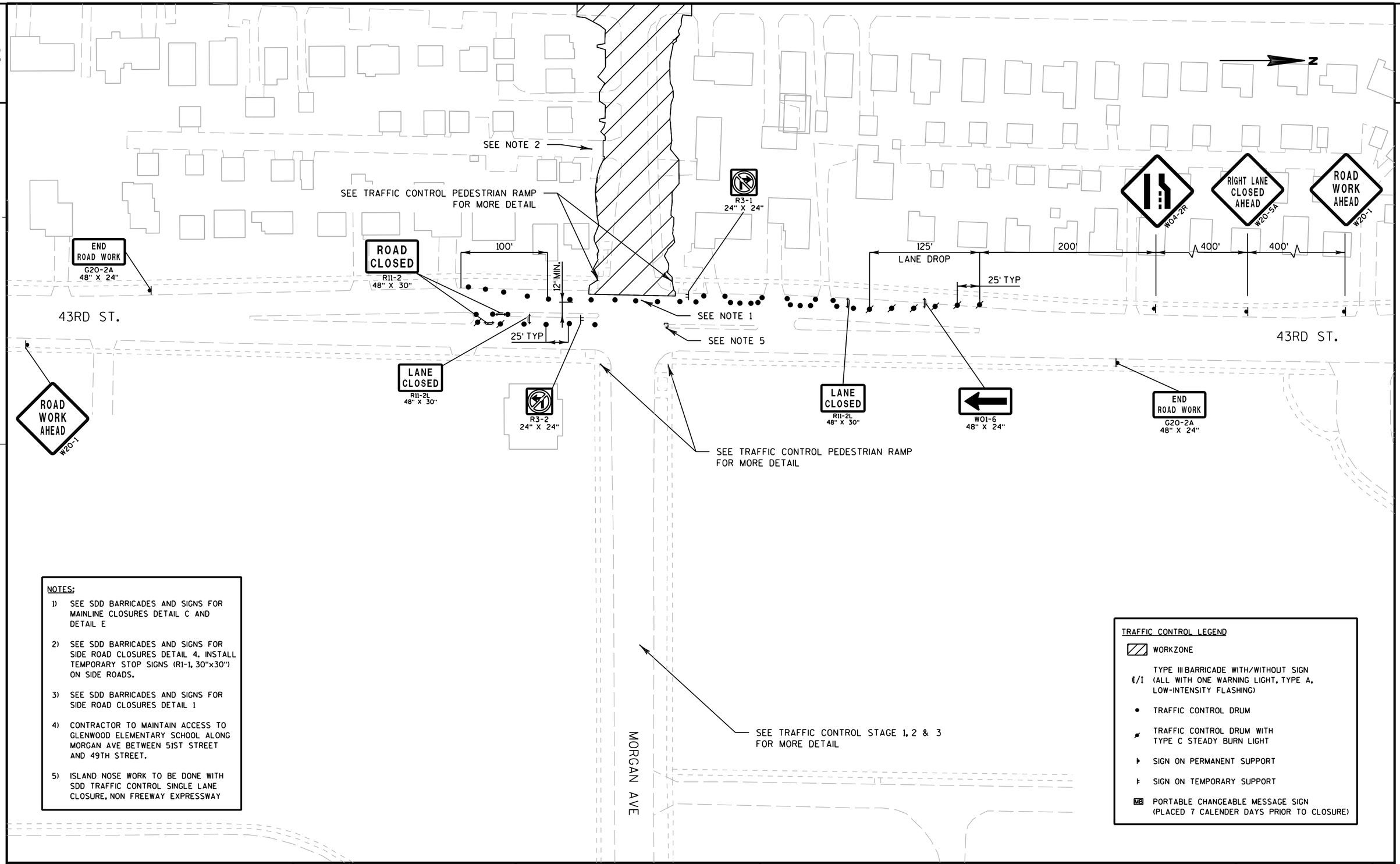
SIDEWALK WITHIN THE CLOSED PORTION OF W MORGAN AVENUE SHALL REMAIN CLOSED TO PEDESTRIAN TRAFFIC AT ALL TIMES UNTIL THE PROJECT IS COMPLETE UNLESS DIRECTED OTHERWISE BY THE ENGINEER. AS SEGMENTS OF SIDEWALK ARE CONSTRUCTED, PLACE A "SIDEWALK CLOSED" SIGN AS DETAILED BELOW AT THE END OF THE COMPLETED SEGMENT TO PREVENT PEDESTRIAN TRAFFIC FROM USING THE SIDEWALK.

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2 & 3	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_025002_tc.dgn PLOT DATE : 4/24/2018 PLOT BY : sanderfoj PLOT NAME : PLOT SCALE : 1:300

WISDOT/CADDS SHEET 42

2



NOTES;

1) SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES DETAIL C AND DETAIL E

2) SEE SDD BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES DETAIL 4. INSTALL TEMPORARY STOP SIGNS (R1-1, 30"x30") ON SIDE ROADS.

3) SEE SDD BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES DETAIL 1

4) CONTRACTOR TO MAINTAIN ACCESS TO GLENWOOD ELEMENTARY SCHOOL ALONG MORGAN AVE BETWEEN 51ST STREET AND 49TH STREET.

5) ISLAND NOSE WORK TO BE DONE WITH SDD TRAFFIC CONTROL SINGLE LANE CLOSURE, NON FREEWAY EXPRESSWAY

TRAFFIC CONTROL LEGEND

- WORKZONE
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- MB PORTABLE CHANGEABLE MESSAGE SIGN (PLACED 7 CALENDER DAYS PRIOR TO CLOSURE)

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL 43RD STREET	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_025003_tc.dgn PLOT DATE : 4/24/2018 PLOT BY : sanderfoj PLOT NAME : PLOT SCALE : 1:100

TRAFFIC CONTROL LEGEND

(S1) SIDEWALK CLOSED AHEAD / CROSS HERE — R9-11, 24"X12"

(S2) SIDEWALK CLOSED — R9-9, 24"X12"

(S3) SIDEWALK CLOSED AHEAD / CROSS HERE — R9-11, 24"X12"

(S4) SIDEWALK CLOSED USE OTHER SIDE — R9-10, 24"X12"

WORKZONE

TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)

TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)

NOTES:

A) CLOSE PARKING LANE IN ACCORDANCE WITH SDD TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY.

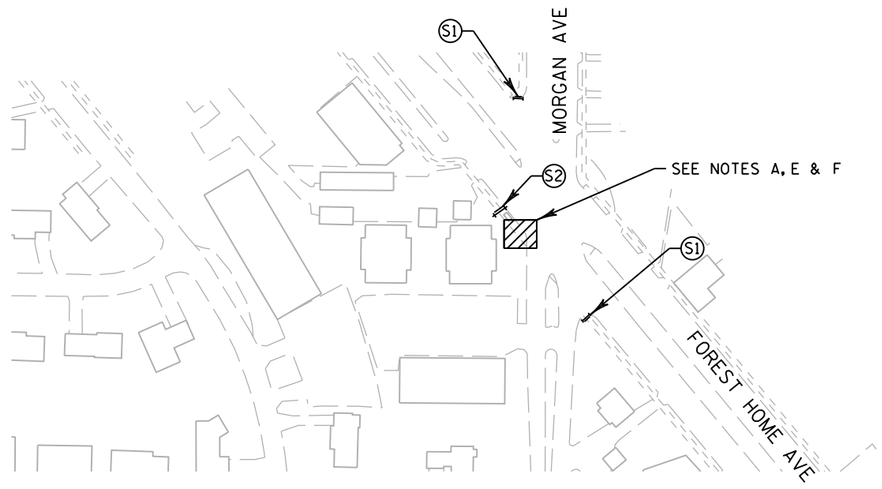
B) TEMPORARY CROSSWALK IN ACCORDANCE WITH SDD TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION: CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK. EXACT LOCATION AS DIRECTED BY THE ENGINEER.

C) TEMPORARY CURB RAMPS IN ACCORDANCE WITH SDD TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION: TEMPORARY CURB RAMP PARALLEL TO CURB.

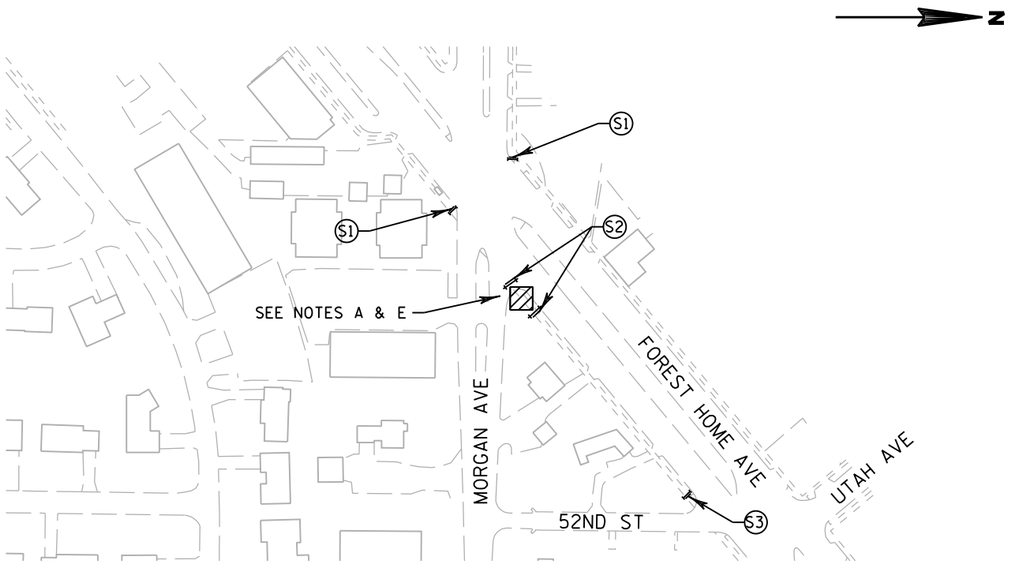
D) THE CONTRACTOR SHALL ONLY CLOSE ONE QUADRANT AT A TIME TO PEDESTRIAN ACCESS AT THE INTERSECTION OF MORGAN AVE & 43RD STREET. FULL PEDESTRIAN ACCESS SHALL BE MAINTAINED AT THE OTHER THREE INTERSECTION QUADRANTS.

E) PEDESTRIAN ACCESS AT THE SOUTHEAST CORNER AND THE NORTHEAST CORNER CANNOT BE RESTRICTED AT THE SAME TIME. CONSTRUCTION ACTIVITIES CAN ONLY TAKE PLACE ONE INTERSECTION QUADRANT AT A TIME.

F) CONSTRUCTION ACTIVITIES AT THE SOUTHEAST QUADRANT OF FOREST HOME AND MORGAN AVE CAN ONLY TAKE PLACE BETWEEN 12 AM AND 5 AM. FULL PEDESTRIAN ACCESS MUST BE RESTORED PRIOR TO OPENING.

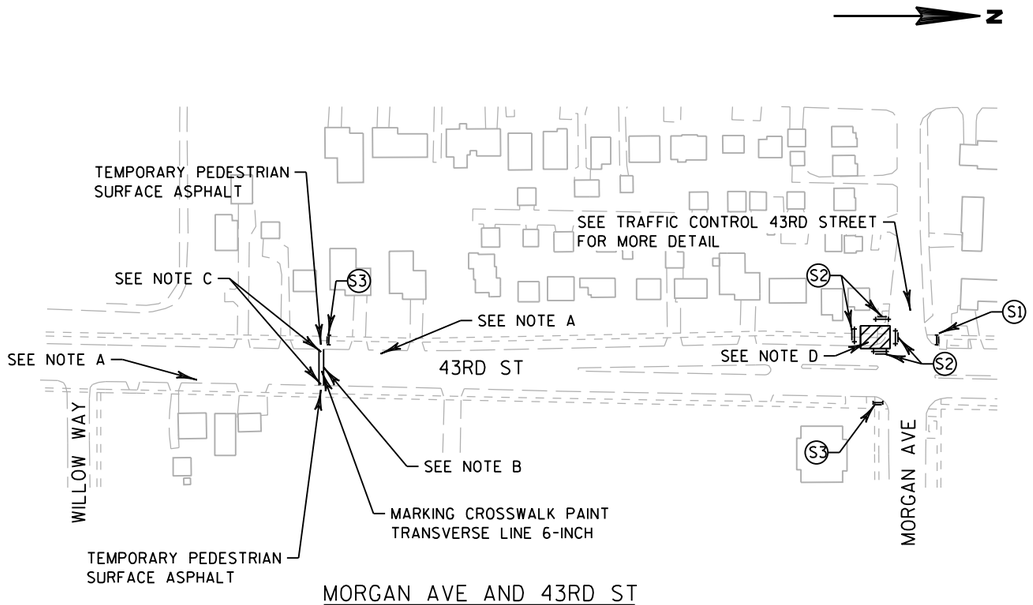


MORGAN AVE AND FOREST HOME AVE
SOUTHEAST QUADRANT

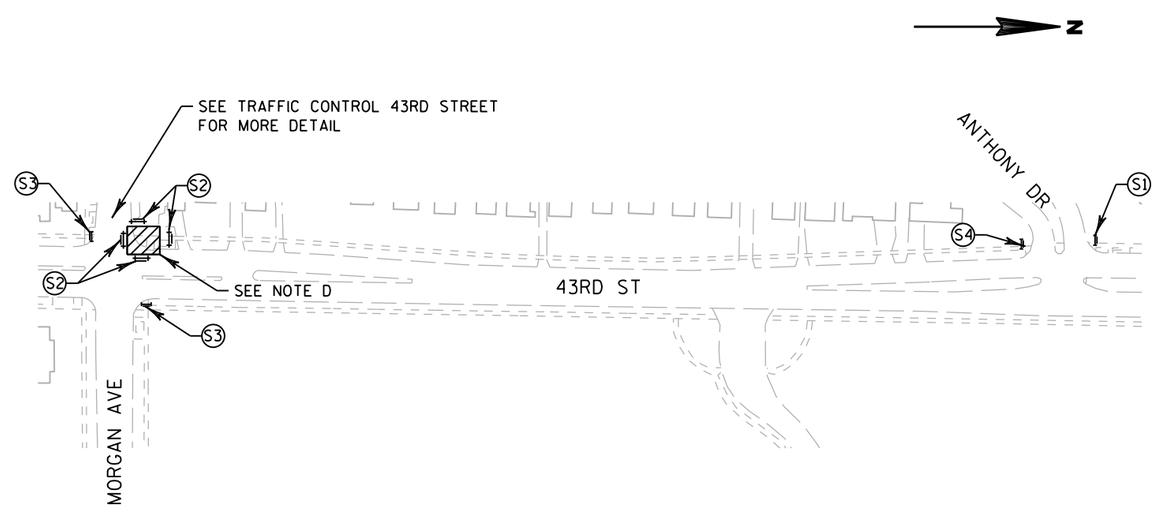


MORGAN AVE AND FOREST HOME AVE
NORTHEAST QUADRANT

2

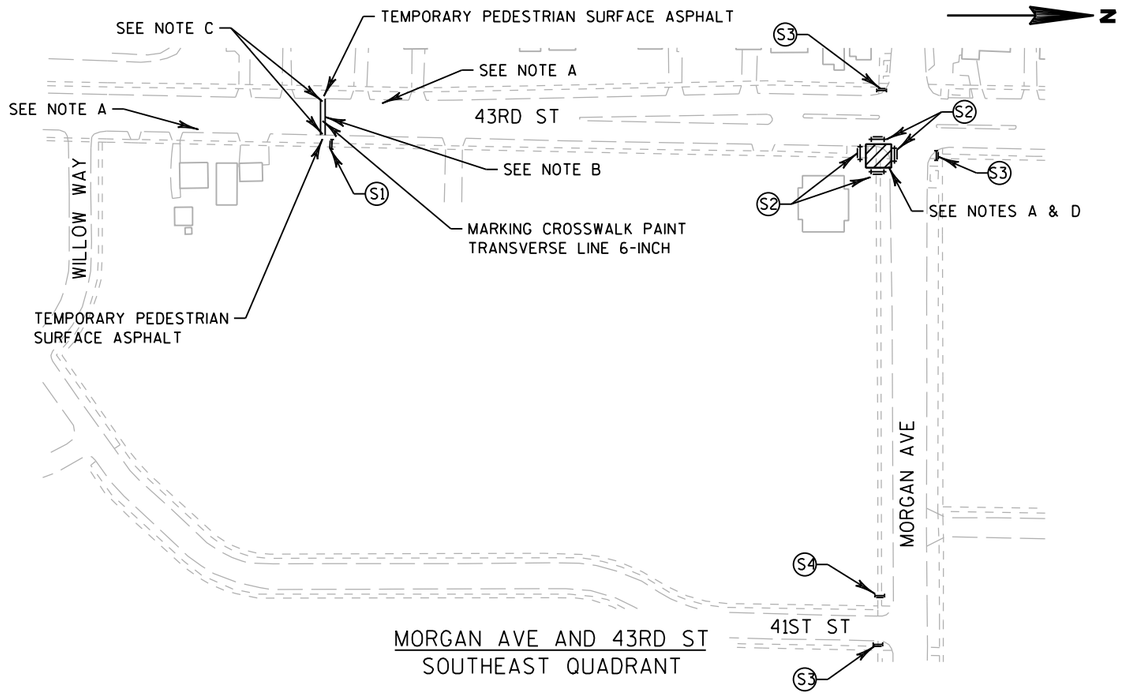


MORGAN AVE AND 43RD ST
SOUTHWEST QUADRANT

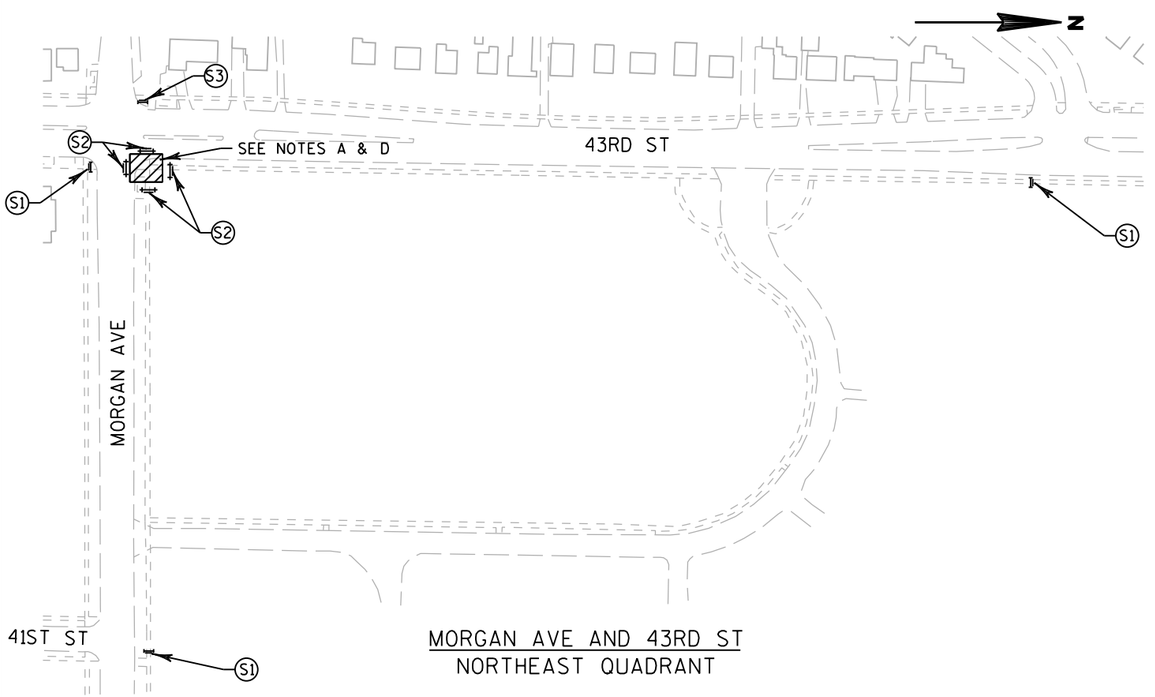


MORGAN AVE AND 43RD ST
NORTHWEST QUADRANT

2



MORGAN AVE AND 43RD ST
SOUTHEAST QUADRANT



MORGAN AVE AND 43RD ST
NORTHEAST QUADRANT

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL PEDESTRIAN RAMPS	SHEET 75	E

2405-00-74

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	24.000	24.000
0004	201.0120	Clearing	ID	239.000	239.000
0006	201.0205	Grubbing	STA	24.000	24.000
0008	201.0220	Grubbing	ID	239.000	239.000
0010	203.0100	Removing Small Pipe Culverts	EACH	6.000	6.000
0012	204.0100	Removing Pavement	SY	560.000	560.000
0014	204.0150	Removing Curb & Gutter	LF	1,000.000	1,000.000
0016	204.0155	Removing Concrete Sidewalk	SY	520.000	520.000
0018	204.0165	Removing Guardrail	LF	189.000	189.000
0020	204.0170	Removing Fence	LF	290.000	290.000
0022	204.0210	Removing Manholes	EACH	4.000	4.000
0024	204.0220	Removing Inlets	EACH	16.000	16.000
0026	204.0245	Removing Storm Sewer (size) 01. 6-Inch	LF	46.000	46.000
0028	204.0245	Removing Storm Sewer (size) 02. 12-Inch	LF	635.000	635.000
0030	204.0245	Removing Storm Sewer (size) 03. 15-Inch	LF	274.000	274.000
0032	204.0245	Removing Storm Sewer (size) 04. 18-Inch	LF	192.000	192.000
0034	204.0245	Removing Storm Sewer (size) 05. 30-Inch	LF	132.000	132.000
0036	204.9105.S	Removing (item description) 01. Loop Detector wire and Lead-In Cable STH 24 and W Morgan Ave	LS	1.000	1.000
0038	205.0100	Excavation Common	CY	17,005.000	17,005.000
0040	213.0100	Finishing Roadway (project) 01. 2405-00-74	EACH	1.000	1.000
0042	305.0110	Base Aggregate Dense 3/4-Inch	TON	340.000	340.000
0044	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	15,770.000	15,770.000
0046	305.0130	Base Aggregate Dense 3-Inch	TON	3,236.000	3,236.000
0048	310.0110	Base Aggregate Open-Graded	TON	132.000	132.000
0050	415.0070	Concrete Pavement 7-Inch	SY	30.000	30.000
0052	415.0115	Concrete Pavement 11 1/2-Inch	SY	1,030.000	1,030.000
0054	415.6000.S	Rout and Seal	LF	7,832.000	7,832.000
0056	416.0170	Concrete Driveway 7-Inch	SY	570.000	570.000
0058	416.0610	Drilled Tie Bars	EACH	76.000	76.000
0060	440.4410	Incentive IRI Ride	DOL	2,472.000	2,472.000
0062	450.4000	HMA Cold Weather Paving	TON	1,115.000	1,115.000
0064	455.0605	Tack Coat	GAL	1,130.000	1,130.000
0066	460.2000	Incentive Density HMA Pavement	DOL	2,860.000	2,860.000
0068	460.5223	HMA Pavement 3 LT 58-28 S	TON	2,580.000	2,580.000
0070	460.5224	HMA Pavement 4 LT 58-28 S	TON	1,880.000	1,880.000
0072	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	119.000	119.000
0074	513.2001	Railing Pipe	LF	30.000	30.000
0076	601.0319	Concrete Curb & Gutter 19-Inch	LF	550.000	550.000
0078	601.0331	Concrete Curb & Gutter 31-Inch	LF	7,282.000	7,282.000

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Line	Item	Item Description	Unit	Total	Qty
0080	601.0407	Concrete Curb & Gutter 18-Inch Type D	LF	191.000	191.000
0082	601.0600	Concrete Curb Pedestrian	LF	85.000	85.000
0084	602.0410	Concrete Sidewalk 5-Inch	SF	33,420.000	33,420.000
0086	602.0420	Concrete Sidewalk 7-Inch	SF	3,125.000	3,125.000
0088	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	510.000	510.000
0090	602.0605	Curb Ramp Detectable Warning Field Radial Yellow	SF	57.000	57.000
0092	602.1500	Concrete Steps	SF	278.000	278.000
0094	602.2400	Concrete Safety Islands	SF	1,265.000	1,265.000
0096	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	442.000	442.000
0098	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	111.600	111.600
0100	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	56.000	56.000
0102	608.0321	Storm Sewer Pipe Reinforced Concrete Class III 21-Inch	LF	601.300	601.300
0104	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	324.100	324.100
0106	608.0330	Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	LF	30.100	30.100
0108	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	723.700	723.700
0110	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	476.300	476.300
0112	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	899.400	899.400
0114	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	587.100	587.100
0116	608.0430	Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch	LF	256.200	256.200
0118	611.0420	Reconstructing Manholes	EACH	9.000	9.000
0120	611.0545	Manhole Covers Type L	EACH	3.000	3.000
0122	611.0555	Manhole Covers Type Q	EACH	36.000	36.000
0124	611.0612	Inlet Covers Type C	EACH	10.000	10.000
0126	611.0642	Inlet Covers Type MS	EACH	3.000	3.000
0128	611.0657	Inlet Covers Type W	EACH	56.000	56.000
0130	611.0663	Inlet Covers Type X	EACH	3.000	3.000
0132	611.1004	Catch Basins 4-FT Diameter	EACH	29.000	29.000
0134	611.1005	Catch Basins 5-FT Diameter	EACH	1.000	1.000
0136	611.2004	Manholes 4-FT Diameter	EACH	26.000	26.000
0138	611.2005	Manholes 5-FT Diameter	EACH	9.000	9.000
0140	611.2006	Manholes 6-FT Diameter	EACH	2.000	2.000

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Line	Item	Item Description	Unit	Total	Qty
0142	611.2008	Manholes 8-FT Diameter	EACH	1.000	1.000
0144	611.3004	Inlets 4-FT Diameter	EACH	1.000	1.000
0146	611.3225	Inlets 2x2.5-FT	EACH	10.000	10.000
0148	611.3901	Inlets Median 1 Grate	EACH	3.000	3.000
0150	611.8110	Adjusting Manhole Covers	EACH	12.000	12.000
0152	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000
0154	611.9900.S	Drain Slotted Vane	EACH	5.000	5.000
0156	612.0106	Pipe Underdrain 6-Inch	LF	774.000	774.000
0158	612.0204	Pipe Underdrain Unperforated 4-Inch	LF	50.000	50.000
0160	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	50.000	50.000
0162	612.0902.S	Insulation Board Polystyrene (inch) 01. 2-Inch	SY	100.000	100.000
0164	618.0100	Maintenance And Repair of Haul Roads (project) 01. 2405-00-74	EACH	1.000	1.000
0166	619.1000	Mobilization	EACH	1.000	1.000
0168	620.0300	Concrete Median Sloped Nose	SF	32.000	32.000
0170	621.0100	Landmark Reference Monuments	EACH	1.000	1.000
0172	625.0100	Topsoil	SY	17,990.000	17,990.000
0174	627.0200	Mulching	SY	500.000	500.000
0176	628.1104	Erosion Bales	EACH	80.000	80.000
0178	628.1504	Silt Fence	LF	1,520.000	1,520.000
0180	628.1520	Silt Fence Maintenance	LF	1,520.000	1,520.000
0182	628.1905	Mobilizations Erosion Control	EACH	10.000	10.000
0184	628.1910	Mobilizations Emergency Erosion Control	EACH	8.000	8.000
0186	628.2008	Erosion Mat Urban Class I Type B	SY	17,740.000	17,740.000
0188	628.7005	Inlet Protection Type A	EACH	45.000	45.000
0190	628.7010	Inlet Protection Type B	EACH	52.000	52.000
0192	628.7015	Inlet Protection Type C	EACH	57.000	57.000
0194	628.7020	Inlet Protection Type D	EACH	19.000	19.000
0196	628.7504	Temporary Ditch Checks	LF	30.000	30.000
0198	628.7555	Culvert Pipe Checks	EACH	18.000	18.000
0200	628.7560	Tracking Pads	EACH	7.000	7.000
0202	628.7570	Rock Bags	EACH	50.000	50.000
0204	629.0210	Fertilizer Type B	CWT	11.600	11.600
0206	630.0140	Seeding Mixture No. 40	LB	324.000	324.000
0208	630.0200	Seeding Temporary	LB	50.000	50.000
0210	631.0300	Sod Water	MGAL	40.000	40.000
0212	631.1000	Sod Lawn	SY	250.000	250.000
0214	634.0811	Posts Tubular Steel 2x2-Inch X 11-FT	EACH	25.000	25.000
0216	634.0812	Posts Tubular Steel 2x2-Inch X 12-FT	EACH	29.000	29.000
0218	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	14.000	14.000

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Line	Item	Item Description	Unit	Total	Qty
0220	637.2210	Signs Type II Reflective H	SF	387.520	387.520
0222	637.2230	Signs Type II Reflective F	SF	135.750	135.750
0224	638.2102	Moving Signs Type II	EACH	33.000	33.000
0226	638.2602	Removing Signs Type II	EACH	67.000	67.000
0228	638.3000	Removing Small Sign Supports	EACH	24.000	24.000
0230	638.4000	Moving Small Sign Supports	EACH	24.000	24.000
0232	642.5201	Field Office Type C	EACH	1.000	1.000
0234	643.0300	Traffic Control Drums	DAY	24,215.000	24,215.000
0236	643.0410	Traffic Control Barricades Type II	DAY	245.000	245.000
0238	643.0420	Traffic Control Barricades Type III	DAY	12,780.000	12,780.000
0240	643.0705	Traffic Control Warning Lights Type A	DAY	25,035.000	25,035.000
0242	643.0715	Traffic Control Warning Lights Type C	DAY	3,380.000	3,380.000
0244	643.0900	Traffic Control Signs	DAY	21,220.000	21,220.000
0246	643.1050	Traffic Control Signs PCMS	DAY	21.000	21.000
0248	643.5000	Traffic Control	EACH	1.000	1.000
0250	644.1410.S	Temporary Pedestrian Surface Asphalt	SF	400.000	400.000
0252	644.1601.S	Temporary Curb Ramp	EACH	2.000	2.000
0254	644.1616.S	Temporary Pedestrian Safety Fence	LF	100.000	100.000
0256	645.0111	Geotextile Type DF Schedule A	SY	340.000	340.000
0258	645.0120	Geotextile Type HR	SY	140.000	140.000
0260	645.0220	Geogrid Type SR	SY	2,125.000	2,125.000
0262	646.1020	Marking Line Epoxy 4-Inch	LF	13,372.000	13,372.000
0264	646.3020	Marking Line Epoxy 8-Inch	LF	250.000	250.000
0266	646.5020	Marking Arrow Epoxy	EACH	21.000	21.000
0268	646.5120	Marking Word Epoxy	EACH	31.000	31.000
0270	646.6120	Marking Stop Line Epoxy 18-Inch	LF	335.000	335.000
0272	646.7120	Marking Diagonal Epoxy 12-Inch	LF	265.000	265.000
0274	646.7405	Marking Crosswalk Paint Transverse Line 6-Inch	LF	100.000	100.000
0276	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	1,950.000	1,950.000
0278	646.8120	Marking Curb Epoxy	LF	40.000	40.000
0280	646.8220	Marking Island Nose Epoxy	EACH	4.000	4.000
0282	646.9200	Marking Removal Line Wide	LF	440.000	440.000
0284	650.4000	Construction Staking Storm Sewer	EACH	115.000	115.000
0286	650.4500	Construction Staking Subgrade	LF	5,965.000	5,965.000
0288	650.5000	Construction Staking Base	LF	5,965.000	5,965.000
0290	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	8,187.000	8,187.000
0292	650.8500	Construction Staking Electrical Installations (project) 01. 2405-00-74	LS	1.000	1.000
0294	650.9910	Construction Staking Supplemental Control (project) 01. 2405-00-74	LS	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
0296	650.9920	Construction Staking Slope Stakes	LF	5,965.000	5,965.000
0298	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	232.000	232.000
0300	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	43.000	43.000
0302	652.0615	Conduit Special 3-Inch	LF	132.000	132.000
0304	652.0800	Conduit Loop Detector	LF	260.000	260.000
0306	653.0135	Pull Boxes Steel 24x36-Inch	EACH	1.000	1.000
0308	653.0905	Removing Pull Boxes	EACH	1.000	1.000
0310	654.0105	Concrete Bases Type 5	EACH	32.000	32.000
0312	654.0230	Concrete Control Cabinet Bases Type L30	EACH	1.000	1.000
0314	655.0610	Electrical Wire Lighting 12 AWG	LF	3,570.000	3,570.000
0316	655.0630	Electrical Wire Lighting 4 AWG	LF	15,697.000	15,697.000
0318	655.0700	Loop Detector Lead In Cable	LF	1,508.000	1,508.000
0320	655.0800	Loop Detector Wire	LF	1,104.000	1,104.000
0322	656.0400	Electrical Service Main Lugs Only Meter Pedestal (location) 01. Cabinet 33	LS	1.000	1.000
0324	659.2230	Lighting Control Cabinets 240/480 30-Inch	EACH	1.000	1.000
0326	690.0150	Sawing Asphalt	LF	1,020.000	1,020.000
0328	690.0250	Sawing Concrete	LF	523.000	523.000
0330	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0332	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	700.000	700.000
0334	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,600.000	1,600.000
0336	SPV.0035	Special 01. Flowable Thermal Backfill	CY	25.000	25.000
0338	SPV.0060	Special 01. Private Drain Reconnect Existing Storm Sewer Lateral	EACH	15.000	15.000
0340	SPV.0060	Special 02. Sanitary Manhole Chimney Seal - Internal / External Special	EACH	15.000	15.000
0342	SPV.0060	Special 03. Adjusting Water Boxes	EACH	40.000	40.000
0344	SPV.0060	Special 04. Adjust Water Manhole Frames and Lids	EACH	2.000	2.000
0346	SPV.0060	Special 05. Water Service Pothole	EACH	20.000	20.000
0348	SPV.0060	Special 06. Water Service Insulation	EACH	20.000	20.000
0350	SPV.0060	Special 07. Water Service Alteration 1-Inch through 2-Inch	EACH	20.000	20.000
0352	SPV.0060	Special 08. Utility Line Opening	EACH	33.000	33.000
0354	SPV.0060	Special 09. Water Main Protection	EACH	30.000	30.000
0356	SPV.0060	Special 10. Municipal Poles Type 5	EACH	32.000	32.000
0358	SPV.0060	Special 11. Municipal Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	32.000	32.000
0360	SPV.0060	Special 12. Municipal LED Luminaries	EACH	34.000	34.000
0362	SPV.0060	Special 13. Lighting Pull Boxes	EACH	10.000	10.000
0364	SPV.0060	Special 14. Catch Basins 2 x 2.5 FT	EACH	28.000	28.000
0366	SPV.0090	Special 01. HDPE Duct 1 1/2-Inch Schedule 40 In	LF	2,747.000	2,747.000

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Line	Item	Item Description	Unit	Total	Qty
		Trench			
0368	SPV.0090	Special 02. HDPE Duct 1 1/2-Inch Schedule 40 Directional Bored	LF	906.000	906.000
0370	SPV.0090	Special 03. Private Drain Install New Storm Sewer Lateral	LF	400.000	400.000
0372	SPV.0090	Special 04. Concrete Curb & Gutter Integral 31-Inch	LF	79.000	79.000
0374	SPV.0105	Special 01. Preservation of Existing Monuments	LS	1.000	1.000
0376	SPV.0105	Special 02. Verify and Restoring of Existing Monuments	LS	1.000	1.000
0378	SPV.0165	Special 01. Concrete Sidewalk HES 5-Inch	SF	180.000	180.000
0380	SPV.0170	Special 01. Test Rolling	STA	58.000	58.000

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CLEARING AND GRUBBING

LOCATION	STATION	-	STATION	OFFSET	201.0105 CLEARING STA	201.0120 CLEARING ID	201.0205 GRUBBING STA	201.0220 GRUBBING ID
W MORGAN AVE	107+00	-	110+00	RT	3	--	3	--
W MORGAN AVE	110+22			55' LT	--	15	--	15
W MORGAN AVE	111+20			50' LT	--	8	--	8
W MORGAN AVE	111+33			46' LT	--	6	--	6
W MORGAN AVE	112+00	-	113+00	LT	1	--	1	--
W MORGAN AVE	118+43			36' LT	--	15	--	15
W MORGAN AVE	119+00	-	121+00	LT	2	--	2	--
W MORGAN AVE	121+46			46' LT	--	48	--	48
S 49TH ST	34+10			31' LT	--	30	--	30
W MORGAN AVE	123+00	-	125+00	RT	2	--	2	--
W MORGAN AVE	124+15			44' LT	--	6	--	6
W MORGAN AVE	126+00	-	127+00	LT	1	--	1	--
W MORGAN AVE	127+00	-	131+00	RT	4	--	4	--
W MORGAN AVE	127+95			42' LT	--	30	--	30
W MORGAN AVE	128+00	-	130+00	LT	2	--	2	--
W MORGAN AVE	131+00	-	137+00	LT	6	--	6	--
W MORGAN AVE	132+75			50' RT	--	15	--	15
W MORGAN AVE	134+00	-	135+00	RT	1	--	1	--
W MORGAN AVE	136+00	-	137+00	RT	1	--	1	--
W MORGAN AVE	137+50			37' LT	--	36	--	36
W MORGAN AVE	140+00	-	141+00	RT	1	--	1	--
W MORGAN AVE	140+80			40' LT	--	15	--	15
W MORGAN AVE	141+05			40' LT	--	15	--	15
TOTALS 2405-00-74					**24**	**239**	**24**	**239**

REMOVALS

LOCATION	STATION	TO	STATION	204.0100 REMOVING PAVEMENT SY	204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	204.0170 REMOVING FENCE LF
W MORGAN AVE	107+00	-	113+00	--	630	160	--
W MORGAN AVE	113+00	-	119+00	60	180	110	--
W MORGAN AVE	119+00	-	125+00	10	20	10	180
W MORGAN AVE	125+00	-	131+00	90	40	70	--
W MORGAN AVE	131+00	-	137+00	--	100	30	--
W MORGAN AVE	137+00	-	143+00	400	30	140	110
TOTALS 2405-00-74				**560**	**1,000**	**520**	**290**

REMOVING GUARDRAIL

LOCATION	STA	TO	STA	OFFSET	204.0165 REMOVING GUARDRAIL LF
W MORGAN AVE	122+20	-	123+21	RT	101
W MORGAN AVE	123+50	-	124+38	RT	88
TOTAL 2405-00-74					**189**

SAWING

LOCATION	STATION	TO	STATION	OFFSET	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
W MORGAN AVE	107+00	-	113+00	LT/RT	148	46
W MORGAN AVE	113+00	-	119+00	LT/RT	358	42
W MORGAN AVE	119+00	-	125+00	LT/RT	115	25
W MORGAN AVE	125+00	-	131+00	LT/RT	103	66
W MORGAN AVE	131+00	-	137+00	LT/RT	219	20
W MORGAN AVE	137+00	-	143+00	LT/RT	77	324
TOTALS 2405-00-74					**1,020**	**523**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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EARTHWORK

Division	From / To Station	Location	Common Excavation (1)		Unexp. Fill	Exp. Fill (4)	Waste	BASE AGGREGATE DENSE 3-INCH (5)	GEOGRID Type SR
			item 205.0100			Factor		item 305.0130	item 645.0220
			CUT (2)	EBS (3)		1.11			
			CY	CY	CY	CY	CY	TON	SY
1	108+20 to 141+50	MORGAN AVE	13,904	1,221	527	585	14,540	2,686	1,750
2	5+37 to 5+95	52nd	68	0	3	3	65	0	0
3	1014+25 to 1014+70	51st	119	0	1	1	118	0	0
4	25+30 to 25+80	50th	100	0	0	0	100	0	0
5	32+90 to 34+70	49th	594	0	10	11	583	0	0
6	44+10 to 44+70	48th	122	0	1	1	121	0	0
7	45+31 to 45+60	Schauer	48	0	3	3	45	0	0
8	55+30 to 55+70	Strothmann	76	0	1	1	75	0	0
9	64+10 to 64+70	47th	96	0	6	7	89	0	0
10	74+20 to 74+65	46th S.	78	0	7	8	70	0	0
11	75+30 to 75+95	46th N.	100	0	2	2	98	0	0
12	84+15 to 84+70	45th	111	0	0	0	111	0	0
13	94+35 to 94+70	44th S.	58	0	5	6	52	0	0
14	95+30 to 95+65	44th N.	60	0	0	0	60	0	0
15	UNDISTRIBUTED	UNDISTRIBUTED	0	250	0	0	250	550	375
Total			17,005		566	628	16,377	3,236	2,125

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Base Aggregate Dense 3-Inch. Item number 305.0130
4) Expanded Fill Factor = 1.11
   Expanded Fill = Unexpanded Fill * Fill Factor
5) Base Aggregate Dense 3-Inch = EBS * 2.2 Tons/CY

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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REMOVING SMALL PIPE CULVERTS

LOCATION	STATION	OFFSET	TO	STATION	OFFSET	DESCRIPTION	203.0100 REMOVING SMALL PIPE CULVERTS EACH
W MORGAN AVE	110+23	43' LT	-	110+95	41' LT	12" CMCP	1
W MORGAN AVE	111+82	36' LT	-	112+13	33' LT	12" CMCP	1
W MORGAN AVE	113+03	24' LT	-	113+23	23' LT	12" CMCP	1
W MORGAN AVE	132+87	19' RT	-	133+48	19' RT	12" CMCP	1
W MORGAN AVE	133+65	19' RT	-	134+32	18' RT	12" CMCP	1
W MORGAN AVE	134+90	18' RT	-	135+26	18' RT	12" CMCP	1
						TOTAL 2405-00-74	**6**

REMOVING MANHOLES

LOCATION	STATION	OFFSET	204.0210 REMOVING MANHOLES EACH
W MORGAN AVE	109+43	4' LT	1
W MORGAN AVE	109+44	10' LT	1
W MORGAN AVE	121+88	26' LT	1
S 44TH ST	94+70	9' RT	1
TOTAL 2405-00-74			**4**

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REMOVING STORM SEWER

LOCATION	STATION	OFFSET	TO	STATION	OFFSET	204.0245.01 REMOVING STORM SEWER (SIZE) .01 6-INCH LF	204.0245.02 REMOVING STORM SEWER (SIZE) .02 12-INCH LF	204.0245.03 REMOVING STORM SEWER (SIZE) .03 15-INCH LF	204.0245.04 REMOVING STORM SEWER (SIZE) .04 18-INCH LF	204.0245.05 REMOVING STORM SEWER (SIZE) .05 30-INCH LF
W MORGAN AVE	109+16	48' LT	-	109+44	10' LT	--	49	--	--	--
W MORGAN AVE	109+43	10' LT	-	109+43	4' LT	--	6	--	--	--
S 50TH PL	25+67	12' LT	-	25+75	12' LT	--	8	--	--	--
S 50TH PL	25+68	12' RT	-	25+75	12' RT	--	7	--	--	--
S 49TH ST	33+65	25' LT	-	34+03	26' LT	--	--	33	--	--
S 49TH ST	34+03	26' LT	-	34+64	26' LT	--	--	60	--	--
S 49TH ST	33+65	18' RT	-	34+72	17' RT	--	106	--	--	--
S 49TH ST	34+40	32' LT	-	34+45	25' LT	--	8	--	--	--
W MORGAN AVE	121+63	34' RT	-	121+88	26' LT	--	--	66	--	--
W MORGAN AVE	121+88	26' LT	-	123+30	19' LT	--	--	--	142	--
W MORGAN AVE	122+06	30' RT	-	123+29	31' RT	--	123	--	--	--
W MORGAN AVE	123+29	31' RT	-	123+30	19' LT	--	--	--	50	--
W MORGAN AVE	123+30	19' LT	-	124+13	16' LT	--	--	--	--	84
W MORGAN AVE	124+13	16' LT	-	124+51	45' LT	--	--	--	--	48
W MORGAN AVE	123+29	31' RT	-	124+44	35' RT	--	--	115	--	--
S 48TH ST	44+23	16' LT	-	44+68	21' LT	46	--	--	--	--
S 46TH ST	74+50	12' LT	-	74+74	12' LT	--	24	--	--	--
W MORGAN AVE	136+10	18' RT	-	138+48	19' RT	--	238	--	--	--
S 44TH ST	94+70	9' RT	-	94+81	17' RT	--	13	--	--	--
W MORGAN AVE	141+32	31' RT	-	141+34	26' RT	--	5	--	--	--
W MORGAN AVE	141+34	26' RT	-	141+35	21' LT	--	48	--	--	--
				TOTALS 2405-00-74		**46**	**635**	**274**	**192**	**132**

REMOVING INLETS

LOCATION	STATION	OFFSET	204.0220 REMOVING INLETS EACH
W MORGAN AVE	109+15	48' LT	1
S 50TH PL	25+67	12' LT	1
S 50TH PL	25+68	12' RT	1
S 49TH ST	34+03	26' LT	1
S 49TH ST	34+64	26' LT	1
S 49TH ST	34+72	17' RT	1
W MORGAN AVE	123+29	31' RT	1
W MORGAN AVE	123+30	19' LT	1
W MORGAN AVE	124+13	16' LT	1
S 48TH ST	44+23	16' LT	1
S 48TH ST	44+68	21' LT	1
S 46TH ST	74+75	17' LT	1
S 46TH ST	75+50	12' LT	1
S 44TH ST	94+81	17' RT	1
W MORGAN AVE	141+34	26' RT	1
W MORGAN AVE	141+35	21' LT	1
TOTAL 2405-00-74			**16**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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BASE AGGREGATE

LOCATION	STATION	TO	STATION	OFFSET	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
W MORGAN AVE	107+00	-	113+00	LT/RT	276	1,980
W MORGAN AVE	113+00	-	119+00	LT/RT	40	2,600
W MORGAN AVE	119+00	-	125+00	LT/RT	--	2,680
W MORGAN AVE	125+00	-	131+00	LT/RT	--	2,390
W MORGAN AVE	131+00	-	137+00	LT/RT	24	2,760
W MORGAN AVE	137+00	-	143+00	LT/RT	--	1,860
SUBTOTALS					340	14,270
UNDISTRIBUTED/TEMPORARY ACCESS					--	1,500
TOTALS 2405-00-74					**340**	**15,770**

ASPHALTIC DRIVEWAYS

LOCATION	STATION	TO	STATION	OFFSET	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
W MORGAN AVE	107+00	-	113+00	LT/RT	5
W MORGAN AVE	113+00	-	119+00	LT/RT	52
W MORGAN AVE	119+00	-	125+00	LT/RT	5
W MORGAN AVE	125+00	-	131+00	LT/RT	13
W MORGAN AVE	131+00	-	137+00	LT/RT	36
W MORGAN AVE	137+00	-	143+00	LT/RT	8
TOTAL 2405-00-74					**119**

ASPHALTIC PAVEMENT

LOCATION	STATION	TO	STATION	OFFSET	455.0605 TACK COAT GAL	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5224 HMA PAVEMENT 4 LT 58-28 S TON
W MORGAN AVE	108+20	-	113+00	LT/RT	150	340	250
W MORGAN AVE	113+00	-	119+00	LT/RT	190	440	320
W MORGAN AVE	119+00	-	125+00	LT/RT	230	520	380
W MORGAN AVE	125+00	-	131+00	LT/RT	190	440	320
W MORGAN AVE	131+00	-	137+00	LT/RT	230	520	380
W MORGAN AVE	137+00	-	143+00	LT/RT	140	320	230
TOTALS 2405-00-74					**1,130**	**2,580**	**1,880**

CONCRETE ITEMS

LOCATION	STATION	TO	STATION	OFFSET	415.0070 CONCRETE PAVEMENT 7-INCH SY	415.0115 CONCRETE PAVEMENT 11 1/2-INCH SY	416.0170 CONCRETE DRIVEWAY 7-INCH SY	601.0319 CONCRETE CURB & GUTTER 19-INCH LF	601.0331 CONCRETE CURB & GUTTER 31-INCH LF	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D LF	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0420 CONCRETE SIDEWALK 7-INCH SF	602.2400 CONCRETE SAFETY ISLANDS SF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	601.0600 CONCRETE CURB PEDESTRIAN LF	SPV.0090.04 CONCRETE CURB & GUTTER INTEGRAL 31-INCH LF	SPV.0165.01 CONCRETE SIDEWALK HES 5-INCH SF	(*) 415.6000.S ROUT AND SEAL LF
W MORGAN AVE	107+00	-	113+00	LT/RT	--	130	60	550	900	--	5,510	476	--	4	30	--	180	1,450
W MORGAN AVE	113+00	-	119+00	LT/RT	--	210	120	--	1,284	191	5,400	905	1,265	19	--	--	--	1,284
W MORGAN AVE	119+00	-	125+00	LT/RT	--	110	70	--	1,453	--	6,070	213	--	--	55	--	--	1,453
W MORGAN AVE	125+00	-	131+00	LT/RT	20	120	160	--	1,275	--	6,070	414	--	--	--	--	--	1,275
W MORGAN AVE	131+00	-	137+00	LT/RT	--	130	160	--	1,346	--	5,560	723	--	--	--	--	--	1,346
W MORGAN AVE	137+00	-	143+00	LT/RT	10	330	--	--	1,024	--	4,810	394	--	9	--	79	--	1,024
TOTALS 2405-00-74					**30**	**1,030**	**570**	**550**	**7,282**	**191**	**33,420**	**3,125**	**1,265**	**32**	**85**	**79**	**180**	**7,832**

(*) ROUTE AND SEAL TO ONLY TAKE PLACE ALONG THE JOINT BETWEEN HMA PAVEMENT AND CONCRETE CURB & GUTTER 19-INCH AND 31-INCH.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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HMA COLD WEATHER PAVING

LOCATION	450.4000 HMA COLD WEATHER PAVING TON
UNDISTRIBUTED	1,115
TOTAL 2405-00-74	**1,115**

INCENTIVE ITEMS

LOCATION	440.4410 INCENTIVE IRI RIDE DOL	460.2000 INCENTIVE DENSITY HMA PAVEMENT DOL	715.0415 INCENTIVE STRENGTH CONCRETE PAVEMENT DOL
PROJECT	2,472	2,860	500
TOTALS 2405-00-74	**2,472**	**2,860**	**500**

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DRILLED TIE BARS

LOCATION	416.0610 DRILLED TIE BARS EACH
W MORGAN AVE AND S 43RD ST INTERSECTION	76
TOTAL 2405-00-74	**76**

CURB RAMP DETECTABLE WARNING FIELD

LOCATION	STATION	TO	STATION	OFFSET	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	602.0605 CURB RAMP DETECTABLE WARNING FIELD RADIALYELLOW SF
W MORGAN AVE	107+00	-	113+00	LT/RT	10	19
W MORGAN AVE	113+00	-	119+00	LT/RT	120	--
W MORGAN AVE	119+00	-	125+00	LT/RT	80	38
W MORGAN AVE	125+00	-	131+00	LT/RT	60	--
W MORGAN AVE	131+00	-	137+00	LT/RT	100	--
W MORGAN AVE	137+00	-	143+00	LT/RT	140	--
TOTALS 2405-00-74					**510**	**57**

PIPE UNDERDRAIN

LOCATION	STATION	TO	STATION	OFFSET	310.0110 BASE AGGREGATE OPEN-GRADED TON	612.0106 PIPE UNDERDRAIN 6-INCH LF	612.0204 PIPE UNDERDRAIN UNPERFORATED 4-INCH LF	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH LF	645.0111 GEOTEXTILE TYPE DF SCHEDULE A SY	REMARKS
W MORGAN AVE	119+00	-	125+00	LT/RT	132	774	--	--	340	FOR USE IN EBS AREAS
UNDISTRIBUTED (*)					--	--	50	50	--	
TOTALS 2405-00-74					**132**	**774**	**50**	**50**	**340**	

(*) UNDISTRIBUTED QUANTITIES USED FOR EXTENSION OF ROOF DRAINS OR MISCELLANEOUS YARD DRAINS. CONNECTION TO EXISTING DRAIN IS INCIDENTAL TO BID ITEM.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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CONCRETE STEPS

LOCATION	STATION	LT/RT	STEP LOCATION	ESTIMATED # OF STEPS	602.1500 CONCRETE STEPS SF	513.2001 RAILING PIPE LF
W MORGAN AVE	114+56	RT	BACK OF SIDEWALK	3	20	3.5
S 49TH ST	34+25	RT	BACK OF CURB & GUTTER	2	12	--
W MORGAN AVE	127+25	RT	DRIVEWAY TO FRONT WALKWAY	2	10	--
W MORGAN AVE	127+52	RT	BACK OF SIDEWALK	3	16	--
W MORGAN AVE	129+01	RT	TERRACE	1	8	--
	129+01	RT	BACK OF SIDEWALK	4	20	4.5
W MORGAN AVE	129+44	RT	TERRACE	2	12	--
	129+44	RT	BACK OF SIDEWALK	7	32	7.5
W MORGAN AVE	130+06	RT	TERRACE	2	12	--
	130+06	RT	BACK OF SIDEWALK	5	24	5.5
W MORGAN AVE	130+23	LT	BACK OF SIDEWALK	2	12	--
W MORGAN AVE	130+55	RT	TERRACE	2	12	--
	130+55	RT	BACK OF SIDEWALK	4	20	4.5
W MORGAN AVE	130+64	LT	BACK OF SIDEWALK	2	12	--
W MORGAN AVE	130+73	RT	TERRACE	2	12	--
	130+73	RT	BACK OF WALK	4	20	4.5
W MORGAN AVE	131+03	LT	BACK OF SIDEWALK	2	12	--
W MORGAN AVE	136+53	RT	BACK OF SIDEWALK	2	12	--
	TOTALS 2405-00-74				**278**	**30**

NOTE: CONTRACTOR SHALL VERIFY NUMBER OF STEPS AND RAILING LENGTH PRIOR TO ORDERING RAILING.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

STORM SEWER STRUCTURES										STORM SEWER PIPES									
ROADWAY	STRUCTURE NO.	STATION	OFFSET [A] (FT)	LOCATION	RIM ELEV [B]	STRUCTURE TYPE	INLET/MANHOLE COVERS TYPE	DEPTH [C] (FT)	STRUCTURE COMMENTS	PIPE ID	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE [1] %	PIPE LENGTH (FT)	PIPE CLASS	PIPE SZE (INCH)	PIPE COMMENTS
W MORGAN AVE	75	209+10.27	24.69	LT	746.92	CATCH BASINS 2X2.5-FT	W	4.33	---	P75	75	81	743.32	743.12	2.00	10.0	IV	12	---
W MORGAN AVE	80	209+22.01	44.50	LT	746.14	CATCH BASINS 4-FT DIAMETER	C	3.57	---	P80	80	81	743.33	743.12	1.00	20.5	IV	12	---
W MORGAN AVE	81	209+20.26	24.09	LT	746.90	CATCH BASINS 4-FT DIAMETER	W	4.76	---	P81	81	82	742.87	742.42	1.00	45.1	IV	15	---
W MORGAN AVE	82	109+43.63	3.57	LT	748.27	MANHOLES 4-FT DIAMETER	Q	9.35	---	---	82	---	737.60	---	---	---	---	21	EXISTING PIPE
W MORGAN AVE	76	210+99.27	33.42	LT	748.90	CATCH BASINS 4-FT DIAMETER	C	3.89	---	P76	76	77	745.77	744.73	2.00	52.0	III	12	---
W MORGAN AVE	77	210+49.61	18.00	LT	748.29	CATCH BASINS 4-FT DIAMETER	W	4.54	---	P77	77	79	744.48	744.08	1.00	40.5	IV	15	---
W MORGAN AVE	78	110+49.98	24.00	RT	748.51	CATCH BASINS 2X2.5-FT	W	4.54	---	P78	78	79	744.70	744.33	2.00	18.5	IV	12	---
W MORGAN AVE	79	110+49.98	5.50	RT	748.92	MANHOLES 5-FT DIAMETER	Q	5.87	---	P79	79	82	741.73	739.60	2.00	106.7	III	21	---
S 52ND STREET	67	5+81.58	12.00	LT	749.62	INLETS 2X2.5-FT	W	1.40	---	P67	67	69	746.95	746.61	2.00	17.0	IV	12	---
S 52ND STREET	68	5+81.58	12.00	RT	749.56	CATCH BASINS 2X2.5-FT	W	3.54	---	P68	68	69	746.75	746.61	2.00	7.0	IV	12	---
S 52ND STREET	69	5+81.58	5.00	RT	749.78	MANHOLES 4-FT DIAMETER	Q	1.85	---	P69	69	72	746.61	746.40	0.67	31.5	IV	15	---
W MORGAN AVE	70	212+23.22	18.00	LT	750.70	CATCH BASINS 2X2.5-FT	W	4.16	---	P70	70	71	747.27	747.08	1.00	19.2	III	12	---
S 52ND STREET	71	5+50.13	22.58	RT	749.30	INLETS MEDIAN 1 GRATE	MS	2.47	---	P71	71	72	746.83	746.65	1.00	17.6	IV	15	---
S 52ND STREET	72	5+50.13	5.00	RT	750.12	MANHOLES 4-FT DIAMETER	Q	2.40	---	P72	72	74	746.40	746.00	0.70	56.7	IV	18	---
W MORGAN AVE	73	112+23.61	24.00	RT	751.24	CATCH BASINS 4-FT DIAMETER	W	5.05	---	P73	73	74	746.92	746.50	2.00	21.0	III	12	---
W MORGAN AVE	74	112+13.58	5.50	RT	751.46	MANHOLES 5-FT DIAMETER	Q	4.14	---	P74	74	79	746.00	743.55	1.50	163.6	III	21	---
W MORGAN AVE	63	213+29.22	38.08	LT	751.08	CATCH BASINS 4-FT DIAMETER	C	3.84	---	P63	63	64	748.00	747.80	1.00	20.2	III	12	---
W MORGAN AVE	64	213+31.34	18.00	LT	751.83	CATCH BASINS 4-FT DIAMETER	W	5.01	---	P64	64	66	747.55	747.30	1.00	24.8	IV	15	---
W MORGAN AVE	65	113+15.25	24.00	RT	752.16	CATCH BASINS 4-FT DIAMETER	W	4.29	---	P65	65	66	748.60	747.99	2.00	30.3	IV	12	---
W MORGAN AVE	66	113+22.88	5.36	LT	752.49	MANHOLES 5-FT DIAMETER	Q	4.07	---	P66	66	74	747.10	746.00	1.00	109.8	III	21	---
S 51ST STREET	60A	1014+47.00	14.00	LT	755.93	INLETS 2X2.5-FT	W	2.84	---	P60A	60A	60	751.82	751.18	2.00	32.0	IV	12	---
S 51ST STREET	60B	1014+47.00	26.00	RT	756.16	CATCH BASINS 2X2.5-FT	W	5.55	---	P60B	60B	60	751.34	751.18	2.00	8.0	III	12	---
S 51ST STREET	60	1014+47.00	18.00	RT	756.28	MANHOLES 4-FT DIAMETER	Q	4.28	---	P60	60	62	750.68	749.56	2.00	56.0	III	18	---
W MORGAN AVE	62	115+43.95	3.29	LT	756.08	MANHOLES 5-FT DIAMETER	Q	5.45	---	P62	62	66	749.31	747.10	1.00	221.2	III	21	---
W MORGAN AVE	61A	215+76.08	42.01	LT	755.80	CATCH BASINS 4-FT DIAMETER	C	5.27	---	P61A	61A	61B	751.29	750.81	2.00	24.0	III	12	---
W MORGAN AVE	61B	215+76.31	18.00	LT	756.15	CATCH BASINS 2X2.5-FT	W	6.32	---	P61B	61B	61	750.56	750.13	2.00	21.6	III	15	---
W MORGAN AVE	61C	115+90.00	18.00	RT	756.51	CATCH BASINS 4-FT DIAMETER	W	3.84	---	P61C	61C	61	753.40	752.89	2.00	25.7	IV	12	---
W MORGAN AVE	61	115+76.11	3.59	LT	757.12	MANHOLES 4-FT DIAMETER	Q	5.67	---	P61	61	62	750.13	749.81	1.00	32.2	III	15	---

[A] OFFSET MEASURED TO CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND FACE OF CURB/FLOW LINE FOR CURB INLETS.

[B] RIM ELEVATION MEASURED AT CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND FACE OF CURB/FLOW LINE FOR CURB INLETS.

[C] DEPTH = RIM ELEV - CASTING HEIGHT - 6" ADJUSTMENT - LOWEST PIPE INVERT ELEVATION. CATCH BASIN DEPTHS INCLUDE 2-FT SUMP. NO ADJUSTMENT FOR INLETS MEDIAN 1 GRATE.

[1] SLOPE CALCULATED BASED ON PIPE LENGTH MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND TO FACE OF CURB/FLOWLINE FOR CURB INLETS.

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ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

STORM SEWER STRUCTURES										STORM SEWER PIPES									
ROADWAY	STRUCTURE NO.	STATION	OFFSET [A] (FT)	LOCATION	RIM ELEV [B]	STRUCTURE TYPE	INLET/MANHOLE COVERS TYPE	DEPTH [C] (FT)	STRUCTURE COMMENTS	PIPE ID	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE [1] %	PIPE LENGTH (FT)	PIPE CLASS	PIPE SZE (INCH)	PIPE COMMENTS
S 50TH PL	94	25+56.00	12.00	LT	757.06	CATCH BASINS 2X2.5-FT	W	3.18	---	P94	94	96	754.61	754.42	1.00	18.6	IV	12	CONNECT TO EX. CATCH BASIN. INCIDENTAL TO SS PIPE.
S 50TH PL	96	25+74.39	12.00	LT	757.41	ADJUSTING INLET COVERS	---	---	EXISTING CATCH BASIN	---	96	---	754.42	---	---	---	---	12	PIPE DATA BASED ON AS-BUILTS
S 50TH PL	97	25+56.00	12.00	RT	757.01	CATCH BASINS 2X2.5-FT	W	3.23	---	P97	97	99	754.51	754.32	1.00	19.3	IV	12	CONNECT TO EX. CATCH BASIN. INCIDENTAL TO SS PIPE.
S 50TH PL	99	25+75.29	12.00	RT	757.36	ADJUSTING INLET COVERS	---	---	EXISTING CATCH BASIN	---	99	---	754.32	---	---	---	---	12	PIPE DATA BASED ON AS-BUILTS
W MORGAN AVE	35	118+00.00	18.00	RT	755.90	INLETS 2X2.5-FT	W	3.05	---	P35	35	37	751.58	751.16	1.30	32.0	III	12	---
W MORGAN AVE	36A	217+89.54	18.00	LT	756.05	CATCH BASINS 2X2.5-FT	W	5.26	---	P36A	36A	36	751.52	751.32	2.00	10.0	III	12	---
W MORGAN AVE	36	217+99.59	18.00	LT	756.02	CATCH BASINS 2X2.5-FT	W	5.68	---	P36	36	37	751.07	750.91	2.00	7.8	III	15	---
W MORGAN AVE	37	217+99.85	10.18	LT	756.16	MANHOLES 4-FT DIAMETER	Q	4.68	---	P37	37	38	750.16	747.36	2.00	140.0	III	24	---
W MORGAN AVE	38A	219+40.07	30.30	LT	754.20	CATCH BASINS 4-FT DIAMETER	C	5.77	---	P38A	38A	38	749.19	748.86	2.00	16.4	III	12	---
W MORGAN AVE	38	219+40.19	13.95	LT	754.32	MANHOLES 4-FT DIAMETER	Q	5.64	---	P38	38	39	747.36	744.17	2.00	159.4	III	24	---
W MORGAN AVE	39A	121+00.00	18.00	LT	750.33	CATCH BASINS 2X2.5-FT	W	4.75	---	P39A	39A	39	746.31	746.17	2.00	7.0	IV	12	---
W MORGAN AVE	39B	121+00.00	18.00	RT	750.33	CATCH BASINS 2X2.5-FT	W	4.45	---	P39B	39B	39	746.61	746.17	1.50	29.0	IV	12	---
W MORGAN AVE	39	121+00.00	11.00	LT	750.51	MANHOLES 4-FT DIAMETER	Q	5.02	---	P39	39	G1	744.17	742.24	2.00	96.5	IV	24	---
S 49TH STREET	G4	33+65.00	25.28	LT	749.79	MANHOLES 4-FT DIAMETER	L	3.10	CONNECT EX. 15" HDPE (747.09)	PG4	G4	G3	745.86	745.25	2.00	30.3	IV	18	---
S 49TH STREET	G5	33+65.00	18.20	RT	749.35	INLETS MEDIAN 1 GRATE	MS	3.59	CONNECT EX. 12" CMCP (748.00)	PG5	G5	G3	745.76	745.50	2.00	13.2	IV	15	---
S 49TH STREET	G3	33+65.00	5.00	RT	749.52	MANHOLES 4-FT DIAMETER	Q	3.45	---	PG3	G3	G2	744.75	742.91	2.50	73.7	IV	24	---
S 49TH STREET	G6A	34+40.00	33.50	LT	749.22	MANHOLES 4-FT DIAMETER	L	3.64	CONNECT EX. 12" PVC (746.88)	PG6A	G6A	G6	744.75	744.54	2.00	10.6	III	12	---
S 49TH STREET	G7	34+22.50	26.00	LT	747.88	CATCH BASINS 2X2.5-FT	W	3.97	---	PG7	G7	G6	744.64	744.54	1.00	10.0	IV	12	---
S 49TH STREET	G6	34+32.50	26.00	LT	747.85	CATCH BASINS 4-FT DIAMETER	W	4.29	---	PG6	G6	G2	744.29	743.66	2.00	31.6	IV	15	---
S 49TH STREET	G9	34+50.48	14.00	RT	747.40	INLETS 2X2.5-FT	W	2.03	---	PG9	G9	G8	744.10	744.00	1.00	10.0	IV	12	---
S 49TH STREET	G8	34+40.48	14.00	RT	747.55	INLETS 2X2.5-FT	W	2.53	---	PG8	G8	G2	743.75	743.66	1.00	9.2	IV	15	---
S 49TH STREET	G2	34+38.74	5.00	RT	747.84	MANHOLES 4-FT DIAMETER	Q	3.61	---	PG2	G2	G1	742.91	742.24	1.00	67.1	IV	24	---
W MORGAN AVE	G1A	121+88.34	28.00	LT	749.17	MANHOLES 4-FT DIAMETER	L	4.86	---	PG1A	G1A	G1	743.48	743.24	1.00	23.9	III	12	---
W MORGAN AVE	G1	121+96.41	5.50	LT	748.29	MANHOLES 6-FT DIAMETER	Q	5.23	---	PG1	G1	47	741.74	738.67	2.00	153.6	IV	30	---
W MORGAN AVE	G10	123+31.07	31.98	RT	745.45	SLOTTED VANE DRAIN (15')	---	---	---	PG10	G10	45	743.76	740.23	---	14.2	---	15	PVC SD-35. INCIDENTAL TO BID ITEM SLOTTED VANE DRAIN.
W MORGAN AVE	45	123+40.00	18.00	RT	745.22	CATCH BASINS 4-FT DIAMETER	X	5.99	---	P45	45	46	740.23	740.03	2.00	9.9	IV	15	---
W MORGAN AVE	46	123+50.00	18.00	RT	745.29	CATCH BASINS 4-FT DIAMETER	W	5.99	CONNECT PIPE UNDERDRAIN	P46	46	47	740.03	739.68	1.50	23.5	IV	15	---
W MORGAN AVE	48	123+40.00	33.76	LT	743.90	CATCH BASINS 4-FT DIAMETER	C	4.12	---	P48	48	49	740.54	740.38	1.00	15.8	III	12	---
W MORGAN AVE	49	123+40.00	18.00	LT	745.40	CATCH BASINS 2X2.5-FT	W	5.75	---	P49	49	50	740.38	740.18	2.00	10.1	IV	12	---
W MORGAN AVE	50	123+50.00	18.00	LT	745.38	CATCH BASINS 2X2.5-FT	W	6.18	CONNECT PIPE UNDERDRAIN	P50	50	47	739.93	739.68	2.00	12.5	IV	15	---
W MORGAN AVE	47	123+50.00	5.50	LT	745.67	MANHOLES 5-FT DIAMETER	Q	5.68	---	P47	47	54	738.67	736.62	2.00	102.6	IV	30	---
S 48TH STREET	52A	44+23.23	16.12	LT	749.34	CATCH BASINS 4-FT DIAMETER	C	5.30	---	P52A	52A	52	744.80	744.10	2.00	35.1	III	12	---
S 48TH STREET	52	44+58.35	15.00	LT	747.88	CATCH BASINS 2X2.5-FT	W	4.76	---	P52	52	53	743.85	743.68	2.00	8.6	IV	15	---
S 48TH STREET	51	44+54.66	16.23	RT	748.67	INLETS 2X2.5-FT	W	3.01	---	P51	51	53	744.39	743.93	2.00	23.0	IV	12	---
S 48TH STREET	53	44+58.35	6.44	LT	748.16	MANHOLES 4-FT DIAMETER	Q	3.41	---	P53	53	54	743.43	742.27	2.00	58.1	IV	18	CROWN OF PIPE IN SUBGRADE IMPROVEMENT LAYER
W MORGAN AVE	54	124+51.76	15.30	LT	746.48	MANHOLES 6-FT DIAMETER	Q	8.54	---	P54	54	55	736.62	736.02	2.00	30.1	III	30	---
S SCHAUER AVE	55	45+46.31	2.57	LT	745.39	ADJUSTING MANHOLE COVERS	---	---	---	---	55	---	736.02	---	---	---	---	30	EXISTING PIPE
W MORGAN AVE	30A	124+92.89	25.07	RT	748.19	CATCH BASINS 4-FT DIAMETER	X	5.03	---	P30A	30A	30	744.16	743.84	1.50	21.3	IV	12	---
W MORGAN AVE	30	125+13.00	18.00	RT	748.30	INLETS 4-FT DIAMETER	W	3.44	---	P30	30	31	743.59	742.85	2.00	36.9	IV	15	---
W MORGAN AVE	32	125+50.00	39.38	LT	747.50	CATCH BASINS 4-FT DIAMETER	C	4.16	---	P32	32	31	744.10	743.10	2.00	50.0	III	12	---
W MORGAN AVE	31	125+04.82	18.00	LT	747.12	CATCH BASINS 4-FT DIAMETER	W	5.25	---	P31	31	54	742.60	741.53	2.00	53.4	IV	18	CROWN OF PIPE IN SUBGRADE IMPROVEMENT LAYER

[A] OFFSET MEASURED TO CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND FACE OF CURB/FLOW LINE FOR CURB INLETS.
[B] RIM ELEVATION MEASURED AT CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND FACE OF CURB/FLOW LINE FOR CURB INLETS.

[C] DEPTH = RIM ELEV - CASTING HEIGHT - 6" ADJUSTMENT - LOWEST PIPE INVERT ELEVATION. CATCH BASIN DEPTHS INCLUDE 2-FT SUMP. NO ADJUSTMENT FOR INLETS MEDIAN 1 GRATE.

[1] SLOPE CALCULATED BASED ON PIPE LENGTH MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND TO FACE OF CURB/FLOWLINE FOR CURB INLETS.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

STORM SEWER STRUCTURES										STORM SEWER PIPES									
ROADWAY	STRUCTURE NO.	STATION	OFFSET [A] (FT)	LOCATION	RIM ELEV [B]	STRUCTURE TYPE	INLET/MANHOLE COVERS TYPE	DEPTH [C] (FT)	STRUCTURE COMMENTS	PIPE ID	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE [1] %	PIPE LENGTH (FT)	PIPE CLASS	PIPE SZE (INCH)	PIPE COMMENTS
S STROTHMANN DR	28A	55+61.10	15.00	LT	744.08	CATCH BASINS 2X2.5-FT	W	3.83	---	P28A	28A	28	740.98	740.79	2.00	9.6	IV	12	---
S STROTHMANN DR	28	55+61.10	5.38	LT	744.31	ADJUSTING MANHOLE COVERS	---	---	---	---	28	---	738.63	---	---	---	---	12	EXISTING PIPE
W MORGAN AVE	27A	128+00.12	18.88	RT	747.82	CATCH BASINS 2X2.5-FT	W	4.50	---	P27A	27A	27	744.05	743.78	2.00	13.4	IV	12	---
W MORGAN AVE	27	128+00.12	5.50	RT	747.51	MANHOLES 4-FT DIAMETER	Q	4.01	---	P27	27	26	742.18	741.58	2.00	30.2	III	15	---
S 47TH STREET	25A	64+51.79	15.00	LT	749.13	CATCH BASINS 2X2.5-FT	W	5.59	---	P25A	25A	25	744.27	744.10	2.00	8.5	III	12	---
S 47TH STREET	25B	64+51.79	15.00	RT	748.81	INLETS 2X2.5-FT	W	3.05	---	P25B	25B	25	744.49	744.10	1.80	21.5	III	12	---
S 47TH STREET	25	64+51.79	6.50	LT	749.20	MANHOLES 4-FT DIAMETER	Q	4.03	---	P25	25	26	743.85	743.00	2.00	42.6	IV	15	---
W MORGAN AVE	26	128+30.31	5.50	RT	746.99	MANHOLES 4-FT DIAMETER	Q	4.34	---	P26	26	90	741.33	736.21	2.00	256.1	IV	18	---
W MORGAN AVE	90B	130+96.39	24.00	LT	739.76	CATCH BASINS 2X2.5-FT	W	3.23	---	P90B	90B	90A	737.26	737.16	1.00	10.0	IV	12	---
W MORGAN AVE	90A	130+86.39	24.00	LT	740.04	CATCH BASINS 2X2.5-FT	W	3.61	---	P90A	90A	90	737.16	736.86	1.00	29.5	IV	15	---
W MORGAN AVE	90	130+86.39	5.50	RT	740.95	MANHOLES 4-FT DIAMETER	Q	3.42	---	P90	90	2	736.21	735.05	2.00	58.0	IV	18	---
S 46TH STREET	2B	74+69.52	26.52	LT	739.51	CATCH BASINS 4-FT DIAMETER	X	4.20	---	P2B	2B	2A	736.31	735.92	2.00	19.4	IV	12	---
W MORGAN AVE	2A	131+44.34	24.00	RT	739.74	CATCH BASINS 4-FT DIAMETER	W	4.80	---	P2A	2A	2	735.67	735.30	2.00	18.5	IV	15	---
W MORGAN AVE	2	131+44.34	5.50	RT	739.32	MANHOLES 4-FT DIAMETER	Q	2.95	---	P2	2	3	735.05	734.41	2.25	28.6	IV	18	---
S 46TH STREET	1A	74+54.11	15.91	LT	739.70	CATCH BASINS 2X2.5-FT	W	4.57	---	P1A	1A	1	735.86	735.72	2.00	6.9	IV	12	---
S 46TH STREET	1B	74+54.61	15.00	RT	739.12	INLETS 2X2.5-FT	W	1.65	---	P1B	1B	1	736.20	735.72	2.00	24.1	IV	12	---
S 46TH STREET	1	74+54.61	9.06	LT	739.68	MANHOLES 5-FT DIAMETER	Q	3.14	---	P1	1	3	735.22	734.41	2.00	40.3	IV	18	---
S 46TH STREET	92	75+74.28	12.00	LT	735.74	CATCH BASINS 2X2.5-FT	W	5.48	CONNECT TO EX. SS	---	92	---	730.99	---	---	---	---	12	EXISTING PIPE
W MORGAN AVE	3	131+72.95	5.50	RT	738.75	MANHOLES 5-FT DIAMETER	Q	3.02	---	P3	3	5	734.41	731.80	2.25	116.2	IV	18	---
W MORGAN AVE	4	132+89.14	42.18	RT	735.30	CATCH BASINS 4-FT DIAMETER	C	4.03	---	P4	4	5	732.03	731.30	2.00	36.7	IV	12	---
W MORGAN AVE	5	132+89.14	5.50	RT	735.80	MANHOLES 4-FT DIAMETER	Q	3.68	---	P5	5	7	730.80	728.44	2.00	117.9	IV	18	---
W MORGAN AVE	6A	133+91.55	24.00	RT	732.47	CATCH BASINS 4-FT DIAMETER	W	3.78	---	P6A	6A	6	729.42	729.10	2.00	15.9	IV	12	---
W MORGAN AVE	6	134+07.20	21.17	RT	732.21	CATCH BASINS 4-FT DIAMETER	W	4.09	---	P6	6	7	728.85	728.54	2.00	15.7	IV	15	---
W MORGAN AVE	7	134+07.00	5.50	RT	732.51	MANHOLES 4-FT DIAMETER	Q	3.46	---	P7	7	10	727.73	726.05	2.00	83.8	IV	18	---
W MORGAN AVE	8	134+77.59	20.70	RT	731.22	CATCH BASINS 2X2.5-FT	W	4.43	---	P8	8	10	727.52	727.12	2.00	20.1	IV	12	---
W MORGAN AVE	9	134+90.75	24.00	LT	730.03	CATCH BASINS 2X2.5-FT	W	3.75	---	P9	9	10	727.01	726.42	2.00	29.5	IV	12	---
W MORGAN AVE	10	134+90.75	5.50	RT	730.81	MANHOLES 5-FT DIAMETER	Q	3.94	---	P10	10	11	725.55	722.27	2.60	126.0	IV	24	---
W MORGAN AVE	11A	136+16.74	24.00	LT	727.39	CATCH BASINS 2X2.5-FT	W	3.34	---	P11A	11A	11	724.78	724.19	2.00	29.5	IV	12	---
W MORGAN AVE	11	136+16.74	5.50	RT	728.40	MANHOLES 4-FT DIAMETER	Q	4.81	---	P11	11	12	722.27	719.00	2.60	126.0	IV	24	---
W MORGAN AVE	12A	137+41.26	23.63	LT	723.11	CATCH BASINS 2X2.5-FT	W	4.63	---	P12A	12A	12	719.21	718.63	2.00	29.2	IV	12	---
W MORGAN AVE	13	138+01.65	36.63	RT	719.80	INLETS MEDIAN 1 GRATE	MS	1.79	---	P13	13	12B	718.01	717.40	1.00	60.9	III	12	---
W MORGAN AVE	12B	137+43.62	18.29	RT	723.57	CATCH BASINS 4-FT DIAMETER	W	7.15	---	P12B	12B	12	717.15	716.89	2.00	12.8	III	15	---
W MORGAN AVE	12	137+42.73	5.50	RT	723.58	MANHOLES 4-FT DIAMETER	Q	5.45	---	P12	12	16	716.81	714.85	2.00	97.8	IV	24	---
S 44TH STREET	14	95+23.71	22.41	LT	720.13	CATCH BASINS 4-FT DIAMETER	W	3.93	---	P14	14	15	716.93	715.91	2.65	38.6	IV	12	---
S 44TH STREET	15	95+35.09	14.44	RT	718.71	CATCH BASINS 5-FT DIAMETER	W	3.78	---	P15	15	16	715.66	715.25	1.00	40.9	IV	15	---
W MORGAN AVE	16	138+40.50	5.50	RT	719.10	MANHOLES 5-FT DIAMETER	Q	4.24	---	P16	16	19	713.54	713.05	2.00	24.7	III	24	---

[A] OFFSET MEASURED TO CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND FACE OF CURB/FLOW LINE FOR CURB INLETS.

[B] RIM ELEVATION MEASURED AT CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND FACE OF CURB/FLOW LINE FOR CURB INLETS.

[C] DEPTH = RIM ELEV - CASTING HEIGHT - 6" ADJUSTMENT - LOWEST PIPE INVERT ELEVATION. CATCH BASIN DEPTHS INCLUDE 2-FT SUMP. NO ADJUSTMENT FOR INLETS MEDIAN 1 GRATE.

[1] SLOPE CALCULATED BASED ON PIPE LENGTH MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND TO FACE OF CURB/FLOWLINE FOR CURB INLETS.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

STORM SEWER STRUCTURES										STORM SEWER PIPES									
ROADWAY	STRUCTURE NO.	STATION	OFFSET [A] (FT)	LOCATION	RIM ELEV [B]	STRUCTURE TYPE	INLET/MANHOLE COVERS TYPE	DEPTH [C] (FT)	STRUCTURE COMMENTS	PIPE ID	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE [1] %	PIPE LENGTH (FT)	PIPE CLASS	PIPE SZE (INCH)	PIPE COMMENTS
S 44TH STREET	17	94+46.50	15.00	LT	719.15	INLETS 2X2.5-FT	W	1.78	---	P17	17	18	716.10	715.50	2.00	30.0	IV	12	---
S 44TH STREET	18A	94+55.54	24.22	RT	718.12	CATCH BASINS 4-FT DIAMETER	C	3.41	---	P18A	18A	18	715.47	715.21	2.00	12.9	III	12	---
S 44TH STREET	18	94+46.50	15.00	RT	718.33	CATCH BASINS 4-FT DIAMETER	W	4.10	---	P18	18	19	714.96	714.48	2.00	24.2	IV	15	---
S 44TH STREET	19	94+70.05	9.38	RT	718.72	MANHOLES 8-FT DIAMETER	Q	8.61	---	---	19	20	708.79	707.01	---	---	---	42	EXISTING PIPE
W MORGAN AVE	18E	132+76	33.00	LT	736.23	MANHOLES 4-FT DIAMETER	Q	4.76	CONNECT TO EX. SS	---	18E	18D	730.15	---	---	---	---	12	EXISTING PIPE
W MORGAN AVE	18D	135+46	35.00	LT	729.25	MANHOLES 4-FT DIAMETER	Q	4.77	CONNECT TO EX. SS	---	18D	18C	723.16	---	---	---	---	12	EXISTING PIPE
W MORGAN AVE	18C	136+66	36.00	LT	726.28	MANHOLES 4-FT DIAMETER	Q	5.10	CONNECT TO EX. SS	---	18C	18B	719.86	---	---	---	---	12	EXISTING PIPE
W MORGAN AVE	18B	137+93	35.06	LT	721.40	RECONSTRUCTING MANHOLES	Q	10.32	EXISTING STRUCTURE	---	18B	19	709.76	709.04	---	---	---	12	EXISTING PIPE
W MORGAN AVE	20A	139+50.00	24.00	LT	716.13	CATCH BASINS 4-FT DIAMETER	W	3.35	---	P20A	20A	20	713.51	712.32	2.00	59.4	IV	12	CONNECT TO EX. STRUCTURE
W MORGAN AVE	20	139+25	30.06	RT	716.67	ADJUSTING MANHOLE COVERS	---	---	EXISTING STRUCTURE	---	20	21	707.01	705.54	---	---	---	42	EXISTING PIPE
W MORGAN AVE	21	140+00	30.00	RT	714.21	ADJUSTING MANHOLE COVERS	---	---	EXISTING STRUCTURE	---	21	24	705.34	701.13	---	---	---	42	EXISTING PIPE
W MORGAN AVE	22	141+34.69	18.00	LT	710.27	INLETS 2X2.5-FT	W	2.89	---	P22	22	23	706.11	705.27	2.00	42.1	IV	12	---
W MORGAN AVE	23	141+34.11	24.05	RT	709.79	CATCH BASINS 2X2.5-FT	W	5.50	---	P23	23	24	705.02	704.88	2.00	7.0	III	15	CONNECT TO EX. STRUCTURE
W MORGAN AVE	24	141+32	31.00	RT	710.18	ADJUSTING MANHOLE COVERS	---	---	EXISTING STRUCTURE	---	24	---	697.38	---	---	---	---	42	EXISTING PIPE

[A] OFFSET MEASURED TO CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND FACE OF CURB/FLOW LINE FOR CURB INLETS.

[B] RIM ELEVATION MEASURED AT CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND FACE OF CURB/FLOW LINE FOR CURB INLETS.

[C] DEPTH = RIM ELEV - CASTING HEIGHT - 6" ADJUSTMENT - LOWEST PIPE INVERT ELEVATION. CATCH BASIN DEPTHS INCLUDE 2-FT SUMP. NO ADJUSTMENT FOR INLETS MEDIAN 1 GRATE.

[1] SLOPE CALCULATED BASED ON PIPE LENGTH MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE FOR MANHOLES AND FIELD INLETS, AND TO FACE OF CURB/FLOWLINE FOR CURB INLETS.

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ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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STORM SEWER STRUCTURE SUMMARY										
611.1004 CATCH BASINS 4-FT DIAMETER EACH	611.1005 CATCH BASINS 5-FT DIAMETER EACH	SPV.0060.14 CATCH BASINS 2X2.5-FT EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	611.2005 MANHOLES 5-FT DIAMETER EACH	611.2006 MANHOLES 6-FT DIAMETER EACH	611.2008 MANHOLES 8-FT DIAMETER EACH	611.3004 INLETS 4-FT DIAMETER EACH	611.3225 INLETS 2X2.5-FT EACH	611.3901 INLETS MEDIAN 1 GRATE EACH	611.9900.S SLOTTED VANE DRAIN 15 LF EACH
29	1	28	26	9	2	1	1	10	3	5

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STORM SEWER STRUCTURE SUMMARY								
611.0420 (*) RECONSTRUCTING MANHOLES EACH	611.0555 MANHOLE COVERS TYPE Q EACH	611.0545 MANHOLE COVERS TYPE L EACH	611.0612 INLET COVERS TYPE C EACH	611.0657 INLET COVERS TYPE W EACH	611.0642 INLET COVERS TYPE MS EACH	611.0663 INLET COVERS TYPE X EACH	611.8110 (*)ADJUSTING MANHOLE COVERS EACH	611.8115 ADJUSTING INLET COVERS EACH
1	36	3	10	56	3	3	5	2

(*) QUANTITIES LISTED ELSEWHERE

STORM SEWER PIPE SUMMARY										
608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	608.0321 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 21-INCH LF	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH LF	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF	608.0424 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF	608.0430 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 30-INCH LF
442.0	111.6	56.0	601.3	324.1	30.1	723.7	476.3	899.4	587.1	256.2

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

EROSION CONTROL

LOCATION	STATION	TO	STATION	OFFSET	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7020 INLET PROTECTION TYPE D EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7560 TRACKING PADS EACH	628.7570 ROCK BAGS EACH	645.0120 GEOTEXTILE TYPE HR SY
W MORGAN AVE	107+00	-	113+00	LT/RT	--	120	120	--	--	5	3	8	2	--	--	1	--	--
W MORGAN AVE	113+00	-	119+00	LT/RT	--	155	155	--	--	4	4	9	2	10	3	1	--	--
W MORGAN AVE	119+00	-	125+00	LT/RT	--	300	300	--	--	18	14	5	8	10	--	2	--	--
W MORGAN AVE	125+00	-	131+00	LT/RT	--	340	340	--	--	1	3	8	--	--	--	--	--	--
W MORGAN AVE	131+00	-	137+00	LT/RT	--	40	40	--	--	3	8	7	1	--	12	--	--	--
W MORGAN AVE	137+00	-	143+00	LT/RT	--	265	265	--	--	5	10	9	2	--	--	1	--	--
TEMPORARY SETTLING BASIN					40	--	--	--	--	--	--	--	--	--	--	--	--	70
UNDSITRIBUTED					40	300	300	10	8	9	10	11	4	10	3	2	50	70
TOTAL 2405-00-74					**80**	**1,520**	**1,520**	**10**	**8**	**45**	**52**	**57**	**19**	**30**	**18**	**7**	**50**	**140**

RESTORATION

LOCATION	STATION	TO	STATION	OFFSET	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0200 SEEDING TEMPORARY LB	631.0300 SOD WATER MGAL	631.1000 SOD LAWN SY	REMARKS
W MORGAN AVE	107+00	-	113+00	LT/RT	1,610	--	1,610	1.1	29	--	--	--	
W MORGAN AVE	113+00	-	119+00	LT/RT	1,810	--	1,680	1.2	31	--	21	130	
W MORGAN AVE	119+00	-	125+00	LT/RT	2,700	--	2,630	1.7	48	--	11	70	
W MORGAN AVE	125+00	-	131+00	LT/RT	3,260	--	3,260	2.1	59	--	--	--	
W MORGAN AVE	131+00	-	137+00	LT/RT	2,950	--	2,950	1.9	54	--	--	--	
W MORGAN AVE	137+00	-	143+00	LT/RT	2,060	--	2,060	1.3	38	--	--	--	INCLUDES RESTORATION AT TEMP CURB RAMP LOCATIONS ON S 43RD ST
UNDISTRIBUTED					3,600	500	3,550	2.3	65	50	8	50	
TOTALS 2035-06-70					**17,990**	**500**	**17,740**	**11.6**	**324**	**50**	**40**	**250**	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

3

PERMANENT SIGNING

SIGN #	SIGN CODE AND SIZE	SIGN MESSAGE	SIGN SIZE IN	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0811 POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	634.0812 POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	634.0814 POSTS TUBULAR STEEL 2X2-INCH X 14-FT EACH	SIGN MOUNTED ON SAME POST AS
P300	J3-1 -							1	
	M1-6(2)	STH 24	24 X 24	4.00	--	--	--	--	
	M6-4(2)	ARROW	21 X 21	3.06	--	--	--	--	
P301	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	POST MOVED FROM R210
P302	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P303	R2-1(2S)	SPEED LIMIT 25	24 X 30	5.00	--	--	1	--	
P304	R7-7L(2S)	NO PARKING BUS STOP	18 X 24	3.00	--	1	--	--	
P305	R2-1(2S)	SPEED LIMIT 25	24 X 30	5.00	--	--	--	2	
P306	S5-2(2)	END SCHOOL ZONE	24 X 30	5.00	--	--	--	--	P305
P307	S1-1(2)	SCHOOL ZONE	36 X 36	--	6.75	--	--	2	
P308	W16-9P(2S)	AHEAD	24 X 12	--	2.00	--	--	--	P307
P309	R2-6P (2S)	FINES HIGHER	24 X 18	3.00	--	--	--	--	P307
P310	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P311	R3-8A(2S)	LANE USAGE	30 X 36	7.50	--	--	1	--	
P312	R3-20L(2S)	BEGIN LEFT TURN LANE	24 X 36	6.00	--	--	1	--	
P313	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	M101/M102
P314	R6-2L(2S)	ONE WAY	24 X 30	5.00	--	--	1	--	
P315	R4-7(2S)	KEEP RIGHT	24 X 30	5.00	--	--	1	--	
P316	R5-1(2S)	DO NOT ENTER	30 X 30	6.26	--	--	1	--	
P317	R6-2L(2S)	ONE WAY	24 X 30	5.00	--	--	1	--	
P318	S4-51(2)	SCHOOL SPEED LIMIT 15	24 X 48	--	8.00	--	--	1	
P319	W3-3(2S)	SIGNAL AHEAD	36 X 36	--	9.00	--	1	--	
P320	W1-7(2S)	TWO-DIRECTION ARROW	48 X 24	--	8.00	2	--	--	
P321	R4-7(2S)	KEEP RIGHT	24 X 30	5.00	--	--	1	--	
P322	S1-1(2)	SCHOOL ZONE	36 X 36	--	6.75	--	1	--	
P323	W16-7L(2S)	ARROW	24 X 12	--	2.00	--	--	--	P322
P324	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P325	S1-1(2)	SCHOOL ZONE	36 X 36	--	6.75	--	1	--	
P326	W16-7L(2S)	ARROW	24 X 12	--	2.00	--	--	--	P325
P327	R1-1(2M)	STOP	36 X 36	7.46	--	--	--	--	M106/M107
P328	R3-8F(2S)	LANE USAGE	30 X 36	7.50	--	--	1	--	
P329	R6-2R(2S)	ONE WAY	24 X 30	5.00	--	--	1	--	
P330	R6-2L(2S)	ONE WAY	24 X 30	5.00	--	--	1	--	
P331	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P332	W6-2(2S)	DIVIDED HIGHWAY	36 X 36	--	9.00	--	1	--	
P333	R6-2L(2S)	ONE WAY	24 X 30	5.00	--	--	1	--	
P334	R6-2R(2S)	ONE WAY	24 X 30	5.00	--	--	1	--	
P335	S1-1(2)	SCHOOL ZONE	36 X 36	--	6.75	--	1	--	
P336	W16-7L(2S)	ARROW	24 X 12	--	2.00	--	--	--	P335
P337	S1-1(2)	SCHOOL ZONE	36 X 36	--	6.75	--	1	--	
P338	W16-7L(2S)	ARROW	24 X 12	--	2.00	--	--	--	P337
P339	R3-4(2S)	NO U-TURN	24 X 24	4.00	--	1	--	--	
P340	R4-7(2S)	KEEP RIGHT	24 X 30	5.00	--	--	1	--	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

PERMANENT SIGNING (CONT.)

SIGN #	SIGN CODE AND SIZE	SIGN MESSAGE	SIGN SIZE IN	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0811 POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	634.0812 POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	634.0814 POSTS TUBULAR STEEL 2X2-INCH X 14-FT EACH	SIGN MOUNTED ON SAME POST AS
P341	R7-1D(2S)	NO PARKING	18 X 24	3.00	--	1	--	--	
P342	W3-1(2S)	STOP AHEAD	36 X 36	--	9.00	--	1	--	
P343	R7-1D(2S)	NO PARKING	18 X 24	3.00	--	1	--	--	
P344	S4-51(2)	SCHOOL SPEED LIMIT 15	24 X 48	--	8.00	--	--	1	
P345	S4-51(2)	SCHOOL SPEED LIMIT 15	24 X 48	--	8.00	--	--	1	
P346	R7-1L(2S)	NO PARKING	18 X 24	3.00	--	1	--	--	
P347	R7-1R(2S)	NO PARKING	18 X 24	3.00	--	1	--	--	
P347A	R3-8F(2S)	LANE USAGE	30 X 36	7.50	--	--	1	--	
P348	R2-1(2S)	SPEED LIMIT 25	24 X 30	5.00	--	--	1	--	
P349	R1-1(2M)	STOP	36 X 36	7.46	--	--	--	--	M109/M110
P350	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P351	S1-1(2)	SCHOOL ZONE	36 X 36	--	6.75	--	--	2	
P351A	W16-9P(2S)	AHEAD	24 X 12	--	2.00	--	--	--	P351
P351B	R2-6P (2S)	FINES HIGHER	24 X 18	3.00	--	--	--	--	P351
P352	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	POST MOVED FROM R238
P353	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	P352
P354	R1-3P	ALL WAY	18 X 6	1.50	--	--	--	--	P352
P355	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	POST MOVED FROM R240
P356	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	P355
P357	R1-3P	ALL WAY	18 X 6	1.50	--	--	--	--	P355
P358	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P359	S5-2(2)	END SCHOOL ZONE	24 X 30	5.00	--	--	--	2	
P359A	R2-1(2S)	SPEED LIMIT 25	24 X 30	5.00	--	--	--	--	P359
P360	W6-1(2S)	DIVIDED HIGHWAY	36 X 36	9.00	--	--	1	--	
P361	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	M111/M112
P362	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	P361
P363	R1-3P(2S)	ALL WAY	18 X 6	1.50	--	--	--	--	P361
P364	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	POST MOVED FROM R245
P365	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	P364
P366	R1-3P(2S)	ALL WAY	18 X 6	1.50	--	--	--	--	P364
P367	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	M114/M115
P368	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	P367
P369	R1-3P(2S)	ALL WAY	18 X 6	1.50	--	--	--	--	P367
P370	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P371	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	POST MOVED FROM R251
P372	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	P371
P373	R1-3P(2S)	ALL WAY	18 X 6	1.50	--	--	--	--	P371
P374	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	M116/M117
P375	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P376	R2-1(2S)	SPEED LIMIT 25	24 X 30	5.00	--	--	1	--	
P377	W3-1(2S)	STOP AHEAD	36 X 36	--	9.00	--	1	--	
P378	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	M121/M122
P379	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P380	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

PERMANENT SIGNING (CONT.)

SIGN #	SIGN CODE AND SIZE	SIGN MESSAGE	SIGN SIZE IN	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0811 POSTS TUBULAR STEEL 2X2-INCH X 11-FT EACH	634.0812 POSTS TUBULAR STEEL 2X2-INCH X 12-FT EACH	634.0814 POSTS TUBULAR STEEL 2X2-INCH X 14-FT EACH	SIGN MOUNTED ON SAME POST AS
P381	R7-7L(2S)	NO PARKING BUS STOP	18 X 24	3.00	--	1	--	--	
P382	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	POST MOVED FROM R256
P383	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	M126/M127
P384	R7-7L(2S)	NO PARKING BUS STOP	18 X 24	3.00	--	1	--	--	
P385	R2-1(2S)	SPEED LIMIT 25	24 X 30	5.00	--	--	1	--	
P386	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P387	R2-1(2S)	SPEED LIMIT 25	24 X 30	5.00	--	--	1	--	
P388	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P389	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	M128/M129
P390	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P391	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	POST MOVED FROM R261
P392	R1-1(2S)	STOP	30 X 30	5.18	--	--	--	--	M131/M132
P393	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P394	R2-1(2S)	SPEED LIMIT 25	24 X 30	5.00	--	--	1	--	
P395	R3-17(2S)	BIKE LANE	30 X 24	5.00	--	1	--	--	
P396	R7-7L(2S)	NO PARKING BUS STOP	18 X 24	3.00	--	--	--	--	
P397	W14-2(2S)	NO OUTLET	30 X 30	--	6.25	--	--	1	
P398	W3-3(2S)	SIGNAL AHEAD	36 X 36	--	9.00	--	--	1	
TOTALS 2405-00-74				387.52	135.75	25	29	14	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

REMOVING SIGNS

SIGN #	SIGN CODE	SIGN MESSAGE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	(*) 638.4000 MOVING SMALL SIGN SUPPORTS EACH	SIGN MOUNTED ON SAME POST AS
R200		WEIGHT LIMIT 3 TONS	1	1	--	
R201	W16-9P	AHEAD	1	1	--	
R202	R2-1	SPEED LIMIT 15	1	--	--	201
R203	-	WHEN CHILDREN ARE PRESENT	1	--	--	201
R204	S1-1	SCHOOL ZONE	1	1	--	
R205	W16-9P	AHEAD	1	--	--	204
R206	-	CITY OF GREENFIELD PARKING RESTRICTIONS	1	--	--	204
R207	R1-1	STOP	1	--	--	M101/M102
R208	R5-1	DO NOT ENTER	1	--	--	207
R209	R2-66L	ONE WAY	1	--	--	207
R210	R1-1	STOP	1	--	1	MOVE POST TO BE USED WITH P301
R211	R5-1	DO NOT ENTER	1	--	--	210
R212	R2-66L	ONE WAY	1	--	--	210
R213	W1-7	TWO-DIRECTION ARROW	1	2	--	
R214	R1-1	STOP	1	--	--	M106/M107
R215	-	YIELD TO PEDESTRIANS STATE LAW	1	1	--	
R216	R7-1D	NO PARKING ANY TIME	1	1	--	
R217	R7-1D	NO PARKING ANY TIME	1	1	--	
R218	R6-2R	ONE WAY	1	--	--	M104/M105
R219	R6-2L	ONE WAY	1	--	--	R218
R220	R6-2L	ONE WAY	1	1	--	
R221	R6-2R	ONE WAY	1	--	--	221
R222	-	CROSSWALK	1	1	--	
R223	-	ARROW	1	--	--	222
R224	-	CROSSWALK	1	1	--	
R225	W16-9P	AHEAD	1	--	--	224
R226	-	STOP AHEAD	1	1	--	
R227	R71-D	NO PARKING	1	--	--	226
R228	W16-9P	AHEAD	1	1	--	
R229	R2-1	SPEED LIMIT 15	1	--	--	228
R230	-	WHEN CHILDREN ARE PRESENT	1	--	--	228
R231	W16-9P	AHEAD	1	1	--	
R232	R2-1	SPEED LIMIT 15	1	--	--	231
R233	-	WHEN CHILDREN ARE PRESENT	1	--	--	231
R234	R7-1L	NO PARKING ANY TIME	1	1	--	
R235	R7-1D	NO PARKING ANY TIME	1	1	--	
R236	R1-1	STOP	1	--	--	M109/M110
R237	S1-1	SCHOOL ZONE	1	1	--	
R238	R1-1	STOP	1	--	1	MOVE POST TO BE USED WITH P352, P353, & P354
R238A	R1-1	STOP	1	--	--	238
R239	-	4-WAY	1	--	--	238
R240	R1-1	STOP	1	--	1	MOVE POST TO BE USED WITH P355, P356, & P357
R241	-	4-WAY	1	--	--	240

(*) QUANTITIES LISTED ELSEWHERE

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

REMOVING SIGNS (CONT.)

SIGN #	SIGN CODE	SIGN MESSAGE	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	(*) 638.4000 MOVING SMALL SIGN SUPPORTS EACH	SIGN MOUNTED ON SAME POST AS
R242	R1-1	STOP	1	--	1	M111/M112
R243	R1-1	STOP	1	--	--	R242
R244	-	4-WAY	1	--	--	R242
R245	R1-1	STOP	1	--	1	MOVE POST TO BE USED WITH P364, P365, & P366
R246	R1-1	STOP	1	--	--	245
R247	-	4-WAY	1	--	--	245
R248	R1-1	STOP	1	--	--	M114/M115
R249	R1-1	STOP	1	--	--	R248
R250	-	4-WAY	1	--	--	R248
R251	R1-1	STOP	1	--	1	MOVE POST TO BE USED WITH P371, P372, & P373
R252	R2-1	SPEED LIMIT 25	1	1	--	
R253	R1-1	STOP	1	--	--	M116/M117
R254	-	STOP AHEAD	1	1	--	
R255	R1-1	STOP	1	--	--	M121/M122
R256	R1-1	STOP	1	--	--	MOVE POST TO BE USED WITH P382
R257	R1-1	STOP	1	--	--	M126/M127
R258	R2-1	SPEED LIMIT 25	1	1	--	
R259	R1-1	STOP	1	--	--	M128/M129
R260	R7-1L	NO PARKING ANY TIME	1	1	--	
R261	R1-1	STOP	1	--	--	MOVE POST TO BE USED WITH P391
R262	R7-1R	NO PARKING ANY TIME	1	1	--	
R263	R1-1	STOP	1	--	--	M131/M132
R264	R2-1	SPEED LIMIT 25	1	1	--	
R265	W14-2	NO OUTLET	1	1	--	
TOTALS 2405-00-74			**67**	**24**	**6**	

(*) QUANTITIES LISTED ELSEWHERE

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

3

MOVING SIGNS

SIGN #	SIGN MESSAGE	638.2102 MOVING SIGNS TYPE II EACH	(*) 638.4000 MOVING SMALL SIGN SUPPORTS EACH	SIGN MOUNTED ON SAME POST AS
M100	TO NORTHBOUND 51ST STREET	1	1	
M101	STREET NAME	1	1	
M102	STREET NAME	1	--	M101
M103	TO NORTHBOUND 51ST STREET	1	--	P321
M104	STREET NAME	1	1	
M105	STREET NAME	1	--	M104
M106	STREET NAME	1	1	
M107	STREET NAME	1	--	M106
M108	WEIGHT LIMIT	1	--	P332
M109	STREET NAME	1	1	
M110	STREET NAME	1	--	M109
M111	STREET NAME	1	1	
M112	STREET NAME	1	--	M111
M113	WEIGHT LIMIT	1	1	
M114	STREET NAME	1	1	
M115	STREET NAME	1	--	M114
M116	STREET NAME	1	1	
M117	STREET NAME	1	--	M116
M118	PARKING RESTRICTIONS	1	--	P374
M119	WEIGHT LIMIT	1	1	
M120	PARKING RESTRICTIONS	1	--	M119
M121	STREET NAME	1	1	
M122	STREET NAME	1	--	M121
M123	NEIGBORHOOD WATCH	1	1	
M124	INFORMATIONAL SIGN	1	1	
M125	WEIGHT LIMIT	1	1	
M126	STREET NAME	1	1	
M127	STREET NAME	1	--	M126
M128	STREET NAME	1	1	
M129	STREET NAME	1	--	M128
M130	WEIGHT LIMIT	1	1	
M131	STREET NAME	1	1	
M132	STREET NAME	1	--	M131
TOTALS 2405-00-74		**33**	**18**	

(*) QUANTITIES LISTED ELSEWHERE

TEST ROLLING

LOCATION	STATION		TO STATION	OFFSET	SPV.0170.01 TEST ROLLING STA
W MORGAN AVE	109+00	-	119+00	RT	10
W MORGAN AVE	109+00	-	119+00	LT	10
W MORGAN AVE	119+00	-	142+00	LT/RT	23
S 52ND ST	5+00	-	6+00	LT/RT	1
S 51ST	1014+00	-	1015+00	LT/RT	1
S 50TH PL	25+00	-	26+00	LT/RT	1
S 49TH ST	33+00	-	35+00	LT/RT	2
S SCHAUER AVE	45+00	-	46+00	LT/RT	1
S 48TH ST	44+00	-	46+00	LT/RT	2
S STROTHMAN DR	55+00	-	56+00	LT/RT	1
S 47TH ST	64+00	-	65+00	LT/RT	1
S 46TH ST	74+00	-	76+00	LT/RT	2
S 45TH ST	84+00	-	85+00	LT/RT	1
S 44TH ST	94+00	-	96+00	LT/RT	2
TOTAL 2405-00-74					**58**

MAINTENANCE AND REPAIR OF HAUL ROADS - CATEGORY 0030

LOCATION	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) .01 2405-00-74 EACH
PROJECT	1
TOTAL 2405-00-74	**1**

MISCELLANEOUS ITEMS

	213.0100 FINISHING ROADWAY (PROJECT) .01 2405-00-74 EACH	619.1000 MOBILIZATION EACH	642.5201 FIELD OFFICE TYPE C EACH
PROJECT	1	1	1
TOTALS 2405-00-74	**1**	**1**	**1**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

TRAFFIC CONTROL

STAGE	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0410 TRAFFIC CONTROL BARRICADES TYPE II DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.5000 TRAFFIC CONTROL EACH	644.1410.S TEMPORARY PEDESTRIAN SURFACE ASPHALT SF	644.1601.S TEMPORARY CURB RAMP EACH	644.1616.S TEMPORARY PEDESTRIAN SAFETY FENCE LF	646.7405 MARKING CROSSWALK PAINT TRANSVERSE LINE 6-INCH LF	(*) 646.9200 MARKING REMOVAL LINE WIDE LF
STAGE 1	5,320	--	3,080	5,600	840	5,880	14	--	--	--	--	--	--
STAGE 2 & 3	17,145	--	9,525	19,050	2,540	14,605	7	--	--	--	--	--	--
W FOREST HOME AVE/W MORGAN AVE CURB RAMP UPGRADES	420	35	35	70	--	140	--	--	180	--	--	--	--
S 43RD ST/W MORGAN AVE CURB RAMP UPGRADES	1,330	210	140	315	--	595	--	--	120	2	--	100	100
UNDISTRIBUTED	--	--	--	--	--	--	--	1	100	--	100	--	--
TOTALS 2405-00-74	**24,215**	**245**	**12,780**	**25,035**	**3,380**	**21,220**	**21**	**1**	**400**	**2**	**100**	**100**	**100**

(*) QUANTITIES LISTED ELSEWHERE

PAVEMENT MARKING

LOCATION	STATION	TO	STATION	OFFSET	646.1020 MARKING LINE EPOXY 4-INCH (YELLOW) (SOLID) LF	646.1020 MARKING LINE EPOXY 4-INCH (WHITE) (SOLID) LF	646.1020 MARKING LINE EPOXY 4-INCH (WHITE) (3' LINE/9' SKIP) LF	646.3020 MARKING LINE EPOXY 8-INCH (WHITE) (SOLID) LF	646.5020 MARKING ARROW EPOXY EACH	646.5120 MARKING WORD EPOXY EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.7120 MARKING DIAGONAL EPOXY 12-INCH LF	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	646.8120 MARKING CURB EPOXY LF	646.8220 MARKING ISLAND NOSE EPOXY EACH	(*) 646.9200 MARKING REMOVAL LINE WIDE LF
W MORGAN AVE	107+00	-	113+00	LT/RT	330	1,055	45	155	4	5	95	60	320	40	2	--
W MORGAN AVE	113+00	-	119+00	LT/RT	1,520	1,255	--	40	4	4	25	205	275	--	2	--
W MORGAN AVE	119+00	-	125+00	LT/RT	1,350	950	--	55	4	4	75	--	390	--	--	--
W MORGAN AVE	125+00	-	131+00	LT/RT	1,200	1,375	12	--	4	8	50	--	--	--	--	--
W MORGAN AVE	131+00	-	137+00	LT/RT	1,010	1,445	42	--	3	6	40	--	360	--	--	--
W MORGAN AVE	137+00	-	143+00	LT/RT	930	820	33	--	2	4	50	--	605	--	--	340
				SUBTOTAL	6,340	6,900	132	250	21	31	335	265	1,950	40	4	340
TOTALS 2405-00-74						**13,372**		**250**	**21**	**31**	**335**	**265**	**1,950**	**40**	**4**	**340**

(*) QUANTITIES LISTED ELSEWHERE

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

CONSTRUCTION STAKING

LOCATION	STATION		TO STATION	OFFSET	(*) 650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) .01 2405-00-74 LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
W MORGAN AVE	107+00	-	113+00	LT/RT	--	1,200	1,200	1,480	--	1,200
W MORGAN AVE	113+00	-	119+00	LT/RT	--	1,200	1,200	1,475	--	1,200
W MORGAN AVE	119+00	-	125+00	LT/RT	--	600	600	1,508	--	600
W MORGAN AVE	125+00	-	131+00	LT/RT	--	600	600	1,275	--	600
W MORGAN AVE	131+00	-	137+00	LT/RT	--	600	600	1,346	--	600
W MORGAN AVE	137+00	-	143+00	LT/RT	--	600	600	1,103	--	600
S 52ND ST	5+00	-	5+95	LT/RT	--	95	95	--	--	95
S 51ST ST	1014+25	-	1015+00	LT/RT	--	75	75	--	--	75
S 50TH ST	25+00	-	25+80	LT/RT	--	80	80	--	--	80
S 49TH ST	32+90	-	35+00	LT/RT	--	210	210	--	--	210
S 48TH ST	44+10	-	45+00	LT/RT	--	90	90	--	--	90
S SCHAUER AVE	45+00	-	45+60	LT/RT	--	60	60	--	--	60
S STROTHMANN DR	55+00	-	55+70	LT/RT	--	70	70	--	--	70
S 47TH ST	64+10	-	65+00	LT/RT	--	90	90	--	--	90
S 46TH ST	74+20	-	76+00	LT/RT	--	180	180	--	--	180
S 45TH ST	84+15	-	85+00	LT/RT	--	85	85	--	--	85
S 44TH ST	94+35	-	95+65	LT/RT	--	130	130	--	--	130
PROJECT					115	--	--	--	1	--
TOTALS 2405-00-74					**115**	**5,965**	**5,965**	**8,187**	**1**	**5,965**

(*) SEE STORM SEWER TABLE FOR EXACT LOCATIONS.

EXISTING MONUMENTS

	SPV.0105.01 PRESERVATION OF EXISTING MONUMENTS LS	SPV.0105.02 VERIFY AND RESTORING OF EXISTING MONUMENTS LS
PROJECT	1	1
TOTALS 2405-00-74	**1**	**1**

LANDMARK REFERENCE MONUMENT

DESCRIPTION	621.0100 LANDMARK REFERENCE MONUMENTS EACH
CONCRETE MONUMENT - CENTER OF SECTION 14, TOWSHIP 6 NORTH, RANGE 21 EAST	1
TOTAL 2405-00-74	**1**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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UTILITY LINE OPENING

LOCATION	STATION	OFFSET	SPV.0060.08 UTILITY LINE OPENING EACH	REMARKS
W MORGAN AVE	118+00	RT	1	WATER MAIN PROTECTION AT STORM SEWER STRUCTURE NO. 35
S 51ST ST	1014+47	LT	1	WATER MAIN PROTECTION AT STORM SEWER STRUCTURE NO. 60A
S 49TH ST	34+40	RT	1	WATER MAIN PROTECTION AT STORM SEWER STRUCTURE NO. G8
S 49TH ST	34+50	RT	1	WATER MAIN PROTECTION AT STORM SEWER STRUCTURE NO. G9
S 48TH ST	44+54	RT	1	WATER MAIN PROTECTION AT STORM SEWER STRUCTURE NO. 51
S 47TH ST	64+52	RT	1	WATER MAIN PROTECTION AT STORM SEWER STRUCTURE NO. 25B
S 46TH ST	74+55	LT	1	WATER MAIN PROTECTION AT STORM SEWER STRUCTURE NO. 17
S 44TH ST	94+47	RT	1	WATER MAIN PROTECTION AT STORM SEWER STRUCTURE NO. 1B
W MORGAN AVE	141+33	LT	1	WATER MAIN PROTECTION AT STORM SEWER STRUCTURE NO. 22
W MORGAN AVE	ATC FACILITY		3	ATC CROSSING BETWEEN S 51ST ST AND S 5OTH PL. LOCATIONS AS DIRECTED BY ENGINEER
	UNDISTRIBUTED		21	LOCATIONS AS DIRECTED BY ENGINEER
	TOTAL 2405-00-74		**33**	

WATER ADJUSTMENTS - CATEGORY 0020

LOCATION	STATION	OFFSET	SPV.0060.03 ADJUSTING WATER BOXES EACH	SPV.0060.04 ADJUST WATER MANHOLE FRAMES AND LIDS EACH	SPV.0060.05 WATER SERVICE POTHOLE EACH	SPV.0060.06 WATER SERVICE INSULATION EACH	SPV.0060.07 WATER SERVICE ALTERATION 1-INCH THROUGH 2-INCH EACH	SPV.0060.09 WATER MAIN PROTECTION EACH	REMARKS
W MORGAN AVE	118+00	RT	--	--	--	--	--	1	STORM SEWER STRUCTURE NO. 35
S 51ST ST	1014+47	LT	--	--	--	--	--	1	STORM SEWER STRUCTURE NO. 60A
S 49TH ST	34+40	RT	--	--	--	--	--	1	STORM SEWER STRUCTURE NO. G8
S 49TH ST	34+50	RT	--	--	--	--	--	1	STORM SEWER STRUCTURE NO. G9
S 48TH ST	44+54	RT	--	--	--	--	--	1	STORM SEWER STRUCTURE NO. 51
S 47TH ST	64+52	RT	--	--	--	--	--	1	STORM SEWER STRUCTURE NO. 25B
W MORGAN AVE	129+42	24' LT	--	--	1	1	1	--	
W MORGAN AVE	129+49	7' LT	--	--	1	1	1	--	
W MORGAN AVE	129+76	24' LT	--	--	1	1	1	--	
W MORGAN AVE	129+79	7' LT	--	--	1	1	1	--	
W MORGAN AVE	130+19	24' LT	--	--	1	1	1	--	
W MORGAN AVE	130+30	7' LT	--	--	1	1	1	--	
W MORGAN AVE	130+65	24' LT	--	--	1	1	1	--	
W MORGAN AVE	130+76	7' LT	--	--	1	1	1	--	
W MORGAN AVE	131+09	21' LT	--	--	1	1	1	--	
W MORGAN AVE	131+31	18' LT	--	--	1	1	1	--	
S 46TH ST	74+55	RT	--	--	--	--	--	1	STORM SEWER STRUCTURE NO. 1B
S 44TH ST	94+47	LT	--	--	--	--	--	1	STORM SEWER STRUCTURE NO. 17
W MORGAN AVE	141+33	LT	--	--	--	--	--	1	STORM SEWER STRUCTURE NO. 22
	UNDISTRIBUTED		40	2	10	10	10	21	
	TOTALS 2405-00-74		**40**	**2**	**20**	**20**	**20**	**30**	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

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ADJUSTING MANHOLE COVERS (SANITARY) - CATEGORY 0020

LOCATION	STATION	OFFSET	(*) 611.0420 RECONSTRUCTING MANHOLES EACH	(*) 611.8110 ADJUSTING MANHOLE COVERS EACH	SPV.0060.02 SANITARY MANHOLE CHIMNEY SEAL - INTERNAL/EXTERNAL SPECIAL EACH
W MORGAN AVE	109+79	14' LT	--	1	1
W MORGAN AVE	111+86	14' LT	--	1	1
W MORGAN AVE	115+30	16' LT	1	--	1
S 50TH PL	25+51	5' RT	--	1	1
W MORGAN AVE	117+38	8' LT	1	--	1
W MORGAN AVE	119+63	8' LT	1	--	1
W MORGAN AVE	121+89	0.5' RT	1	--	1
S SCHAUER AVE	45+54	2' RT	--	1	1
W MORGAN AVE	124+66	12' RT	1	--	1
W MORGAN AVE	126+45	12' RT	--	1	1
S STROTHMANN DR	55+69	3' RT	--	1	1
W MORGAN AVE	128+40	12' RT	--	1	1
W MORGAN AVE	131+93	13' RT	1	--	1
W MORGAN AVE	135+13	12' RT	1	--	1
W MORGAN AVE	138+36	13' RT	1	--	1
TOTALS 2405-00-74			**8**	**7**	**15**

(*) QUANTITIES LISTED ELSEWHERE

FLOWABLE THERMAL BACKFILL - CATEGORY 0020

LOCATION	STATION	TO	STATION	OFFSET	SPV.0035.01 FLOWABLE THERMAL BACKFILL CY	REMARKS
W MORGAN AVE	115+50	-	117+25	LT/RT	25	LOCATIONS DETERMINED BY ENGINEER
TOTALS 2405-00-74					**25**	

INSULATION BOARD POLYSTYRENE - CATEGORY 0020

LOCATION	612.0902.S INSULATION BOARD POLYSTYRENE (INCH) .01 2- INCH SY	REMARKS
UNDISTRIBUTED	100	INSULATION OF SANITARY SEWER. LOCATIONS DETERMINED BY ENGINEER.
TOTAL 2405-00-74	**100**	

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

PRIVATE DRAIN STORM SEWER LATERALS - CATEGORY 0020

PROPERTY OWNER	ROADWAY	SPV.0060.01 PRIVATE DRAIN RECONNECT EXISTING STORM SEWER LATERAL EACH	SPV.0090.03 PRIVATE DRAIN INSTALL NEW STORM SEWER LATERAL LF	REMARKS
5225	W FOREST HOME AVE	--	25	NEW CONNECTION TO STORM SEWER ON W MORGAN AVE.
3450	S 52ND ST	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON PRIVATE STORM SEWER.
3473	S 50TH PL	--	--	EXIST. CONNECTION ON S 50TH PL
4947	W VOLLMER AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON W VOLLMER AVE.
4937	W VOLLMER AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON W VOLLMER AVE.
4931	W VOLLMER AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON W VOLLMER AVE.
4915	W VOLLMER AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON W VOLLMER AVE.
4907	W VOLLMER AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON W VOLLMER AVE.
3502	S 49TH ST	--	20	NEW CONNECTION TO STORM SEWER ON S 49TH ST.
4821	W VOLLMER AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON W VOLLMER AVE.
4811	W VOLLMER AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON W VOLLMER AVE.
3501	W MORGAN AVE	--	100	2 NEW CONNECTIONS TO STORM SEWER ON MORGAN. ALIGN WITH GUTTER DRAINS.
3476	S SCHAUER AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON S SCHAUER AVE.
3477	S STROTHMAN AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON S STROTHMAN AVE.
3480	S STROTHMAN AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON S STROTHMAN AVE.
4622	W MORGAN AVE	--	55	NEW CONNECTION TO STORM SEWER ON W MORGAN AVE.
4609	W MORGAN AVE	--	40	NEW CONNECTION TO STORM SEWER ON W MORGAN AVE.
4600	W MORGAN AVE	--	20	NEW CONNECTION TO STORM SEWER ON W MORGAN AVE. OR S 46TH ST.
4530	W MORGAN AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION TO EXISTING STORM SEWER TO REMAIN.
4522	W MORGAN AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION TO EXISTING STORM SEWER TO REMAIN.
4521	W MORGAN AVE	--	40	NEW CONNECTION TO STORM SEWER ON W MORGAN AVE.
4514	W MORGAN AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION TO EXISTING STORM SEWER TO REMAIN.
4506	W MORGAN AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION TO EXISTING STORM SEWER TO REMAIN.
4436	W MORGAN AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION TO EXISTING STORM SEWER TO REMAIN.
4428	W MORGAN AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION TO EXISTING STORM SEWER TO REMAIN.
4420	W MORGAN AVE	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION TO EXISTING STORM SEWER TO REMAIN.
3477	S 44TH ST	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON S 44TH ST.
3474	S 44TH ST	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON S 44TH ST.
3471	S 43RD ST	--	--	FOR INFORMATION ONLY. EXISTING CONNECTION ON S 43RD ST.
UNDISTRIBUTED		15	100	
TOTALS 2405-00-74		**15**	**400**	

NOTES:

1) ALL EXISTING INFORMATION ON CONNECTIONS TO STORM SEWER NEEDS TO BE FIELD VERIFIED.
2) LOCATIONS OF PRIVATE DRAIN RECONNECT EXISTING STORM SEWER LATERAL AS DIRECTED BY THE ENGINEER.
3) LOCATIONS FOR PRIVATE DRAIN INSTALL NEW STORM SEWER LATERAL AS DIRECTED BY THE ENGINEER.
4) ADDITIONAL PRIVATE DRAIN STORM SEWER LATERALS MAY EXIST.

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

STH 24 & W MORGAN AVENUE
MILWAUKEE COUNTY
CATEGORY 0010
S40-1108

3

REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE

LOCATION	204.9105.S.01 REMOVING LOOP DETECTOR WIRE & LEAD-IN CABLE L.S.
STH 24 & W. MORGAN AVENUE	1
TOTAL	1

CONDUIT

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.
PB11	PB12	232
	TOTAL	232

TRAFFIC DETECTOR LOOPS

LOOP NO.	HOME RUN PB	LOCATION* **	SIZE (FT)x(FT)	NO. OF TURNS	SDD INSTALLATION REFERENCE	652.0800 CONDUIT LOOP DETECTOR L.F.	655.0700 LOOP DETECTOR LEAD IN CABLE L.F.	655.0800 LOOP DETECTOR WIRE L.F.
81	PB12	111+27.5, 20.5'LT	6'x14'	5	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	64	658	320
82	PB11	109+02.1, 35.5'LT	6'x20'	4	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)	86	425	344
84	PB11	109+02.1, 23.9'LT	6'x20'	4	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)	110	425	440
					TOTAL	260	1508	1104

* LOCATION IS TO FRONT CENTER OF DETECTOR LOOP

* * FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

PULL BOXES

PULL BOX NO.	LOCATION*	653.0135 PULL BOXES STEEL 24x36-INCH EACH
PB12	111+27.5, 35.3'LT	1
	TOTAL	1

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

REMOVE PULL BOXES

PULL BOX NO.	653.0905 REMOVING PULL BOXES EACH
PB12	1
TOTAL	1

LIGHTING UNIT QUANTITIES

NO.	654.0105 CONCRETE BASES TYPE 5 EACH	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG LF	SPV.0060.10 MUNICIPAL POLES TYPE 5 EACH	SPV.0060.11 MUNICIPAL TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	SPV.0060.12 MUNICIPAL LED LUMINAIRES EACH
33-A-12/33-B-12	1	210	1	1	2
33-A-11/33-B-11	1	210	1	1	2
33-B-10	1	105	1	1	1
33-A-10	1	105	1	1	1
33-B-9	1	105	1	1	1
33-A-9	1	105	1	1	1
33-A-13	1	105	1	1	1
33-B-8	1	105	1	1	1
33-A-8	1	105	1	1	1
33-B-7	1	105	1	1	1
33-A-7	1	105	1	1	1
33-B-6	1	105	1	1	1
33-A-6	1	105	1	1	1
33-B-13	1	105	1	1	1
33-B-5	1	105	1	1	1
33-A-5	1	105	1	1	1
33-B-4	1	105	1	1	1
33-A-4	1	105	1	1	1
33-B-3	1	105	1	1	1
33-A-3	1	105	1	1	1
33-B-2	1	105	1	1	1
33-A-2	1	105	1	1	1
33-B-1	1	105	1	1	1
33-A-1	1	105	1	1	1
33-C-1	1	105	1	1	1
33-D-1	1	105	1	1	1
33-C-2	1	105	1	1	1
33-D-2	1	105	1	1	1
33-C-3	1	105	1	1	1
33-D-3	1	105	1	1	1
33-C-4	1	105	1	1	1
33-D-4	1	105	1	1	1
TOTALS	32	3570	32	32	34

LIGHTING PULL BOX QUANTITIES

NO.	SPV.0060.13 LIGHTING PULL BOXES EACH
LPB-10	1
LPB-9	1
LPB-8	1
LPB-7	1
LPB-6	1
LPB-5	1
LPB-1	1
LPB-2	1
LPB-3	1
LPB-4	1
TOTAL	10

LIGHTING CONTROL QUANTITIES

LOCATION	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS LS	654.0230 CONCRETE CONTROL CABINET BASES TYPE L30 EACH	656.0400.1 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL CABINET '33' LS	659.2230 LIGHTING CONTROL CABINETS 240/480 30-INCH EACH
PROJECT	1			
CABINET '33'		1	1	1
TOTALS	1	1	1	1

LIGHTING BRANCH CIRCUIT WIRE AND CONDUIT QUANTITIES

FROM	TO	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF	652.0615 CONDUIT SPECIAL 3-INCH* LF	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG LF	SPV.0090.01 HDPE DUCT 1 1/2-INCH SCHEDULE 40 IN TRENCH LF	SPV.0090.02 HDPE DUCT 1 1/2-INCH SCHEDULE 40 DIRECTIONAL BORED LF
33-A-12/33-B-12	33-A-11/33-B-11			624	146	
33-A-11/33-B-11	LPB10			212		43
LPB-10	33-B-10			84	18	
LPB-10	33-A-10			544	66	60
33-A-10	33-B-9			556	131	
33-B-9	33-A-9			496	116	
33-A-9	LPB-9			200	41	
LPB-9	33-A-13			304		66
33-A-13	EX. PULL BOX		55			
LPB-9	33-B-8			340	75	
33-B-8	33-A-8			444		103
33-A-8	33-B-7			472	110	
33-B-7	33-A-7			520	122	
33-A-7	33-B3-6			512	120	
33-B-6	33-A-6			512	120	
33-A-6	LPB-8			272	58	
LPB-8	LPB-7			240		48
LPB-7	33-B-13			144	38	
LPB-7	33-B-5			284	61	
33-B-5	33-A-5			504	118	
33-A-5	LPB-5			128	22	
LPB-5	LPB-6			171		45
LPB-6	33-B-4			111	27	
LPB-5	33-A-4			150	40	
LPB-5	33-B-3			472		108
33-B-3	33-A-3			556	131	
33-A-3	33-B-2			556	131	
33-B-2	33-A-2			476		111
33-A-2	33-B-1			592	140	
33-B-1	33-A-1			588	139	
33-A-1	LPB-1			340		75
LPB-1	STUBOUT	15				
LPB-1	LPB-2		77			
LPB-1	CAB. '33'	28		112	17	
CAB. '33'	33-C-1			260	56	
33-C-1	33-D-1			576	136	
33-D-1	33-C-2			604	63	80
33-C-2	33-D-2			536	126	
33-D-2	33-C-3			552	130	
33-C-3	33-D-3			468		109
33-D-3	33-C-4			576	136	
33-C-4	LPB-3			228	66	
LPB-3	LPB-2			210		58
LPB-2	33-D-4			171	47	
	TOTALS	43	132	15697	2747	906

* NONMETALLIC SCHEDULE 40 CONDUIT

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	RECORDED AS	(100')
ACCESS RIGHTS	AR	REFERENCE LINE	R/L
ACRES	AC.	RELEASE OF RIGHTS	ROR
AND OTHERS	ET.AL.	REMAINING	REM.
CENTERLINE	C/L	RIGHT-OF-WAY	R/W
CERTIFIED SURVEY MAP	CSM	SECTION	SEC.
CORNER	COR.	STATION	STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE.	VOLUME	V.
HIGHWAY EASEMENT	H.E.	**CURVE DATA**	
LAND CONTRACT	LC	LONG CHORD	LCH
MONUMENT	MON.	LONG CHORD BEARING	LCB
PAGE	P.	RADIUS	R
PERMANENT LIMITED EASEMENT	PLE	DEGREE OF CURVE	D
PRIVATE DRIVE	P.D.	CENTRAL ANGLE OR DELTA	Δ
PROPERTY LINE	PL	LENGTH OF CURVE	L
		TANGENT	T

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	—W—	
GAS	—G—	
TELEPHONE	—T—	
OVERHEAD	—OH—	
TRANSMISSION LINES ELECTRIC	—E—	
CABLE TELEVISION	—TV—	
FIBER OPTIC	—FO—	
SANITARY SEWER	—SAN—	
STORM SEWER	—SS—	
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER	⊠	

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN (1" UNLESS NOTED)	LP
R/W MONUMENT	●(SET)
R/W STANDARD	▲(SET)
SIGN	SIGN
SECTION CORNER MONUMENT	
SECTION CORNER SYMBOL	
FEE (HATCH VARIES)	
TEMPORARY LIMITED EASEMENT	
PERMANENT LIMITED EASEMENT	
R/W BOUNDARY POINT	RWB20
PARCEL NUMBER	102
UTILITY PARCEL NUMBER	92
SIGN NUMBER (OFF PREMISE)	21-1
BUILDING	
PROPOSED R/W LINE	
EXISTING H.E. LINE	
PROPERTY LINE	
LOT & TIE LINES	
SLOPE INTERCEPTS	
CORPORATE LIMITS	
NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
NO ACCESS (BY ACQUISITION)	
NO ACCESS (BY STATUTORY AUTHORITY)	
SECTION LINE	
QUARTER LINE	
SIXTEENTH LINE	
EXISTING CENTERLINE	
PROPOSED REFERENCE LINE	
PARALLEL OFFSET	

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, MILWAUKEE COUNTY, NAD83 (2011) ADJUSTMENT IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ¾" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY OTHERS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE POINTS OF REFERENCE AS SPECIFIED ON EACH PLAT DETAIL SHEET.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

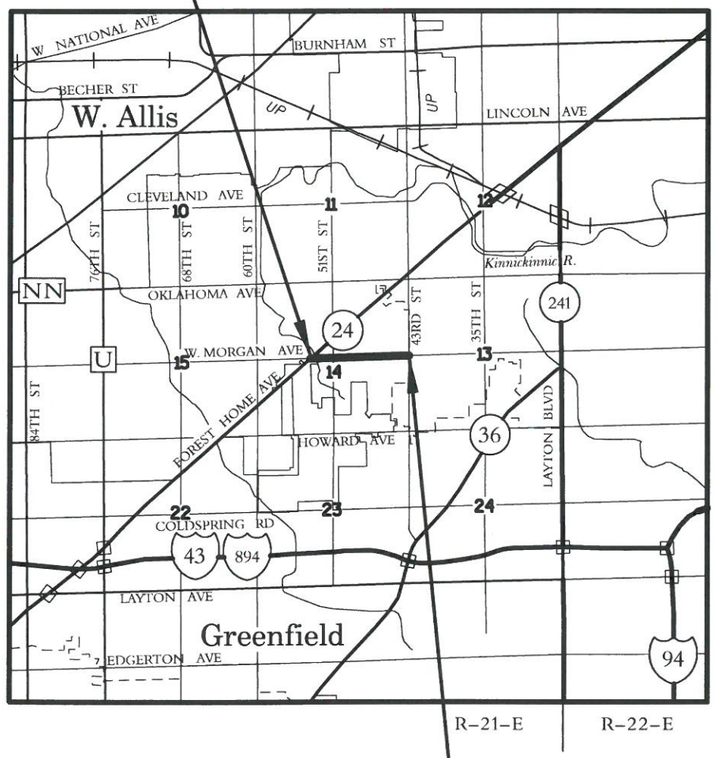
A **PERMANENT LIMITED EASEMENT** (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENT ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

BEGIN RELOCATION ORDER

STA. 107+77.20

9.09' SOUTH OF AND 748.93' WEST OF THE CENTER OF SEC. 14, T. 06 N., R. 21 E.



N

END RELOCATION ORDER

STA. 142+57.50

2.68' NORTH OF AND 68.99' EAST OF THE WEST ¼ CORNER OF SEC. 13, T. 06 N., R. 21 E.

LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.659 MI.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
2405-00-04	4.01	8
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

W. MORGAN AVENUE

W. FOREST HOME AVE. TO S. 43RD STREET

LOCAL STREET — MILWAUKEE COUNTY

CONSTRUCTION PROJECT NUMBER
2405-00-74

ACCEPTED FOR

City of Greenfield

1-13-17 (Date) — (Signature & Title of Official) ENGINEER

ACCEPTED FOR

City of Milwaukee

01-17-17 (Date) — (Signature & Title of Official) COMMISSIONER

REVISION DATE

ORIGINAL PLAT PREPARED BY

AYRES ASSOCIATES

WISCONSIN
JAMEY L. REID
Portage, WI
S-2559
PROFESSIONAL LAND SURVEYOR

THIS SURVEY IS PREPARED AT THE REQUEST OF THE CITY OF GREENFIELD. THE FIELD SURVEY WAS PERFORMED IN AUGUST, 2013. THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

(SIGNATURE) Jamey L. Reid

DATE: 12-21-16

(PRINTED NAME) Jamey Reid

(REGISTRATION NUMBER) S-2559

FILE NAME : N:\450380\DGN\2405-00-24_040101_rt.dgn PLOT DATE : 12/20/2016 PLOT BY : kk226 PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 50

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSED ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

AREAS SHOWN IN THE TOTAL S.F. COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

4

PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	R/W S.F. REQUIRED TOTAL S.F.	NEW	EXISTING	TOTAL	TOTAL S.F. REM.	PLE S.F.	TLE S.F.
1	4.03	LAWRENCE DEMOTTO & JUDI WALECKI	FEE, PLE & TLE	15,979	87	-----	87	15,892	561	2,206
2	4.03	I KNOW A GIRL LLC	TLE	-----	-----	-----	-----	-----	-----	727
3	4.03 & 4.04	UNITED METHODIST MEMORIAL CHURCH	PLE & TLE	-----	-----	-----	-----	-----	2,567	3,808
4	4.03	FRANK & MARIA GRAD, CO-TRUSTEES OF THE FRANK GRAD REVOCABLE TRUST	TLE	-----	-----	-----	-----	-----	-----	1,022
5										
6	4.03	ONIEDA TRIBE OF INDIANS OF WISCONSIN	TLE	-----	-----	-----	-----	-----	-----	1,085
7	4.03	CARMELO CORTES	TLE	-----	-----	-----	-----	-----	-----	1,538
8	4.03 & 4.04	DANIEL J. KUCHENBECKER	TLE	-----	-----	-----	-----	-----	-----	2,823
9	4.04	MICHAEL A. TROCK & JUDITH E. TROCK, TRUSTEES OF MICHAEL & JUDITH TROCK REVOCABLE TRUST	TLE	-----	-----	-----	-----	-----	-----	780
10										
11	4.04	3M PROPERTIES, LLC	TLE	-----	-----	-----	-----	-----	-----	565
12	4.04 & 4.05	GREENFIELD SCHOOL DISTRICT	TLE	-----	-----	-----	-----	-----	-----	6,047
13	4.05	SANDRA J. MARTIN	TLE	-----	-----	-----	-----	-----	-----	151
14	4.05	STEVEN G. MAXWELL	TLE	-----	-----	-----	-----	-----	-----	714
15										
16	4.05	WILLIAM & LISA SCHMIDT	TLE	-----	-----	-----	-----	-----	-----	148
17	4.05 & 4.06	LAURINE S. LEANNA	TLE	-----	-----	-----	-----	-----	-----	355
18	4.05	NATHAN PFANNERSTILL	TLE	-----	-----	-----	-----	-----	-----	1,490
19	4.05	MARK J. & RUTH RYSHKE	TLE	-----	-----	-----	-----	-----	-----	200
20										
21	4.05	ELIZABETH A. SCHINKO	TLE	-----	-----	-----	-----	-----	-----	777
22	4.06	JANET M. DENT	TLE	-----	-----	-----	-----	-----	-----	1,548
23	4.06	HUSSAM W.& NADA OTHMAN	TLE	-----	-----	-----	-----	-----	-----	1,434
24	4.06	CRAIG A. MUSCHINSKI & RANDALL A. MUSCHINSKI	TLE	-----	-----	-----	-----	-----	-----	462
25										
26	4.06	MICHAEL P. DANIELSON & MICHELLE L. WHITMORE	TLE	-----	-----	-----	-----	-----	-----	462
27	4.06	JENNIFER A. RODRIGUEZ	TLE	-----	-----	-----	-----	-----	-----	462
28	4.06	MARK J. LOMBARDO	TLE	-----	-----	-----	-----	-----	-----	588
29	4.06 & 4.07	CHERYL L. GRAUPP	TLE	-----	-----	-----	-----	-----	-----	588
30										
31	4.05 & 4.06	SONIA HERNANDEZ BENITEZ	TLE	-----	-----	-----	-----	-----	-----	232
32	4.06	MARIANNE KOCH	TLE	-----	-----	-----	-----	-----	-----	780
33	4.06	JEFF ANDERSON	TLE	-----	-----	-----	-----	-----	-----	780
34	4.06	STEVEN P. & GAIL L. STORVIK	TLE	-----	-----	-----	-----	-----	-----	628
35										
36	4.06	TIMOTHY M. CASE & CHASTITY A. MCGRAW	TLE	-----	-----	-----	-----	-----	-----	661
37	4.06	DANIEL VANG & GNOUA CHALIE VANG	TLE	-----	-----	-----	-----	-----	-----	616
38	4.06	BRIAN M. HOUSEMAN	TLE	-----	-----	-----	-----	-----	-----	940
39	4.06	ZIEBELL, LLC, VENDOR BYRON M. ZIEBELL & STEPHANIE C. LEHMAN, VENDEE	TLE	-----	-----	-----	-----	-----	-----	706
40										
41	4.06	ROBERT L. & NELDA P. PERSINGER	TLE	-----	-----	-----	-----	-----	-----	706
42	4.06 & 4.07	ANDREW D. & KRISTIN A. ZIMMERMAN	TLE	-----	-----	-----	-----	-----	-----	706
43	4.07	FRANCIS C. WIECZOREK	TLE	-----	-----	-----	-----	-----	-----	465
44	4.07	PATRICK W. & YVONNE M. MCGLIN	TLE	-----	-----	-----	-----	-----	-----	1,647
45										
46	4.07	SCOTT RAKOWSKI	TLE	-----	-----	-----	-----	-----	-----	1,134
47	4.07	TRUNG TIEN VU & VAN HONG NGUYEN	TLE	-----	-----	-----	-----	-----	-----	1,134
48	4.07	SCOTT T. RAKOWSKI	TLE	-----	-----	-----	-----	-----	-----	819
49	4.07	TRUNG TIEN VU & VAN HONG NGUYEN	TLE	-----	-----	-----	-----	-----	-----	2,268
50										
51	4.07	MICHAEL J. MARTINEZDELACOTERA	TLE	-----	-----	-----	-----	-----	-----	1,449
52	4.07 & 4.08	THOMAS L. NELSON, SHELIA K. NELSON & CHRISTINA L. NELSON	TLE	-----	-----	-----	-----	-----	-----	1,441
53	4.07	DARRIN J. KOSIDOWSKI	TLE	-----	-----	-----	-----	-----	-----	706
54	4.07	DAVID V. IDELL	TLE	-----	-----	-----	-----	-----	-----	657
55										
56	4.07	SARA BOWEN	PLE & TLE	-----	-----	-----	-----	-----	431	344
57	4.07	HOME PATH FINANCIAL L.P.	TLE	-----	-----	-----	-----	-----	-----	773
58	4.07	TRAVIS S. GEIER	TLE	-----	-----	-----	-----	-----	-----	514
59	4.07	MARIA T. BRANDT	TLE	-----	-----	-----	-----	-----	-----	258
60										
61	4.07	ARLENE SHEAHAN	TLE	-----	-----	-----	-----	-----	-----	268
62	4.07	CHERYL WANKE, LYNN M. JENDRUSIAK, THOMAS J. JENDRUSIAK, ALAN E. JENDRUSIAK & RANDAL JENDRUSIAK EACH OWNING 1/5 SHARE	TLE	-----	-----	-----	-----	-----	-----	556
63	4.07	DENNIS L. & SUSAN L. MARQUARD	TLE	-----	-----	-----	-----	-----	-----	556
64	4.07 & 4.08	BEKZOD S. ESHTEMIROV	TLE	-----	-----	-----	-----	-----	-----	569
65										
66	4.08	JAIME ARTEAGA, APRIL ARTEAGA & MARIA ARTEAGA	TLE	-----	-----	-----	-----	-----	-----	680
67	4.08	VAN H. NGUYEN & TRUNG T. VU	TLE	-----	-----	-----	-----	-----	-----	758
68	4.08	PPI HOLDINGS, INC	TLE	-----	-----	-----	-----	-----	-----	728
69	4.08	ALVERNO COLLEGE	TLE	-----	-----	-----	-----	-----	-----	240
70										
71	4.08	AARON M. KRUEGER	TLE	-----	-----	-----	-----	-----	-----	560
72	4.08	DANIEL BUSALACCHI & MIKA MAKAROVICH	TLE	-----	-----	-----	-----	-----	-----	586
73	4.08	JESSICA E. EDELEN	TLE	-----	-----	-----	-----	-----	-----	1,026
74	4.08	STEPHEN K. & SONJA S. ULATOWSKI	TLE	-----	-----	-----	-----	-----	-----	225
75										
76	4.08	RANDALL J. HEULE	TLE	-----	-----	-----	-----	-----	-----	126
90	4.03	CITY OF MILWAUKEE	TEMPORARY RELEASE OF RIGHTS	-----	-----	-----	-----	-----	-----	-----
91	4.03	WE ENERGIES	TEMPORARY RELEASE OF RIGHTS	-----	-----	-----	-----	-----	-----	-----
92	4.03	AT&T	TEMPORARY RELEASE OF RIGHTS	-----	-----	-----	-----	-----	-----	-----

NOTE - ALL AREAS SHOWN IN S.F. UNLESS NOTED OTHERWISE.

REVISION DATE	DATE 12/21/2016	SCALE, FEET 0 N/A	HWY: W. MORGAN AVE.	STATE R/W PROJECT NUMBER 2405-00-04	PLAT SHEET 4.02
			COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 2405-00-74	PS&E SHEET 109 E

FILE NAME : N:\450380\DGN\2405-00-24_040102_rs.dgn PLOT DATE : 1/9/2017 PLOT BY : kk226 PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 60

NOTES:

EXISTING HIGHWAY R/W FOR W. MORGAN AVE. ESTABLISHED FROM PREVIOUS PROJECT T0818(6), CSM 2871, & CSM 3364.

EXISTING HIGHWAY R/W FOR WEST FOREST HOME AVE. ESTABLISHED FROM PREVIOUS PROJECT T0818(6), & CSM 2871.

EXISTING HIGHWAY R/W FOR SOUTH 52ND ST. ESTABLISHED FROM PREVIOUS PROJECT T0818(6).

FEE COURSE TABLE

COURSE	BEARING	DISTANCE
F100-F101	N 50°23'45" E	14.08'
F101-F102	S 43°20'06" E	12.37'
F102-F100	N 89°55'50" W	19.34'

Station & Offset Table

Point No.	Station	Offset	Point No.	Station	Offset
F100	108+96.22	55.00'	T111	112+21.76	60.00'
F101	109+07.05	63.99'	T112	107+73.56	45.00'
F102	109+15.56	55.00'	T113	107+85.70	35.00'
			T114	108+65.57	35.00'
P100	109+23.00	77.22'	T115	111+65.57	35.00'
P101	109+30.00	68.00'	T116	111+65.38	50.00'
P102	109+47.56	68.00'	T117	109+46.34	42.00'
P103	109+47.41	55.00'	T118	108+65.35	53.00'
P107	112+11.76	60.00'	T119	108+65.48	42.00'
P110	112+11.50	40.00'	T120	109+46.42	35.00'
			T121	110+90.00	60.00'
T100	110+40.00	68.00'	T122	110+20.57	35.00'
T101	110+45.00	75.00'	T123	110+20.48	42.00'
T102	110+75.00	75.00'	T124	111+00.00	50.00'
T103	111+71.75	60.00'	T125	111+00.00	42.00'
T104	6+00.00	25.69'	T126	108+45.00	53.00'
T105	6+00.00	15.69'	T127	108+45.00	45.00'
T106	111+81.69	55.00'			
T107	111+17.48	55.00'	T225	113+00.00	50.00'
T108	111+15.85	60.00'	T226	113+00.00	45.00'
T109	6+00.00	14.31'			
T110	6+00.00	24.31'			

R/W MONUMENT POINT NUMBER AND COORDINATE TABLE

POINT	Y	X
F100	278,683.427	587,015.936
F101	278,692.404	587,026.786
F102	278,683.404	587,035.278
P100	278,705.611	587,042.747
P101	278,696.386	587,049.736
P102	278,696.365	587,067.292
P103	278,683.365	587,067.133
P107	278,688.045	587,331.483
P110	278,668.045	587,331.204

CITY OF MILWAUKEE
CITY OF GREENFIELD

CITY OF MILWAUKEE

CITY OF GREENFIELD

WEST FOREST HOME AVE.
STH 24

SE-NW

1 LAWRENCE DEMOTTO & JUDI WALECKI

PLE FOR SLOPES & DRAINAGE 561 S.F.

TLE FOR DRIVE & SLOPES 2,206 S.F.

SLOPE INTERCEPTS

13' TLE

20' TLE

5' TLE

10' TLE

2 IKNOW A GIRL LLC

3 UNITED METHODIST MEMORIAL CHURCH

TLE FOR SLOPES 398 S.F.

PLE FOR SLOPES & DRAINAGE 2,567 S.F.

20' TLE

10' TLE

EXISTING R/W

P.L.

SOUTH 52ND ST.

30'

N 00°40'38" E

BRASS CAPPED MONUMENT
Y = 278,637.664
X = 587,645.784

MATCH LINE STA. 113+00

WISDOT (SIGNALS)

CITY OF GREENFIELD (SANITARY)

N 00°04'10" E 45.00'

N 89°55'50" W 629.90'

1/4 LINE
S 89°55'50" E

WE ENERGIES (OH ELEC.)

TLE FOR SLOPES 727 S.F.

108+00 109+00 110+00 111+00 112+00

W. MORGAN AVENUE

5+00

N 89°55'50" W 408.64'

BRASS CAPPED MONUMENT
Y = 278,640.875
X = 584,994.886

TLE FOR SLOPES & TREE CLEARING 1,022 S.F.

TLE FOR DRIVE & SLOPES 1,085 S.F.

6

MILWAUKEE WATER WORKS

AT&T

WE ENERGIES (GAS)

TLE FOR DRIVE & SLOPES 1,538 S.F.

7

TLE FOR DRIVE & SLOPES 2,823 S.F.

SLOPE INTERCEPTS

111+96.89 W. MORGAN AVE. =
5+00.00 SOUTH 52ND ST.

7' TLE

15' TLE

BEGIN RELOCATION ORDER
STA. 107+77.20
Y= 278,628.571
X= 586,896.854

S 89°55'50" E
2650.90' MON. TO MON.

EXISTING R/W

PARCEL 1
CSM 2871
DOC. 5021882

CITY OF MILWAUKEE (STORM SEWER)

90

4 FRANK & MARIA GRAD, CO-TRUSTEES OF THE FRANK GRAD REVOCABLE TRUST

CITY OF MILWAUKEE
CITY OF GREENFIELD

CITY OF MILWAUKEE STORM SEWER EASEMENT P.L.

DEED 4044 / P. 405-412 / DOC. 3814739

SEWER EASEMENT CSM 2871 / DOC. 5021882

15' 15'

BLDG

WE ENERGIES 91

AT&T 92

10'

12'

CITY OF GREENFIELD

PARCEL 2
CSM 2871
DOC. 5021882

6 ONEIDA TRIBE OF INDIANS OF WISCONSIN

WE ENERGIES & AT&T EASEMENT REEL 1018 / IMAGE 55-56 / DOC. 5104128

LOT 4
CSM 3364
DOC. 5222013

NE-SW

7 CARMELO CORTES

8 DANIEL J. KUCHENBECKER

LOT 3
CSM 3364
DOC. 5222013

TLE COURSE TABLE

COURSE	BEARING	DISTANCE
T107-P103	N 89°55'50" W	170.06'
P103-P102	N 00°42'10" E	13.00'
P102-T100	S 89°55'50" E	92.44'
T100-T101	N 35°36'25" E	8.60'
T101-T102	S 89°55'50" E	30.00'
T102-T121	S 44°55'50" E	21.21'
T121-T108	S 89°55'50" E	25.85'
T108-T107	S 17°55'50" E	5.26'
T107-T108	N 17°55'50" W	5.26'
T108-T103	S 89°55'50" E	55.90'
T103-T104	N 00°48'02" E	40.27'
T104-T105	S 89°19'22" E	10.00'
T105-T106	S 00°48'02" W	45.16'
T106-T107	N 89°55'50" W	64.21'
P107-T109	N 00°48'02" E	39.85'
T109-T110	S 89°19'22" E	10.00'
T110-T111	S 00°48'02" W	39.74'
T111-P107	N 89°55'50" W	10.00'
T114-T118	S 00°46'10" W	18.00'
T118-T126	N 89°55'50" W	20.35'
T126-T127	N 00°04'10" E	8.00'
T127-T112	N 89°55'50" W	71.44'
T112-T113	N 50°36'48" E	15.74'
T113-T114	S 89°55'50" E	79.86'
T114-T122	S 89°55'50" E	155.00'
T122-T123	S 00°46'10" W	7.00'
T123-T119	N 89°55'50" W	155.00'
T119-T114	N 00°46'10" E	7.00'

TLE COURSE TABLE CONT.

COURSE	BEARING	DISTANCE
T115-T116	S 00°46'10" W	15.00'
T116-T124	N 89°55'50" W	65.38'
T124-T125	N 00°04'10" E	8.00'
T125-T123	N 89°55'50" W	79.52'
T123-T122	N 00°46'10" E	7.00'
T122-T115	S 89°55'50" E	145.00'
T115-T222	S 89°55'50" E	215.01'
T226-T225	S 00°04'10" W	5.00'
T225-T116	N 89°55'50" W	134.62'
T116-T115	N 00°46'10" E	15.00'

PLE COURSE TABLE

COURSE	BEARING	DISTANCE
F101-P100	N 50°23'45" E	20.72'
P100-P101	S 37°08'53" E	11.57'
P101-P102	S 89°55'50" E	17.56'
P102-P103	S 00°42'10" W	13.00'
P103-F102	N 89°55'50" W	31.85'
F102-F101	N 43°20'06" W	12.37'
P201-P110	N 89°55'50" W	128.50'
P110-P107	N 00°48'02" E	20.00'
P107-P200	S 89°55'50" E	128.24'
P200-P201	S 00°04'10" W	20.00'

REVISION DATE	DATE 12/21/2016	SCALE, FEET 0 20 40	HWY: W. MORGAN AVE.	STATE R/W PROJECT NUMBER 2405-00-04	PLAT SHEET 4.03
	GRID FACTOR N/A		COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 2405-00-74	PS&E SHEET 110 E

FILE NAME : N:\450380\DGN\2405-00-24_040103_rp.dgn PLOT DATE : 1/9/2017 PLOT BY : kk226 PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 75

NOTES:

EXISTING HIGHWAY R/W FOR W. MORGAN AVE. ESTABLISHED FROM PREVIOUS PROJECT T0818(6), CSM 3364, CSM 5770, CSM 5144, MITCHELL HIGHLANDS SUBDIVISION, QCD DOC 9787127, & WD DOC 10055548.

EXISTING HIGHWAY R/W FOR SOUTH 51ST ST. ESTABLISHED FROM CSM 3364, & QCD DOC 9787127.

EXISTING HIGHWAY R/W FOR SOUTH 50TH PLACE ESTABLISHED FROM MITCHEL HIGHLANDS SUBDIVISION.

CITY OF GREENFIELD

BRASS CAPPED MONUMENT
Y = 278,637.664
X = 587,645.784

T6 N R21 E 14

S 89°51'14" W
2661.74' MON. TO MON.

BLOCK 7
MITCHELL HIGHLANDS SUBDIVISION

JACK ELLISON & AUDREY ELLISON
PARCEL 1
CSM 5995
DOC. 06973820

WEST VOLLMER AVE.

BRASS CAPPED MONUMENT
Y = 278,644.455
X = 590,307.518

T6 N R21 E 14 13

MITCHELL HIGHLANDS SUBDIVISION
BLOCK 8

JESSE & ANDREA HEISE
PARCEL 1
CSM 5144
DOC. 6184487

LOT 10
MITCHELL
HIGHLANDS

9
MICHAEL A. TROCK & JUDITH E. TROCK, TRUSTEES OF MICHAEL & JUDITH TROCK REVOCABLE TRUST

TLE FOR DRIVE & SLOPES - 780 S.F.

13' TLE

SOUTH 50TH PLACE
N 00°47'44" E
26+00
50'
EXISTING R/W

SLOPE INTERCEPTS

SW-NE

3 UNITED METHODIST MEMORIAL CHURCH

PARKING

PLE FOR SLOPES AND DRAINAGE
2,567 S.F.

TLE FOR DRIVE & SLOPES
3,410 S.F.

CEMETARY

STA 115+25.83
11.39' LT

¼ LINE

15' TLE

MATCH LINE STA. 113+00

P200 P201 T200 T202 T204 T224

EXISTING R/W

P.I.114+74.07

N 89°55'50" W
186.12'

N 00°04'10" E
30.00'

N 00°48'02" E
30.00'

T203

WE ENERGIES (OH ELEC.)

ATC (UNDERGROUND ELEC.)

CITY OF GREENFIELD (SANITARY)

P.I.117+41.90

¼ LINE
N 89°51'14" E

T205 T206 T207 T208

S 89°55'50" E

114+00 115+00 116+00 117+00 118+00

W. MORGAN AVENUE
N 89°51'14" E

W. MORGAN AVENUE
S 89°55'50" E

CAUTION

S 00°04'10" W
45.00'

WE ENERGIES (GAS)

115+25.99 W. MORGAN AVE. =
1015+00.00 SOUTH 51ST ST.

S 88°23'33" E

AT&T

MILWAUKEE WATER WORKS

116+90.71 W. MORGAN AVE. =
25+00.00 SOUTH 50TH PLACE

SLOPE INTERCEPTS

EXISTING R/W

TLE FOR DRIVE & SLOPES - 2,823 S.F.

N 89°55'50" W
145.55'

T222 T223 T217

S 00°47'19" W
136.39'

S 00°47'19" W
81.39'

T209 T210 T211 T220

BLDG

5' TLE

10' TLE

8' TLE

T225 T226 T227 T228 T229 T230

S 89°55'50" E
2650.90' MON. TO MON.

TLE FOR DRIVE & SLOPES - 565 S.F.

S 89°12'41" E
45.00'

T221 T216

8 DANIEL J. KUCHENBECKER

LOT 3
CSM 3364
DOC. 5222013

T6 N R21 E 15 14

BRASS CAPPED MONUMENT
Y = 278,640.875
X = 584,994.886

11 3M PROPERTIES, LLC
LOT 1
CSM 3364
DOC. 5222013

N 00°47'19" E
2639.65' MON. TO MON.

¼ LINE
1014+00

CITY OF GREENFIELD (SANITARY)

NE-SW

S 89°12'41" E
45.00'

T215 T214

5' TLE

N 00°47'19" E
SOUTH 51ST ST.

TLE FOR DRIVE & SLOPES - 275 S.F.

T215 T212

LOT 2
CSM 3364
DOC. 5222013

BRASS CAPPED MONUMENT
Y = 275,998.267
X = 587,609.448

T6 N R21 E 14 23

45' 45'

P.I.= 114+74.07
Y= 278,627.727
X= 587,593.722
Δ= 01°32'17"RT.

12 GREENFIELD SCHOOL DISTRICT

NW-SE

TLE FOR DRIVE & SLOPES
5,772 S.F.

P.I.= 117+41.90
Y= 278,620.214
X= 587,861.443
Δ= 01°45'13"LT.

T218 T229 14' TLE

MATCH LINE STA. 119+00

N

TLE COURSE TABLE

COURSE	BEARING	DISTANCE
T204-P201	N 89°55'50" W	186.50'
P201-T200	N 00°04'10" E	15.00'
T200-T224	S 89°55'50" E	186.69'
T224-T202	N 89°51'14" E	40.75'
T202-T203	S 00°48'02" W	15.00'
T203-T204	S 89°51'14" W	40.75'
T216-T217	N 00°47'19" E	37.12'
T217-T318	N 89°51'14" E	581.67'
T313-T218	S 89°51'14" W	46.00'
T218-T219	N 00°08'46" W	6.00'
T219-T220	S 89°51'14" W	297.58'
T220-T221	S 00°47'19" W	29.24'
T221-T216	N 89°12'41" W	7.00'
T222-T209	S 00°46'10" W	10.00'
T209-T226	N 89°55'50" W	80.45'
T226-T225	S 00°04'10" W	5.00'
T115-T222	S 89°55'50" E	215.01'
T213-T214	S 89°12'41" E	5.00'
T214-T215	S 00°47'19" W	55.00'
T215-T212	N 89°12'41" W	5.00'
T212-T213	N 00°47'19" E	55.00'
T222-T223	S 89°55'50" E	99.98'
T223-T211	S 00°47'19" W	5.00'
T211-T227	N 89°55'50" W	17.49'
T227-T228	S 00°04'10" W	5.00'
T228-T229	N 89°55'50" W	13.00'
T229-T230	N 00°04'10" E	5.00'
T230-T210	N 89°55'50" W	69.49'
T210-T222	N 00°46'10" E	5.00'

PLE COURSE TABLE

COURSE	BEARING	DISTANCE
P201-P110	N 89°55'50" W	128.50'
P110-P107	N 00°48'02" E	20.00'
P107-P200	S 89°55'50" E	128.24'
P200-P201	S 00°04'10" W	20.00'

R/W MONUMENT POINT NUMBER AND COORDINATE TABLE

POINT	Y	X
P200	278,687.889	587,459.726
P201	278,667.890	587,459.702

Station & Offset Table

Point No.	Station	Offset
P200	113+40.00	60.00'
P201	113+40.00	40.00'
T200	113+40.00	55.00'
T202	115+65.93	57.64'
T203	115+66.14	42.64'
T204	115+25.41	41.39'
T205	118+37.01	41.00'
T206	118+97.01	41.00'
T207	118+97.01	28.00'
T208	118+37.01	28.00'
T209	113+80.45	45.00'
T210	113+80.51	40.00'
T211	114+81.56	39.81'
T212	1013+20.00	45.00'
T213	1013+75.00	45.00'
T214	1013+75.00	50.00'
T215	1013+20.00	50.00'
T216	1014+30.00	45.00'
T217	115+71.46	32.23'
T218	118+75.00	41.00'
T219	118+75.00	35.00'
T220	115+78.57	40.02'
T221	1014+30.00	52.00'
T222	113+80.57	35.00'
T223	114+81.49	34.81'
T224	115+25.20	56.39'
T225	113+00.00	50.00'
T226	113+00.00	45.00'
T227	114+63.00	40.00'
T228	114+63.00	45.00'
T229	114+50.00	45.00'
T230	114+50.00	40.00'

REVISION DATE	DATE 12/21/2016	SCALE, FEET 0 20 40	HWY: W. MORGAN AVE.	STATE R/W PROJECT NUMBER 2405-00-04	PLAT SHEET 4.04
	GRID FACTOR N/A		COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 2405-00-74	PS&E SHEET 111 E

FILE NAME : N:\450380\DGN\2405-00-24_040104_rp.dgn PLOT DATE : 1/9/2017 PLOT BY : kk226 PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 75

NOTES:

EXISTING HIGHWAY R/W FOR W. MORGAN AVE. ESTABLISHED FROM CSM 5288, CSM 5771, CSM 5944, CSM 6065, CSM 8414, & QCD DOC 9787127.

EXISTING HIGHWAY R/W FOR SOUTH 49TH ST. ESTABLISHED FROM WURSTER'S SUBDIVISION, & RESOLUTION NO 1856 CITY OF GREENFIELD DOC 5589858.

EXISTING HIGHWAY R/W FOR SOUTH SCHAUER AVE ESTABLISHED FROM CSM 5771, CSM 6065, & MITCHELL HIGHLANDS SUBDIVISION.

EXISTING HIGHWAY R/W FOR SOUTH 48TH ST. ESTABLISHED FROM WURSTER'S SUBDIVISION.

EXISTING ACCESS CONTROL ESTABLISHED FROM CSM 5288, CSM 5944 & CSM 6065.

P.I.= 120+41.15
Y= 278,620.978
X= 588,160.699
Δ= 03°11'08"LT.
D.= 01°54'35"
T.= 83.42'
L.= 166.79'
R.= 3000.00'

CITY OF GREENFIELD

SW-NE

S 89°51'14" W
2661.74' MON. TO MON.

WEST VOLLMER AVE.

MITCHELL HIGHLANDS SUBDIVISION
BLOCK 8

CHRISTOPHER M. RYAN
PARCEL 1
CSM 5288
DOC. 6288794

13 SANDRA J. MARTIN
LOT 1
CSM 8418
DOC. 10071253

LOT 2
CSM 8418
DOC. 10071253

14 STEVEN G. MAXWELL

LINDSAY A. SEEFELDT
PARCEL 1
CSM 5944
DOC. 6902498

16 WILLIAM & LISA SCHMIDT
PARCEL 1
CSM 6065
DOC. 07042416

LAURINE S. LEANNA 17

SOUTH SCHAUER AVE

MATCH LINE STA. 125+00

MATCH LINE STA. 119+00

12 GREENFIELD SCHOOL DISTRICT

18 NATHAN PFANNERSTILL
LOT 1

19 MARK J. & RUTH RYSHKE
LOT 3

21 ELIZABETH A. SCHINKO
LOT 6

31 SONIA HERNANDEZ BENITEZ
LOT 7

WURSTER'S SUBDIVISION
BLOCK 1
LOT 2

SOUTH 49TH ST.
N 00°47'14" E

SOUTH 48TH ST.
N 09°31'46" W

N 09°51'41" W

W. MORGAN AVENUE
N 89°51'14" E

1/4 LINE
N 89°51'14" E

PC119+57.73

PI120+41.15

PT121+24.53

PC123+26.60

PI124+10.02

PT124+93.40

121+91.00 W. MORGAN AVE. =
35+00.00 SOUTH 49TH ST.

124+60.34 W. MORGAN AVE. =
45+00.00 SOUTH SCHAUER AVE

EXISTING R/W

SLOPE INTERCEPTS

TLE FOR SLOPES
151 S.F.

TLE FOR SLOPES
714 S.F.

TLE FOR SLOPES
148 S.F.

TLE FOR DRIVE & SLOPES
5,772 S.F.

TLE FOR DRIVE & SLOPES
777 S.F.

TLE FOR DRIVE
& SLOPES - 1,490 S.F.

TLE FOR DRIVE
& SLOPES - 200 S.F.

TLE FOR SLOPES
232 S.F.

7' TLE
8' TLE
5' TLE
11' TLE
14' TLE
9' TLE
15' TLE
4' TLE

AT&T
MILWAUKEE WATER WORKS
WE ENERGIES (OH ELEC.)
WE ENERGIES (GAS)
CITY OF GREENFIELD (SANITARY)
CLEANOUT
BRICK BBQ
BLOCK WALL
14" DIAM

CAUTION

BRASS CAPPED MONUMENT
Y = 278,637.664
X = 587,645.784

P.I.= 124+10.02
Y= 278,642.417
X= 588,528.988
Δ= 03°11'08"RT.
D.= 01°54'35"
T.= 83.42'
L.= 166.79'
R.= 3000.00'

BRASS CAPPED MONUMENT
Y = 278,644.455
X = 590,307.518

T 6 N R 21 E — 14

T 6 N R 21 E — 14 13

Station & Offset Table

Point No.	Station	Offset	Point No.	Station	Offset
T300	120+75.00	40.74'	T319	33+30.06	25.00'
T301	120+96.90	39.82'	T320	34+70.07	25.00'
T302	120+97.23	46.81'	T321	44+62.07	30.00'
T303	121+99.50	41.26'	T322	44+52.15	30.00'
T304	123+94.32	44.16'	T323	44+48.10	30.00'
T305	123+94.48	49.16'	T324	44+50.92	30.00'
T306	124+23.18	48.33'	T325	123+23.51	42.76'
T307	124+23.88	43.32'	T326	34+62.15	30.00'
			T327	34+00.00	30.00'
T310	121+99.11	34.27'	T328	34+00.00	40.00'
T311	120+96.58	32.82'	T329	33+80.31	40.00'
T312	120+74.72	33.74'	T330	33+80.13	29.00'
T313	119+21.00	41.00'	T331	33+30.12	29.00'
T314	119+21.00	35.00'	T332	33+80.06	25.00'
T315	34+55.90	47.00'	T333	123+23.87	37.77'
T316	33+85.00	47.00'	T334	123+23.30	45.75'
T317	33+85.00	38.00'	T335	123+99.81	52.07'
T318	34+64.05	38.00'	T336	124+00.00	46.07'

TLE COURSE TABLE

COURSE	BEARING	DISTANCE
T311-T312	S 89°51'14" W	21.63'
T312-T300	N 00°08'46" W	7.00'
T300-T301	N 89°51'14" E	21.63'
T301-T311	S 00°08'46" E	7.00'
T307-T304	S 89°51'14" W	30.00'
T304-T305	N 00°08'46" W	5.00'
T305-T306	N 89°51'14" E	29.17'
T306-T307	S 09°31'46" E	5.07'
T217-T318	N 89°51'14" E	581.67'
T318-T317	S 00°47'14" W	79.05'
T317-T316	N 89°12'46" W	9.00'
T316-T315	N 00°47'14" E	70.90'
T315-T314	S 89°51'14" W	222.10'
T314-T313	S 00°08'46" E	6.00'
T313-T218	S 89°51'14" W	46.00'
T320-T333	N 89°51'14" E	110.26'
T333-T334	S 00°47'14" W	8.00'
T334-T326	S 89°51'14" W	105.26'
T326-T327	S 00°47'14" W	62.15'
T327-T328	S 89°12'46" E	10.00'
T328-T329	S 00°47'14" W	19.69'
T329-T332	S 89°51'14" W	15.00'
T332-T320	N 00°47'14" E	90.01'
T332-T330	N 89°51'14" E	4.00'
T330-T331	S 00°47'14" W	50.01'
T331-T319	S 89°51'14" W	4.00'
T319-T332	N 00°47'14" E	50.01'
T333-T321	N 89°51'14" E	110.87'
T321-T324	S 09°31'46" E	11.15'
T324-T335	S 89°51'14" W	37.30'
T335-T336	N 00°08'46" W	6.00'
T336-T325	S 89°51'14" W	75.47'
T325-T333	N 00°47'14" E	5.00'

REVISION DATE	DATE 12/21/2016	SCALE, FEET 0 20 40	HWY: W. MORGAN AVE.	STATE R/W PROJECT NUMBER 2405-00-04	PLAT SHEET 4.05
	GRID FACTOR N/A		COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 2405-00-74	PS&E SHEET 112 E

FILE NAME : N:\450380\DGN\2405-00-24_040105_rp.dgn PLOT DATE : 1/9/2017 PLOT BY : kk226 PLOT NAME : PLOT SCALE : 1:40

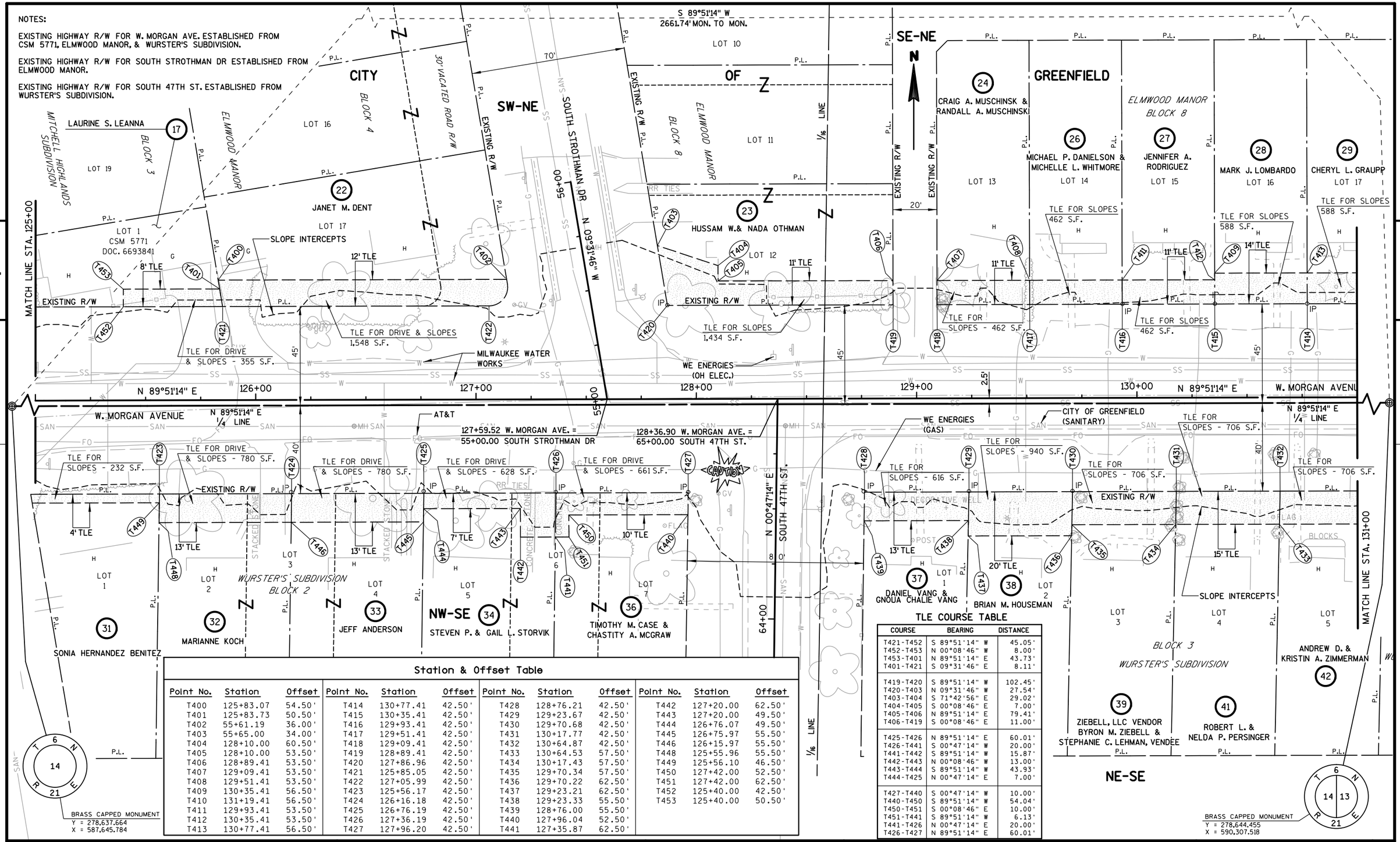
WISDOT/CADDS SHEET 75

NOTES:

EXISTING HIGHWAY R/W FOR W. MORGAN AVE. ESTABLISHED FROM CSM 5771, ELMWOOD MANOR, & WURSTER'S SUBDIVISION.

EXISTING HIGHWAY R/W FOR SOUTH STROTHMAN DR ESTABLISHED FROM ELMWOOD MANOR.

EXISTING HIGHWAY R/W FOR SOUTH 47TH ST. ESTABLISHED FROM WURSTER'S SUBDIVISION.



Station & Offset Table

Point No.	Station	Offset	Point No.	Station	Offset	Point No.	Station	Offset	Point No.	Station	Offset
T400	125+83.07	54.50'	T414	130+77.41	42.50'	T428	128+76.21	42.50'	T442	127+20.00	62.50'
T401	125+83.73	50.50'	T415	130+35.41	42.50'	T429	129+23.67	42.50'	T443	127+20.00	49.50'
T402	55+61.19	36.00'	T416	129+93.41	42.50'	T430	129+70.68	42.50'	T444	126+76.07	49.50'
T403	55+65.00	34.00'	T417	129+51.41	42.50'	T431	130+17.77	42.50'	T445	126+75.97	55.50'
T404	128+10.00	60.50'	T418	129+09.41	42.50'	T432	130+64.87	42.50'	T446	126+15.97	55.50'
T405	128+10.00	53.50'	T419	128+89.41	42.50'	T433	130+64.53	57.50'	T448	125+55.96	55.50'
T406	128+89.41	53.50'	T420	127+86.96	42.50'	T434	130+17.43	57.50'	T449	125+56.10	46.50'
T407	129+09.41	53.50'	T421	125+85.05	42.50'	T435	129+70.34	57.50'	T450	127+42.00	52.50'
T408	129+51.41	53.50'	T422	127+05.99	42.50'	T436	129+70.22	62.50'	T451	127+42.00	62.50'
T409	130+35.41	56.50'	T423	125+56.17	42.50'	T437	129+23.21	62.50'	T452	125+40.00	42.50'
T410	131+19.41	56.50'	T424	126+16.18	42.50'	T438	129+23.33	55.50'	T453	125+40.00	50.50'
T411	129+93.41	53.50'	T425	126+76.19	42.50'	T439	128+76.00	55.50'			
T412	130+35.41	53.50'	T426	127+36.19	42.50'	T440	127+96.04	52.50'			
T413	130+77.41	56.50'	T427	127+96.20	42.50'	T441	127+35.87	62.50'			

TLE COURSE TABLE

COURSE	BEARING	DISTANCE
T421-T452	S 89°51'14" W	45.05'
T452-T453	N 00°08'46" W	8.00'
T453-T401	N 89°51'14" E	43.73'
T401-T421	S 09°31'46" E	8.11'
T419-T420	S 89°51'14" W	102.45'
T420-T403	N 09°31'46" W	27.54'
T403-T404	S 71°42'56" E	29.02'
T404-T405	S 00°08'46" E	7.00'
T405-T406	N 89°51'14" E	79.41'
T406-T419	S 00°08'46" E	11.00'
T425-T426	N 89°51'14" E	60.01'
T426-T441	S 00°47'14" W	20.00'
T441-T442	S 89°51'14" W	15.87'
T442-T443	N 00°08'46" W	13.00'
T443-T444	S 89°51'14" W	43.93'
T444-T425	N 00°47'14" E	7.00'
T427-T440	S 00°47'14" W	10.00'
T440-T450	S 89°51'14" W	54.04'
T450-T451	S 00°08'46" E	10.00'
T451-T441	S 89°51'14" W	6.13'
T441-T426	N 00°47'14" E	20.00'
T426-T427	N 89°51'14" E	60.01'

BRASS CAPPED MONUMENT
Y = 278,637.664
X = 587,645.784

BRASS CAPPED MONUMENT
Y = 278,644.455
X = 590,307.518

REVISION DATE	DATE 12/21/2016	SCALE, FEET 0 20 40	HWY: W. MORGAN AVE.	STATE R/W PROJECT NUMBER 2405-00-04	PLAT SHEET 4.06
	GRID FACTOR N/A		COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 2405-00-74	PS&E SHEET 113 E

FILE NAME : N:\450380\DGN\2405-00-24_040106_rp.dgn PLOT DATE : 1/9/2017 PLOT BY : kk226 PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 75

R/W MONUMENT POINT NUMBER AND COORDINATE TABLE		
POINT	Y	X
P500	278,602.093	589,381.971
P501	278,602.203	589,425.053
P502	278,592.203	589,424.851
P503	278,592.093	589,381.769

NOTES:

EXISTING HIGHWAY R/W FOR W. MORGAN AVE. ESTABLISHED FROM ELMWOOD MANOR, MORGAN MANOR ESTATES, WURSTER'S SUBDIVISION, & OAK VIEW SUBDIVISION.

EXISTING HIGHWAY R/W FOR SOUTH 46TH ST. ESTABLISHED FROM ELMWOOD MANOR, MORGAN MANOR ESTATES, & WURSTER'S SUBDIVISION.

EXISTING HIGHWAY R/W FOR SOUTH 45TH ST. ESTABLISHED FROM WURSTER'S SUBDIVISION.

CITY OF GREENFIELD

SE-NE

NE-SE

MORGAN MANOR ESTATES

ELMWOOD MANOR BLOCK 8

WURSTER'S SUBDIVISION BLOCK 4

BLOCK 3 WURSTER'S SUBDIVISION

BLOCK 5 WURSTER'S SUBDIVISION

OAK VIEW SUBDIVISION BLOCK 1

10' ALLEY (VACATED)

29 CHERYL L. GRAUPP

43 FRANCIS C. WIECZOREK — LOT 17, LOT 18

44 PATRICK W. & YVONNE M. MCGLIN — LOT 7

46 SCOTT RAKOWSKI — LOT 6

47 TRUNG TIEN VU & VAN HONG NGUYEN — LOT 5

48 SCOTT T. RAKOWSKI — LOT 4

49 TRUNG TIEN VU & VAN HONG NGUYEN — LOT 3

LOT 2

51 MICHAEL J. MARTINEZDELACOTERA — LOT 1

LOT 4

THOMAS L. NELSON, SHELIA K. NELSON, & CHRISTINA L. NELSON — LOT 5 — 52

WE ENERGIES (OH ELEC.)

SOUTH 46TH ST.

60'

N 02°13'47" E

76+00

SLOPE INTERCEPTS

23' TLE

18' TLE

13' TLE

11' TLE

14' TLE

TLE FOR SLOPES 465 S.F.

TLE FOR SLOPES 588 S.F.

TLE FOR DRIVE & SLOPES 1,647 S.F.

TLE FOR DRIVE & SLOPES - 1,134 S.F.

TLE FOR DRIVE & SLOPES - 1,134 S.F.

TLE FOR DRIVE & SLOPES - 819 S.F.

TLE FOR DRIVE & SLOPES - 2,268 S.F.

TLE FOR DRIVE & SLOPES - 1,449 S.F.

TLE FOR DRIVE & SLOPES - 1,441 S.F.

EXISTING R/W

131+90.04 W. MORGAN AVE. = 75+00.00 SOUTH 46TH ST.

135+09.66 W. MORGAN AVE. = 85+00.00 SOUTH 45TH ST.

N 89°51'14" E

132+00 133+00 134+00 135+00 136+00

W. MORGAN AVENUE N 89°51'14" E 1/4 LINE

W. MORGAN AVENUE

AT&T

TLE FOR SLOPES 706 S.F.

56 PLE DRAINAGE & SLOPES 431 S.F.

TLE FOR DRIVE & SLOPES - 344 S.F.

TLE FOR SLOPES - 657 S.F.

10' PLE

TLE FOR SLOPES - 773 S.F.

MILWAUKEE WATER WORKS

TLE FOR SLOPES - 514 S.F.

SLOPE INTERCEPTS

CITY OF GREENFIELD (SANITARY)

TLE FOR SLOPES - 258 S.F.

EXISTING R/W

CAUTION

WE ENERGIES (GAS)

TLE FOR DRIVE & SLOPES - 556 S.F.

TLE FOR DRIVE & SLOPES - 569 S.F.

TLE FOR SLOPES - 268 S.F.

TLE FOR SLOPES - 556 S.F.

EXISTING R/W

6' TLE

15' TLE

8' TLE

18' TLE

13' TLE

MATCH LINE STA. 131+00

MATCH LINE STA. 137+00

74+00 SOUTH 46TH ST. N 01°09'28" E

N 01°09'28" E 84+00 SOUTH 45TH ST.

53 DARRIN J. KOSIDOWSKI — LOT 6

TLE FOR SLOPES - 706 S.F.

42 ANDREW D. & KRISTIN A. ZIMMERMAN

54 DAVID V. IDELL — LOT 1

56 SARA BOWEN — LOT 2

57 HOME PATH FINANCIAL L.P. — LOT 3

58 TRAVIS S. GEIER — LOT 4

59 MARIA T. BRANDT — LOT 5

MARK A. & SUZANNE M. SORVICK — LOT 6

61 ARLENE SHEAHAN — LOT 1

62 CHERYL WANKE, LYNN M. JENDRUSIAK, THOMAS J. JENDRUSIAK, ALAN E. JENDRUSIAK & RANDAL JENDRUSIAK EACH OWNING 1/5 SHARE — LOT 2

63 DENNIS L. & SUSAN L. MARQUARD — LOT 3

64 BEKZOD S. ESHTEMIROV — LOT 4

BRASS CAPPED MONUMENT
Y = 278,637.664
X = 587,645.784

BRASS CAPPED MONUMENT
Y = 278,644.455
X = 590,307.518

T 6 N R 21 E 14

T 6 N R 21 E 14 13

S 89°51'14" W 2661.74' MON. TO MON.

Station & Offset Table											
Point No.	Station	Offset	Point No.	Station	Offset	Point No.	Station	Offset	Point No.	Station	Offset
P500	132+62.86	42.50'	T509	134+82.68	60.50'	T524	131+19.41	42.50'	T540	135+83.16	55.50'
P501	133+05.94	42.50'	T510	135+45.68	60.50'	T525	131+11.96	42.50'	T541	135+83.31	48.50'
P502	133+05.71	52.50'	T511	136+08.68	60.50'	T526	131+59.06	42.50'	T542	135+38.57	48.50'
P503	132+62.63	52.50'	T512	136+08.77	65.50'	T527	132+19.08	42.50'	T543	134+34.37	48.50'
			T513	136+71.77	65.50'				T544	133+70.00	48.50'
T410	131+19.41	56.50'	T514	136+71.55	53.50'	T530	133+48.86	42.50'	T545	133+70.00	60.50'
T500	131+19.41	53.50'	T515	136+71.34	42.50'	T531	133+91.67	42.50'	T546	133+48.45	60.50'
T501	131+61.88	53.50'	T516	136+08.34	42.50'	T532	134+34.51	42.50'	T547	133+05.53	60.50'
T502	132+22.45	65.50'	T517	135+45.34	42.50'	T533	134+78.69	42.50'	T548	132+62.45	60.50'
T503	132+93.77	65.50'	T518	134+82.34	42.50'	T534	135+38.70	42.50'			
T504	132+93.68	60.50'	T519	134+19.34	42.50'	T535	135+83.44	42.50'	T550	132+18.74	57.50'
T505	133+56.68	60.50'	T520	133+56.34	42.50'	T536	136+26.20	42.50'	T551	131+58.72	57.50'
T506	134+19.68	60.50'	T521	132+93.34	42.50'	T537	136+68.95	42.50'	T552	131+11.62	57.50'
T507	134+19.58	55.50'	T522	132+21.47	42.50'	T538	136+68.66	55.50'	T553	133+91.53	48.50'
T508	134+82.58	55.50'	T523	131+61.41	42.50'	T539	136+25.90	55.50'	T554	132+62.51	57.50'

TLE COURSE TABLE		
COURSE	BEARING	DISTANCE
T530-T531	N 89°51'14" E	42.80'
T531-T553	S 01°09'28" W	6.00'
T553-T544	S 89°51'14" W	21.53'
T544-T545	S 00°08'46" E	12.00'
T545-T546	S 89°51'14" W	21.55'
T546-T530	N 01°09'28" E	18.00'

REVISION DATE	DATE 12/21/2016	SCALE, FEET 0 20 40	HWY: W. MORGAN AVE.	STATE R/W PROJECT NUMBER 2405-00-04	PLAT SHEET 4.07
	GRID FACTOR N/A		COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 2405-00-74	PS&E SHEET E

FILE NAME : N:\450380\DGN\2405-00-24_040107_rp.dgn PLOT DATE : 1/9/2017 PLOT BY : kk226 PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 75

NOTES:

EXISTING HIGHWAY R/W FOR W. MORGAN AVE. ESTABLISHED FROM PREVIOUS PROJECT 1351-00-22, CSM 2758, CSM 2761, OAK VIEW SUBDIVISION, & WURSTER'S SUBDIVISION.

EXISTING HIGHWAY R/W FOR SOUTH 44TH ST. ESTABLISHED FROM CSM 2761, OAK VIEW SUBDIVISION, & WURSTER'S SUBDIVISION.

EXISTING HIGHWAY R/W FOR SOUTH 43RD ST. ESTABLISHED FROM PREVIOUS PROJECT 1351-00-22, CSM 2758, & WURSTER'S SUBDIVISION.

TLE COURSE TABLE

COURSE	BEARING	DISTANCE
T614-T601	N 00°54'44" E	11.00'
T601-T602	N 89°51'14" E	37.45'
T602-T603	S 00°08'46" E	6.00'
T603-T630	N 89°51'14" E	53.44'
T630-T613	S 00°54'44" W	5.00'
T613-T614	S 89°51'14" W	91.00'
T612-T613	S 89°51'14" W	89.98'
T613-T630	N 00°54'44" E	5.00'
T630-T631	N 89°51'14" E	51.56'
T631-T632	N 00°08'46" W	8.00'
T632-T604	N 89°51'14" E	38.57'
T604-T612	S 00°54'44" W	13.00'
T610-T607	N 00°54'44" E	20.00'
T607-T608	N 89°52'38" E	12.00'
T608-T609	S 00°54'44" W	20.00'
T609-T610	S 89°52'38" W	12.00'
T621-T622	N 89°52'38" E	15.00'
T622-T623	S 01°09'28" W	15.00'
T623-T624	S 89°52'38" W	15.00'
T624-T621	N 01°09'28" E	15.00'

Station & Offset Table

Point No.	Station	Offset	Point No.	Station	Offset
T600	138+02.54	53.50'	T619	140+09.34	42.50'
T601	138+62.55	53.50'	T620	141+37.58	42.50'
T602	139+00.00	53.50'	T621	104+53.72	55.00'
T603	139+00.00	47.50'	T622	104+54.05	70.00'
T604	140+43.57	55.50'	T623	104+39.05	70.00'
T605	140+43.48	50.50'	T624	104+38.71	55.00'
T606	141+34.48	50.50'	T625	141+37.40	50.50'
T607	105+63.51	55.00'	T626	140+09.16	50.50'
T608	105+63.72	67.00'	T627	138+00.53	55.50'
T609	105+43.72	67.00'	T628	137+55.47	55.50'
T610	105+43.50	55.00'	T629	137+12.41	55.50'
T611	141+34.33	42.50'	T630	139+53.44	47.50'
T612	140+43.33	42.50'	T631	140+05.00	47.50'
T613	139+53.35	42.50'	T632	140+05.00	55.50'
T614	138+62.35	42.50'	T633	138+60.84	42.50'
T615	138+02.34	42.50'	T634	139+02.88	42.50'
T616	137+12.71	42.50'	T635	138+60.77	45.50'
T617	137+55.77	42.50'	T636	139+02.81	45.50'
T618	138+00.83	42.50'			

REVISION DATE	DATE 12/21/2016	SCALE, FEET 0 20 40	HWY: W. MORGAN AVE.	STATE R/W PROJECT NUMBER 2405-00-04	PLAT SHEET 4.08
	GRID FACTOR N/A		COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 2405-00-74	PS&E SHEET 115 E

FILE NAME : N:\450380\DGN\2405-00-24_040108_rp.dgn PLOT DATE : 1/9/2017 PLOT BY : kk226 PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 75

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
2	112+45 LT.	SW CNR. OF CONC. STOOP ⊕	752.33
		3480 S. 52ND ST. 85' LT.	

PI 210+05.01
WB ℄
PI X = 587,124.677
PI Y = 278,646.295
Δ = 01°18'35"RT.

W FOREST HOME AVENUE

W MORGAN AVENUE

S 52ND STREET

N00°40'38"E

S89°55'50"E

S88°37'16"E

90°-12'

EXIST. R/W

TLE

PLE

SLOPE INTERCEPT

CAUTION

W/B ℄

MORGAN ℄

¼ LINE

BM2

52ND ST. ℄

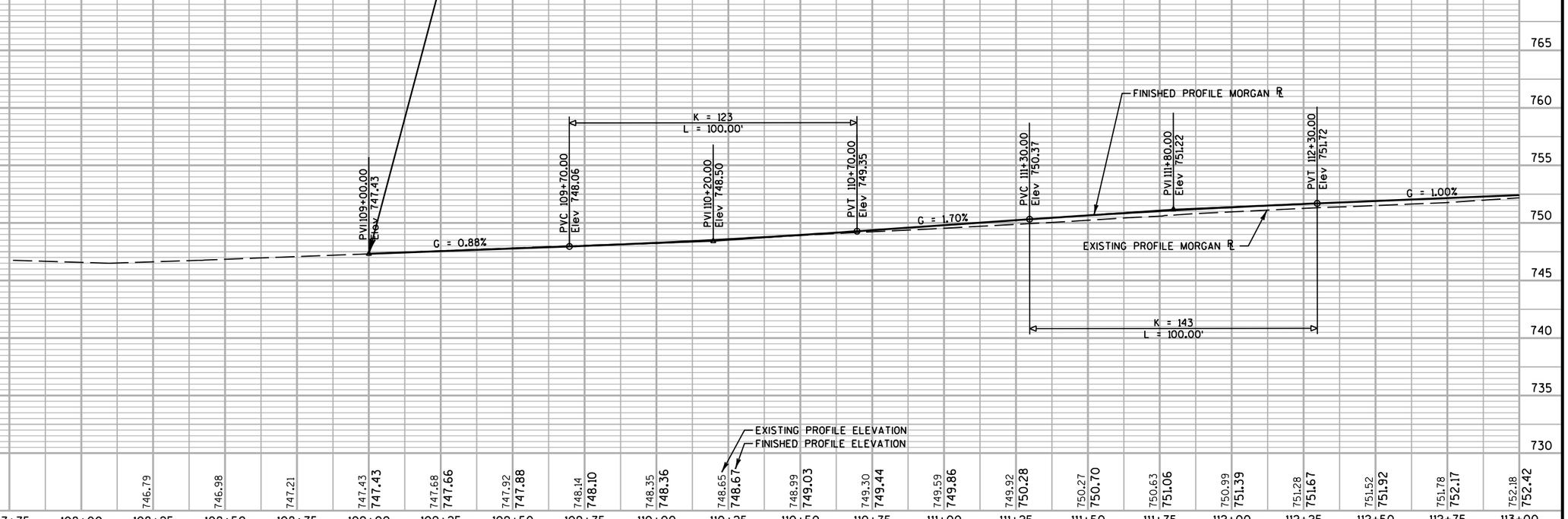
BEGIN PROJECT
STA. 109+00
X = 587,019.654
Y = 278,628.422

STA. 5+13.61 52ND STREET=
STA. 211+97.10 MORGAN AVENUE WB

STA. 5+00 52ND STREET=
STA. 111+96.90 MORGAN AVENUE

MATCHLINE

5



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: MORGAN AVENUE	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050101_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

PI 215+30.14
WB ℄
PI X = 587,649.657
PI Y = 278,633.658
Δ= 00°37'58"RT.

3450 | 3473 | 4947 | 4939

STA. 113+00 | STA. 119+00

PLE | TLE | EXIST. R/W | ¼ LINE | SLOPE INTERCEPT | 50TH PL. ℄ | S 50TH PLACE | N00°47'44"E | 12" CMCP | 15" | 30"

213+00 | 214+00 | 215+00 | 216+00 | 217+00 | 218+00 | 219+00
113+00 | 114+00 | 115+00 | 116+00 | 117+00 | 118+00 | 119+00

W/B ℄ | S88°37'16"E | S89°55'50"E | MORGAN ℄ | W MORGAN AVENUE | CAUTION | 179.37° | 178.46° | 80.82° | CP | 60D SPIKE | N89°51'14"E | S87°59'17"E | S88°23'38"E | 89°19' | 181.75° | 18' | CRV 1 WB | S89°51'14"E

TLE | EXIST. R/W | SLOPE INTERCEPT | STONE | S 51ST STREET | N00°47'19"E | GUY | POST | 12" CMCP | 1014+00 | 51ST ST. ℄

T 4 N
14
R 21 E

X = 587,645.78
Y = 278,637.66

STA. 15+00 51ST STREET=
STA. 115+25.99 MORGAN AVENUE

STA. 25+06.36 50TH PLACE=
STA. 217+90.95 MORGAN AVENUE WB

STA. 25+00 50TH PLACE=
STA. 116+90.71 MORGAN AVENUE

PI 114+74.07
MORGAN ℄
PI X = 587,593.722
PI Y = 278,627.727
Δ= 01°32'17"RT.

PI 117+41.90
MORGAN ℄
PI X = 587,861.443
PI Y = 278,620.214
Δ= 01°45'13"LT.

CURVE DATA
N = WB ℄ CRV 1
PI STA = 219+01.49
PI X = 588,020.78
PI Y = 278,620.62
Δ = 02°09'29" (LT)
D = 01°54'35"
T = 56.50'
L = 113.00'
E = 0.53'
R = 3000.00'
C = 112.99'
PC STA = 218+44.99
PT STA = 219+57.98

5125 | 5105 | 3550

5 | MATCHLINE | MATCHLINE | 5

765 | 760 | 755 | 750 | 745 | 740 | 735 | 730

K = 143
L = 100.00'

PVC 113+10.00
Elev 752.52'

PVI 113+60.00
Elev 753.02'

PVT 114+10.00
Elev 753.87'

G = 1.70%

PVC 115+75.00
Elev 756.67'

EXISTING PROFILE MORGAN ℄

PVI 116+60.00
Elev 758.12'

HI 116+71.33
Elev 757.49

FINISHED PROFILE MORGAN ℄

PVT 117+45.00
Elev 757.01'

G = -1.30%

PVC 118+75.00
Elev 755.33'

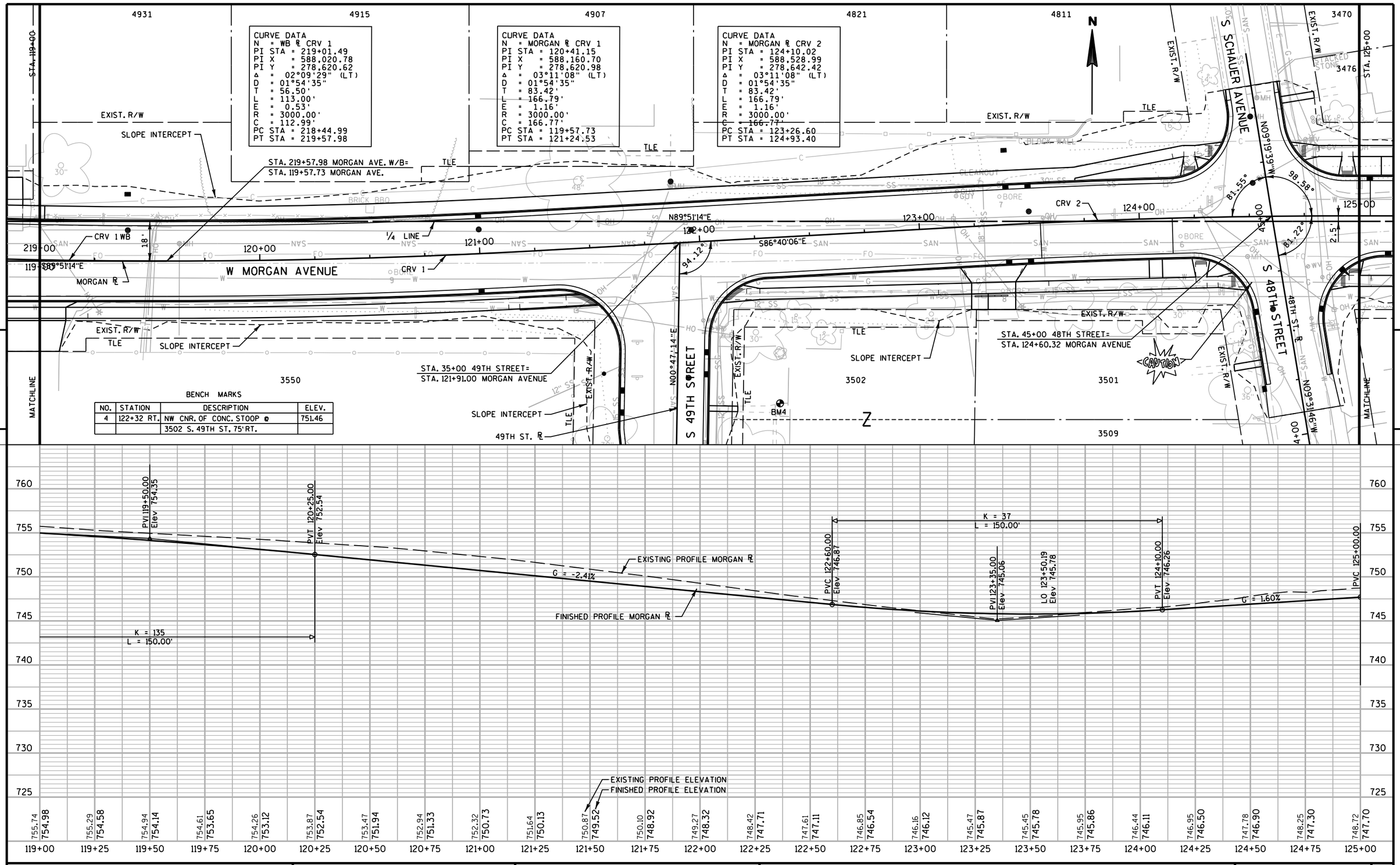
K = 57
L = 170.00'

EXISTING PROFILE ELEVATION
FINISHED PROFILE ELEVATION

752.18	752.58	753.01	753.42	753.84	754.25	754.72	755.23	755.84	756.39	756.96	757.47	757.73	757.95	758.07	758.15	758.11	757.97	757.67	757.36	757.13	756.88	756.54	756.19	755.74
752.42	752.68	752.98	753.32	753.70	754.13	754.55	754.98	755.40	755.82	756.25	756.67	757.04	757.30	757.45	757.49	757.42	757.24	756.95	756.63	756.30	755.98	755.65	755.33	754.98
113+00	113+25	113+50	113+75	114+00	114+25	114+50	114+75	115+00	115+25	115+50	115+75	116+00	116+25	116+50	116+75	117+00	117+25	117+50	117+75	118+00	118+25	118+50	118+75	119+00

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: MORGAN AVENUE	SHEET 117	E

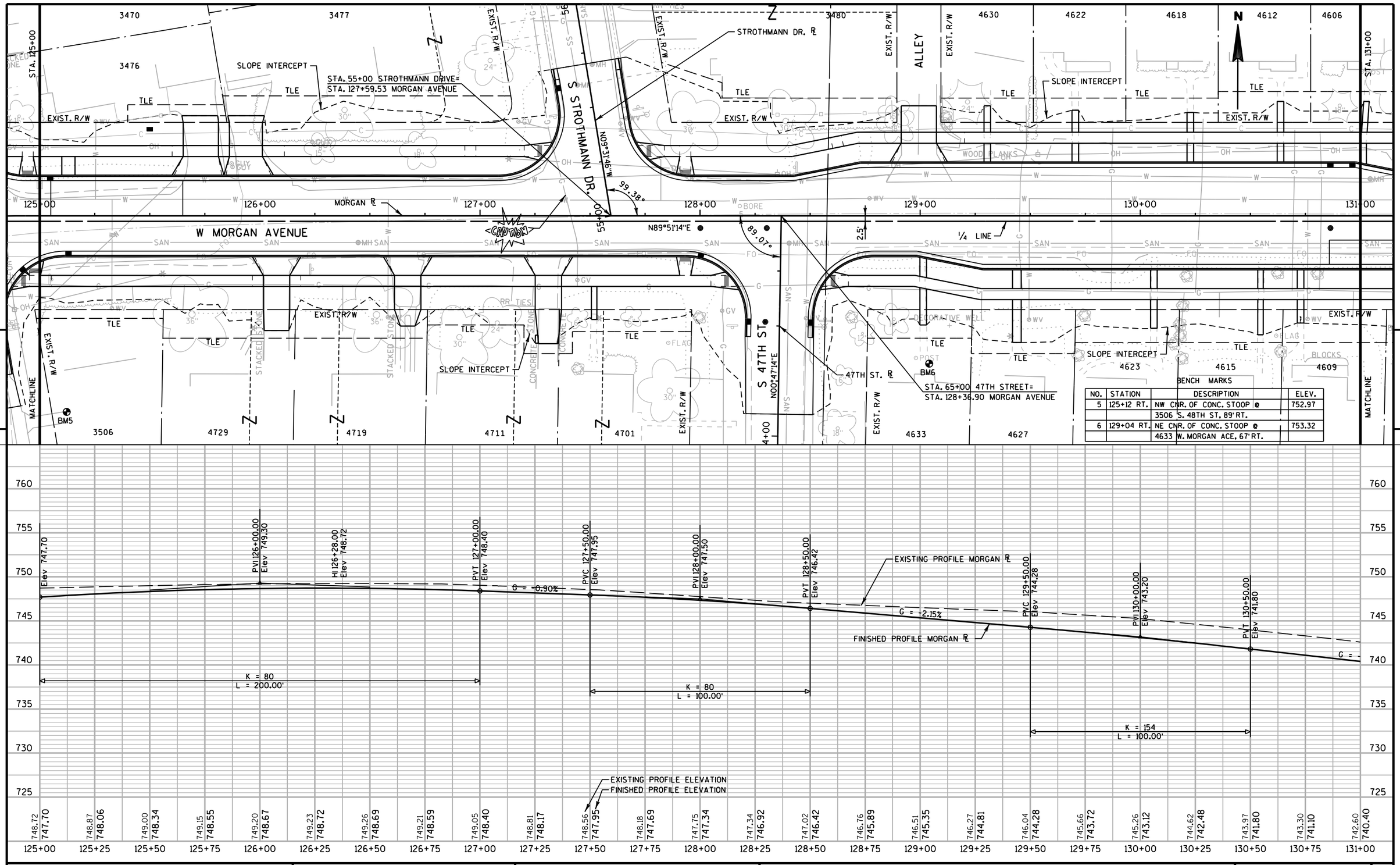
FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050102_pp.dgn | PLOT DATE : 4/30/2018 | PLOT BY : steuckr | PLOT NAME : | PLOT SCALE : 1:40



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: MORGAN AVENUE	SHEET 118 E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050103_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

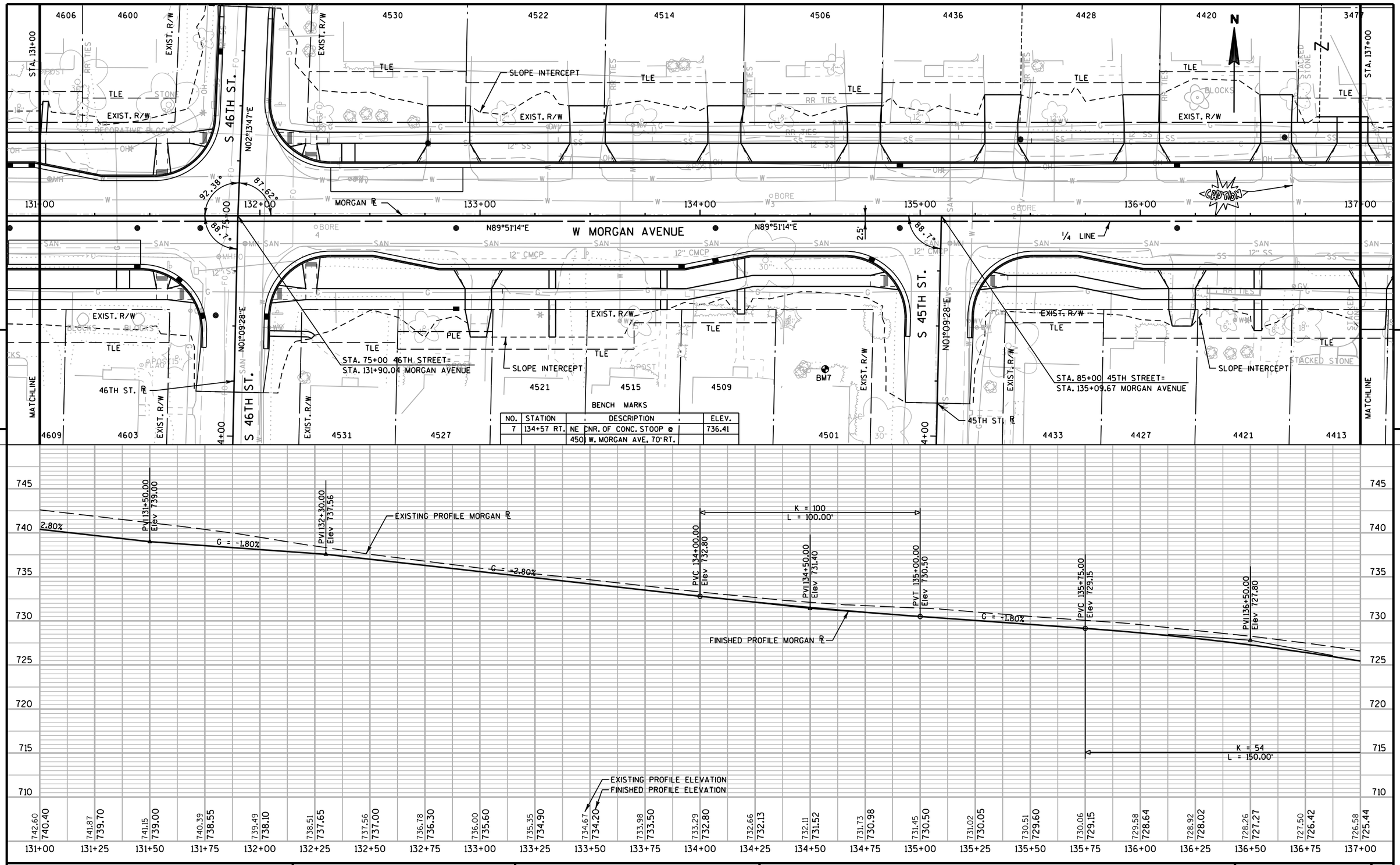
WISDOT/CADDS SHEET 30



BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
5	125+12 RT.	NW CNR. OF CONC. STOOP ℄	752.97
		3506 S. 48TH ST, 89' RT.	
6	129+04 RT.	NE CNR. OF CONC. STOOP ℄	753.32
		4633 W. MORGAN ACE, 67' RT.	

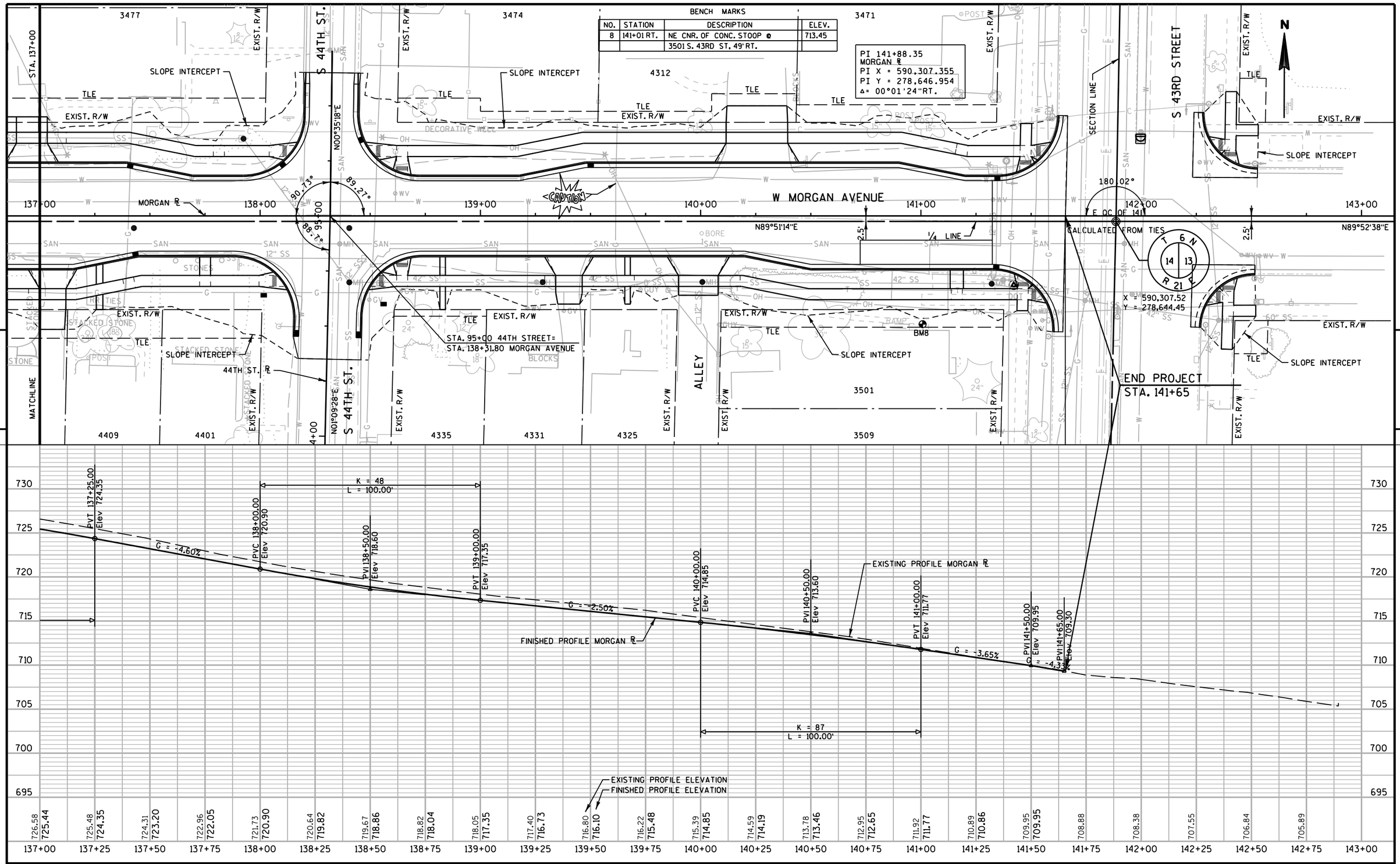
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: MORGAN AVENUE	SHEET 119	E



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: MORGAN AVENUE	SHEET 120 E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050105_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

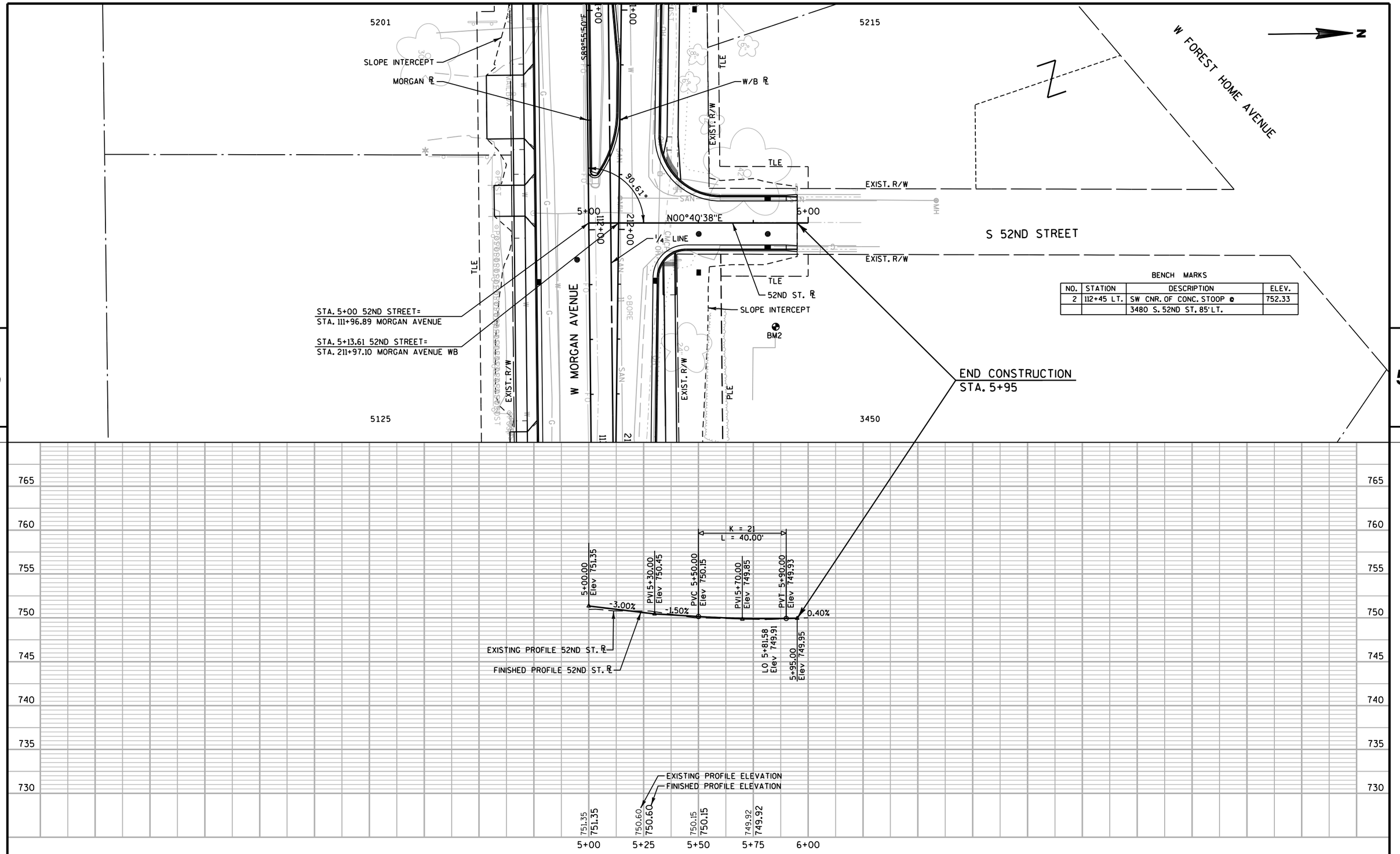
WISDOT/CADDS SHEET 30



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: MORGAN AVENUE	SHEET 121	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050106_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: 52ND STREET	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050121_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

5110 3515 5105 3450

N

W MORGAN AVENUE

EXIST. R/W

TLE

SLOPE INTERCEPT

STA. 1015+00 51ST STREET=
STA. 115+25.99 MORGAN AVENUE

S99°55'50"E

S88°37'16"E

W/B ℄

115+00

215+00

90.82°

C OF 4

1011+00 1012+00 S. 51ST STREET 1013+00 1014+00

N00°47'19"E

51ST ST. ℄

¼ LINE

EXIST. R/W

TLE

SLOPE INTERCEPT

MORGAN ℄

116+00

216+00

S88°23'33"E

S87°59'17"E

N89°51'14"E

SLOPE INTERCEPT

BEGIN CONSTRUCTION
STA. 1014+25

SWINGS SWINGS

3550

TLE EXIST. R/W

EXIST. R/W

3473 3463

5 5

EXISTING PROFILE 51ST ST. ℄

1014+25.00
Elev 756.64

PVI 1014+60.00
Elev 756.24

1015+00.00
Elev 755.84

G = -1.14%

G = 1.00%

FINISHED PROFILE 51ST ST. ℄

765 760 755 750 745 740 735 730

EXISTING PROFILE ELEVATION
FINISHED PROFILE ELEVATION

											756.97	756.87	756.78	756.64	756.64	756.50	756.35	756.56	756.09
1011+00	1011+25	1011+50	1011+75	1012+00	1012+25	1012+50	1012+75	1013+00	1013+25	1013+50	1013+75	1014+00	1014+25	1014+50	1014+75	1015+00			

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: 51ST STREET	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050122_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
3	26+35 LT.	SE CNR. OF CONC. STOOP @ 3473 50TH PL.	761.24

N

STA. 25+06.36 50TH PLACE=
STA. 216+90.95 MORGAN AVENUE WB

STA. 25+00 50TH PLACE=
STA. 116+90.71 MORGAN AVENUE

SLOPE INTERCEPT

SLOPE INTERCEPT

SLOPE INTERCEPT

EXIST. R/W

EXIST. R/W

EXIST. R/W

EXIST. R/W

EXIST. R/W

SWINGS

SWINGS

SWINGS

MONKEY BARS

POST

POST

POST

3550

3473

BM3

4947

TLE

89.19°

N89°51'14"E

N89°51'14"E

S88°23'33"E

S87°59'17"E

NO0°47'44"E

116+00

116+90

217+00

26+00 S 50TH PLACE

50TH PL. ℄

W MORGAN AVENUE

W VOLLMER AVENUE

END CONSTRUCTION
STA. 25+80

25+00.00 Elev 757.46

PVI 25+06.00 Elev 757.52

PVI 25+22.00 Elev 757.36

PVI 25+56.00 Elev 757.19

25+80.00 Elev 757.63

EXISTING PROFILE 50TH PL. ℄

G = 1.00%

G = -1.00%

G = -0.50%

G = 1.83%

FINISHED PROFILE 50TH PL. ℄

765
760
755
750
745
740
735
730

EXISTING PROFILE ELEVATION
FINISHED PROFILE ELEVATION

25+00	25+25	25+50	25+75	26+00	26+25	26+50
758.18 / 757.46	757.89 / 757.35	757.64 / 757.22	757.56 / 757.54	758.01	758.49	

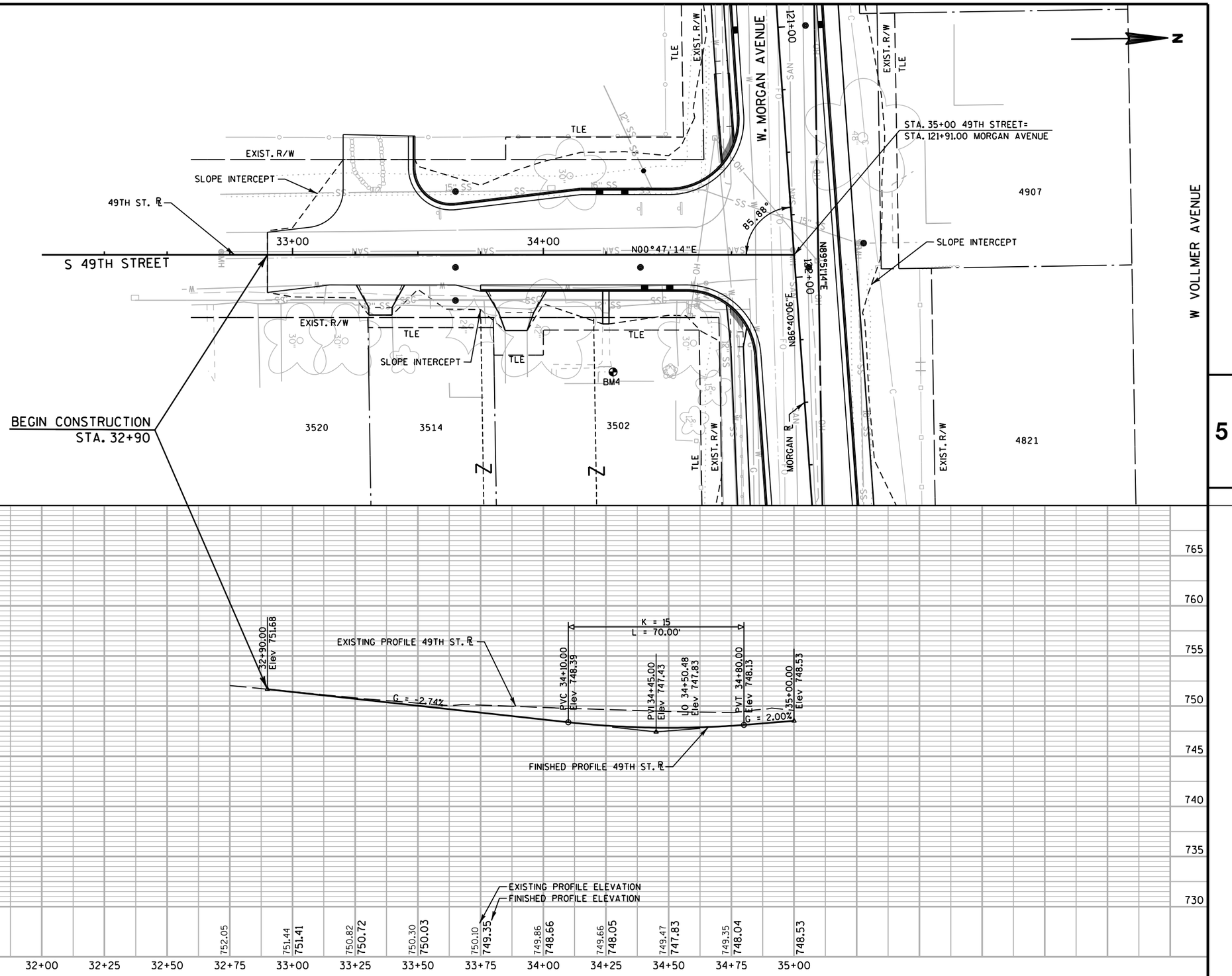
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: 50TH PLACE	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050123_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
4	122+32 RT.	NW CNR. OF CONC. STOOP @	751.46
		3502 S. 49TH ST. 75' RT.	

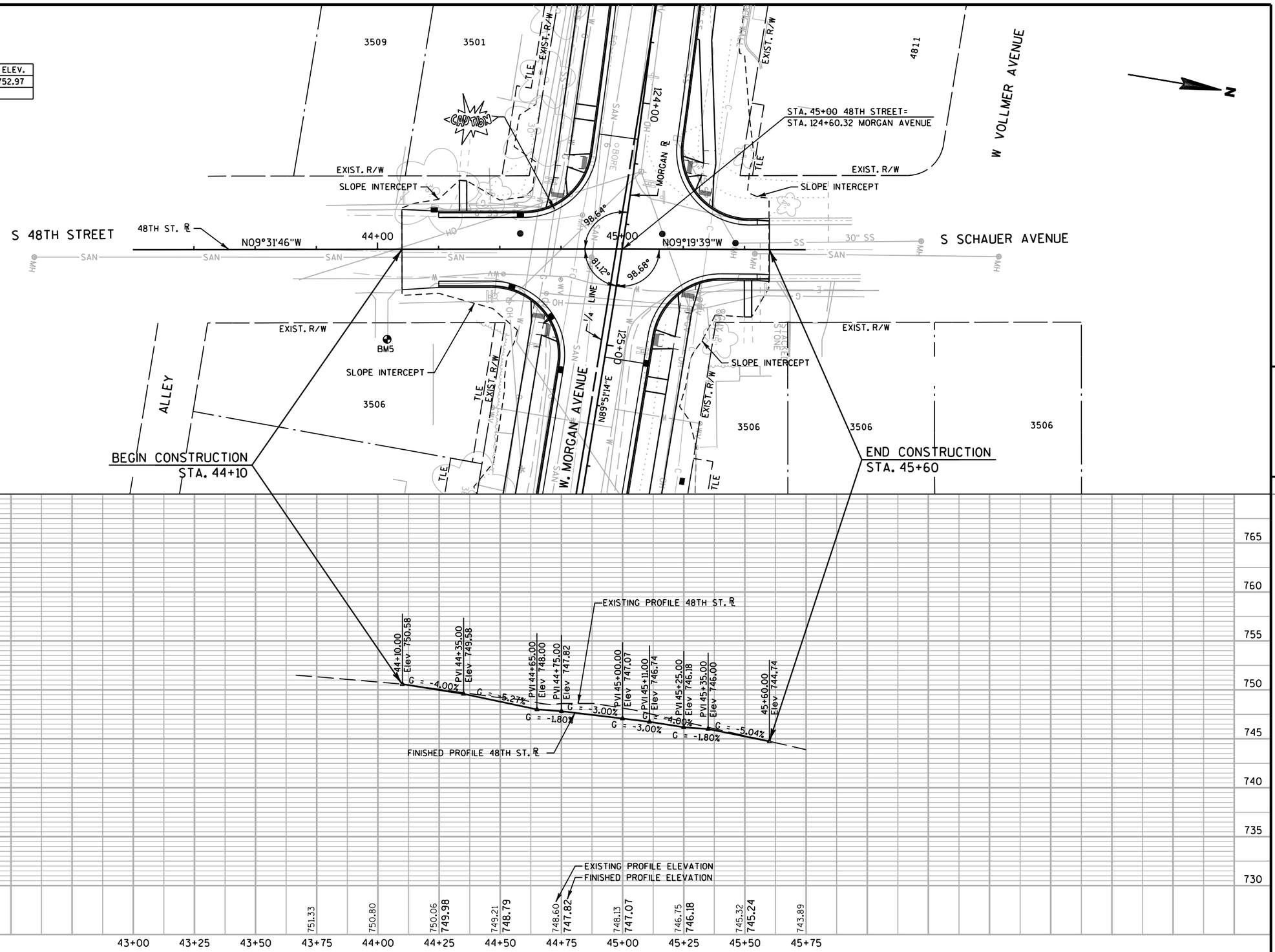


PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: 49TH STREET	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050125_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
5	125+12 RT.	NW CNR. OF CONC. STOOP @	752.97
		3506 S. 48TH ST. 89' RT.	



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: 48TH STREET	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050126_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

ALLEY
4711
4701
EXIST. R/W
TLE
CONCRETE
STONE
W. MORGAN AVENUE
127+00
MORGAN ℄
STA. 55+00 STROTHMANN DRIVE=
STA. 127+59.53 MORGAN AVENUE
3477
3467
3465
SLOPE INTERCEPT
STROTHMANN DR. ℄
55+00
56+00
N09°31'46"W
99.38°
S. STROTHMANN DR.
CAUTION
S. 47TH ST.
SLOPE INTERCEPT
64+00
N00°47'14"E
47TH ST. ℄
N89°51'14"E
128+00
1/4 LINE
3480
3472
3464
W. HOLT AVE.
END CONSTRUCTION
STA. 55+70
55+00.00
Elev 747.89
PVI 55+11.00
Elev 747.56
PVI 55+45.00
Elev 745.52
55+70.00
Elev 743.83
-3.00%
-6.00%
-6.76%
EXISTING PROFILE STROTHMANN DR. ℄
FINISHED PROFILE STROTHMANN DR. ℄
EXISTING PROFILE ELEVATION
FINISHED PROFILE ELEVATION
748.43
747.89
746.92
746.72
745.20
745.18
743.45
741.52
55+00
55+25
55+50
55+75
56+00
765
760
755
750
745
740
735
730

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: STROTHMANN DRIVE	SHEET 127 E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050127_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
6	129+04 RT.	NE CNR. OF CONC. STOOP ⊠	753.32
		4633 W. MORGAN ACE. 67' RT.	

ALLEY

4701

EXIST. R/W

TLE

EXIST. R/W

SLOPE INTERCEPT

S. 47TH ST.

64+00

N00°47'14"E

47TH ST. ℄

CAUTION

EXIST. R/W

STA. 65+00 47TH STREET=
STA. 128+36.90 MORGAN AVENUE

4633

BM6

EXIST. R/W

TLE

BEGIN CONSTRUCTION
STA. 64+10

SLOPE INTERCEPT

W. MORGAN AVENUE

1/4 LINE

55+00

N89°51'14"E

00+821

MORGAN ℄

89.07°

129+00

N09°31'46"W

S. STROTHMANN DR.

STROTHMANN DR. ℄

EXIST. R/W

SLOPE INTERCEPT

EXIST. R/W

TLE

3480

3472

3464

ALLEY

4630

N

5

5

765

760

755

750

745

740

735

730

64+10.00
Elev 750.90
3.54%
PVC 64+20.00
Elev 750.55

PVI 64+45.00
Elev 749.66

PVT 64+70.00
Elev 748.16
6.00%

PVI 64+89.00
Elev 747.02
3.00%
65+00.00
Elev 746.69

EXISTING PROFILE 47TH ST. ℄

FINISHED PROFILE 47TH ST. ℄

K = 20
L = 50.00'

EXISTING PROFILE ELEVATION
FINISHED PROFILE ELEVATION

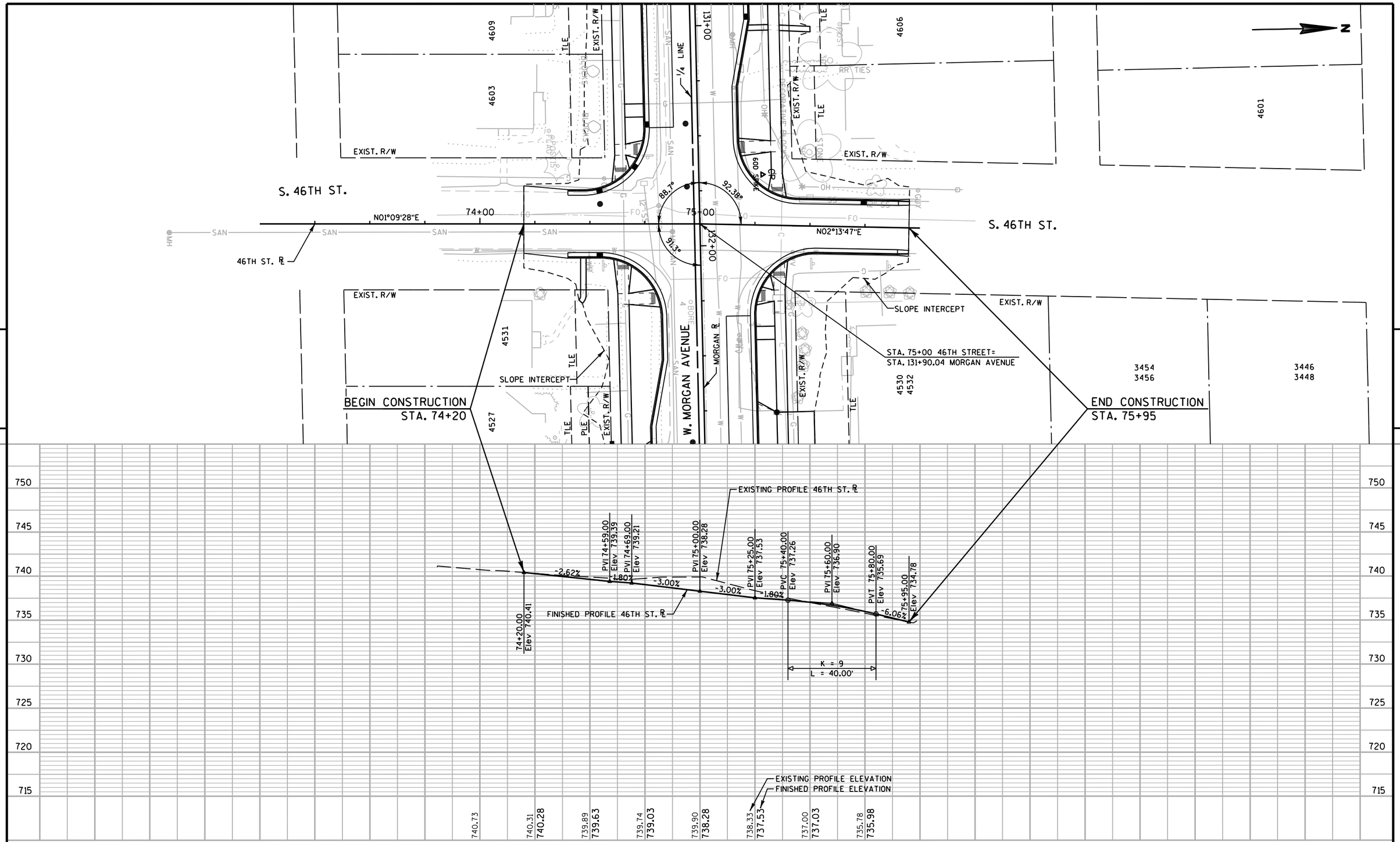
751.25	750.38	750.36	749.30	749.26	747.99	747.86	747.15	746.69

63+00 63+25 63+50 63+75 64+00 64+25 64+50 64+75 65+00

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: 47TH STREET	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050128_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 30

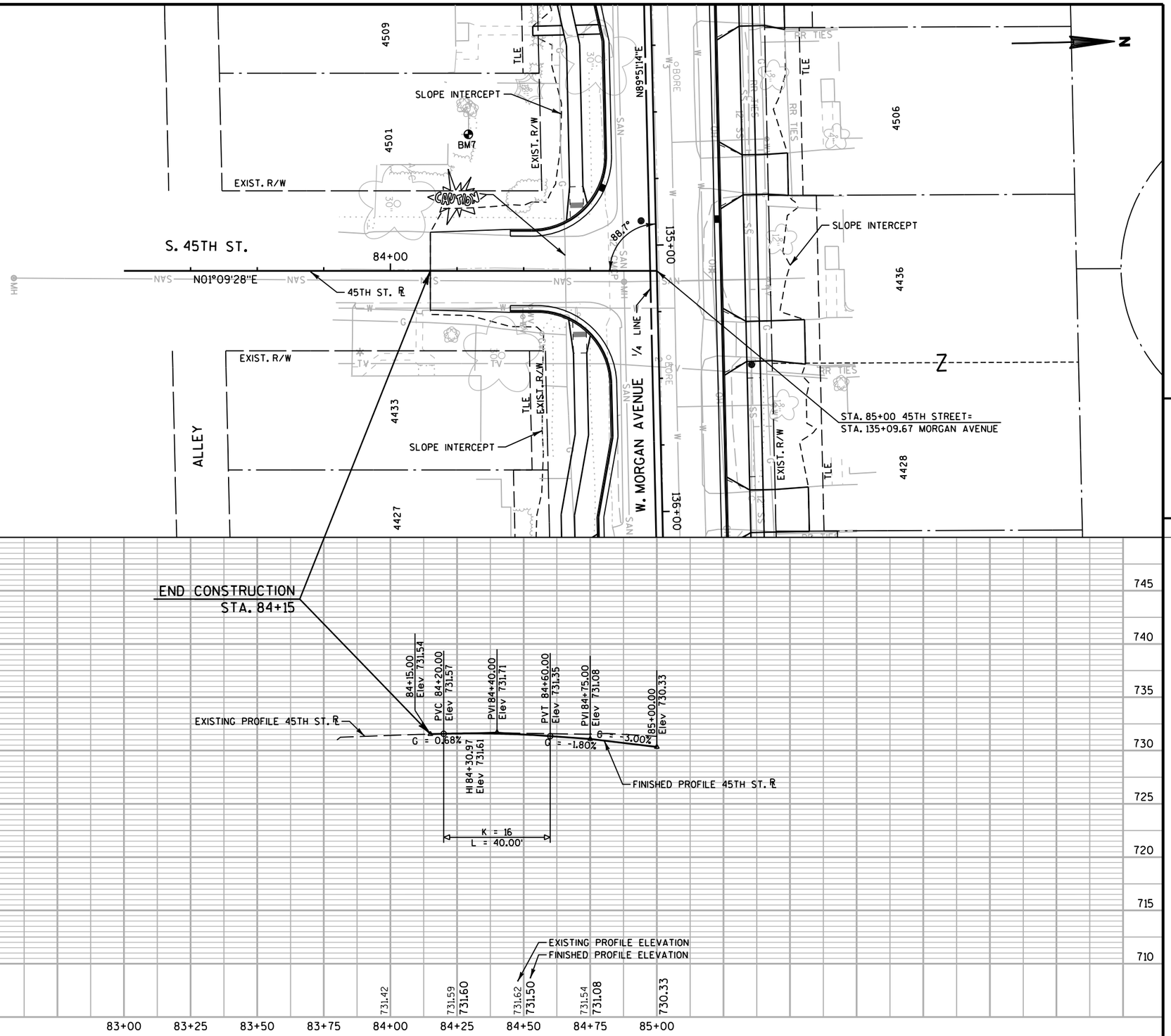


PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: 46TH STREET	SHEET	E

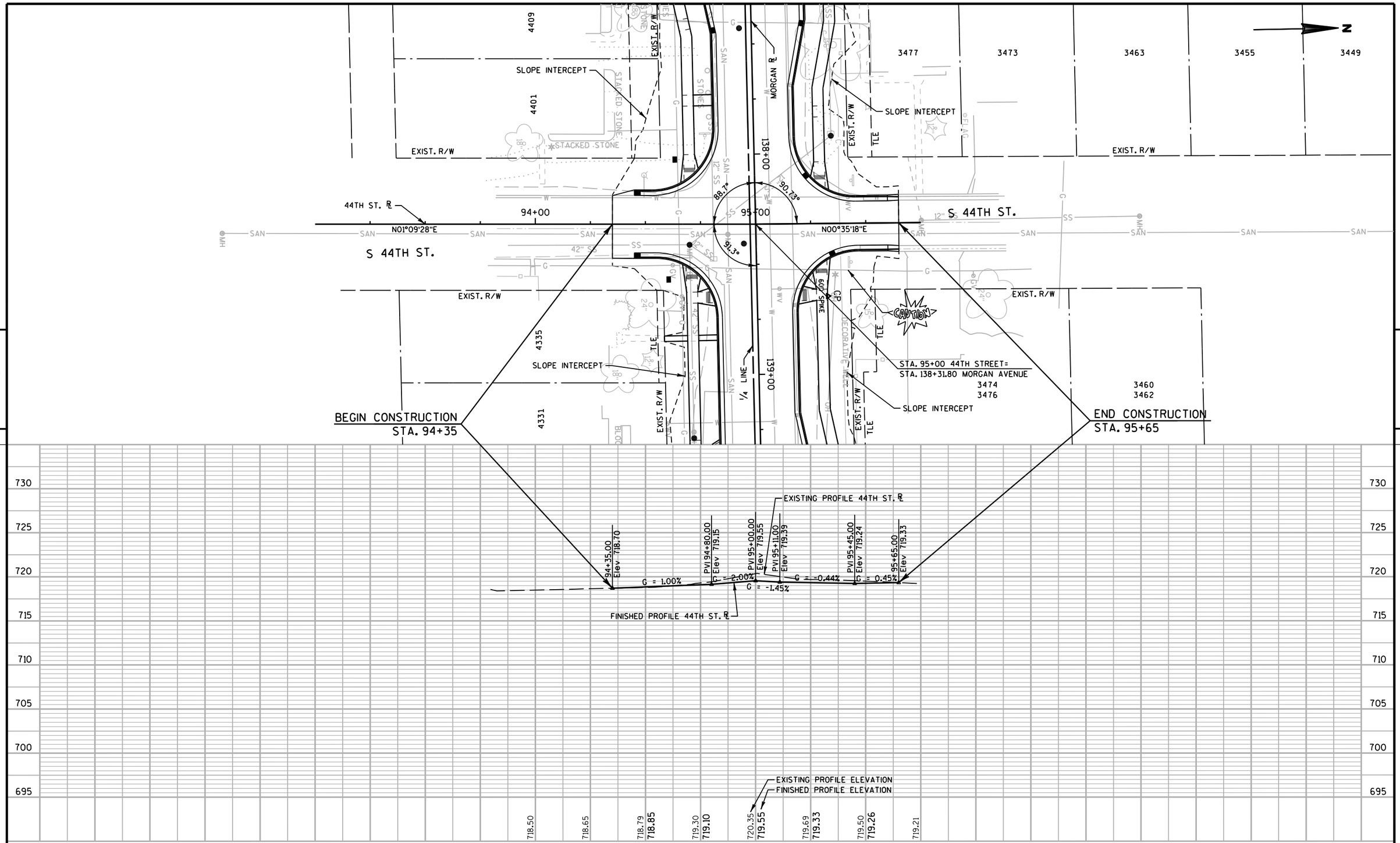
FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050129_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40.0069

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
7	134+57 RT.	NE CNR. OF CONC. STOOP ℄	736.41
		4501 W. MORGAN AVE. 70' RT.	



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: 45TH STREET	SHEET 130	E



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	PLAN AND PROFILE: 44TH STREET	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_050131_pp.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:40.0069

WISDOT/CADDS SHEET 30

Standard Detail Drawing List

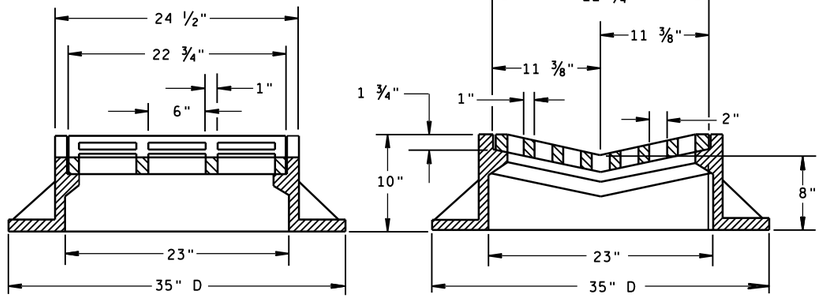
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A08-02	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08A09-02	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-19A	CURB RAMPS TYPES 1 AND 1-A
08D05-19B	CURB RAMPS TYPES 2 AND 3
08D05-19C	CURB RAMPS TYPES 4A AND 4A1
08D05-19D	CURB RAMPS TYPE 4B AND 4B1
08D05-19E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-19F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-19G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D14-01	SLOTTED VANE DRAIN
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08D17-06	MANHOLES, MANHOLE & INLET COVERS
08D18-02	DRIVEWAY AND SIDEWALK RAMPS TYPES X & Y
08D19-02	DRIVEWAY AND SIDEWALK RAMPS TYPE Z
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-10	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C14-02	CONCRETE CONTROL CABINET BASE, TYPE L
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D05-01	L30 LIGHTING CONTROL CABINET 240/480 VOLT
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09F15-04A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
11B02-02	CONCRETE MEDIAN NOSE
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-09	URBAN DOWELED CONCRETE PAVEMENT
13C18-06A	CONCRETE PAVEMENT JOINTING
13C18-06B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-06C	CONCRETE PAVEMENT JOINT TYPES
13C18-06D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
13C18-06F	CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-04	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C05-04	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-14B	PAVEMENT MARKING WORDS
15C07-14C	PAVEMENT MARKING ARROWS
15C07-14E	PAVEMENT MARKING FOR BIKE LANES
15C08-18A	LONGITUDINAL MARKING (MAINLINE)
15C08-18B	PAVEMENT MARKING (TURN LANES)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-04	MEDIAN ISLAND MARKING
15C27-02B	PAVEMENT MARKING (ISLANDS)
15C29-05A	BICYCLE LANE MARKING
15C33-03	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-05	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-03A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-03B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-03C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

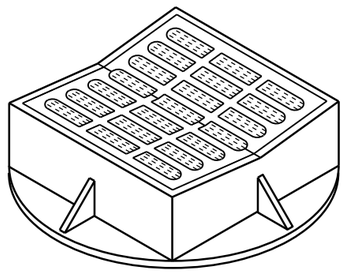
6

Standard Detail Drawing List

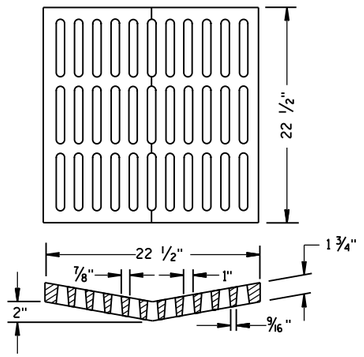
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS

6



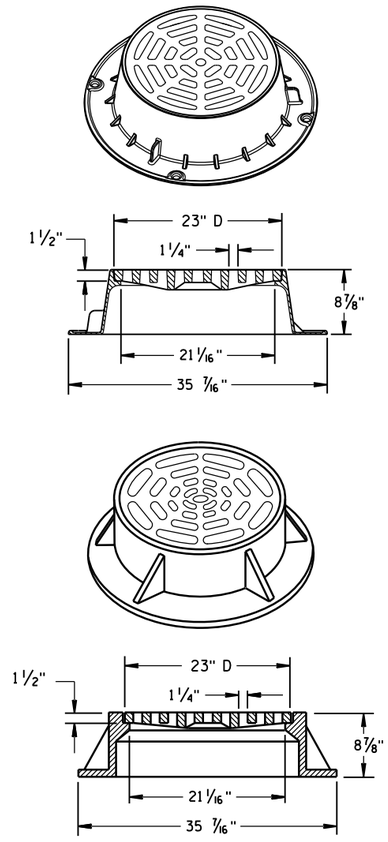


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

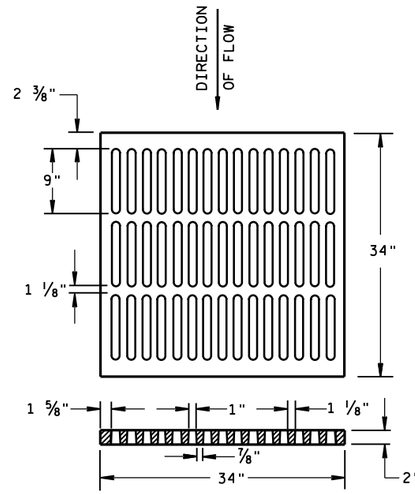
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

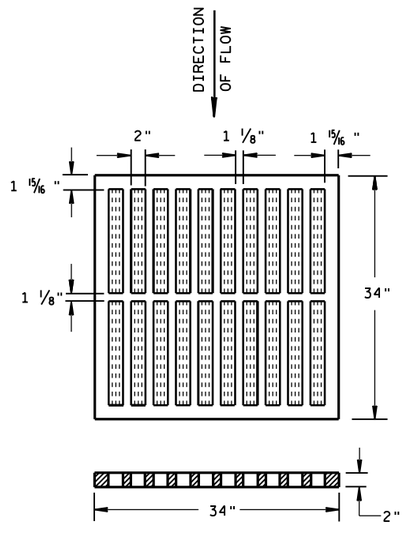
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



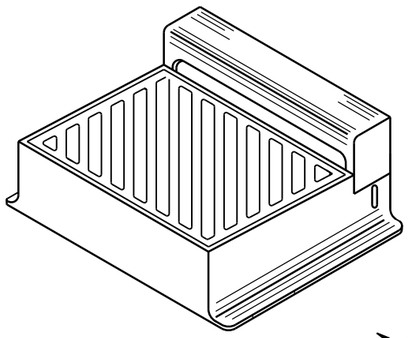
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

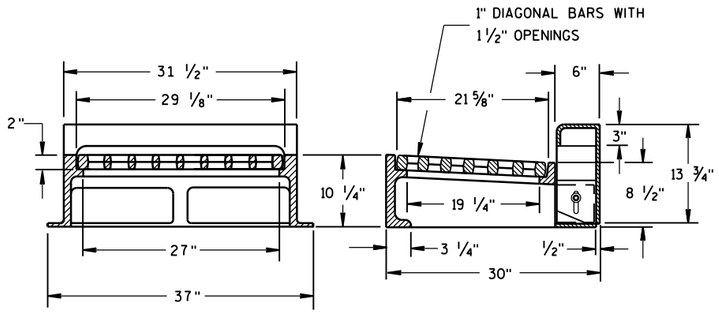


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

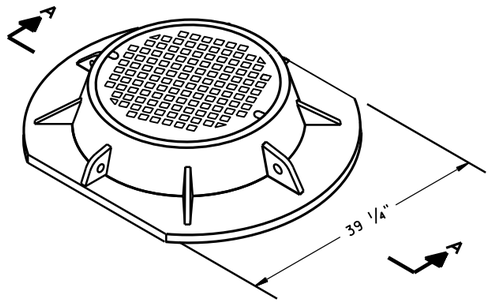
INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

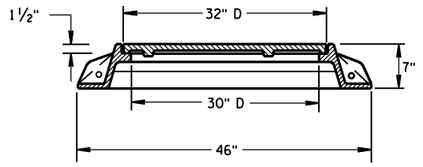
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

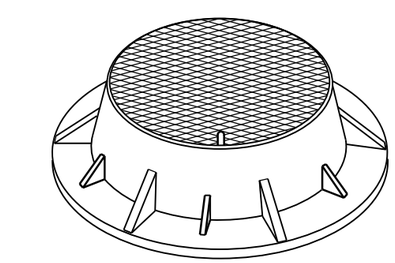
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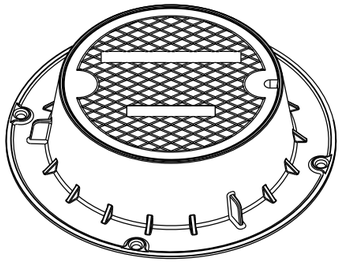
S.D.D. 8 A 5-19b

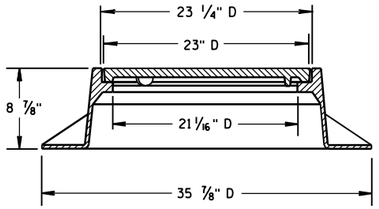


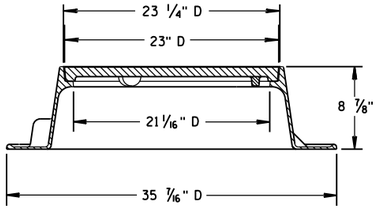


SECTION A-A
TYPE "K"









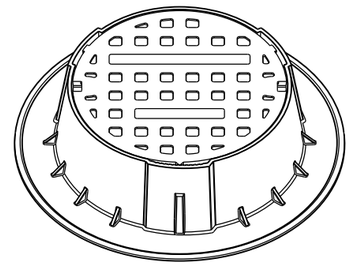
TYPE "J"
NOTE: EITHER CASTING IS ACCEPTABLE

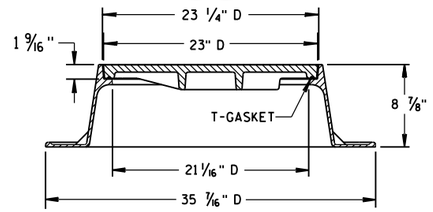
GENERAL NOTES

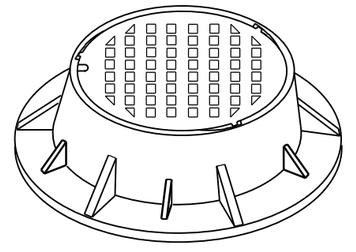
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

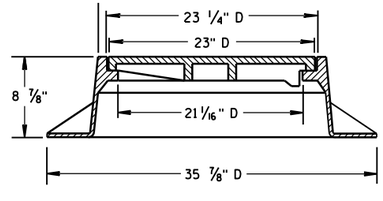
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

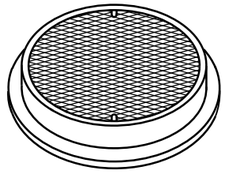


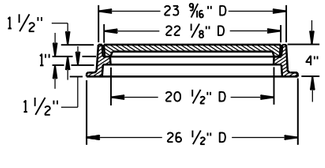




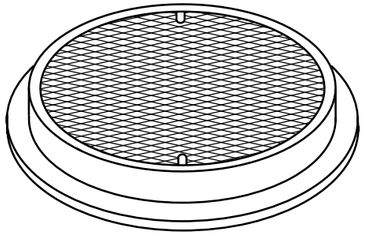


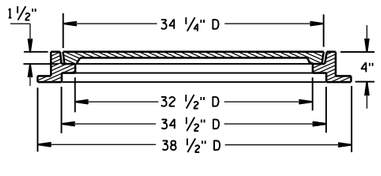
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



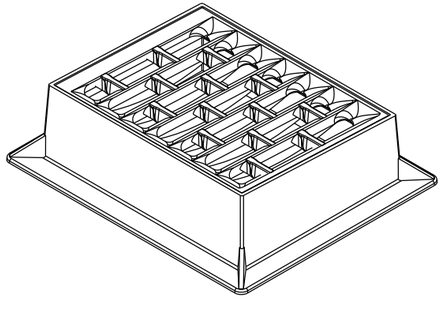


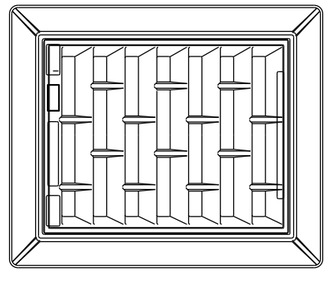
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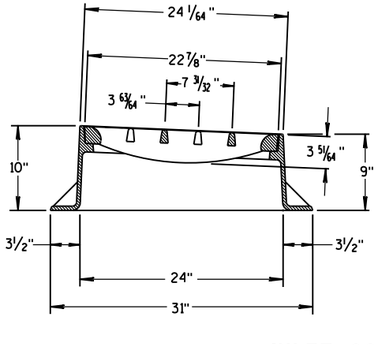


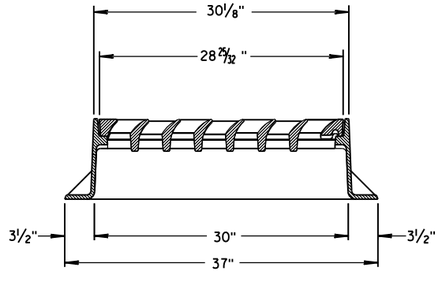


TYPE "M"









INLET COVER TYPE "BW"

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K, J, J-S, L & M

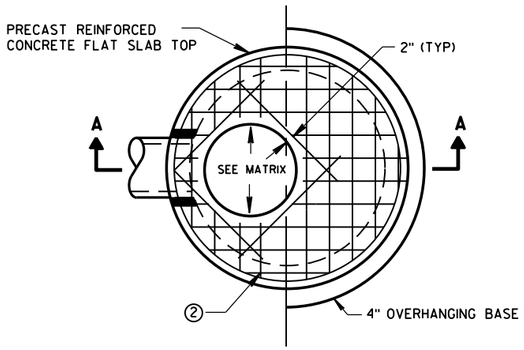
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE
FHWA

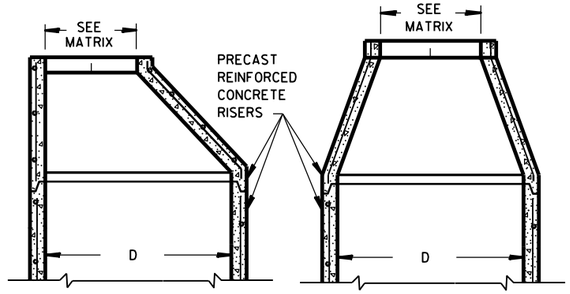
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

S.D.D. 8 A 5-19d

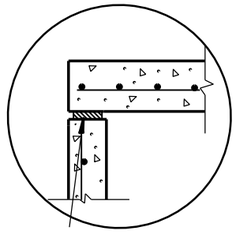


PLAN VIEW CIRCULAR OPENING

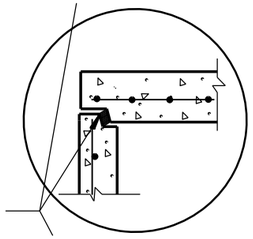


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

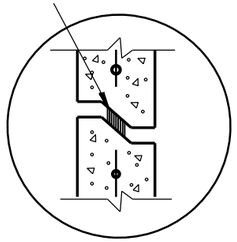
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT

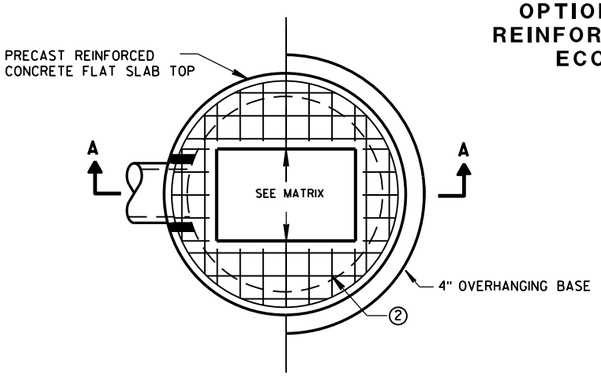


TOP WITH TONGUE AND GROOVE JOINT

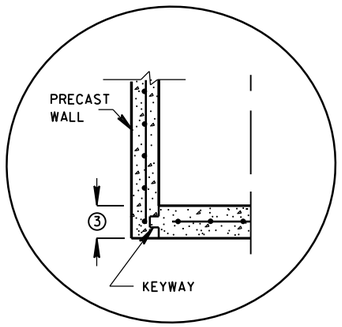


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

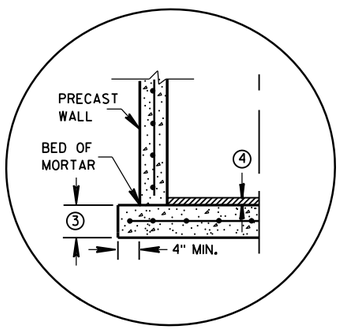


PLAN VIEW RECTANGULAR OPENING



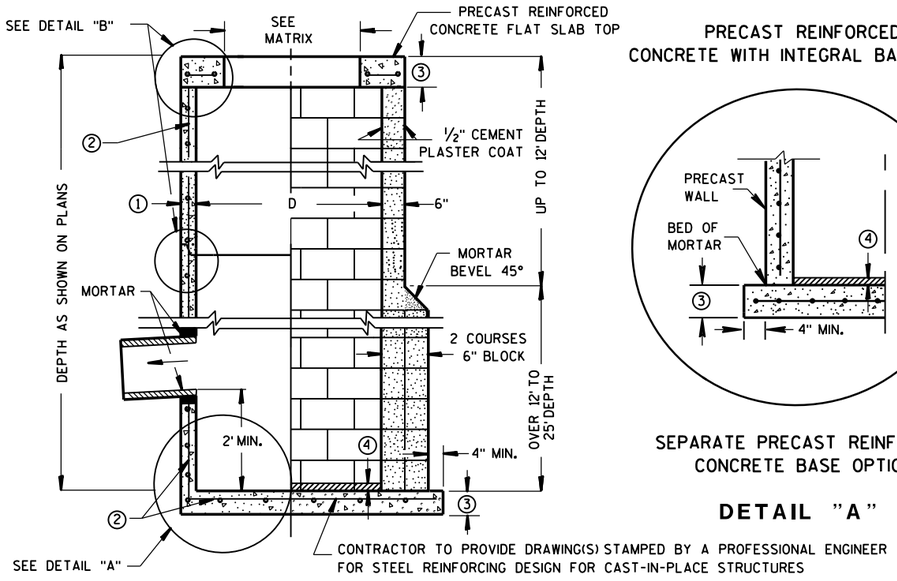
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

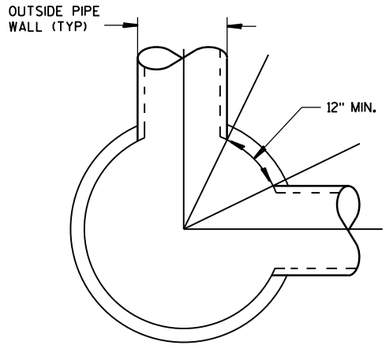
DETAIL "A"



SECTION A-A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

④ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER OPENING MATRIX

CATCH BASIN SIZE	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
	OPENING SIZE (FT)											
3-FT	2X2	X	X					X		X		
	2 DIA.				X							X
4-FT-6-FT	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2 DIA.				X							X
	2X3						X					
	2.5X3					X						

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	30

CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

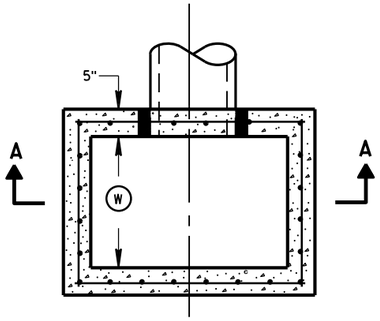
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVI
ENT
FHWA

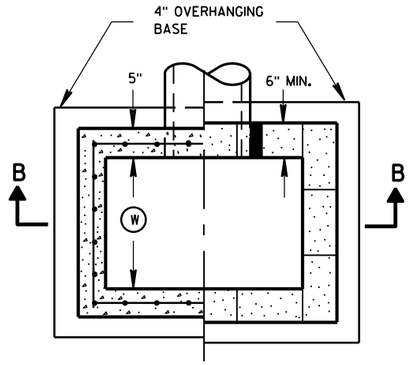
CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

6

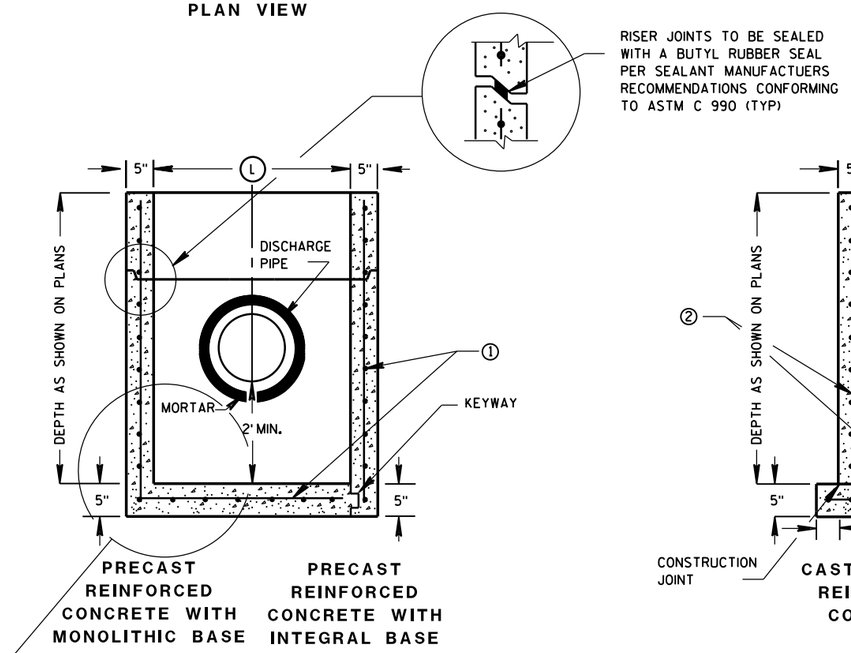
S.D.D. 8 A 8-2



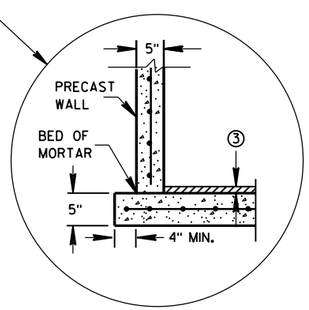
PLAN VIEW



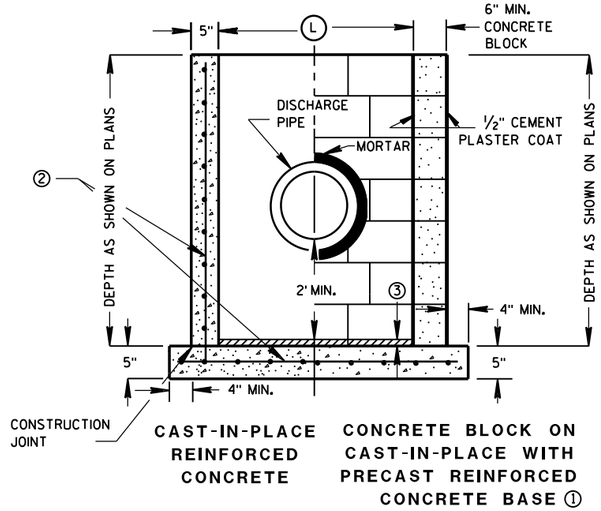
PLAN VIEW



SECTION A-A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST CATCH BASIN UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

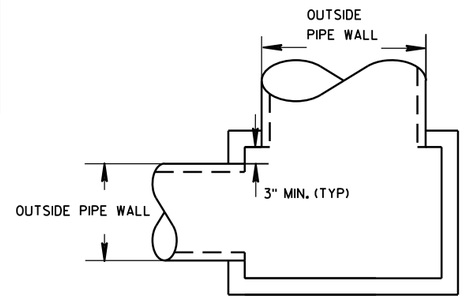
③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

CATCH BASIN SIZE		INLET COVER TYPE	F	ALL H'S
	WIDTH (W) (FT)	LENGTH (L) (FT)		
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

CATCH BASINS 2X3-FT AND 2.5X3-FT

CATCH BASINS 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE
FHWA

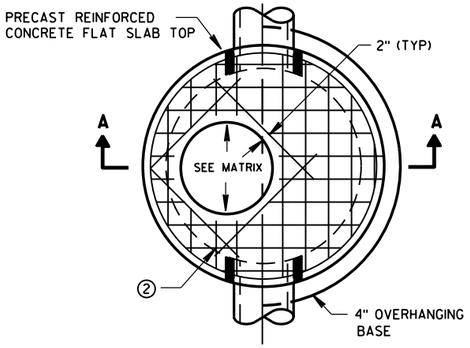
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

6

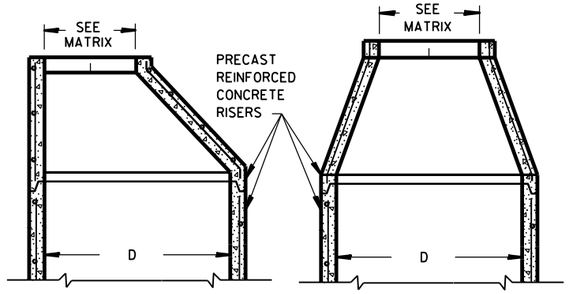
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S.D.D. 8 A 9-2

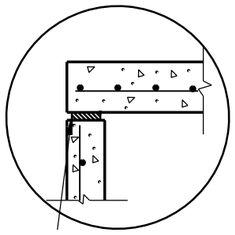


PLAN VIEW CIRCULAR OPENING

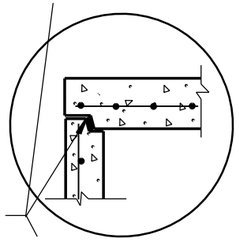


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

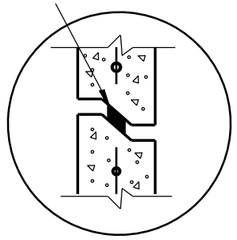


TOP WITH PLAIN END JOINT



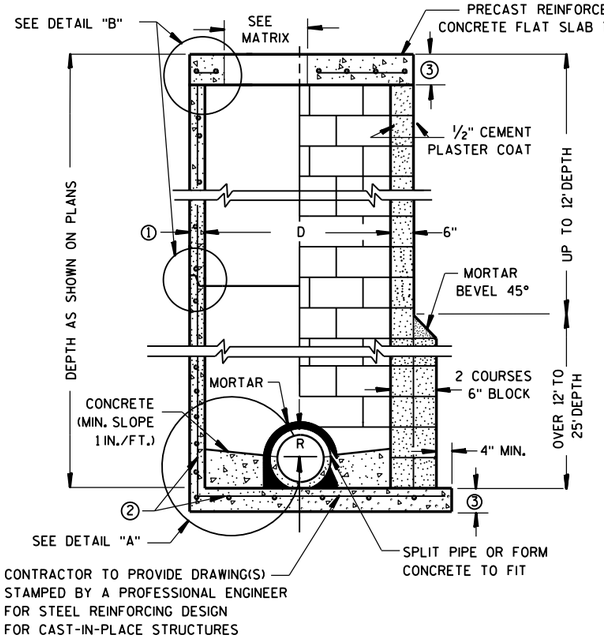
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



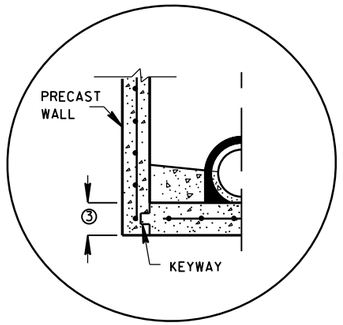
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

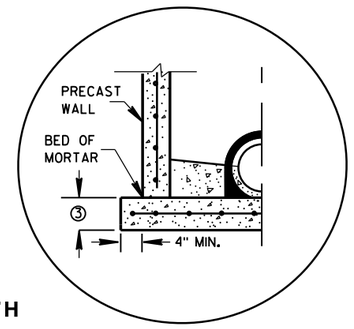


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

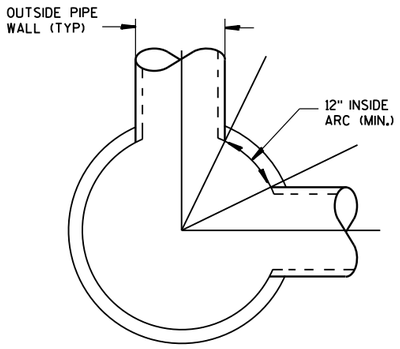


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

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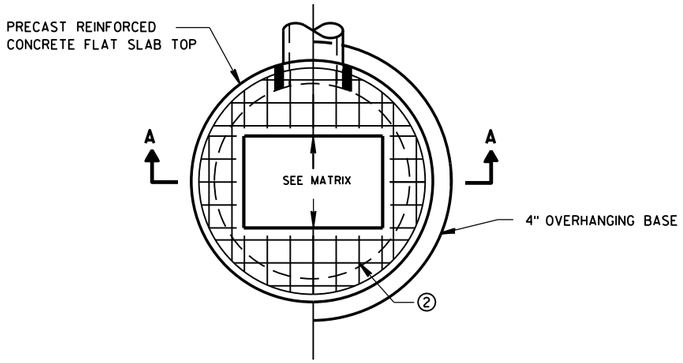
APPROVED

Sept., 2016
DATE

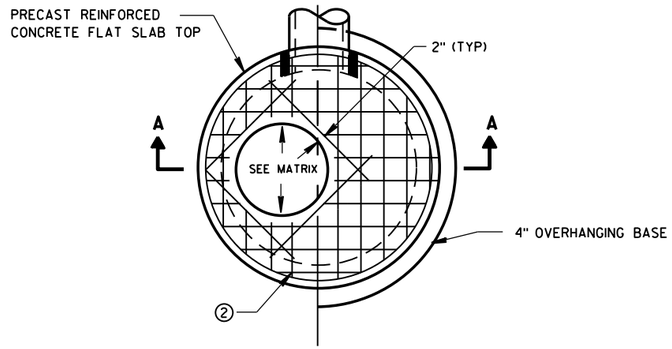
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
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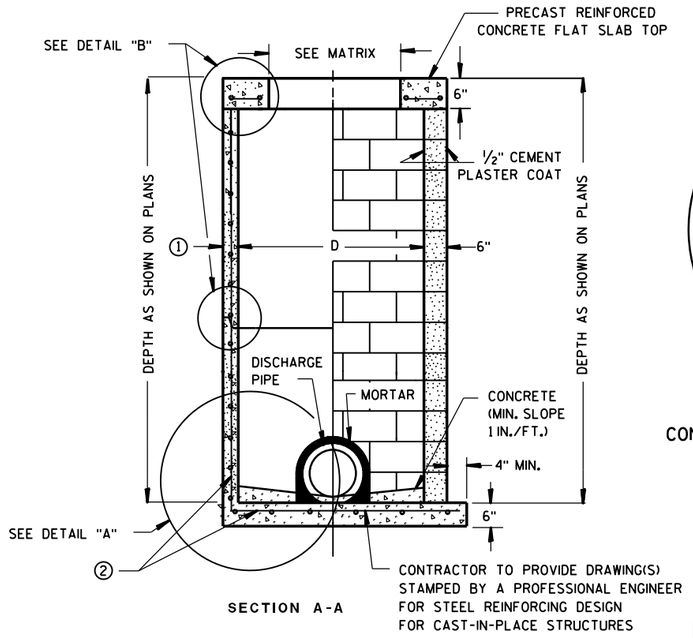
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PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

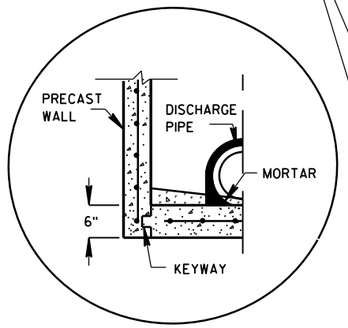


SECTION A-A

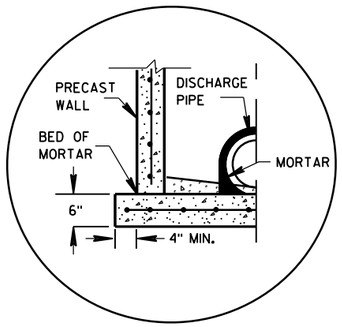
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP

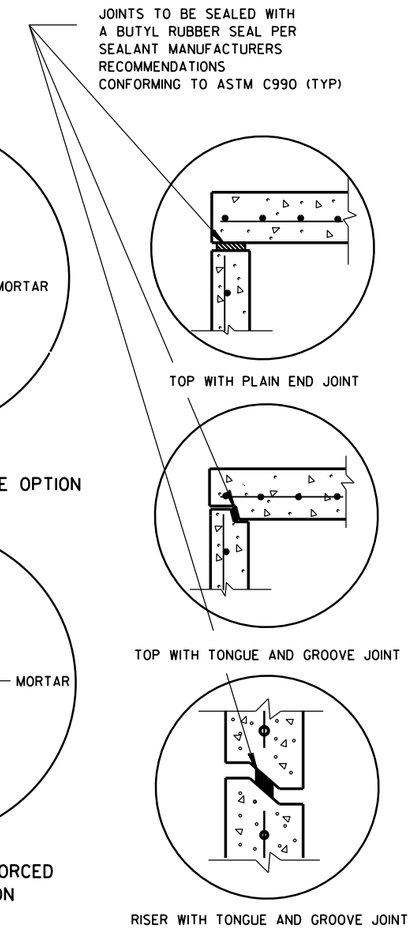


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

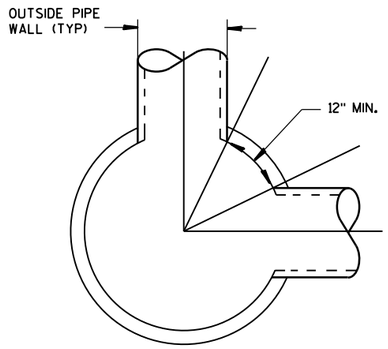
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

INLETS 3-FT AND 4-FT DIAMETER

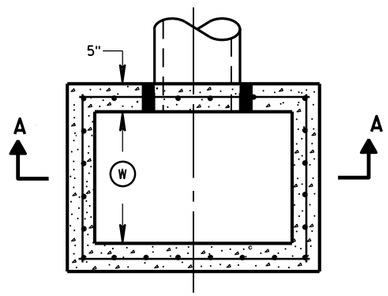
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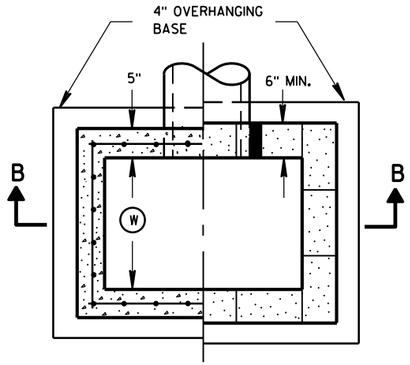
INLETS 3-FT AND 4-FT DIAMETER

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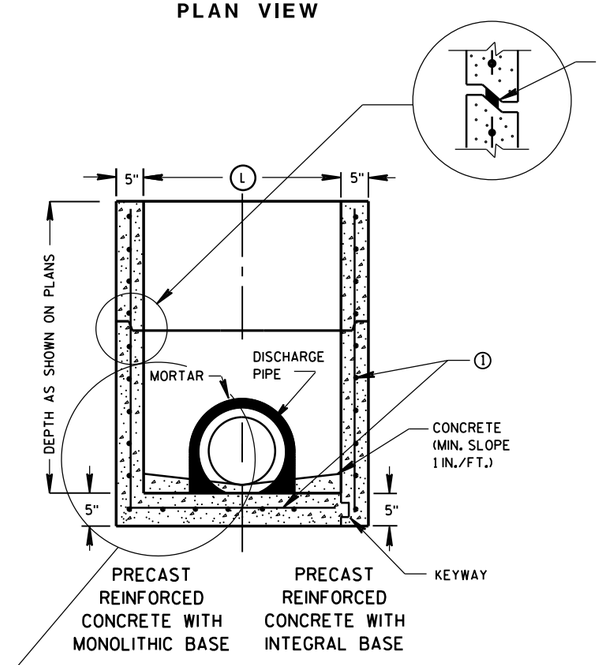
S.D.D. 8 C 6-2



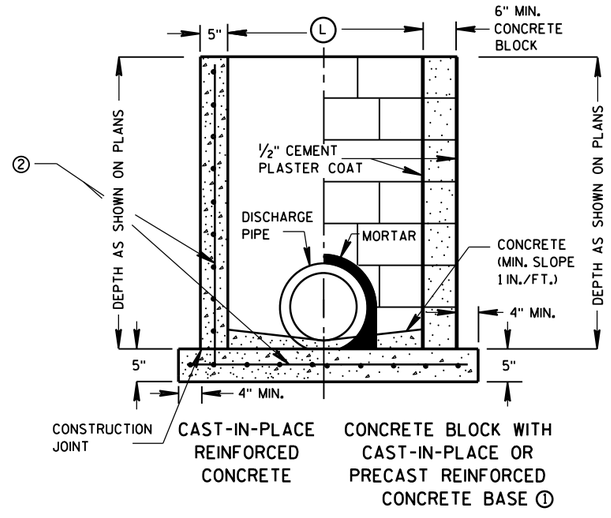
PLAN VIEW



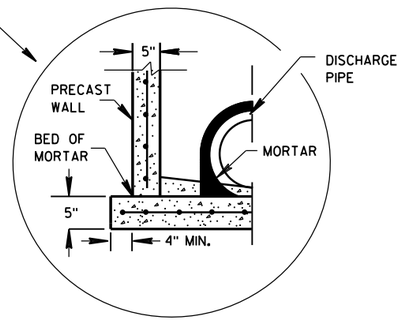
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

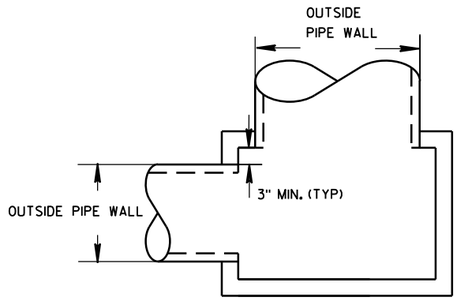
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



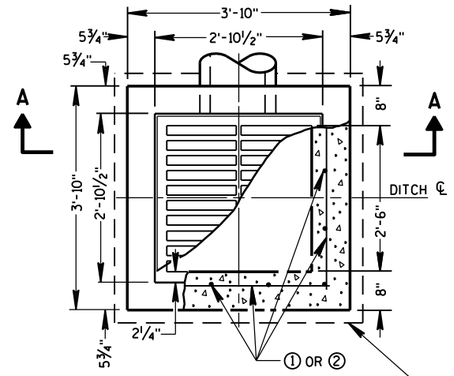
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

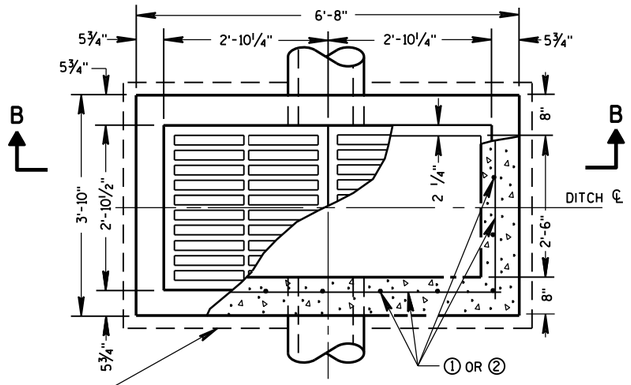
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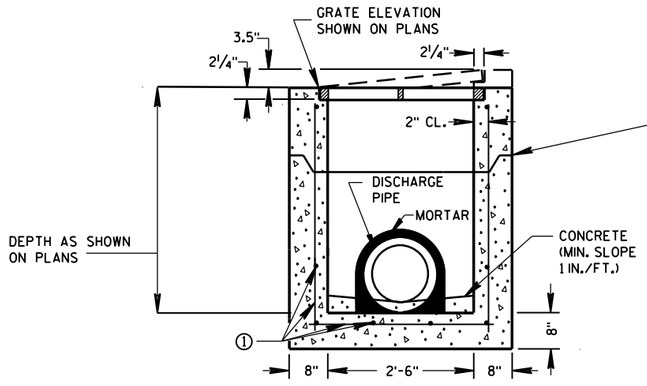


PLAN VIEW

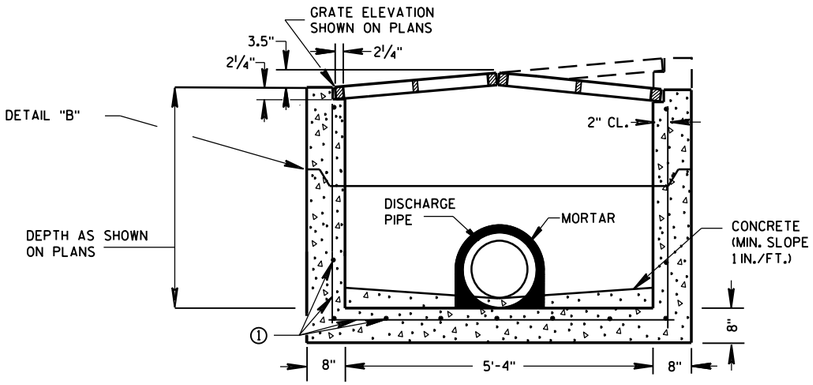


PLAN VIEW

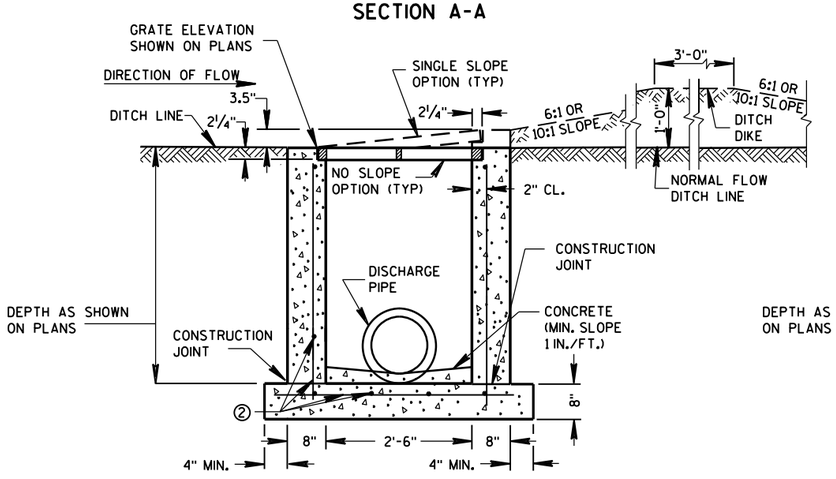
4" OVERHANGING BASE ON REINFORCED CAST-IN-PLACE CONCRETE INLETS



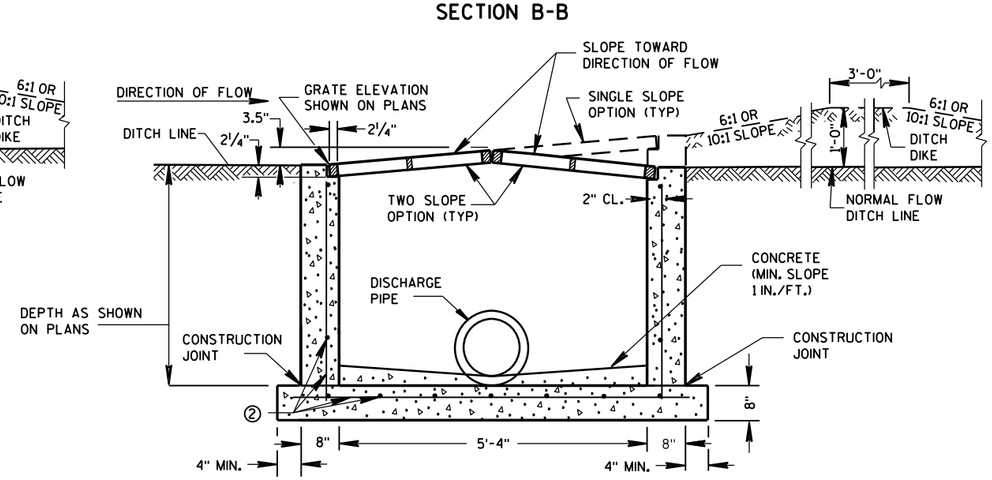
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

INLETS MEDIAN 1 GRATE

INLETS MEDIAN 2 GRATE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

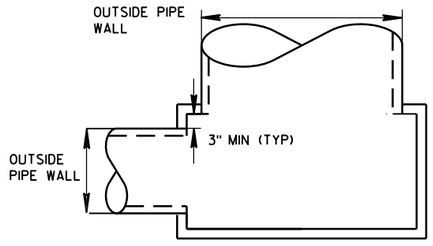
MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

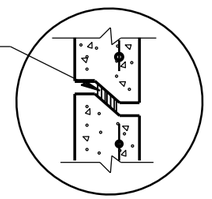
PIPE MATRIX

	MAXIMUM INSIDE PIPE DIAMETER	
INLET SIZE	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42



DETAIL "A"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

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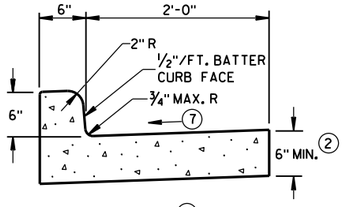
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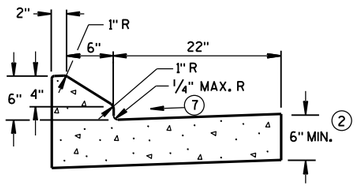
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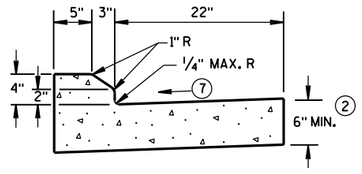
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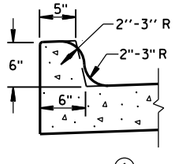
TYPES A (1) & D



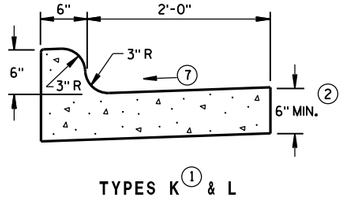
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

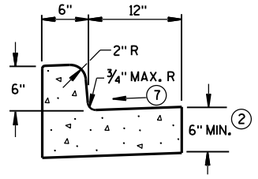


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



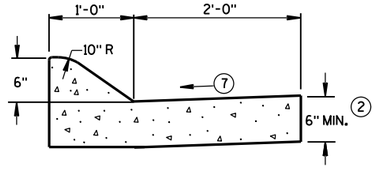
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

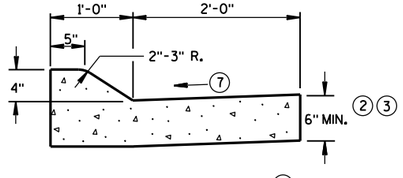


TYPES A (1) & D

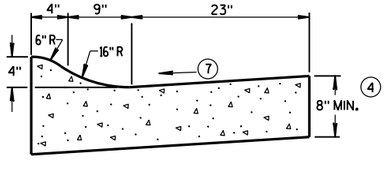
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

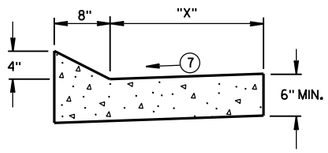


4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

CONCRETE CURB & GUTTER 36"



TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

TBT & TBTT	"X"
30"	22"
36"	28"

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

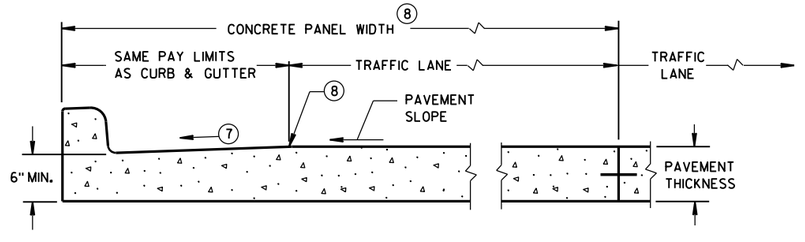
(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

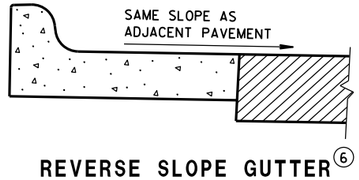
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB & GUTTER

* BIKE LANE IS NOT SHOWN.



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB & GUTTER

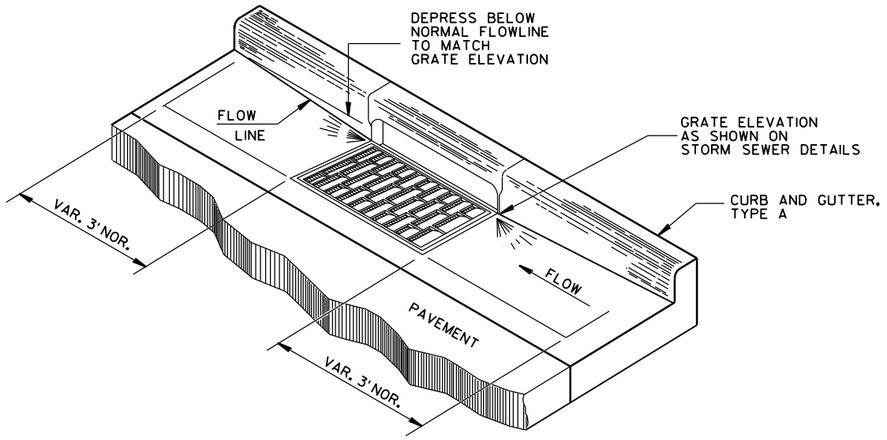
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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S.D.D. 8 D 1-20a

6

S.D.D. 8 D 1-20a



DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

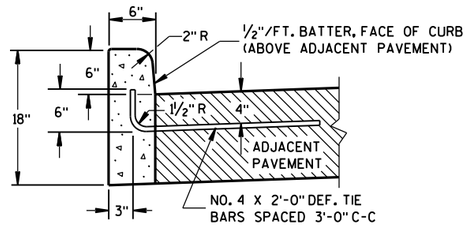
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

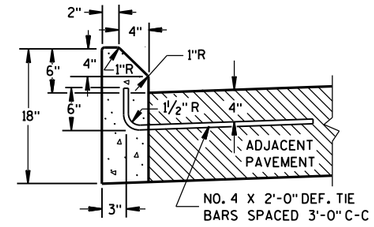
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(9) REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

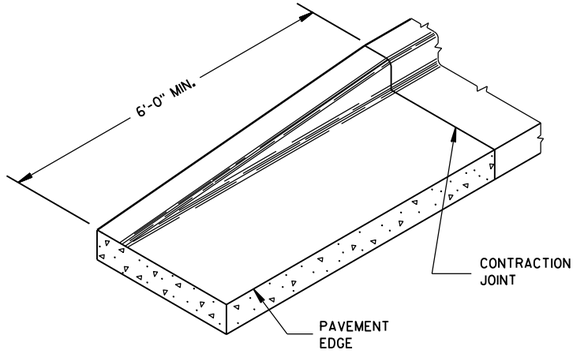


TYPES A(1) & D

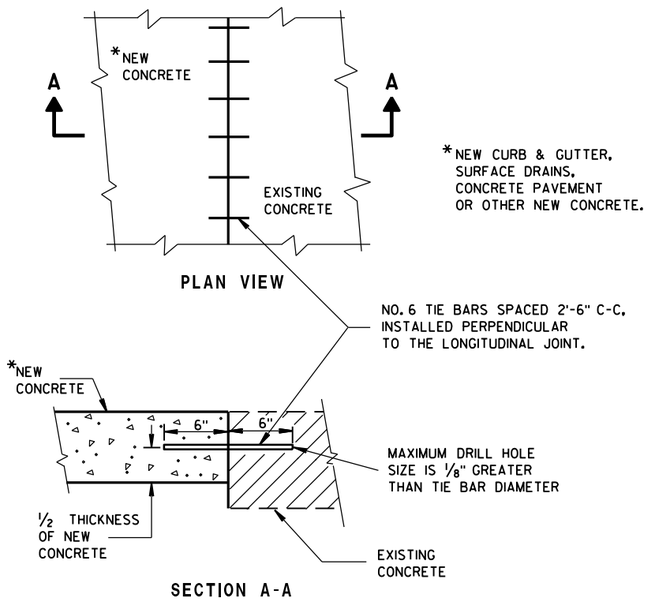


TYPES G(1) & J

CONCRETE CURB



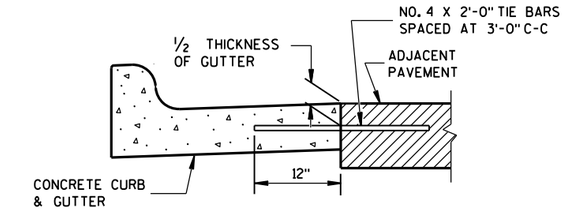
END SECTION CURB & GUTTER



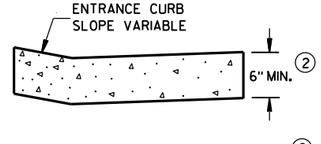
PLAN VIEW

SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

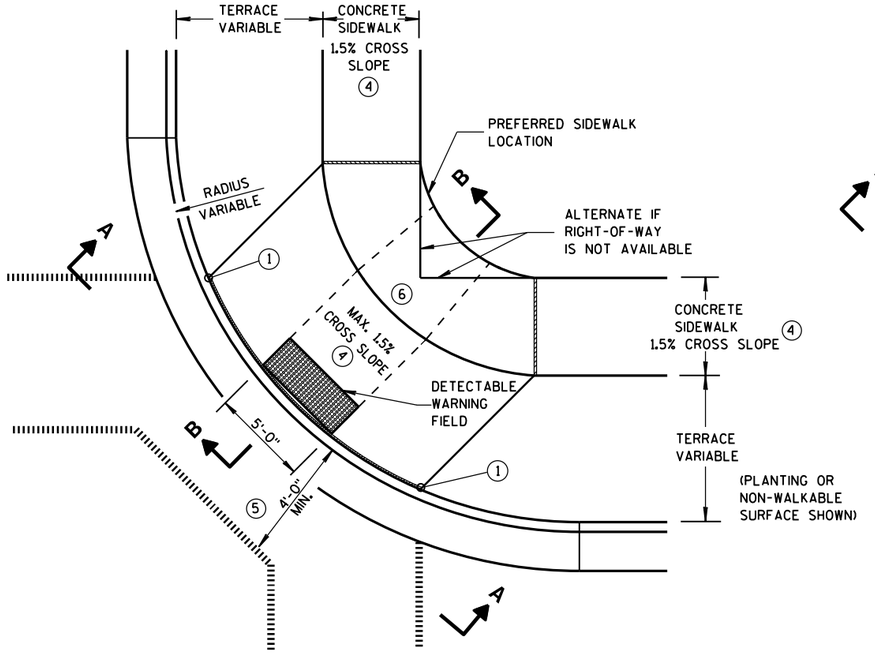
CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

6

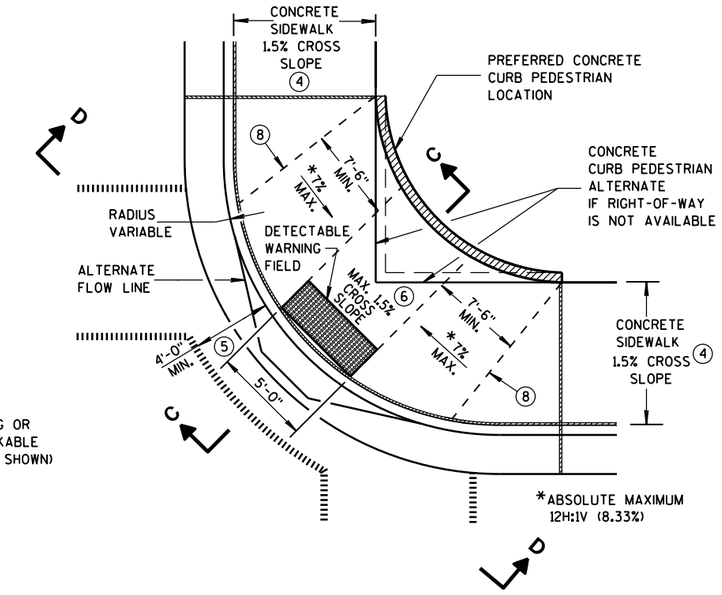
S.D.D. 8 D 1-20b



PLAN VIEW

TYPE 1 RAMP

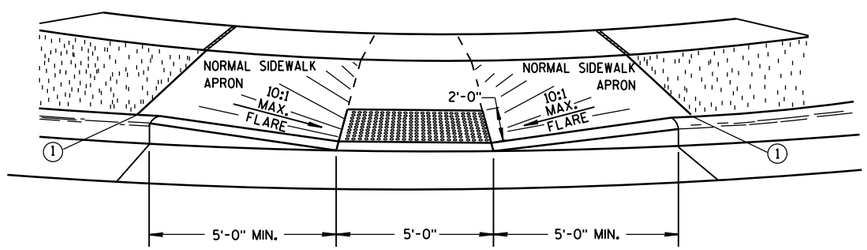
(CENTER OF CORNER RADIUS)



PLAN VIEW

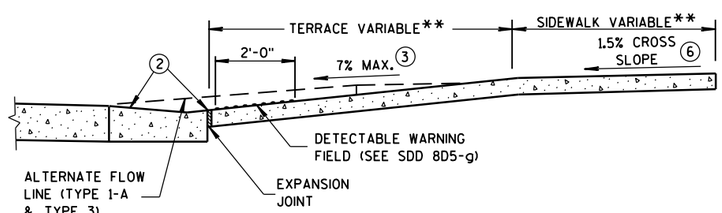
TYPE 1-A RAMP

(NO TERRACE)

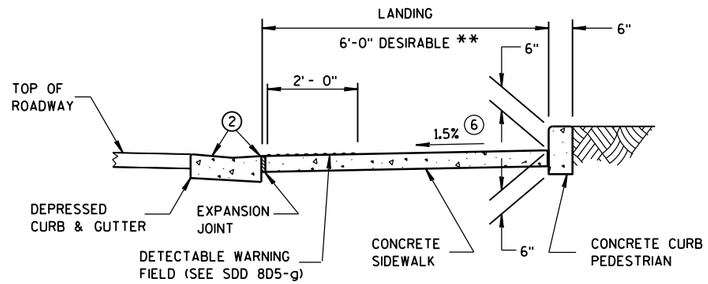


VIEW A-A

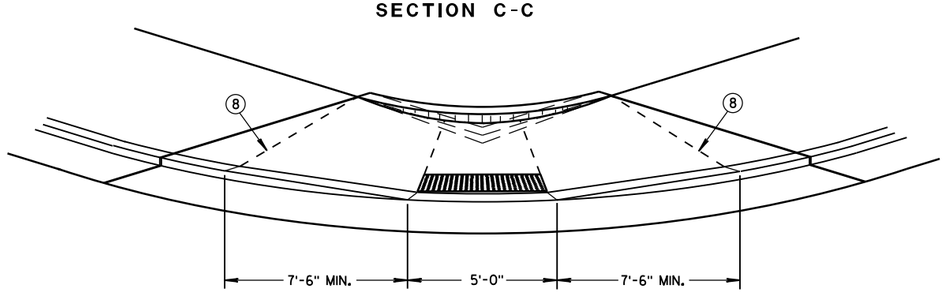
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



SECTION C-C



VIEW D-D

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA. (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

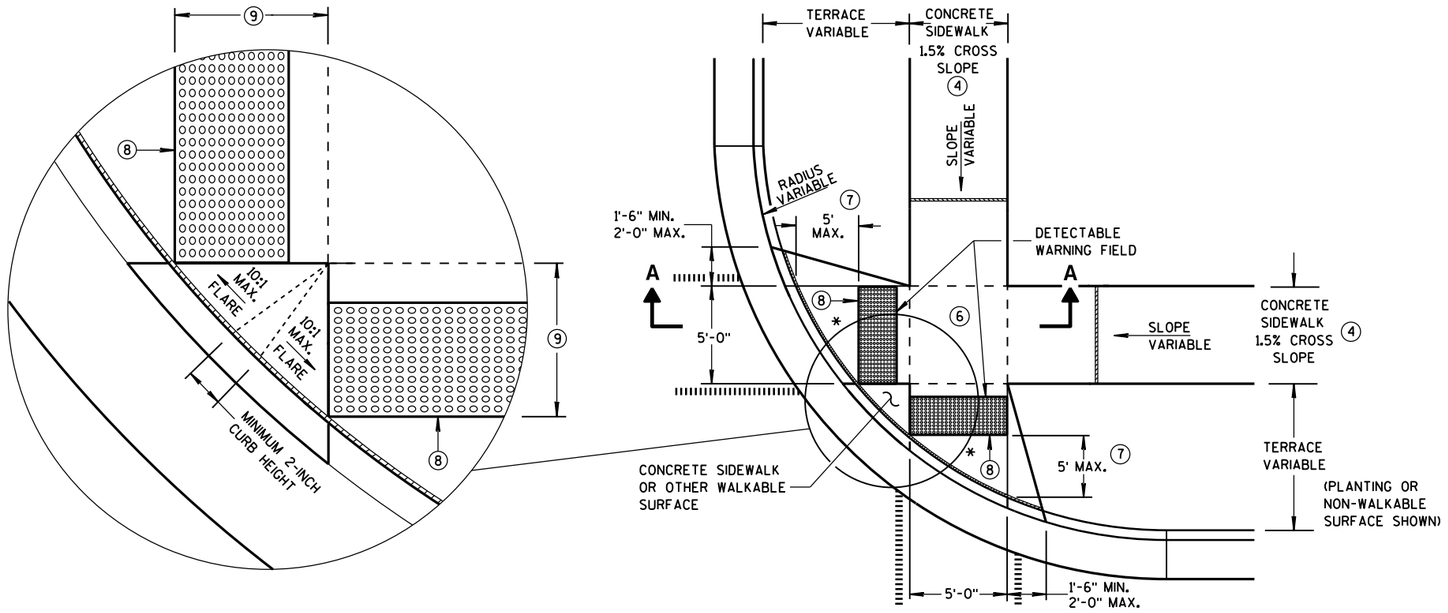
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

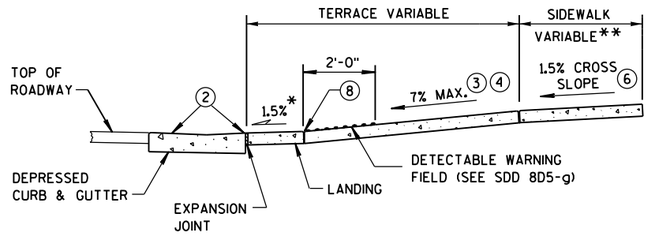
6

S.D.D. 8 D 5-19a



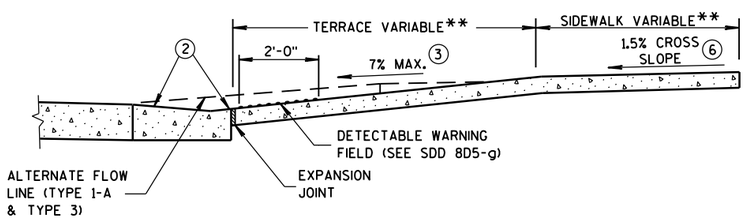
PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

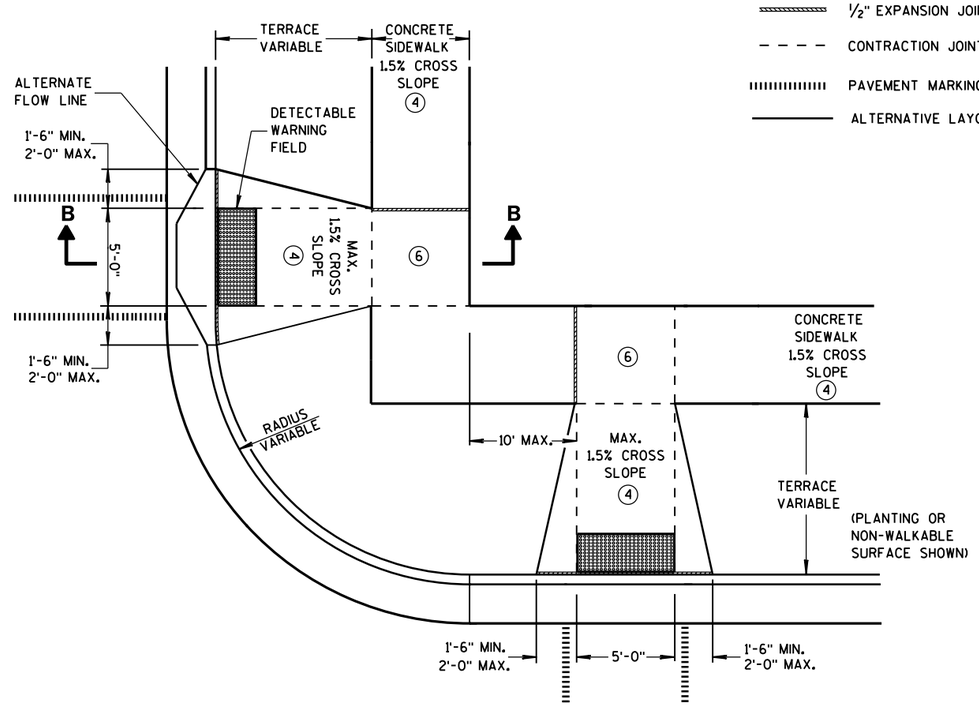


SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(9) WHEN THIS DISTANCE IS LESS THAN 6'-0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

6

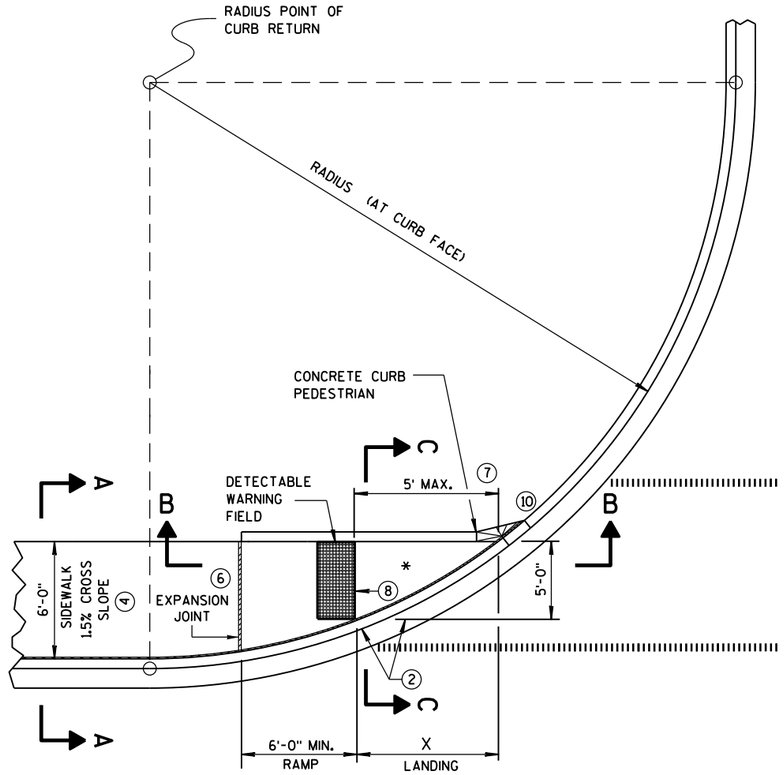
S.D.D. 8 D 5-19b

6

S.D.D. 8 D 5-19b

CURB RAMPS TYPES 2 AND 3

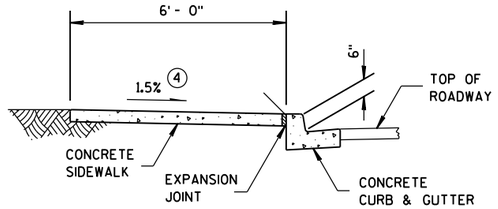
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



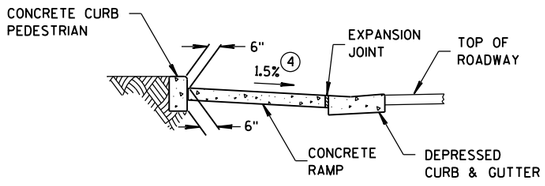
CURB RAMP TYPE 4A
PLAN VIEW

RADIUS (AT CURB FACE)	X
10 FEET	4'-7"
15 FEET	6'-5½"

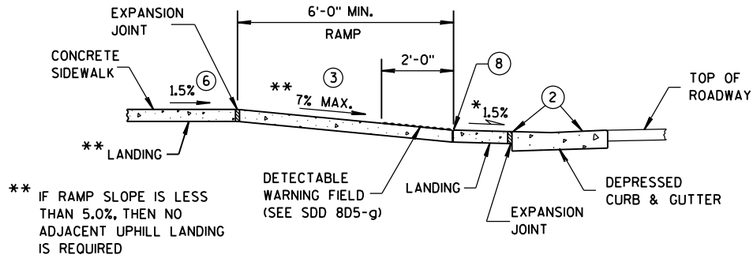
INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A



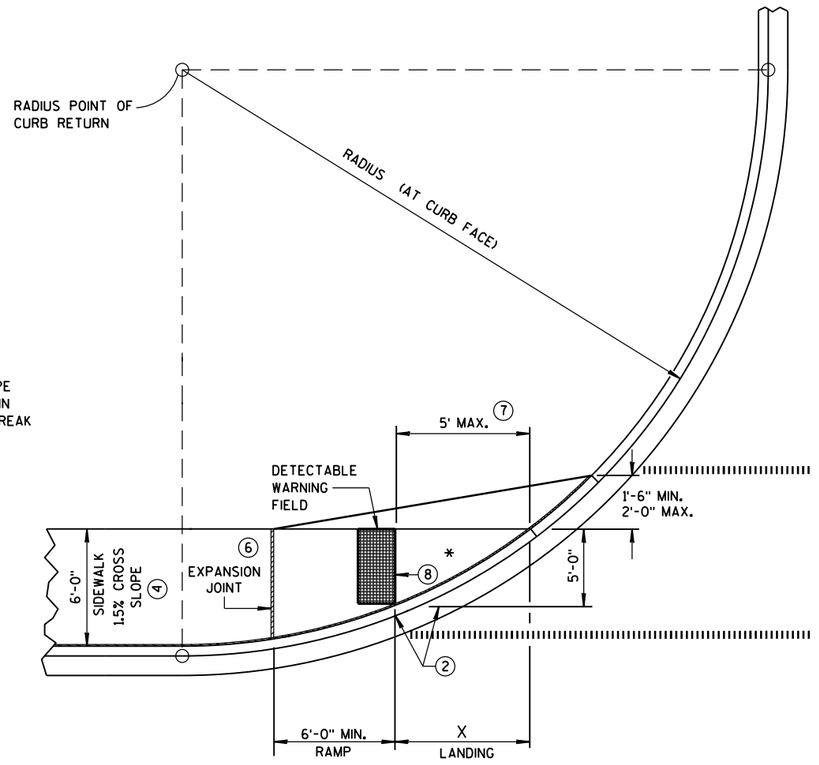
SECTION C-C FOR TYPE 4A



** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B-B FOR TYPE 4A

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



CURB RAMP TYPE 4A1
PLAN VIEW

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

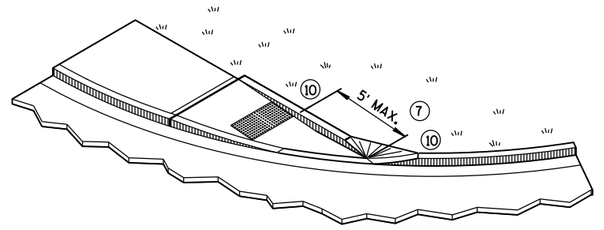
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

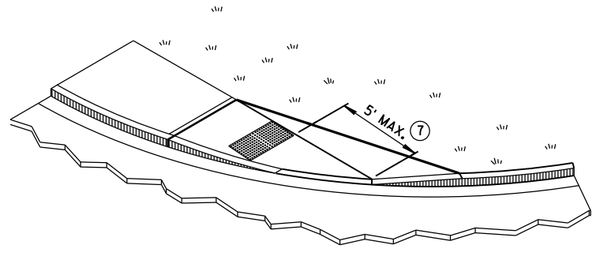
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

½" EXPANSION JOINT-SIDEWALK

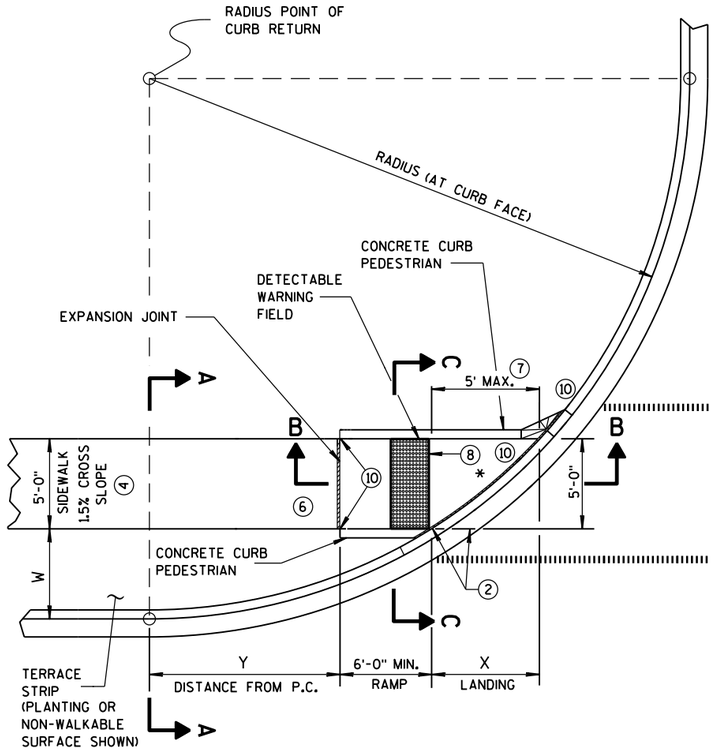
CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

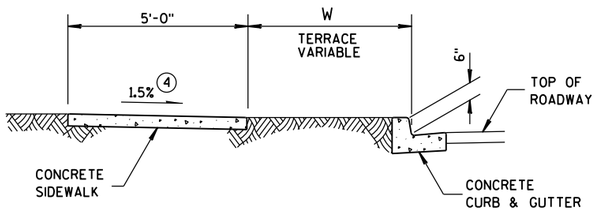
CURB RAMPS TYPES 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

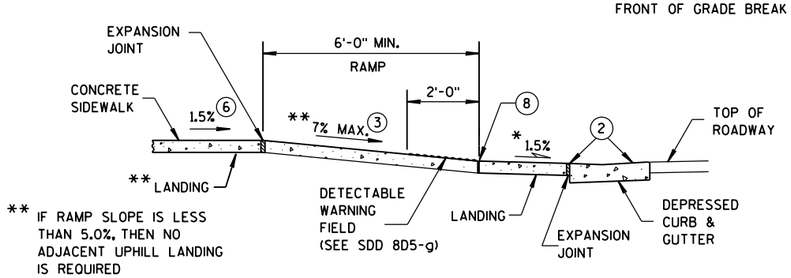
6
S.D.D. 8 D 5-19c



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



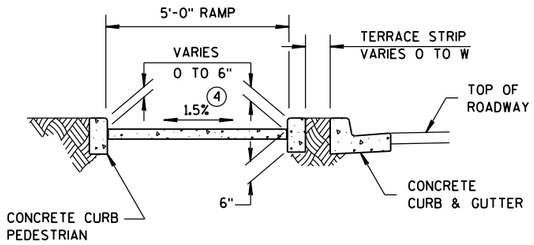
* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B-B FOR TYPE 4B

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"		W = 8'-0"		W = 9'-0"		W = 10'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2'-10¼"	0'-5"	2'-1"	1'-4½"	1'-5"	2'-1"	0'-10"	2'-7½"	0'-3¼"	3'-0¼"						
15 FEET	4'-6¾"	2'-1¾"	3'-9"	3'-5¼"	3'-1¼"	4'-6"	2'-6¾"	5'-4½"	2'-1"	6'-1"	1'-8"	6'-8½"	1'-3¼"	7'-2½"	0'-10¾"	7'-7¼"
20 FEET	5'-9¾"	3'-6½"	4'-11½"	5'-1¾"	4'-3¼"	6'-5½"	3'-8¾"	7'-7"	3'-3"	8'-6½"	2'-10"	9'-4½"	2'-5½"	10'-1¼"	2'-1¼"	10'-9"
30 FEET			6'-9¼"	7'-11¼"	6'-0¼"	9'-8"	5'-5"	11'-1¾"	4'-10¾"	12'-5¾"	4'-5½"	13'-7¾"	4'-0¾"	14'-8½"	3'-8½"	15'-8¼"
40 FEET									6'-1¾"	15'-8½"	5'-8"	17'-2"	5'-3"	18'-5¾"	4'-10¾"	19'-8¼"
50 FEET															5'-10¼"	23'-2"

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH



SECTION C-C FOR TYPE 4B

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

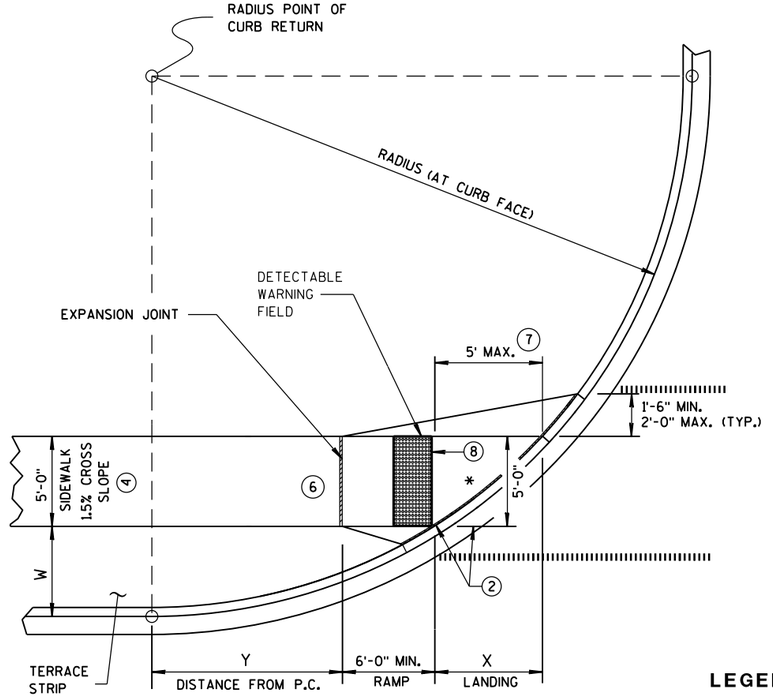
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

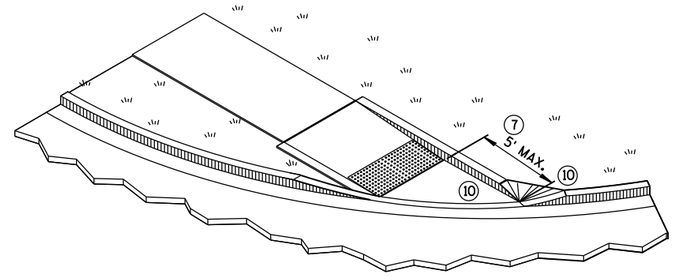
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

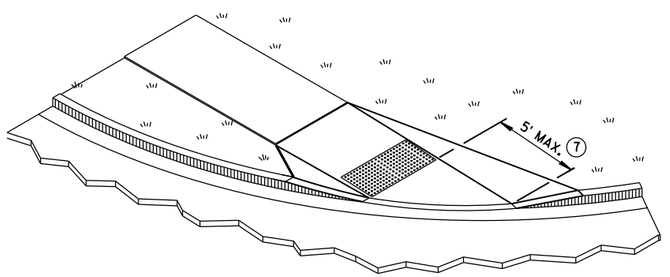
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

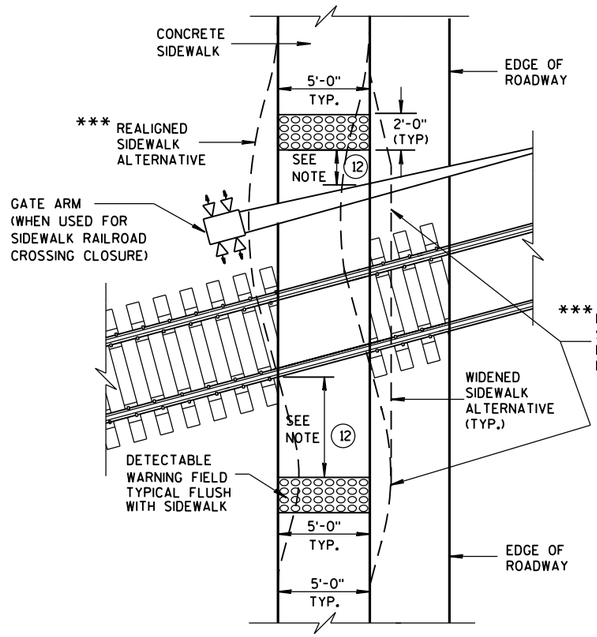
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

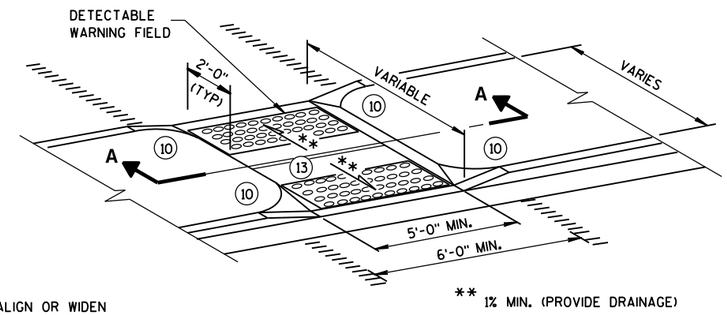
6

S.D.D. 8 D 5-19d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING

*** DETAILS TO BE DETERMINED BY DESIGNER



** 1% MIN. (PROVIDE DRAINAGE)

MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING
TYPE 5

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

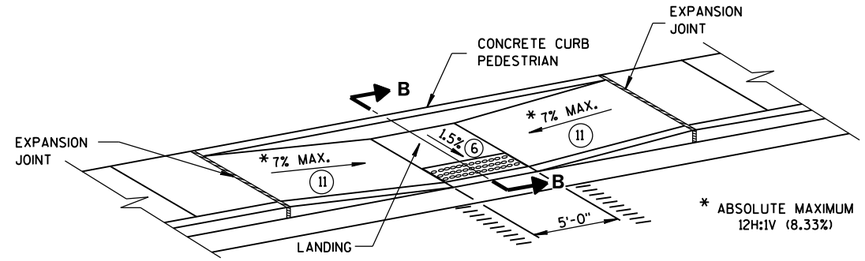
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

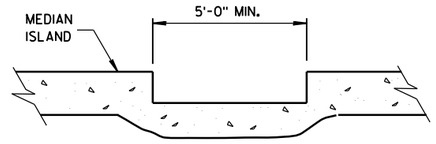
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

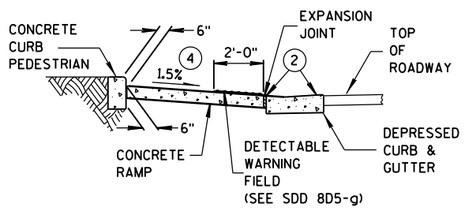
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2-FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.



MID-BLOCK CROSSING
TYPE 7A

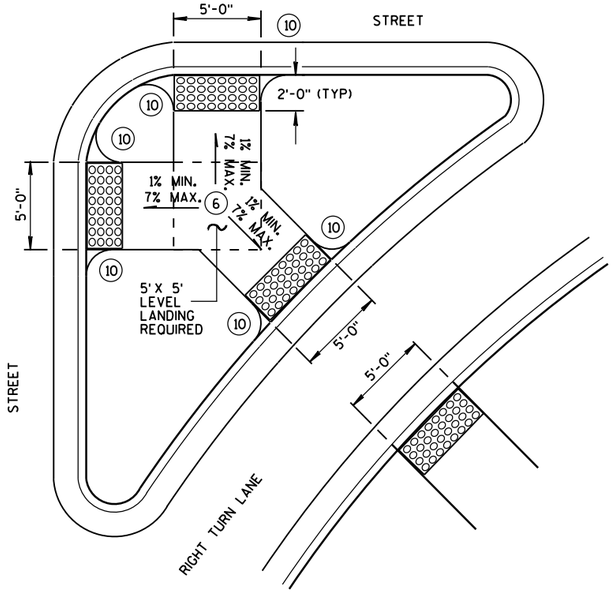


SECTION A-A

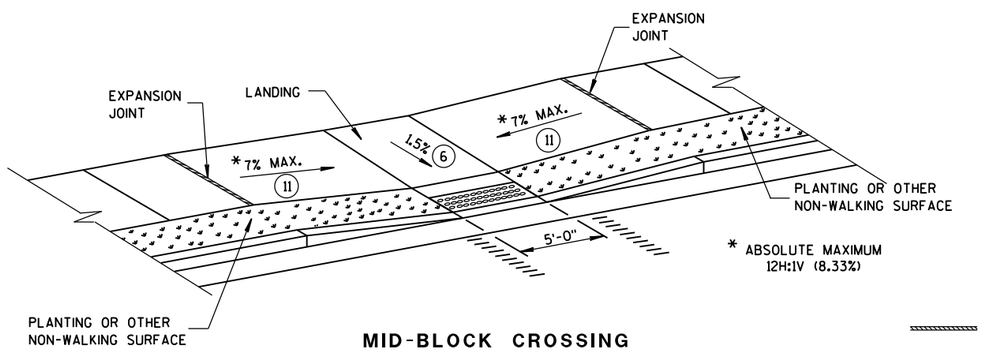


SECTION B-B

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

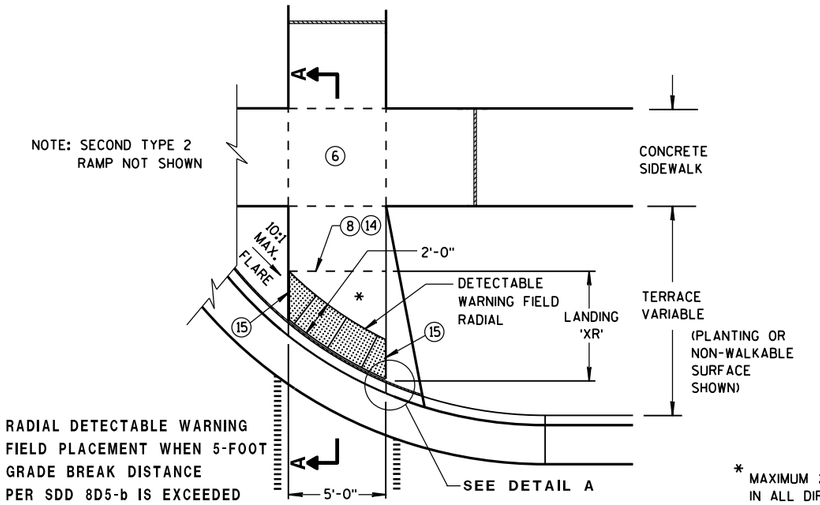
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

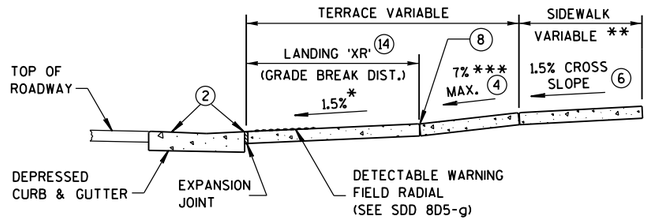
S.D.D. 8 D 5-19e
S.D.D. 8 D 5-19e



TYPE 2 RAMP
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)

(ON LINE WITH SIDEWALK)

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK



** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION A-A

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

DETECTABLE WARNING FIELDS (DWFs) THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼-INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

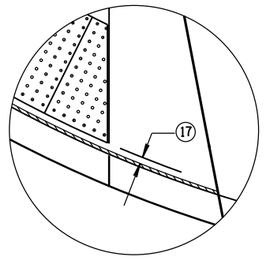
(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION 'XR') REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

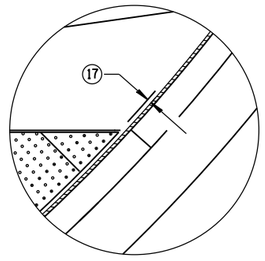
(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1'X 2' RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2'-0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

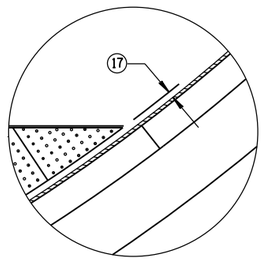
(17) A MAXIMUM 3-INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.



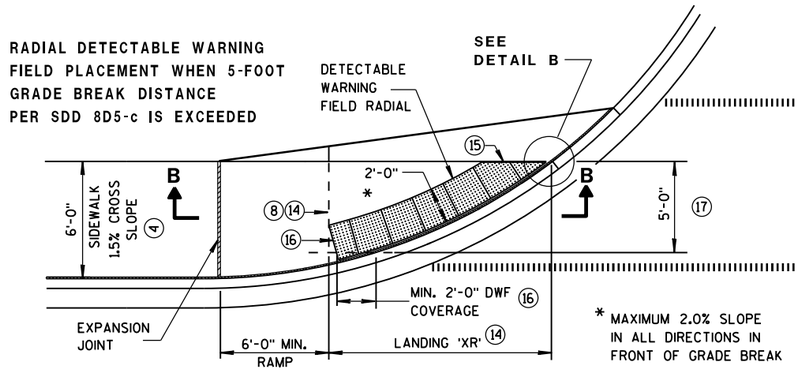
DETAIL A



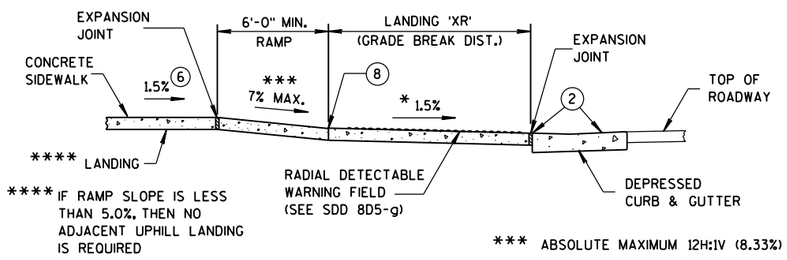
DETAIL C



DETAIL B



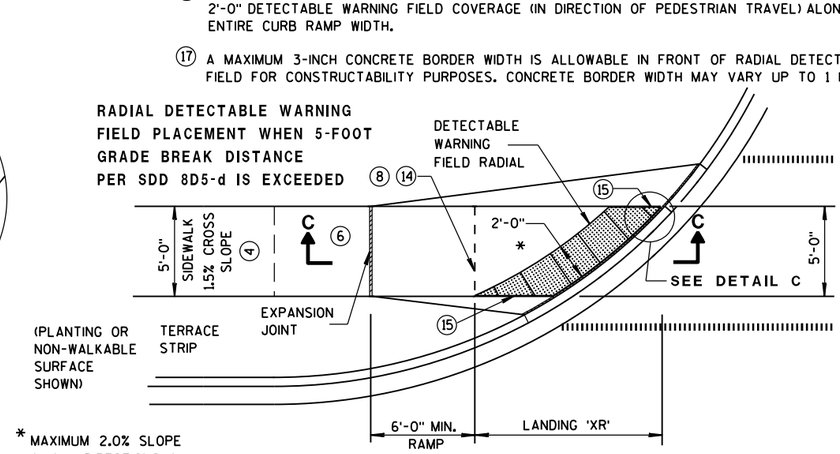
CURB RAMP TYPE 4A1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

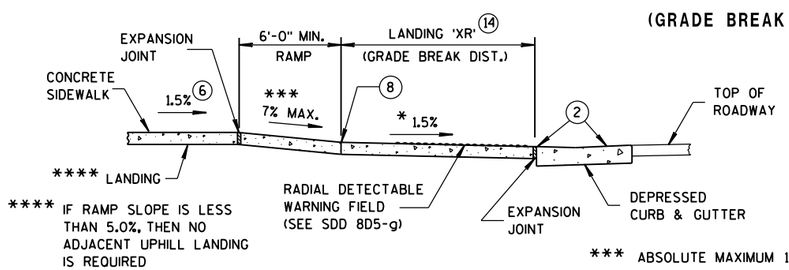
*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION B-B FOR TYPE 4A1



* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

CURB RAMP TYPE 4B1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION C-C FOR TYPE 4B1

CURB RAMPS
RADIAL DETECTABLE WARNING FIELD APPLICATIONS

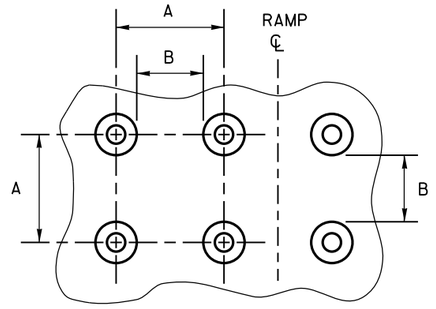
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

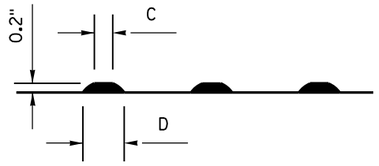
S.D.D. 8 D 5-19f

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

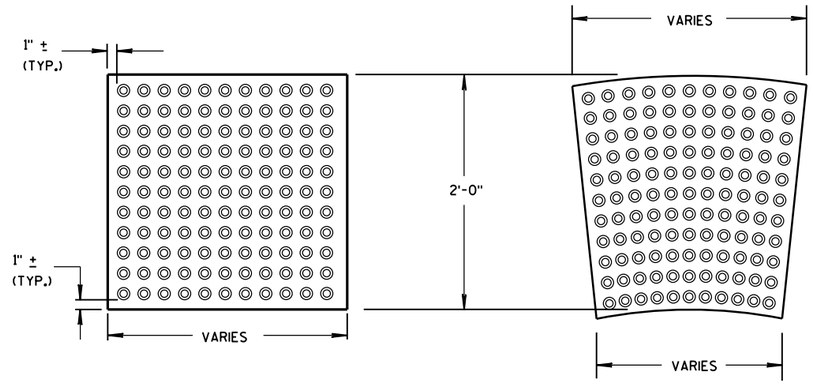
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGES IN COMBINATION WITH SQUARE PANELS ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

⑮ FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

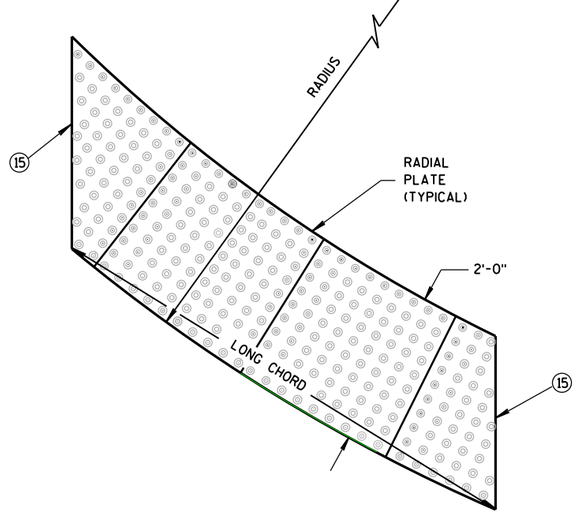


RECTANGULAR PLATES

RADIAL PLATES

DETECTABLE WARNING FIELDS (TYPICAL)

PLAN VIEW



RADIAL DETECTABLE WARNING FIELD ATTRIBUTES

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
FHWA

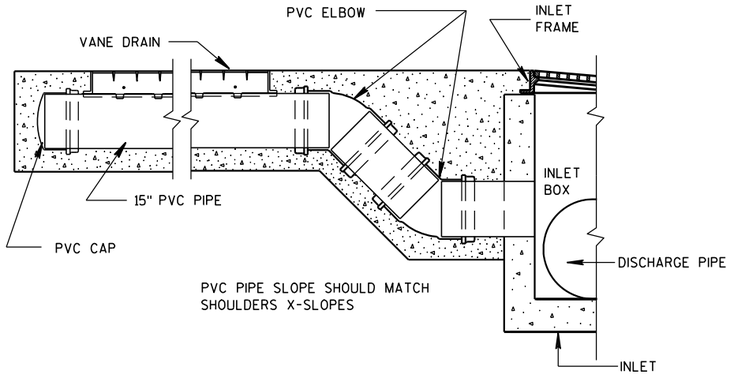
ENT

6

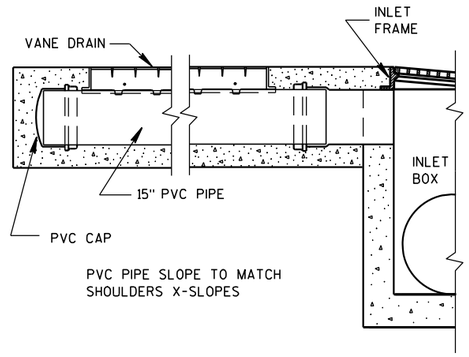
S.D.D. 8 D 5-19g

6

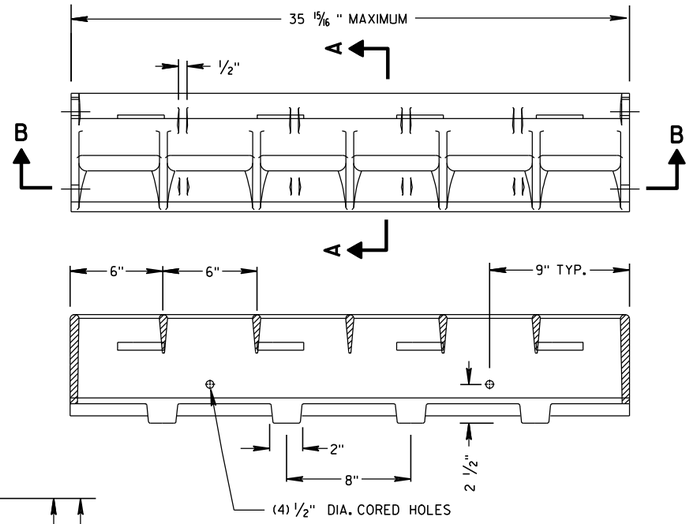
S.D.D. 8 D 5-19g



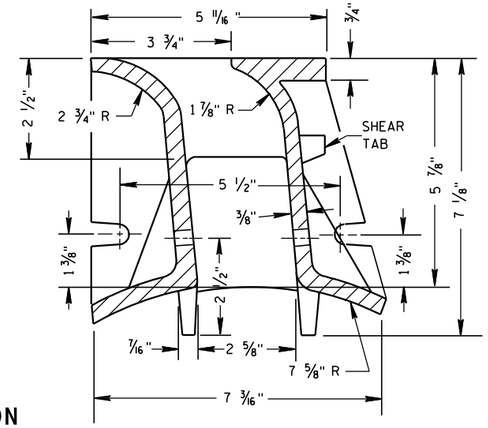
TYPICAL SLOTTED VANE DRAIN CONFIGURATION



TYPICAL SLOTTED VANE DRAIN CONFIGURATION



SECTION B-B
SLOTTED VANE DRAIN DETAIL
(APPROXIMATE WEIGHT 87 LBS.)



SECTION A-A

GENERAL NOTES

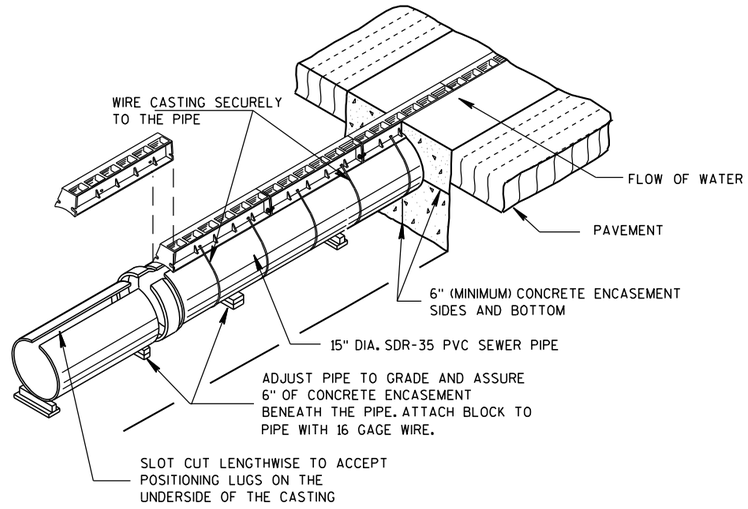
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ENCASEMENT: THE ENCASING MATERIAL AROUND THE PIPE SHALL BE IN ACCORDANCE WITH SPECIFICATIONS OF 501.4.3.3 FOR CONCRETE PAVEMENT.

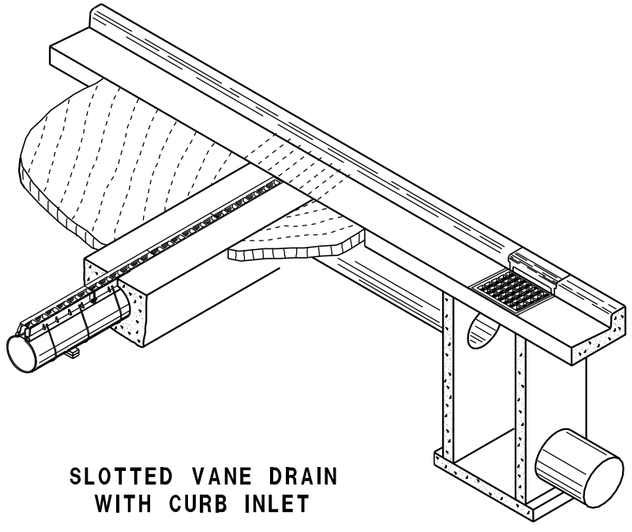
THE PIPE USED SHALL BE A 15" DIAMETER SDR-35 POLYVINYL CHLORIDE SEWER PIPE. THE PIPE SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN STANDARD SPECIFICATION 612.2.6

SURFACE DRAIN: BEFORE PAVING OVER THE DRAIN, COVER THE TOP OF THE DRAIN TO KEEP MATERIAL OUT OF THE PIPE. THE FINISHED GRADE SHOULD BE FLUSH WITH THE TOP OF THE DRAIN.

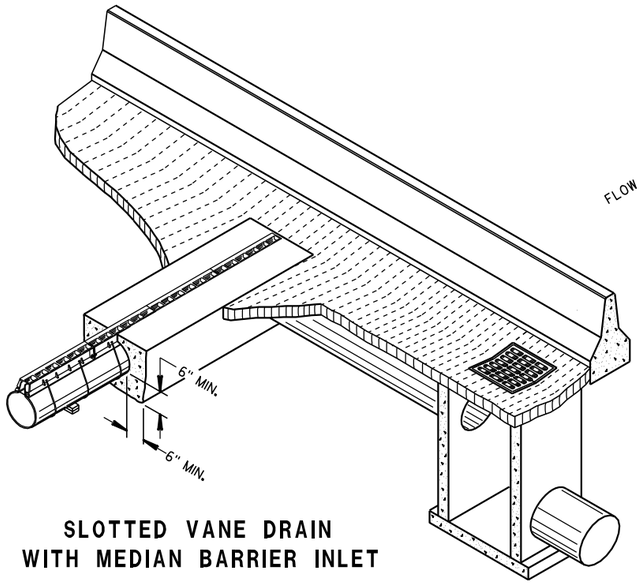
THE ANGLE OF THE DRAIN TO THE FLOW OF WATER SHOULD BE AS CLOSE TO 90° AS POSSIBLE.



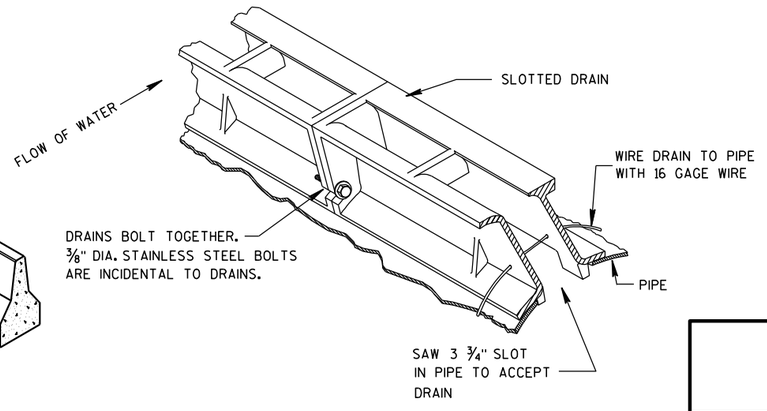
INSTALLATION OF SLOTTED VANE DRAIN



SLOTTED VANE DRAIN WITH CURB INLET



SLOTTED VANE DRAIN WITH MEDIAN BARRIER INLET



ISOMETRIC VIEW

SLOTTED VANE DRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/13/00 DATE

/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOPMENT ENGINEER

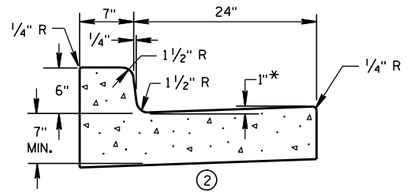
FHWA

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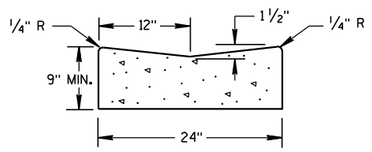
S.D.D. 8 D 14-1

6

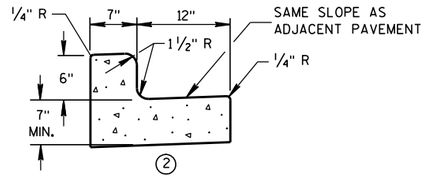
S.D.D. 8 D 14-1



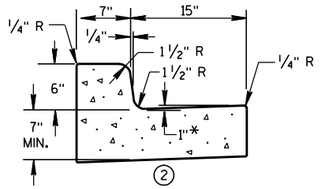
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

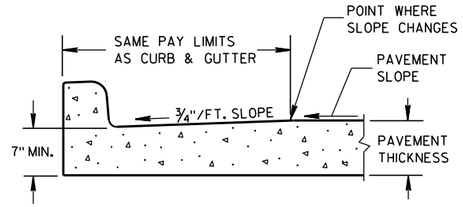


① CONCRETE CURB & GUTTER 19"



① CONCRETE CURB & GUTTER 22"

* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

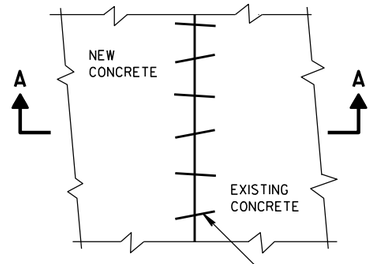
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURB.

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MIMIMUM GUTTER THICKNESS IS MAINTAINED.

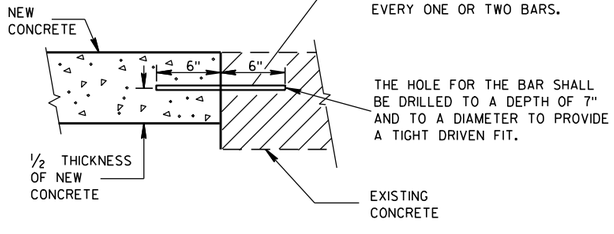
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

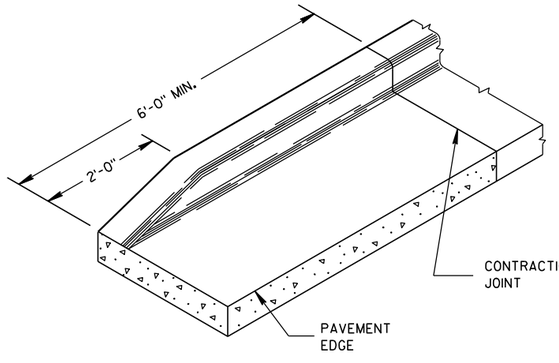
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



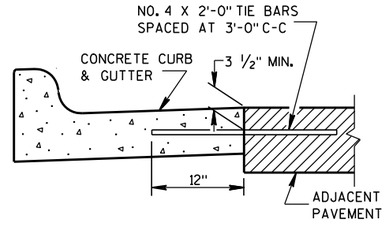
THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

SECTION A-A

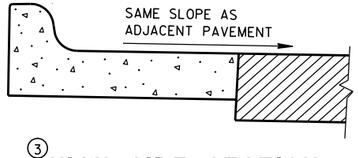
PAVEMENT TIES



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION

(TYPICAL FOR ALL CURB & GUTTER)

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/2/2010 — DATE

/S/ Jerry Zogg — ROADWAY STANDARDS ENGINEER

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FHWA

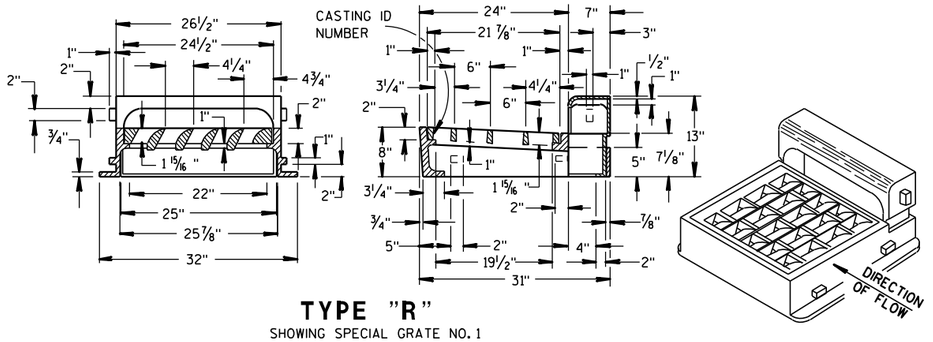
6

S.D.D. 8 D 16-10

6

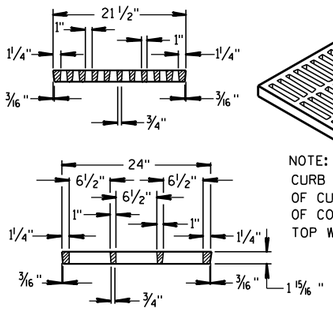
S.D.D. 8 D 16-10

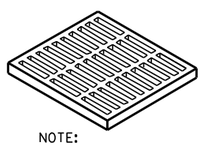
INLET COVERS



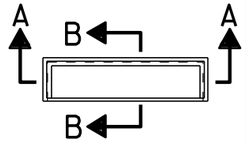
TYPE "R"

SHOWING SPECIAL GRATE NO. 1
(TO BE NOTED AS R-1 IN DRAINAGE TABLE)

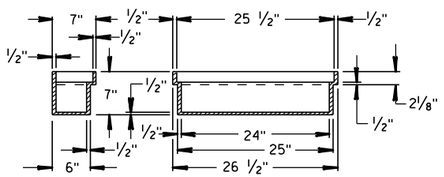




(APPROX. WEIGHT - 510 LBS.)
FRAME..... 245 LBS.
CURB..... 120 LBS.
GRATE..... 145 LBS.



NOTE:
CURB PLUG USED IN PLACE OF CURB BOX IN ABSENCE OF CONC. CURB. FILL TO TOP WITH CONCRETE.



GRATE FOR TYPE "R" INLET COVER

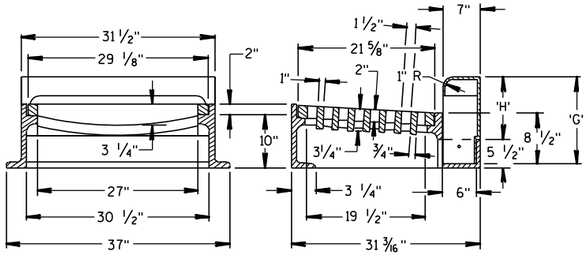
(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)

SECTION B-B SECTION A-A

SPECIAL CURB PLUG "P"

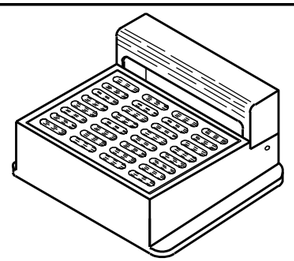
(CURB PLUG..... 85 LBS.)
(TO BE NOTED AS R-P IN DRAINAGE TABLE)

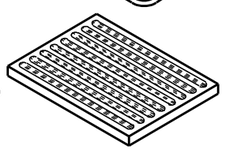
'H' = 9" FOR 6" CURB
'H' = 11" FOR 8" CURB
'G' = 13 3/4" FOR 6" CURB
'G' = 15 3/4" FOR 8" CURB



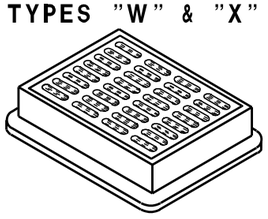
TYPE "W"

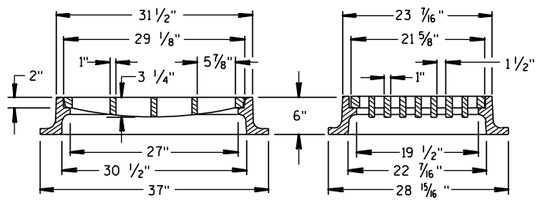
(APPROX. WEIGHT - 670 LBS.)
FRAME..... 350 LBS.
CURB BOX..... 135 LBS.
GRATE..... 185 LBS.





ALTERNATE GRATE
(FOR EXPRESSWAY RAMPS)
TYPES "W" & "X"

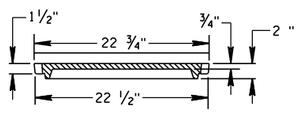




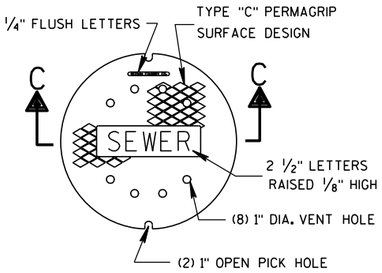
TYPE "X"

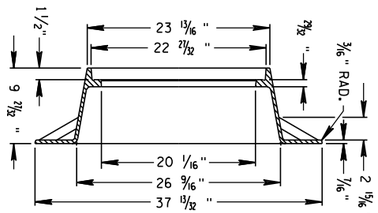
(APPROX. WEIGHT - 470 LBS.)

MANHOLE COVER



SECTION C-C

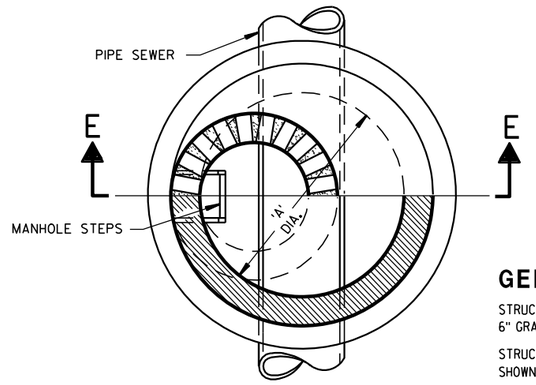




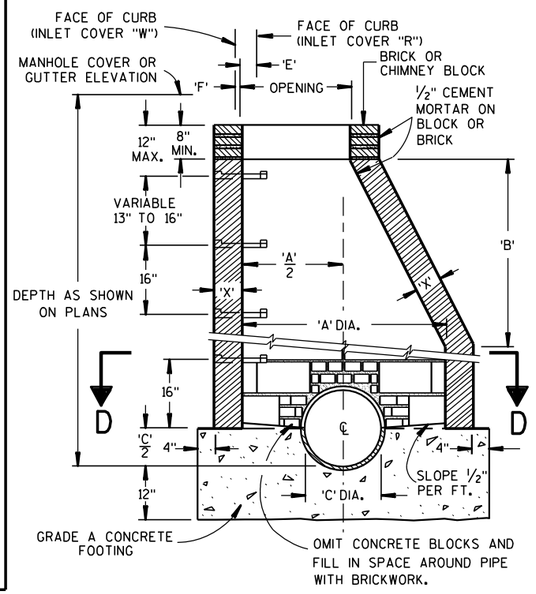
TYPE "Q"

(APPROX. WEIGHT - 290 LBS.)

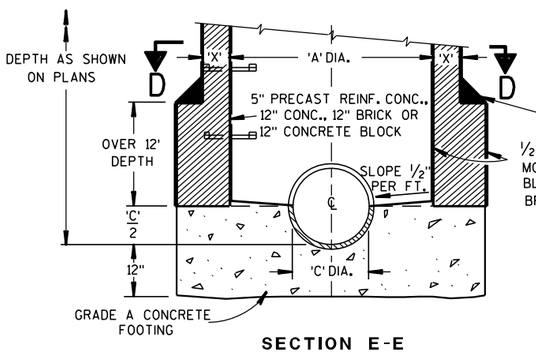
MANHOLE



HALF SECTION D-D



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

TABLE OF OPENING DIMENSIONS

COVER TYPE	COVER DESCRIPTION	OPENING	'E'	'F'
"O"	ROUND	2'-2" DIA.	—	—
"W"	CURB BOX	1'-8" X 2'-6"	—	1"
"X"	INLET	1'-10" X 2'-6"	—	—
"R"	CURB BOX	2'-0" X 2'-1"	4"	—

TABLE OF DIMENSIONS

TYPE	'A'	'B'	'C'
11	3'-6"	2'-8"	12" - 36"*
12	4'-0"	3'-8"	12" - 42"**
13	5'-0"	5'-8"	42" - 48"
14	6'-0"	7'-8"	54" - 60"

* 12" - 21" FOR PRECAST MANHOLES
** 12" - 24" FOR PRECAST MANHOLES

THE FIRST STEP SHALL BE PLACED 16" ABOVE THE BENCH.

GENERAL NOTES

STRUCTURE WALL THICKNESS 'X' TO BE 8" BRICK, 6" CONCRETE BLOCK, 6" GRADE A CONCRETE OR 5" PRECAST REINFORCED CONCRETE.

STRUCTURE FOOTINGS ARE TO BE GRADE A CONCRETE OF THE THICKNESS SHOWN IN THE DETAIL OR 5" PRECAST REINFORCED CONCRETE.

REINFORCEMENT FOR 5" PRECAST REINFORCED CONCRETE SHALL BE 6" X 6" W16 X W16 WELDED SREEL WIRE FABRIC AND SHALL BE EMBEDDED 2" CLEAR.

PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

PRECAST CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6" IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACK-FILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON THE PLANS.

THE CONTRACTOR MAY FORM AND POUR MONOLITHIC CONCRETE INVERT PROVIDED THE PIPE ENDS ARE EXTENDED INTO THE M.H. AND NOT TERMINATED WITHIN THE M.H. WALLS.

MANHOLE STEPS

STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH; 16 INCH C-C MAX. SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM WALL EMBEDMENT OF 3 INCHES IN PRECAST MANHOLE AND 6 INCHES IN 8 INCH BRICK OR 6 INCH BLOCK MANHOLE; TREAD OF STEP SHALL HAVE A NON-SKID SURFACE AND BE FLANKED BY CLEATS, WITH A MINIMUM OF 10 INCHES CLEAR BETWEEN CLEATS, TO PREVENT FOOT SLIPPING OFF THE EDGE CLEATS SHALL BE A MINIMUM OF 3/4 INCH HIGH BY 3/4 INCH WIDE HAVING A MINIMUM THICKNESS OF 5/8 INCH. STEPS SHALL BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 300 LBS. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 0.75 INCH. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCING BAR WILL BE ACCEPTABLE.

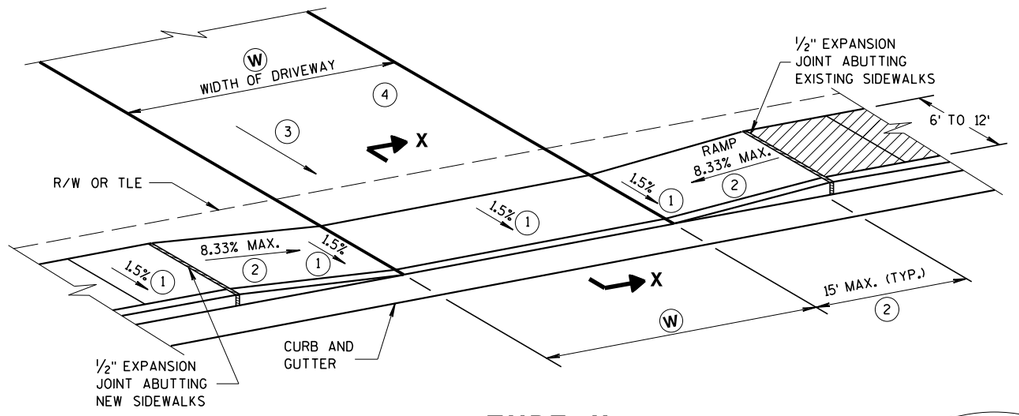
MANHOLES, MANHOLE & INLET COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

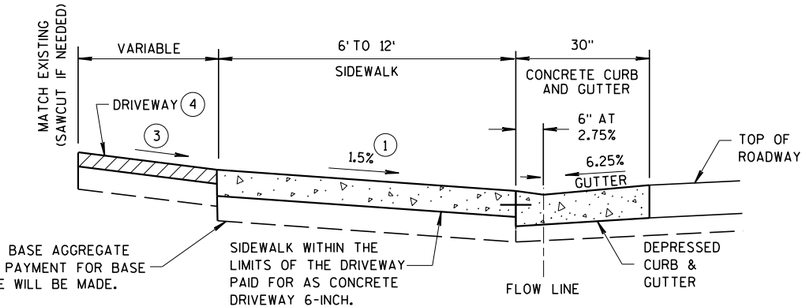
APPROVED
4/12/2011 — DATE
/S/ Jerry H. Zogg — ROADSIDE STANDARDS ENGINEER
FHWA

6

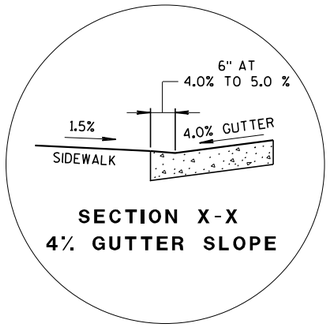
S.D.D. 8 D 17-6



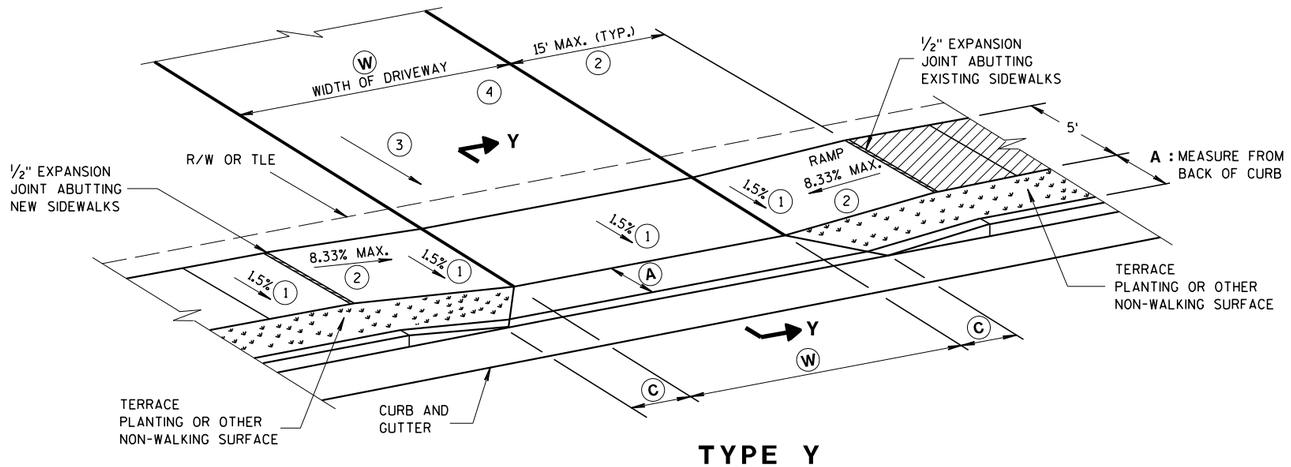
TYPE X
SIDEWALK ABUTS CURB & GUTTER
TERRACE VARIES 0 TO 3 FEET



SECTION X-X



SECTION X-X
4% GUTTER SLOPE



TYPE Y
SIDEWALK WITH NARROWER TERRACE
TERRACE VARIES 4 TO 6 FEET

(W): 12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)
16' MIN. - 35' MAX. COMMERCIAL (CE)

GENERAL NOTES

PROVIDE CONSTRUCTION JOINTS ALONG THE CENTER OF THE CONCRETE FOR DRIVEWAYS UNDER 20 FEET IN WIDTH AND AT THE THIRD POINTS OVER 20 FEET IN WIDTH.

(W) IS SHOWN ON PLAN AND PROFILE SHEETS.

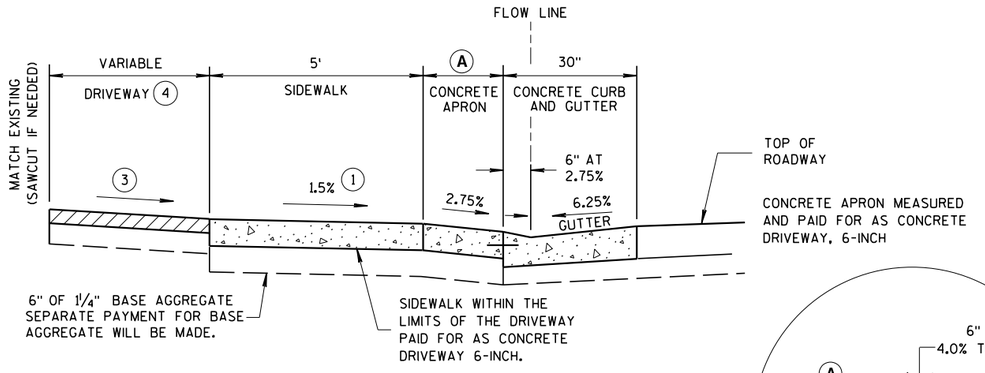
OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN ON THE CROSS SECTIONS.

(1) CONSTRUCTION TOLERANCE OF 0.5% ± FOR SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

(2) THE SIDEWALK RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE SIDEWALK SHALL BE AS FLAT AS FEASIBLE AND NOT EXCEED THE LONGITUDINAL GRADE OF THE ROADWAY. SLOPE SIDEWALK RAMP TOWARD APRON AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(3) DRIVEWAY SLOPES: DESIRABLE MAXIMUM
- 10.5% UP AWAY FROM SIDEWALK (SAG)
- 8.5% DOWN AWAY FROM SIDEWALK (CREST)
- ABSOLUTE MAXIMUM 15% FOR BOTH CREST AND SAG

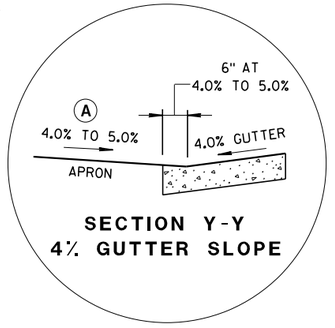
(4) DRIVEWAY TYPES
- 6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6-INCH BASE AGGREGATE
- 2-INCH TO 3-INCH ASPHALTIC SURFACE OVER 6-INCH BASE AGGREGATE
- 6-INCH BASE AGGREGATE (MAY BE INCREASED FOR CLAY SUBGRADES)



NOTE: SIDEWALK MAY BE DEPRESSED IN DRIVEWAY AREAS

SECTION Y-Y

DRIVEWAY DETAIL
WITH CONCRETE CURB & GUTTER
(URBAN AND SUBURBAN)



SECTION Y-Y
4% GUTTER SLOPE

TABLE Y

(A) FEET	(C) FEET
3.5'	2.0'
4.5'	3.0'
5.5'	3.5'

NOT TO SCALE

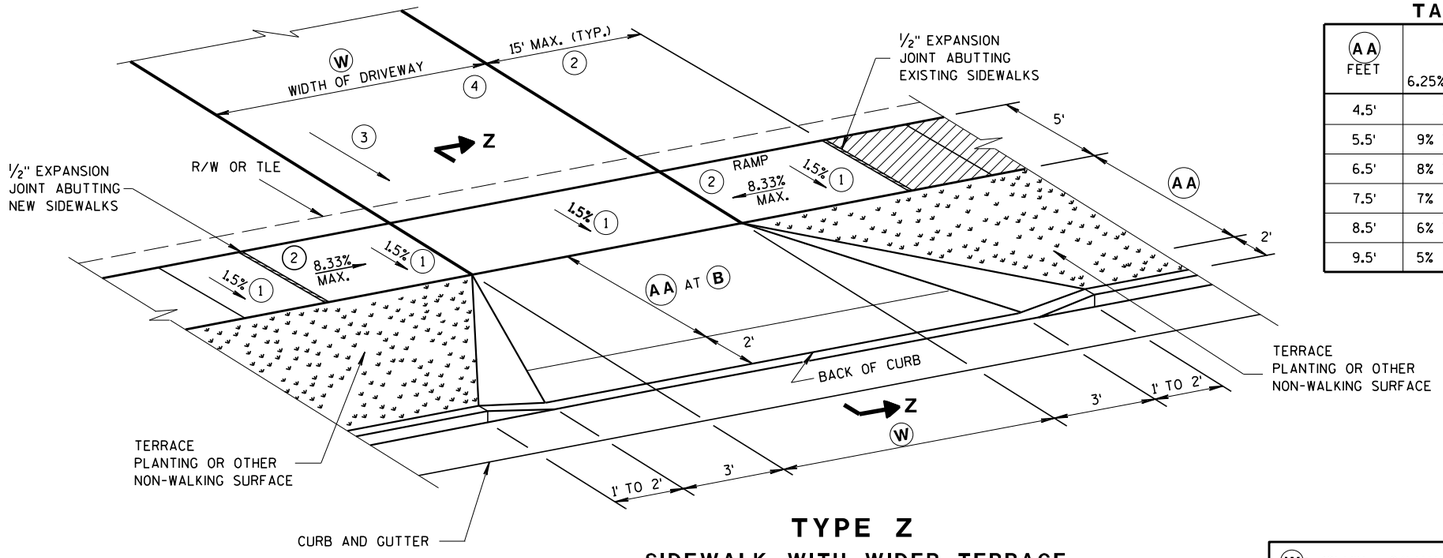
DRIVEWAY AND SIDEWALK RAMPS
TYPES X & Y

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

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S.D.D. 8 D 18-2



TYPE Z

SIDEWALK WITH WIDER TERRACE

TERRACE VARIES 7 TO 12 FEET

TABLE Z

(AA) FEET	(B) % 6.25% GUTTER	(B) % 4% GUTTER
4.5'	11.5%	9% TO 11.5%
5.5'	9% TO 11.5%	8% TO 11.5%
6.5'	8% TO 11.5%	6% TO 11.5%
7.5'	7% TO 11.5%	6% TO 11.5%
8.5'	6% TO 11.5%	5% TO 11.5%
9.5'	5% TO 11.5%	4% TO 11.5%

(W): 12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)

16' MIN. - 35' MAX. COMMERCIAL (CE)

GENERAL NOTES

PROVIDE CONSTRUCTION JOINTS ALONG THE CENTER OF THE CONCRETE FOR DRIVEWAYS UNDER 20 FEET IN WIDTH AND AT THE THIRD POINTS OVER 20 FEET IN WIDTH.

(W) IS SHOWN ON PLAN AND PROFILE SHEETS.

OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN ON THE CROSS SECTIONS.

(1) CONSTRUCTION TOLERANCE OF 0.5% ± FOR SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

(2) THE SIDEWALK RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE SIDEWALK SHALL BE AS FLAT AS FEASIBLE AND NOT EXCEED THE LONGITUDINAL GRADE OF THE ROADWAY.

(3) DRIVEWAY SLOPES: DESIRABLE MAXIMUM

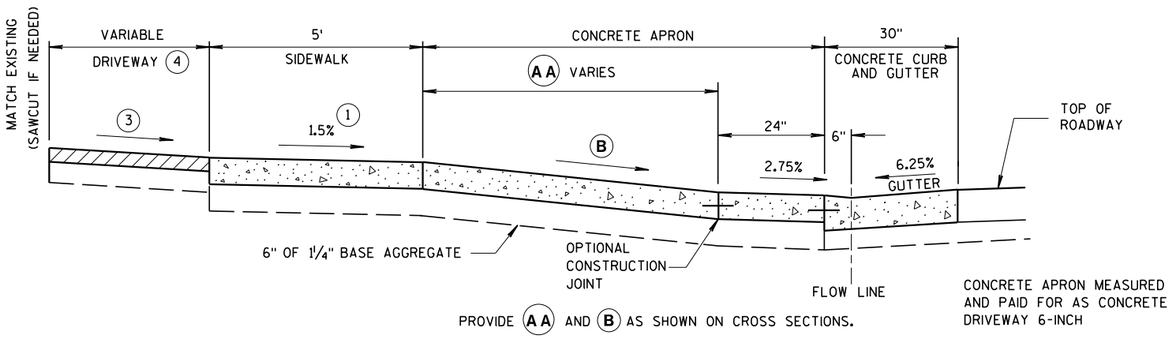
10.5% UP AWAY FROM SIDEWALK (SAG)

8.5% DOWN AWAY FROM SIDEWALK (CREST)

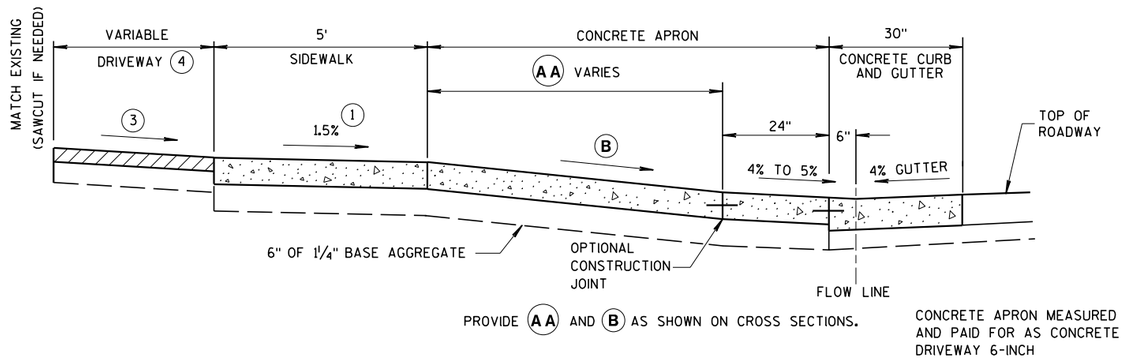
ABSOLUTE MAXIMUM 15% FOR BOTH CREST AND SAG

(4) DRIVEWAY TYPES

- 6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6-INCH BASE AGGREGATE
- 2-INCH TO 3-INCH ASPHALTIC SURFACE OVER 6-INCH BASE AGGREGATE
- 6-INCH BASE AGGREGATE (MAY BE INCREASED FOR CLAY SUBGRADES)



6.25% GUTTER SLOPE



4% GUTTER SLOPE

NOTE: SIDEWALK MAY BE DEPRESSED IN DRIVEWAY AREAS FOR **B** VALUES NOT SHOWN IN TABLE Z.

SIDEWALK WITHIN THE LIMITS OF THE DRIVEWAY PAID FOR AS CONCRETE DRIVEWAY 6-INCH.

SEPARATE PAYMENT FOR BASE AGGREGATE WILL BE MADE.

SECTION Z-Z

DRIVEWAY DETAIL WITH CONCRETE CURB & GUTTER

(URBAN AND SUBURBAN)

NOT TO SCALE

DRIVEWAY AND SIDEWALK RAMPS TYPE Z

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

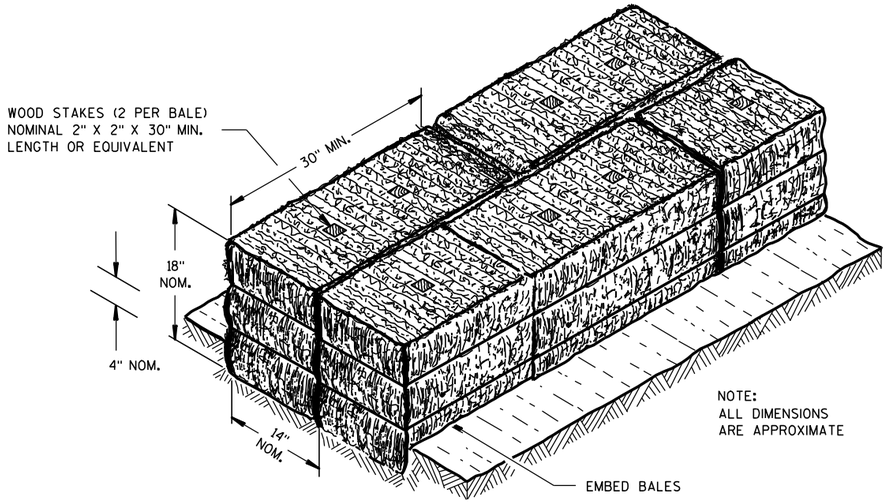
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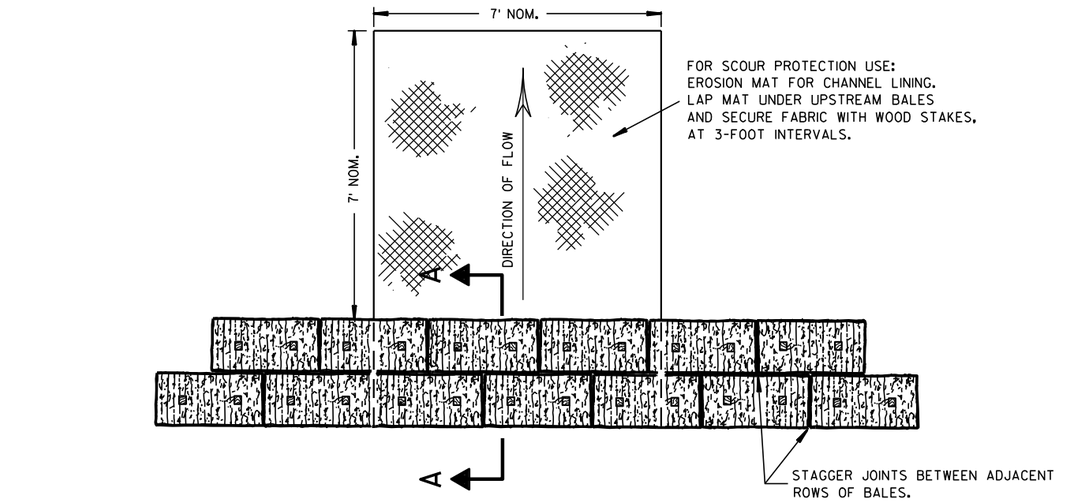
S.D.D. 8 D 19-2

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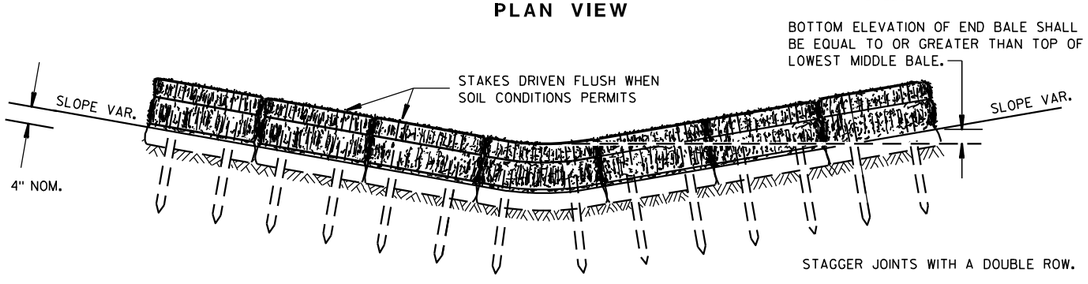
S.D.D. 8 D 19-2



SECTION A-A



PLAN VIEW



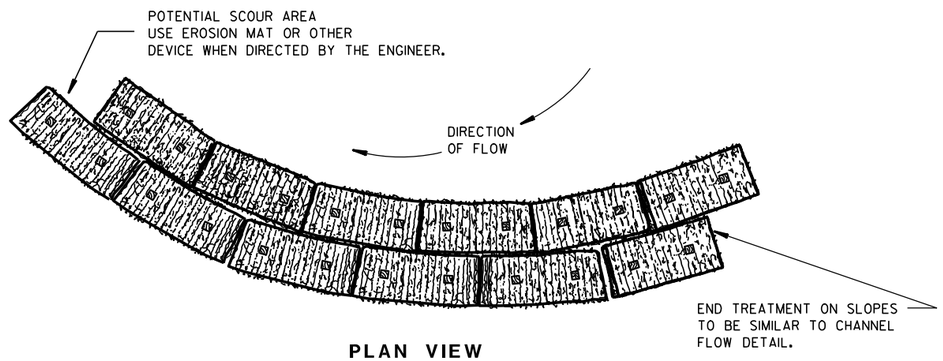
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

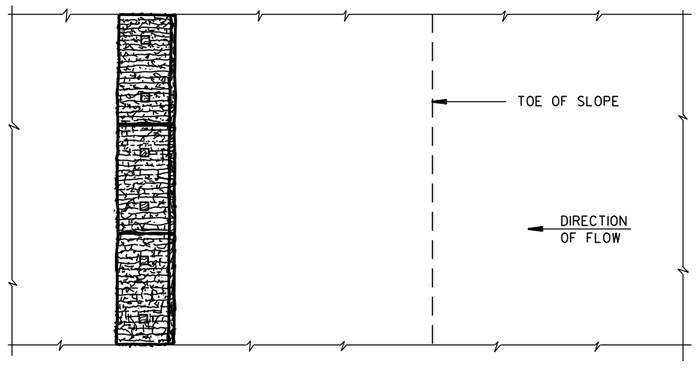
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

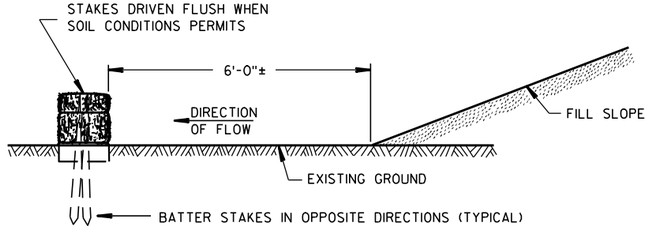


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

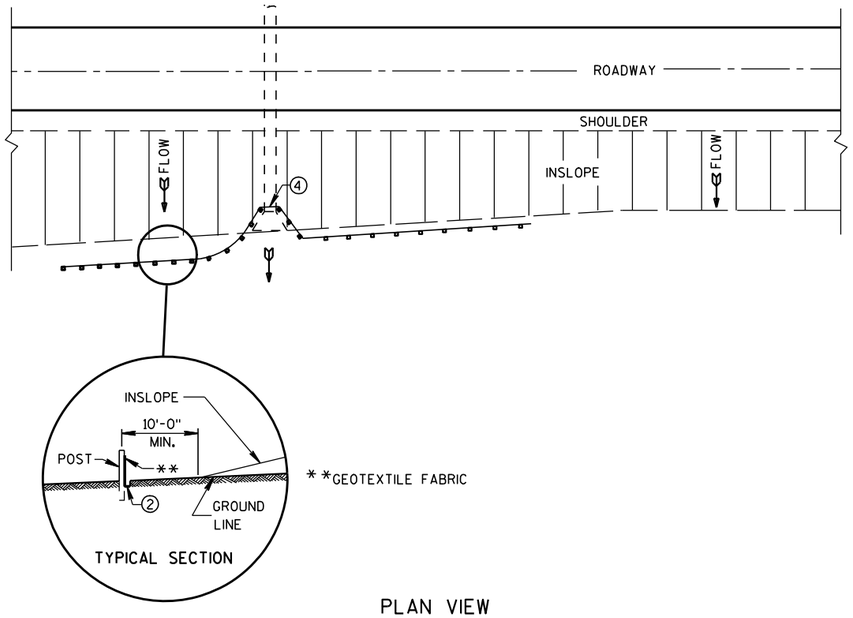
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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S.D.D. 8 E 8-3

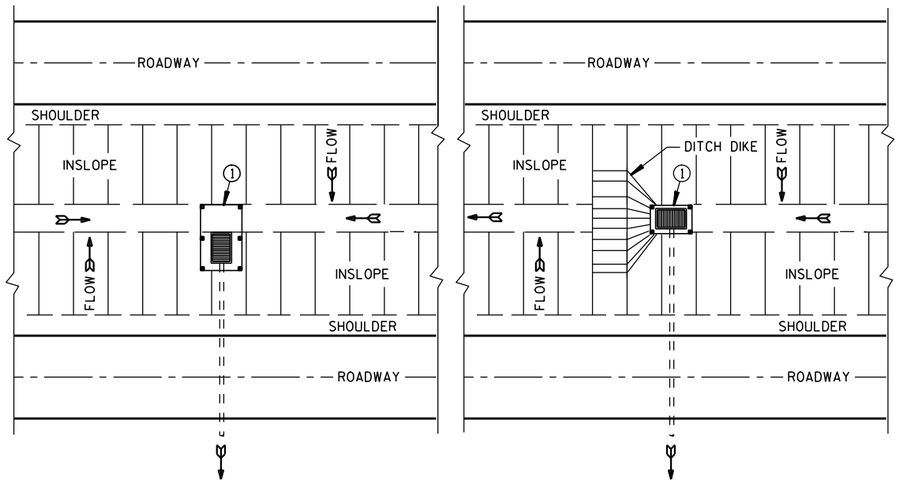
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



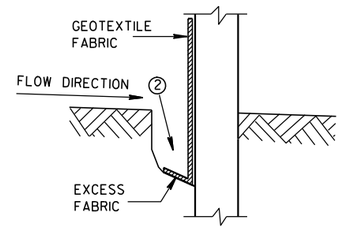
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

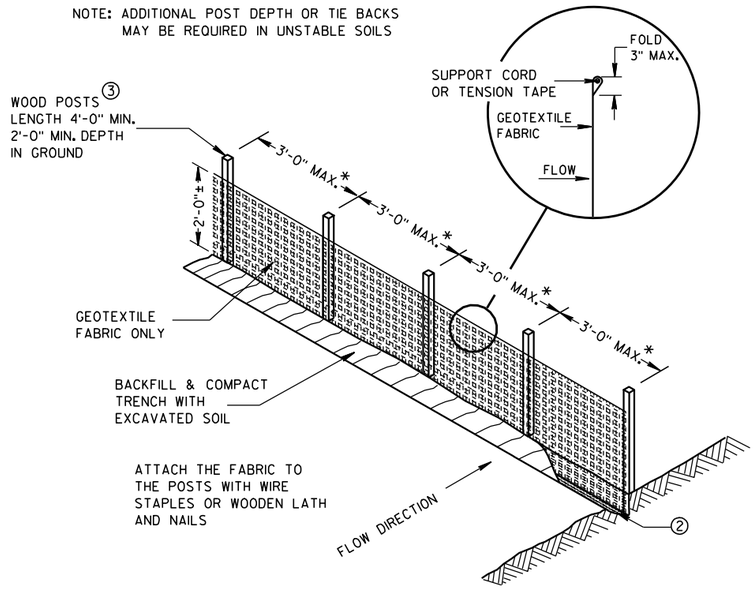
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

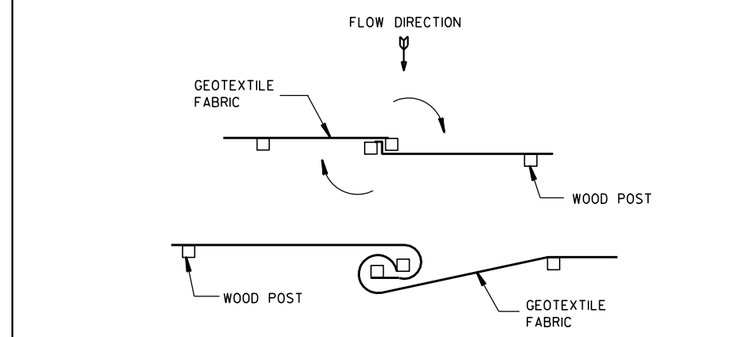


TRENCH DETAIL

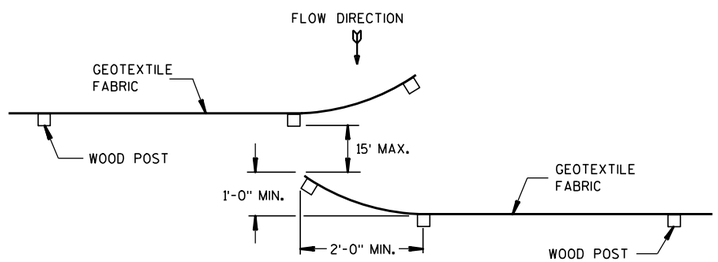


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

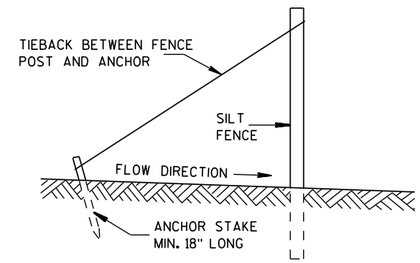


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

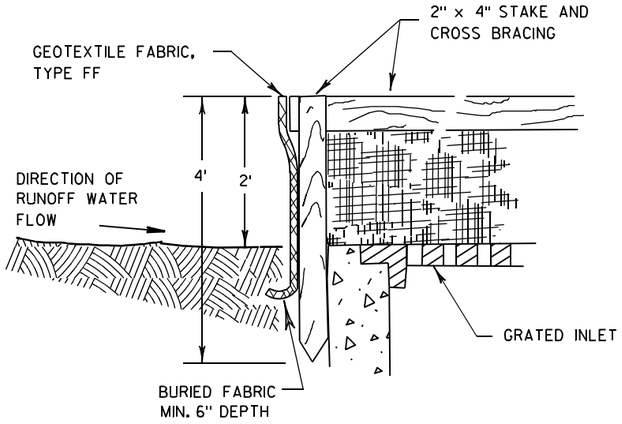
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

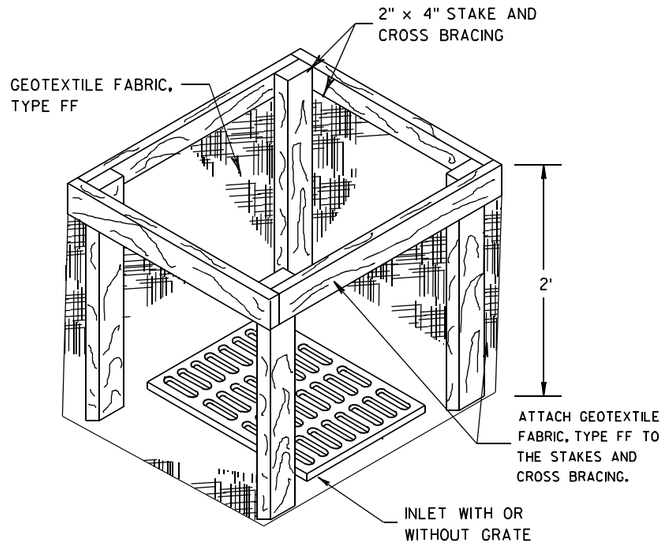
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S.D.D. 8 E 9-6

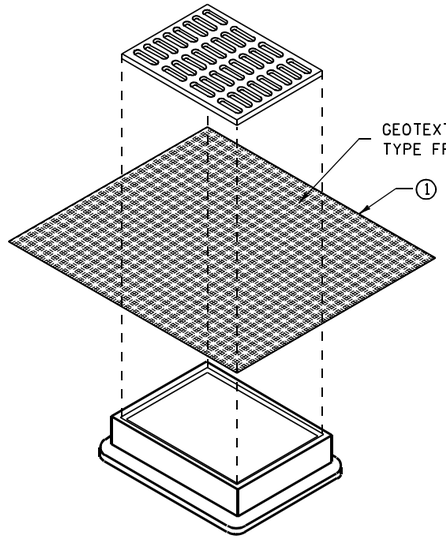
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S.D.D. 8 E 9-6



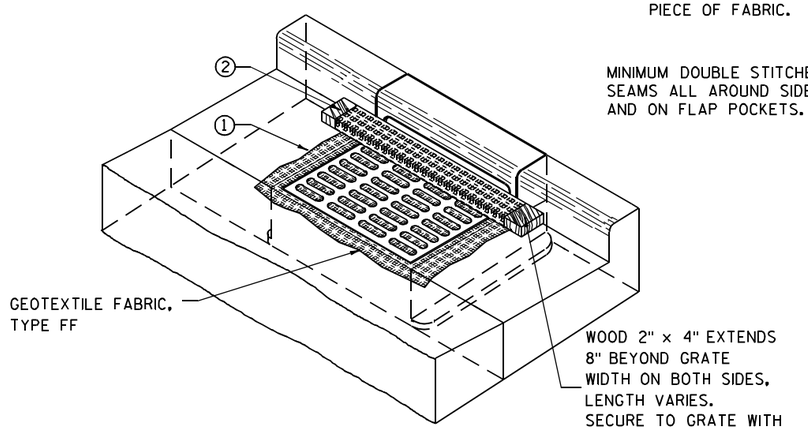


INLET PROTECTION, TYPE A

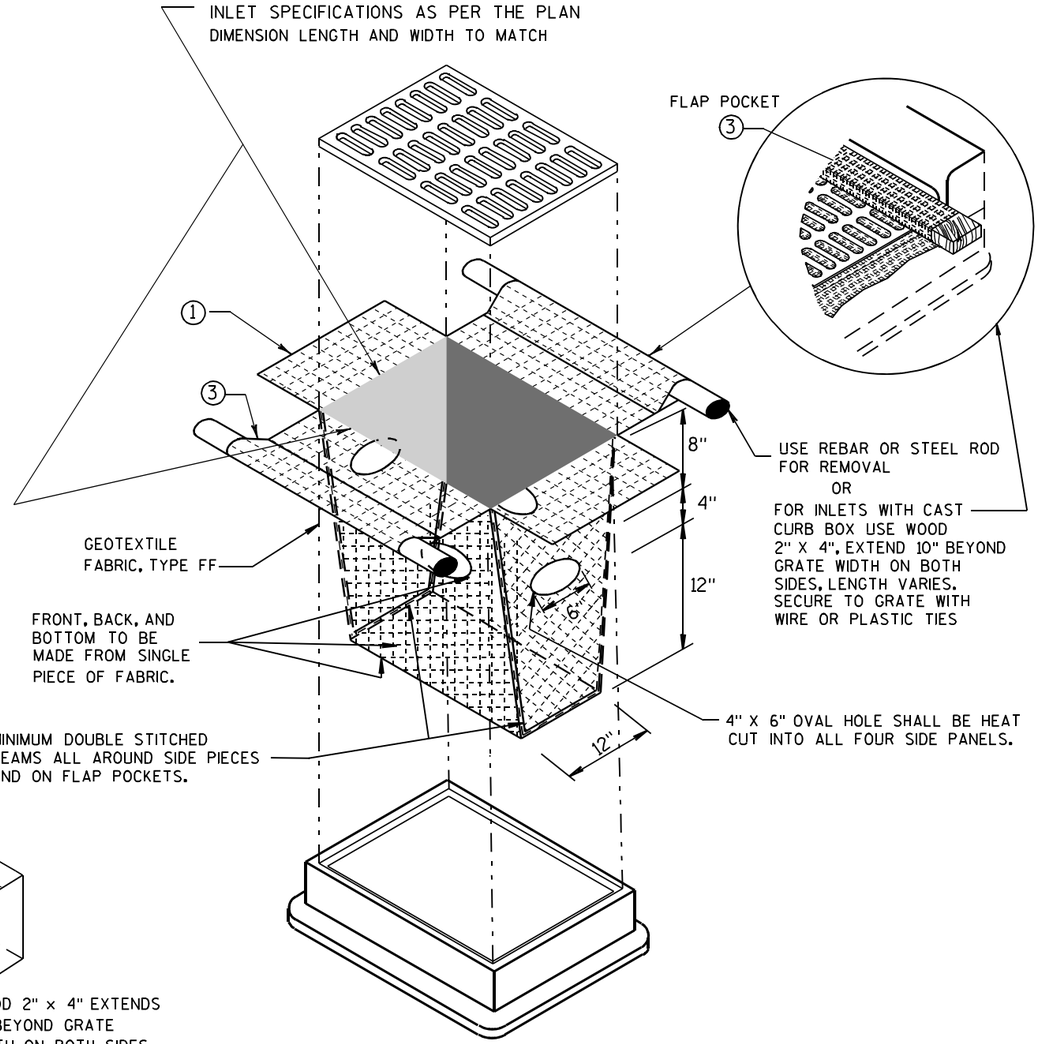


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

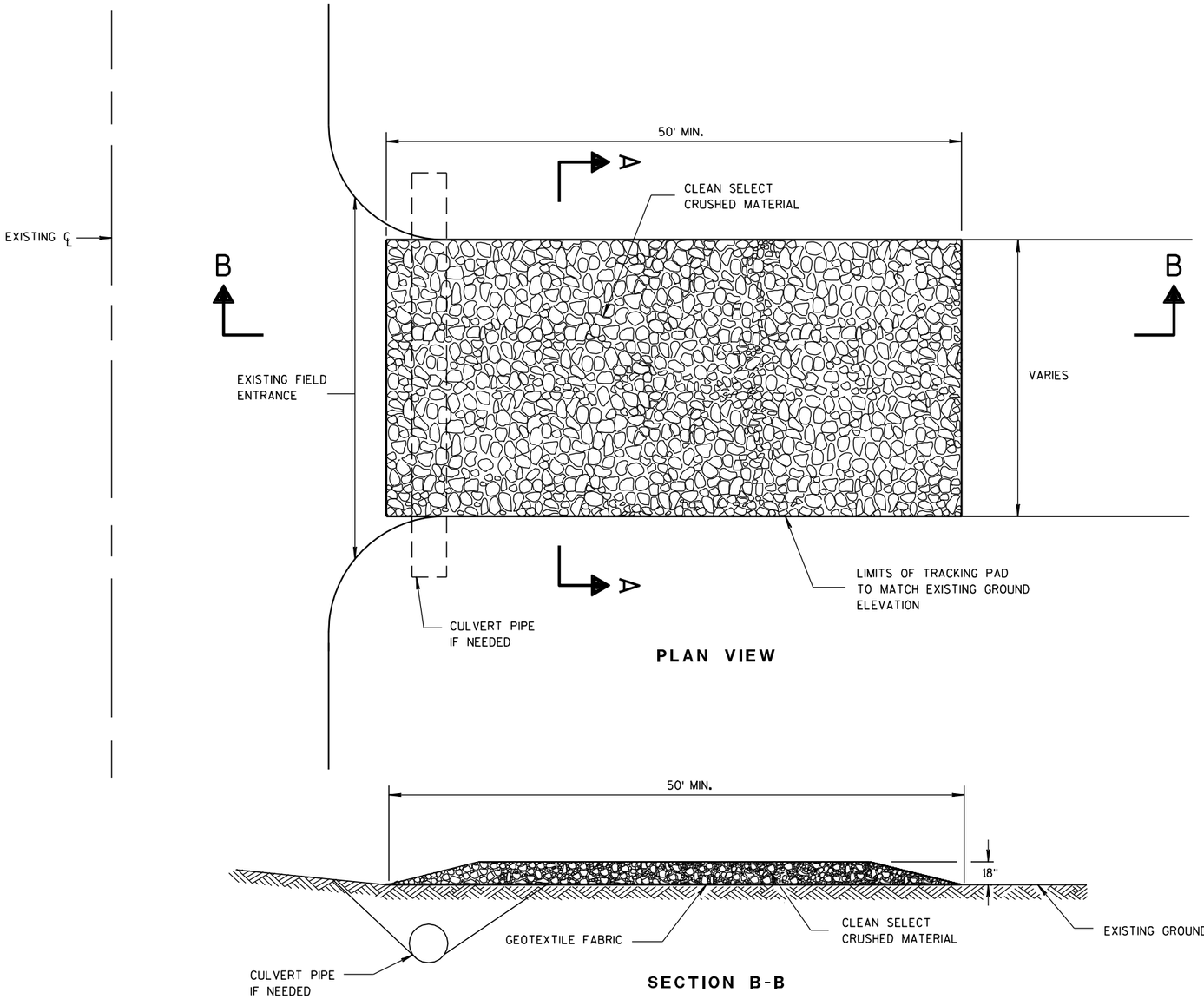
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 10-2



PLAN VIEW

SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

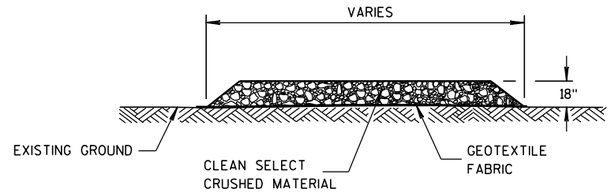
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

6

S.D.D. 8 E 14-1

TRACKING PAD

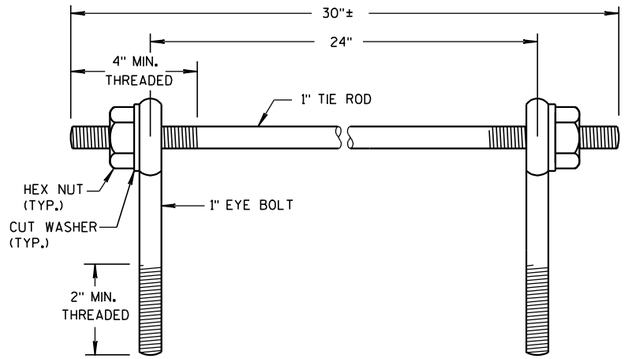
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011 DATE
/S/ Jerry H. Zoda
ROADWAY STANDARDS ENGINEER
FHWA

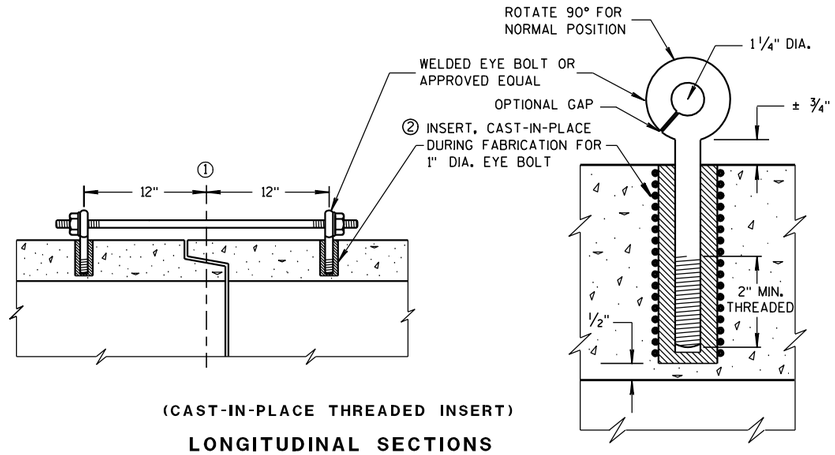
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6

S.D.D. 8 E 14-1



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

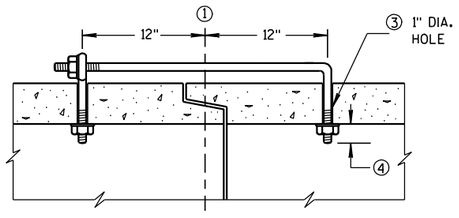
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

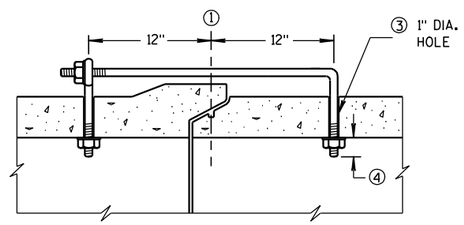
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

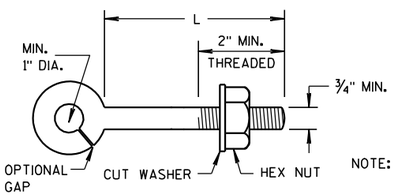


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

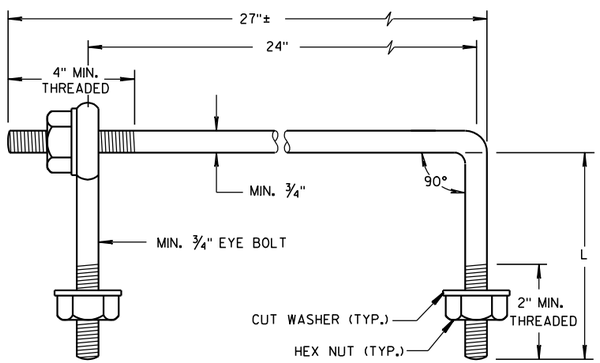
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

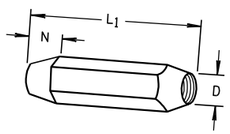
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

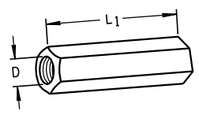
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



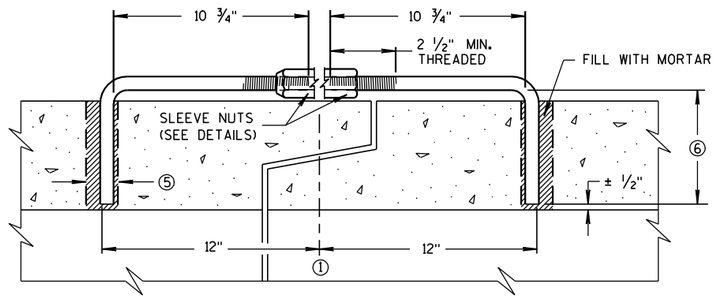
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PLAIN

RIGHT AND LEFT THREADS

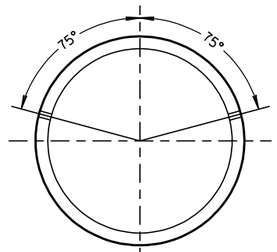
SLEEVE NUTS



LONGITUDINAL SECTION

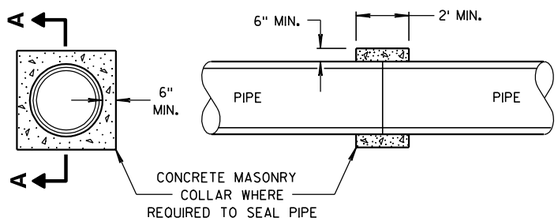
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

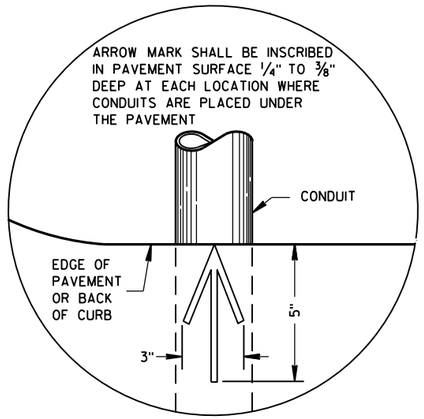
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 F 4-7

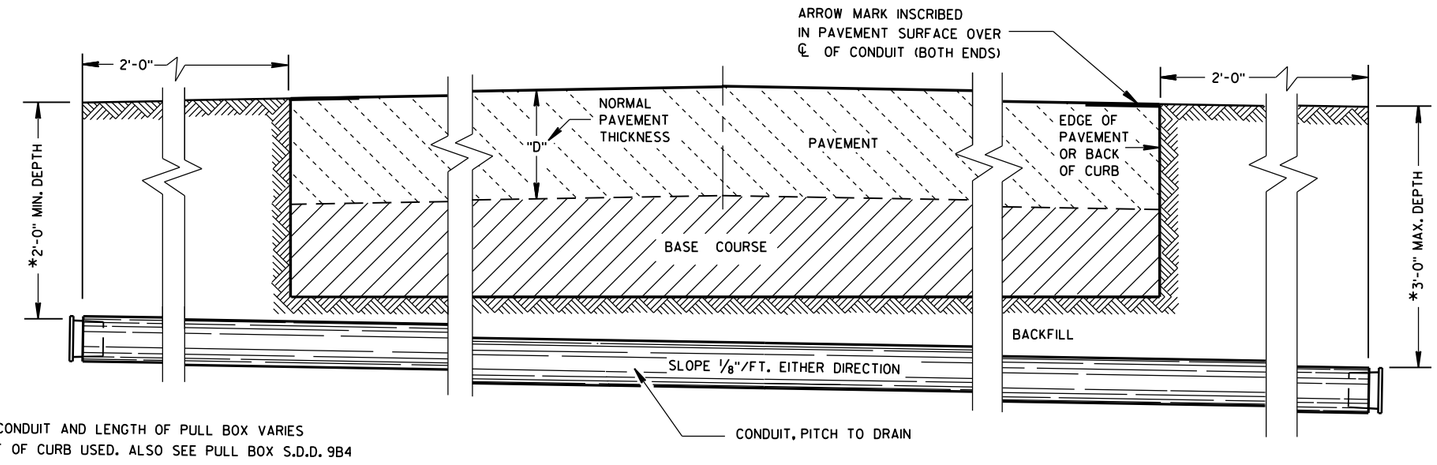
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S.D.D. 8 F 4-7



PLAN VIEW

ARROW MARK



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

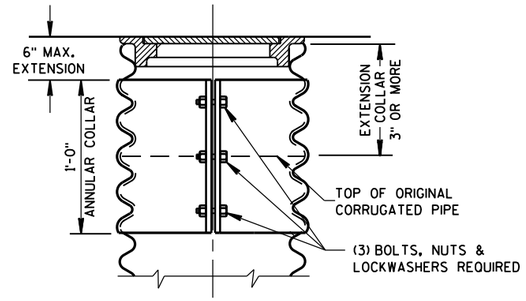
S.D.D. 9 B 2-10

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

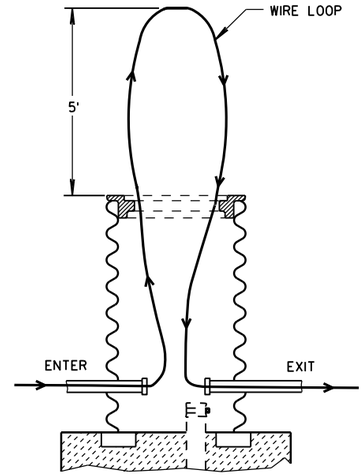
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

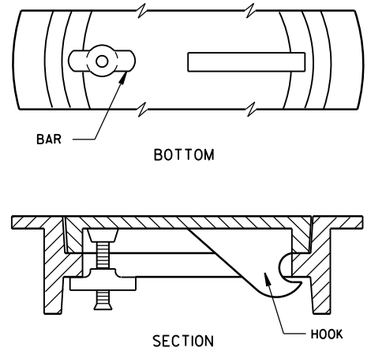
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

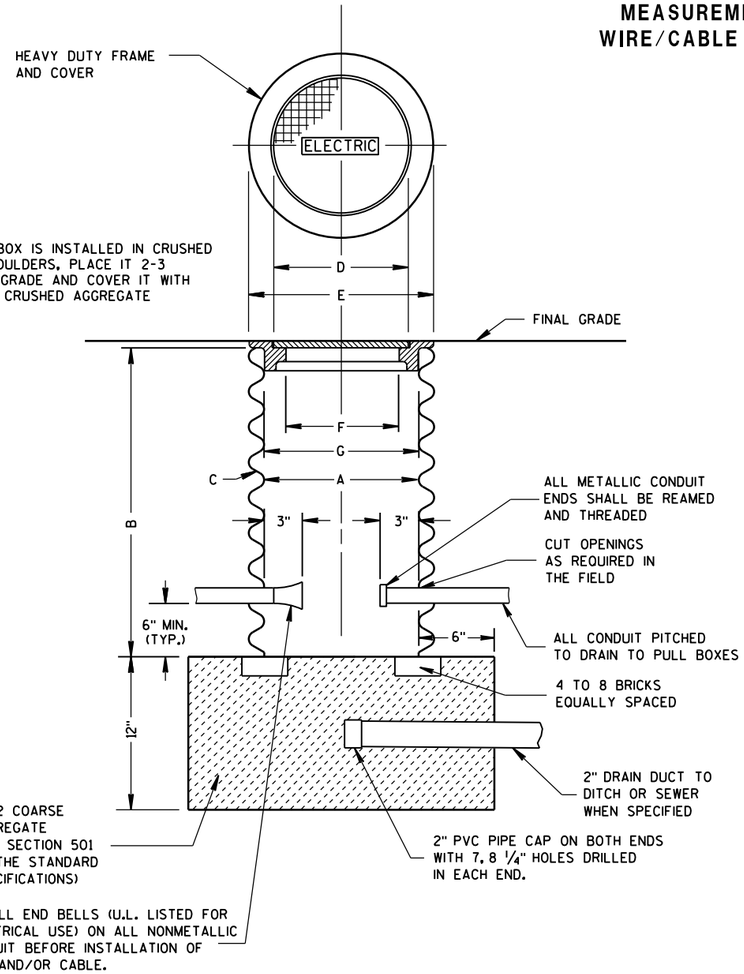


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

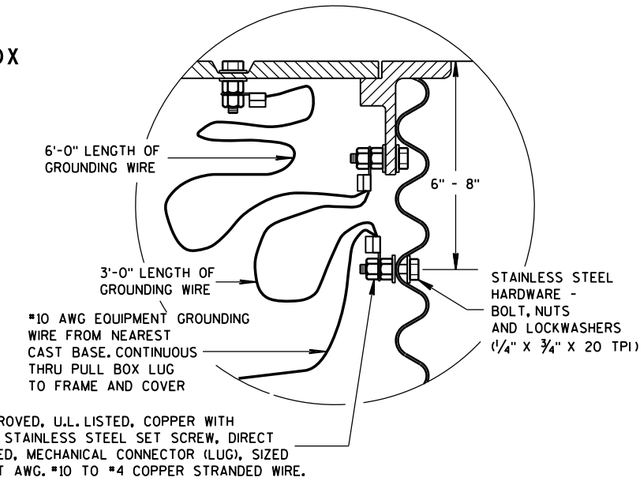


ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE



PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

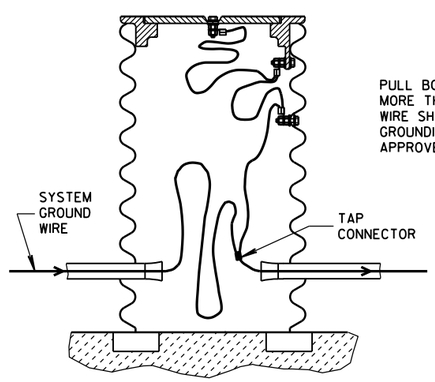
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

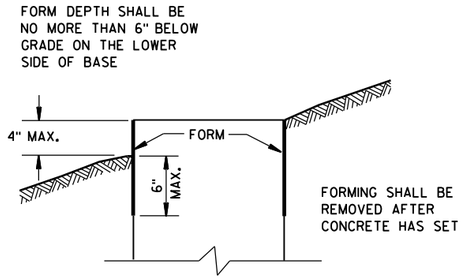
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 B 4-11



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

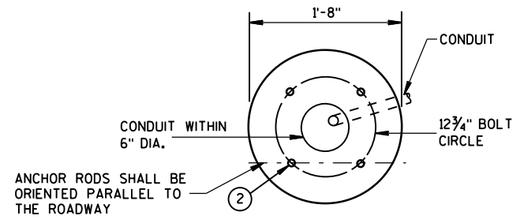
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

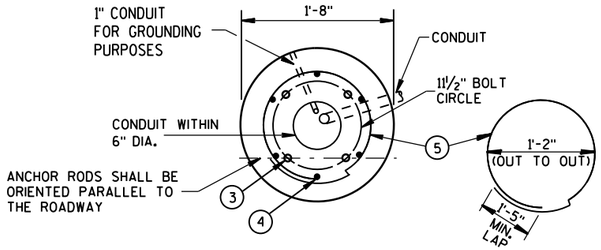
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

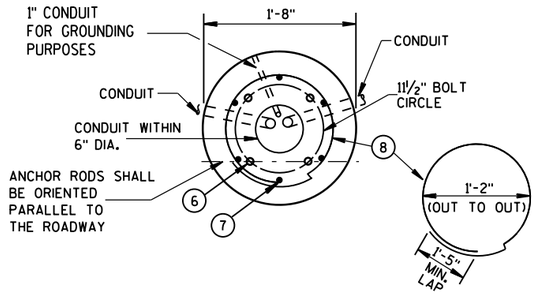
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

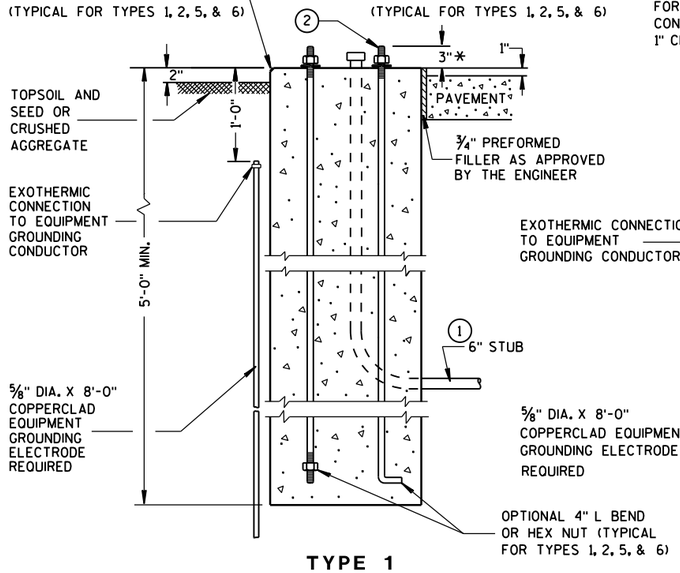




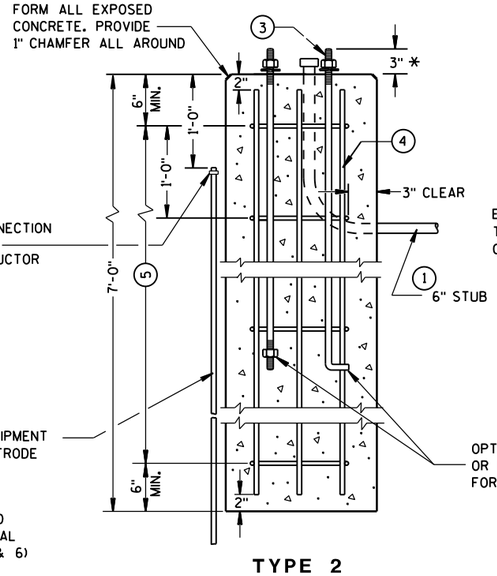


HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)

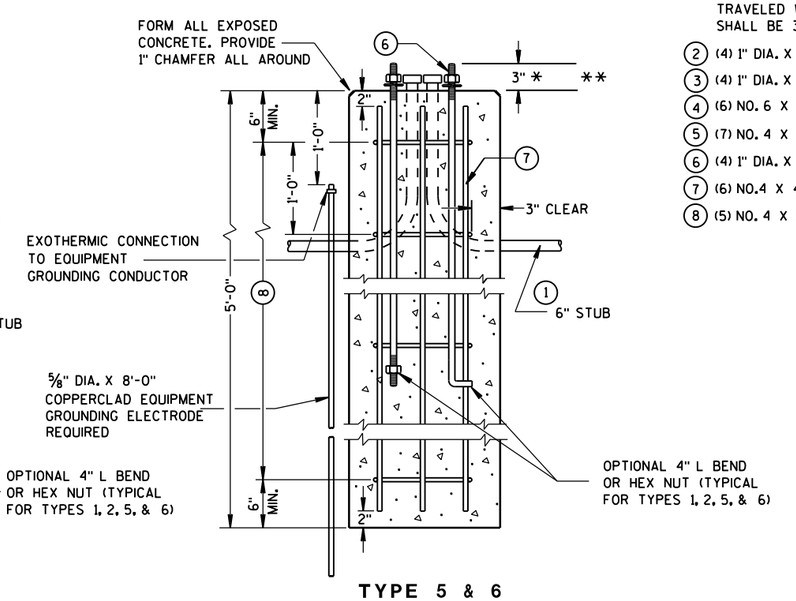
HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 1



TYPE 2



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 2-7

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

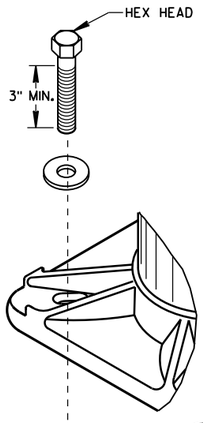
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

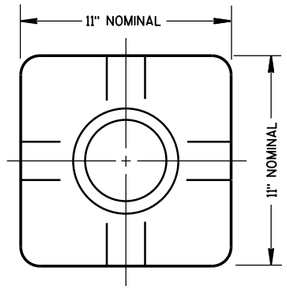
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

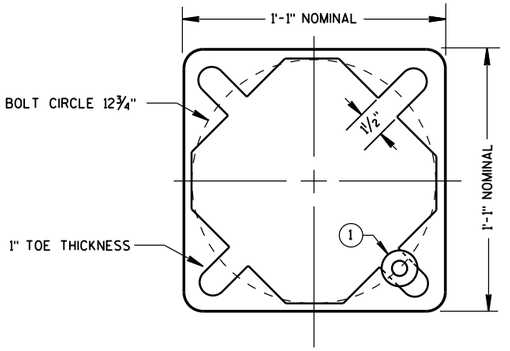
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

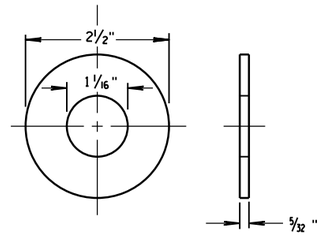




TOP VIEW
(PEDESTAL BASE)

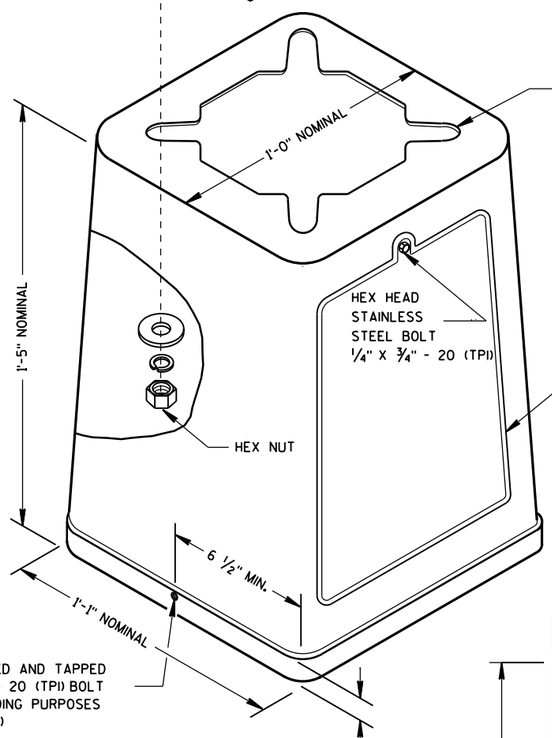


BOTTOM VIEW
(PEDESTAL BASE)

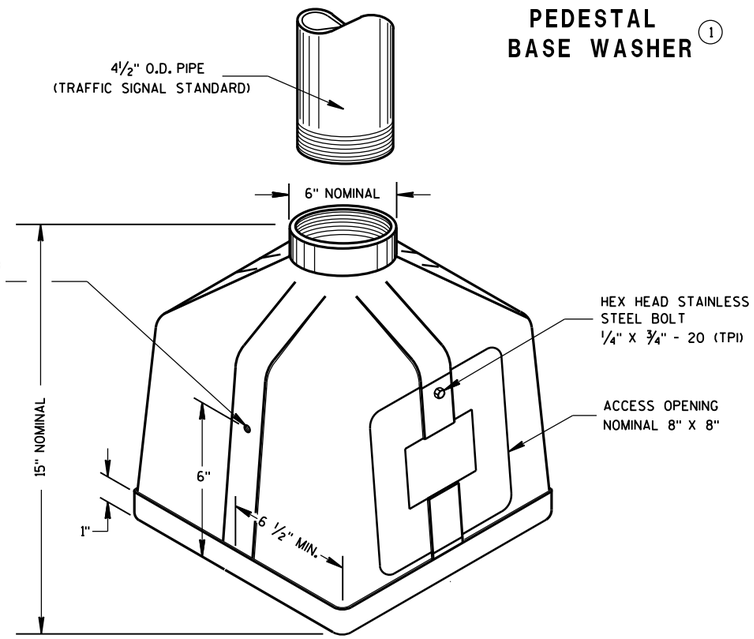


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

PEDESTAL BASE WASHER (1)

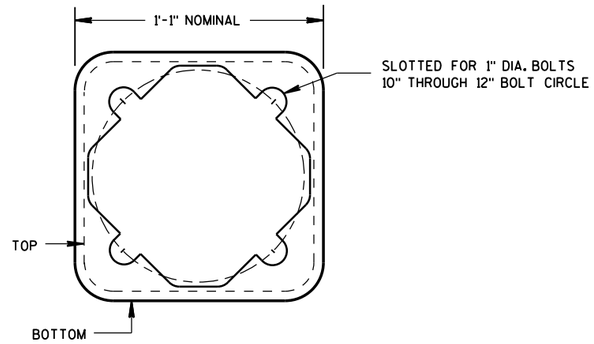


ISOMETRIC VIEW

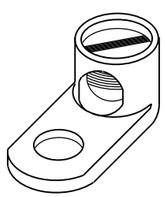


ISOMETRIC VIEW

PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

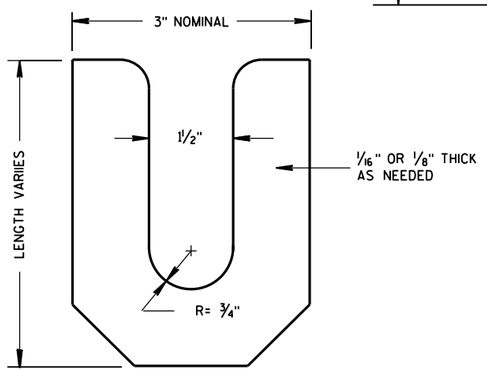


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

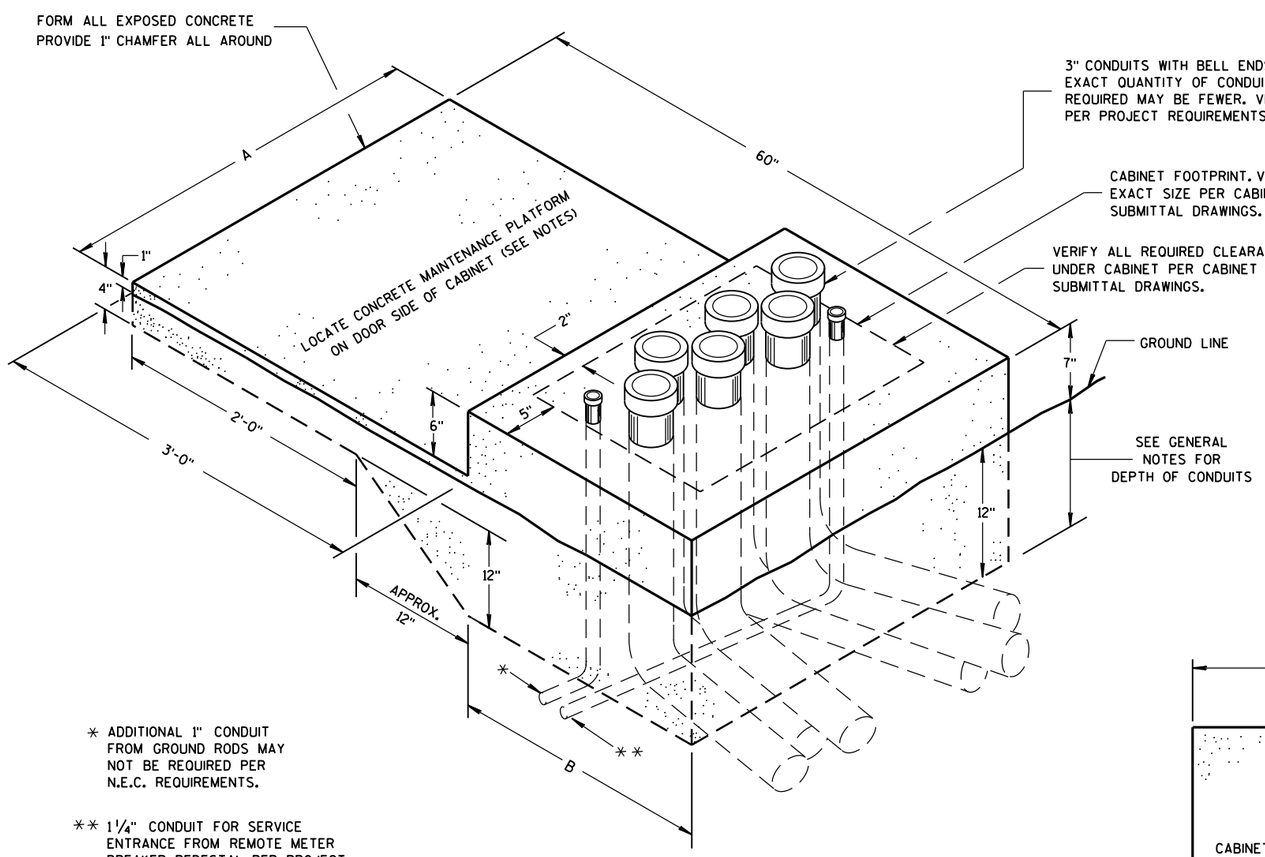
TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 C 3-4



* ADDITIONAL 1" CONDUIT FROM GROUND RODS MAY NOT BE REQUIRED PER N.E.C. REQUIREMENTS.

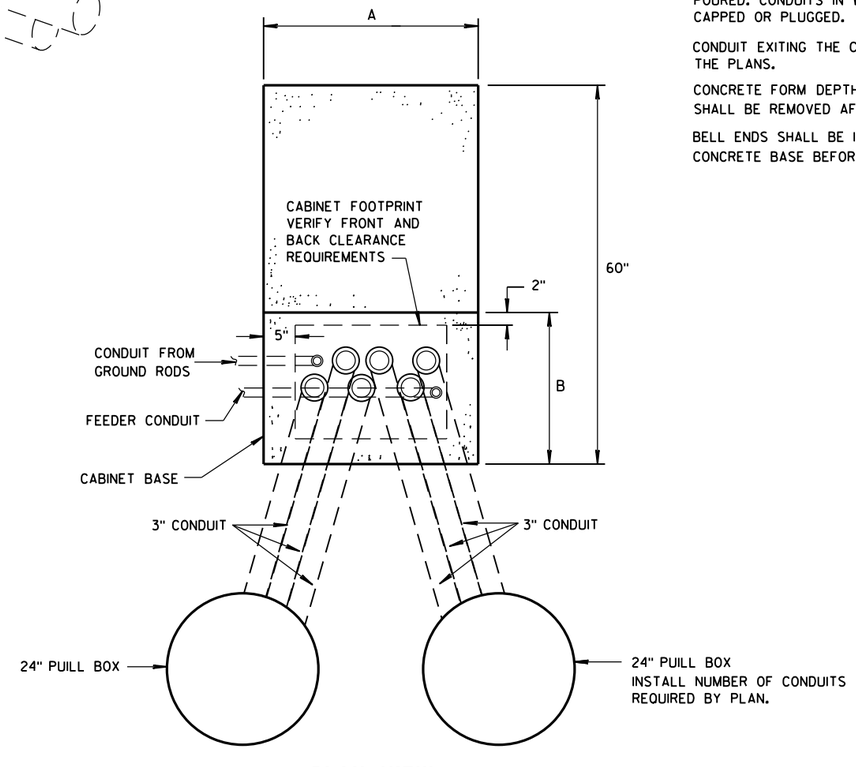
** 1¼" CONDUIT FOR SERVICE ENTRANCE FROM REMOTE METER BREAKER PEDESTAL PER PROJECT REQUIREMENTS. VERIFY LOCATION OF CONDUIT DEPENDENT UPON LOCATION OF INCOMING FEEDER AND FOR EASE OF CONNECTION TO LOAD CENTER.

ISOMETRIC VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

(C.Y. CONCRETE = APPROX. 0.4)

CONCRETE BASE TYPE	CABINET WIDTH	DIMENSIONS		MAXIMUM 3" CONDUITS
		A	B	
L24	24"	34"	24"	4
L30	30"	40"	24"	6



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE L

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE CONTROL CABINET BASE, TYPE L

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

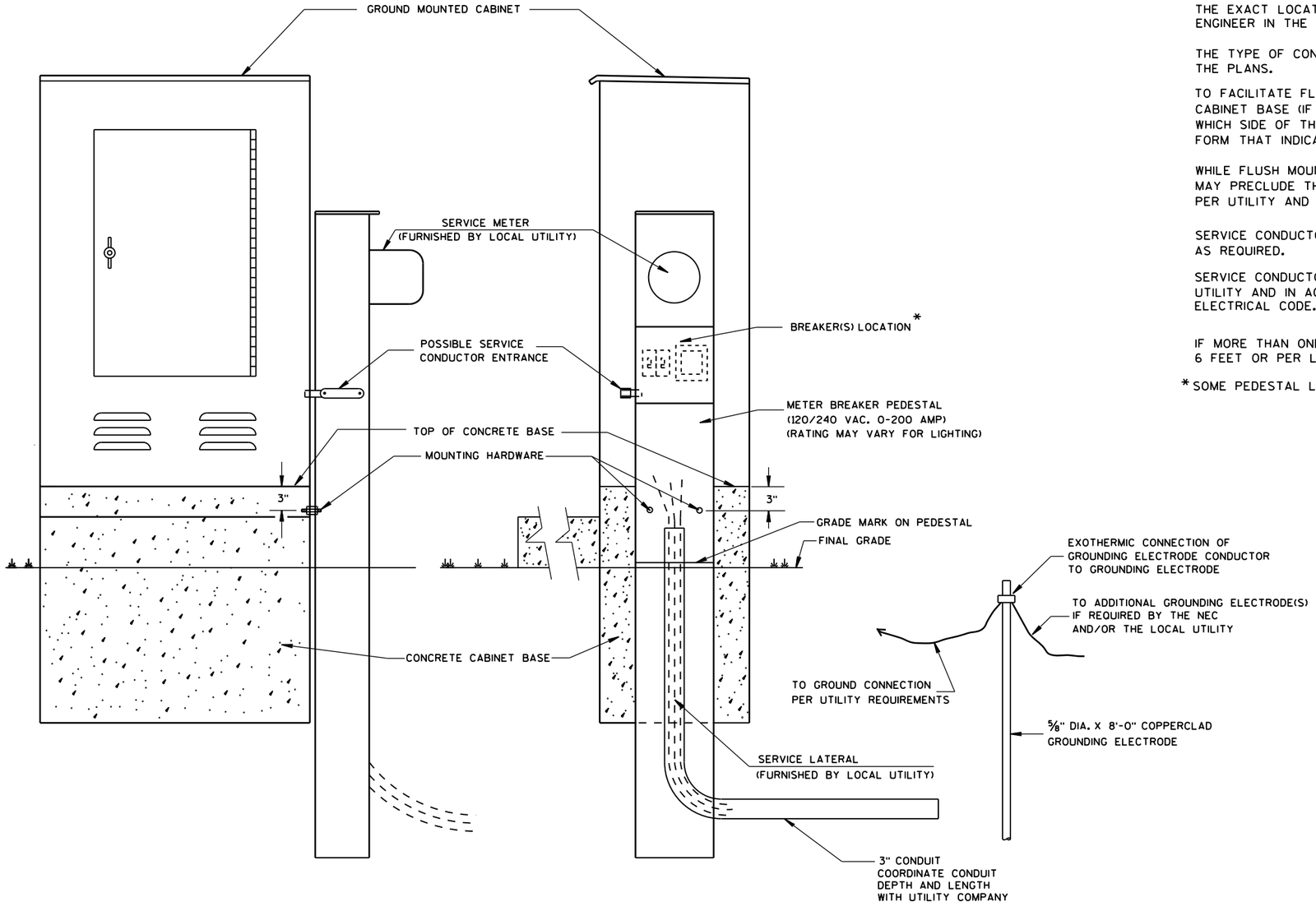
APPROVED
Nov. 2014 — DATE
/S/ Thomas Gonring — STATE LIGHTING ENGINE — WYS
FHWA

6

S.D.D. 9 C 14-2

6

S.D.D. 9 C 14-2



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

6

S.D.D. 9 D 1-5

6

S.D.D. 9 D 1-5

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

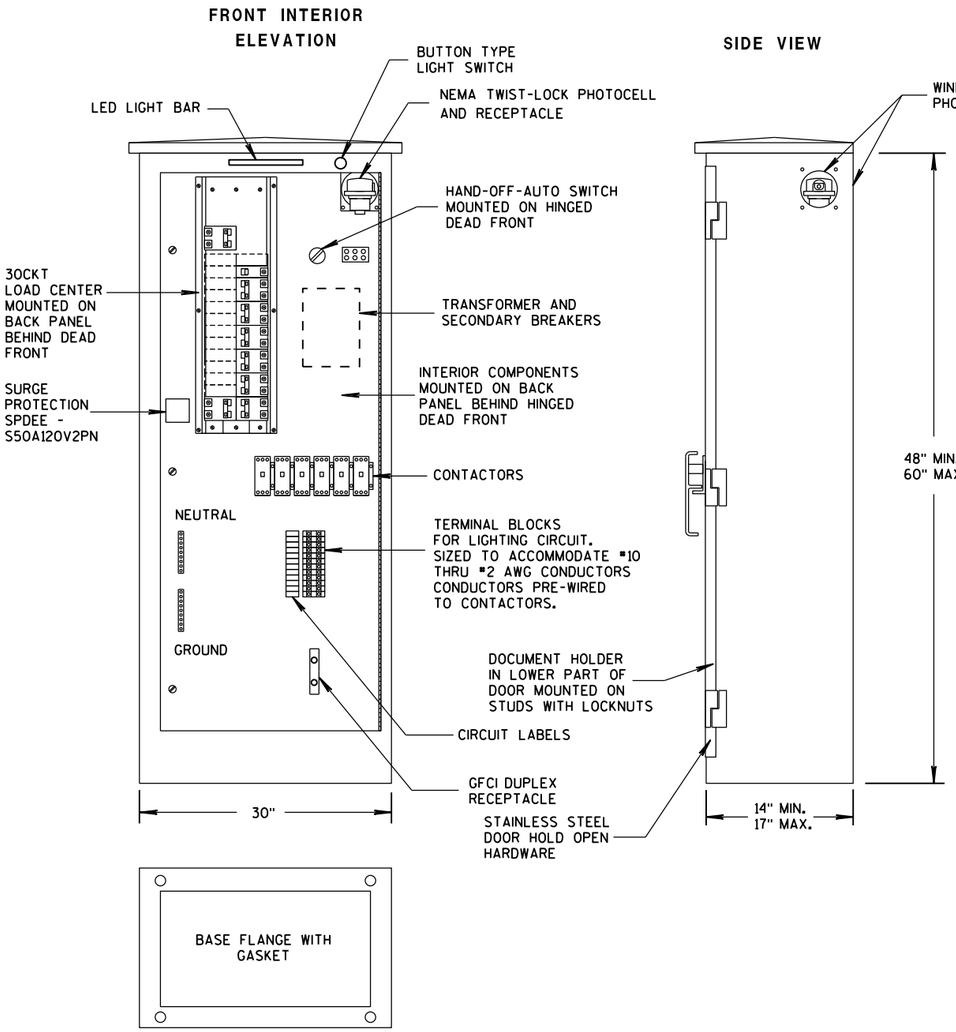
ALL INTERNAL ELECTRICAL COMPONENTS WILL BE PRE-WIRED BY THE CABINET FABRICATOR.

ALL CONDUIT ENTRIES SHALL BE SEALED WITH AN APPROPRIATE DUCT SEALING COMPOUND.

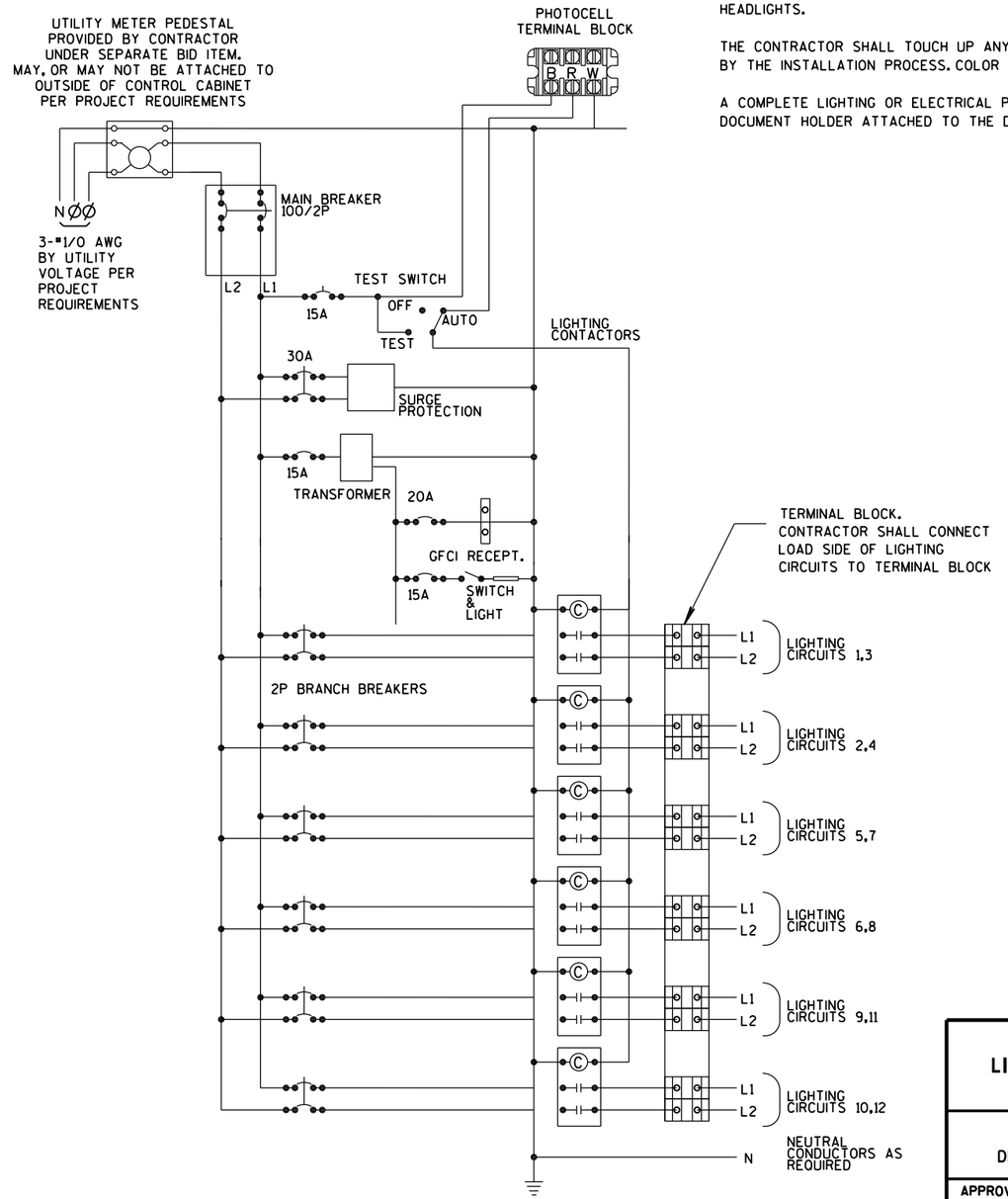
ORIENT PHOTOCELL AWAY FROM AMBIENT LIGHT SOURCES AND ONCOMING TRAFFIC HEADLIGHTS.

THE CONTRACTOR SHALL TOUCH UP ANY DAMAGE TO THE ANODIZED FINISH CAUSED BY THE INSTALLATION PROCESS. COLOR MATCH PAINT SHALL BE USED.

A COMPLETE LIGHTING OR ELECTRICAL PLAN SHALL BE SECURELY PLACED IN THE DOCUMENT HOLDER ATTACHED TO THE DOOR.



LIGHTING CONTROL CABINET



CONTROL CABINET SCHEMATIC

L30
LIGHTING CONTROL CABINET 240/480 VOLT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

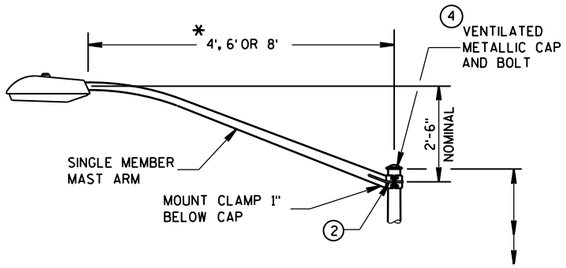
/S/ Thomas Gonring — STATE LIGHTING ENGINEER

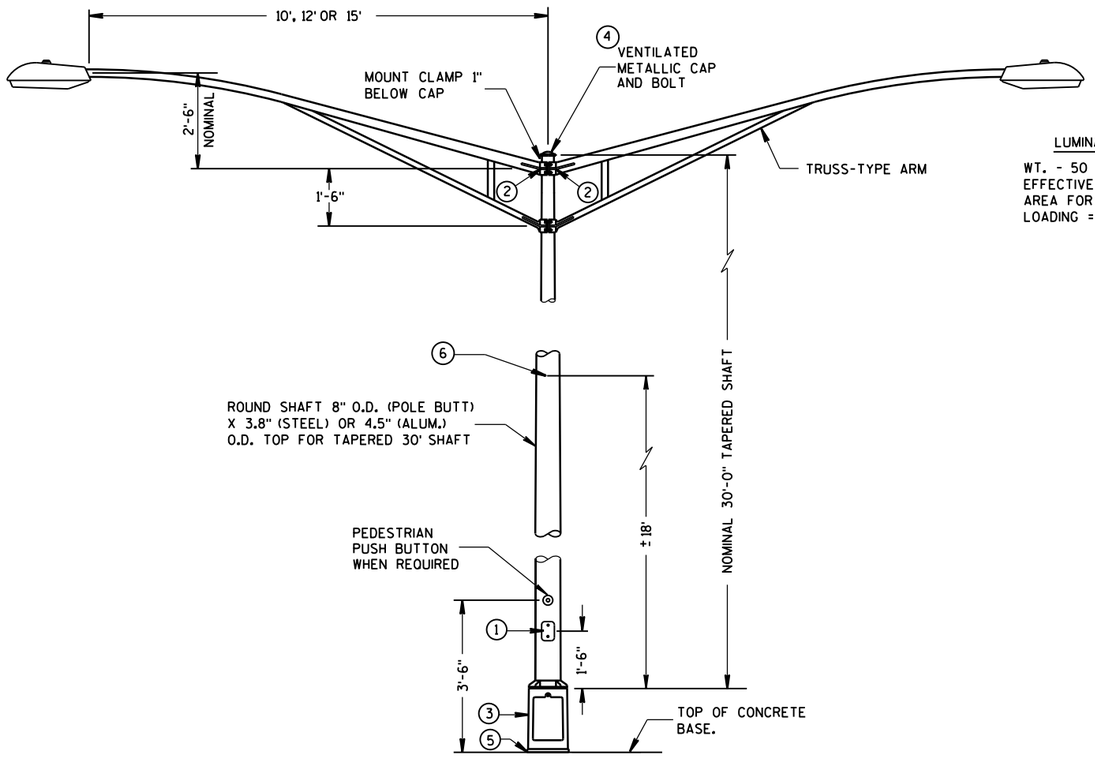
NYS.

FHWA

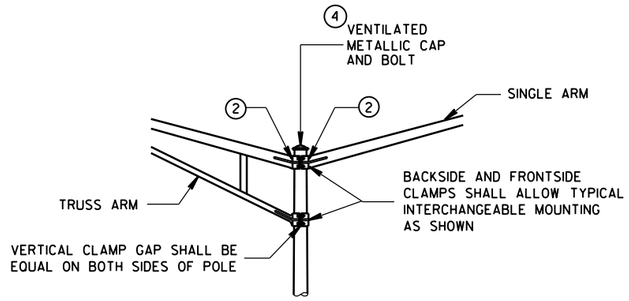
6
S.D.D. 9 D 5-1

*RISE FOR 4' ARM SHALL BE 2'-0".





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

LUMINAIRE

WT. - 50 LBS.
EFFECTIVE PROJECTED
AREA FOR WIND
LOADING = 1.5 SQ. FT.

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONEECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

(3) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(4) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(5) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

(6) INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

6

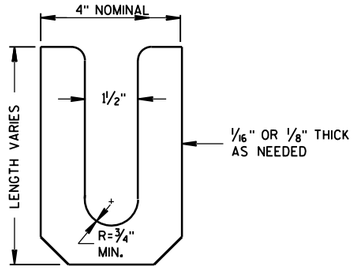
S.D.D. 9 E 1-14d

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

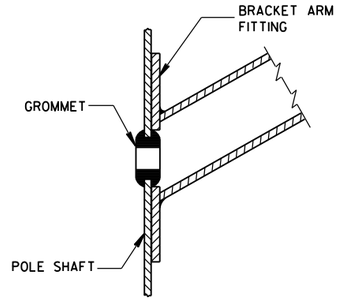
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S.D.D. 9 E 1-14d

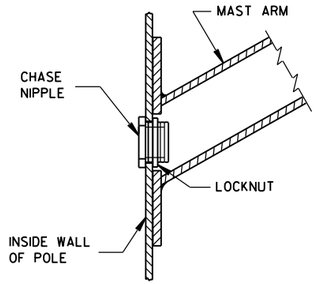


LEVELING SHIM (13)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

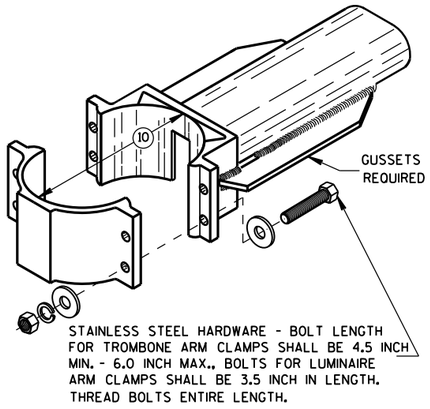
(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

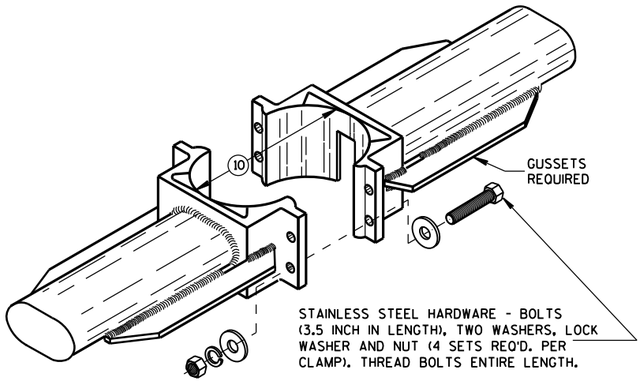
(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

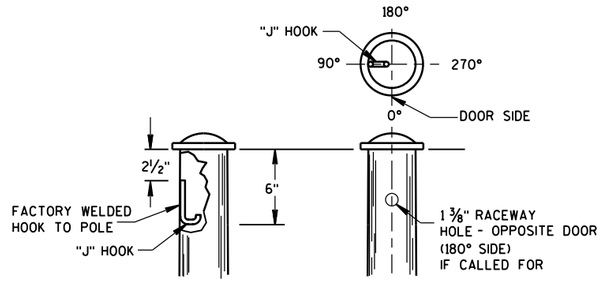
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



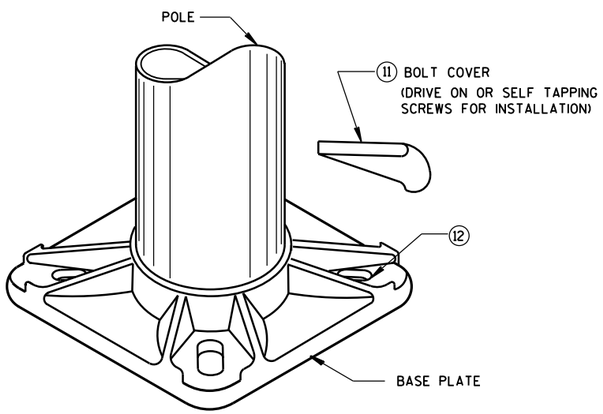
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



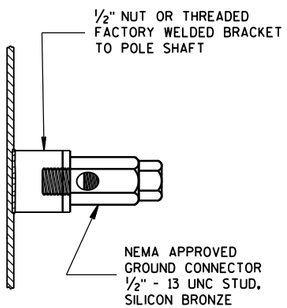
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

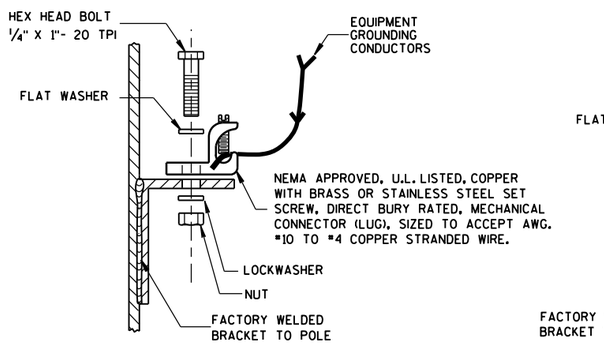


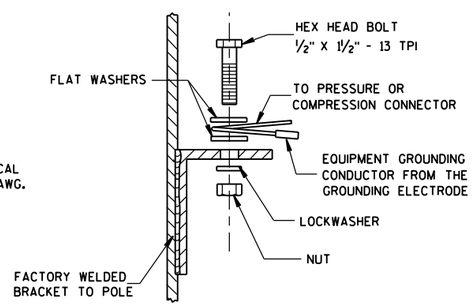
TYPICAL "J" HOOK LOCATION



BASE PLATE







TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

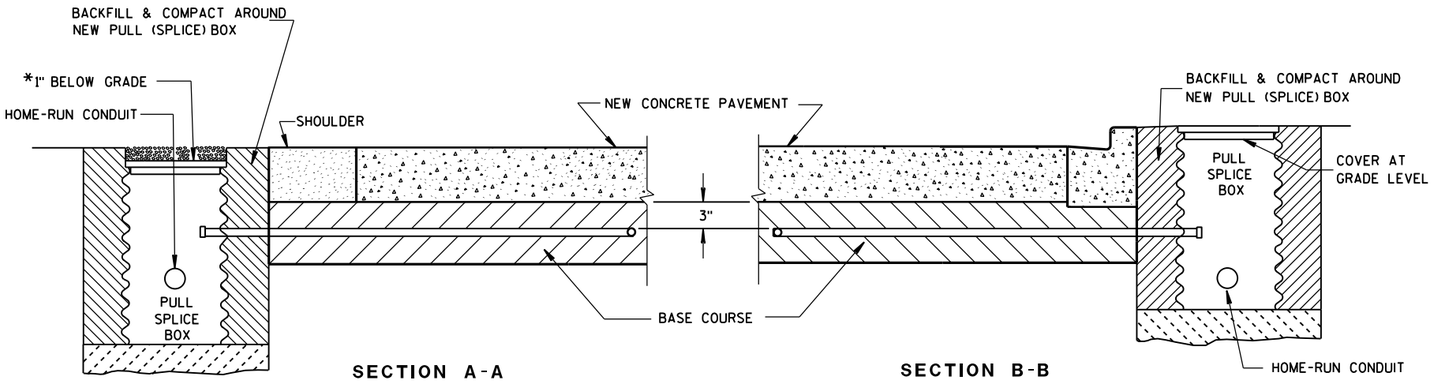
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 E 1-14g



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

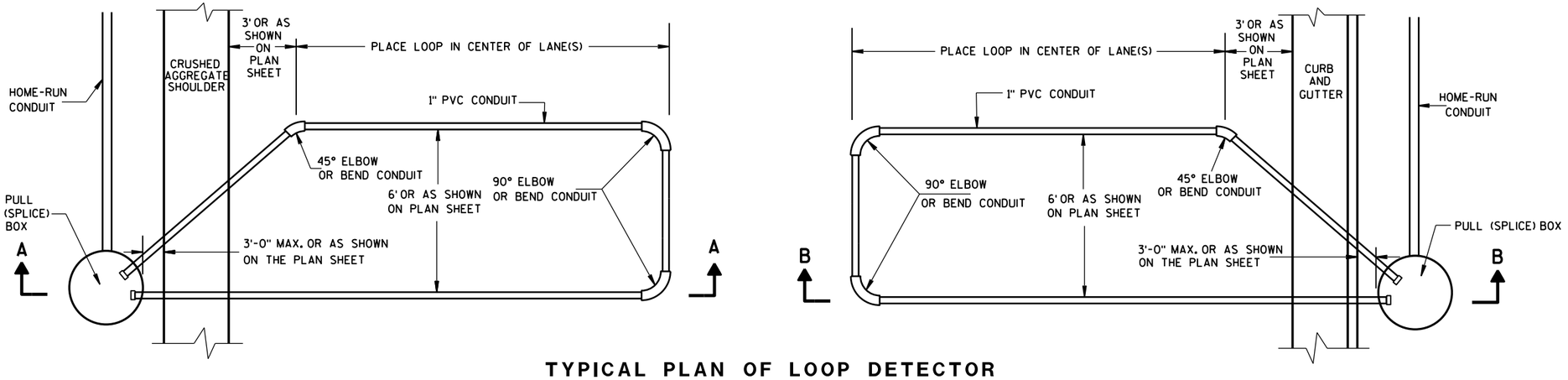
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICE CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE, SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 18" OR 24" PULL (SPLICE) BOX

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

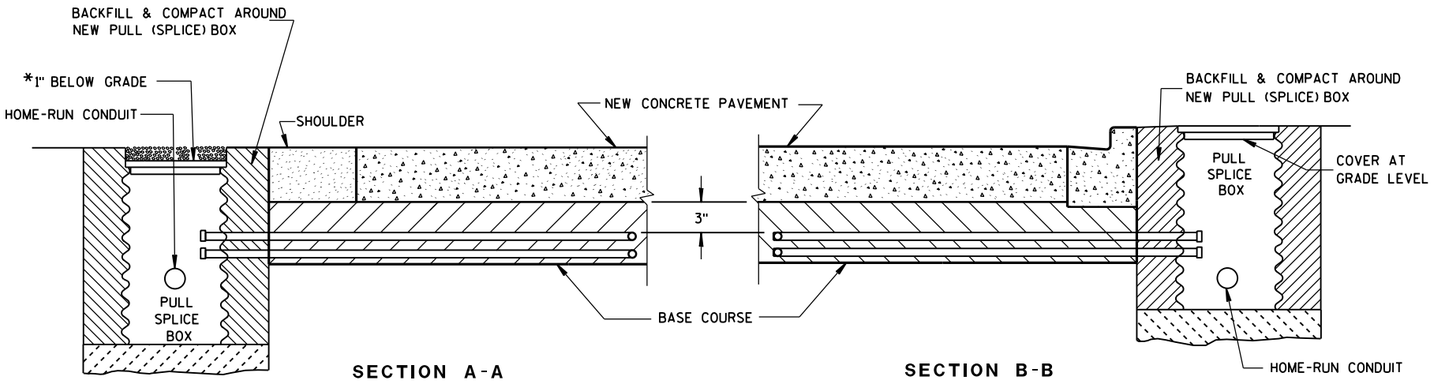
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

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S.D.D. 9 F 15-4a

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S.D.D. 9 F 15-4a



SECTION A-A
NO CURB & GUTTER

SECTION B-B
CURB & GUTTER

*RECESS PULL (SPLICE) BOX SO THAT THE COVER IS 3" BELOW GRADE IN SHOULDER AREAS OF CRUSHED AGGREGATE. BACKFILL OVER COVER WITH THE CRUSHED AGGREGATE TO BRING THE AREA TO GRADE LEVEL.

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPLICE) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

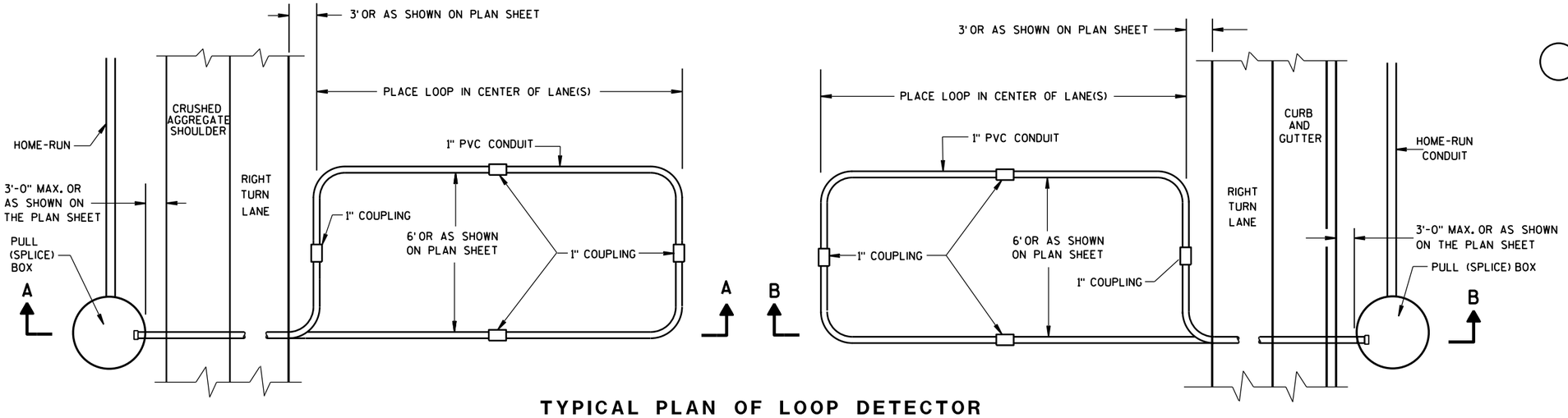
THE #12 AWG. LOOP WIRE IN THE PULL (SPLICE) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPLICE) BOXES AT THE SIDE OF THE ROAD.

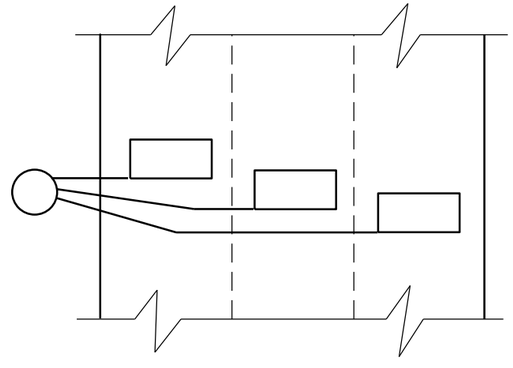
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPLICE) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPLICE) BOX, AND BE INSTALLED IN ONE, NON-SPLICED CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.

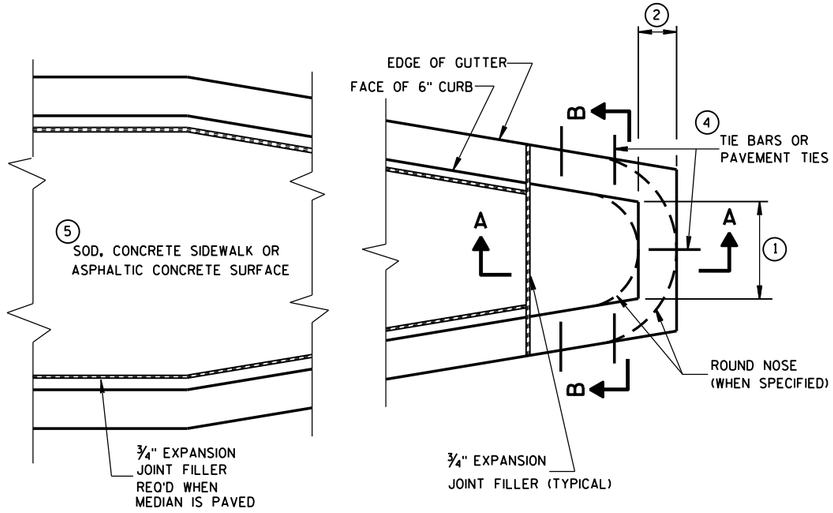


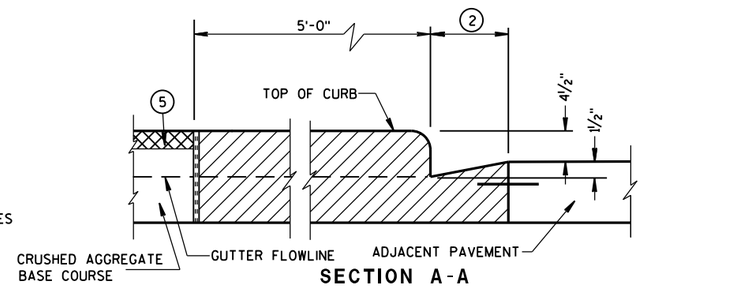
TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPLICE) BOX



MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED Sept. 2014 — DATE /S/ Ahmet Demirbilek — STATE ELECTRICAL FHWA





CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

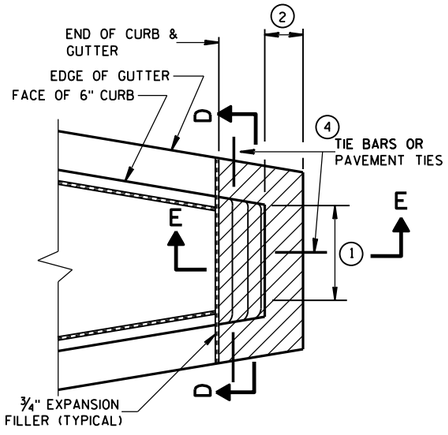
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

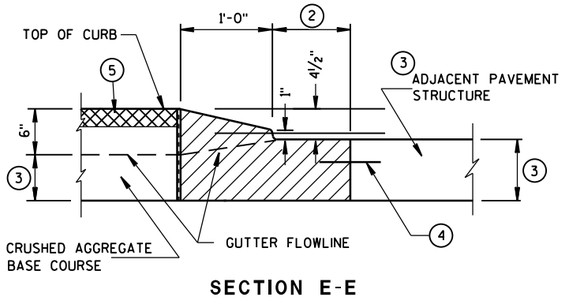
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

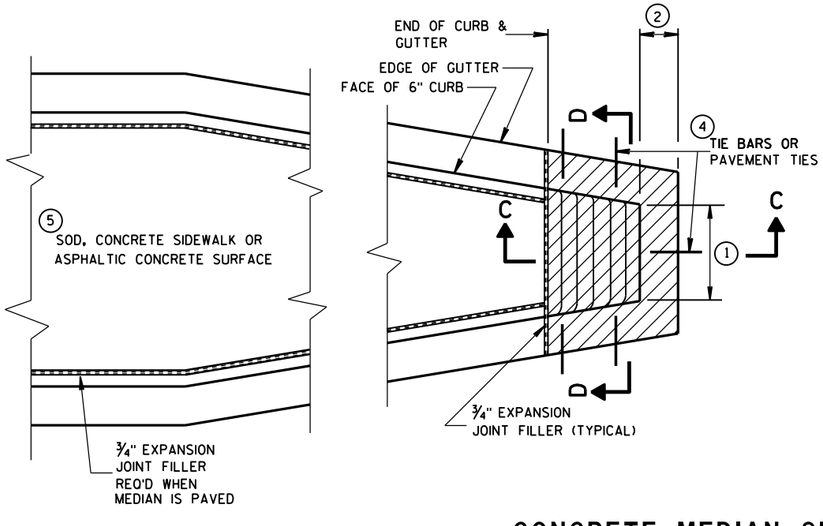
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

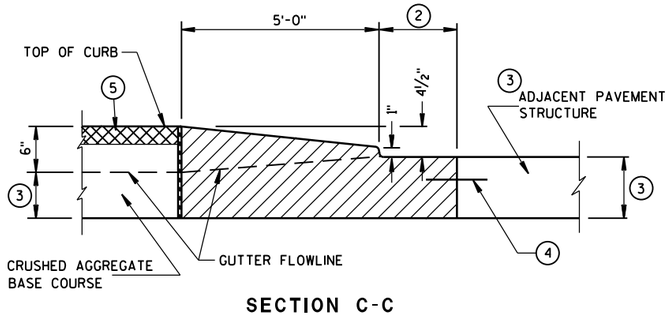




SECTION E-E

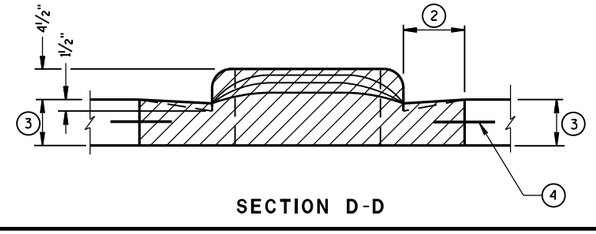
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

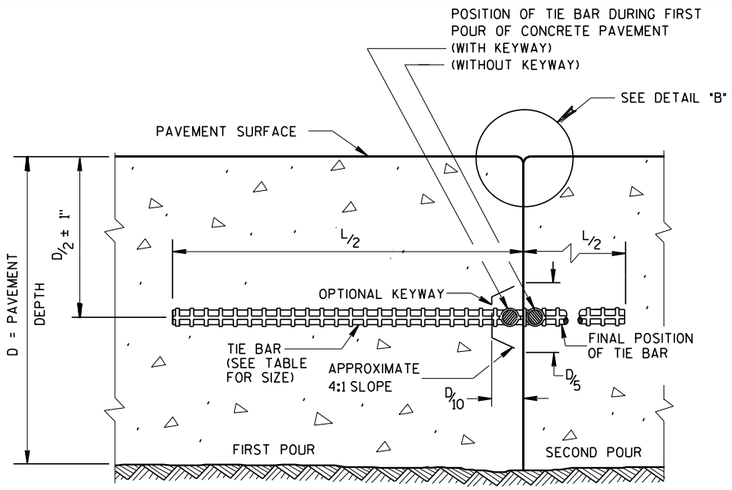
CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

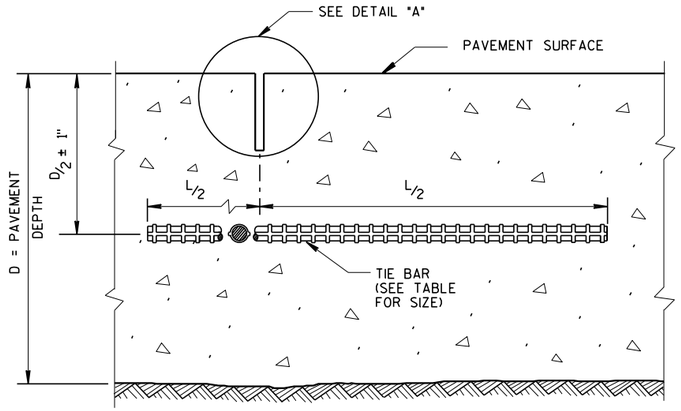
APPROVED
6/8/2006 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

S.D.D. 11 B 2-2

S.D.D. 11 B 2-2



CONSTRUCTION JOINT



SAWED JOINT

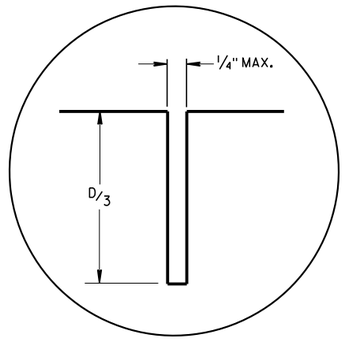
GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

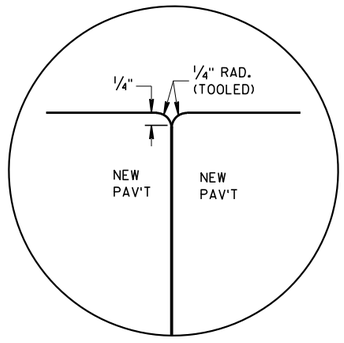
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

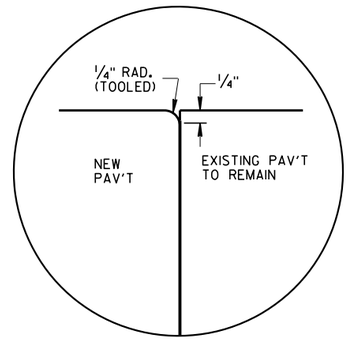
(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



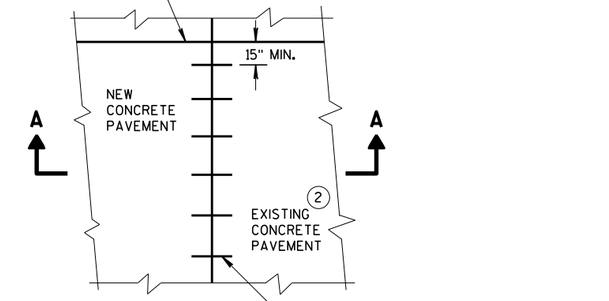
DETAIL "A"



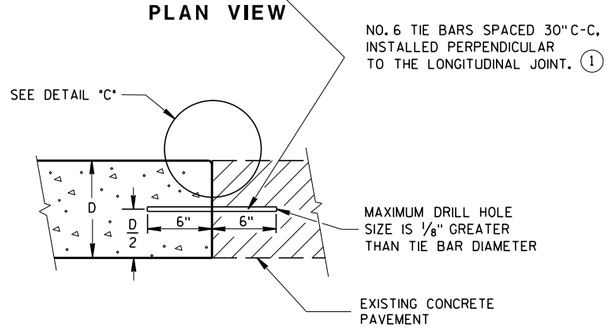
DETAIL "B"



DETAIL "C"



PLAN VIEW



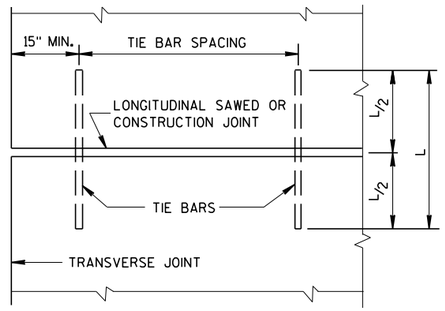
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

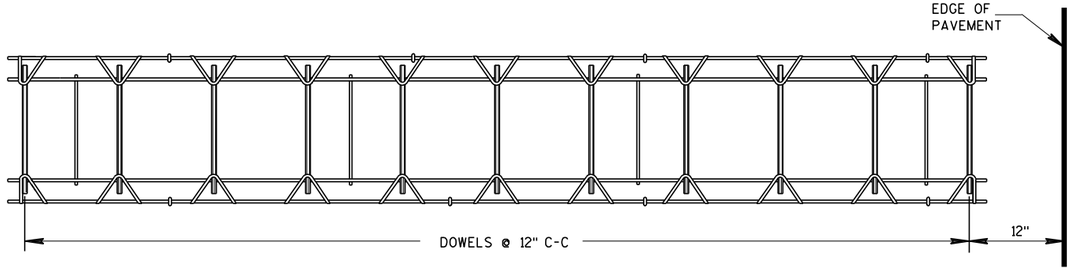
APPROVED
March 2018 — DATE
/S/ Peter Kemp — PAVEMENT SUPE
FHWA

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S.D.D. 13 C 1-19

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S.D.D. 13 C 1-19

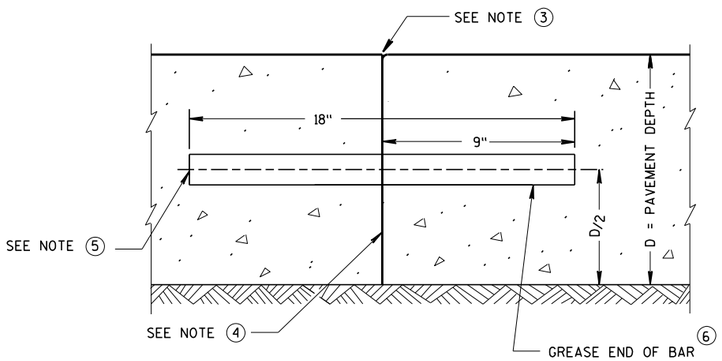


PLAN VIEW

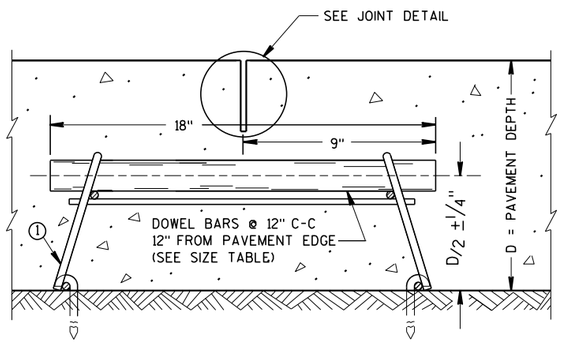


SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



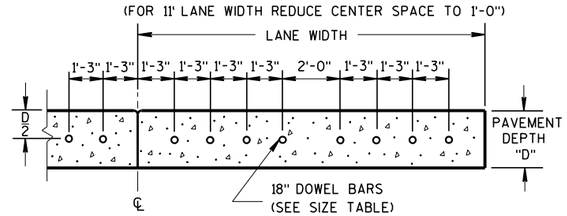
TRANSVERSE CONSTRUCTION JOINT



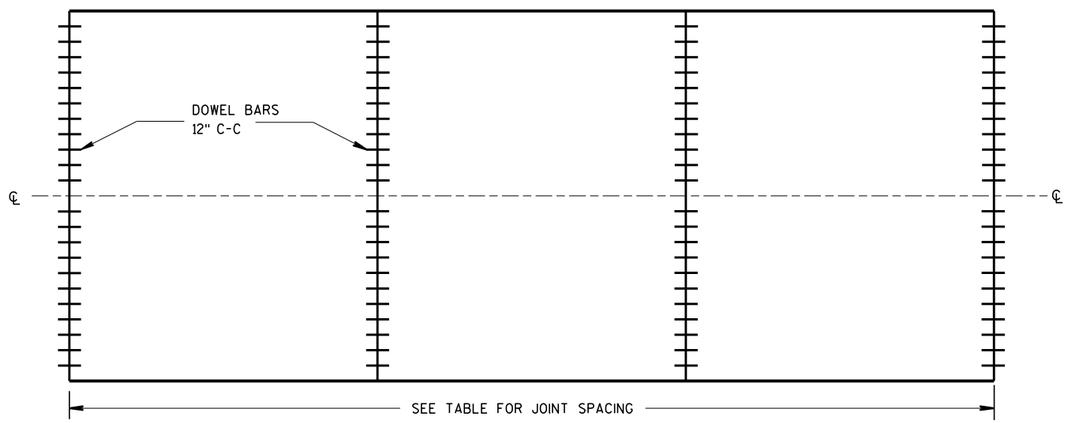
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

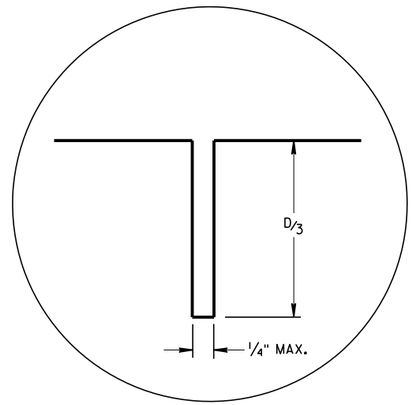
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

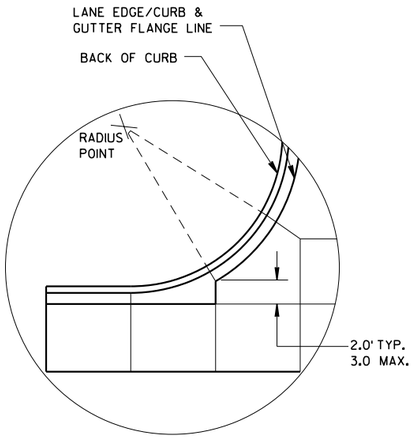
APPROVED
March 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUP

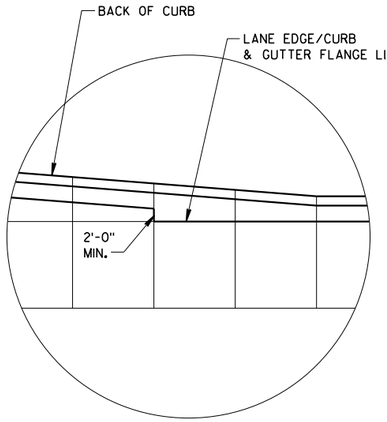
FHWA

6

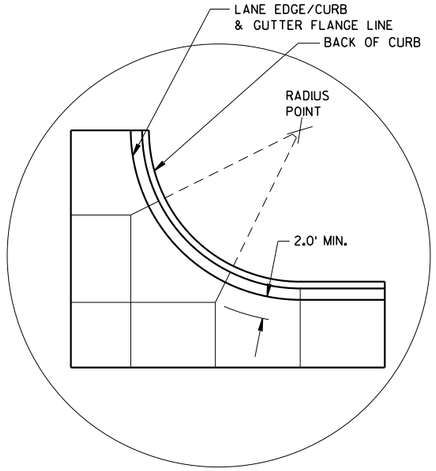
S.D.D. 13 C 13-9



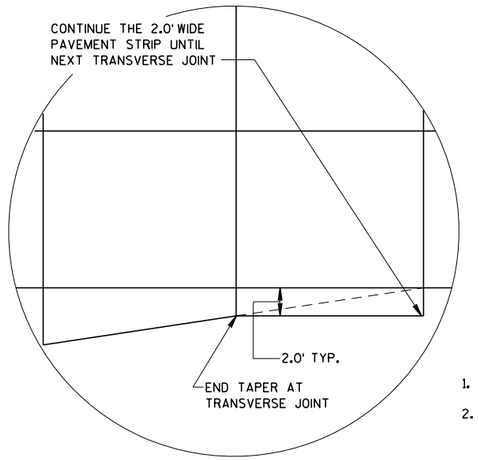
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

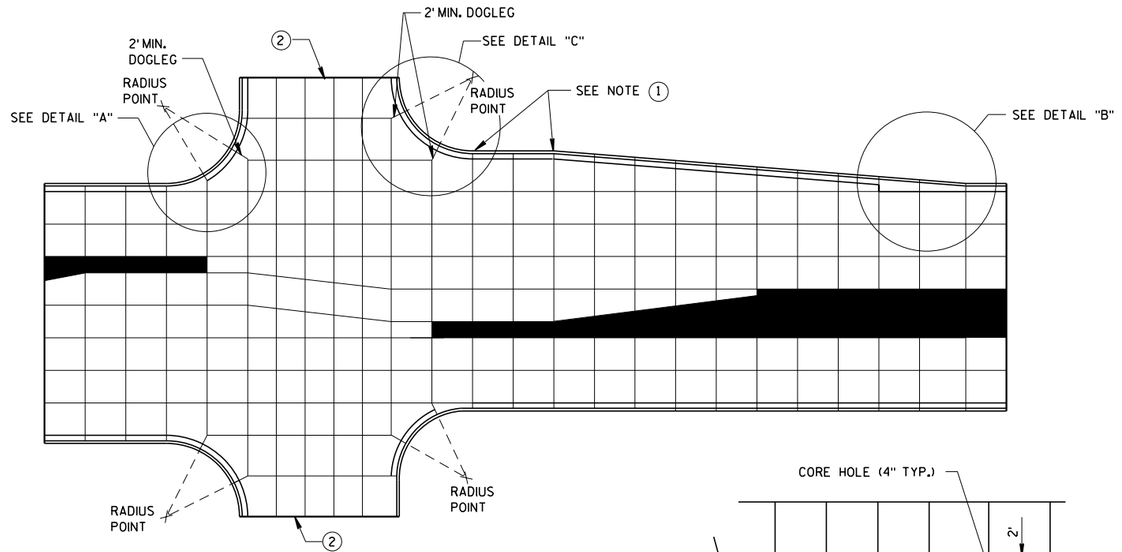
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

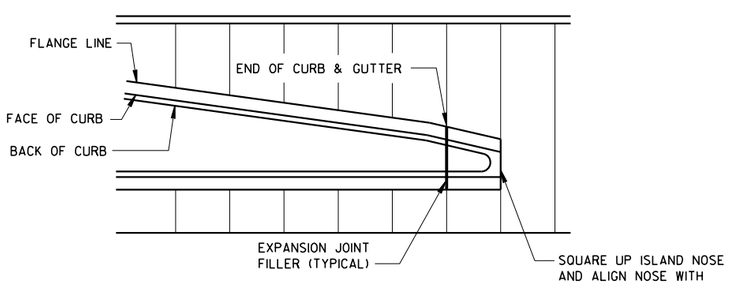
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



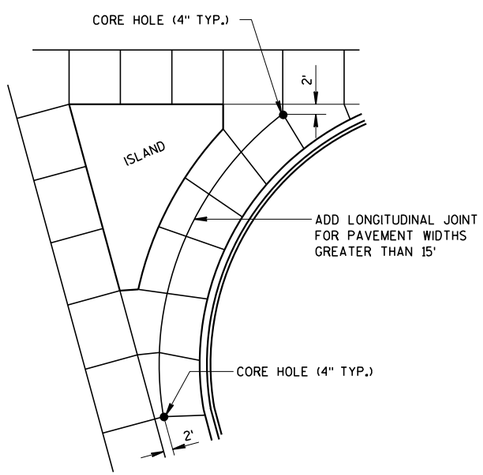
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

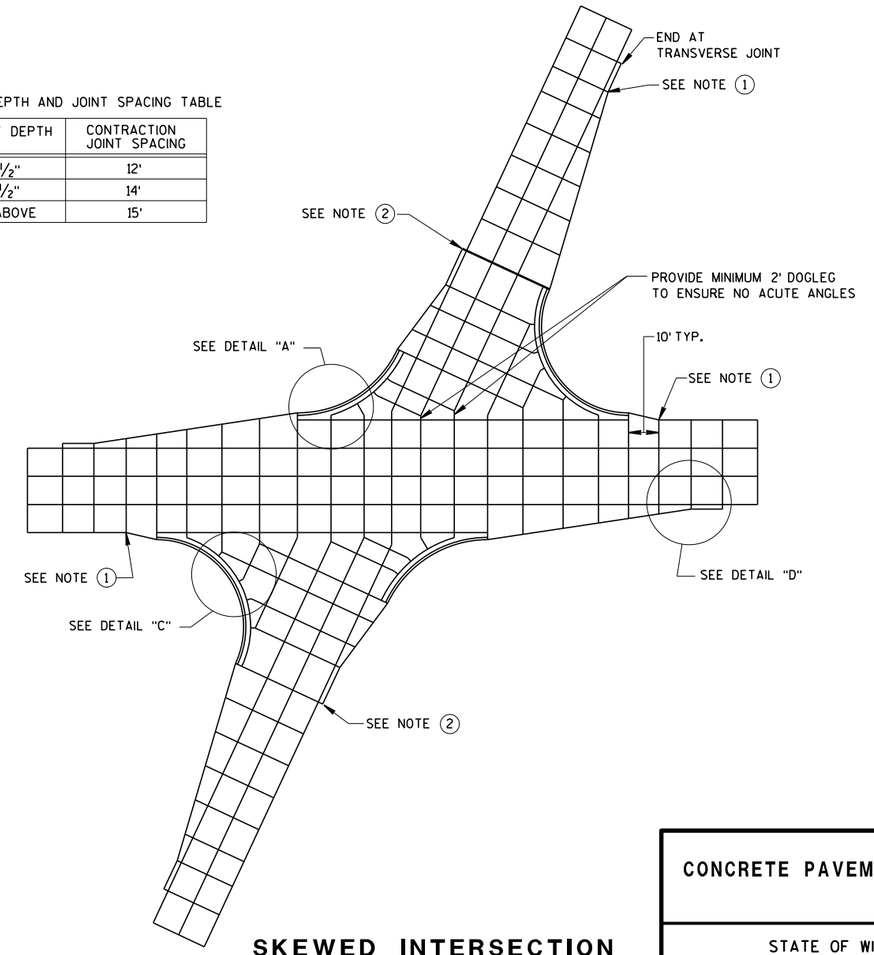
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



APPROACH TO MEDIAN



LARGE RIGHT TURN



SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

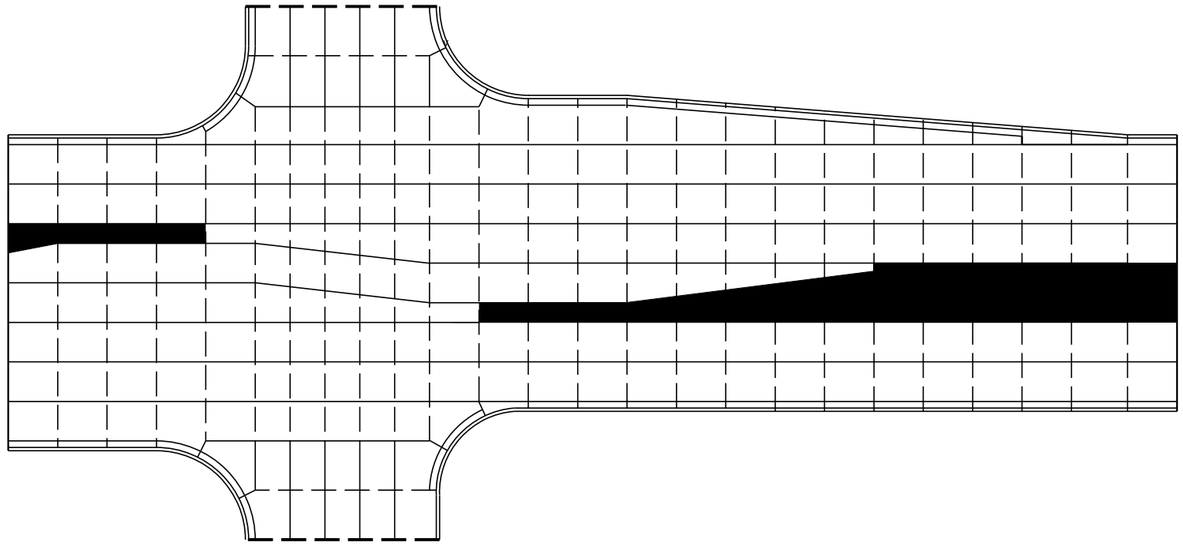
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S.D.D. 13 C 18-6a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

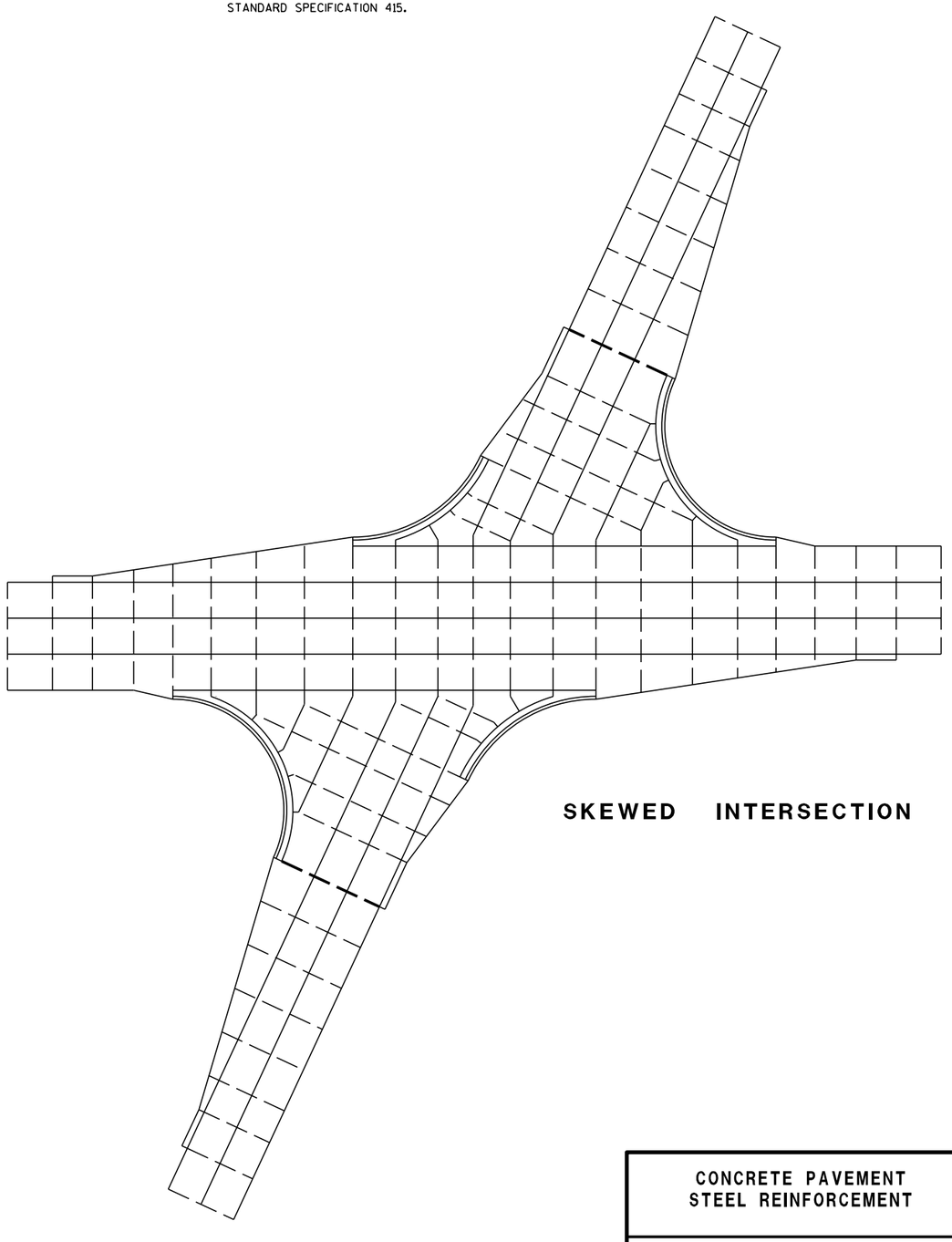
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

6

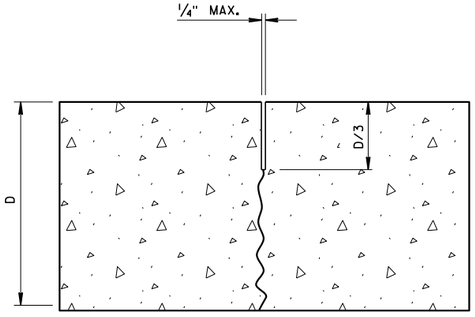
S.D.D. 13 C 18-6b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

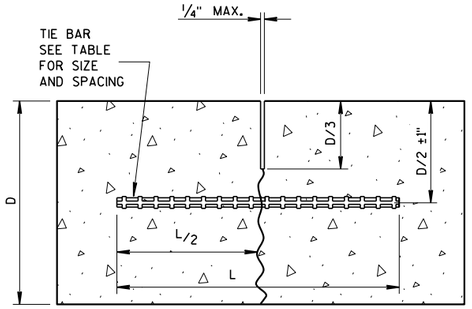
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 18-6b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

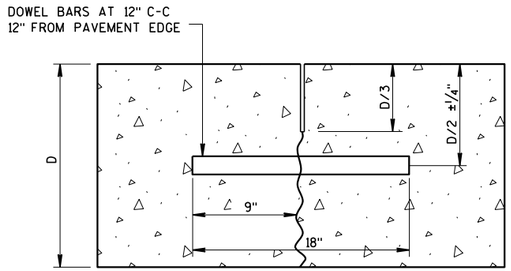
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

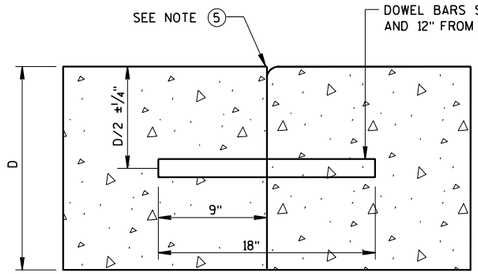
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



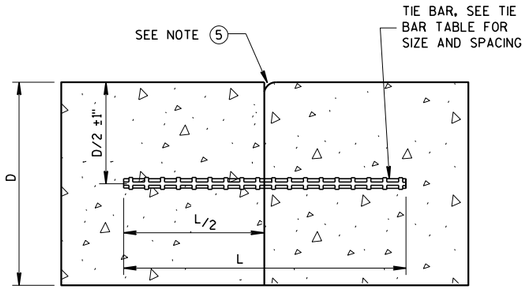
DOWELED-TRANSVERSE

CONTRACTION JOINTS

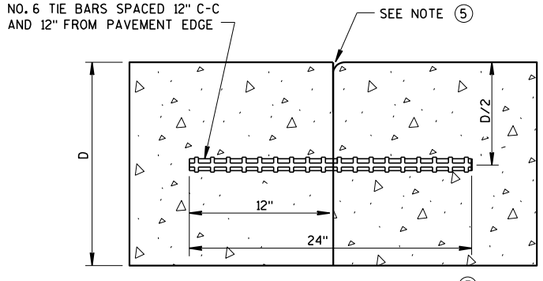
SEE NOTE (2)



DOWELED TRANSVERSE (3)

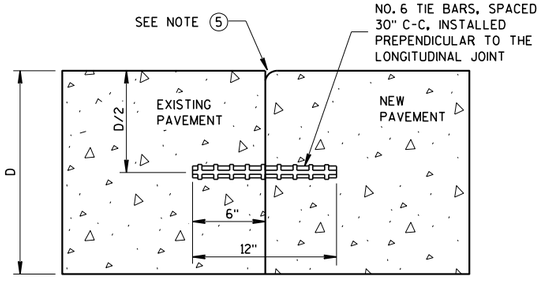


TIED LONGITUDINAL



TIED TRANSVERSE (3)

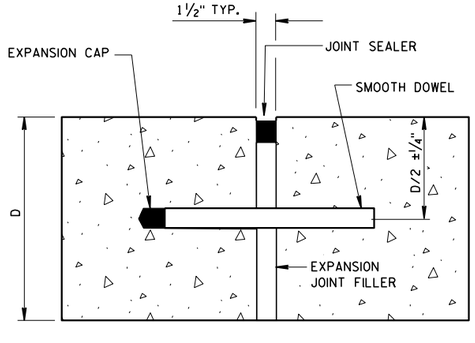
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

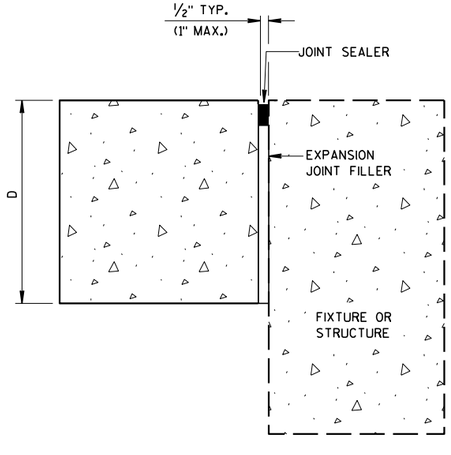
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

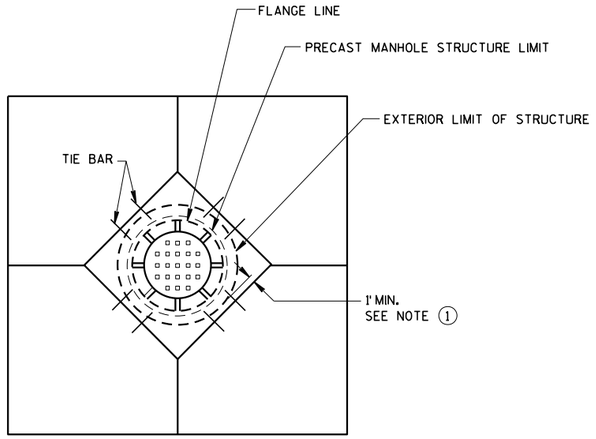
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

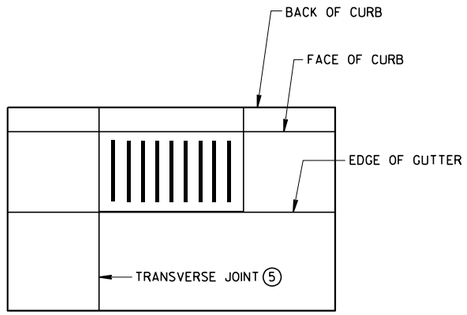
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

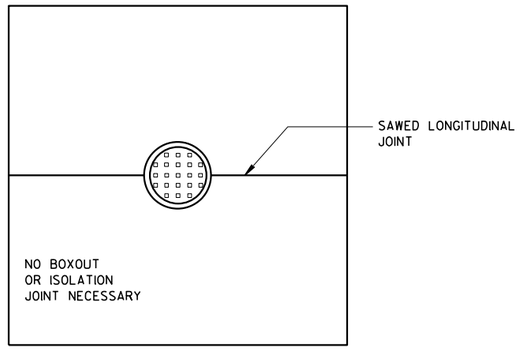
S.D.D. 13 C 18-6c



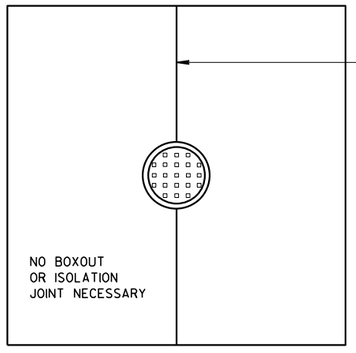
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



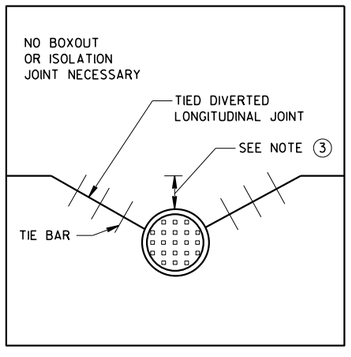
INLET WITH TRANSVERSE JOINT



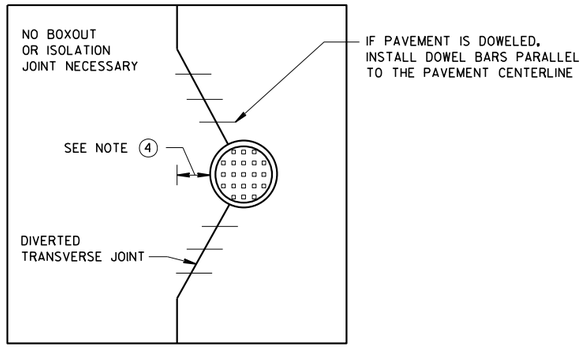
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

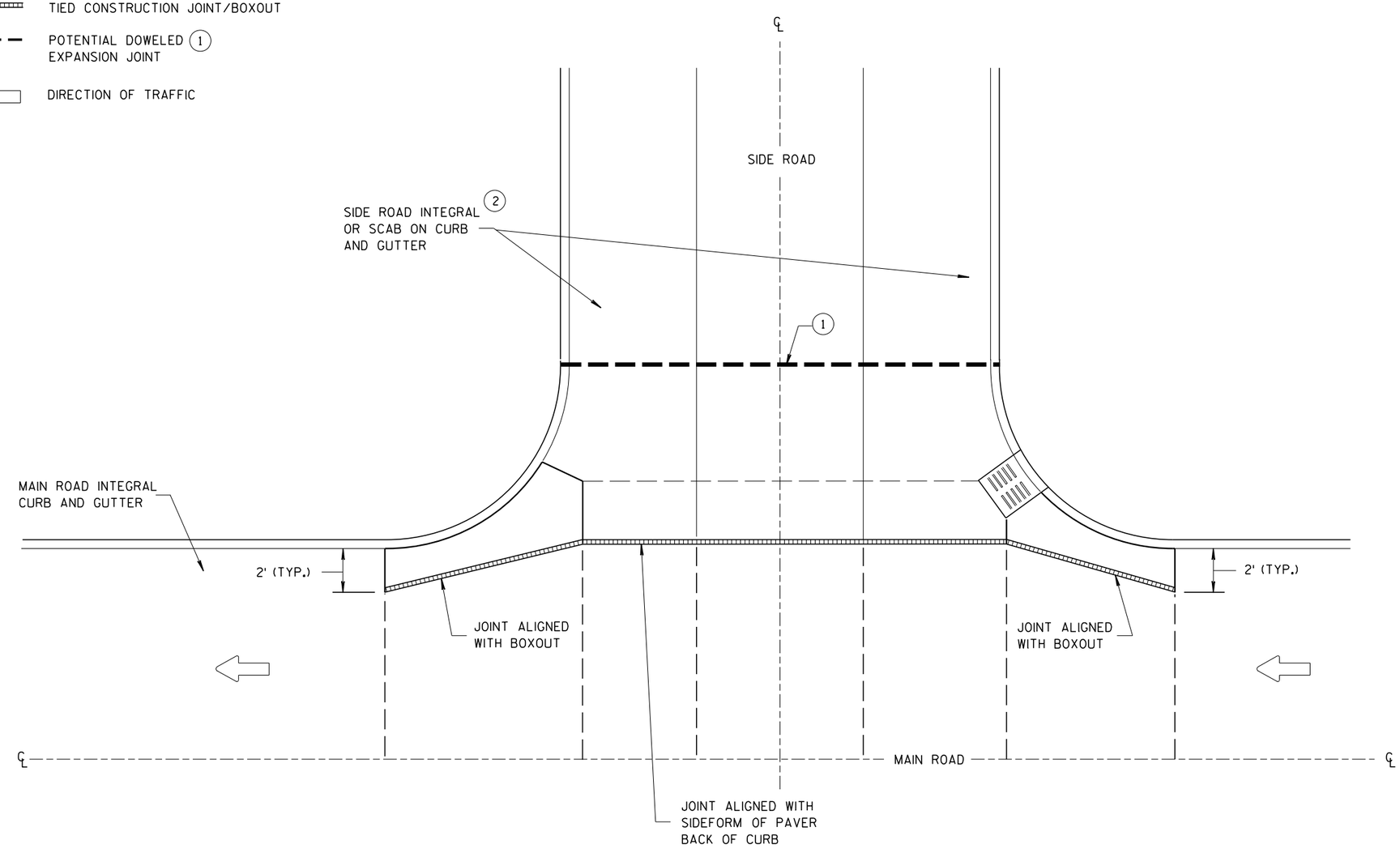
APPROVED
March 2018 — DATE
/S/ Peter K... P.E. — PAVEMENT SUPT
FHWA

6

S.D.D. 13 C 18-6d

LEGEND

- DOWELED JOINT
- TIED JOINT
- TIED CONSTRUCTION JOINT/BOXOUT
- POTENTIAL DOWELED EXPANSION JOINT (1)
- DIRECTION OF TRAFFIC



GENERAL NOTES

1. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH, ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
2. PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USED.

INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

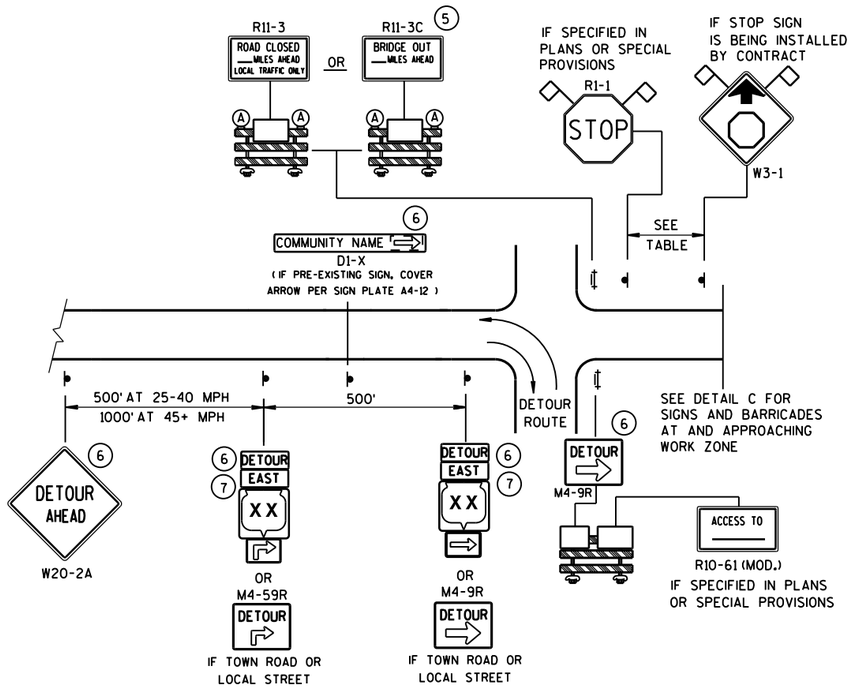
CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Ke[illegible] P.E. — PAVEMENT SUF
FHWA

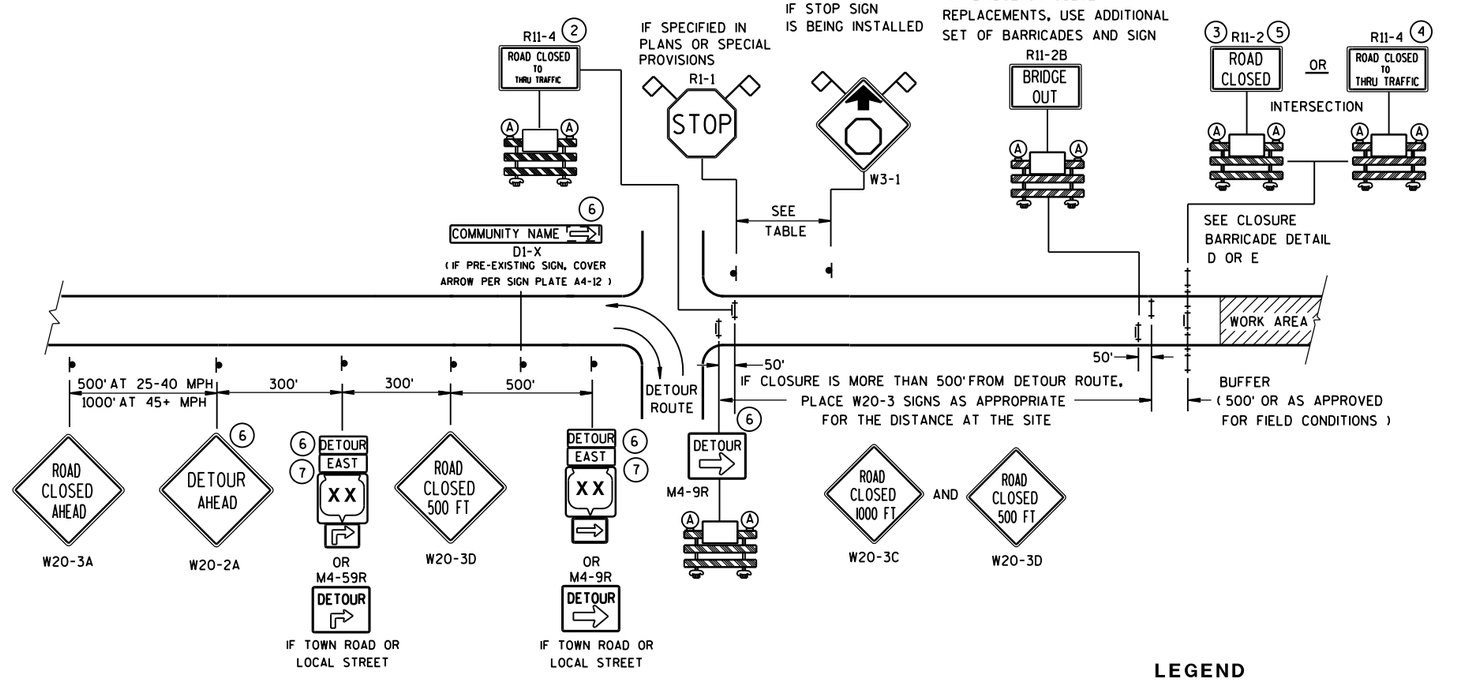
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S.D.D. 13 C 18-6f



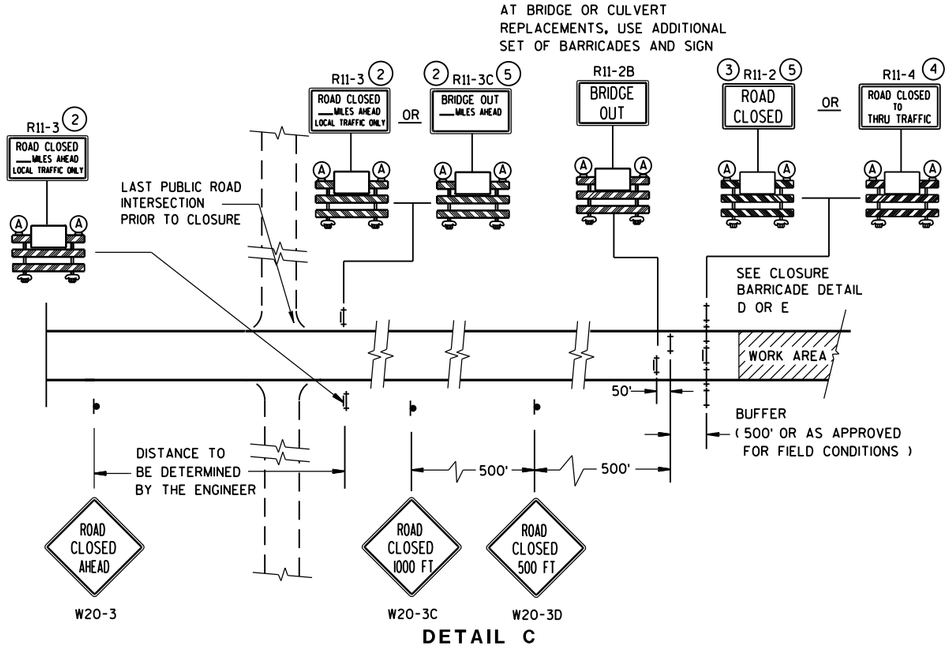
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

SEE SDD 15C2-SHEET "**b**" FOR GENERAL NOTES AND FOOTNOTES (1) THROUGH (7)

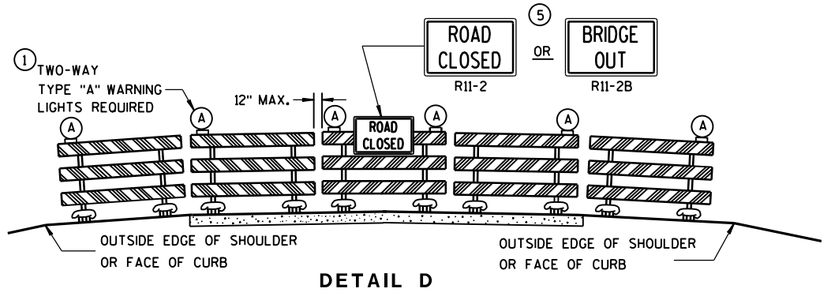
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

S.D.D. 15 C 2-6a

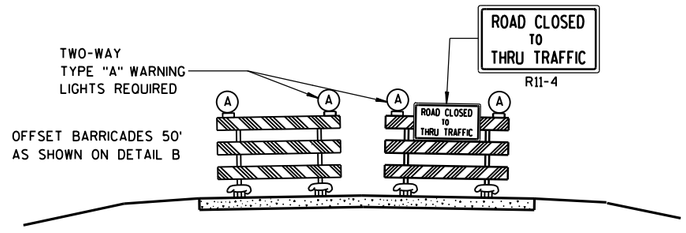
6



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

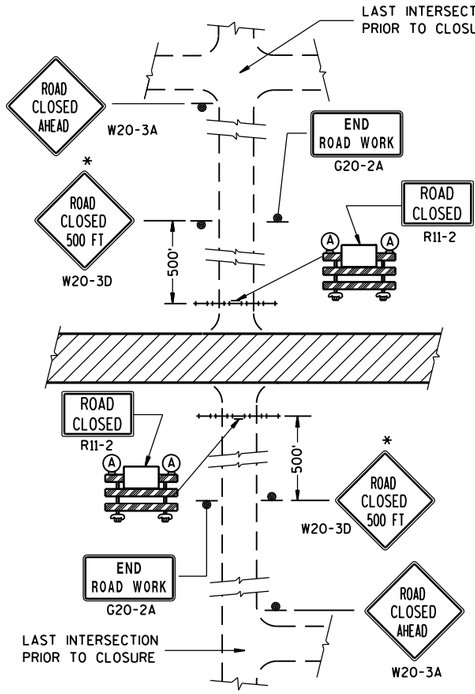
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FIC

FHWA

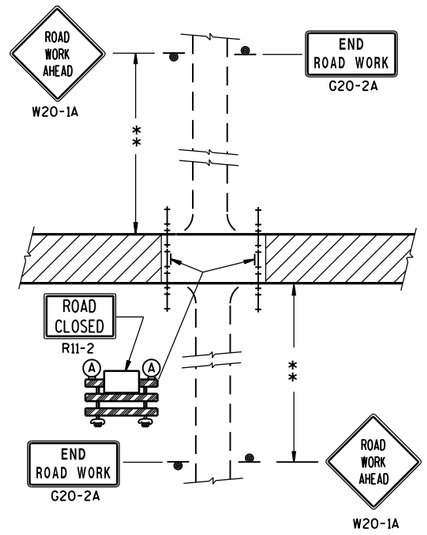
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S.D.D. 15 C 2-6b



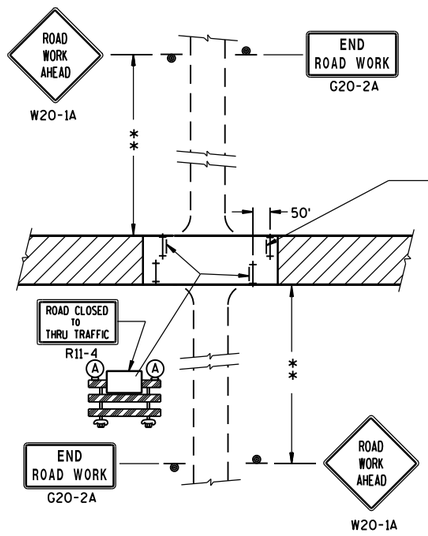
DETAIL 1

(NO ACCESS TO PROJECT)



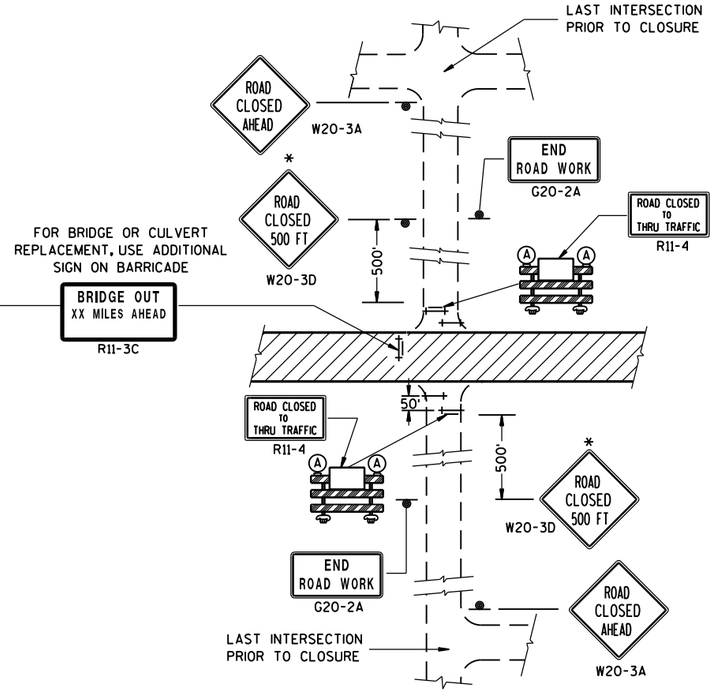
DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENG
FHWA

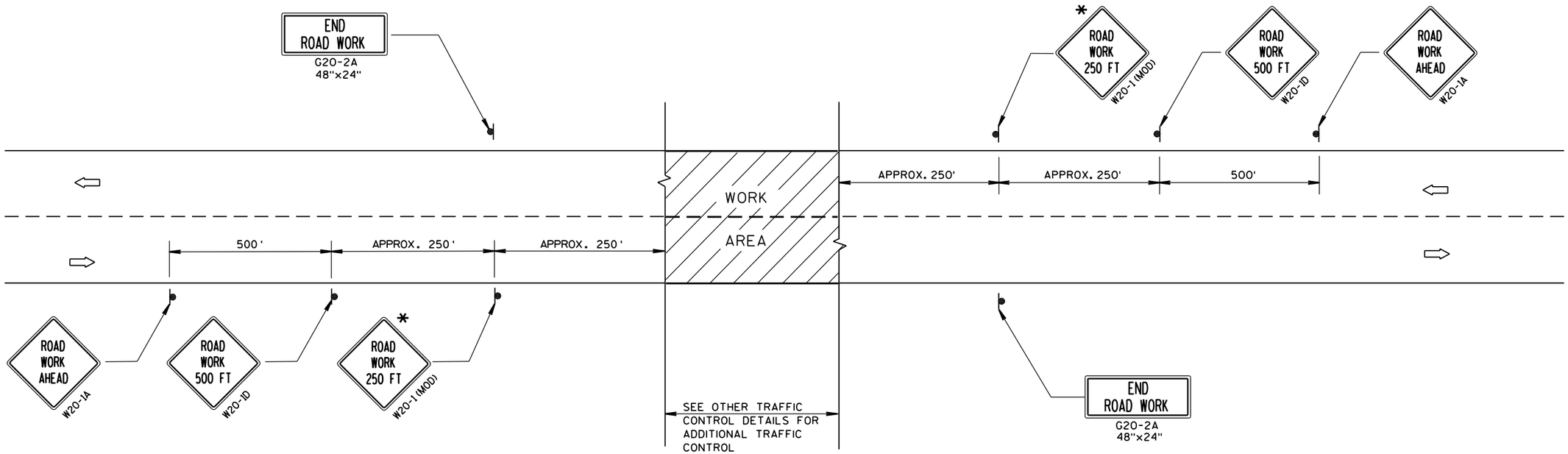
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S.D.D. 15 C 3-4

6

S.D.D. 15 C 3-4

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

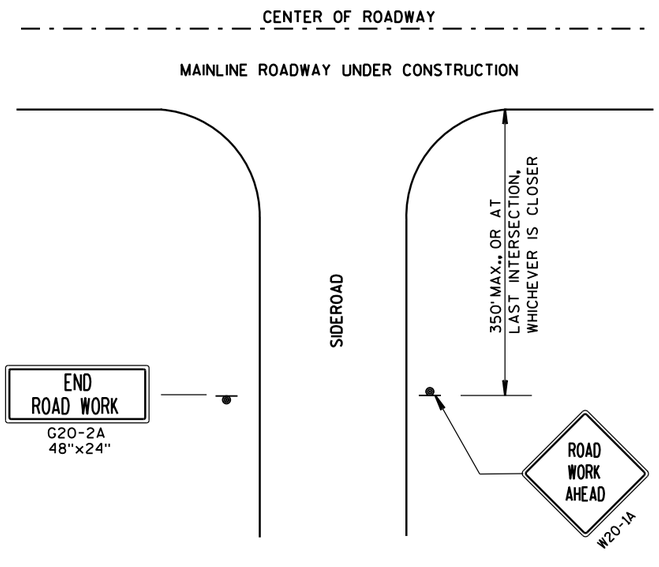
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.



LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

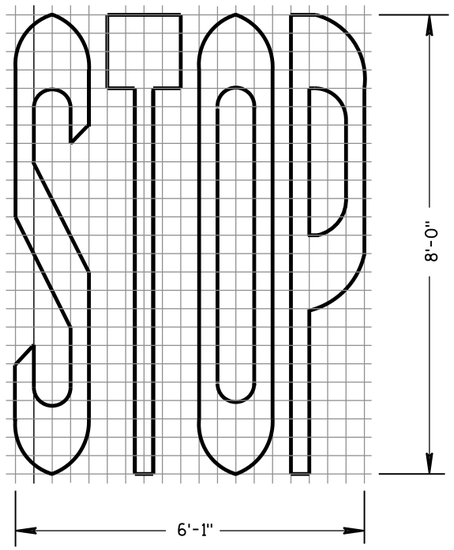
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

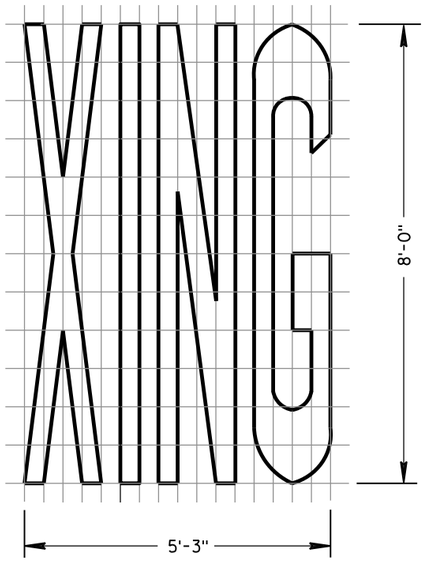
APPROVED
Sept. 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

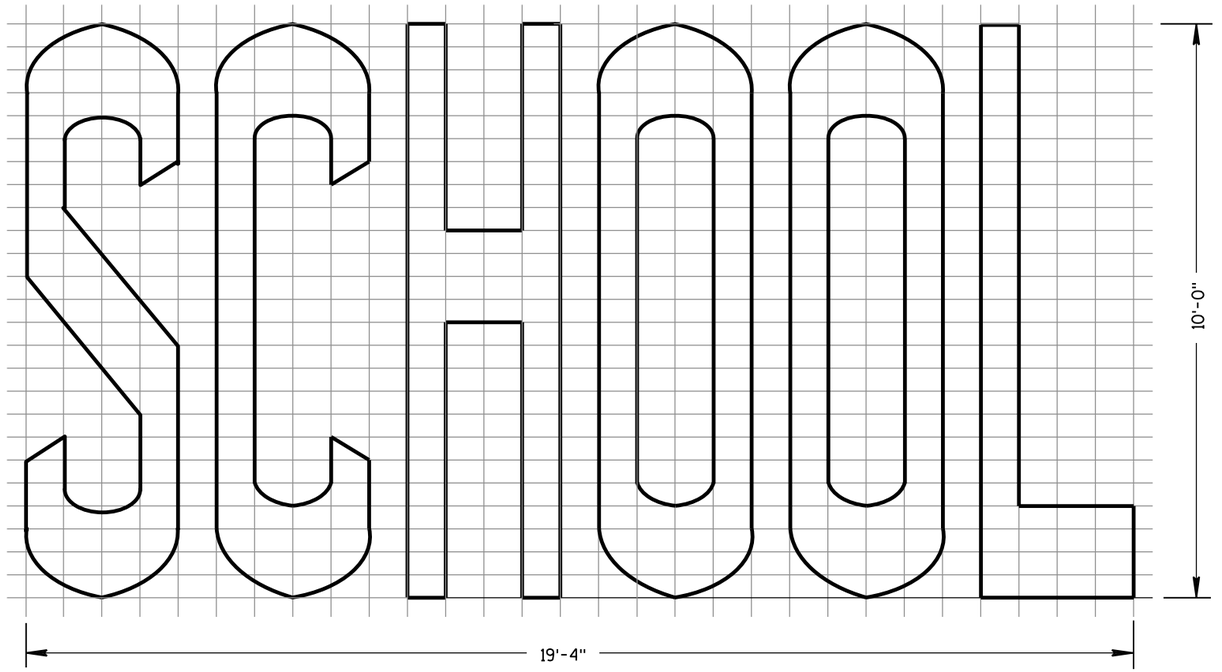
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S.D.D. 15 C 5-4

GENERAL NOTES

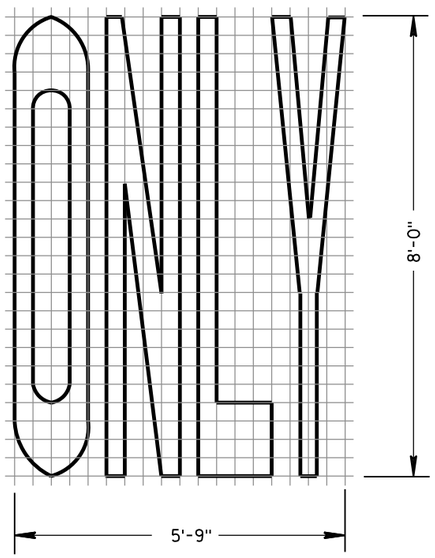
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

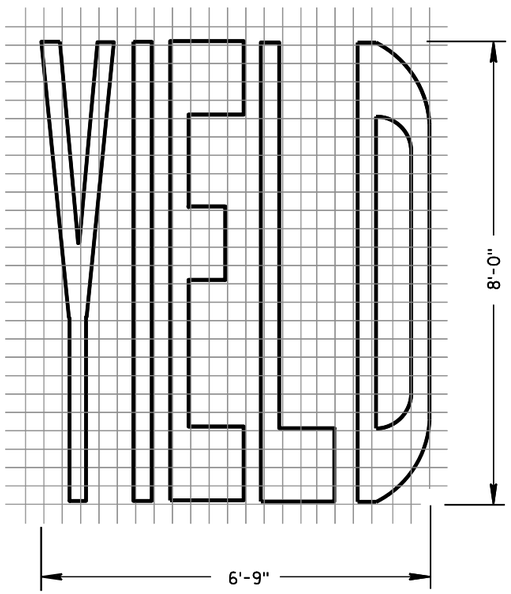


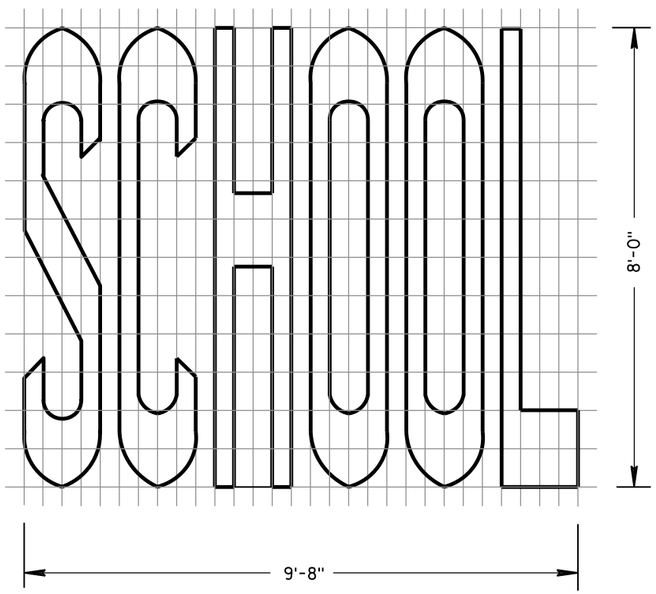




TWO-LANE







SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MARK

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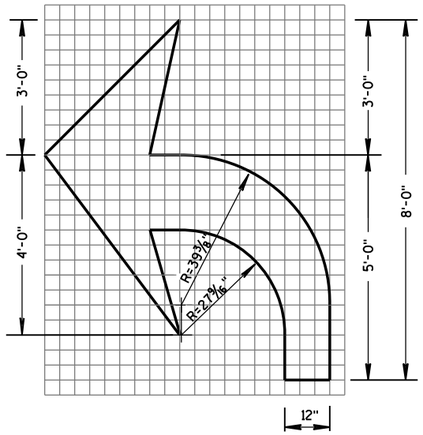
S.D.D. 15 C 7-14b

6

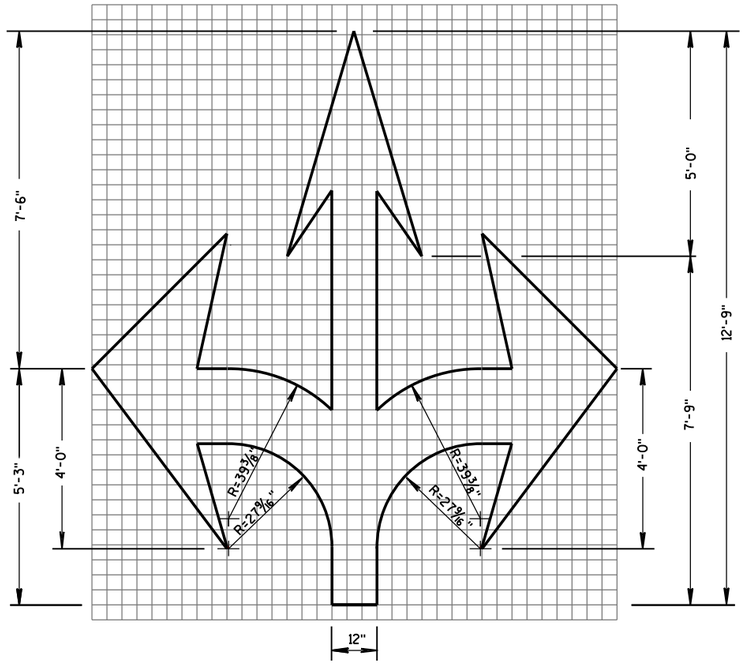
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GENERAL NOTES

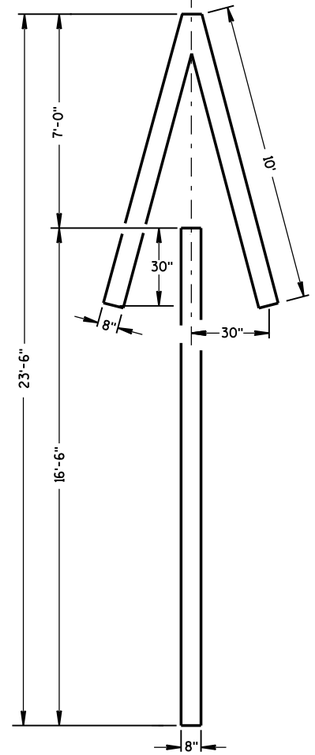
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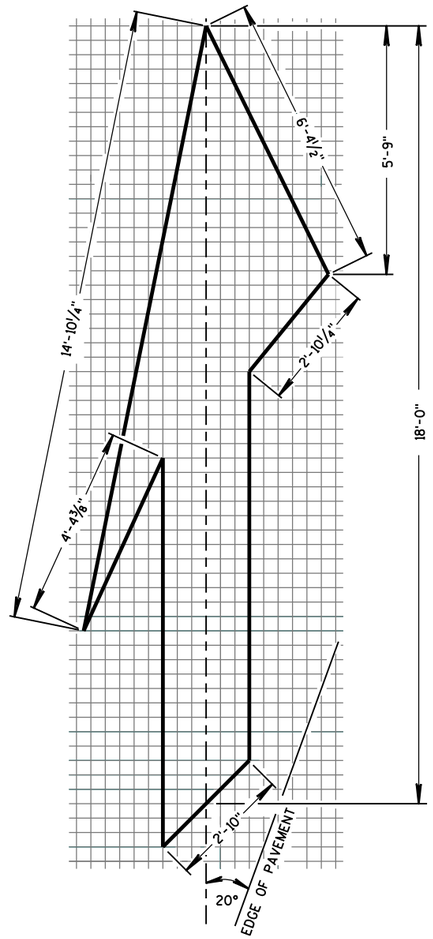
TYPE 2



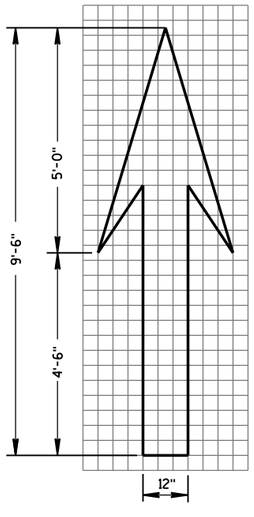
TYPE 6



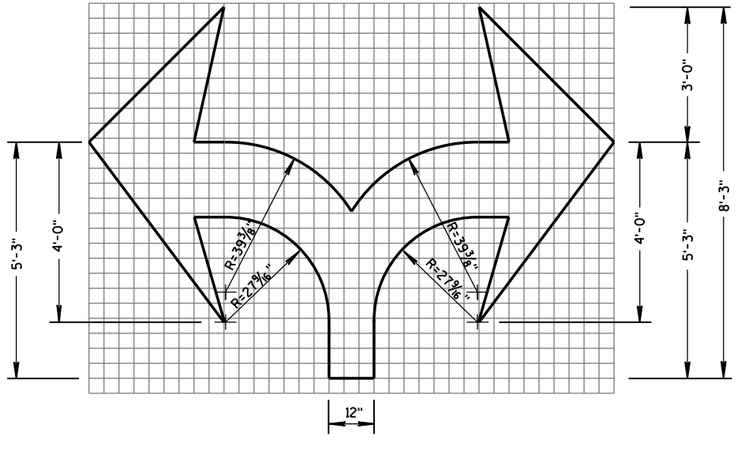
TYPE 4



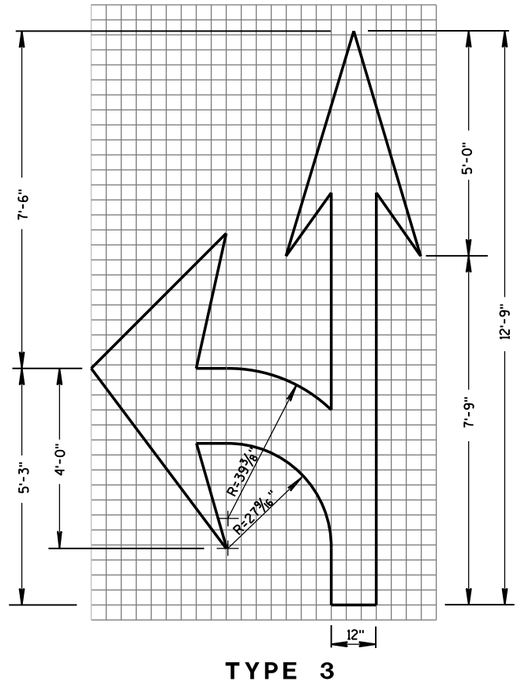
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

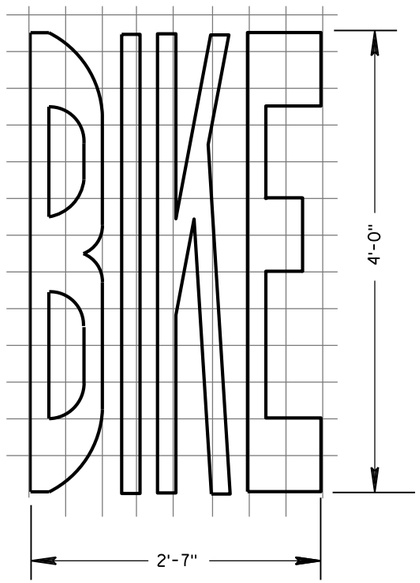
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]NEER
FHWA

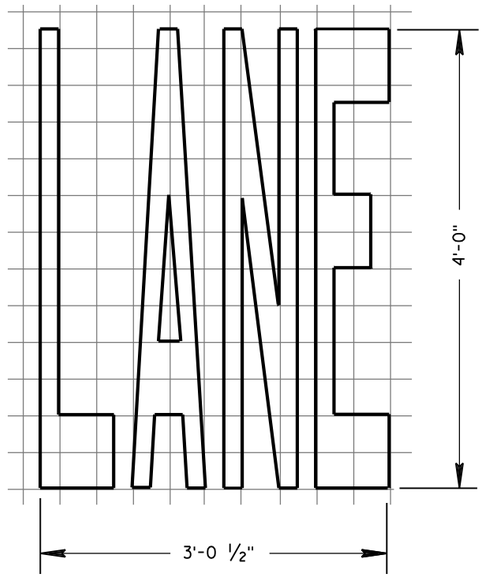
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S.D.D. 15 C 7-14c

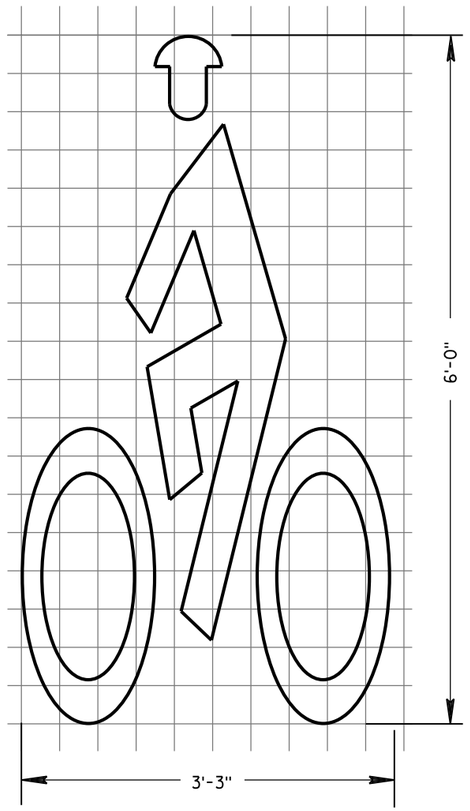
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S.D.D. 15 C 7-14c

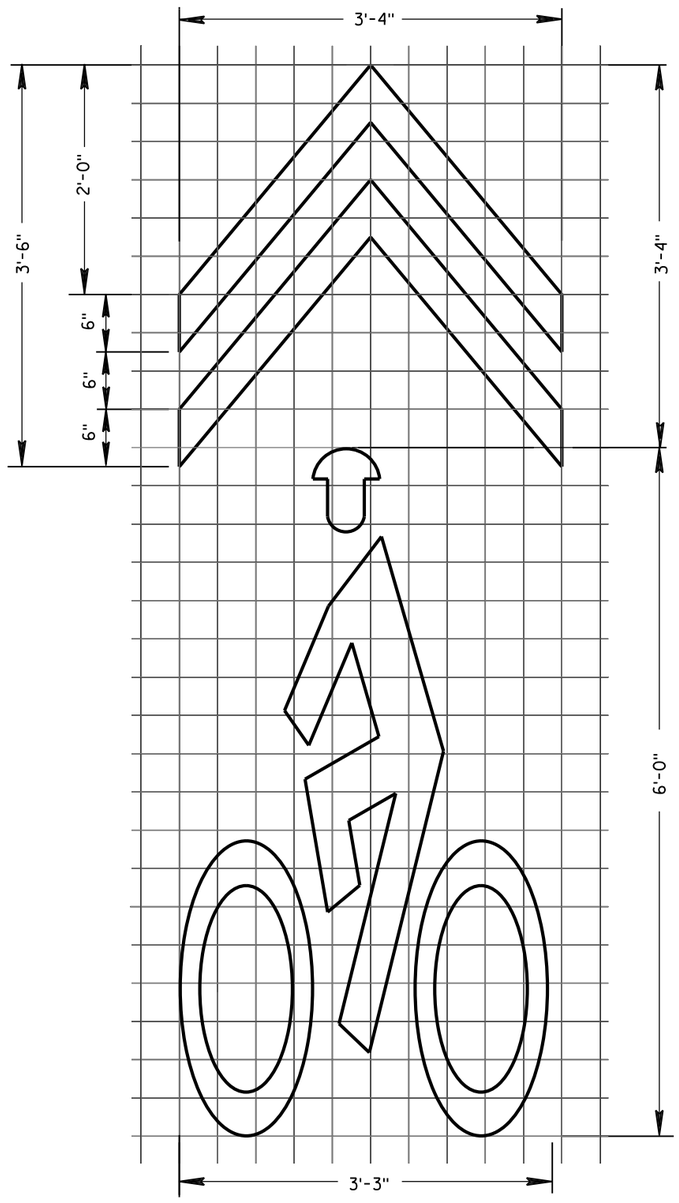




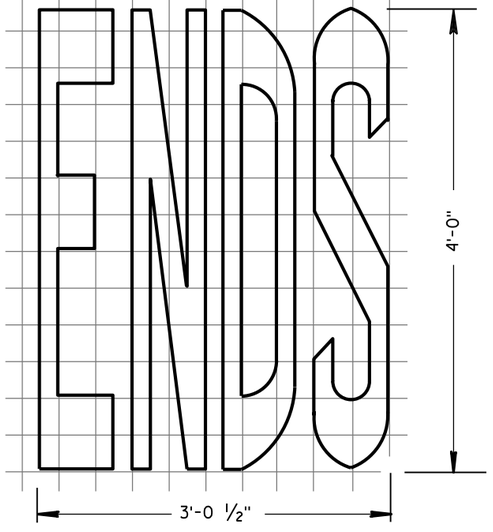
BIKE LANE WORDS



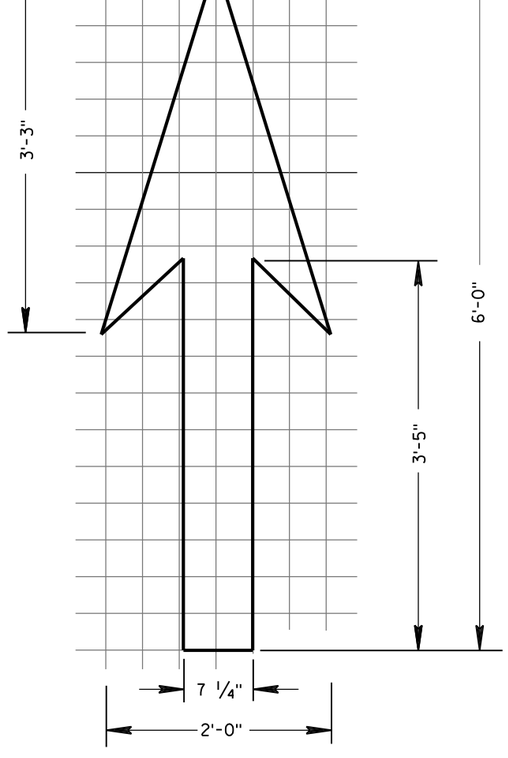
BIKE LANE SYMBOL



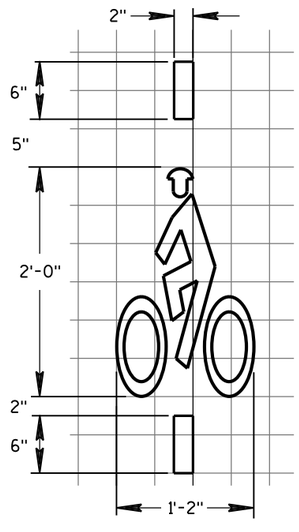
BIKE SYMBOL FOR SHARED LANE



BIKE LANE WORDS



BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING

GENERAL NOTES

DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

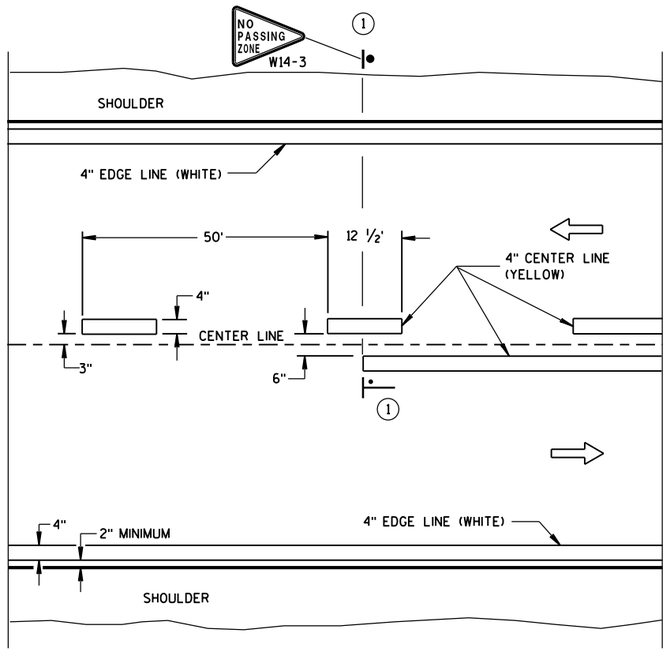
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

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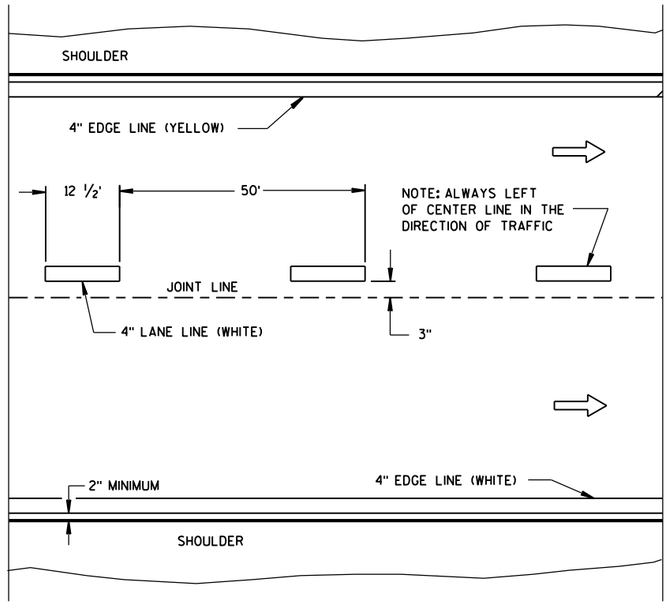
S.D.D. 15 C 7-14e

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S.D.D. 15 C 7-14e



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

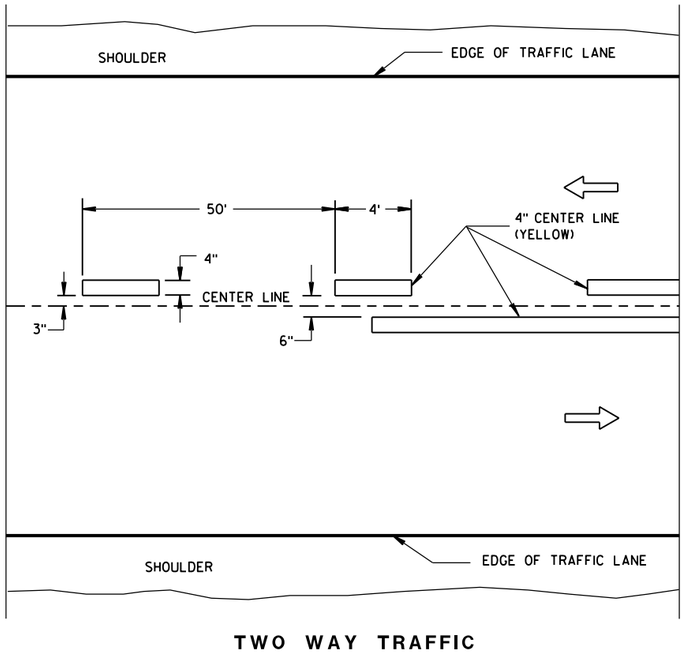
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

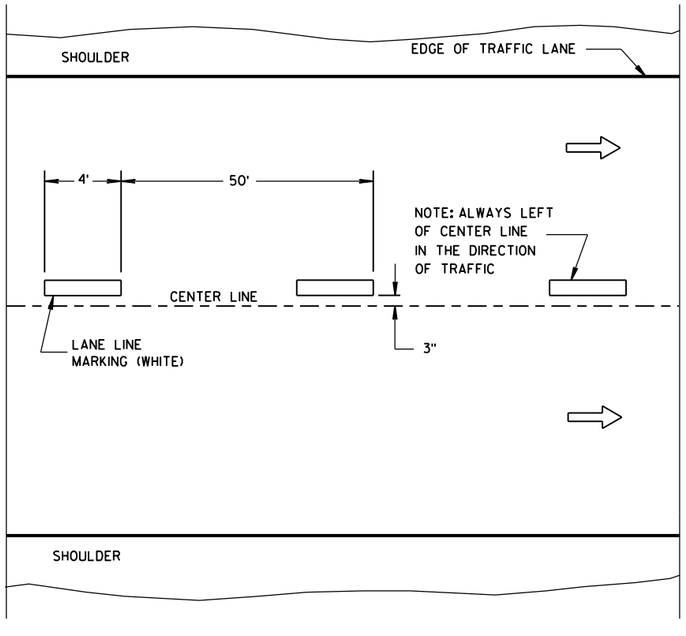
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

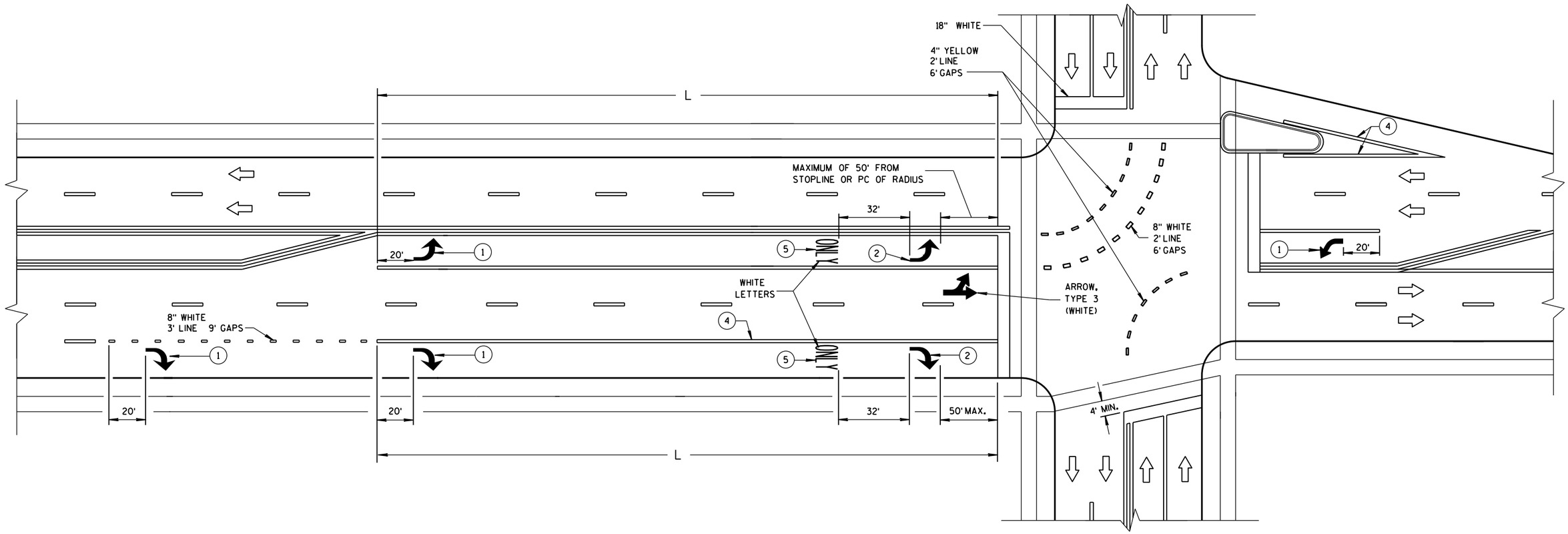
LONGITUDINAL MARKING (MAINLINE)

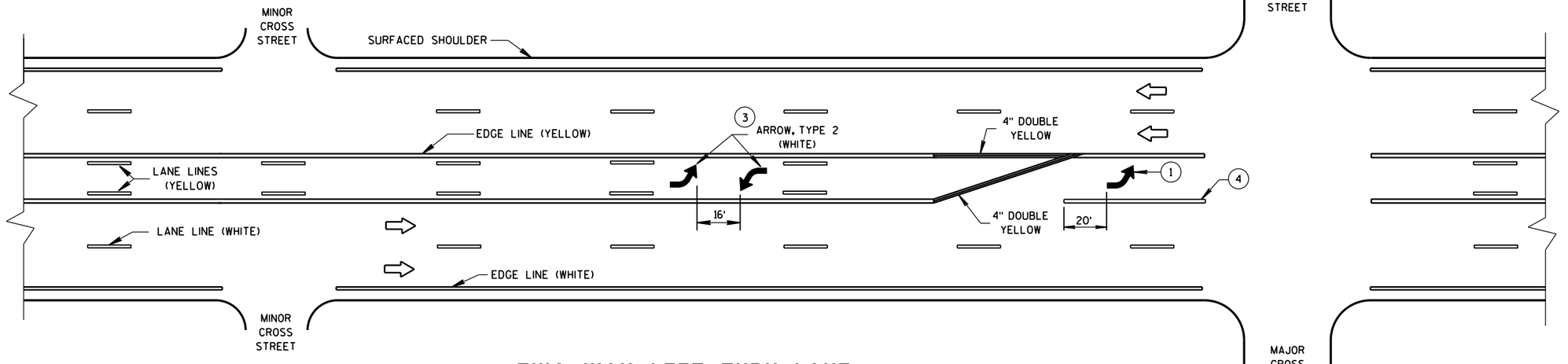
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]INEER
FHWA

6

S.D.D. 15 C 8-18a





GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

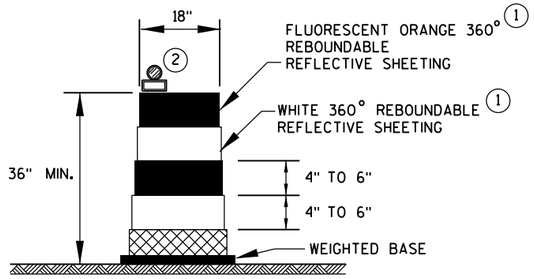
TWO WAY LEFT TURN LANE

PAVEMENT MARKING
(TURN LANES)

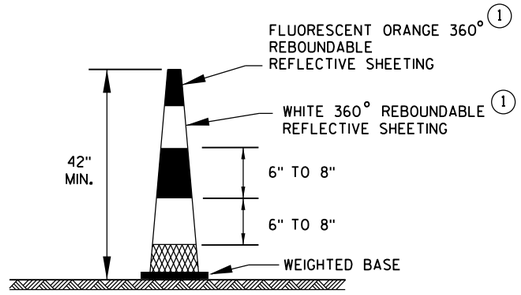
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 C 8-18b



DRUM

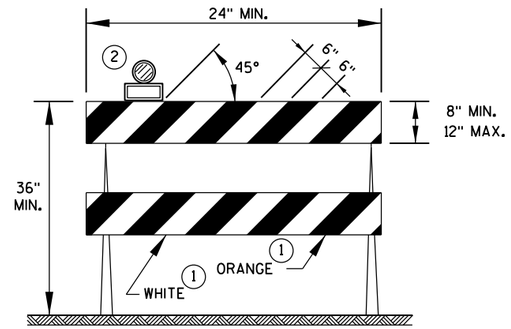


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

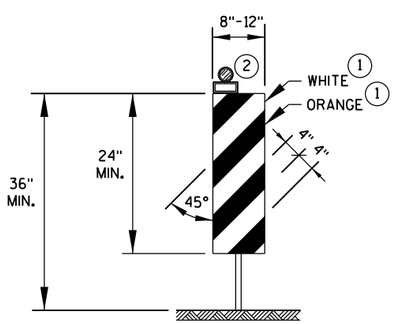
GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



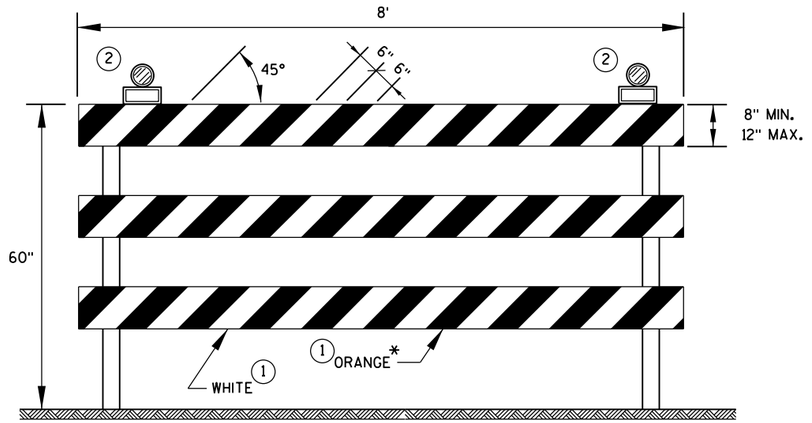
TYPE 2 BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE 3 BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENG
FHWA	

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S.D.D. 15 C 11-7b

LEGEND

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

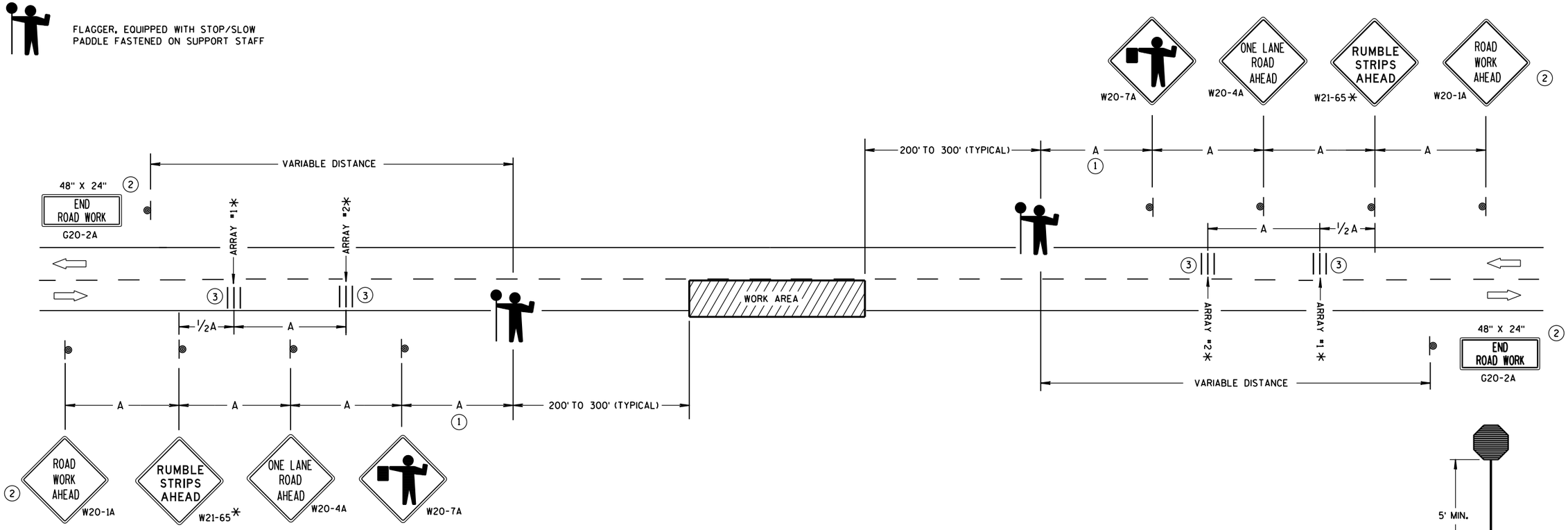
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING A
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

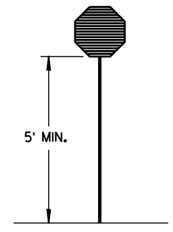


W03-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION



STOP/SLOW PADDLE ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

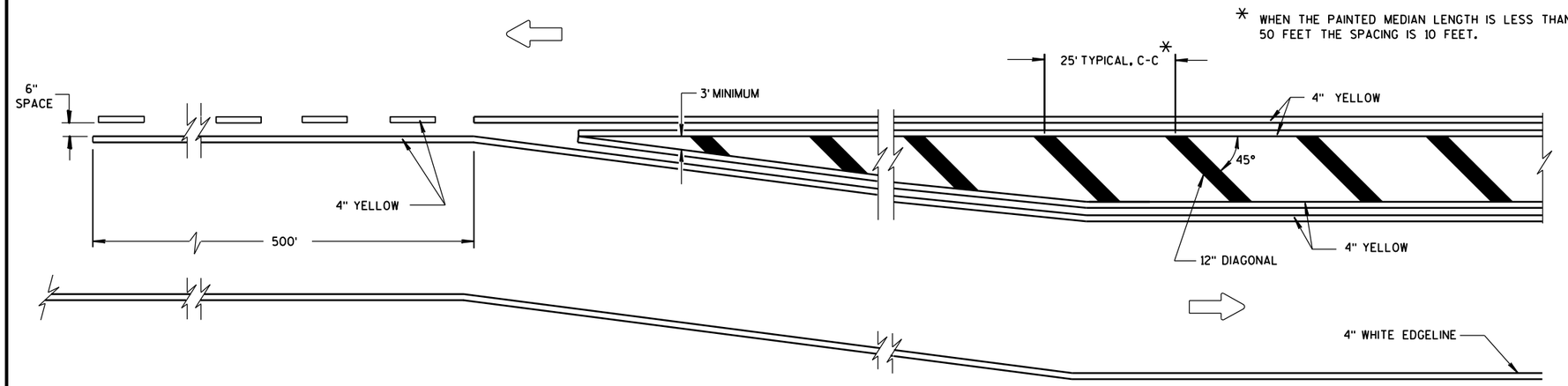
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
/S/ Andrew Heldtke
WORK ZONE ENG
FHWA

6

S.D.D. 15 C 12-6

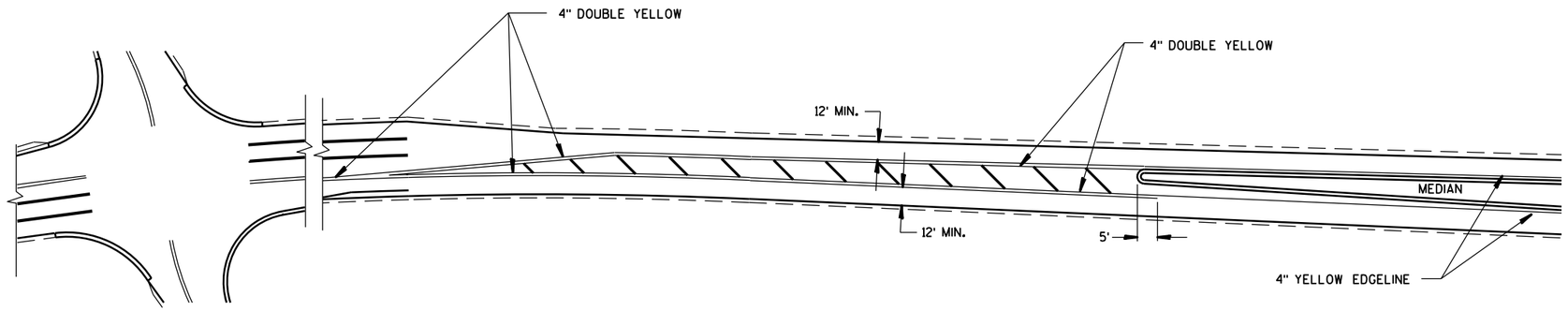


MEDIAN ISLAND DETAIL

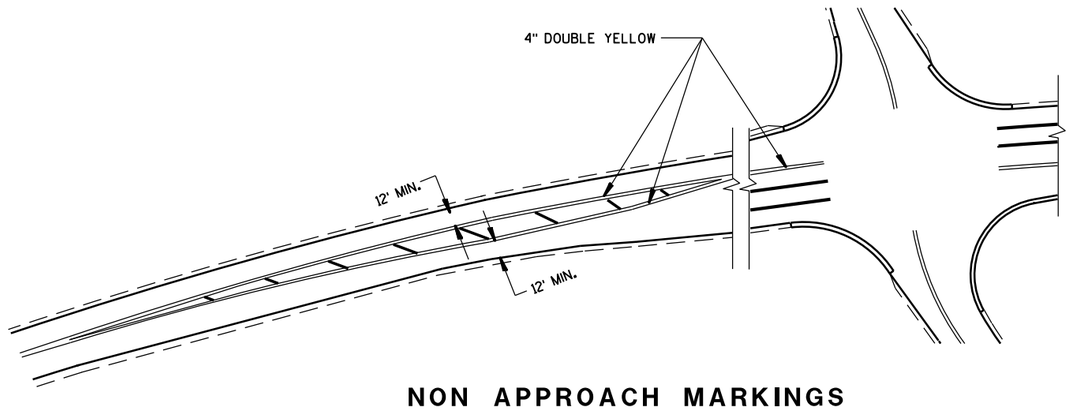
GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

DIRECTION OF TRAVEL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

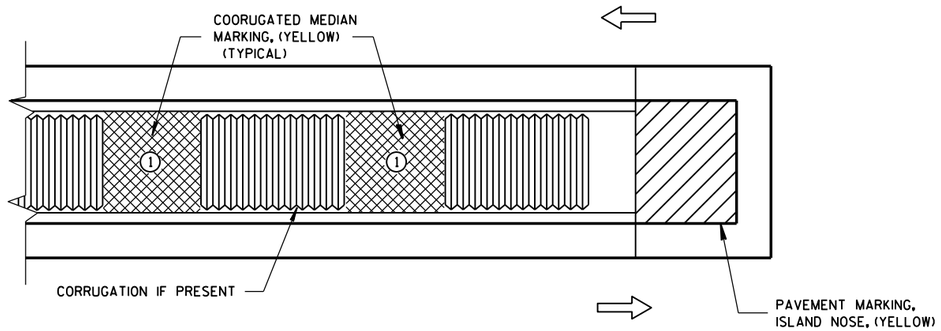
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE FHWA	/S/ Matthew Rauch STATE SIGNING AND MARK ... EER

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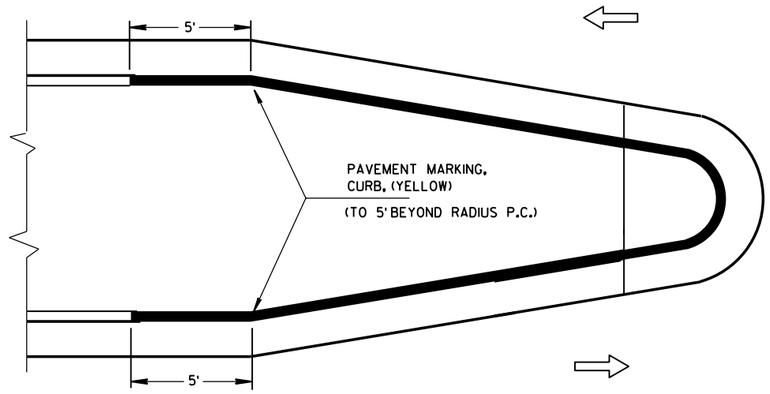
S.D.D. 15 C 18-4

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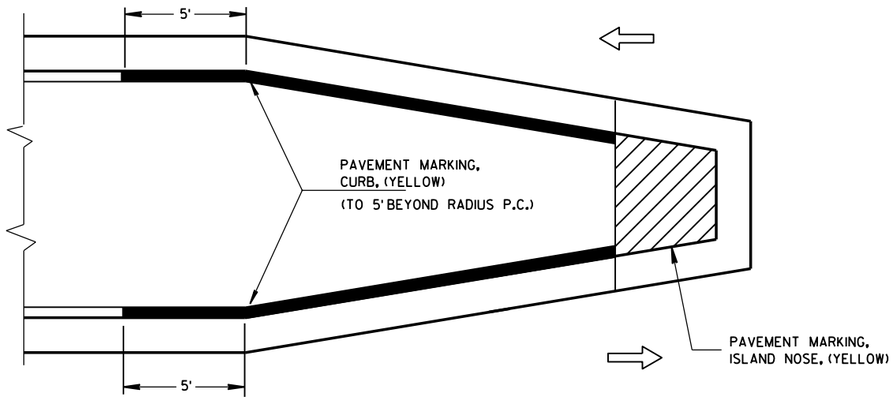
S.D.D. 15 C 18-4



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

(1) WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

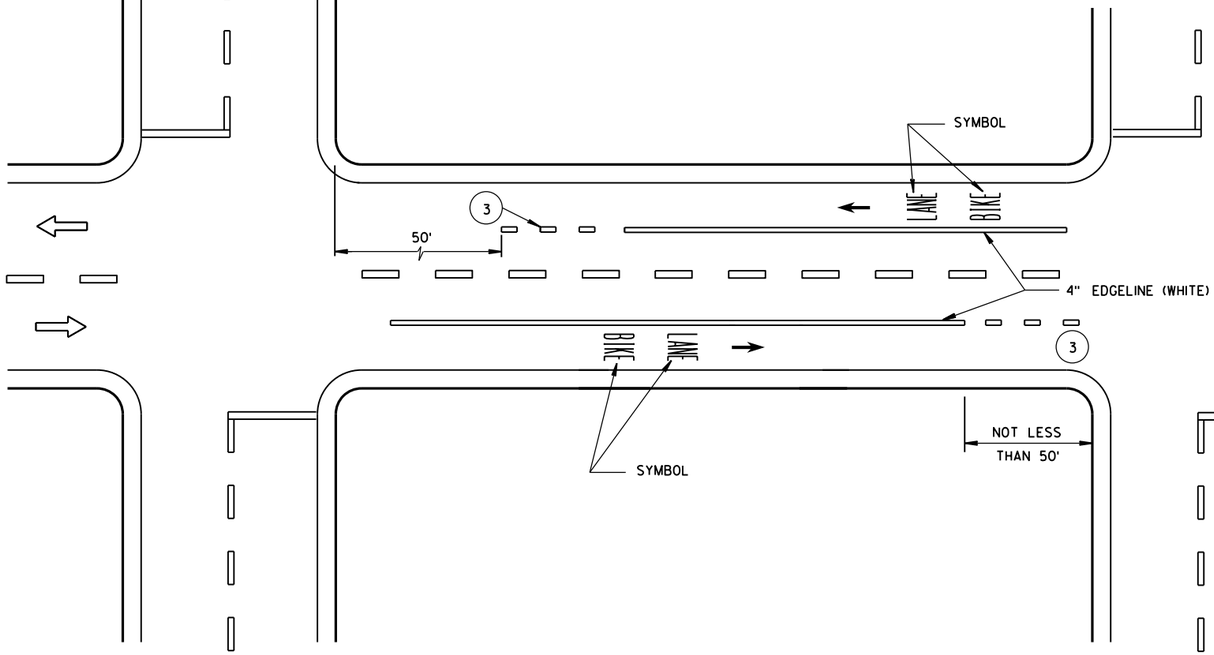
APPROVED
June 2017 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

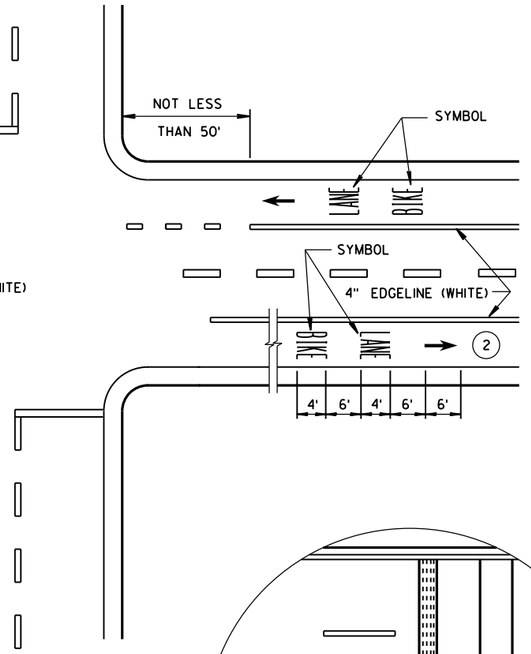
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S.D.D. 15 C 27-2b

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S.D.D. 15 C 27-2b



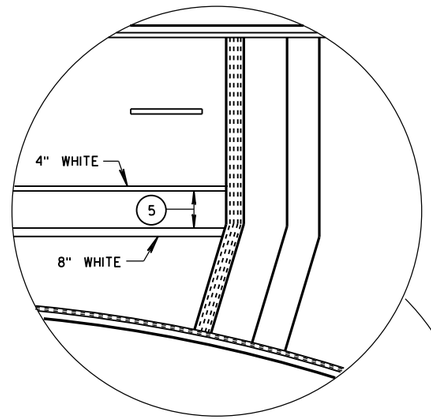


DESIGNATED BICYCLE LANE
NO PARKING

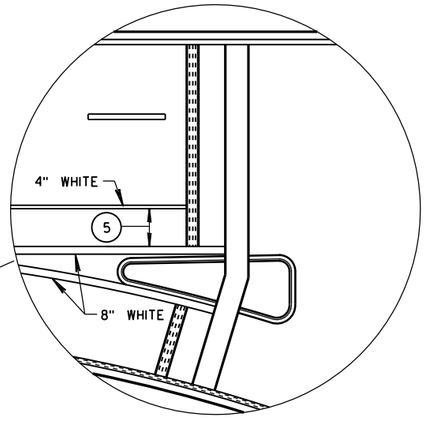
GENERAL NOTES

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. MINIMUM OF ONE PER BLOCK. MAXIMUM OF 250 FEET.
3. DOTTED LINES (3'LINE, 9'GAP) SHOULD BE USED 50 FEET TO 200 FEET IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
4. IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
5. BIKE ACCOMODATION FOR CONCRETE PAVEMENT IS 5 FEET WIDE. BIKE ACCOMODATION FOR ASPHALT PAVEMENT IS A MINIMUM OF 4 FEET. USE 5 FEET AT ≥45 MPH.
6. OMIT THESE MARKINGS FOR WIDER TURN LANE APPLICATIONS (MINIMUM OF 15 FEET WIDE TURN LANE).
7. REFER TO CONTRACT PLANS FOR LANE WIDTH.

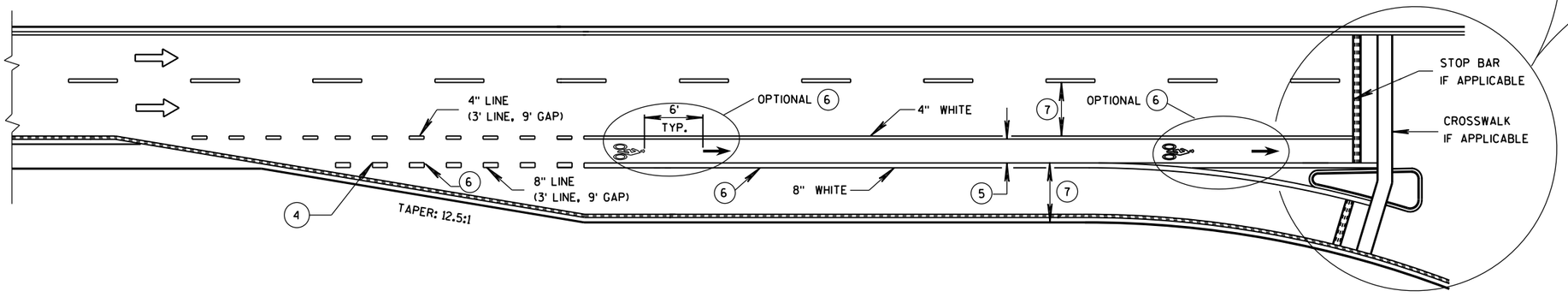
⇨ DIRECTION OF TRAVEL



4 LANE DIVIDED WITHOUT ISLAND



4 LANE DIVIDED WITH ISLAND



BIKE LANE - FOR 2-LANE ROADWAYS AND 4-LANE DIVIDED ROADWAYS
(4-LANE DIVIDED WITH RIGHT TURN LANE SHOWN)

BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

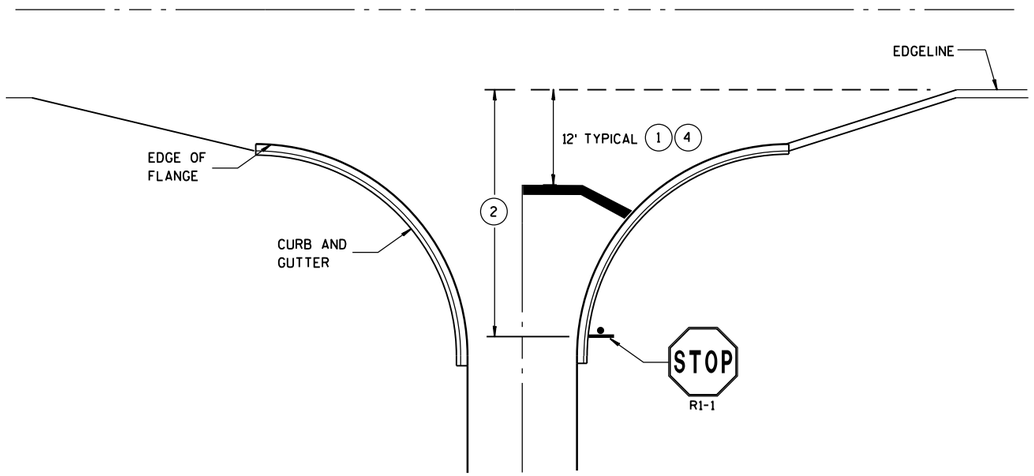
APPROVED
12-2016 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER
FHWA

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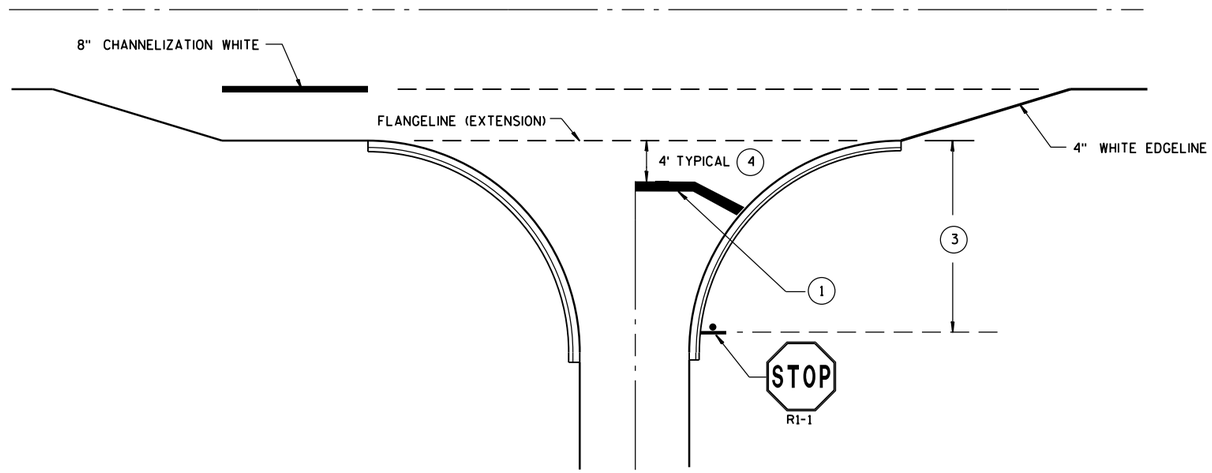
S.D.D. 15 C 29-5a

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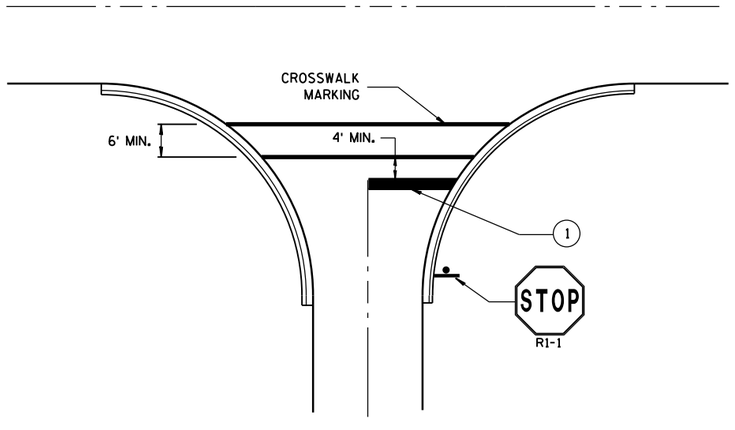
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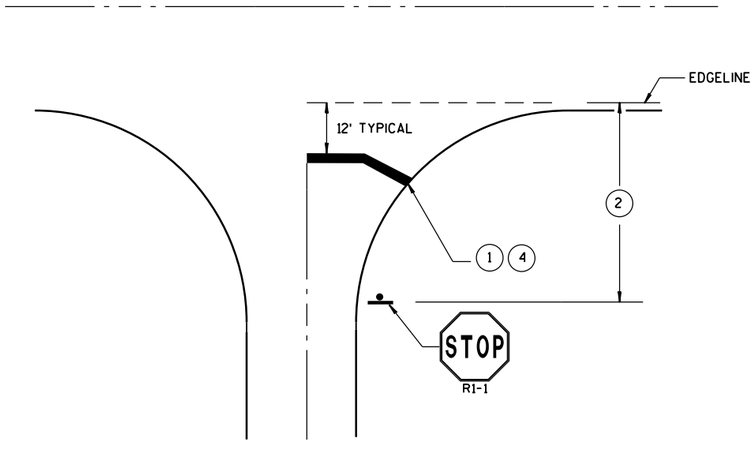
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

(1) 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

(2) IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.

(3) IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.

(4) MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

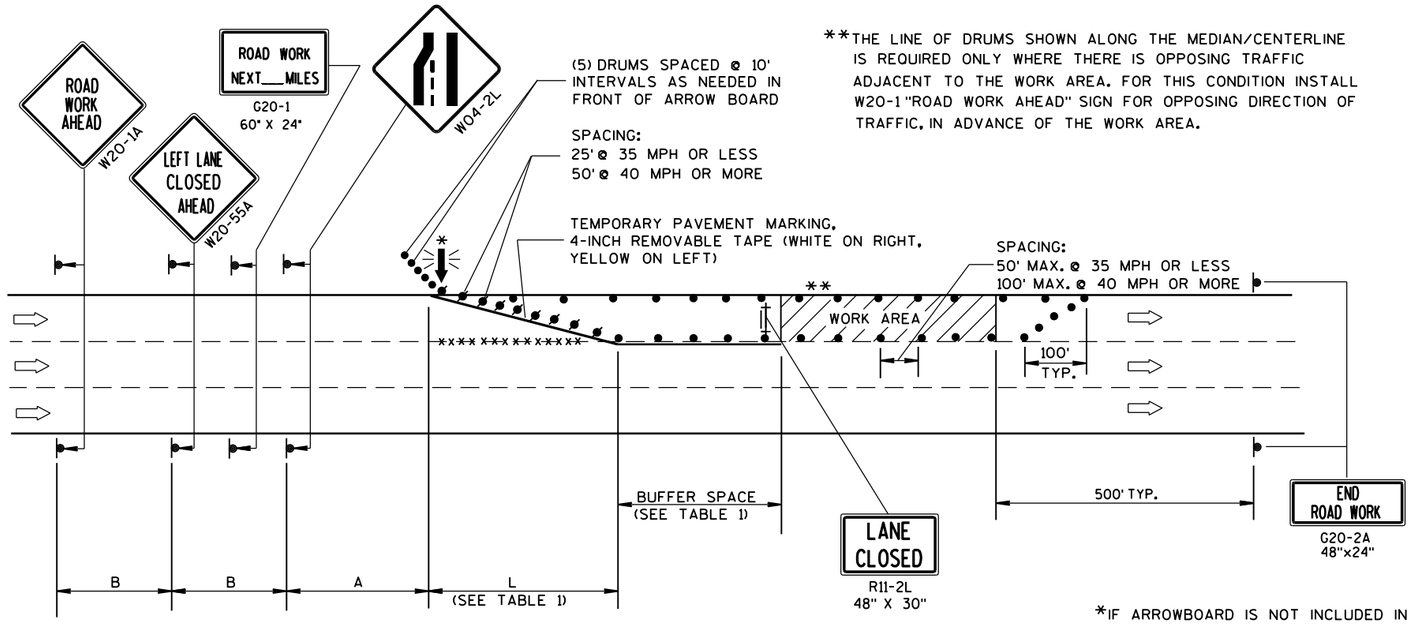
Sept., 2017 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]NEER

FHWA

6

S.D.D. 15 C 33-3



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

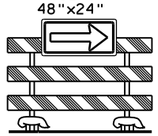


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- WORK AREA

GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
FHWA

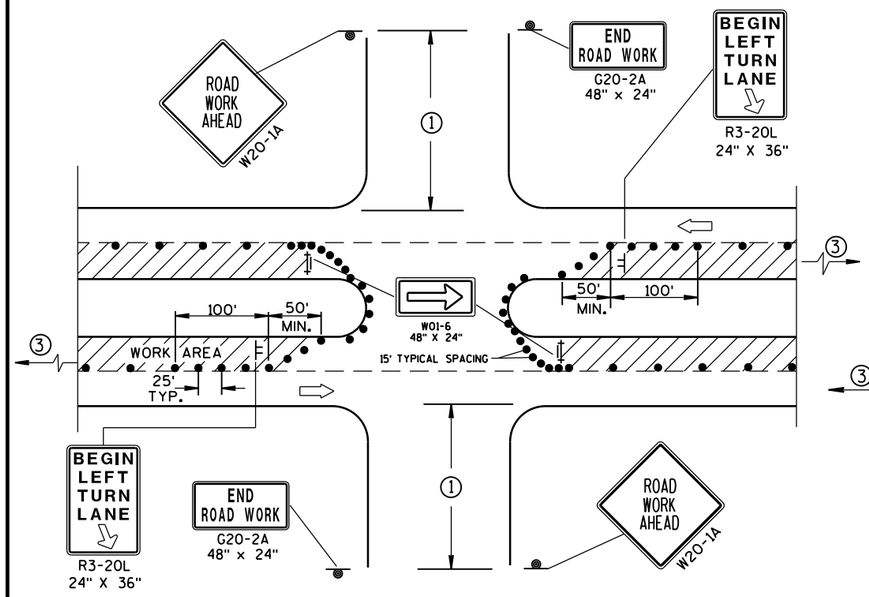
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER

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S.D.D. 15 D 20-4

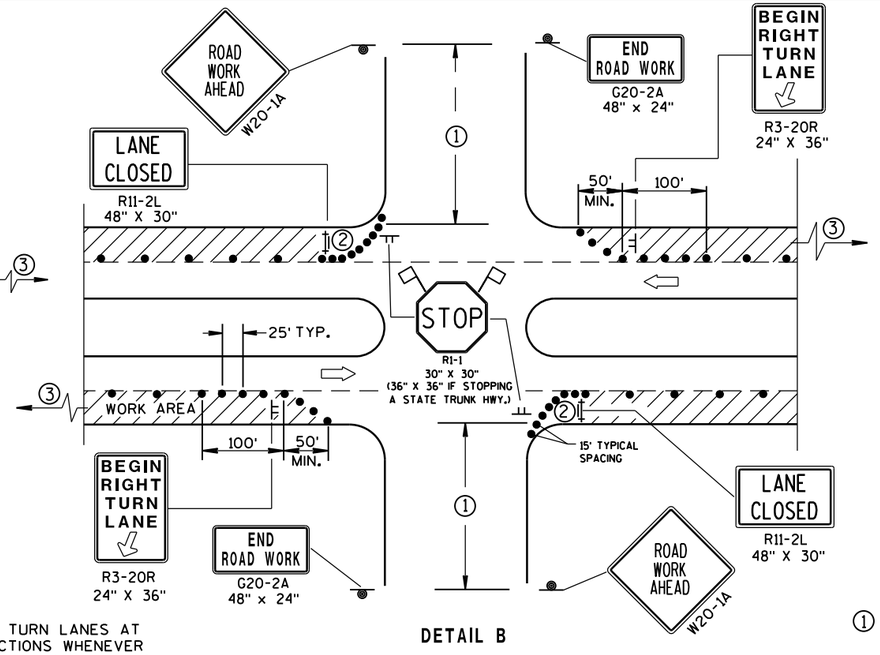
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DETAIL A

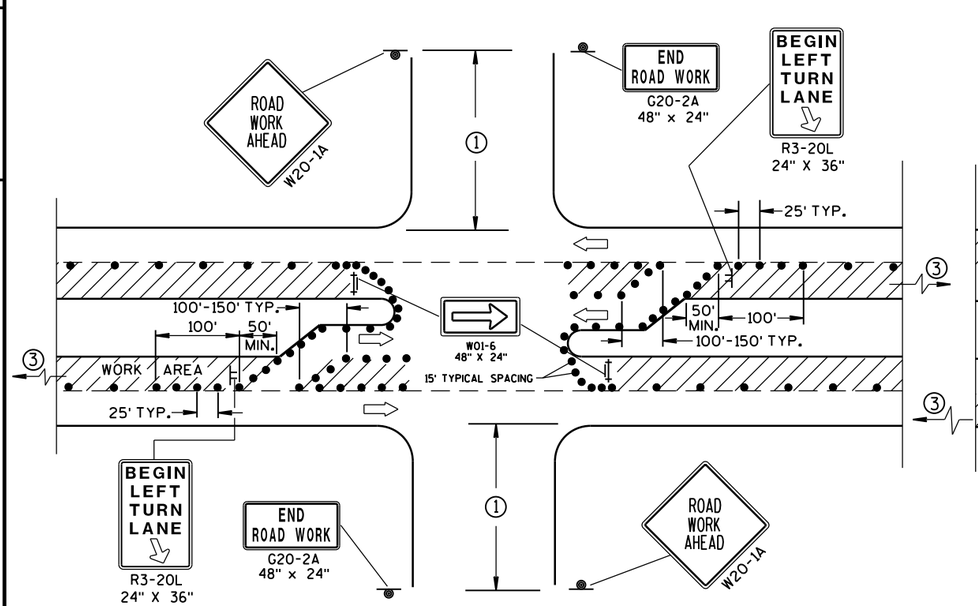
FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING



DETAIL B

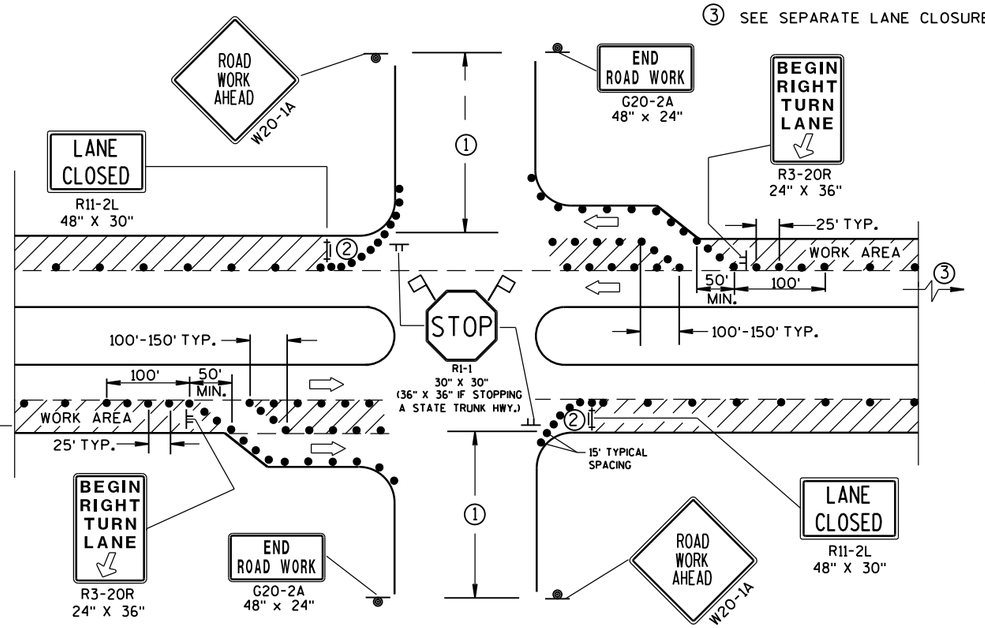
FOR RIGHT LANE CLOSURE AT INTERSECTION

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENG
FHWA

6

S.D.D. 15 D 21-5

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

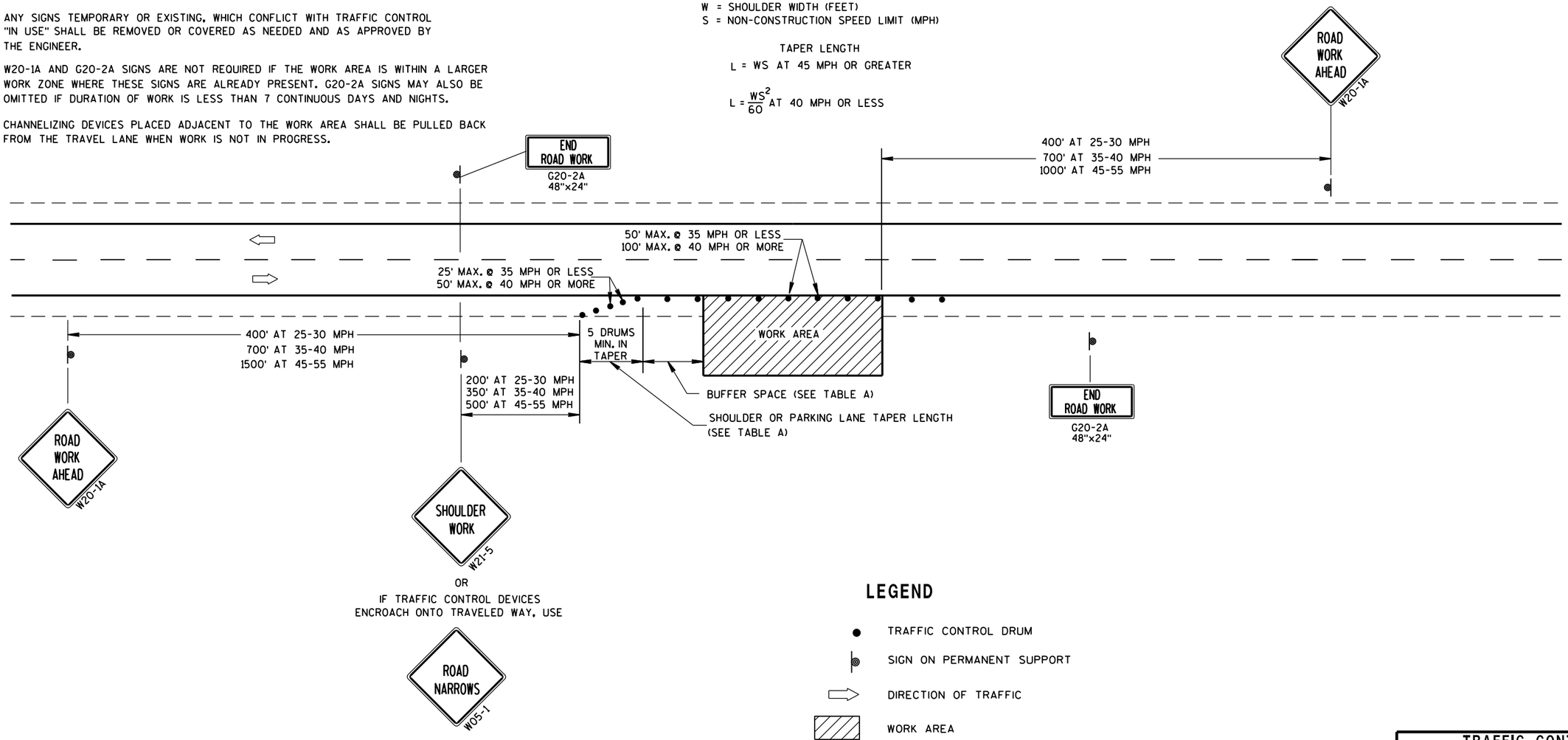
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible] FIC

FHWA

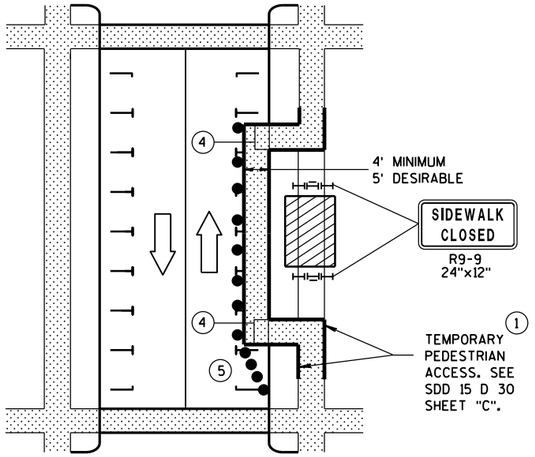
6

S.D.D. 15 D 28-3

6

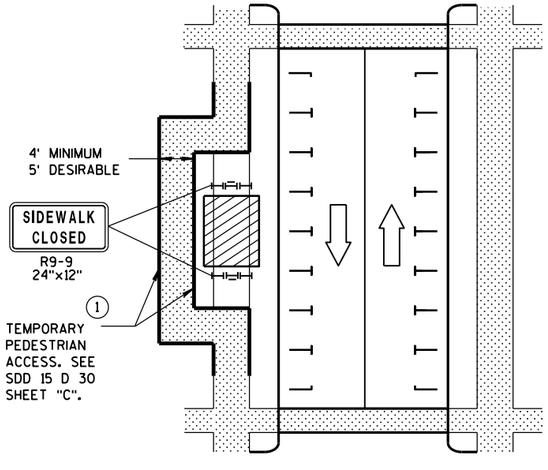
S.D.D. 15 D 28-3

NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

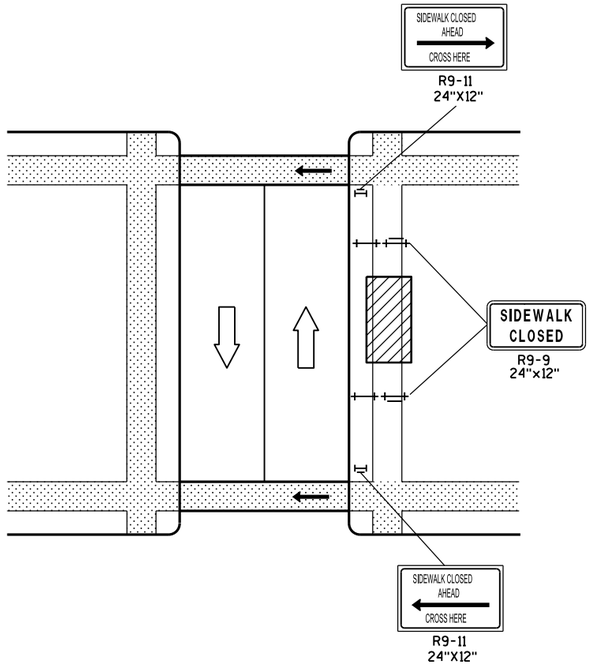


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

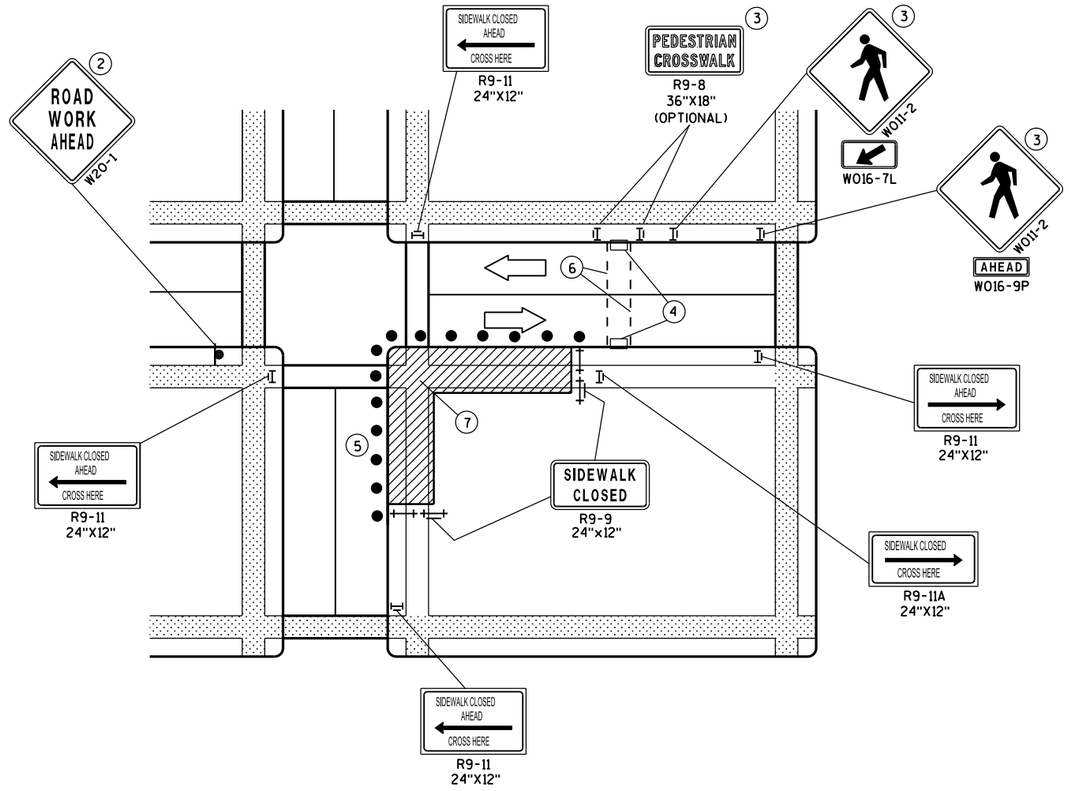
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

FOR NIGHTTIME CLOSURE USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

(1) IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE.

(2) "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

(3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND W011-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15 D 30 SHEET "B".

(5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

LEGEND

- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- DIRECTION OF TRAFFIC
- TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

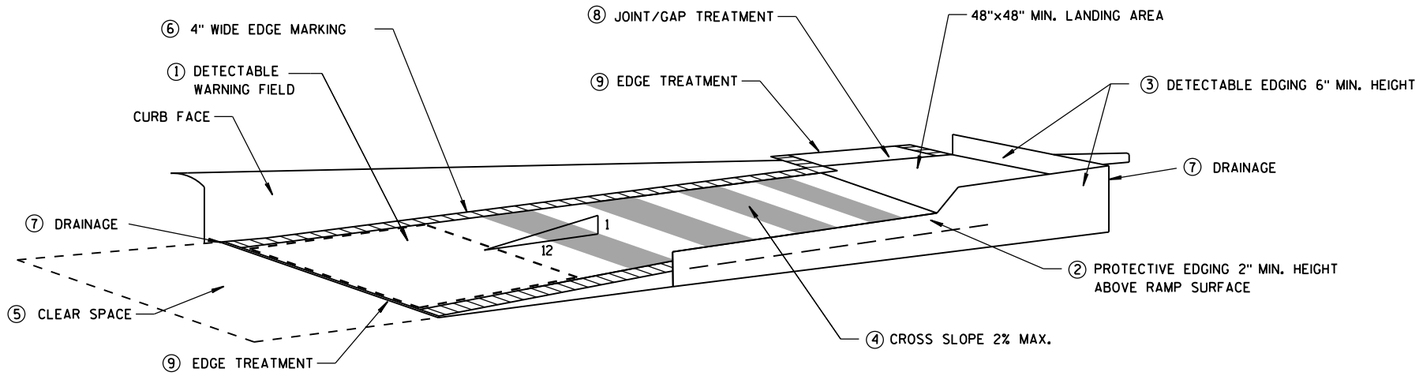
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 D 30-3a

6

S.D.D. 15 D 30-3a



TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 8D5 SHEET "E".

② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

④ CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

⑤ CLEAR SPACE OF 48"X48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

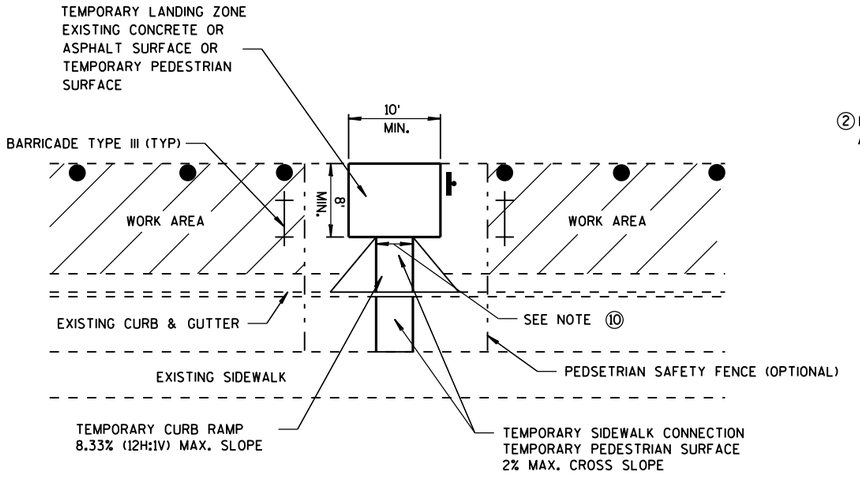
⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.

⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

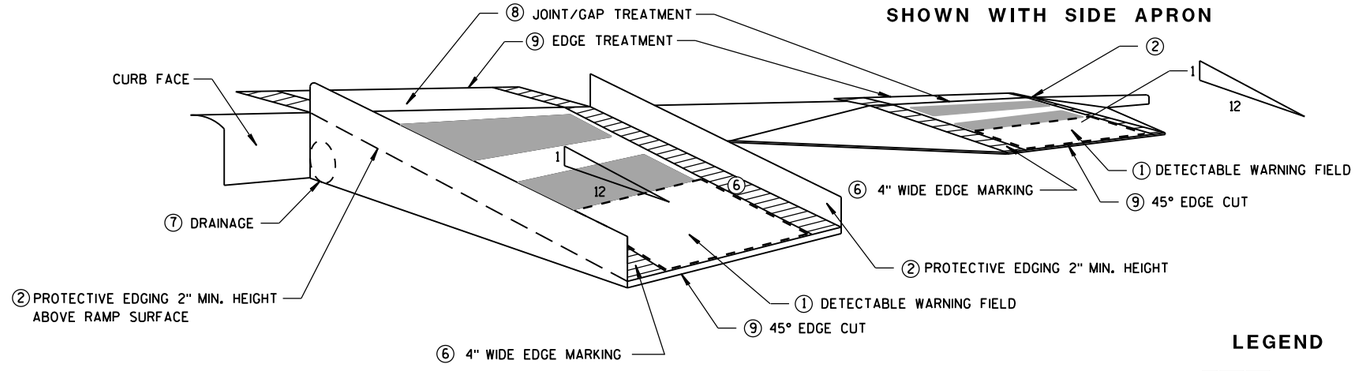
⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

⑩ 5' WIDE MIN. WITH PEDSETRIAN SAFETY FENCE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY FENCE.



TEMPORARY BUS STOP PAD



SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

WORK AREA

TYPE III BARRICADE

TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

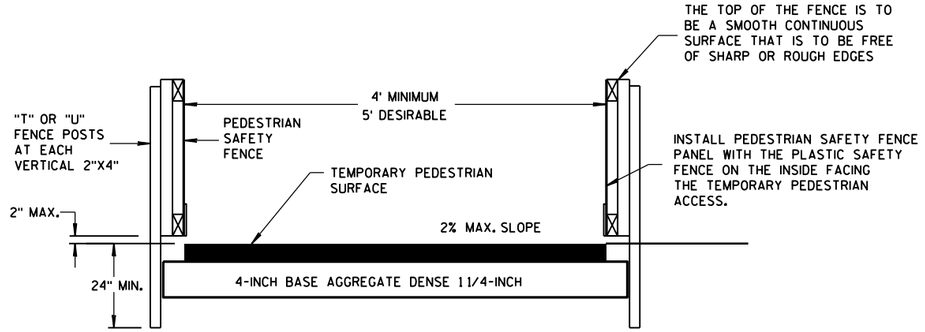
FHWA

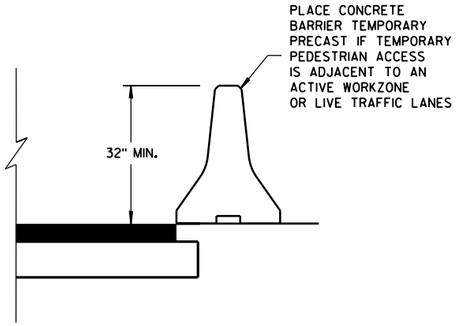
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S.D.D. 15 D 30-3b

6

S.D.D. 15 D 30-3b

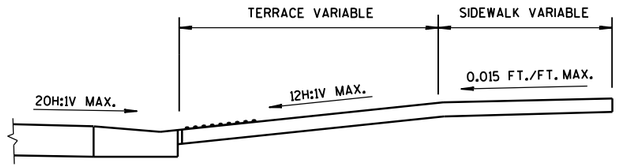




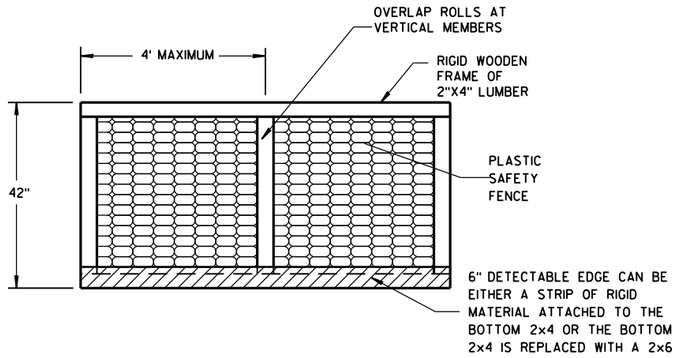
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

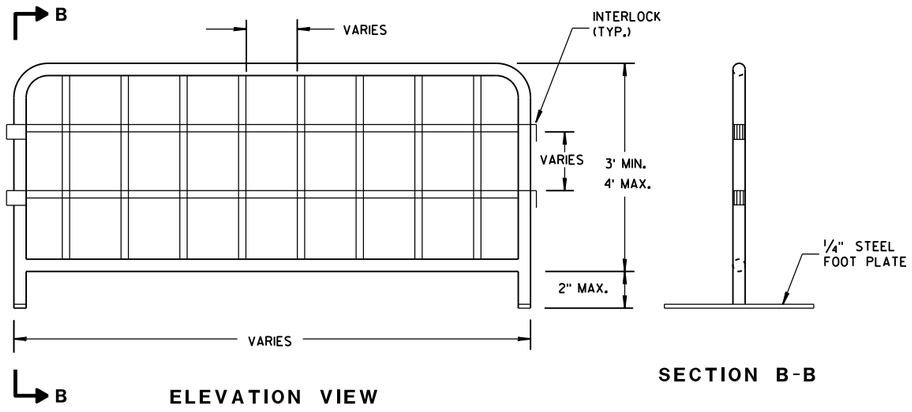
(1) INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.



SECTION A-A



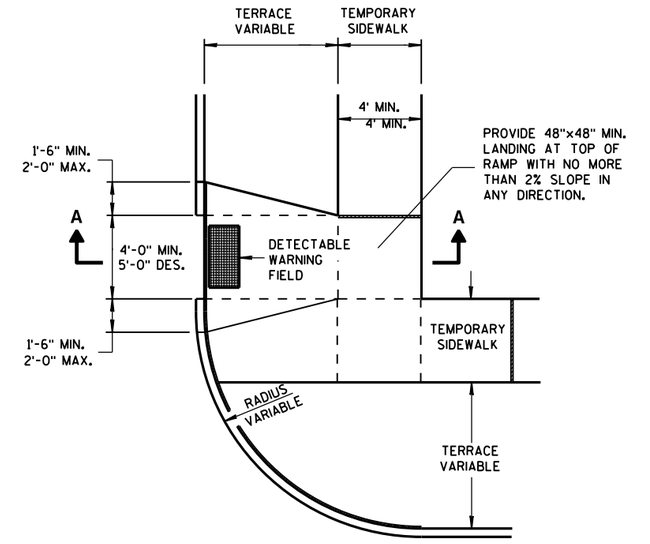
PEDESTRIAN SAFETY FENCE



ELEVATION VIEW

SECTION B-B

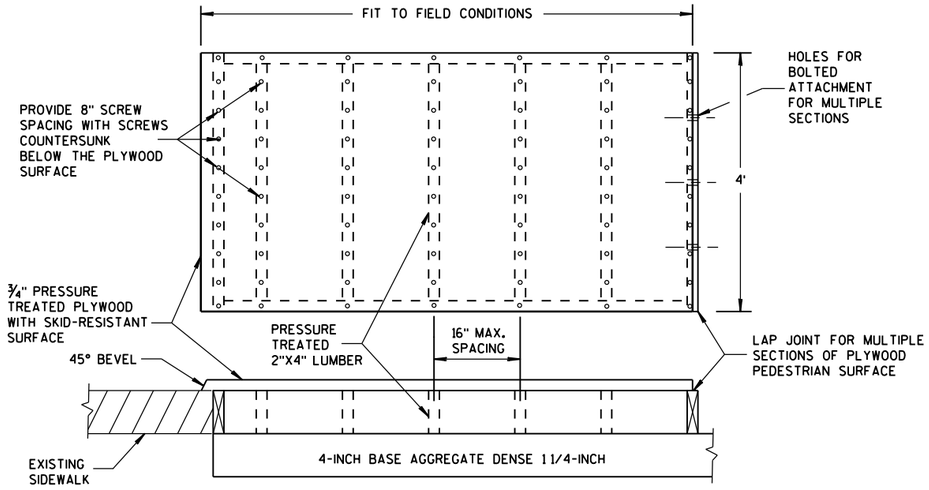
TEMPORARY PEDESTRIAN STEEL BARRICADE (1)



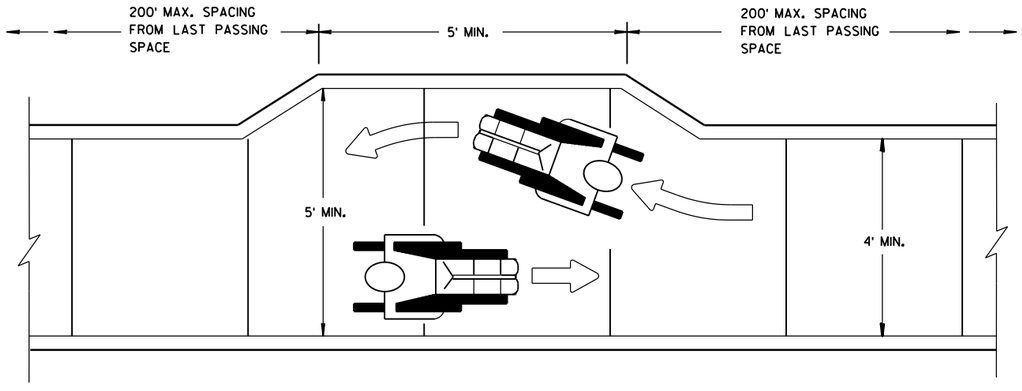
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



NARROW SIDEWALK PASSING DETAIL

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

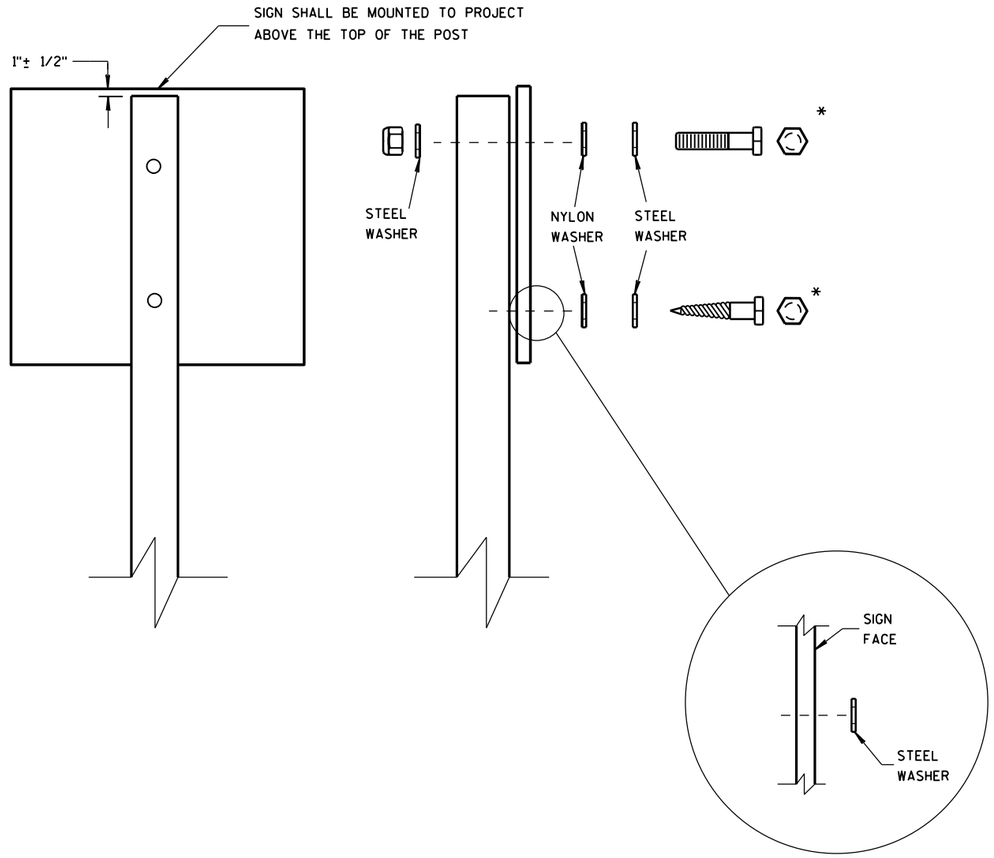
APPROVED
June 2016
DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGIN IC
FHWA

6

S.D.D. 15 D 30-3c

6

S.D.D. 15 D 30-3c



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

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S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

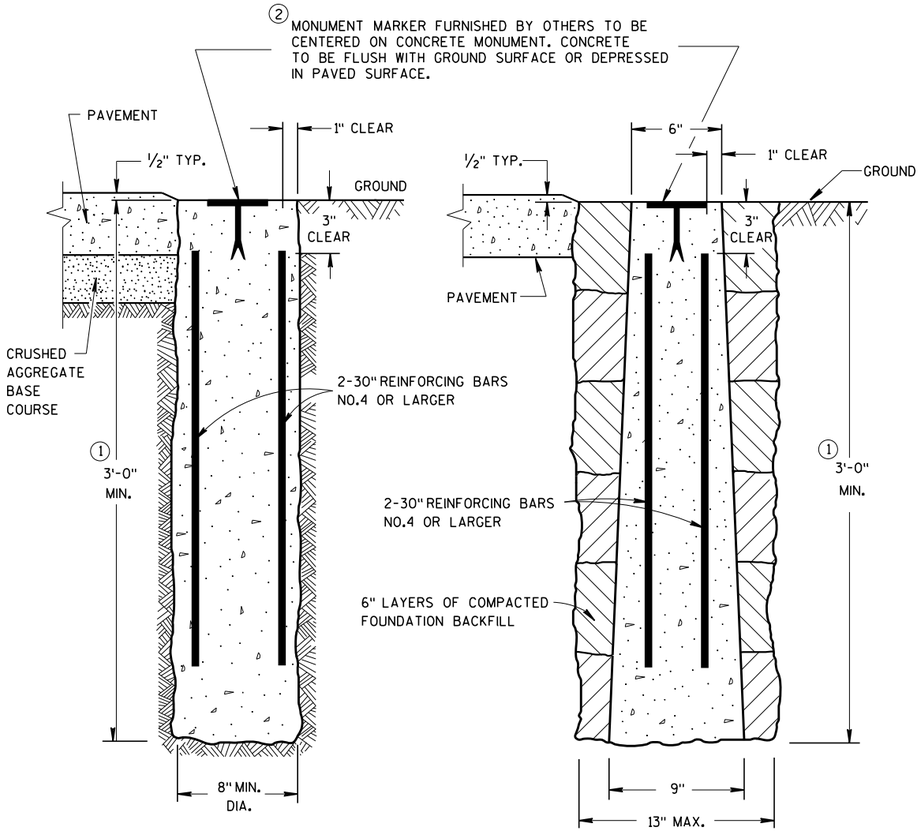
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA

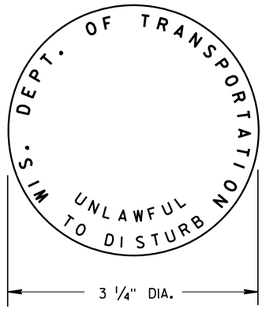


CAST-IN-PLACE

PRECAST

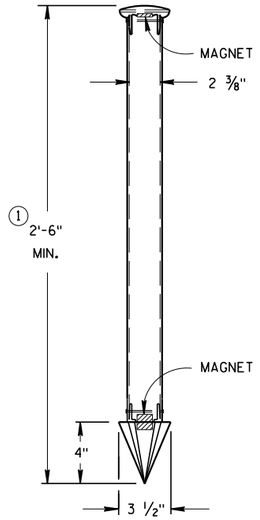
CONCRETE MONUMENTS

TYPE A



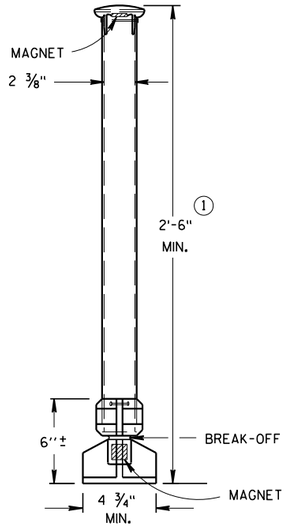
② **WIS DOT MONUMENT MARKER LOGO**

FOR TYPES "A", "C", & "D"



TYPE C

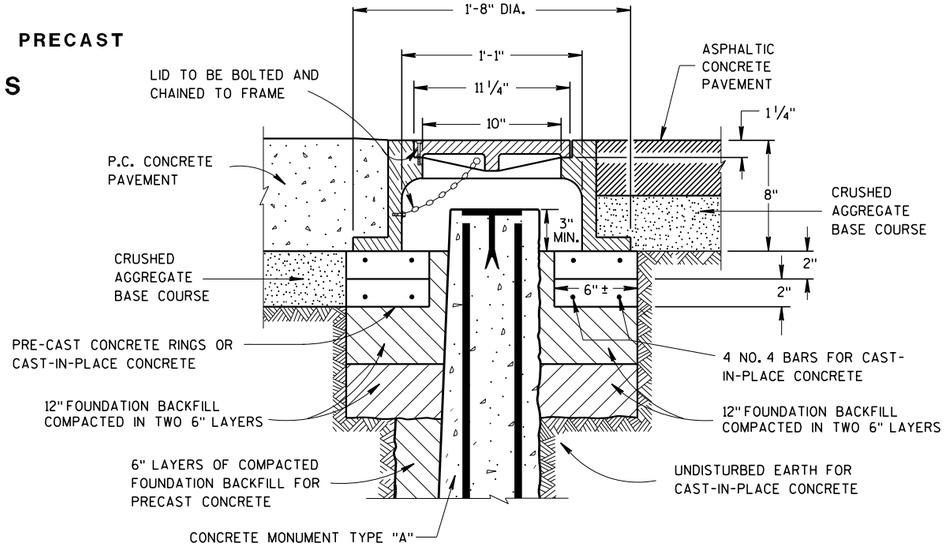
DRIVE-IN MONUMENT



TYPE D
NON-DRIVEN
BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)



CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT 95 LBS)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

PERMANENT MAGNETS SHALL BE INSERTED NEAR THE TOP AND BOTTOM OF ALL ALUMINUM MONUMENTS SO THE MONUMENT CAN EASILY BE DETECTED BY A METAL DETECTOR.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

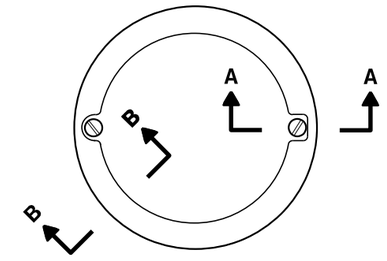
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

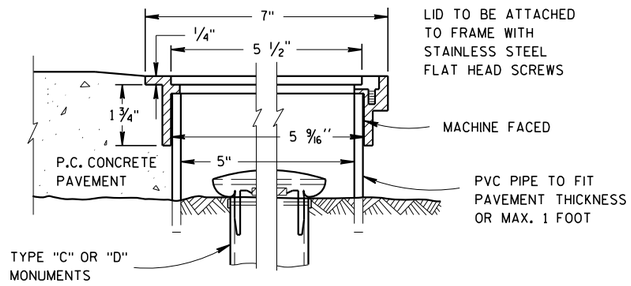
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.



TOP VIEW



SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)

LANDMARK REFERENCE MONUMENTS AND COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Raymond A. Kumagai — CHIEF SURVEYING AND MAPPING ENGINEER
FHWA

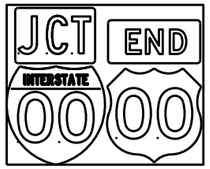
6

S.D.D. 16 A 1-7

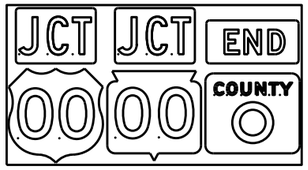
TYPICAL ASSEMBLIES



J1-1



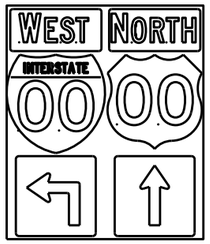
J1-2



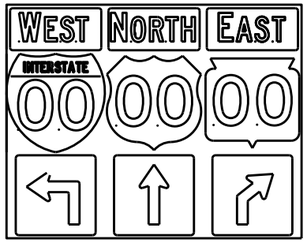
J1-3



J2-1



J2-2

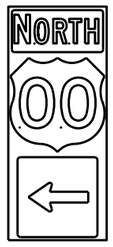


J2-3

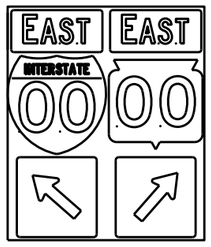


JV

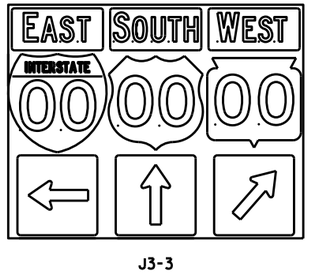
(Typical Vertical J-Assembly
See Note 10 and 11)



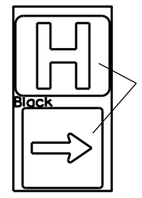
J3-1



J3-2



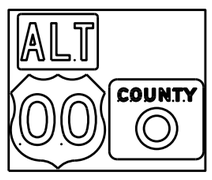
J3-3



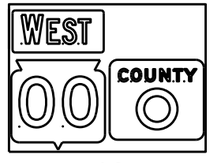
JH-1



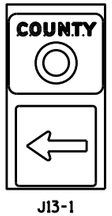
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

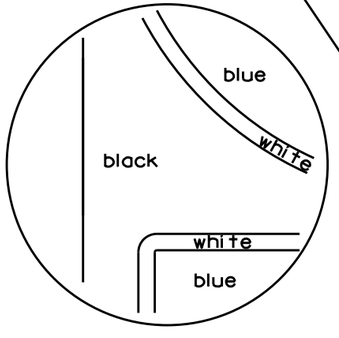


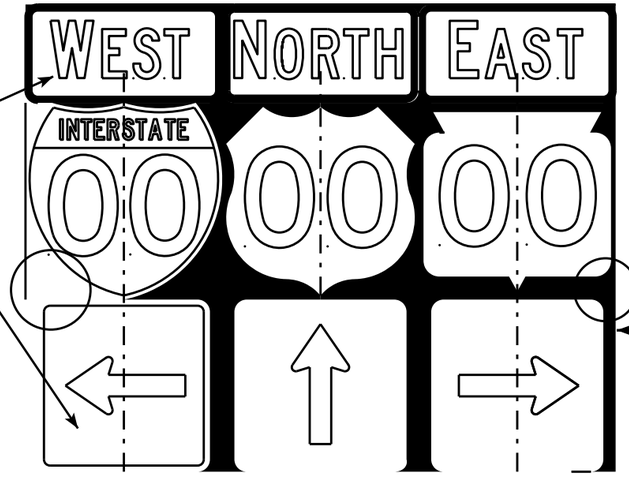
J23-1

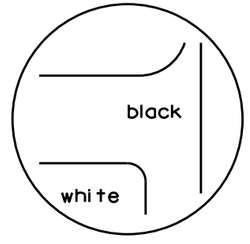


J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

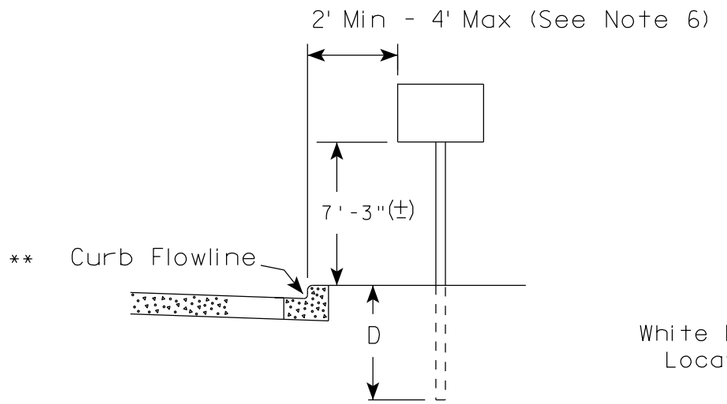
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E

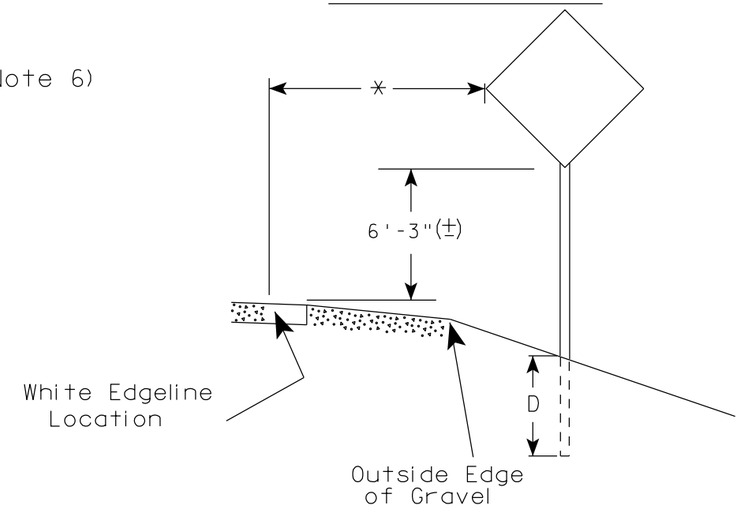
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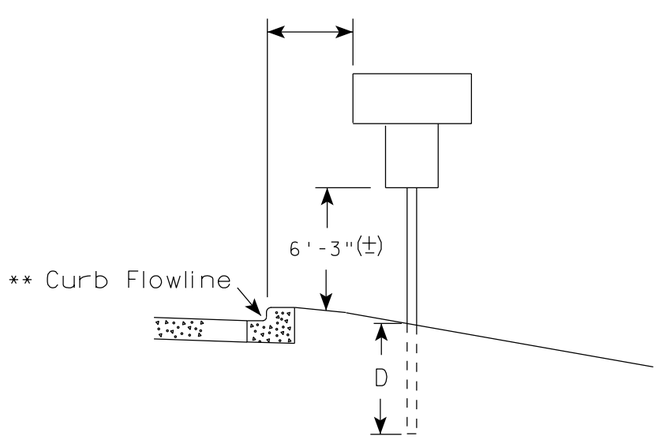
WISDOT/CADDS SHEET 42

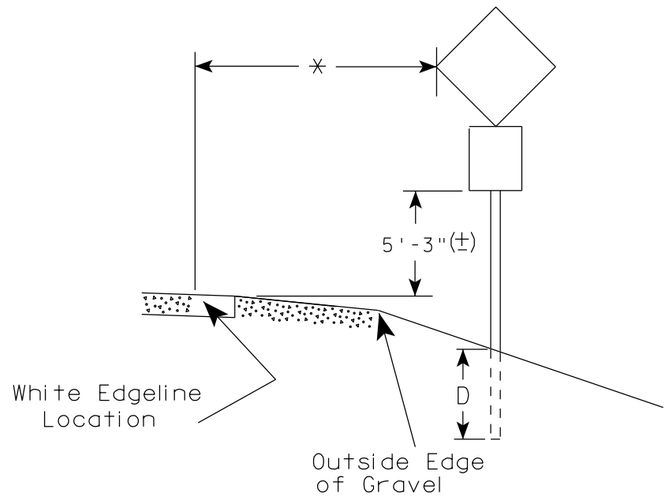
URBAN AREA



RURAL AREA (See Note 2)







** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

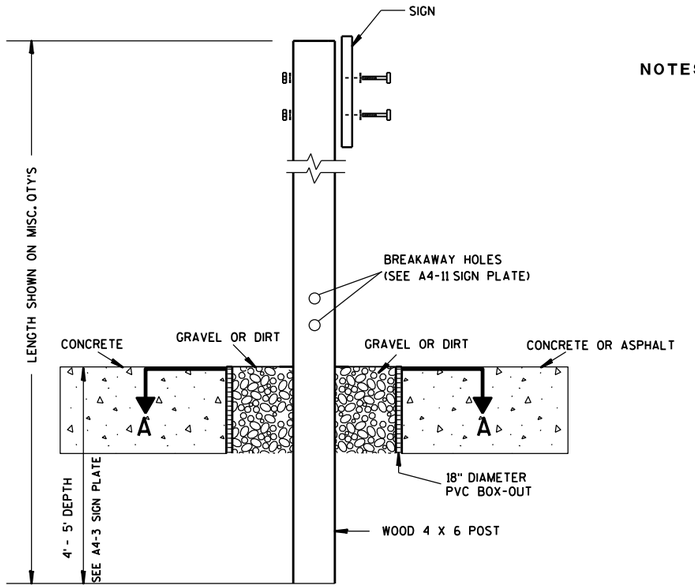
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

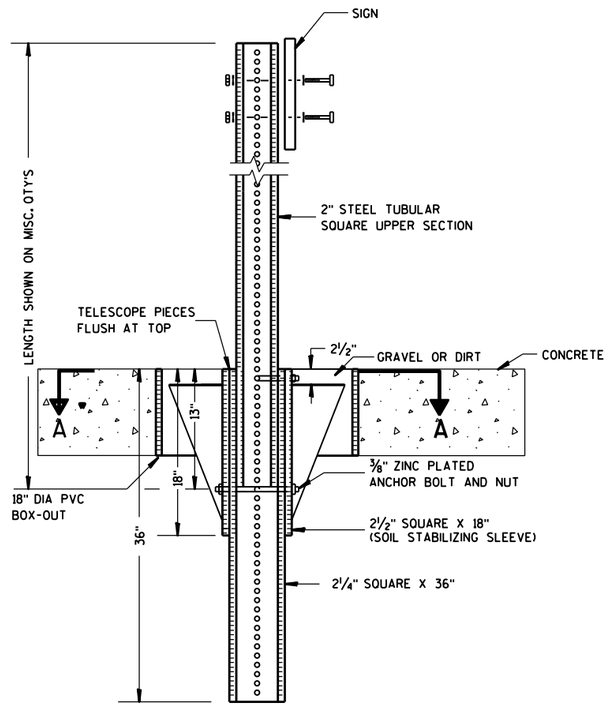
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

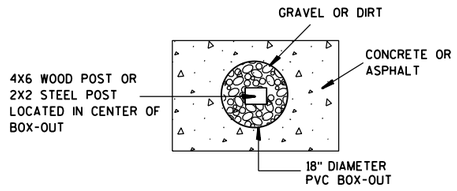
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

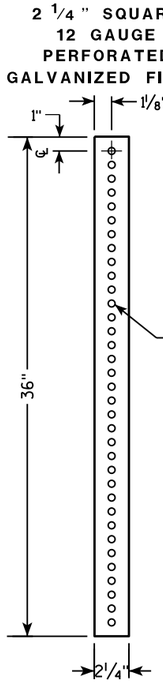
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

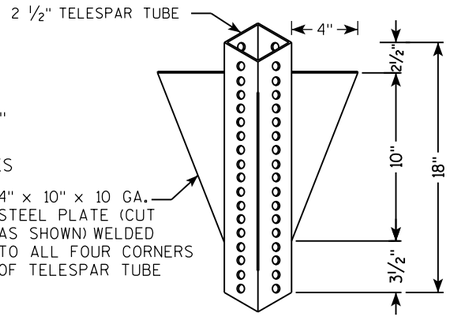
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TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

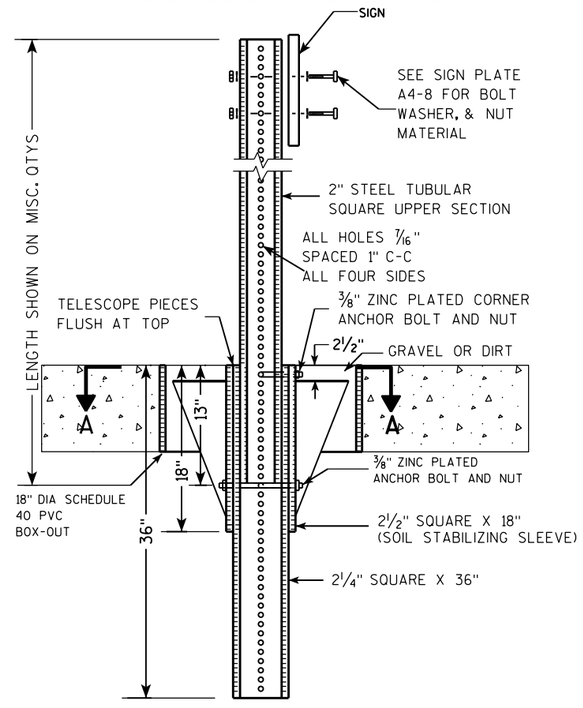
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



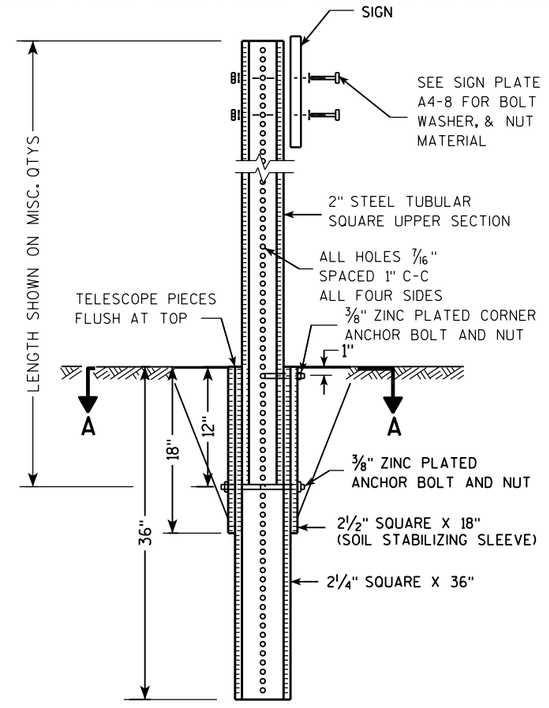
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

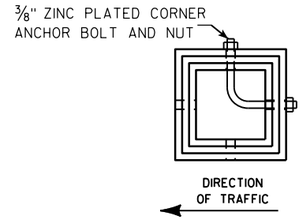


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

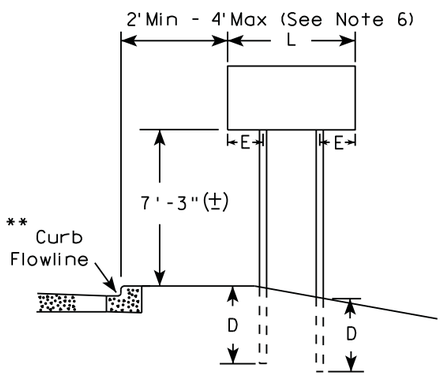
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

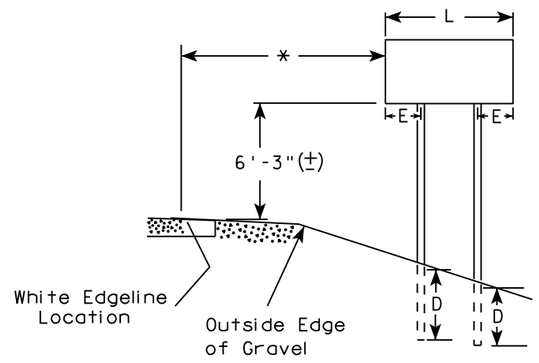
DATE 2/05/15 PLATE 206 A4-9.9

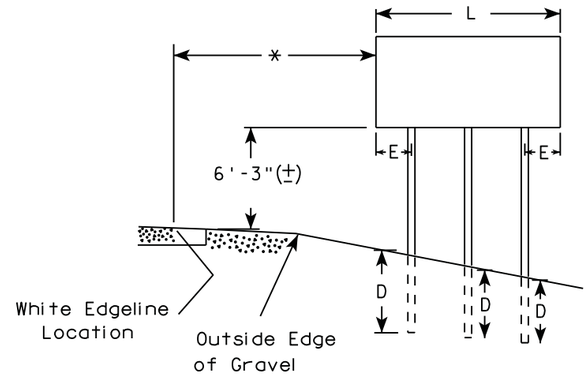
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

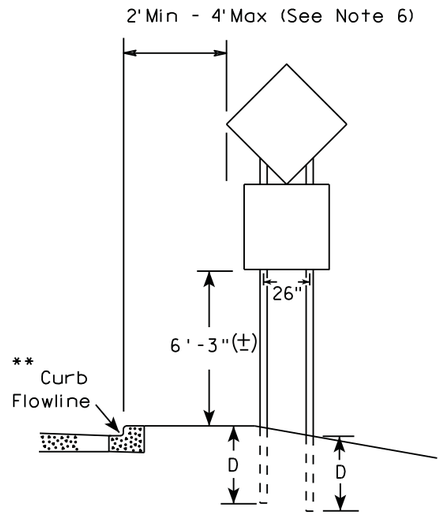
URBAN AREA



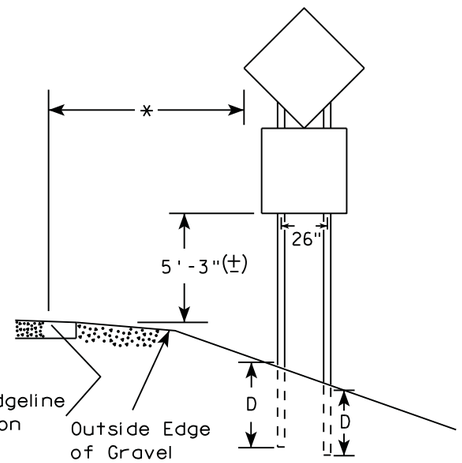
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)		
	L	E
***	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

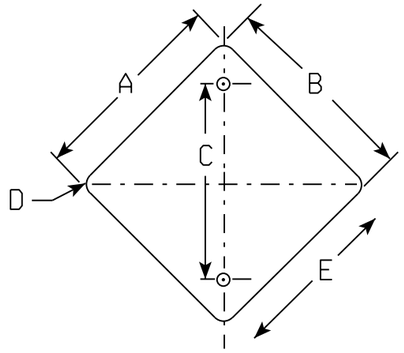
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

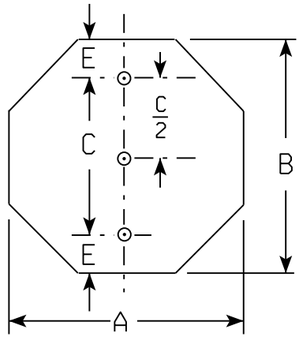
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

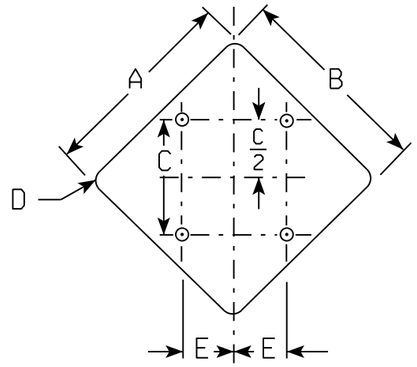
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 207	E



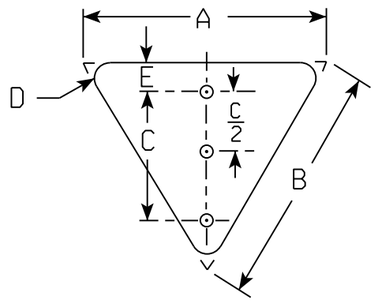
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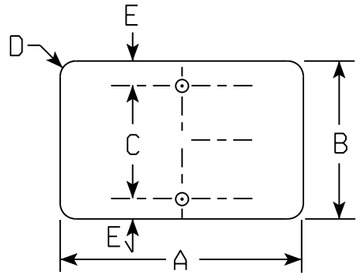
2



3



4



5

TYPE 1							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
18	18	18	1 1/2	14	2.25	.080	2
24	24	24	1 1/2	20	4.0	.080	2
30	30	30	1 7/8	22	6.25	.080	2
36	36	36	2 1/4	26	9.0	.100	2

TYPE 2						
A	B	C	E	Area Sq. Ft.	THICK NESS	Mounting Holes
24	24	20	2	3.31	.080	2
30	30	24	3	5.18	.100	2
36	36	28	4	7.46	.125	2
48	48	36	6	13.25	.125	3

TYPE 3							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
48	48	26	3	13	16.0	.125	4

TYPE 4							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
18	18	14	1	2	1.95	.080	2
36	36	24	2	2	3.9	.100	2
48	48	32	3	3	7.0	.125	2

TYPE 5							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
8	8	6	1 1/2	1	0.44	.080	2
12	12	9	1 1/2	1 1/2	1.00	.080	2
18	18	14	1 1/2	2	2.25	.080	2
21	15	11	1 1/2	2	2.19	.080	2
21	21	17	1 1/2	2	3.06	.080	2
24	12	8	1 1/2	2	2.0	.080	2
24	18	14	1 1/2	2	3.0	.080	2
24	24	20	1 1/2	2	4.0	.080	2
30	12	8	1 1/2	2	2.5	.080	2
30	15	11	1 1/2	2	3.13	.080	2
30	18	14	1 1/2	2	3.75	.080	2
30	21	17	1 1/2	2	4.37	.080	2
30	24	20	1 1/2	2	5.0	.080	2

TYPE 5 CONT'D.							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
30	30	22	1 7/8	4	6.25	.080	2
36	12	8	1 1/2	2	3.0	.100	2
36	18	14	1 1/2	2	4.5	.100	2
36	24	20	1 1/2	2	6.0	.100	2
36	36	26	2 1/4	5	9.0	.100	2
40	18	14	1 1/2	2	5.00	.100	2
42	21	17	1 7/8	2	6.125	.125	2
42	30	22	1 7/8	4	8.75	.125	2
48	24	20	1 7/8	2	8.0	.125	2

NOTES

1. All sign blanks shall have 7/16" Diameter mounting hole.

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

SHEET 1 OF 3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

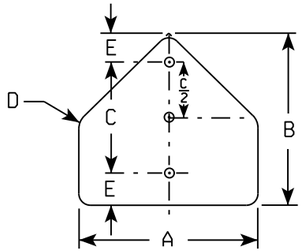
for State Traffic Engineer

DATE 8/1/16

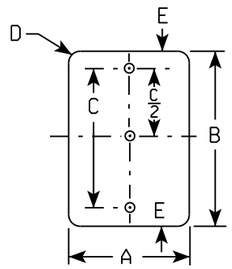
PLATE NO 208 A5-3.23

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

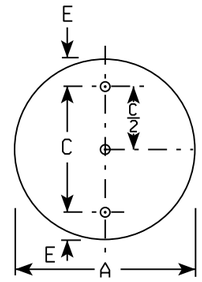
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A53.DGN PLOT DATE : 01-AUG-2016 13:17 PLOT BY : $$ platuser $$ PLOT NAME : PLOT SCALE : 1.945842:1.000000



6



7



8

NOTES

1. All sign blanks shall have 7/16" Diameter mounting holes.

TYPE 6							
A	B	C	D	E	Area Sq. Ft	THICK NESS	Mounting Holes
30	30	24	1 3/8	3	4.68	.080	2
36	36	26	1 5/8	5	6.75	.100	2
48	48	32	1 7/8	8	12.0	.125	3

TYPE 7							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
12	18	15	1 1/2	1 1/2	1.5	.080	2
12	24	20	1 1/2	2	2.0	.080	2
12	36	24	1 1/2	6	3.0	.100	2
12	48	32	1 1/2	8	4.0	.125	3
15	21	18	1 1/2	1 1/2	2.19	.080	2
18	24	20	1 1/2	2	3.0	.080	2
18	36	24	1 1/2	6	4.5	.100	2
18	54	36	2 1/2	9	6.75	.080	3
21	60	40	1 1/2	10	8.75	.080	3
21	72	52	1 1/2	10	10.5	.080	3
24	30	22	1 1/2	4	5.0	.080	2
24	36	24	1 1/2	6	6.0	.100	2
24	39	27	1 1/2	6	6.5	.080	3
24	45	32	1 7/8	6	7.5	.080	3
24	48	32	1 7/8	8	8.0	.125	3
24	57	37	1 7/8	10	9.5	.080	3
36	48	32	1 7/8	8	12.0	.125	3
30	36	24	1 7/8	6	7.5	.100	2
36	54	36	2 1/4	9	12.75	.100	3
36	57	37	1 7/8	10	14.25	.100	3
48	39	27	1 7/8	10	13.0	.125	3
48	45	32	1 7/8	10	14.0	.125	3
48	57	37	3	6	19.0	.125	3

TYPE 8						
A	B	C	E	Area Sq. Ft.	THICK NESS	Mounting Holes
30	—	24	3	4.91	.080	2
36	—	26	5	7.07	.100	2
48	—	32	8	12.5	.125	3

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

SHEET 2 OF 3

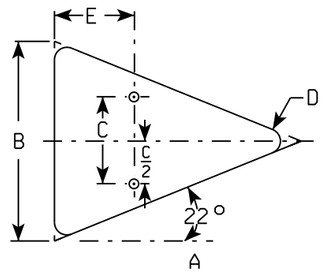
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/1/16 PLATE NO. A5-3.23

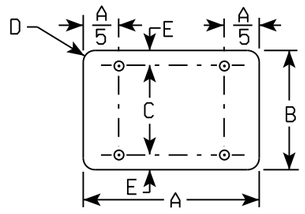
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A53.DGN PLOT DATE : 01-AUG-2016 13:18 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 1.945842:1.000000



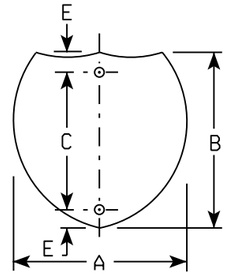
10

TYPE 10 (NOTE 1)							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
48	36	14	2¼	16	6.0	.125	2



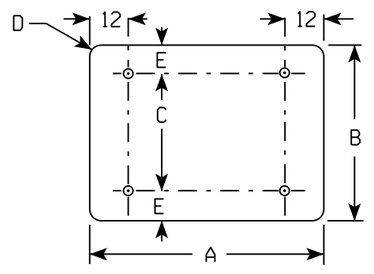
11

TYPE 12 (NOTE 2)						
A	B	C	E	Area Sq. Ft.	THICK NESS	Mounting Holes
24	24	18	3	3.13	.080	2
30	24	18	3	3.91	.080	2
36	36	28	4	7.03	.100	2
45	36	28	4	8.79	.125	2



12

TYPE 13							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
48	60	40	3	10	20.0	.125	4
54	12	8	1½	2	4.5	.125	4
54	15	11	1½	2	5.63	.125	4
54	18	14	1½	2	6.75	.125	4
54	21	17	1½	2	7.88	.125	4
54	24	20	1⅞	2	9.0	.125	4
54	36	28	1⅞	4	13.5	.125	4
54	48	40	1⅞	4	18.0	.125	4
60	12	8	1½	2	5.0	.125	4
60	18	14	1½	2	7.5	.125	4
60	24	20	1⅞	2	10.0	.125	4
60	30	22	1⅞	4	12.5	.125	4
60	36	28	1⅞	4	15.0	.125	4
60	42	34	1⅞	4	17.5	.125	4
60	48	40	3	4	20.0	.125	4



13

TYPE 11							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
66	12	8	3	2	5.5	.125	4
66	18	14	3	2	8.25	.125	4
66	24	20	3	2	11.0	.125	4
66	30	22	3	4	13.75	.125	4
66	36	28	3	4	16.5	.125	4
66	42	34	3	4	19.25	.125	4
66	48	40	3	4	22.0	.125	4
72	12	8	3	2	6.0	.125	4
72	18	14	3	2	9.0	.125	4
72	24	20	3	2	12.0	.125	4
72	30	22	3	4	15.0	.125	4
72	36	28	3	4	18.0	.125	4
72	42	34	3	4	21.0	.125	4
72	48	40	3	4	24.0	.125	4

NOTES

1. Dimension A on type #10 is measured to the theoretical intersections of the edges.
2. Shape of type #12 shall conform to FHWA standard for Interstate route markers.
3. All signs over 60" in width shall have 3" radius on the outside corners of the aluminum blank.
4. All signs over 60" in width shall be .125" aluminum. See sign plate A4-18 for hole placement.

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

SHEET 3 OF 3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

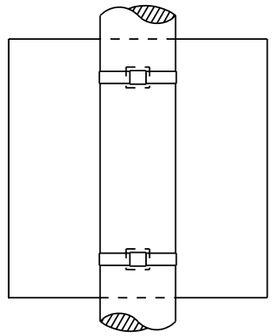
DATE 8/1/16 PLATE NO 210 ^5.3.23

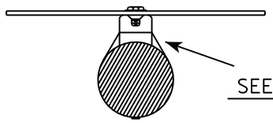
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A53.DGN PLOT DATE : 01-AUG-2016 13:19 PLOT BY : $$ platuser $$ PLOT NAME : PLOT SCALE : 1.945842:1.000000

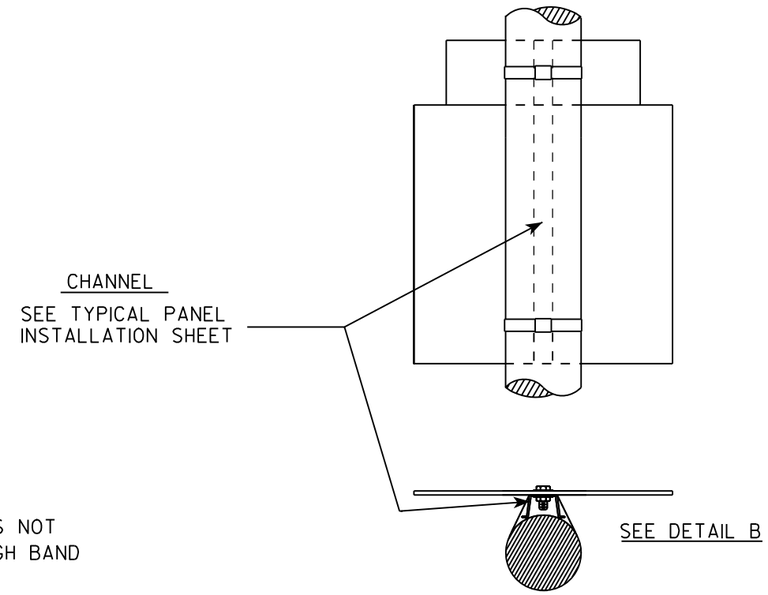
BANDING

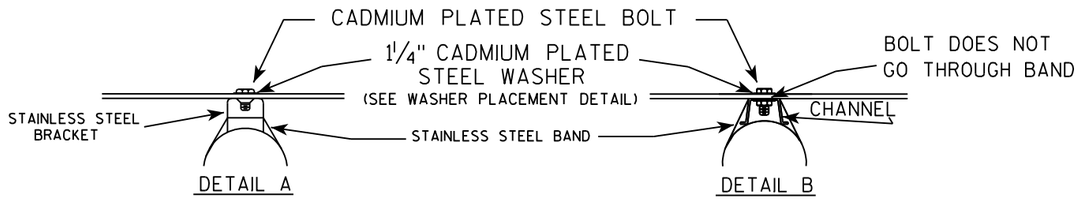
SINGLE SIGN



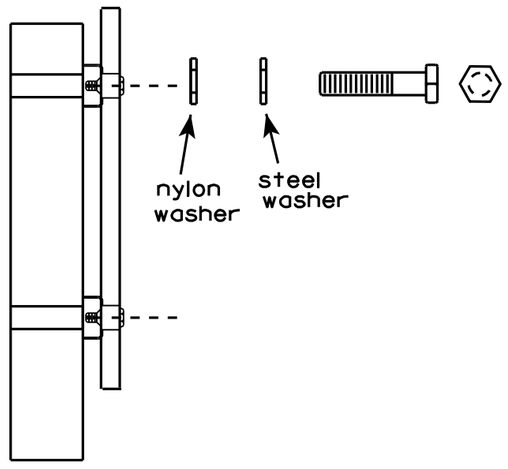


"J" ASSEMBLY





WASHER PLACEMENT



WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

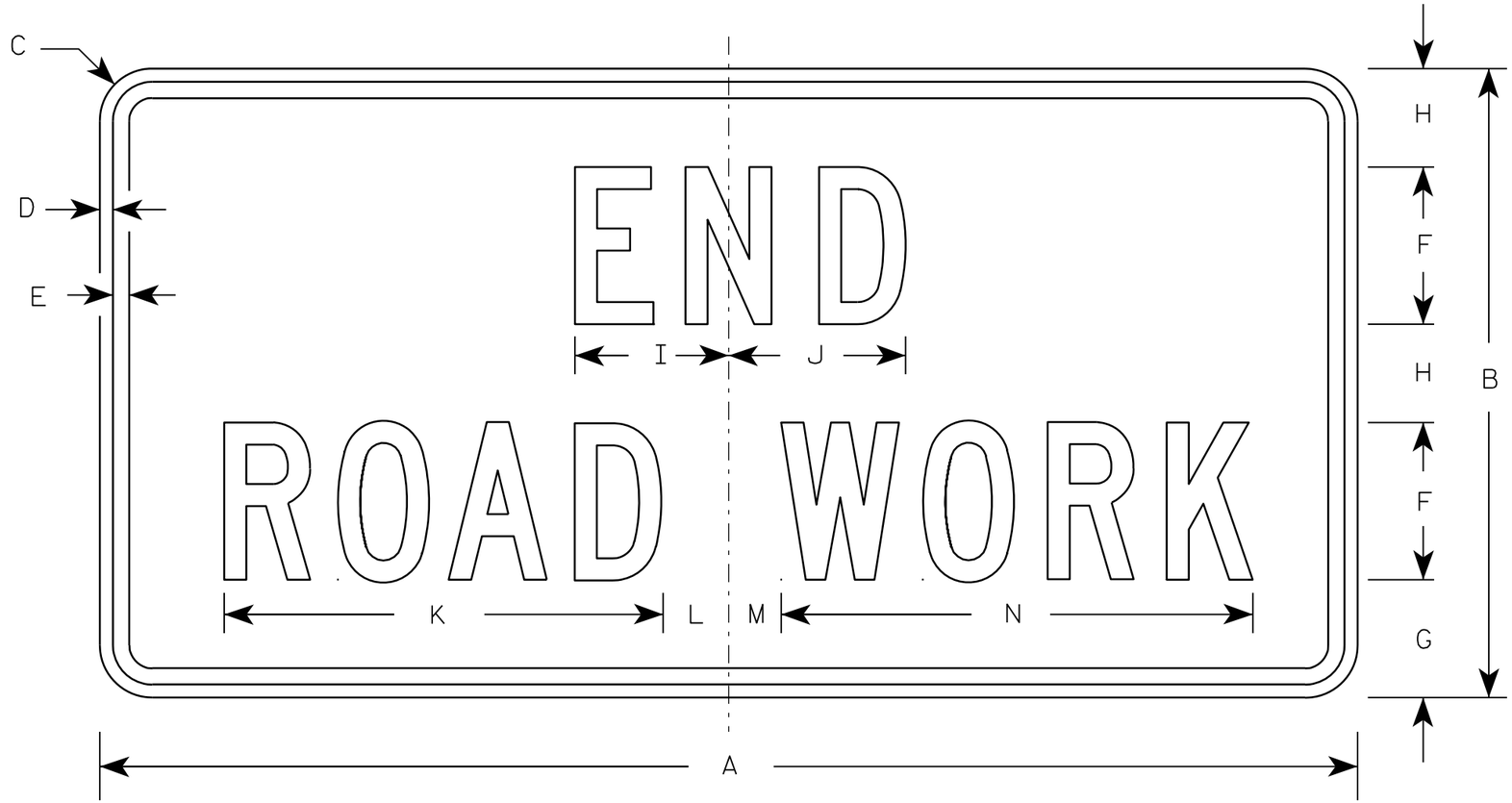
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 211	E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

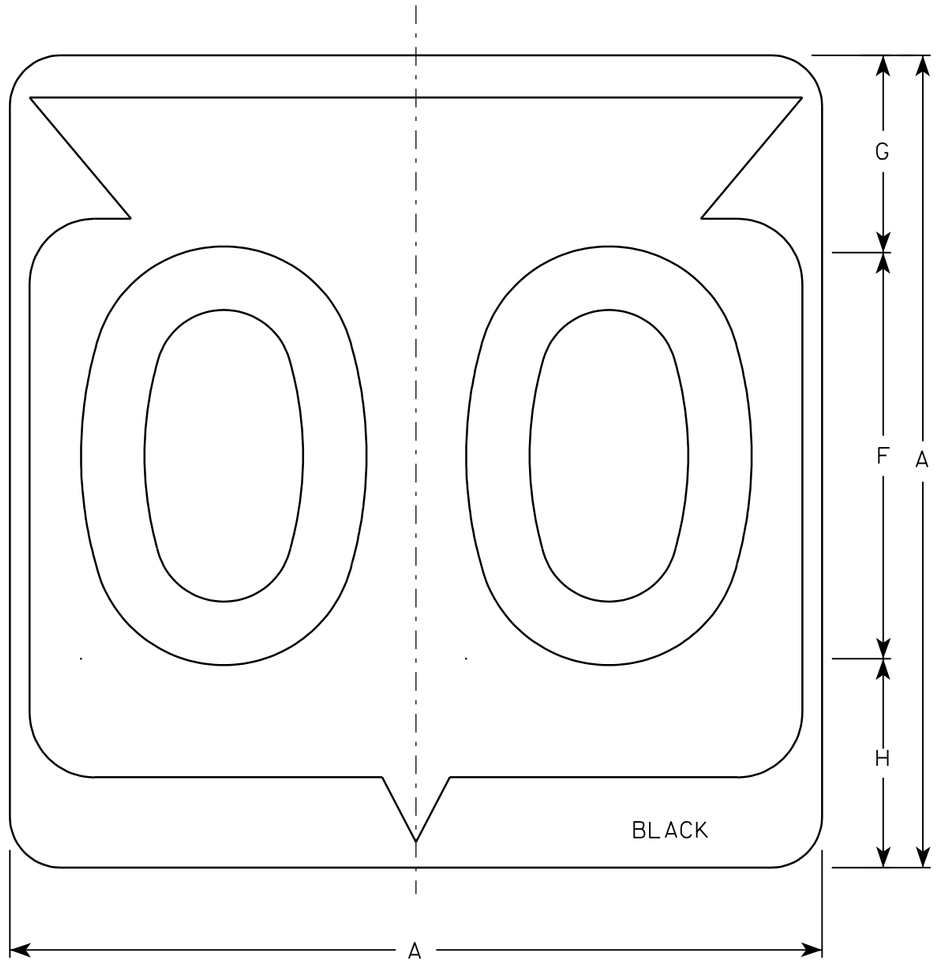
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

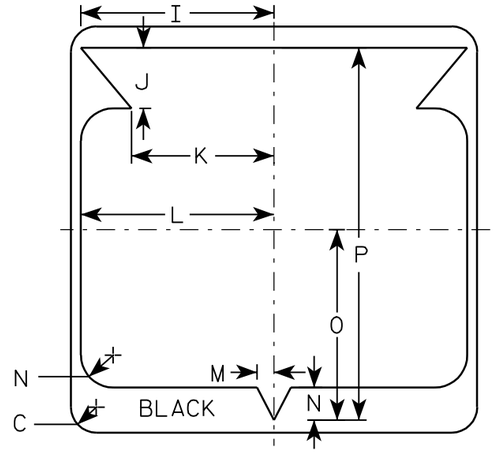
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 212	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

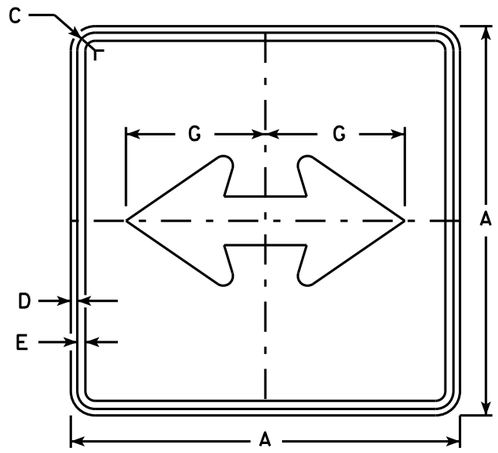
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

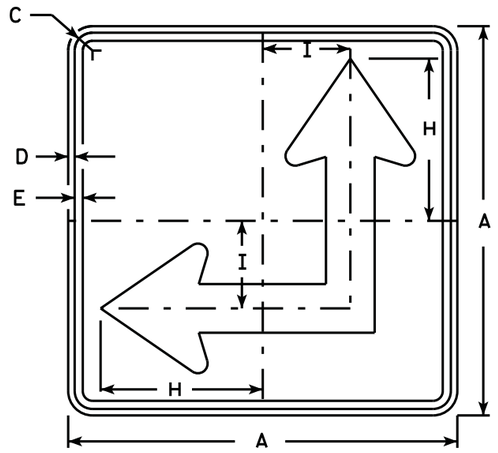
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

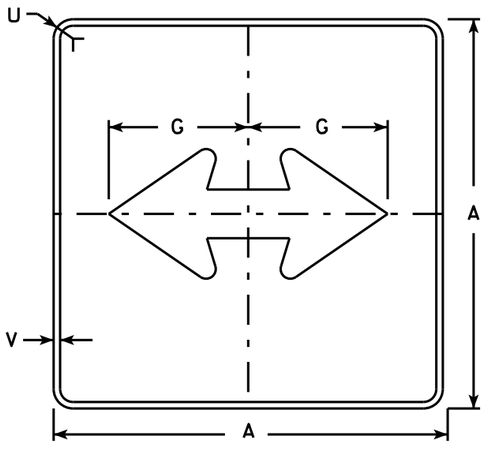
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 213	E



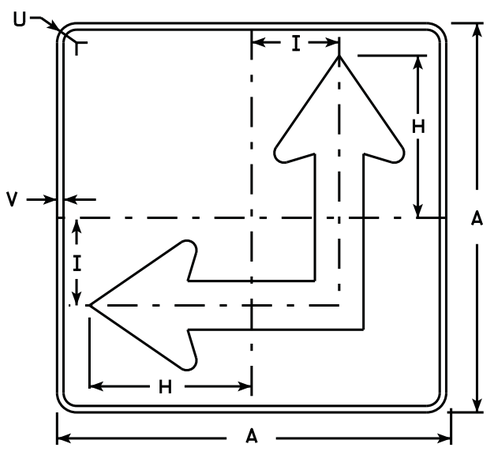
M6-4
MM6-4
MO6-4
MP6-4



M6-6
MM6-6
MO6-6
MP6-6



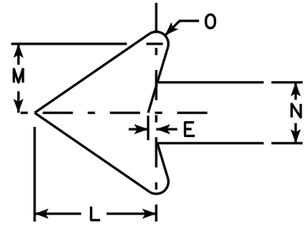
MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6

NOTES

1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

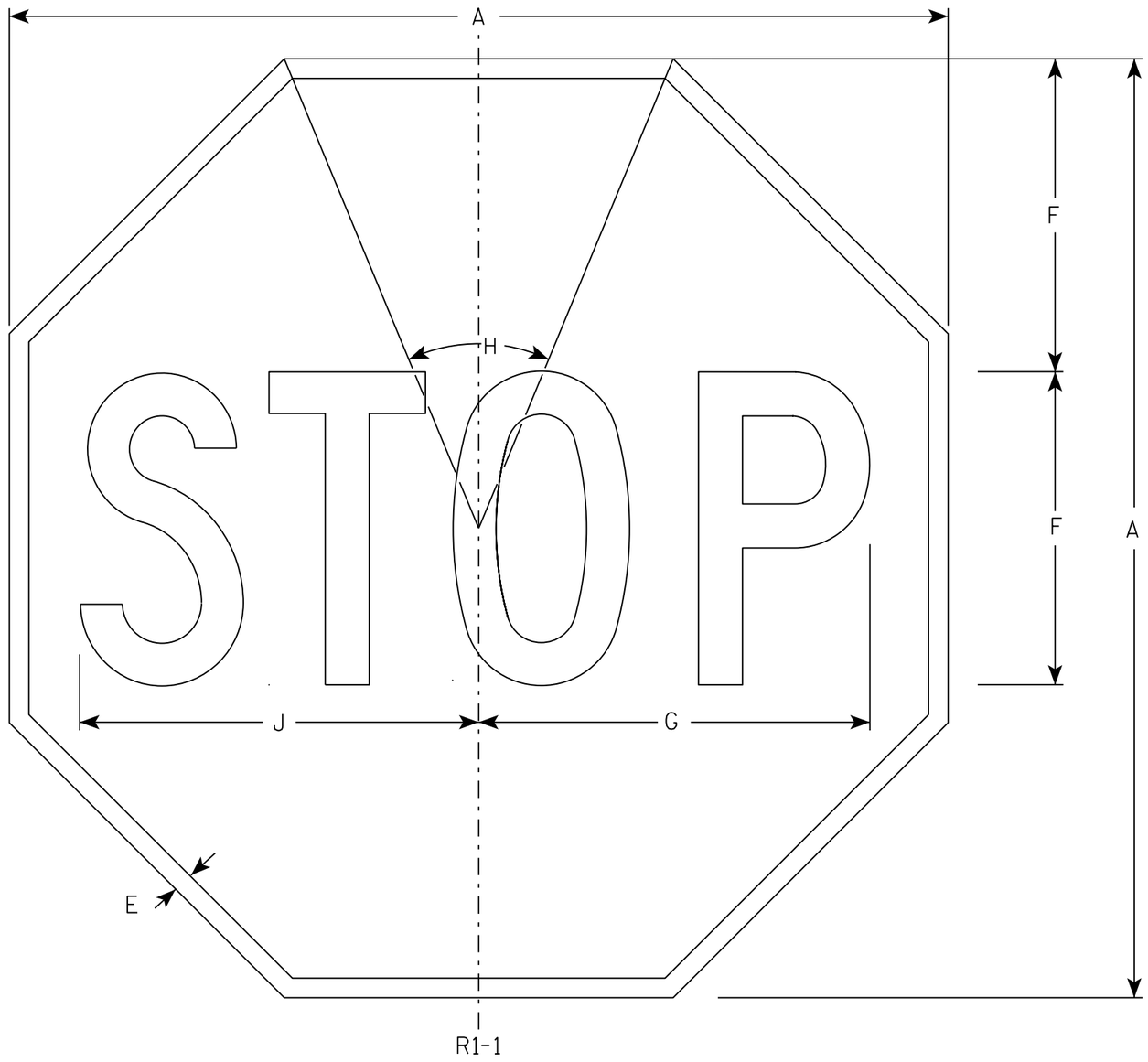
STANDARD SIGN
M6-4 & M6-6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-4.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO. 214 | E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN

R1-1

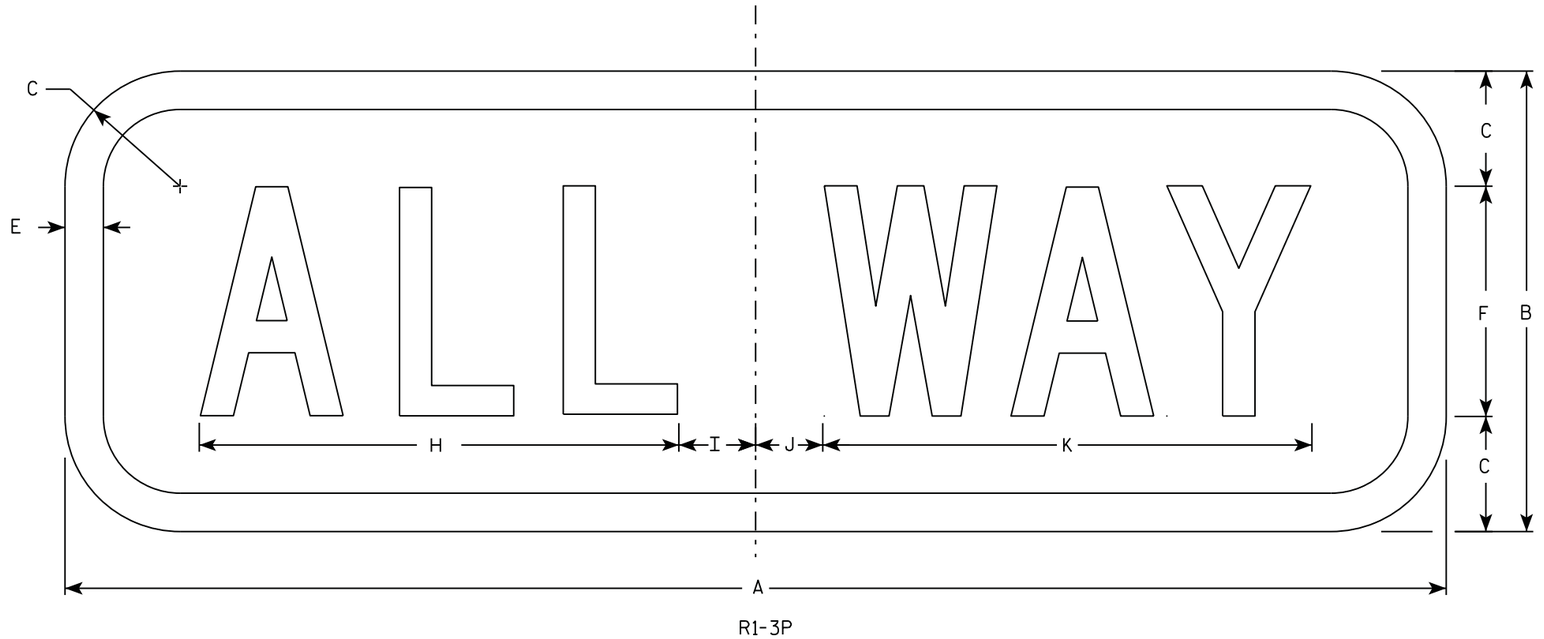
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 215	E



R1-3P

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. For 30"x30" R1-1 use 18"x6" R1-3P sign
   For 36"x36" R1-1 use 24"x9" R1-3P sign
   For 48"x48" R1-1 use 30"x12" R1-3P sign

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	6	1 ½		½	3		6 ¼	1 ¼	⅞	6 ⅜																0.75
2S	18	6	1 ½		½	3		6 ¼	1 ¼	⅞	6 ⅜																1.5
2M	24	9	1 ½		½	5		9 ¼	1 ¼	¾	9 ¾																1.5
3	24	9	1 ½		½	5		9 ¼	1 ¼	¾	9 ¾																1.5
4	30	12	2 ¼		⅝	6		11	2 ¼	1 ½	11 ¾																2.5
5	30	12	2 ¼		⅝	6		11	2 ¼	1 ½	11 ¾																2.5

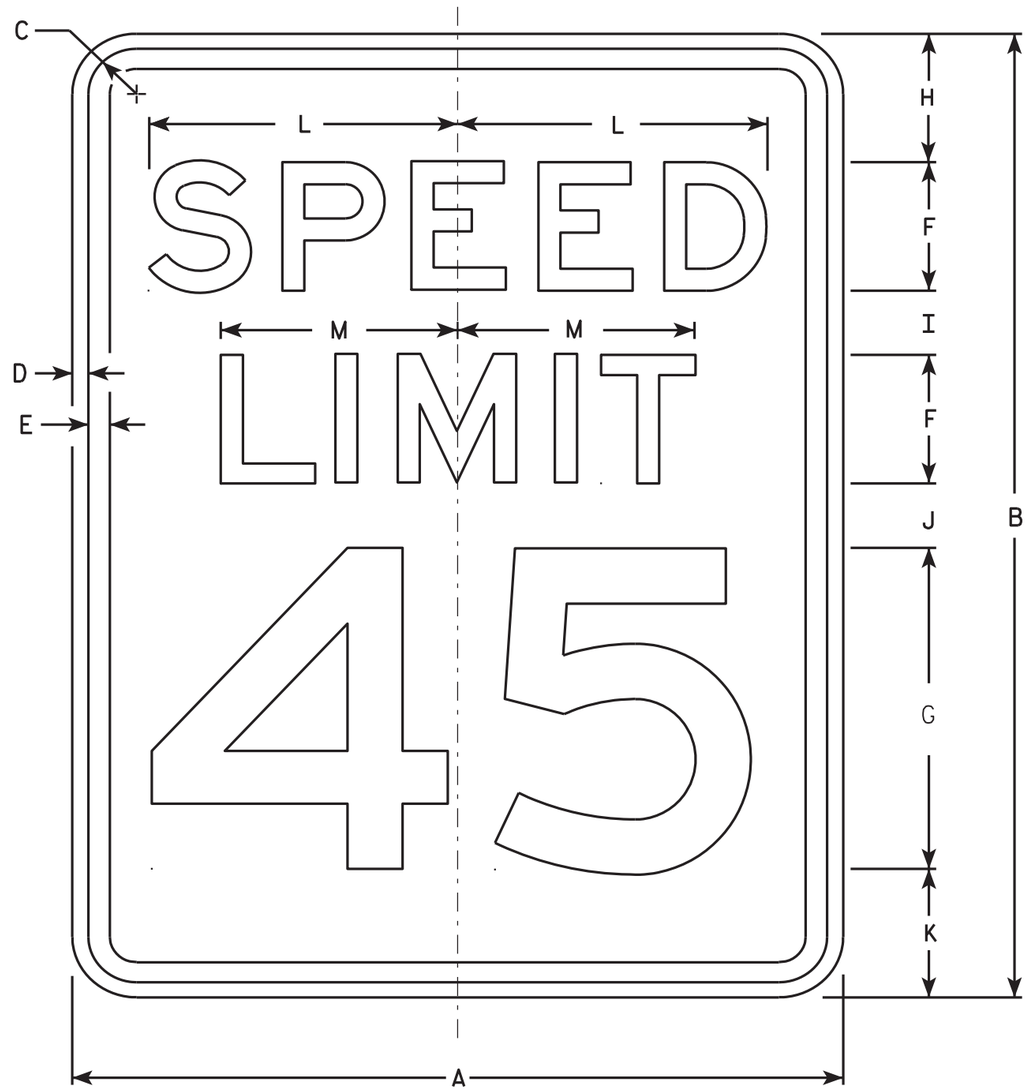
STANDARD SIGN
R1-3P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R1-3P.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 216 | E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

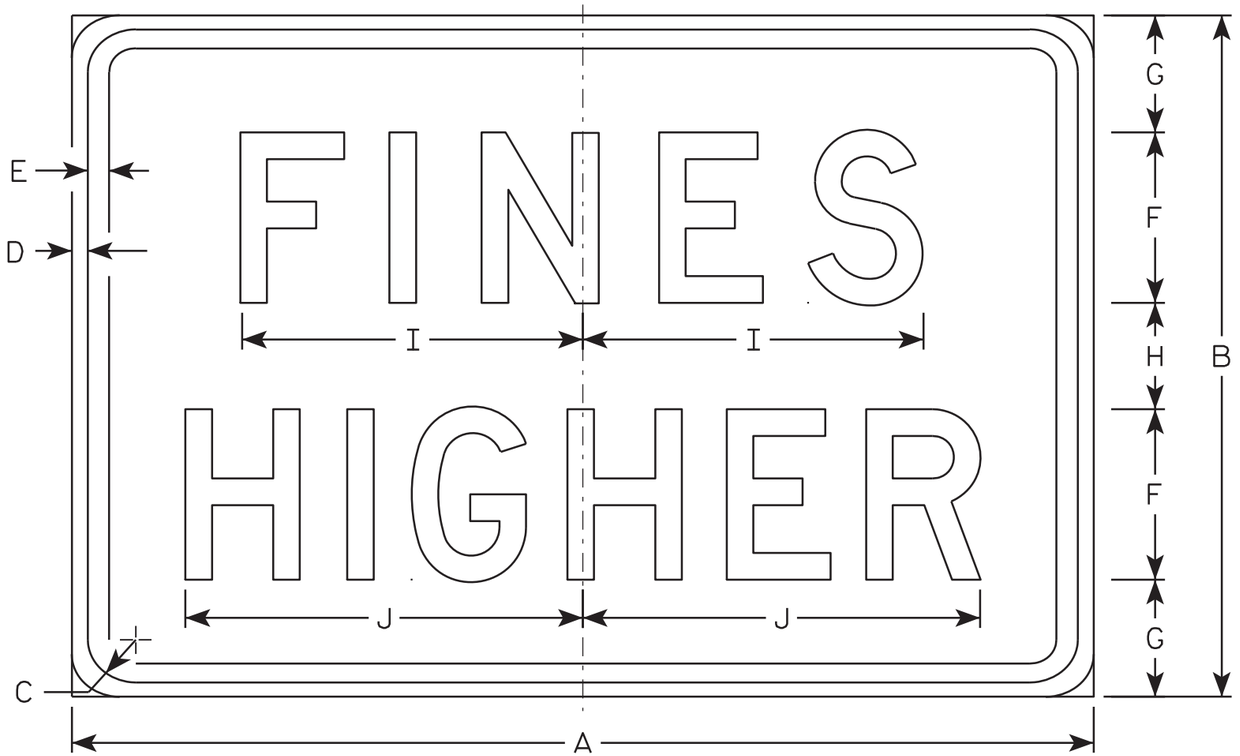
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 217	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000

WISDOT/CADDS SHEET 42

7

7



R2-6P

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	18	1 1/8	3/8	3/8	4	3 1/2	3	7 5/8	9 1/4																	3.0
2M	24	18	1 1/8	3/8	3/8	4	3 1/2	3	7 5/8	9 1/4																	3.0
3	36	24	1 1/8	3/8	1/2	6	4 1/8	3 3/4	12	14																	6.0
4	36	24	1 1/8	3/8	1/2	6	4 1/8	3 3/4	12	14																	6.0
5	48	36	1 3/8	1/2	5/8	8	7	6	15 1/8	19																	12.0

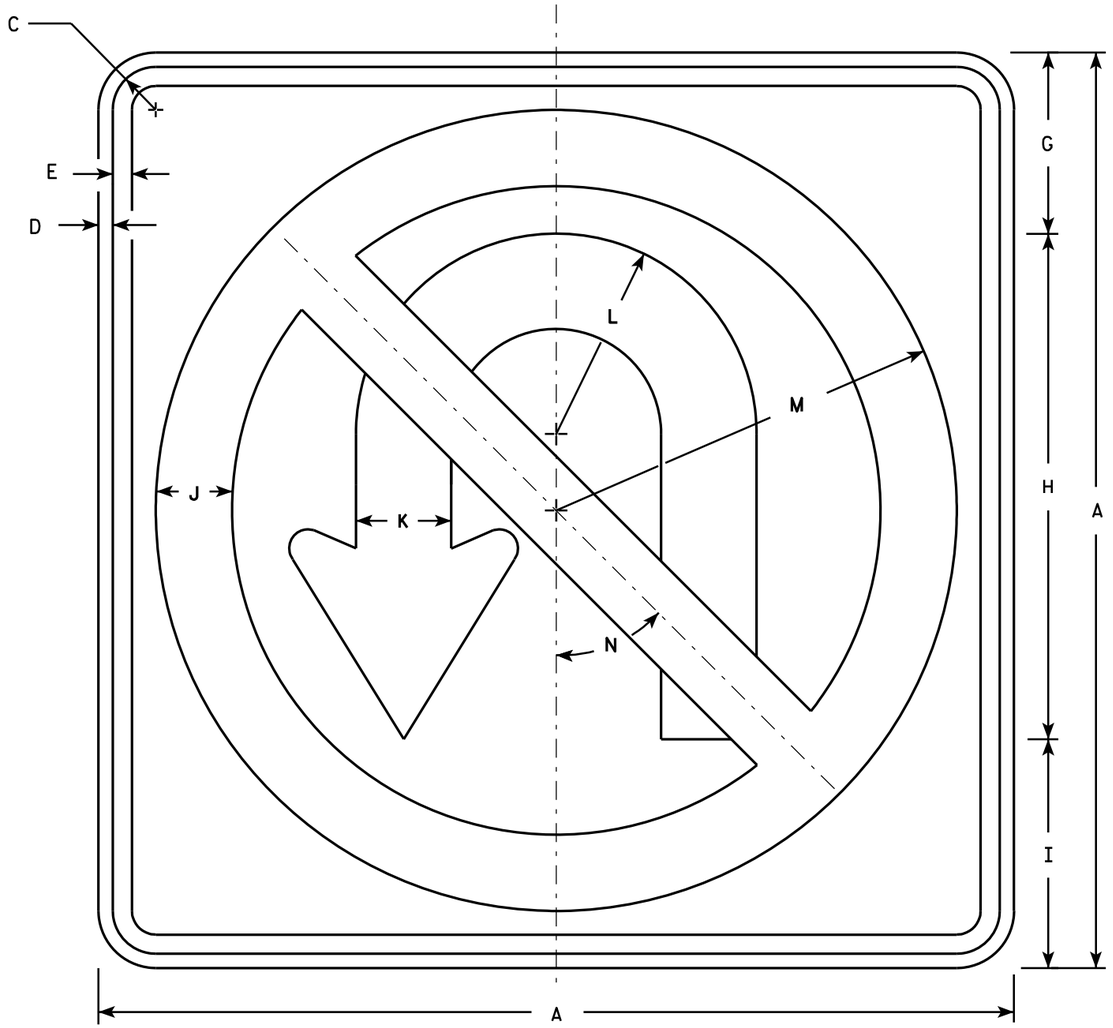
STANDARD SIGN
R2-6P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/10 PLATE NO. R2-6P.2

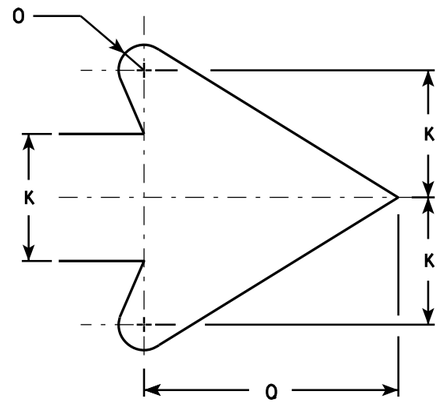
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 218	E



R3-4

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

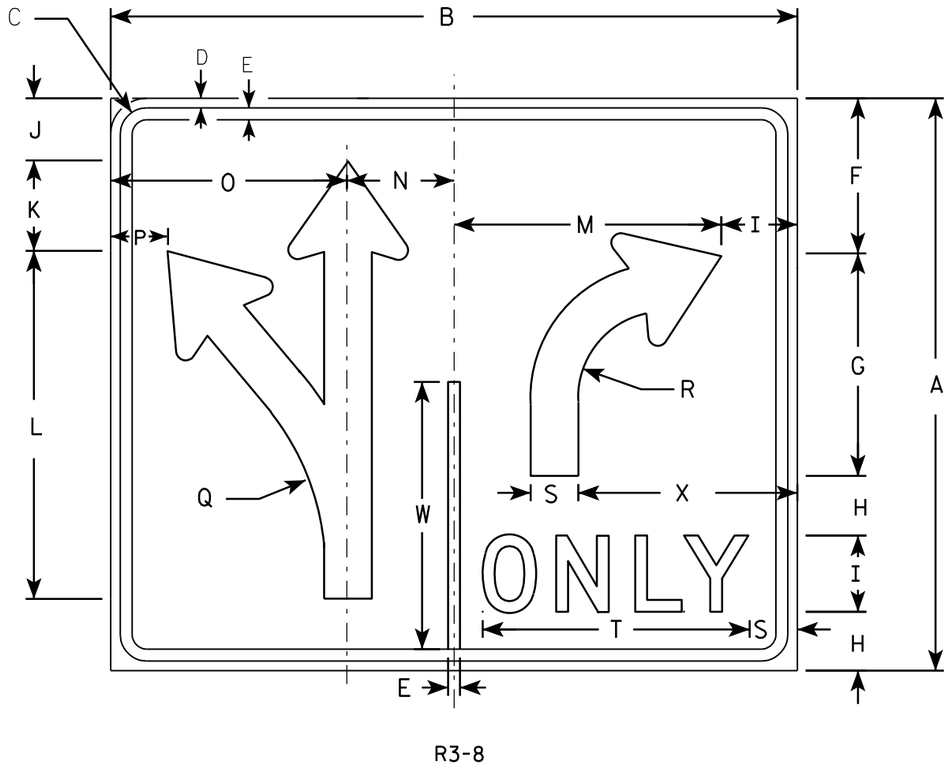
STANDARD SIGN
R3-4

WISCONSIN DEPT OF TRANSPORTATION

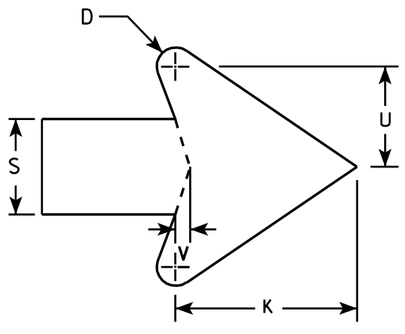
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 219	E



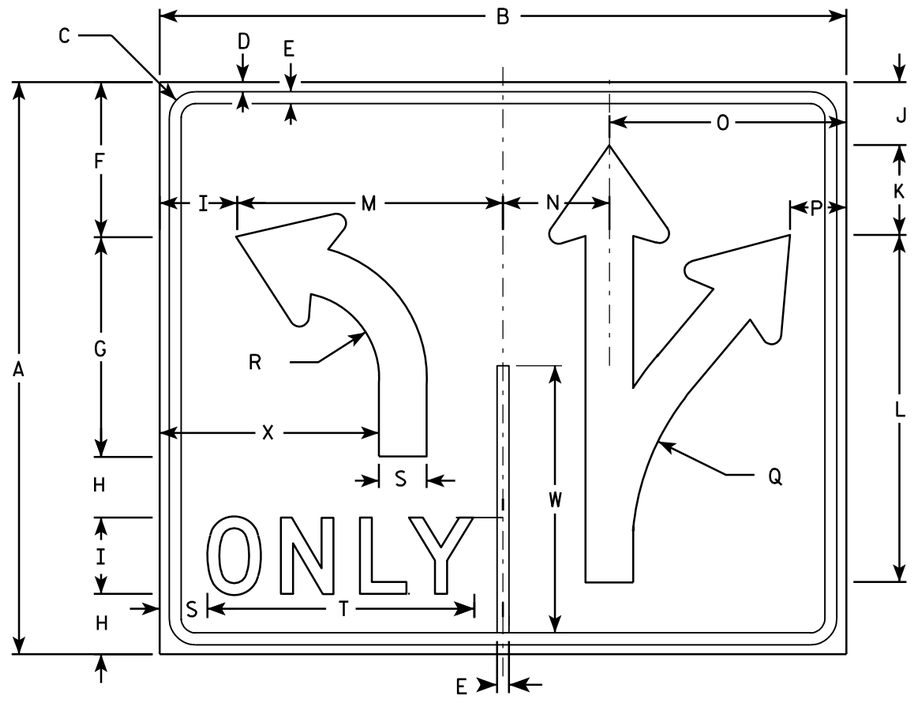
R3-8



ARROW DETAIL

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R3-8A

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4	14	5 5/8	12 3/8	3	13 1/4	4 1/2	2 1/2	14	2 5/8	3/8	14	11 1/2			7.5
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4	14	5 5/8	12 3/8	3	13 1/4	4 1/2	2 1/2	14	2 5/8	3/8	14	11 1/2			7.5
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	5 1/4	7 1/8	29 1/8	21	8 3/8	18 5/8	4 3/8	21 7/8	7 1/4	3 3/4	20 5/8	4	5/8	22 3/8	17 1/4			18.0
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	5 1/4	7 1/8	29 1/8	21	8 3/8	18 5/8	4 3/8	21 7/8	7 1/4	3 3/4	20 5/8	4	5/8	22 3/8	17 1/4			18.0

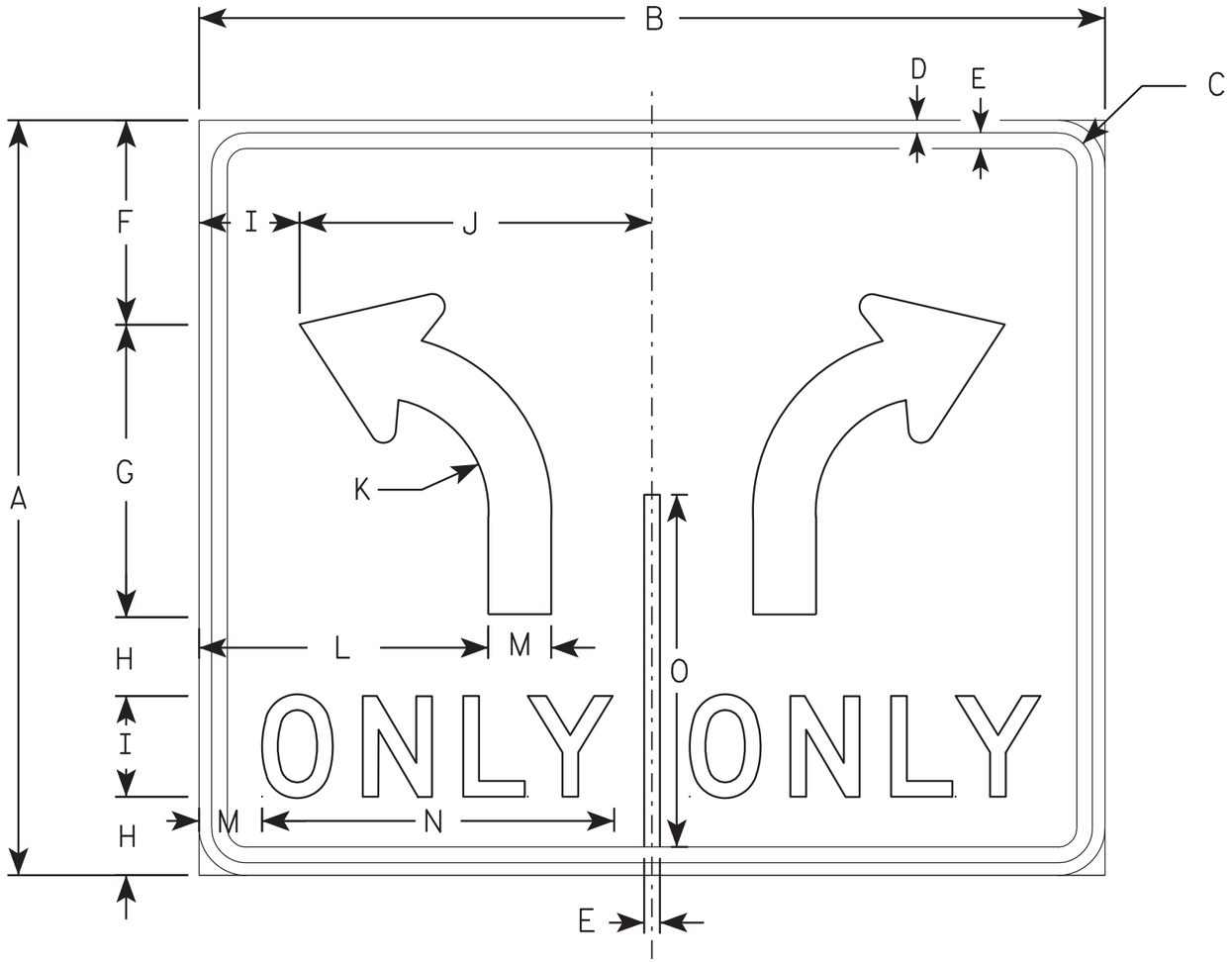
STANDARD SIGN
R3-8 & R3-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8.5

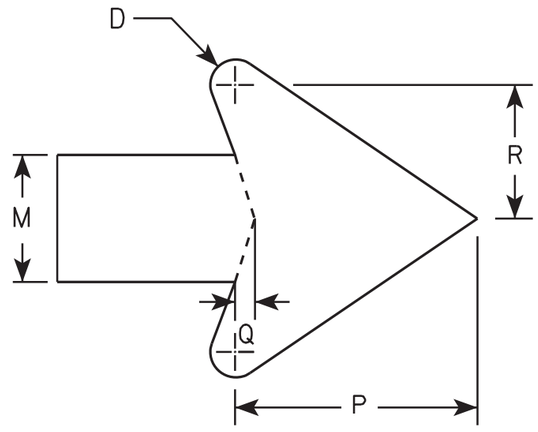
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 220	E



R3-8F

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	14	4 1/2	11 1/2	2 1/2	14	14	4 3/4	3/8	2 5/8									7.5
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	14	4 1/2	11 1/2	2 1/2	14	14	4 3/4	3/8	2 5/8									7.5
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	21	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	7 1/8	5/8	4									18.0
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	21	7 1/4	17 1/4	3 3/4	20 5/8	22 3/8	7 1/8	5/8	4									18.0

STANDARD SIGN
R3-8F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8F.2

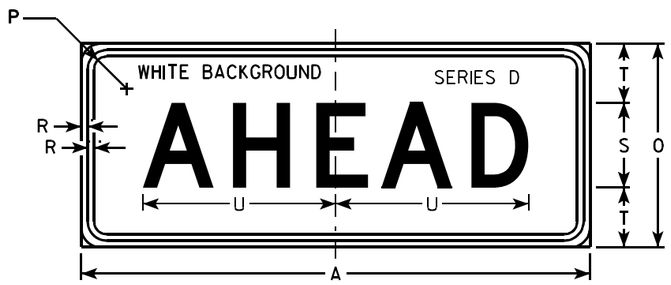
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 221 | E



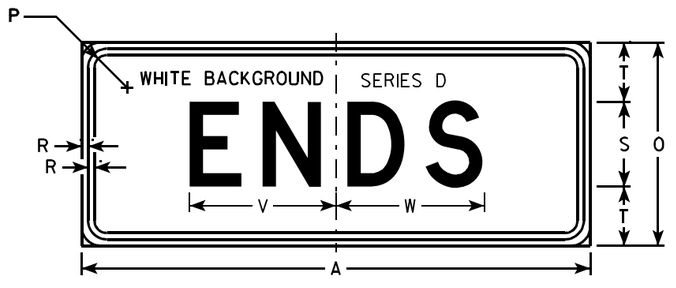
R3-17

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - AS SHOWN
   Message - BLACK
3. Message Series - C or as noted on the Signs.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



R3-17ap



R3-17bp

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	R3-17 Area sq. ft.	R3-17ap Area sq. ft.	R3-17bp Area sq. ft.
1																													
2S	30	24	1 1/8	3/8	1/2	2	4	4 1/8	7 7/8	6 3/8	9 1/2	2 5/8	7/8	13	12	1 1/8	3 3/8	3/8	5	3 1/2	11 3/8	8 5/8	8 3/4	2 3/8	15 5/8	8	5.0	2.5	2.5
2M	30	24	1 1/8	3/8	1/2	2	4	4 1/8	7 7/8	6 3/8	9 1/2	2 5/8	7/8	13	12	1 1/8	3 3/8	3/8	5	3 1/2	11 3/8	8 5/8	8 3/4	2 3/8	15 5/8	8	5.0	2.5	2.5
3																													
4																													
5																													

STANDARD SIGN
R3-17 & R3-17a&bp

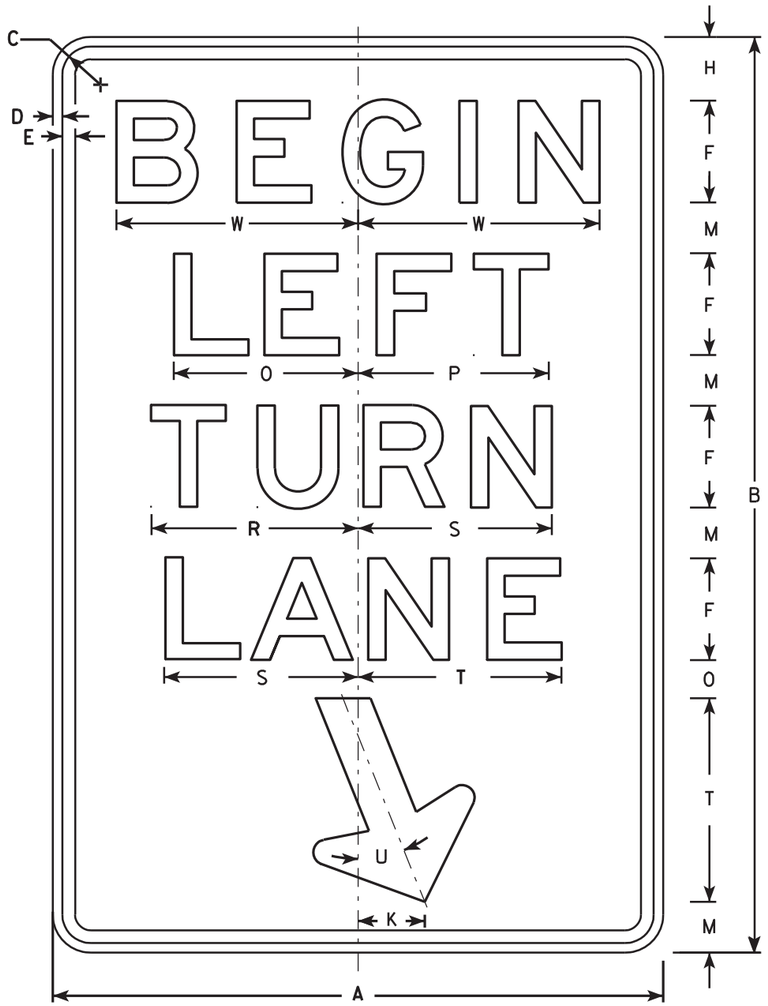
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/12/2011 PLATE NO. R3-17.2

PROJECT NO:

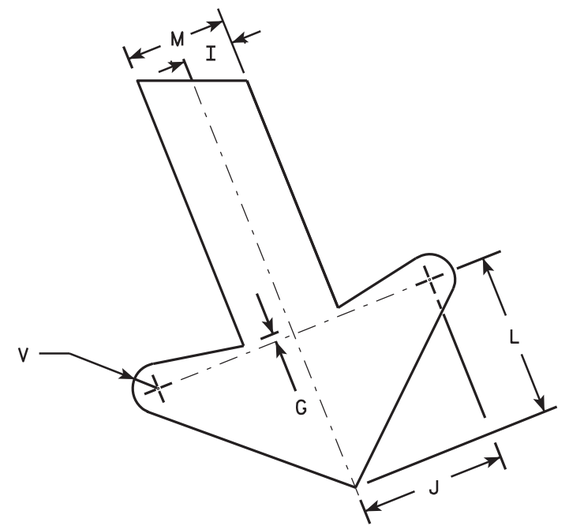
SHEET NO: 222 E



R3-20L

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

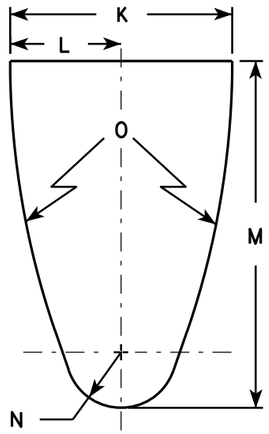
STANDARD SIGN
R3-20L

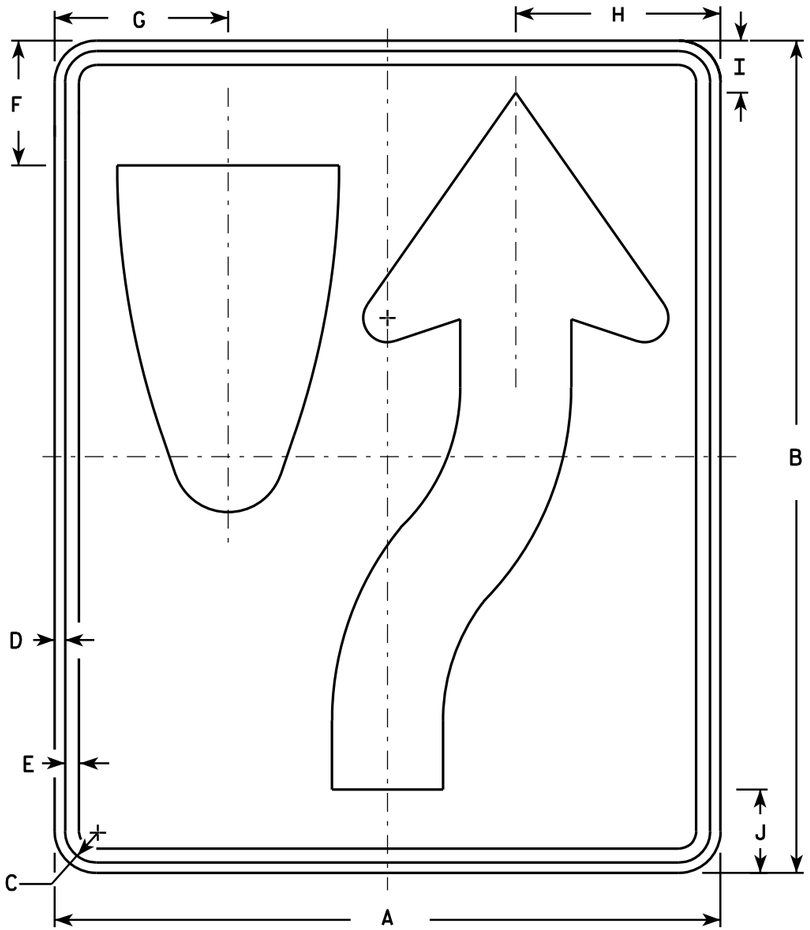
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 223 | E

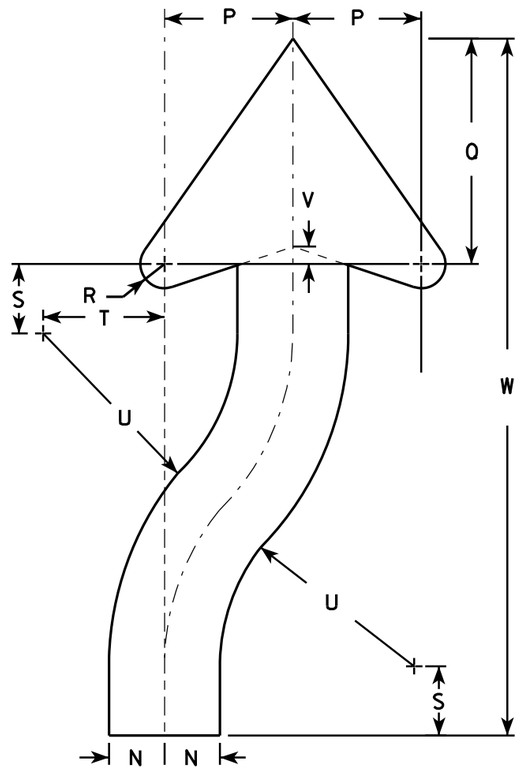




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

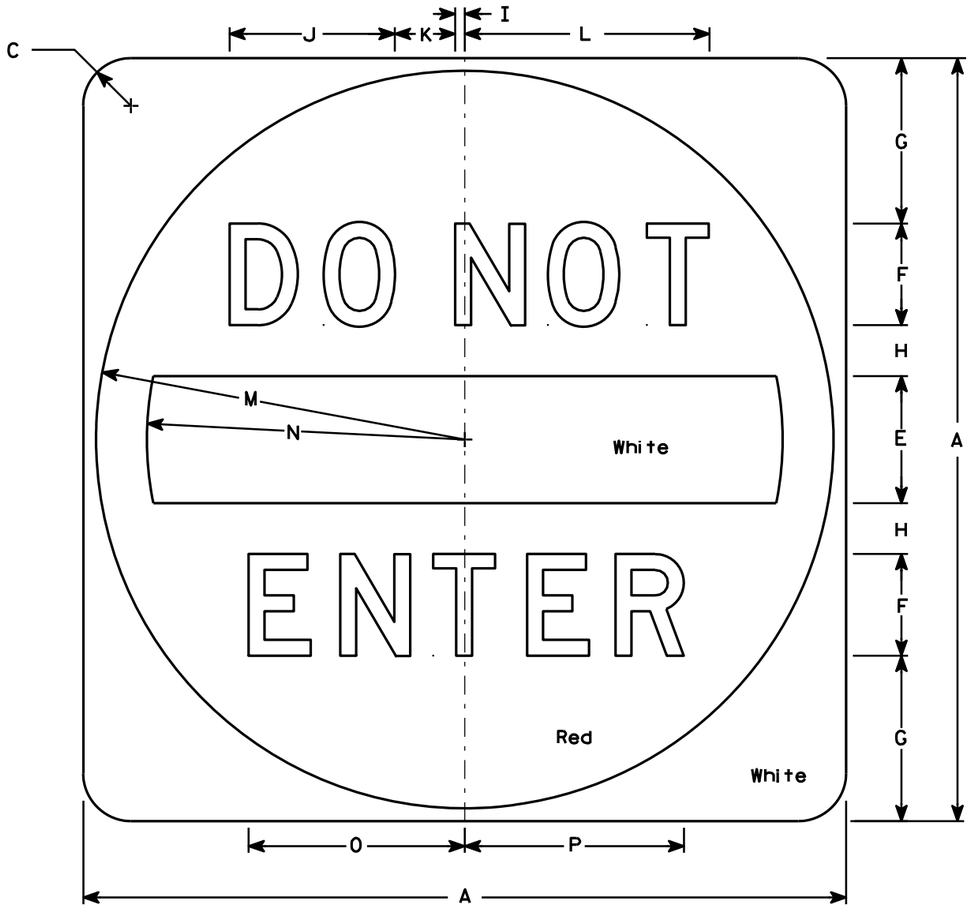
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 224	E



R5-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See detail
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but when base material is metal, the cornors shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

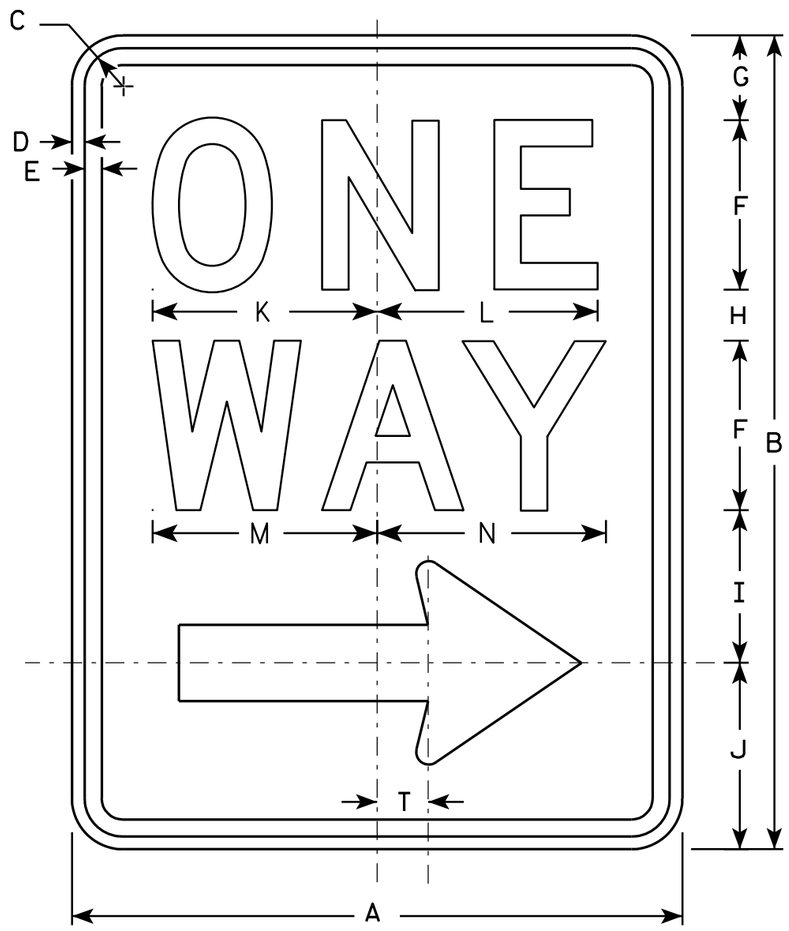
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

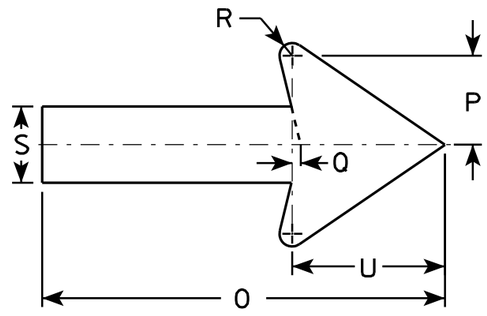
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 225 | E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

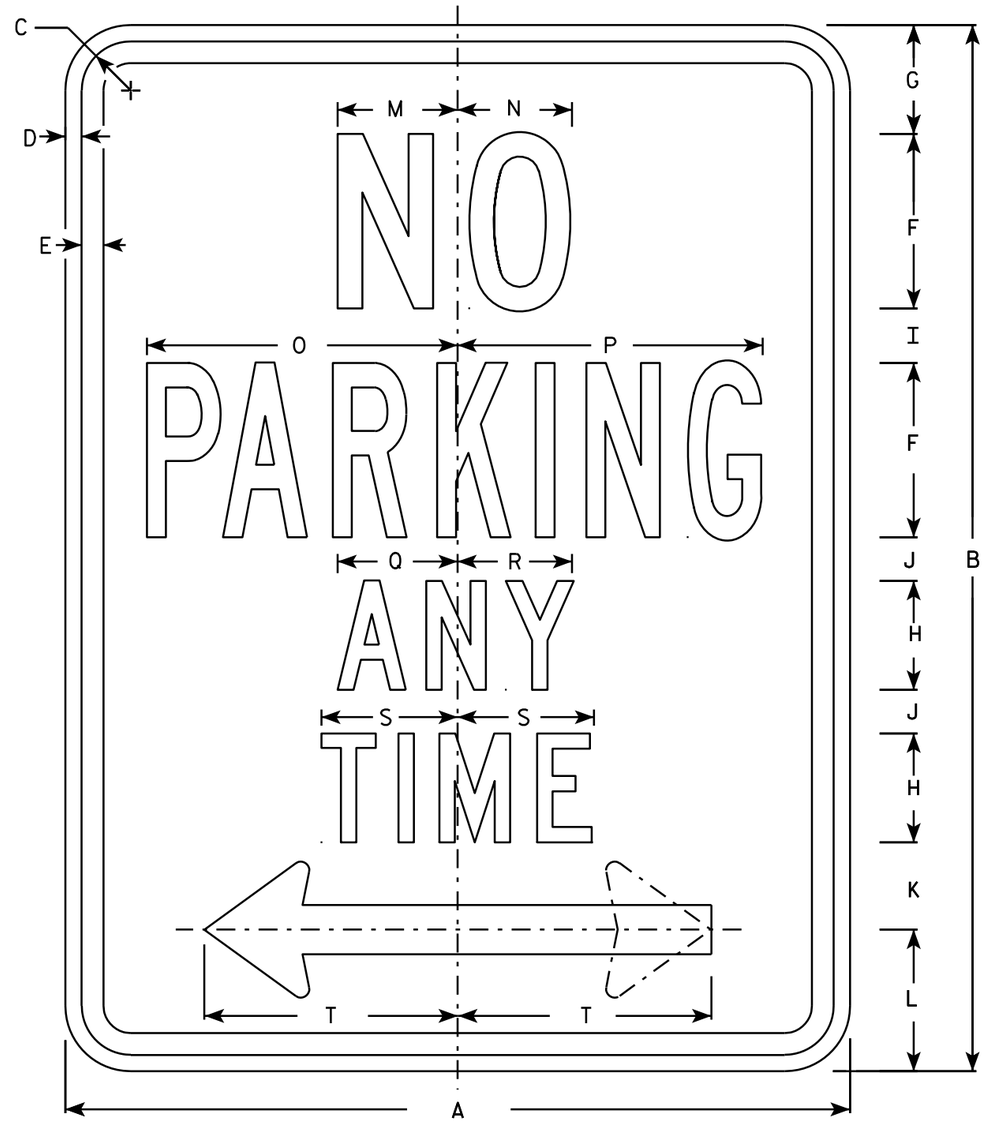
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

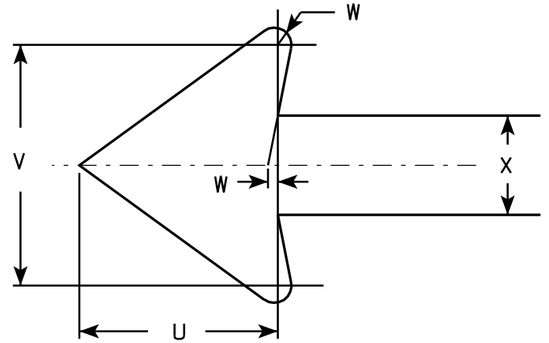
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 226	E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

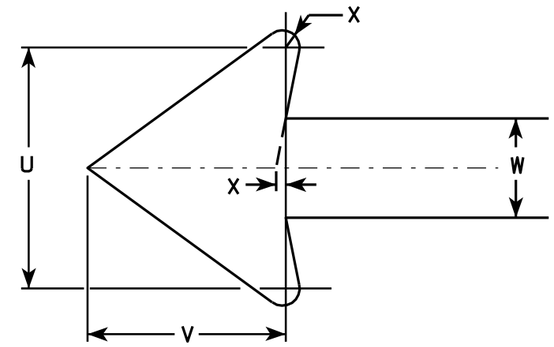
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 227	E



R7-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R7-7D (double arrow)
   R7-7R (right arrow)
   R7-7L (left arrow)
6. Lines 1, 3 and 4 are Series C.
   Line 2 is Series B.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	2	1 7/8	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2	2 3/4	2 5/8	3 7/8	1 3/4	1 1/2	3/4	1/8			1.50
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 1/2	3 3/8	3 3/8	5 7/8	2 5/8	2 1/4	1 1/8	1/4			3.00
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3	4 1/8	4	7 3/4	3 1/2	3	1 1/2	1/4			5.00
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3	4 1/8	4	7 3/4	3 1/2	3	1 1/2	1/4			5.00
4																											
5																											

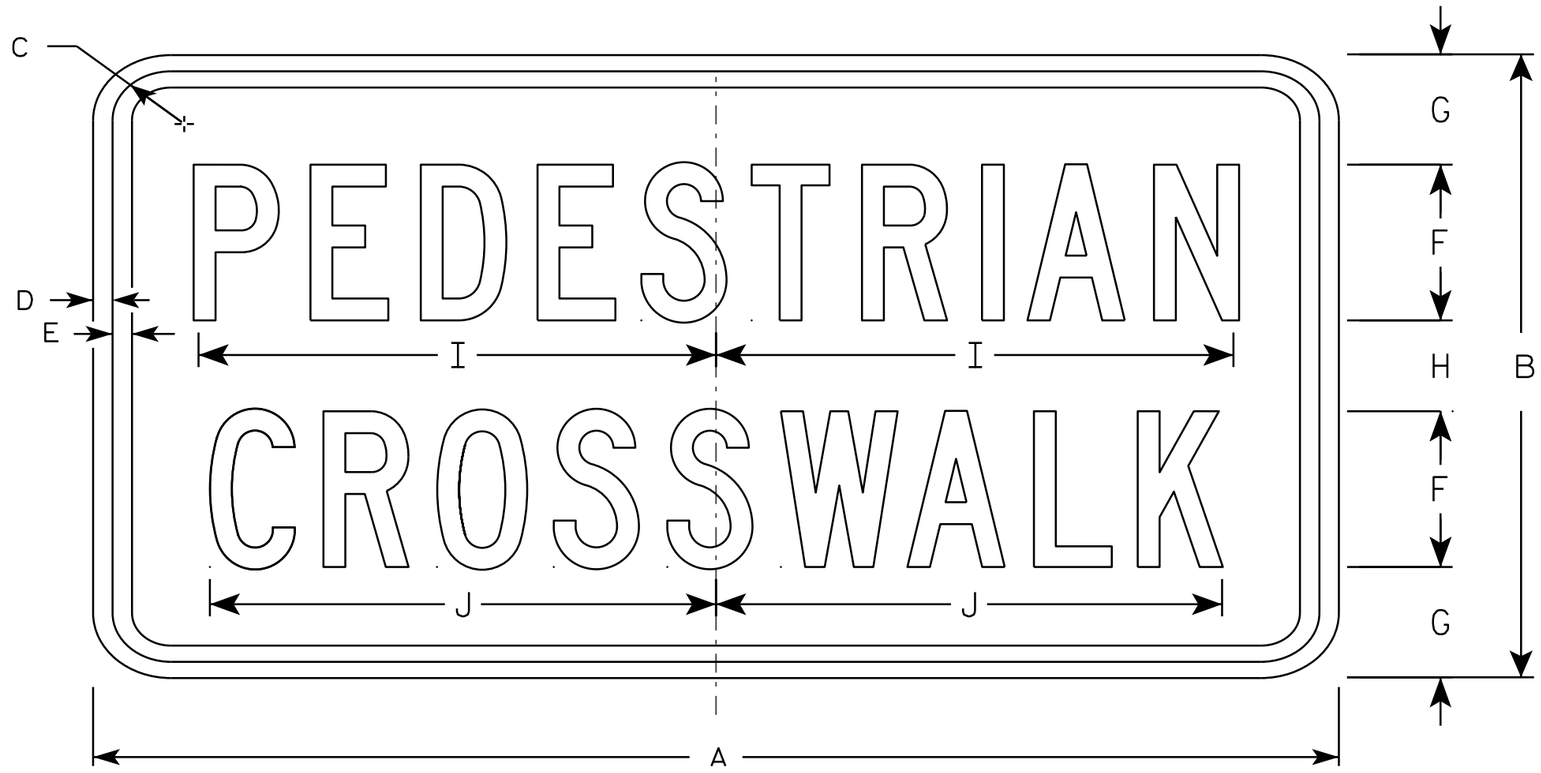
STANDARD SIGN
R7-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-7.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 228 | E



R9-8

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	9 3/4																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	9 3/4																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	13	13																	3.75
4																											
5																											

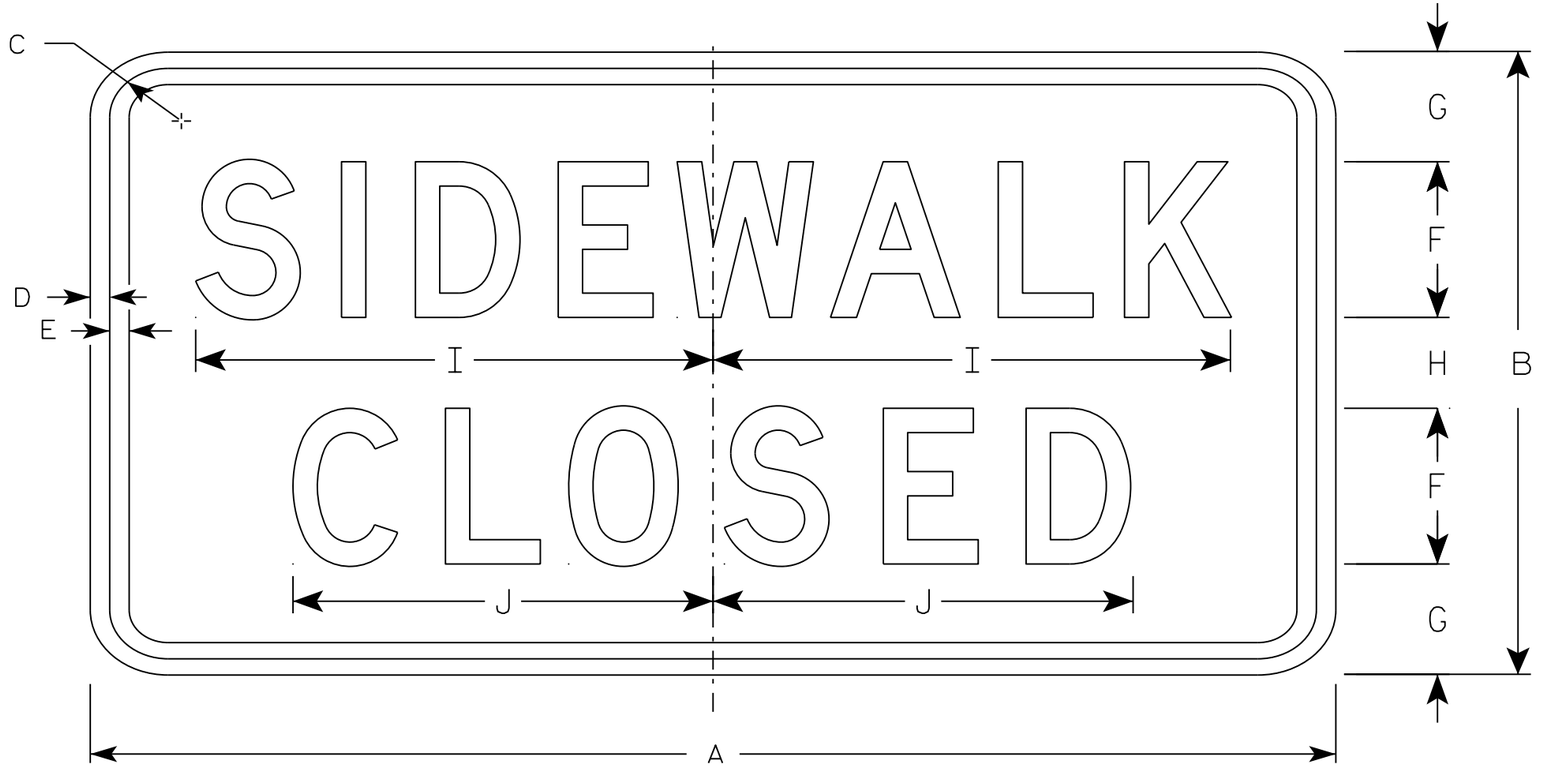
STANDARD SIGN
R9-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/17/16 PLATE 229 R9-8.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



R9-9

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

STANDARD SIGN
R9-9

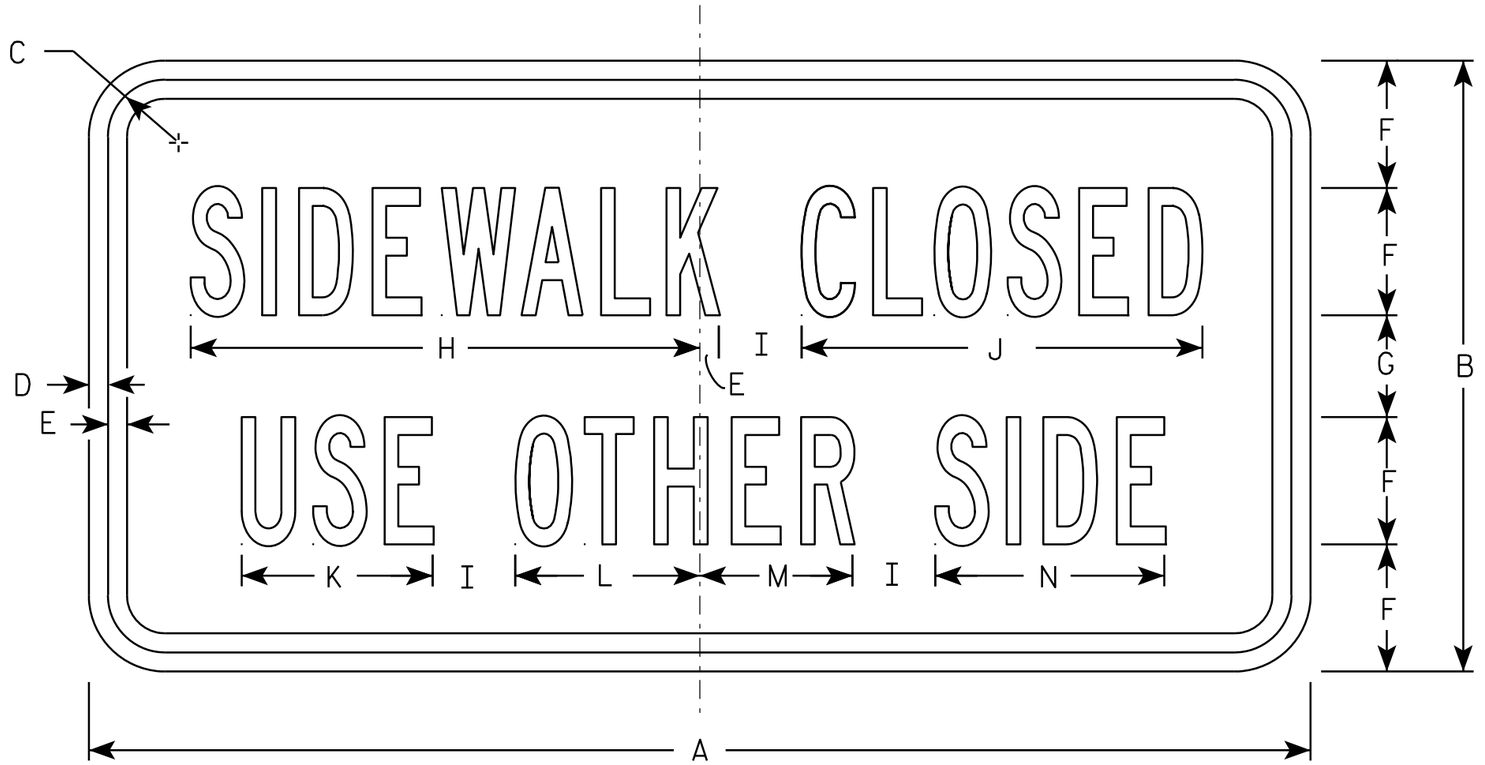
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE 230 R9-9.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000



R9-10

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	1 1/8	3/8	3/8	2 1/2	2	10	1 5/8	7 7/8	3 3/4	3 5/8	3	4 1/2													2.0
2S	48	24	2 3/4	3/4	3/4	5	4	20	3 1/4	15 3/4	7 1/2	7 1/4	6	9													8.0
2M	48	24	2 3/4	3/4	3/4	5	4	20	3 1/4	15 3/4	7 1/2	7 1/4	6	9													8.0
3																											
4																											
5																											

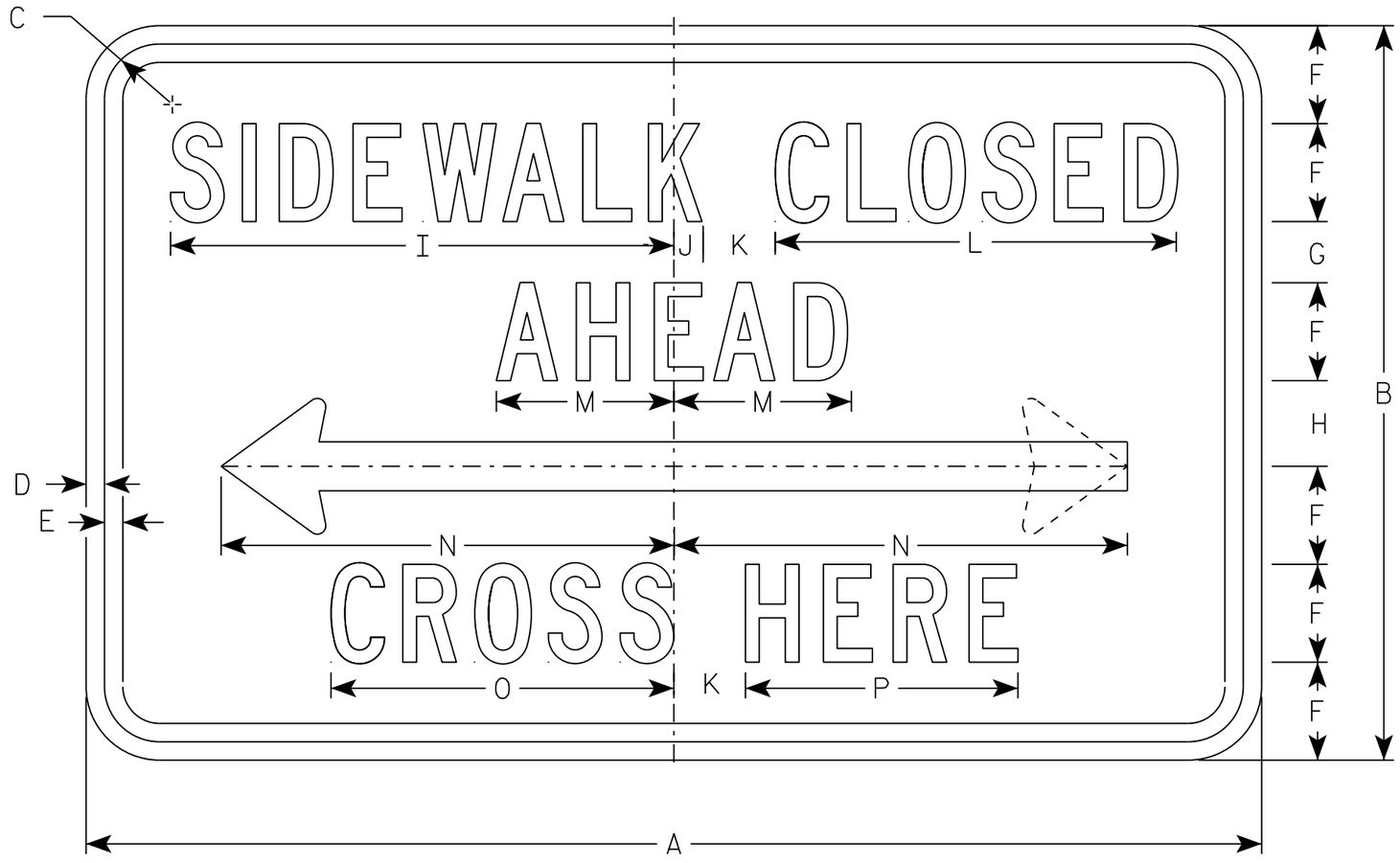
STANDARD SIGN
R9-10

WISCONSIN DEPT OF TRANSPORTATION

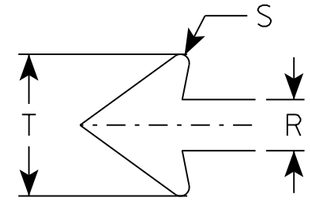
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/2012 PLATE NO. R9-10.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 231 | E



R9-11



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C except Size 1 is Series D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2M	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
3	30	15	1 1/8	3/8	1/2	2	1 1/2	1 1/2	13	3/4	2	10 1/4	4 5/8	12 3/8	8 7/8	6 7/8		1 1/4	1/4	3 5/8							3.125
4																											
5																											

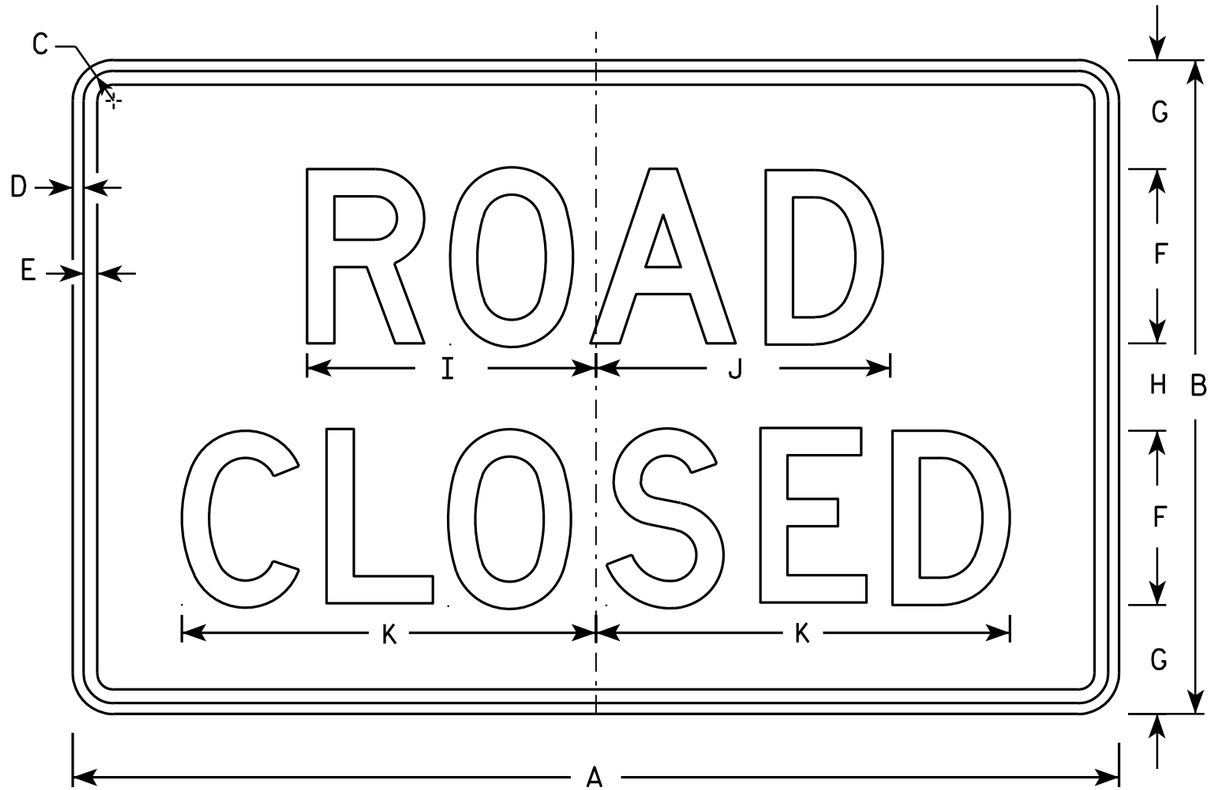
STANDARD SIGN
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R9-11.3

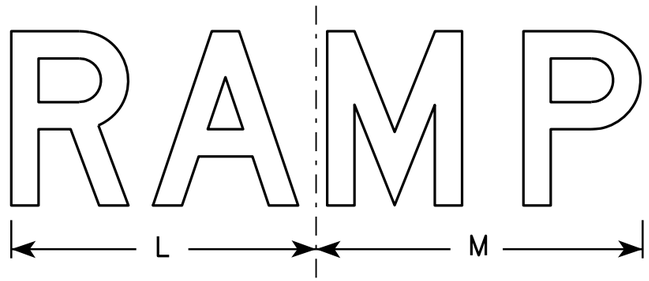
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 232	E



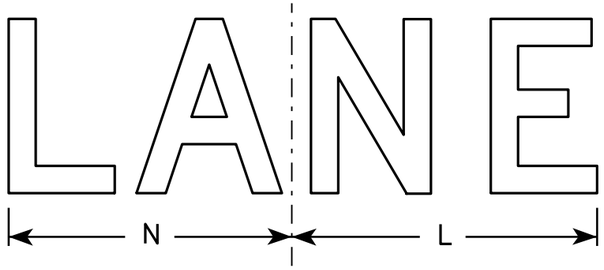
R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13													10.0

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

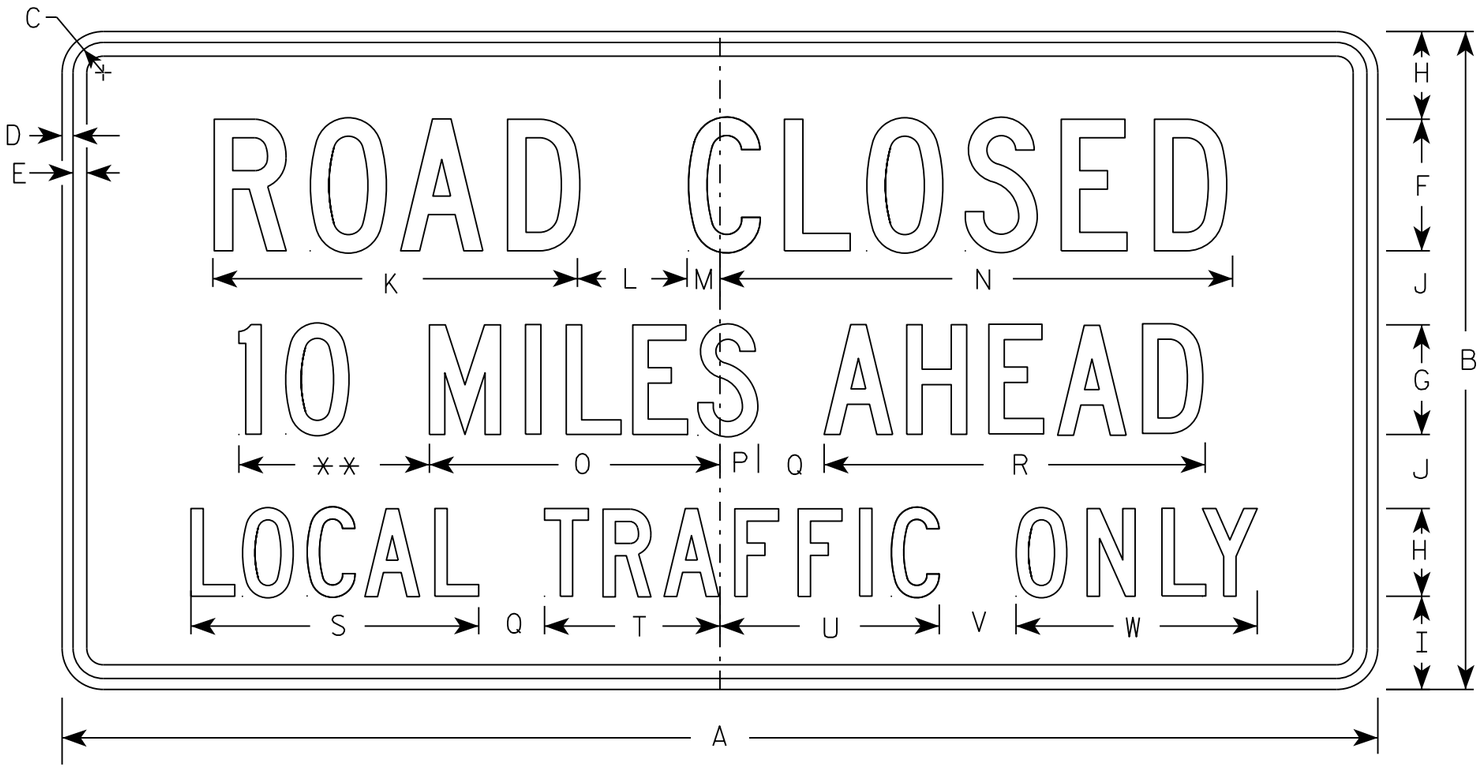
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 233	E

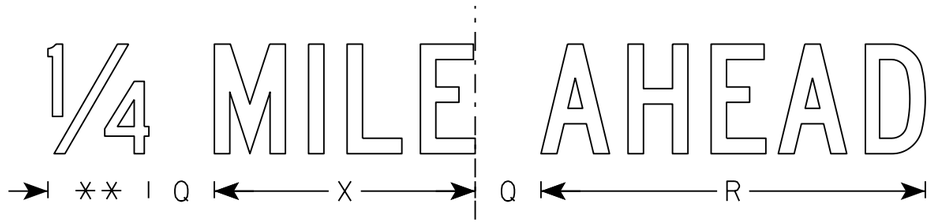
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	11 1/8	3	1 1/8	15 1/4	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

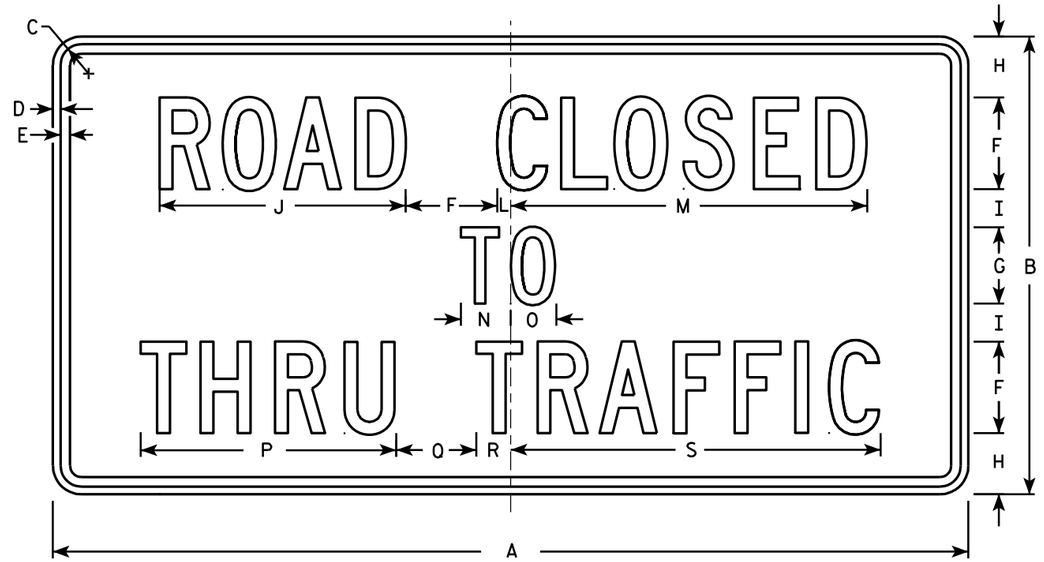
STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/17 PLATE NO. R11-3.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 234	E



R11-4

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

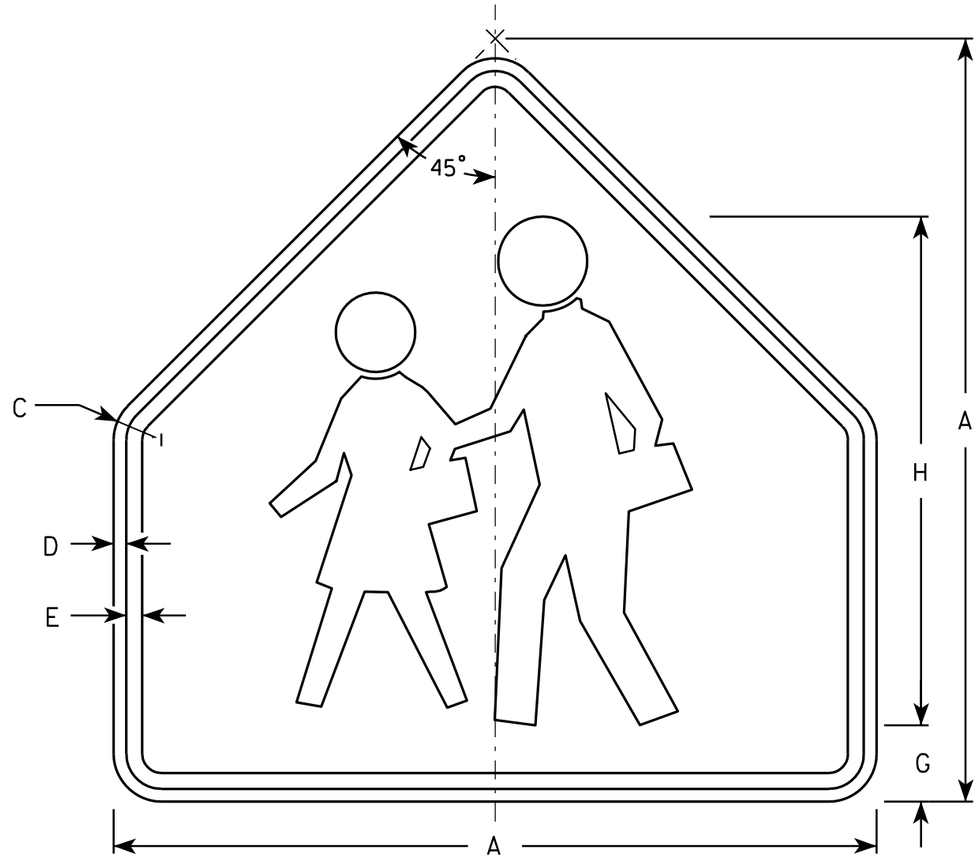
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 235 | E



S1-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow-Green
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

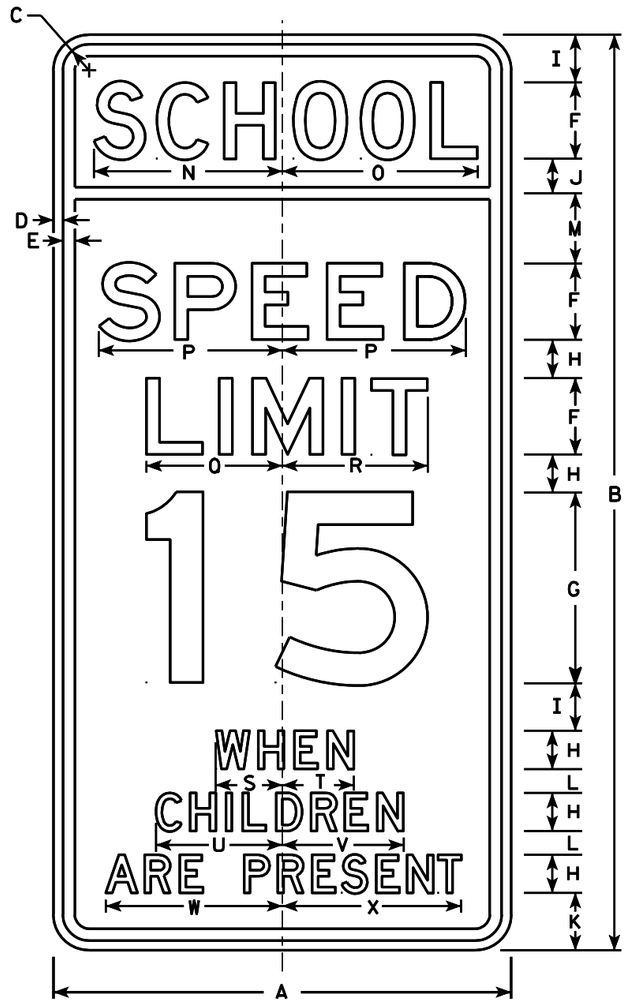
STANDARD SIGN
S1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/30/05 PLATE NO. S1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 236	E



S4-51

NOTES

1. Sign is Type II - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. (See note 5).
2. Color:
   Background - See note 5
   Message - Black
3. Message Series - See note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Top panel (SCHOOL) background - Yellow Green -Type F Reflective.
   Lower panel background - White -Type H Reflective.
6. From top to bottom:
   Lines 1, 5, 6 & 7 are series D
   Lines 2, 3 & 4 are series E
7. Line 4 substitute appropriate numerals and adjust spacing to achieve proper balance.

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 1200 mm
3	900 mm X 1800 mm
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24	48	1 3/8	1/2	5/8	4	10	2	2 1/2	1 3/4	3	1 1/4	3 3/4	9 7/8	10 1/4	9 5/8	7 1/8	7 5/8	3 1/2	3 3/8	6 5/8	6 3/8	9 1/4	9 3/8			8.00	0.72
3	36	72	2 1/4	3/4	1	6	15	3	3 3/4	2 3/4	4 1/2	1 7/8	5 1/2	15	15 1/4	14 1/2	11 1/4	11 1/2	5 1/2	5 3/4	10	9 3/4	14	14 1/8			18.00	1.62
4																												
5																												

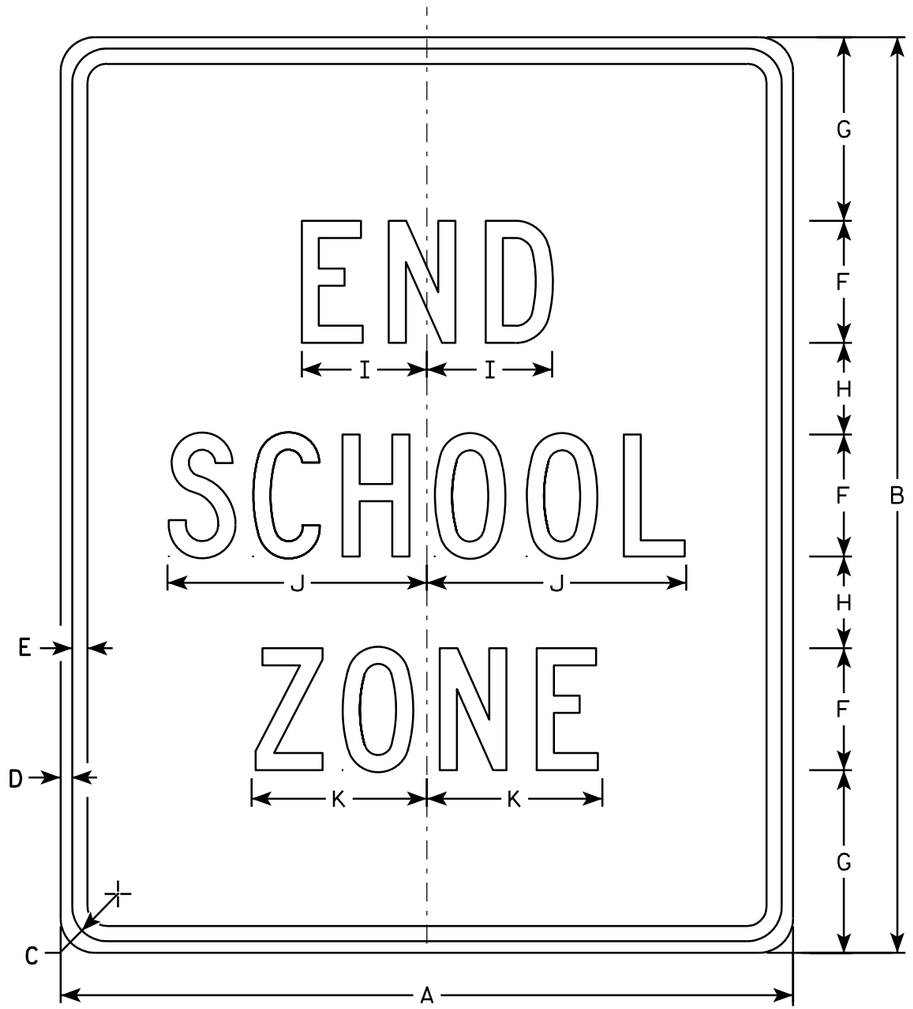
STANDARD SIGN
S4-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/26/10 PLATE NO. S4-51.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 237 | E



S5-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	30	1 1/8	3/8	1/2	4	6	3	4 1/8	8 1/2	5 3/4																5.0
3	36	42	1 5/8	5/8	3/4	6	7	5	6 1/8	12 5/8	8 5/8																10.5
4																											
5																											

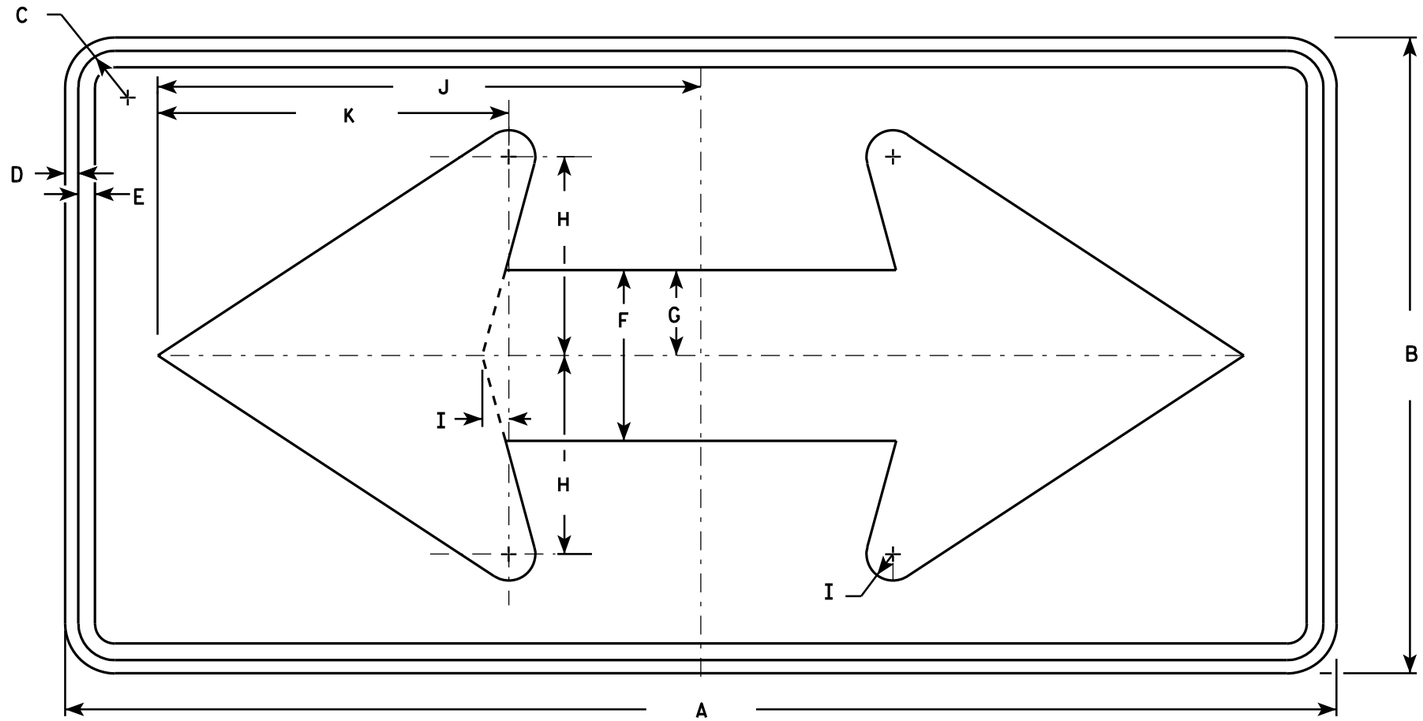
STANDARD SIGN
S5-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/8/11 PLATE NO. S5-2.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 238 | E



W1-7

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

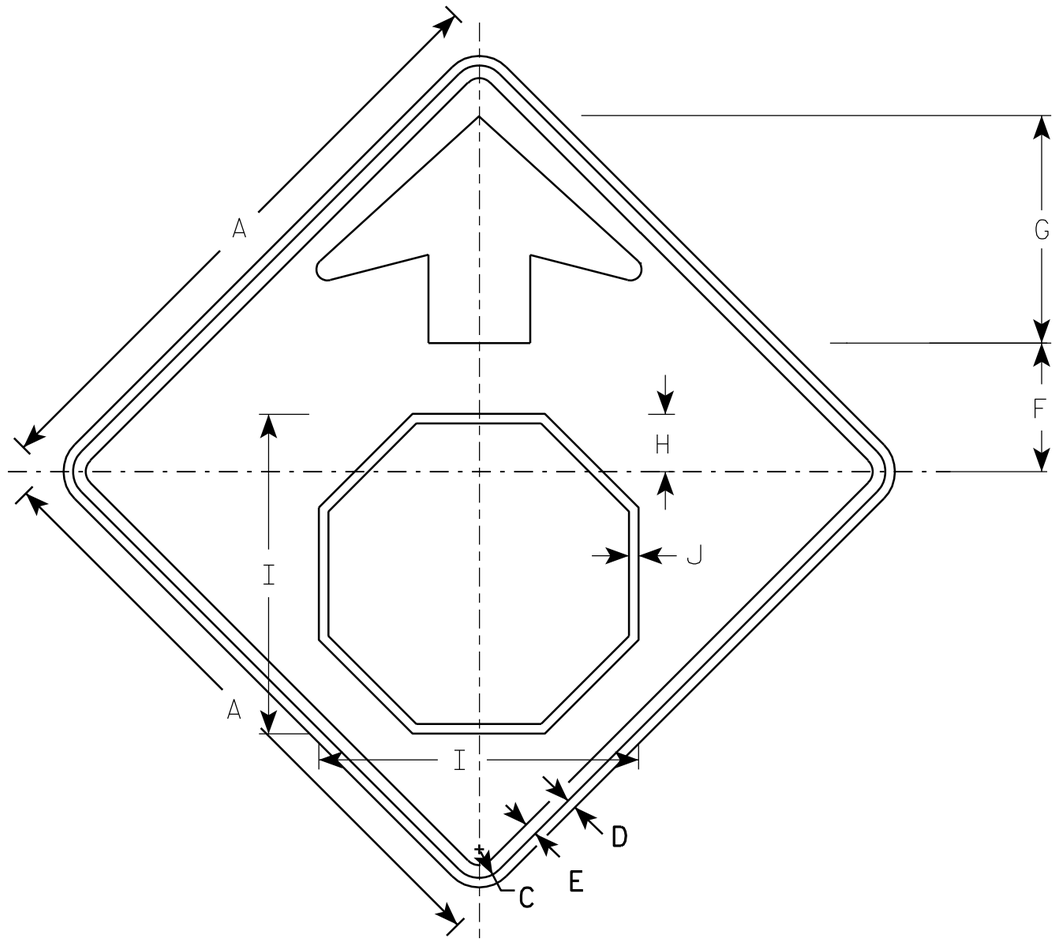
STANDARD SIGN
W1-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

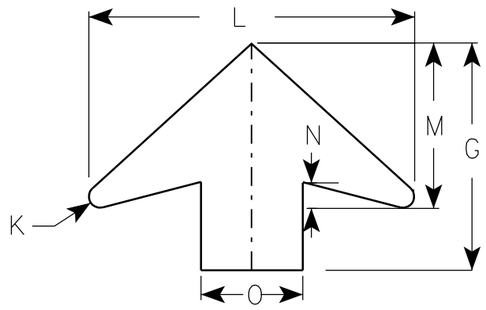
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 239 | E



W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W3-1

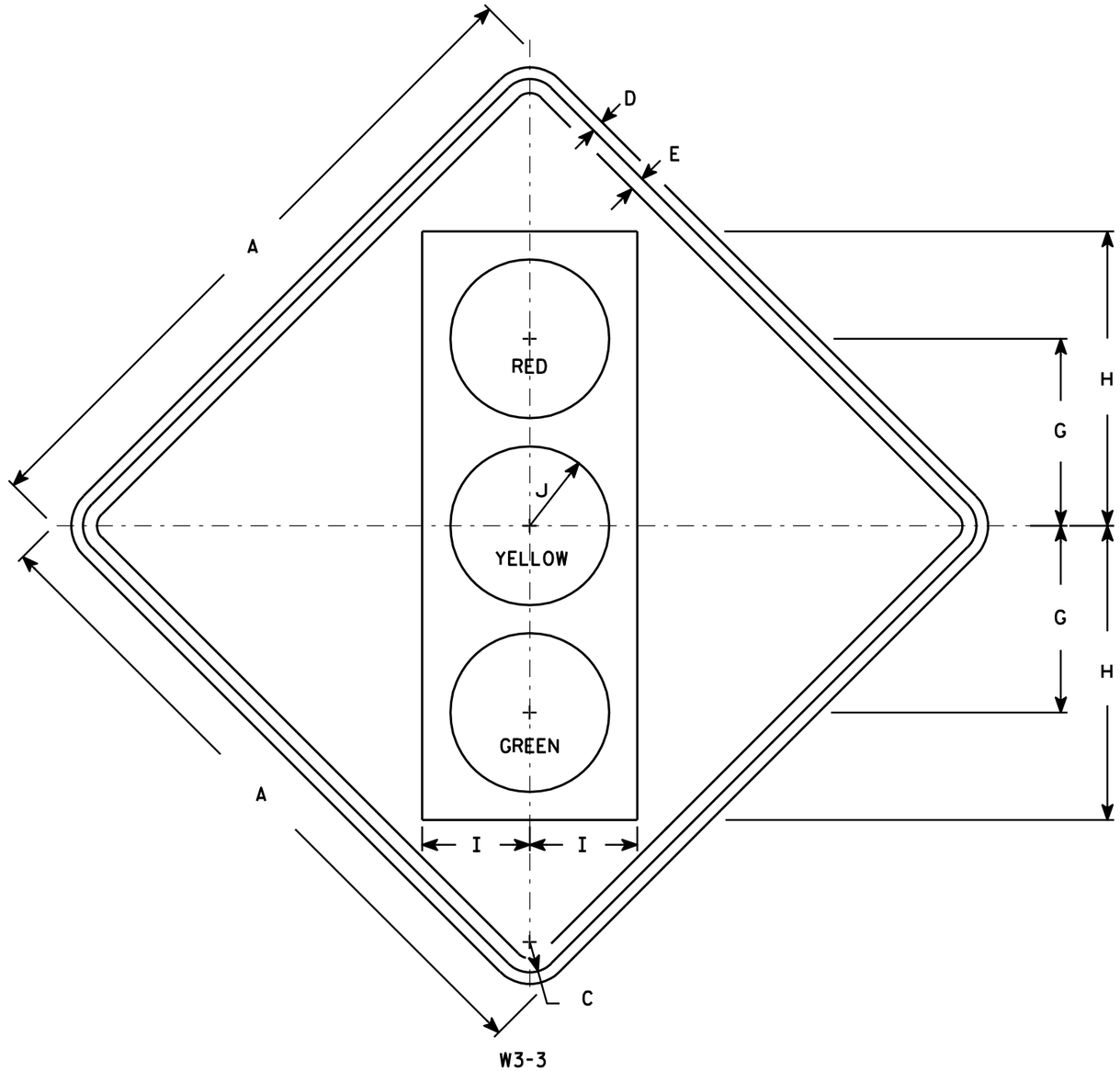
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 240 E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

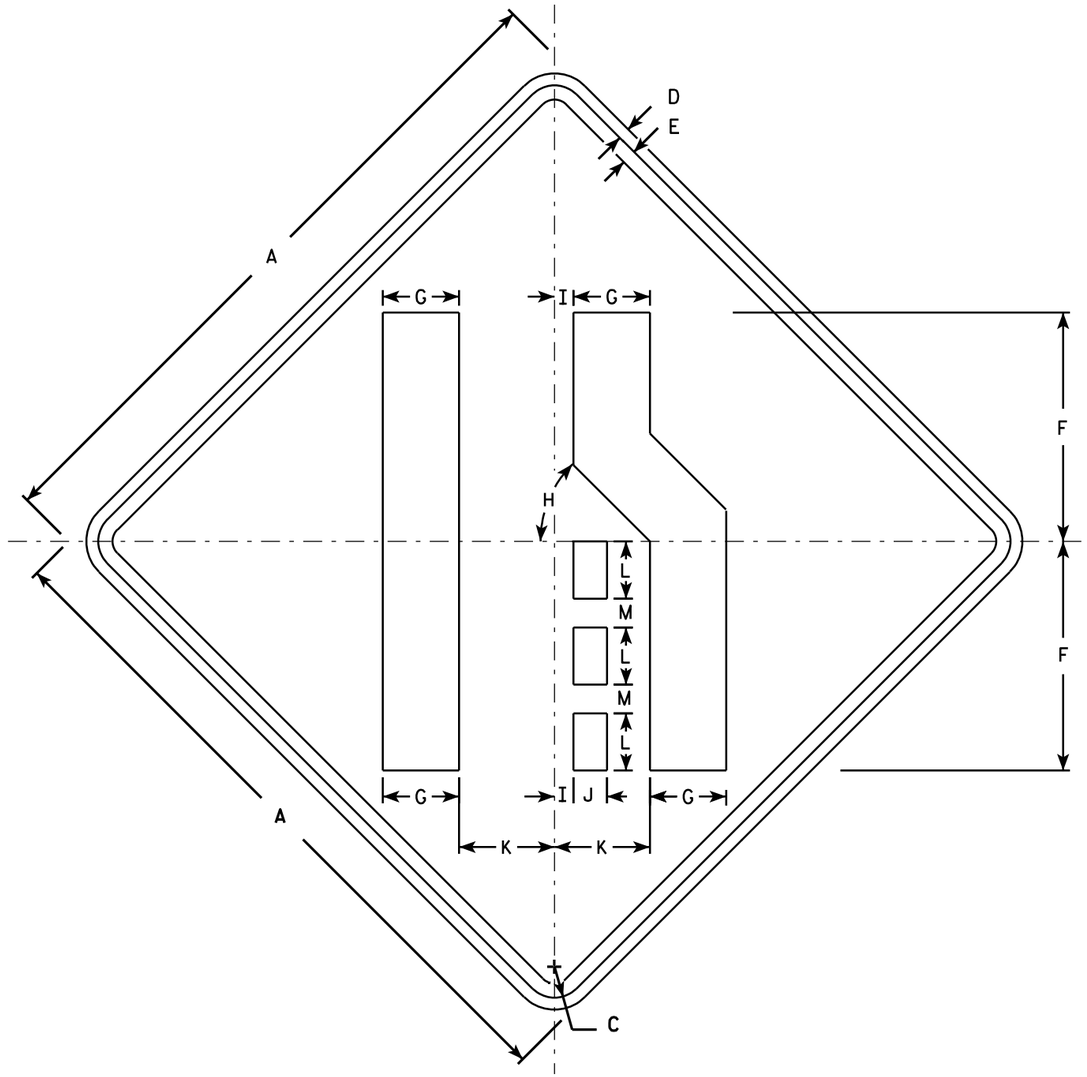
STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 241 | E



W4-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-2L is the same as W4-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	10	3 3/8	45°	7/8	1 1/2	4 1/4	2 1/2	1 1/4														6.25
2S	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2M	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
3	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W4-2

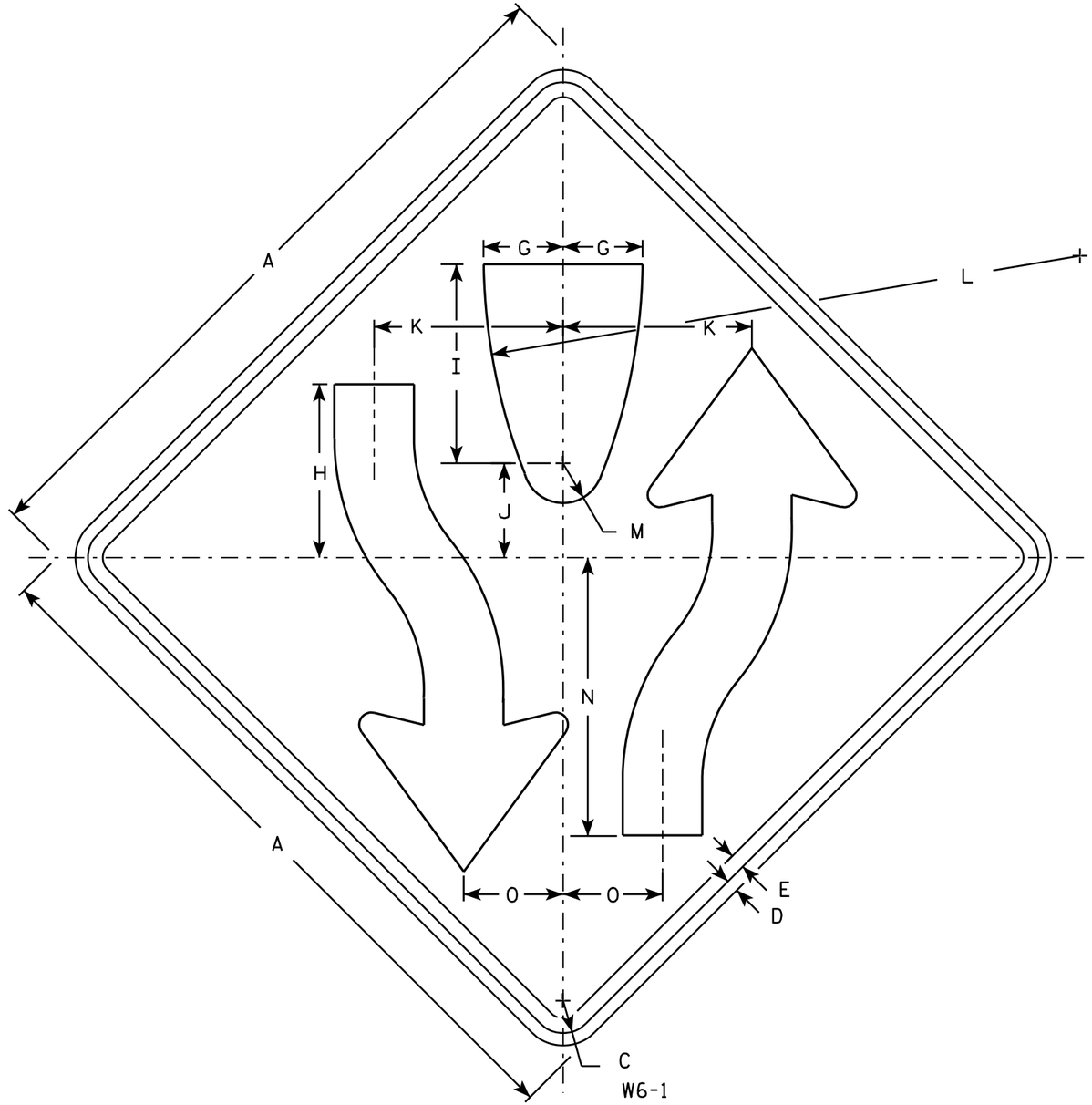
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/12/13 PLATE NO. W4-2.14

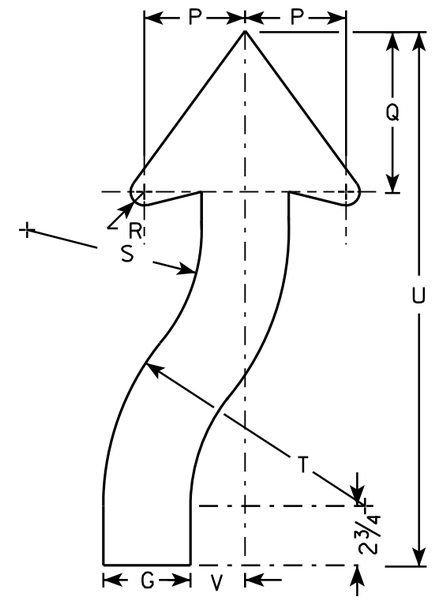
PROJECT NO:

SHEET NO: 242 E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W6-2 same as W6-1 but is rotated 180° when mounted.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

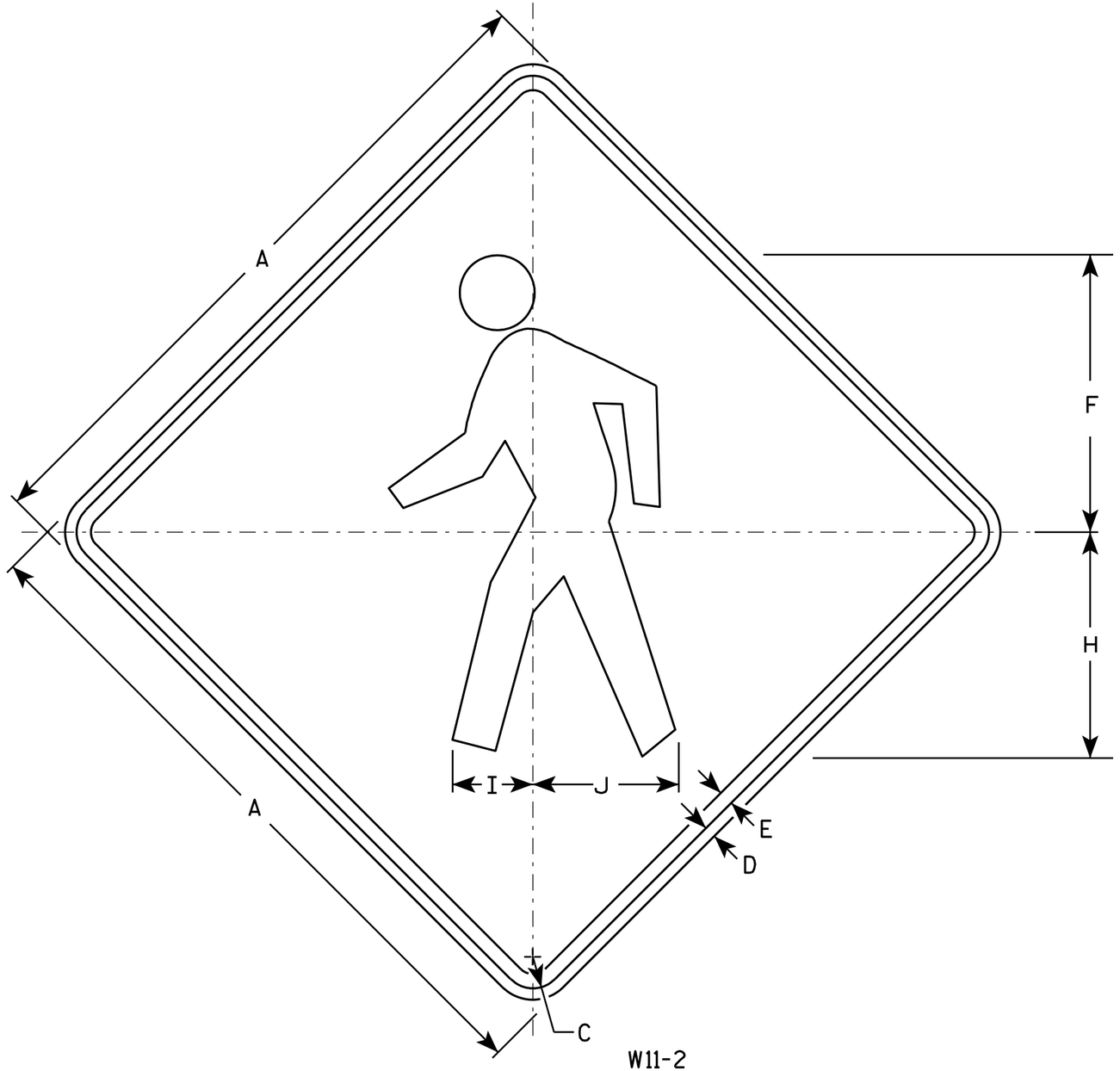
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 243	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W61.DGN PLOT DATE : 12-MAR-2013 14:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.946657:1.000000
WISDOT/CADDS SHEET 42



W11-2

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

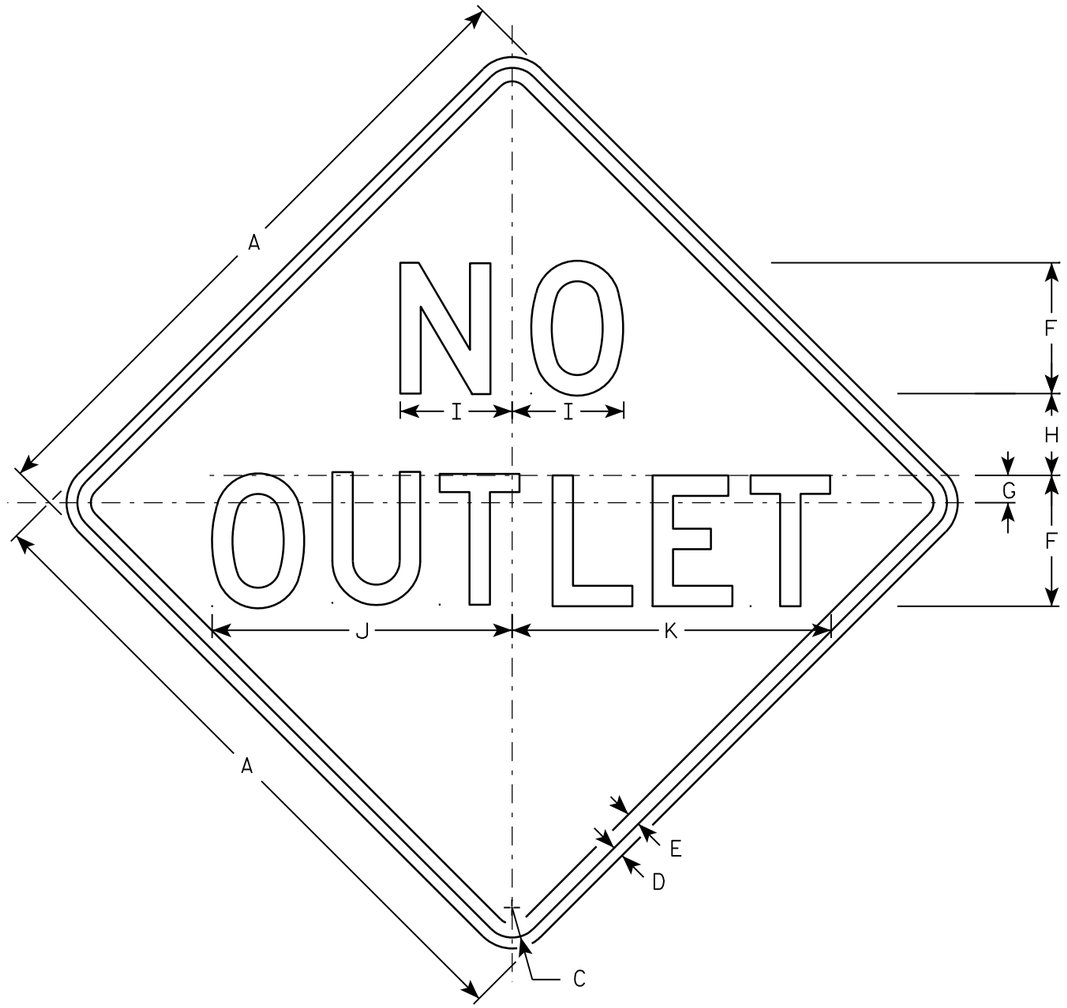
STANDARD SIGN
W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W11-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 244	E



W14-2

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW
   Message - BLACK
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	5	1	2 3/4	4 1/8	11 3/4	12 3/8																4.0
2S	30		1 3/8	1/2	5/8	6	1 1/4	3 3/4	5 1/8	13 3/4	14 5/8																6.25
2M	30		1 3/8	1/2	5/8	6	1 1/4	3 3/4	5 1/8	13 3/4	14 5/8																6.25
3	36		1 5/8	5/8	3/4	7	1 3/8	4 5/8	6	16 1/8	17 1/8																9.0
4																											
5																											

STANDARD SIGN
W14-2

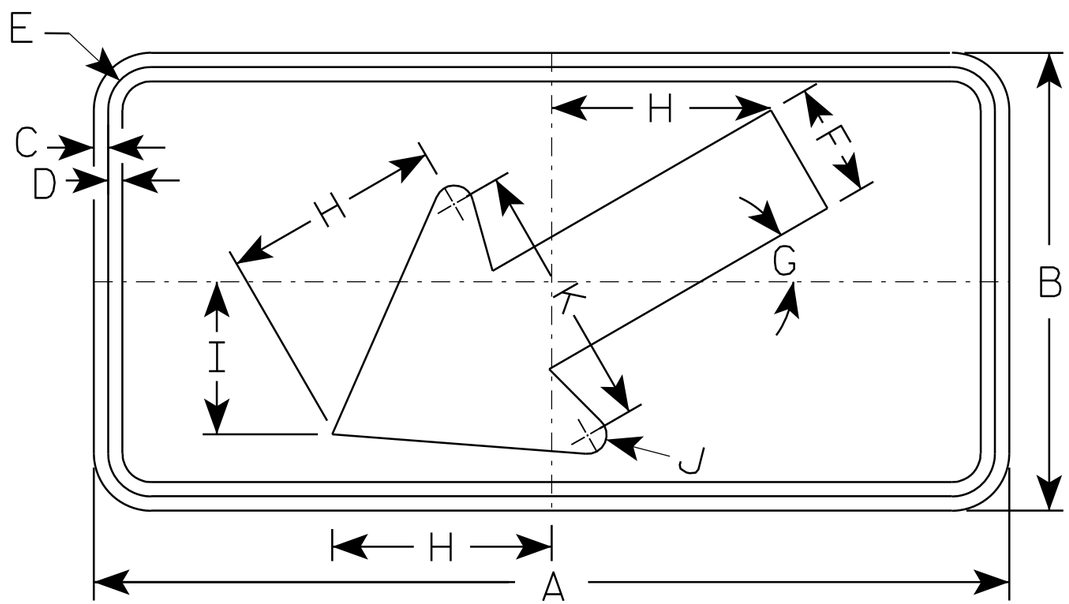
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W14-2.3

PROJECT NO:

SHEET NO: 245 E



W16-7L

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W16-7R is the same as W16-L except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4																											8
5																											8

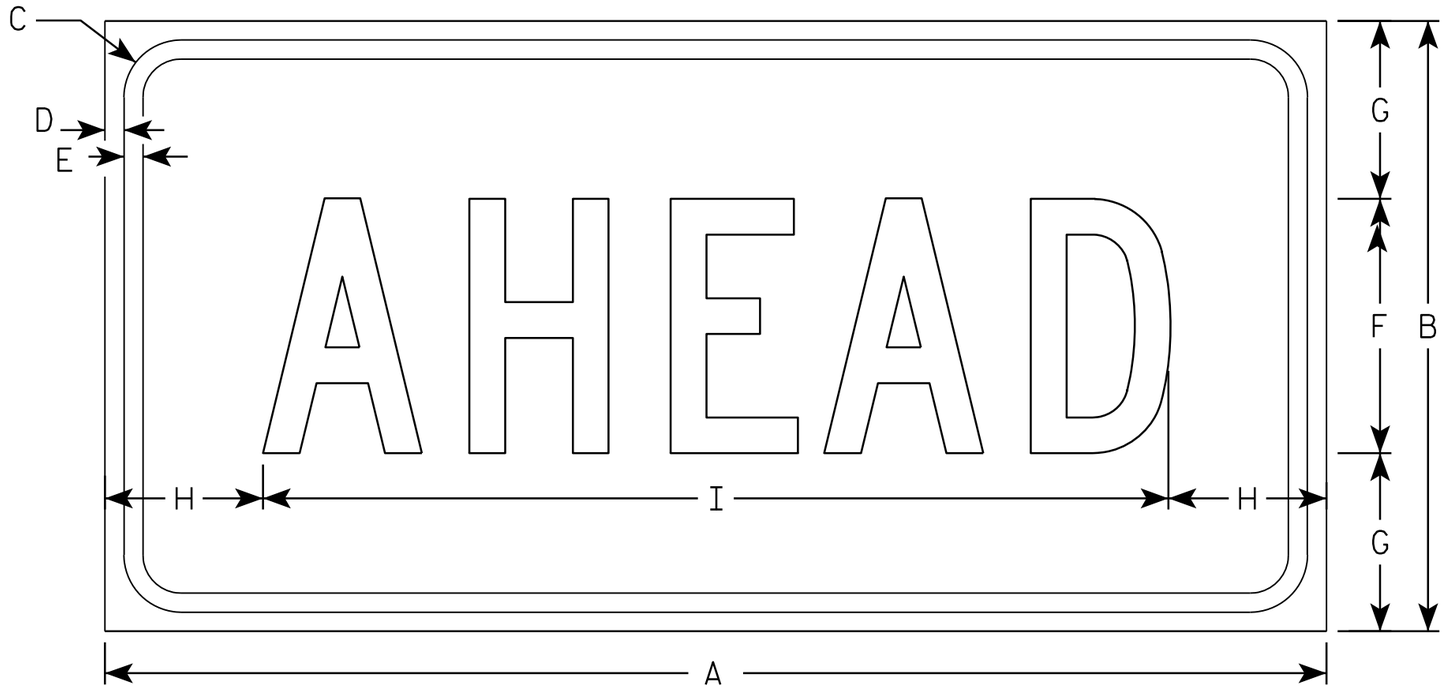
STANDARD SIGN
W16-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. W16-7.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 246	E



W16-9P

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

STANDARD SIGN
W16-9P

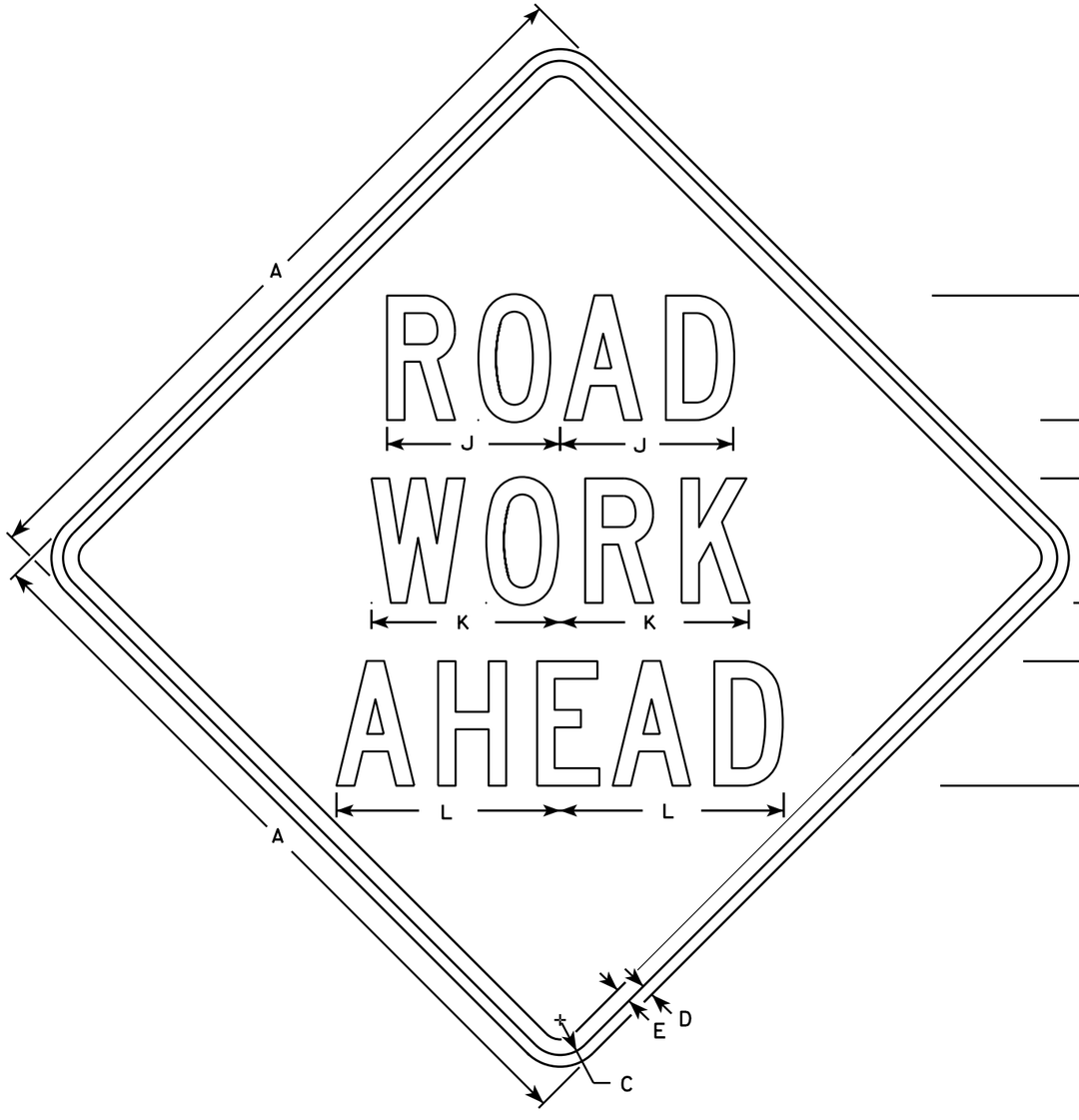
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

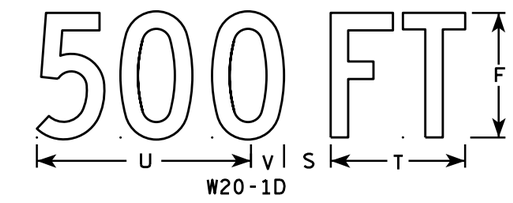
DATE 12/28/10 PLATE NO. W16-9P.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 247 | E

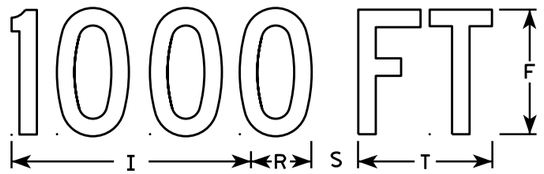
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W169P.DGN PLOT DATE : 28-DEC-2010 13:39 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 2.979524:1.000000
WISDOT/CADDS SHEET 42



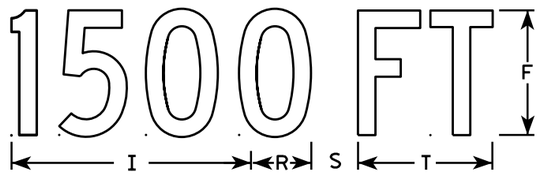
W20-1A



W20-1D



W20-1C



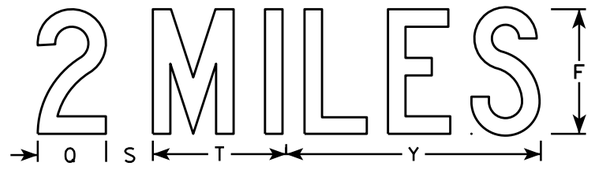
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

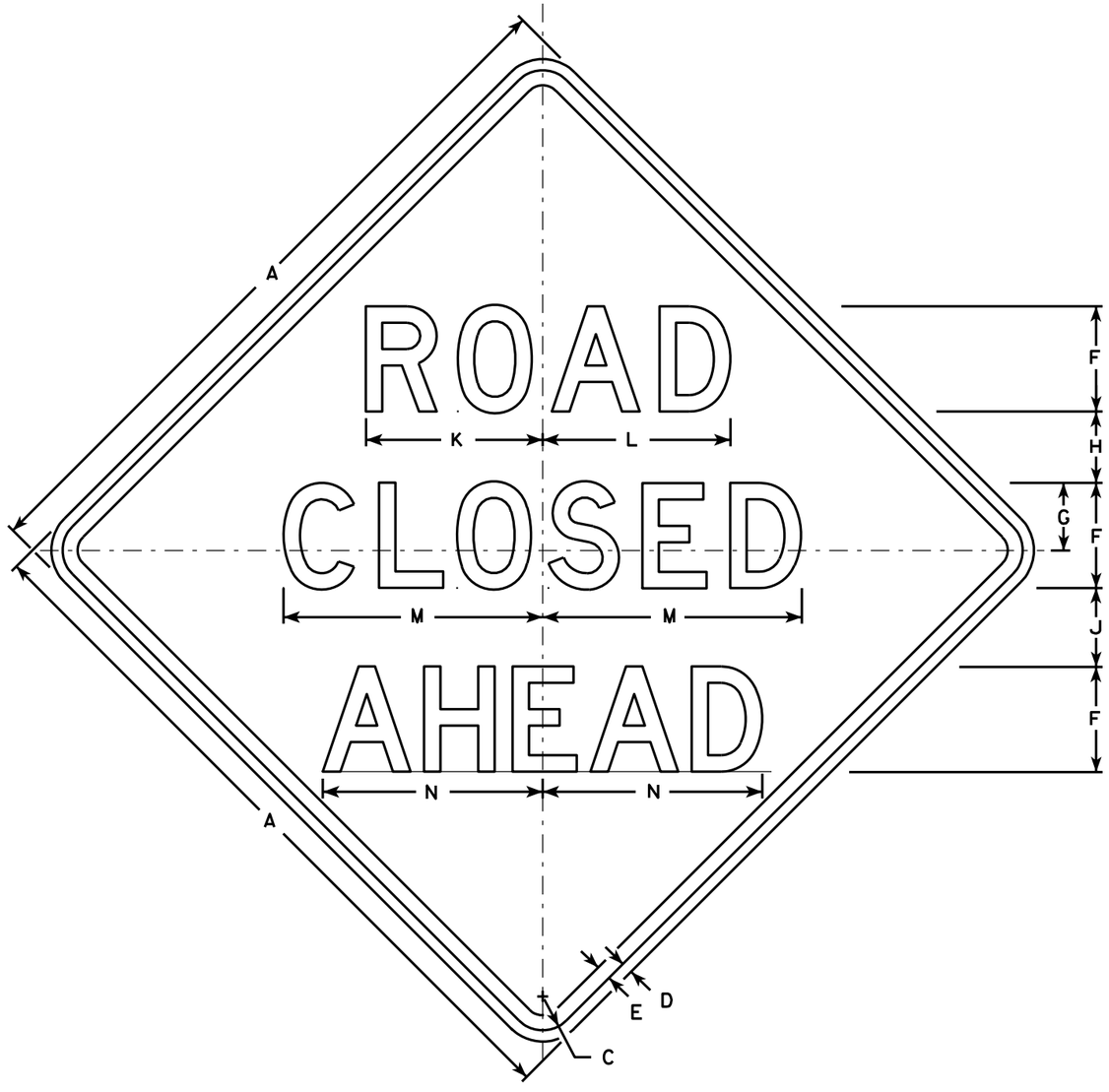
State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

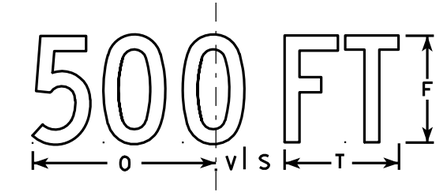
PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W201.dgn PLOT DATE : 27-MAY-2015 15:58 PLOT BY : mscsja

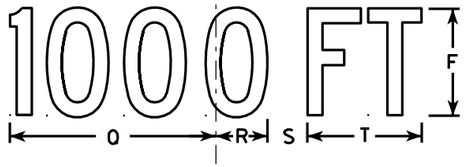
WISDOT/CADDS SHEET 42



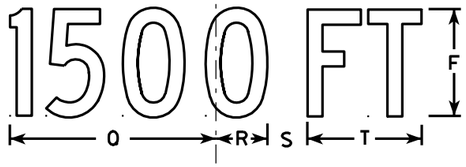
W20-3A



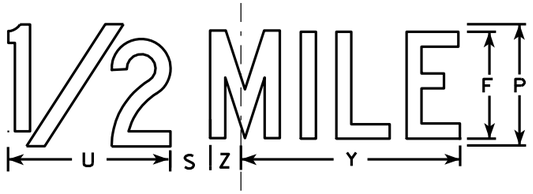
W20-3D



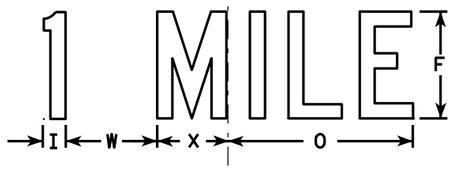
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

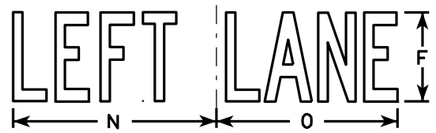
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 249 | E

7

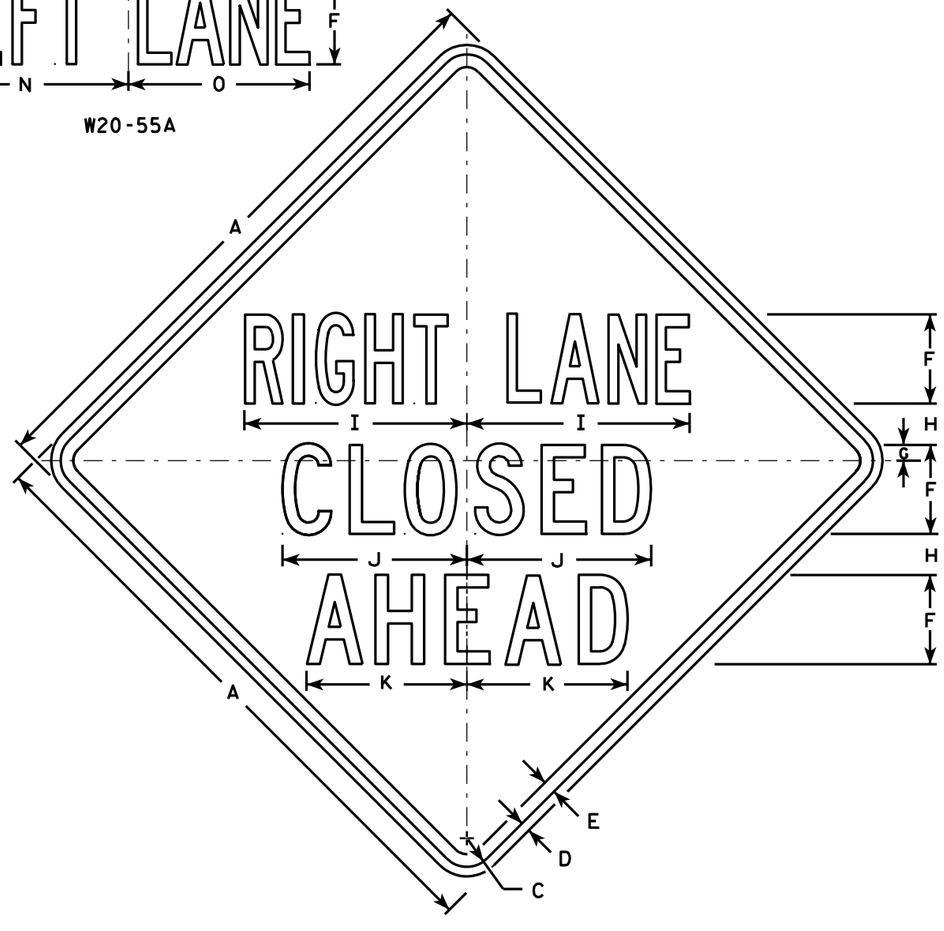
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



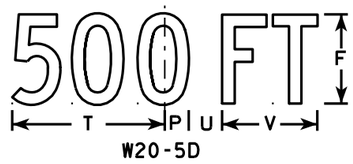
W20-56A



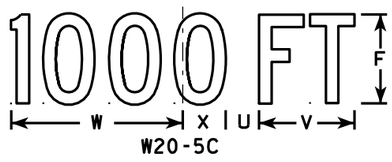
W20-55A



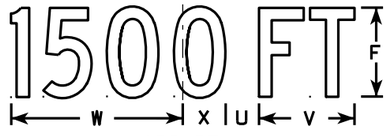
W20-5A



W20-5D



W20-5C



W20-5B



W20-5G



W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

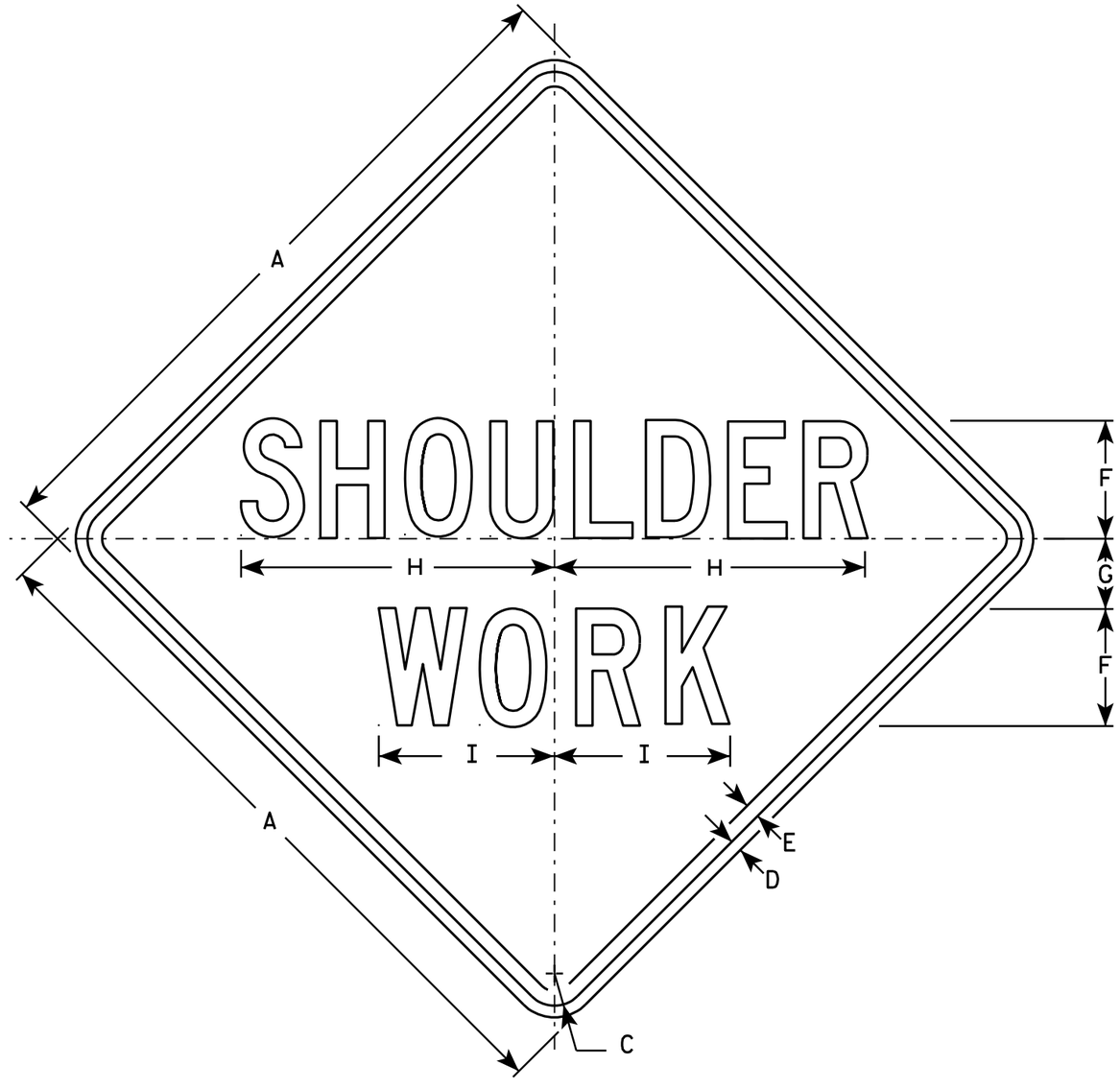
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 250 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W21-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

STANDARD SIGN
W21-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 251 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W215.DGN PLOT DATE : 21-MAR-2011 08:01 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.207338:1.000000
WISDOT/CADDS SHEET 42

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
MORGAN AVENUE										
107+87		5.0	0.3	0.0	0	0	0	0	0	0
108+00	13	8.1	0.0	0.0	3	0	0	3	0	3
108+50	50	5.6	1.4	0.0	13	1	0	16	2	14
109+00	50	96.9	2.1	0.0	95	3	0	111	5	106
109+22	22	117.0	12.4	0.0	87	6	0	198	12	186
109+50	28	111.7	12.6	0.0	119	13	0	316	26	290
110+00	50	125.2	8.8	0.0	219	20	0	536	48	488
110+50	50	114.4	6.7	0.0	222	14	0	758	64	694
110+81	31	129.8	0.2	0.0	140	4	0	898	68	829
111+00	19	95.9	9.0	0.0	79	3	0	977	72	905
111+44	44	109.4	12.2	0.0	167	17	0	1145	91	1053
111+50	6	109.6	11.9	0.0	24	3	0	1169	94	1075
111+86	36	97.9	0.0	0.0	138	8	0	1307	103	1204
112+00	14	77.9	1.1	0.0	46	0	0	1353	103	1250
112+50	50	59.1	15.2	0.0	127	15	0	1480	120	1360
113+00	50	71.2	9.9	0.0	121	23	0	1600	146	1455
113+17	17	90.3	0.6	0.0	51	3	0	1651	149	1502
113+50	33	109.0	2.8	0.0	122	2	0	1773	152	1621
113+84	34	125.0	0.0	0.0	147	2	0	1920	154	1767
114+00	16	121.1	0.3	0.0	73	0	0	1993	154	1839
114+50	50	95.6	6.3	0.0	201	6	0	2194	161	2033
115+00	50	108.2	6.7	0.0	189	12	0	2383	174	2209
115+26	26	124.6	0.7	0.0	112	4	0	2495	178	2317
115+50	24	119.1	5.5	0.0	108	3	0	2603	181	2422
116+00	50	124.6	0.6	0.0	226	6	0	2829	187	2641
116+50	50	107.8	0.0	0.0	215	1	0	3044	188	2856
116+74	24	118.0	0.0	0.0	100	0	0	3144	188	2956
116+91	17	102.2	0.0	0.0	69	0	0	3213	188	3026
117+00	9	100.7	0.0	0.0	34	0	0	3247	188	3059
117+50	50	103.0	0.0	0.0	189	0	0	3436	188	3248
118+00	50	102.1	0.0	0.0	190	0	0	3626	188	3438
118+50	50	92.8	0.0	0.0	180	0	0	3806	188	3618
118+80	30	110.2	0.0	0.0	113	0	0	3919	188	3731
119+00	20	109.6	1.6	0.0	81	1	0	4000	189	3812
119+50	50	93.0	0.0	0.0	188	1	0	4188	190	3998

CONTINUED ON NEXT PAGE

NOTES:
1 Cut includes Salvaged/Unusable Pavement material
2 Does not include Unusable Pavement Exc volume

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
MORGAN AVENUE										
120+00	50	111.4	0.0	0.0	189	0	0	4377	190	4187
120+50	50	135.0	0.0	0.0	228	0	0	4605	190	4415
121+00	50	150.2	0.0	0.0	264	0	0	4870	190	4679
121+50	50	163.6	0.0	82.0	291	0	76	5160	190	5046
121+91	41	145.5	0.0	82.0	235	0	125	5395	190	5405
122+00	9	131.3	0.0	82.0	46	0	27	5441	190	5478
122+50	50	92.9	0.1	82.0	208	0	152	5648	190	5837
123+00	50	73.9	2.4	82.0	154	2	152	5803	193	6141
123+32	32	57.6	17.5	78.0	78	12	95	5881	206	6301
123+50	18	43.4	16.0	81.0	34	11	53	5915	218	6375
124+00	50	56.4	31.2	82.0	92	44	151	6007	267	6569
124+50	50	119.0	0.0	82.0	162	29	152	6169	299	6852
124+60	10	130.1	0.0	87.0	46	0	31	6215	299	6929
125+00	40	104.3	0.5	86.0	174	0	128	6389	299	7230
125+50	50	82.7	5.3	0.0	173	5	80	6562	305	7477
125+73	23	102.8	0.9	0.0	79	3	0	6641	308	7553
125+94	21	96.5	1.0	0.0	78	1	0	6719	309	7630
126+00	6	97.1	0.3	0.0	22	0	0	6740	309	7651
126+08	8	111.5	8.4	0.0	31	1	0	6771	311	7680
126+50	42	85.2	5.8	0.0	153	11	0	6924	323	7821
126+67	17	118.4	4.7	0.0	64	3	0	6988	327	7882
127+00	33	80.7	7.6	0.0	122	8	0	7110	335	7995
127+31	31	122.6	0.0	0.0	117	4	0	7227	340	8107
127+50	19	97.6	0.5	0.0	77	0	0	7304	340	8184
127+60	10	98.8	0.6	0.0	36	0	0	7340	340	8220
128+00	40	61.8	15.8	0.0	119	12	0	7459	354	8326
128+37	37	80.6	7.5	0.0	98	16	0	7557	371	8406
128+50	13	82.1	8.6	0.0	39	4	0	7596	376	8440
129+00	50	151.5	0.0	0.0	216	8	0	7812	385	8648
129+50	50	211.0	0.3	0.0	336	0	0	8148	385	8983
130+00	50	236.2	0.0	0.0	414	0	0	8562	385	9397
130+50	50	247.5	0.0	0.0	448	0	0	9010	385	9845
131+00	50	242.2	0.0	0.0	453	0	0	9464	385	10298
131+50	50	180.2	0.0	0.0	391	0	0	9855	385	10689
131+90	40	155.2	0.0	0.0	248	0	0	10103	385	10938

CONTINUED ON NEXT PAGE

NOTES:
1 Cut includes Salvaged/Unusable Pavement material
2 Does not include Unusable Pavement Exc volume

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
MORGAN AVENUE										
132+00	10	135.2	0.0	0.0	54	0	0	10157	385	10992
132+50	50	70.3	27.8	0.0	190	26	0	10347	414	11153
132+86	36	100.2	1.2	0.0	114	19	0	10461	435	11246
133+00	14	120.0	5.7	0.0	57	2	0	10518	437	11301
133+50	50	109.1	6.7	0.0	212	11	0	10730	450	11500
134+00	50	95.3	6.5	0.0	189	12	0	10919	463	11676
134+12	12	109.7	0.0	0.0	46	1	0	10965	465	11720
134+50	38	84.6	3.9	0.0	137	3	0	11102	468	11853
134+75	25	109.1	1.1	0.0	90	2	0	11191	471	11940
135+00	25	107.3	5.2	0.0	100	3	0	11291	474	12037
135+10	10	114.7	7.1	0.0	41	2	0	11333	476	12076
135+38	28	133.9	0.2	0.0	129	4	0	11461	481	12201
135+50	12	101.2	11.4	0.0	52	3	0	11514	483	12250
136+00	50	149.6	0.0	0.0	232	11	0	11746	495	12471
136+19	19	128.6	7.6	0.0	98	3	0	11844	498	12566
136+50	31	110.6	10.5	0.0	137	10	0	11981	510	12691
136+62	12	130.8	0.0	0.0	54	2	0	12035	512	12742
136+96	34	144.9	0.0	0.0	174	0	0	12208	512	12916
137+00	4	145.1	0.0	0.0	21	0	0	12230	512	12937
137+06	6	149.0	0.0	0.0	33	0	0	12262	512	12970
137+50	44	114.2	0.7	0.0	214	1	0	12477	513	13184
138+00	50	93.5	4.2	0.0	192	5	0	12669	518	13371
138+32	32	104.9	0.0	0.0	118	2	0	12787	521	13486
138+50	18	112.5	0.1	0.0	72	0	0	12859	521	13558
139+00	50	80.2	5.7	0.0	178	5	0	13038	527	13731
139+40	40	105.8	6.4	0.0	138	9	0	13176	537	13859
139+50	10	82.9	5.1	0.0	35	2	0	13210	539	13891
140+00	50	92.0	4.8	0.0	162	9	0	13372	549	14043
140+26	26	93.1	5.1	0.0	89	5	0	13462	555	14127
140+50	24	77.8	12.6	0.0	76	8	0	13537	563	14194
141+00	50	84.5	3.6	0.0	150	15	0	13688	580	14328
141+50	50	98.9	1.1	0.0	170	4	0	13858	585	14493
141+62	12	111.8	0.0	0.0	47	0	0	13904	585	14539
	TOTALS				13904	527	1221			

NOTES:
1 Cut includes Salvaged/Unusable Pavement material
2 Does not include Unusable Pavement Exc volume

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
52nd Street										
5+37		24.6	2.9	0.0	0	0	0	0	0	0
5+50	13	30.0	0.0	0.0	13	1	0	13	1	12
5+75	25	32.8	2.0	0.0	29	1	0	42	2	40
5+95	20	37.2	0.4	0.0	26	1	0	68	3	65
			TOTALS		68	3	0			

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
51st Street										
1014+25		54.0	0.0	0.0	0	0	0	0	0	0
1014+50	25	73.7	1.5	0.0	59	1	0	59	1	58
1014+70	20	87.5	0.0	0.0	60	1	0	119	1	117
			TOTALS		119	1	0			

NOTES:
1 Cut includes Salvaged/Unusable Pavement material
2 Does not include Unusable Pavement Exc volume

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	EBS	Cut	Fill	EBS	Cut 1.00	Expanded Fill 1.11	
					(Note 1)	(Note 2)		(Note 1)		
50th Place										
25+30		83.2	0.0	0.0	0	0	0	0	0	0
25+50	20	50.3	0.0	0.0	49	0	0	49	0	49
25+80	30	39.9	0.0	0.0	50	0	0	100	0	100
				TOTALS	100	0	0			

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	EBS	Cut	Fill	EBS	Cut 1.00	Expanded Fill 1.11	
					(Note 1)	(Note 2)		(Note 1)		
49th Street										
32+90		32.2	0.0	0.0	0	0	0	0	0	0
33+00	10	31.8	0.2	0.0	12	0	0	12	0	12
33+35	35	55.1	0.6	0.0	56	1	0	68	1	68
33+50	15	48.4	9.4	0.0	29	3	0	97	4	93
33+89	39	108.2	0.0	0.0	113	7	0	210	11	199
34+00	11	108.0	0.0	0.0	44	0	0	254	11	243
34+50	50	146.0	0.0	0.0	235	0	0	489	11	478
34+70	20	137.1	0.0	0.0	105	0	0	594	11	583
				TOTALS	594	10	0			

NOTES:
1 Cut includes Salvaged/Unusable Pavement material
2 Does not include Unusable Pavement Exc volume

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	Fill	EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Fill (Note 2)	EBS	Cumulative Vol (CY) Cut (Note 1)	Expanded Fill 1.11	Mass Ordinate
48th Street										
44+10		42.0	0.0	0.0	0	0	0	0	0	0
44+50	40	54.9	1.3	0.0	72	1	0	72	1	71
44+70	20	81.5	0.0	0.0	51	0	0	122	2	121
				TOTALS	122	1	0			

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	Fill	EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Fill (Note 2)	EBS	Cumulative Vol (CY) Cut (Note 1)	Expanded Fill 1.11	Mass Ordinate
Schauer Avenue										
45+31		59.3	0.0	0.0	0	0	0	0	0	0
45+50	19	38.0	4.9	0.0	34	2	0	34	2	32
45+60	10	37.5	1.5	0.0	14	1	0	48	3	45
				TOTALS	48	3	0			

NOTES:
1 Cut includes Salvaged/Unusable Pavement material
2 Does not include Unusable Pavement Exc volume

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
Strothmann Drive										
55+30		66.1	0.0	0.0	0	0	0	0	0	0
55+50	20	47.1	0.5	0.0	42	0	0	42	0	42
55+70	20	43.6	0.4	0.0	34	0	0	76	1	75
				TOTALS	76	1	0			

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
47th Street										
64+10		40.7	0.0	0.0	0	0	0	0	0	0
64+50	40	42.3	5.3	0.0	61	4	0	61	4	57
64+70	20	51.3	0.0	0.0	35	2	0	96	7	90
				TOTALS	96	6	0			

NOTES:
1 Cut includes Salvaged/Unusable Pavement material
2 Does not include Unusable Pavement Exc volume

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
46th Street South										
74+20		38.7	2.4	0.0	0	0	0	0	0	0
74+50	30	47.8	6.2	0.0	48	5	0	48	5	43
74+65	15	61.3	0.0	0.0	30	2	0	78	7	71
				TOTALS	78	7	0			

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
46th Street North										
75+30		77.0	0.0	0.0	0	0	0	0	0	0
75+50	20	37.2	0.0	0.0	42	0	0	42	0	42
75+75	25	31.5	1.9	0.0	32	1	0	74	1	73
75+95	20	37.6	0.0	0.0	26	1	0	100	2	98
				TOTALS	100	2	0			

NOTES:
1 Cut includes Salvaged/Unusable Pavement material
2 Does not include Unusable Pavement Exc volume

9 9

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	EBS	Cut (Note 1)	Fill (Note 2)	EBS	Cut (Note 1)	Expanded Fill 1.11	
45th Street										
84+15		38.6	0.0	0.0	0	0	0	0	0	0
84+50	35	54.9	0.3	0.0	61	0	0	61	0	60
84+70	20	82.2	0.0	0.0	51	0	0	111	0	111
				TOTALS	111	0	0			

NOTES:
1 Cut includes Salvaged/Unusable Pavement material
2 Does not include Unusable Pavement Exc volume

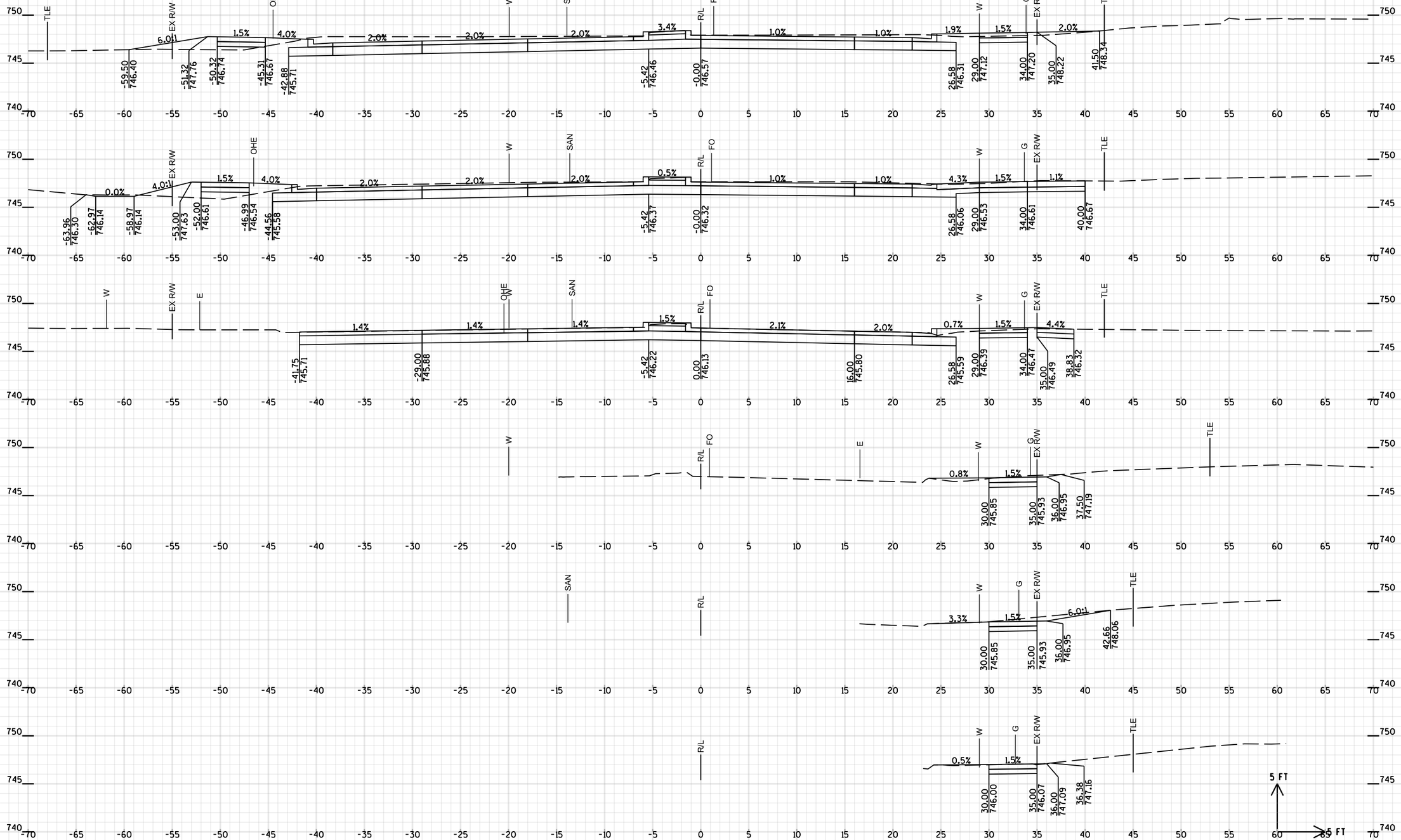
EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
44th Street South										
94+35		37.5	0.0	0.0	0	0	0	0	0	0
94+50	15	42.1	7.6	0.0	22	2	0	22	2	20
94+70	20	54.9	0.0	0.0	36	3	0	58	5	53
				TOTALS	58	5	0			

EARTHWORK STATION-BY-STATION

STATION	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut (Note 1)	Incremental Vol (CY) (Unadjusted) Fill (Note 2)	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 (Note 1)	Cumulative Vol (CY) Expanded Fill 1.11	Mass Ordinate
44th Street North										
95+30		63.6	0.0	0.0	0	0	0	0	0	0
95+50	20	40.5	0.3	0.0	39	0	0	39	0	38
95+65	15	37.2	0.3	0.0	22	0	0	60	0	60
				TOTALS	60	0	0			

NOTES:
1 Cut includes Salvaged/Unusable Pavement material
2 Does not include Unusable Pavement Exc volume



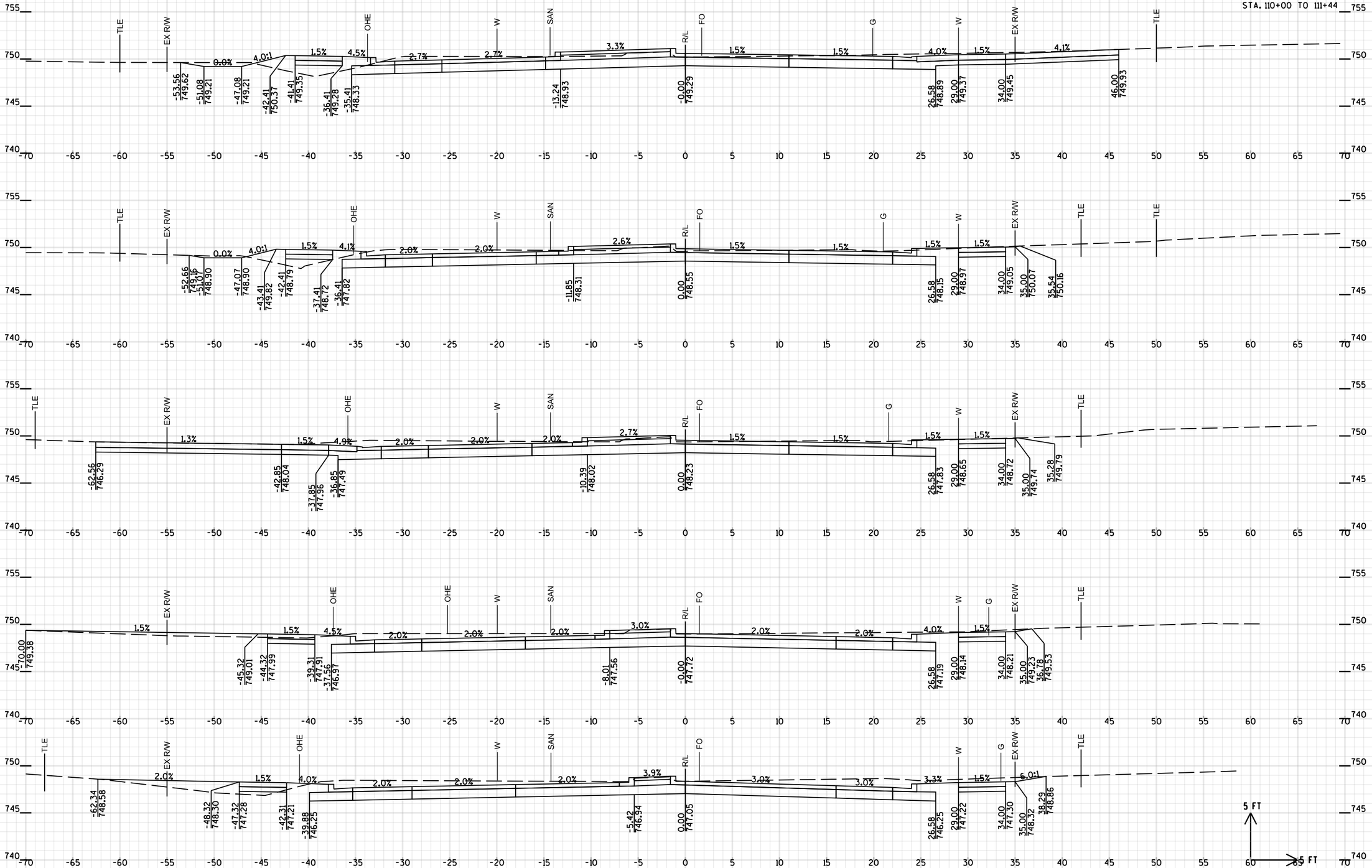
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WISDOT/CADDS SHEET 21

STA. 110+00 TO 111+44



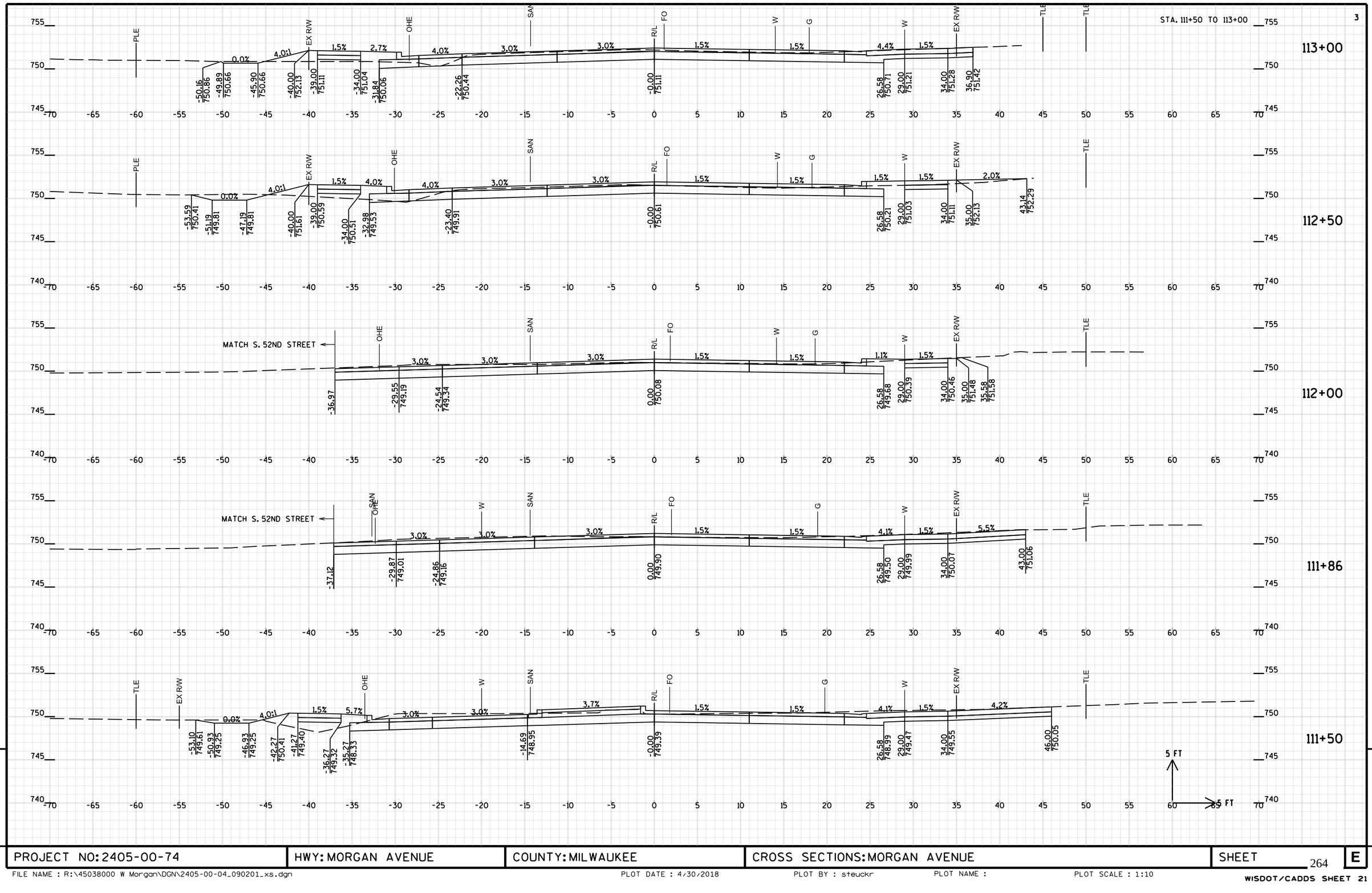
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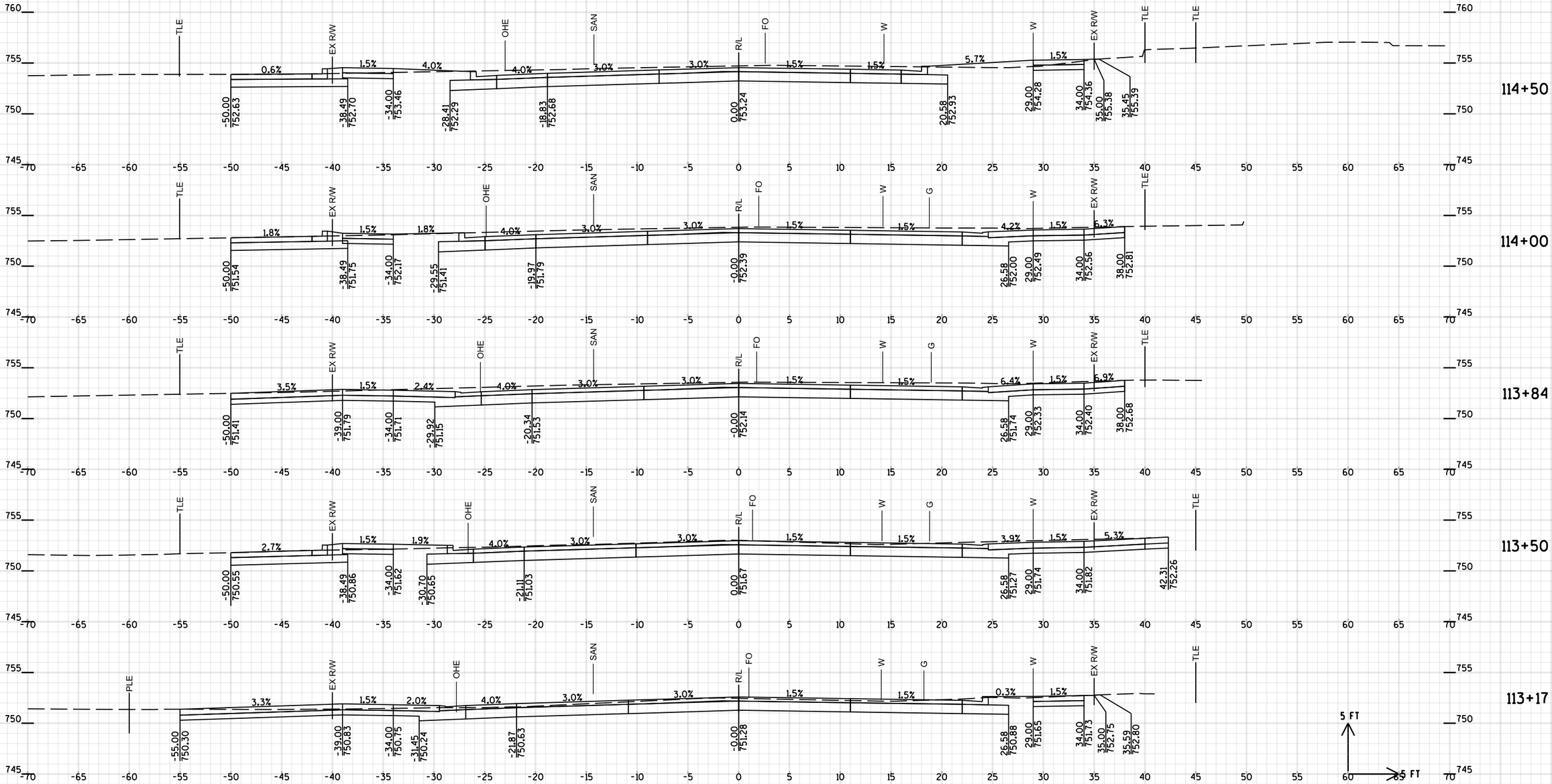
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WISDOT/CADDS SHEET 21



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET 264	E



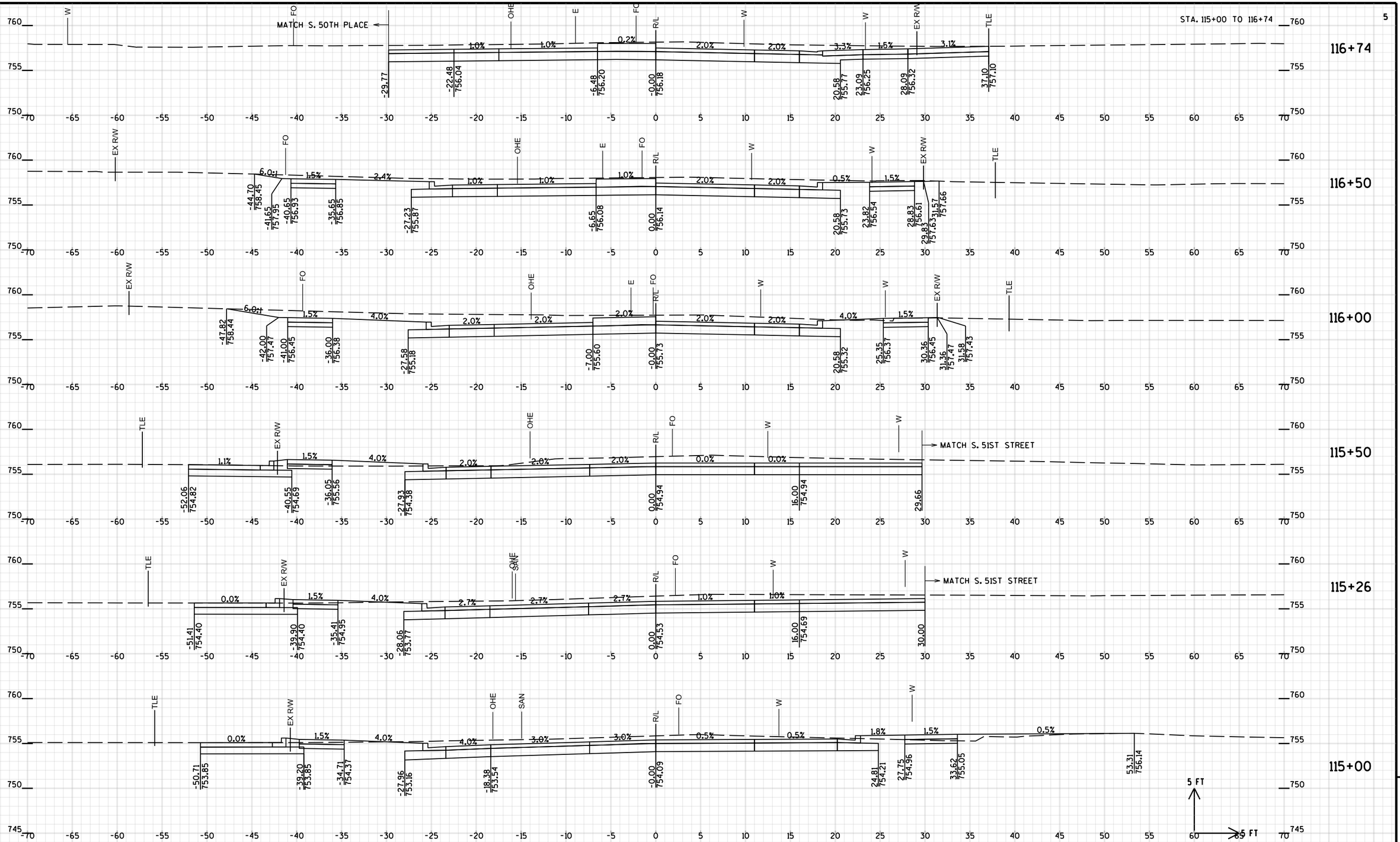
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PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET	E

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WISDOT/CADDS SHEET 21

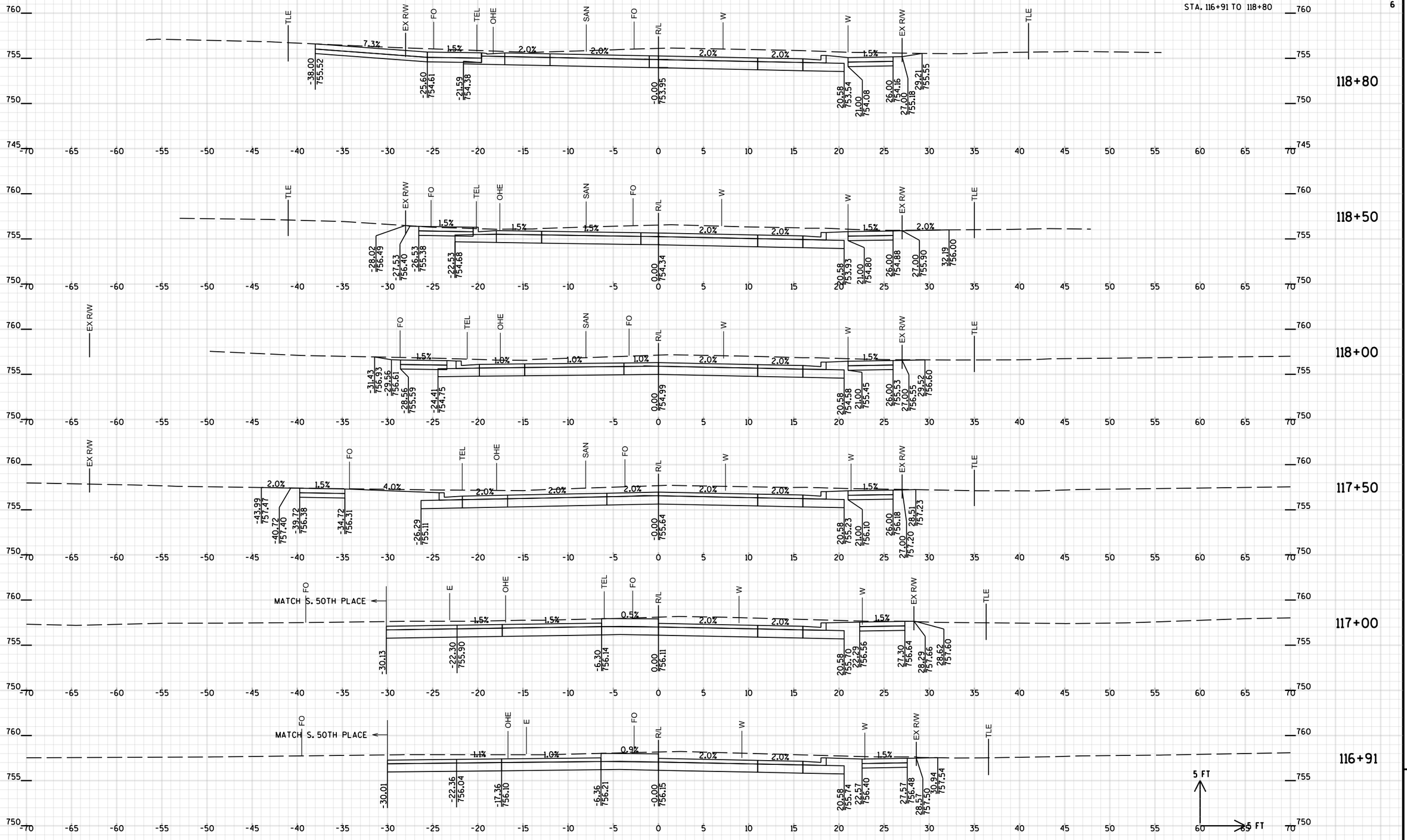
STA. 115+00 TO 116+74



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET	E

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WISDOT/CADDS SHEET 21



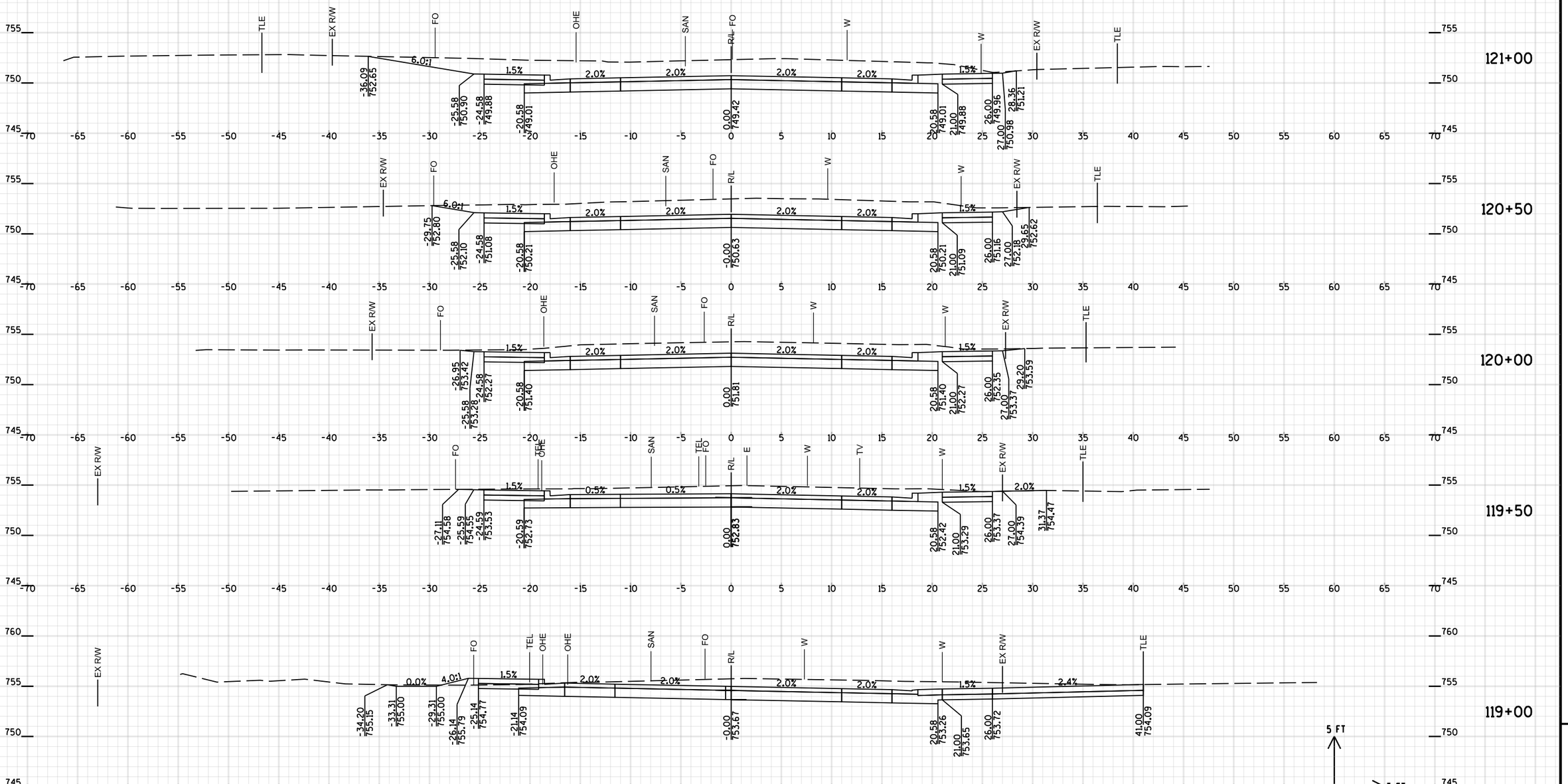
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WISDOT/CADDS SHEET 21



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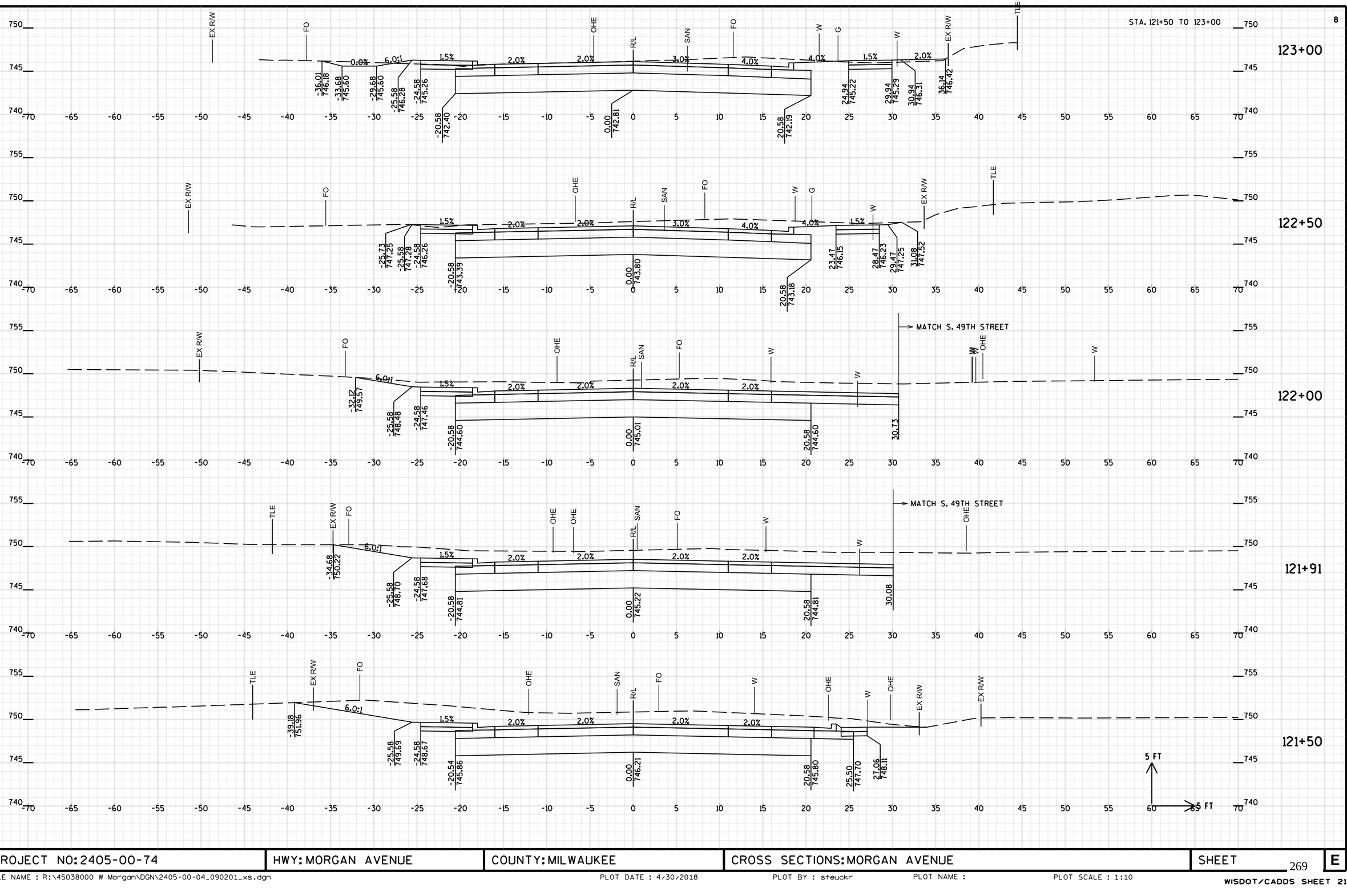
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WISDOT/CADDS SHEET 21

STA. 121+50 TO 123+00



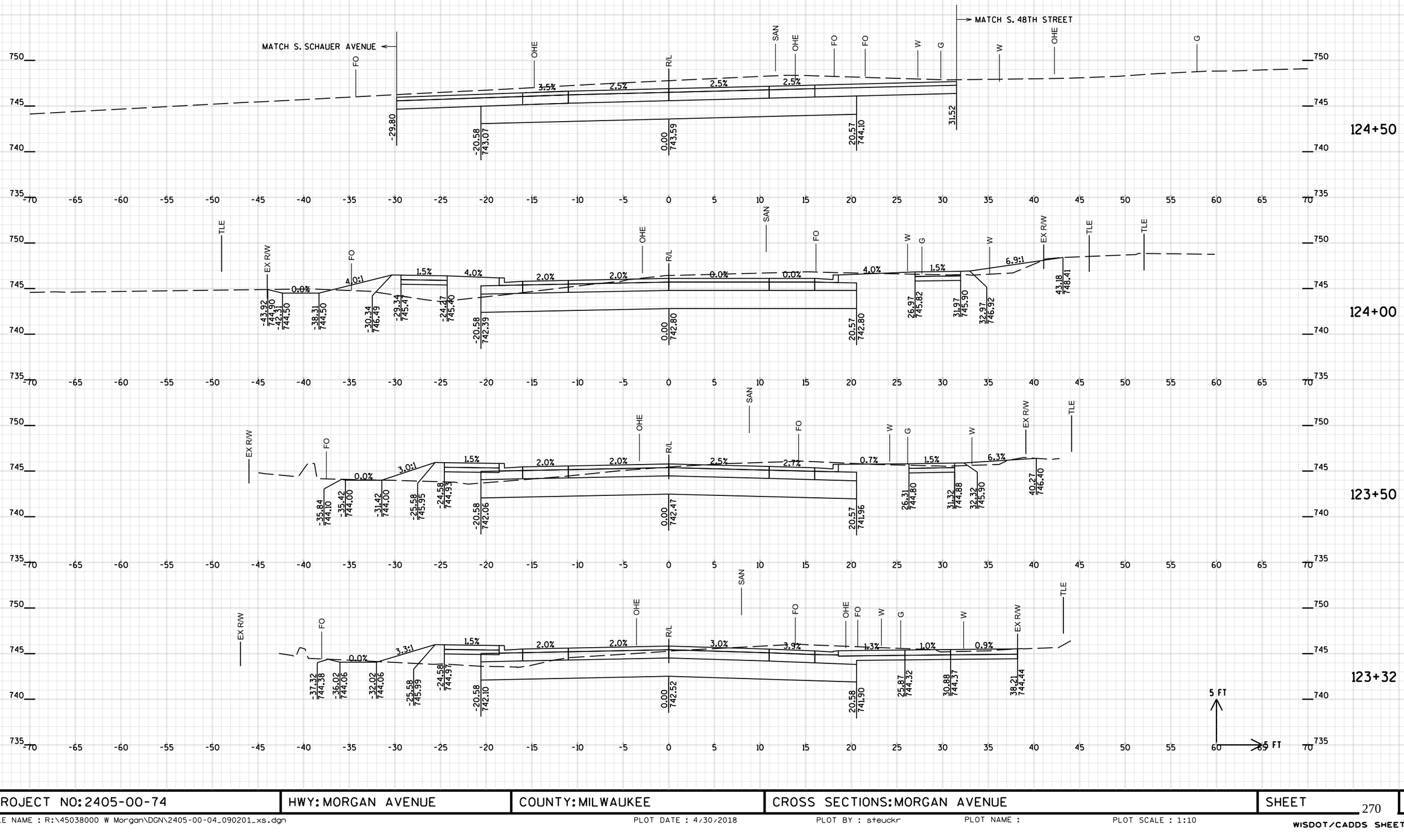
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PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET	E

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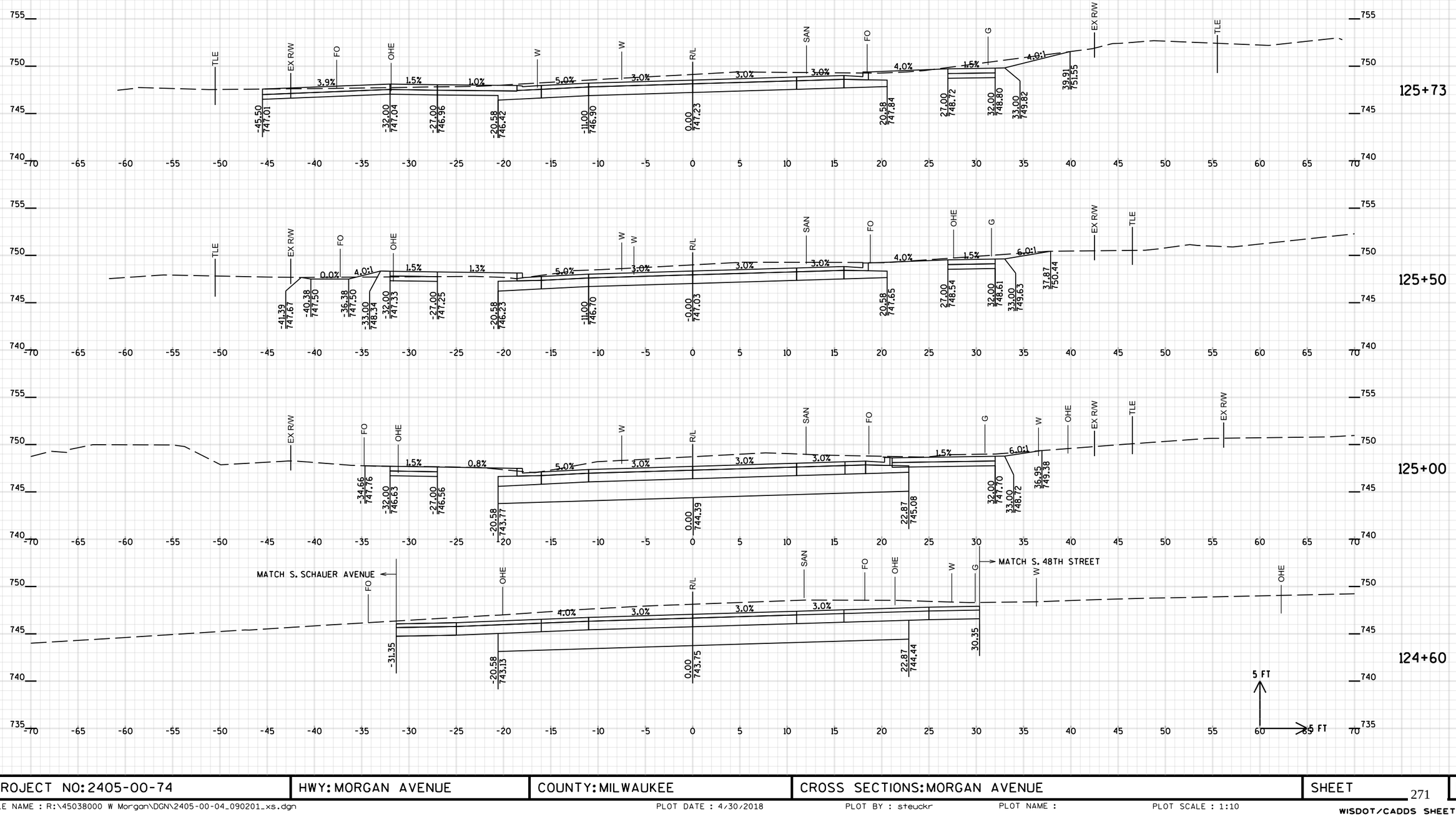
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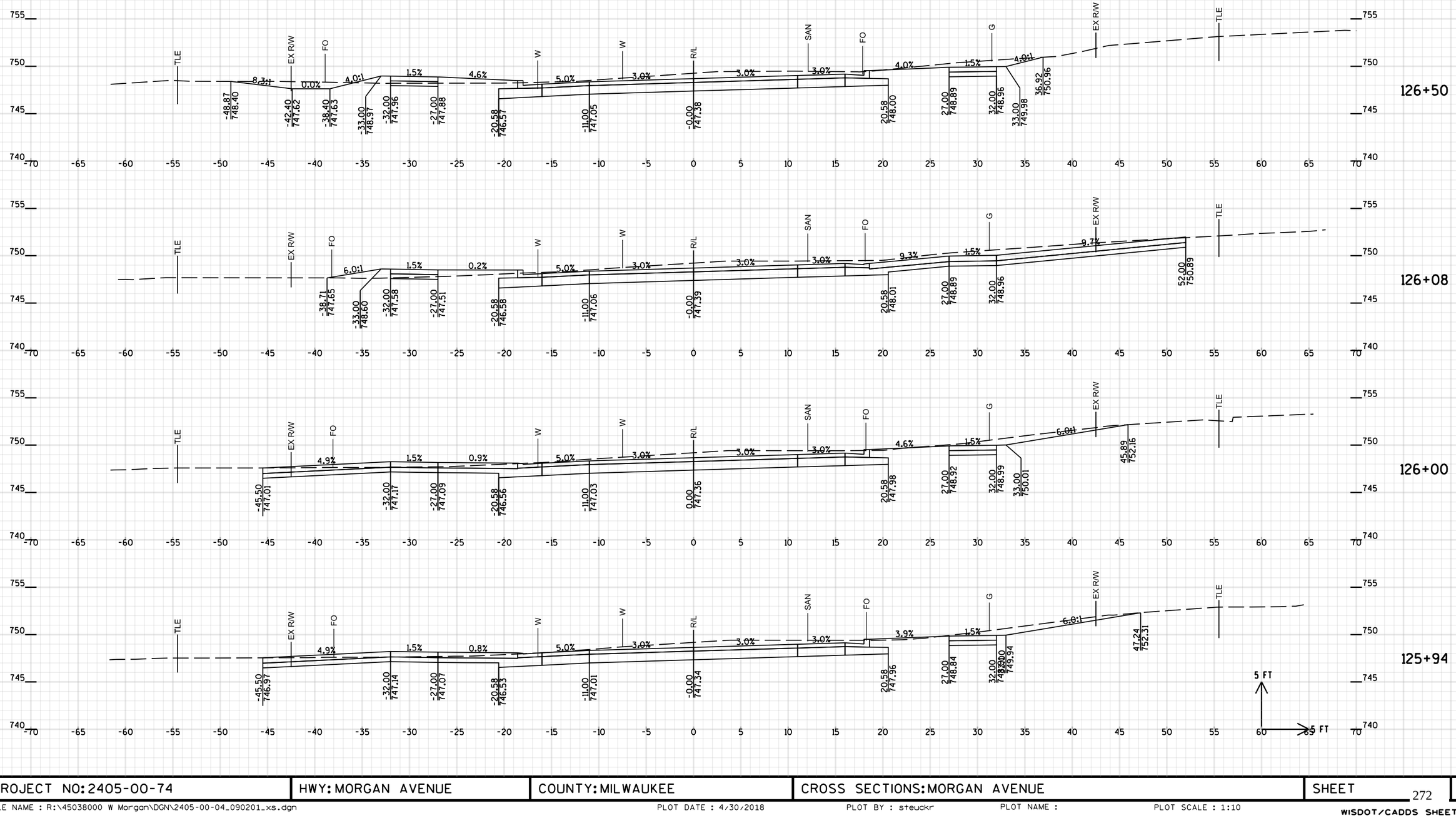
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET 270	E



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET 271	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

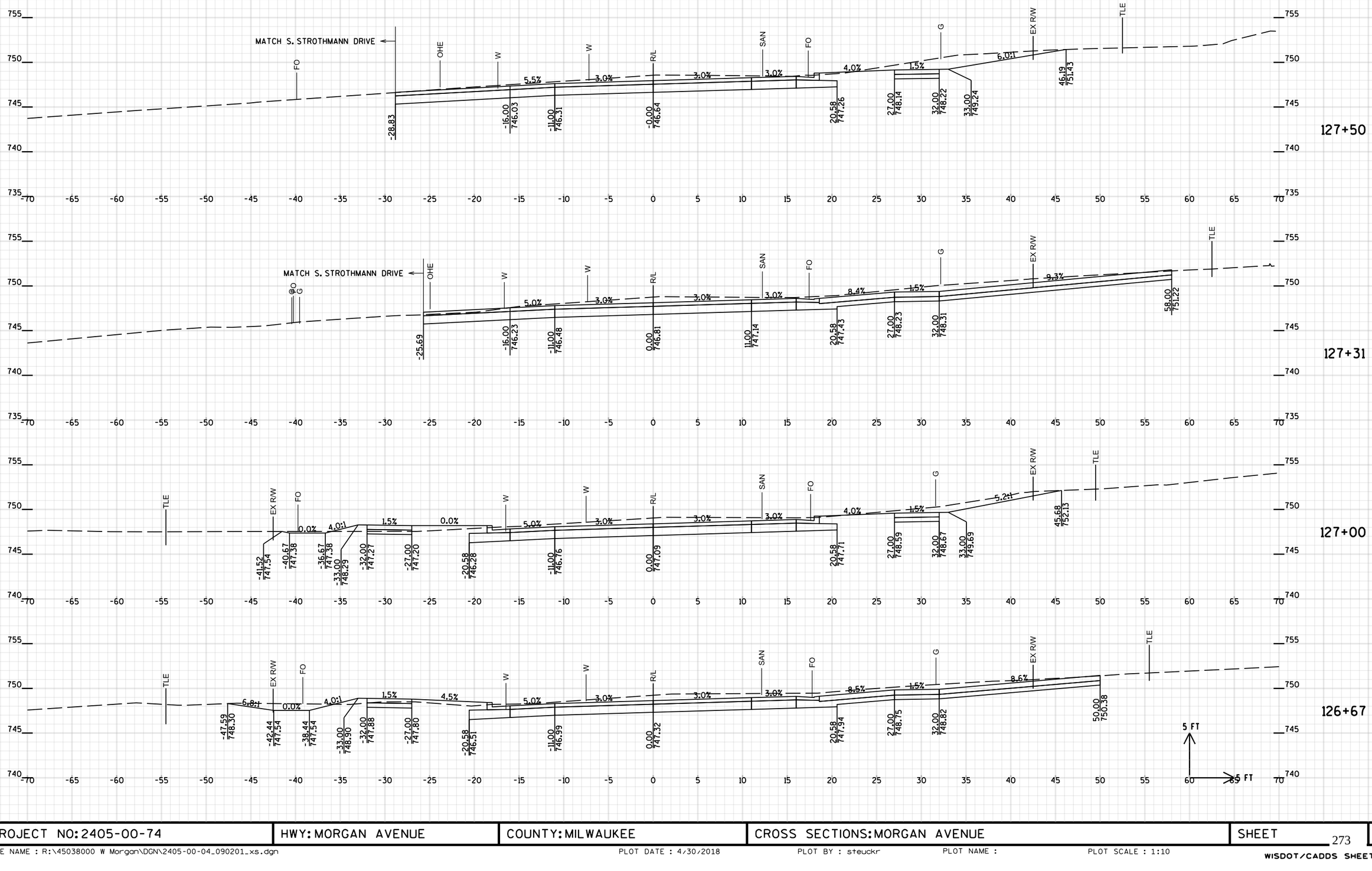


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PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET 272	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

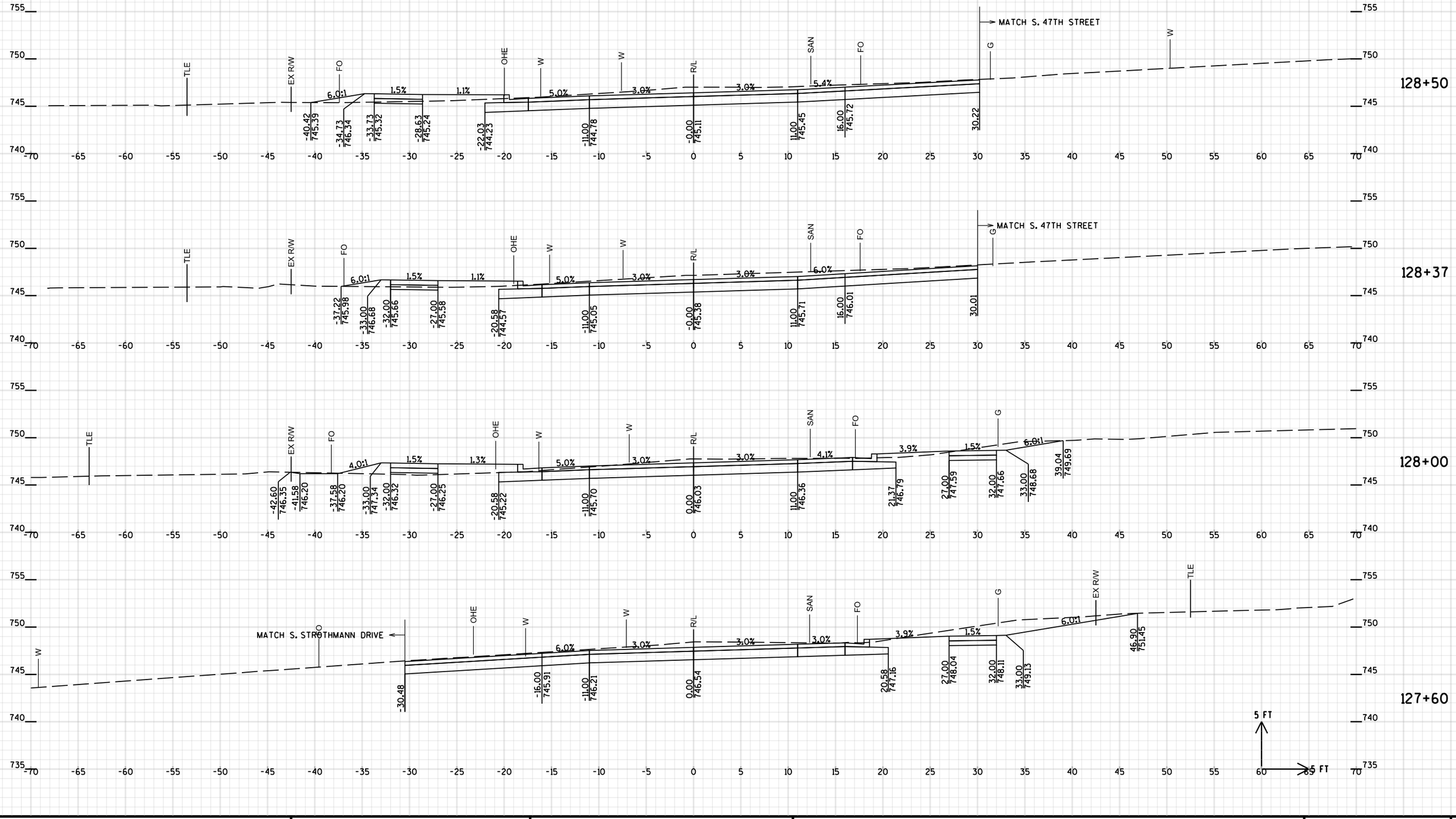
WISDOT/CADDS SHEET 21



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21



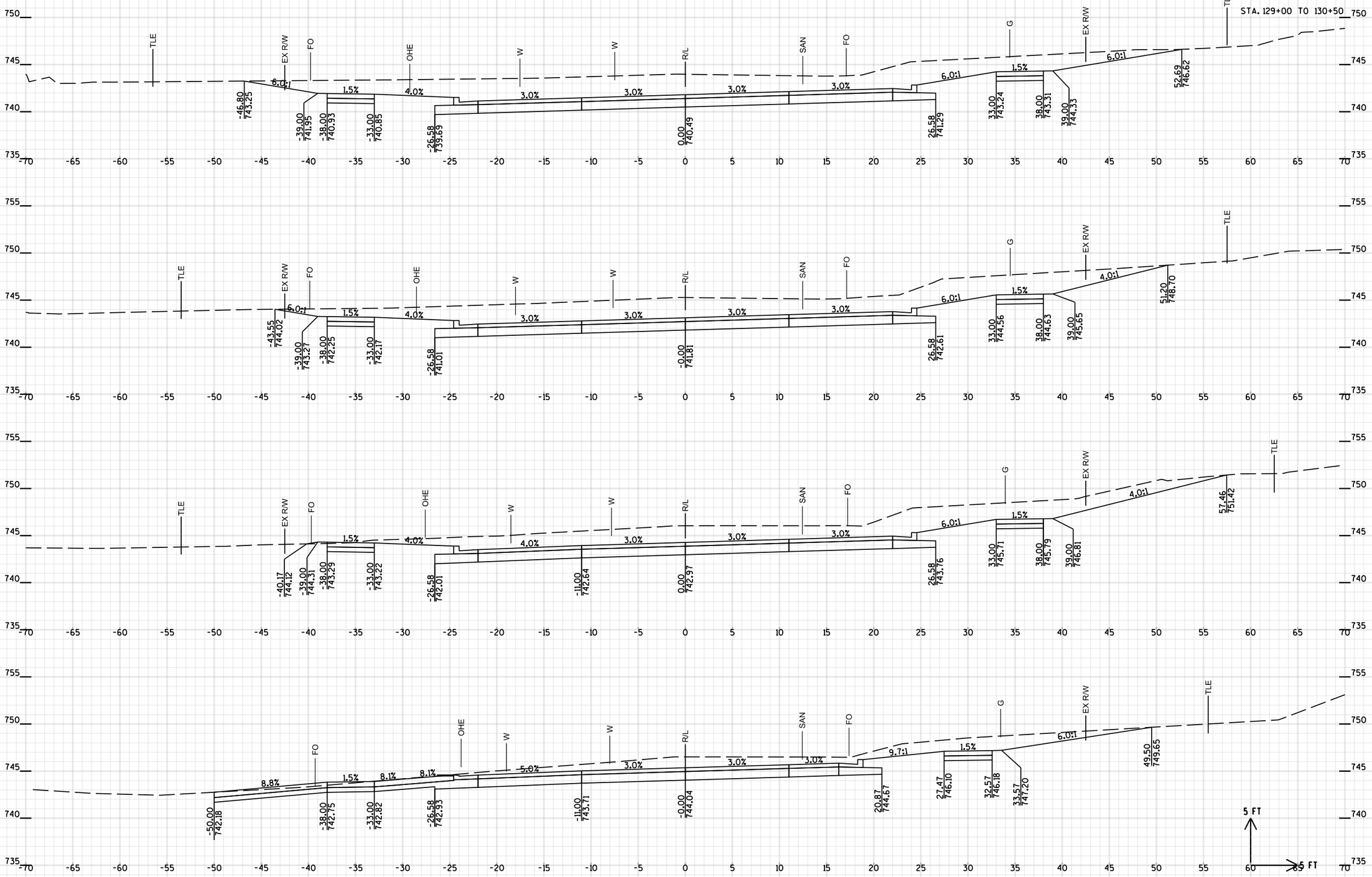
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PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

STA. 129+00 TO 130+50



9

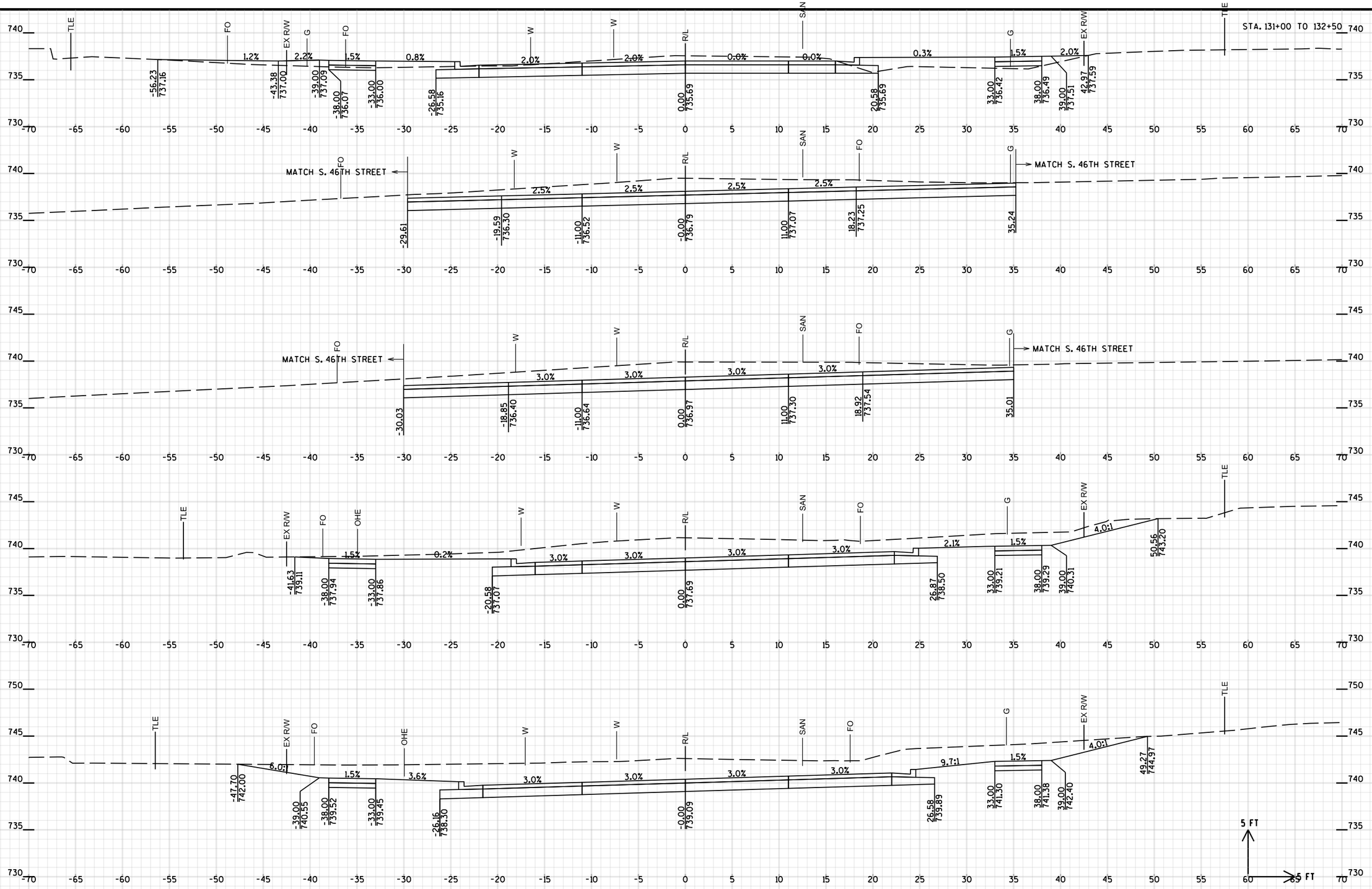
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PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 131+00 TO 132+50



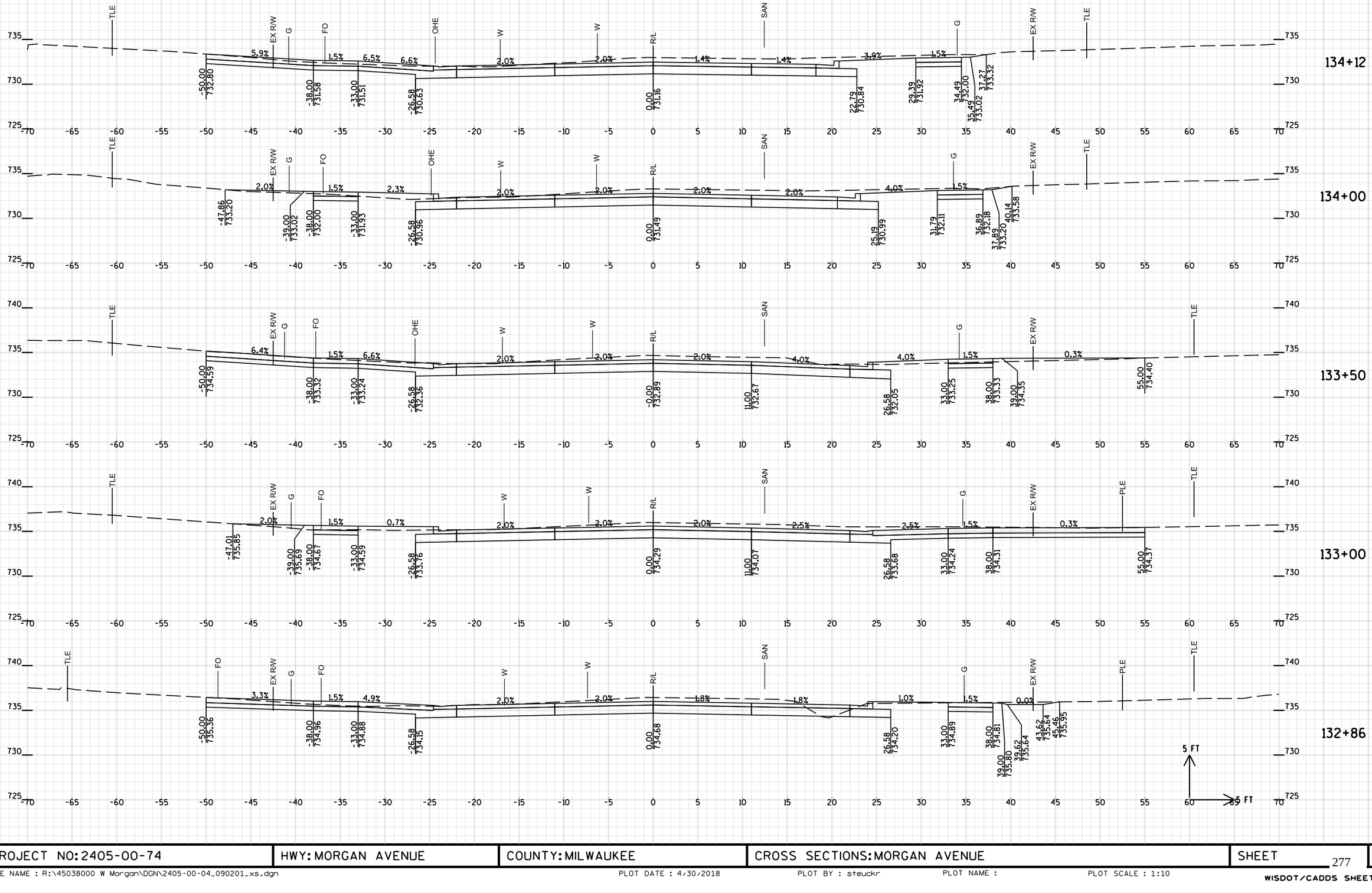
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PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21



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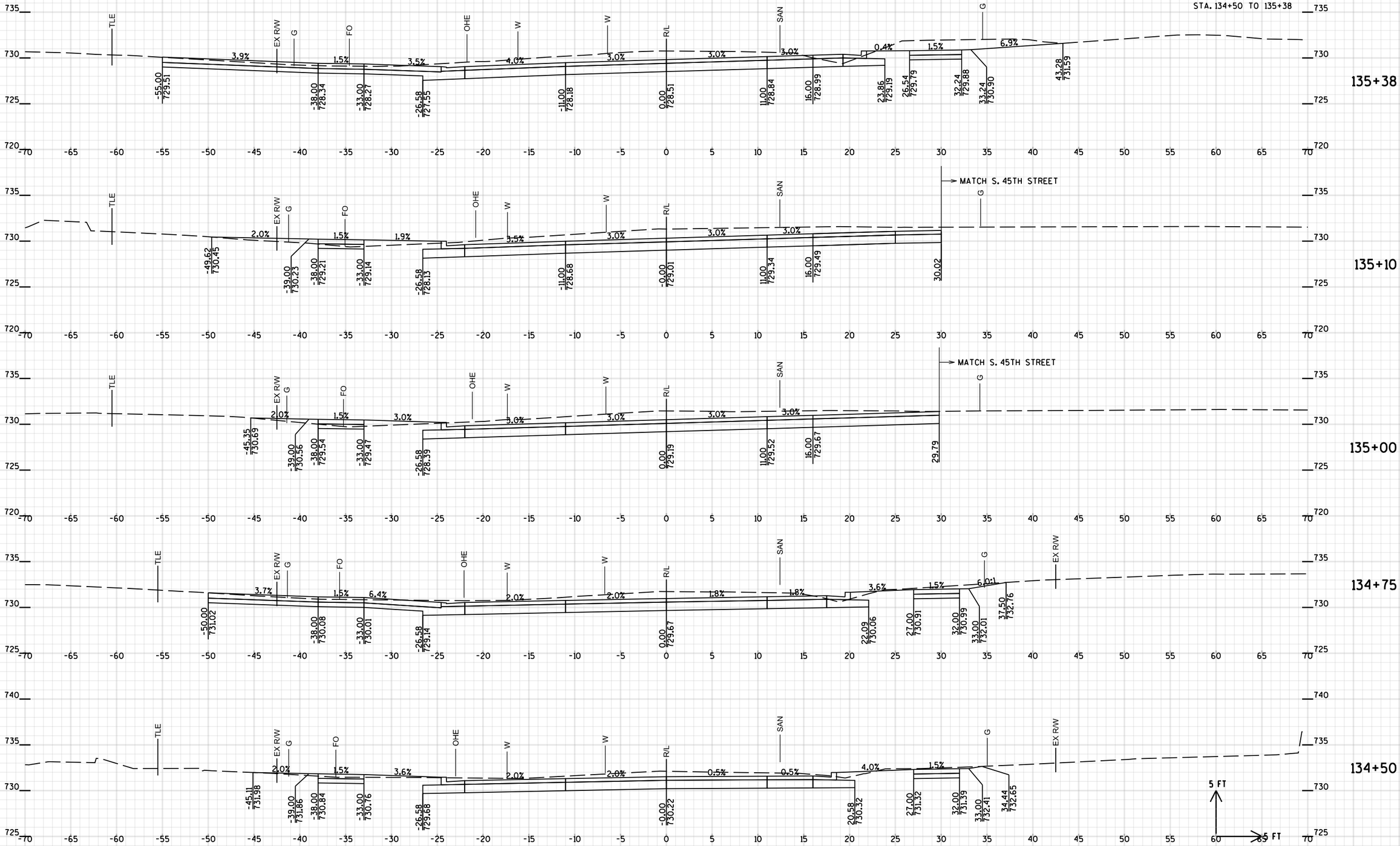
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PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET 277	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

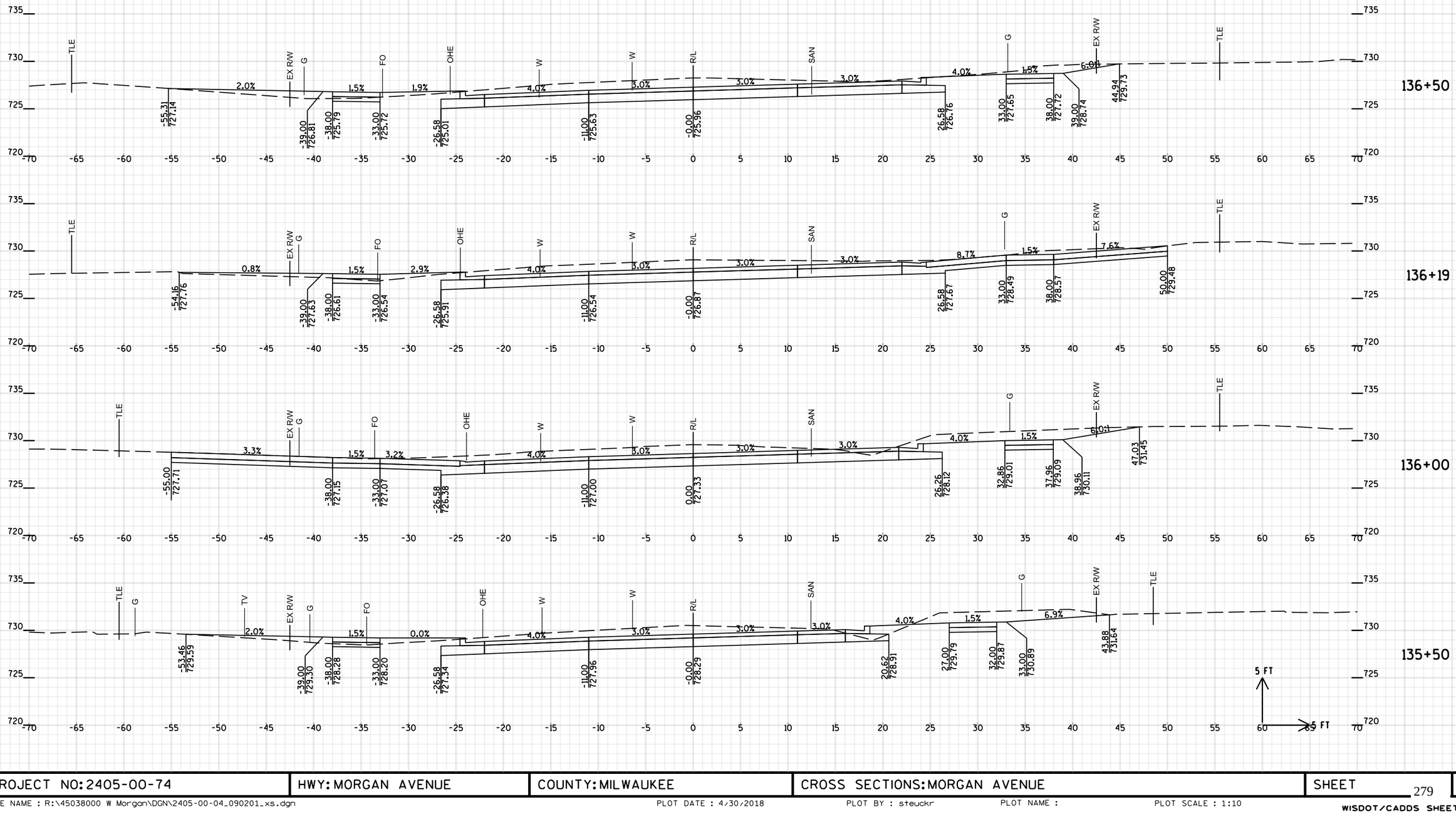
STA. 134+50 TO 135+38



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

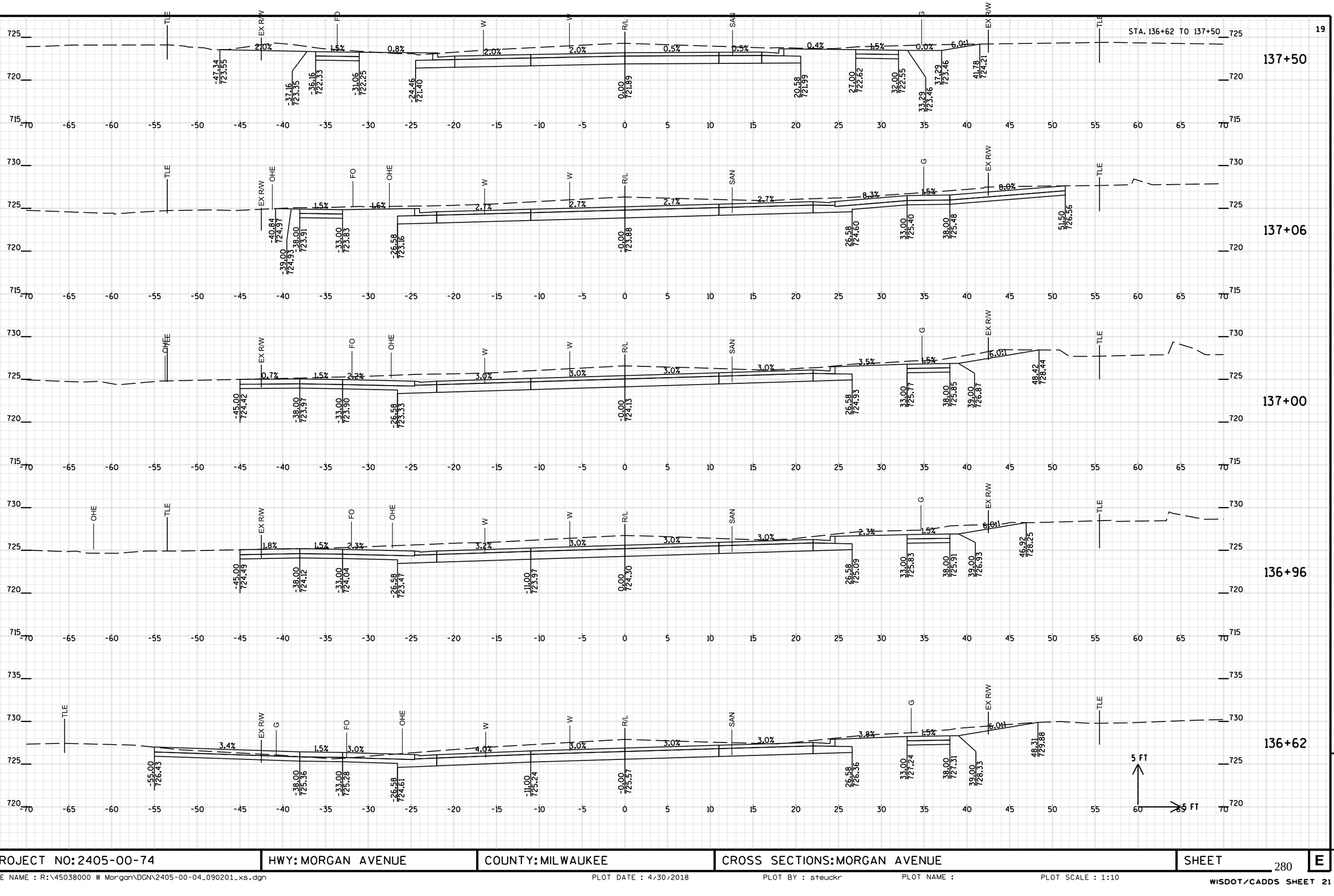


PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET 279	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

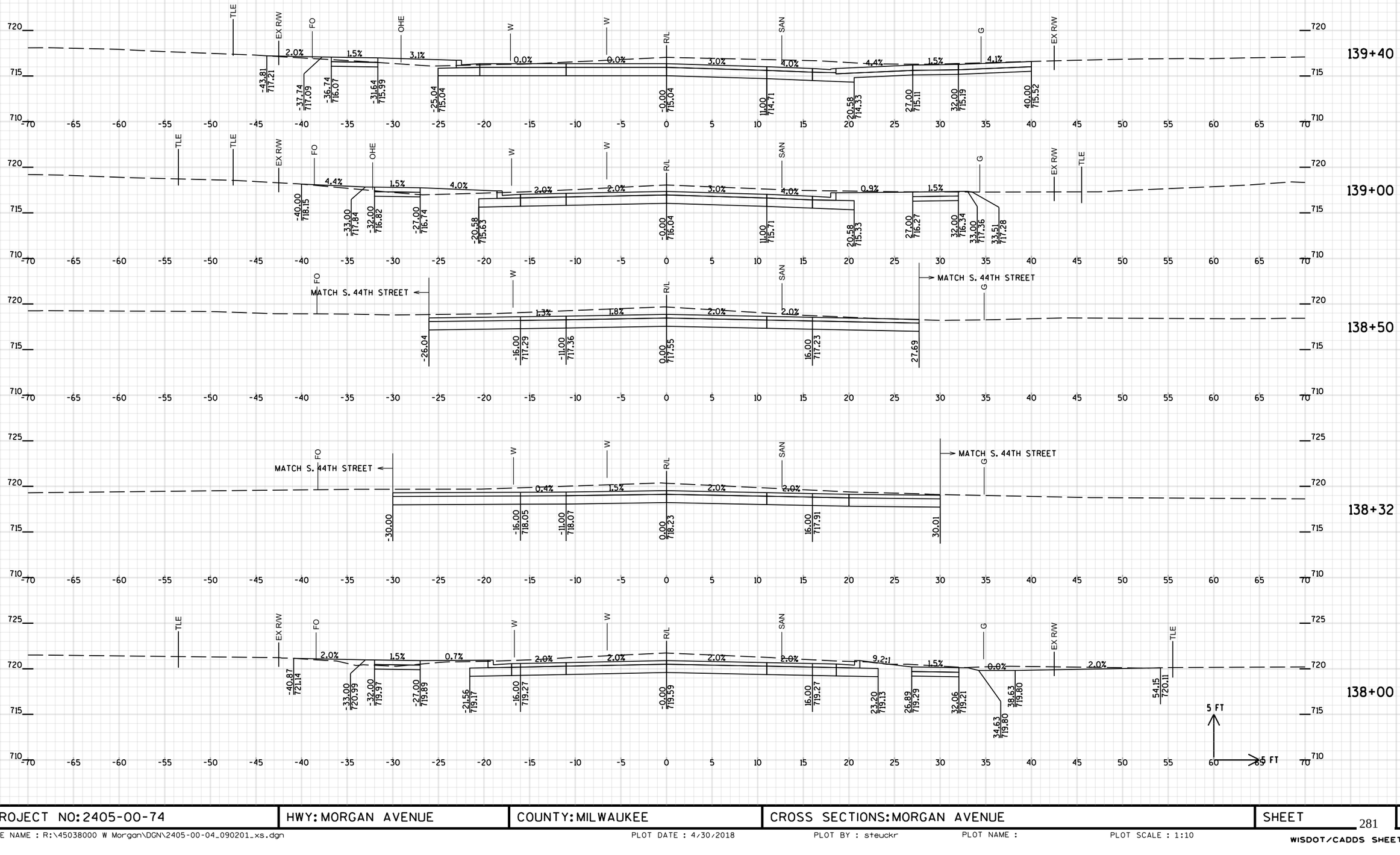
STA. 136+62 TO 137+50



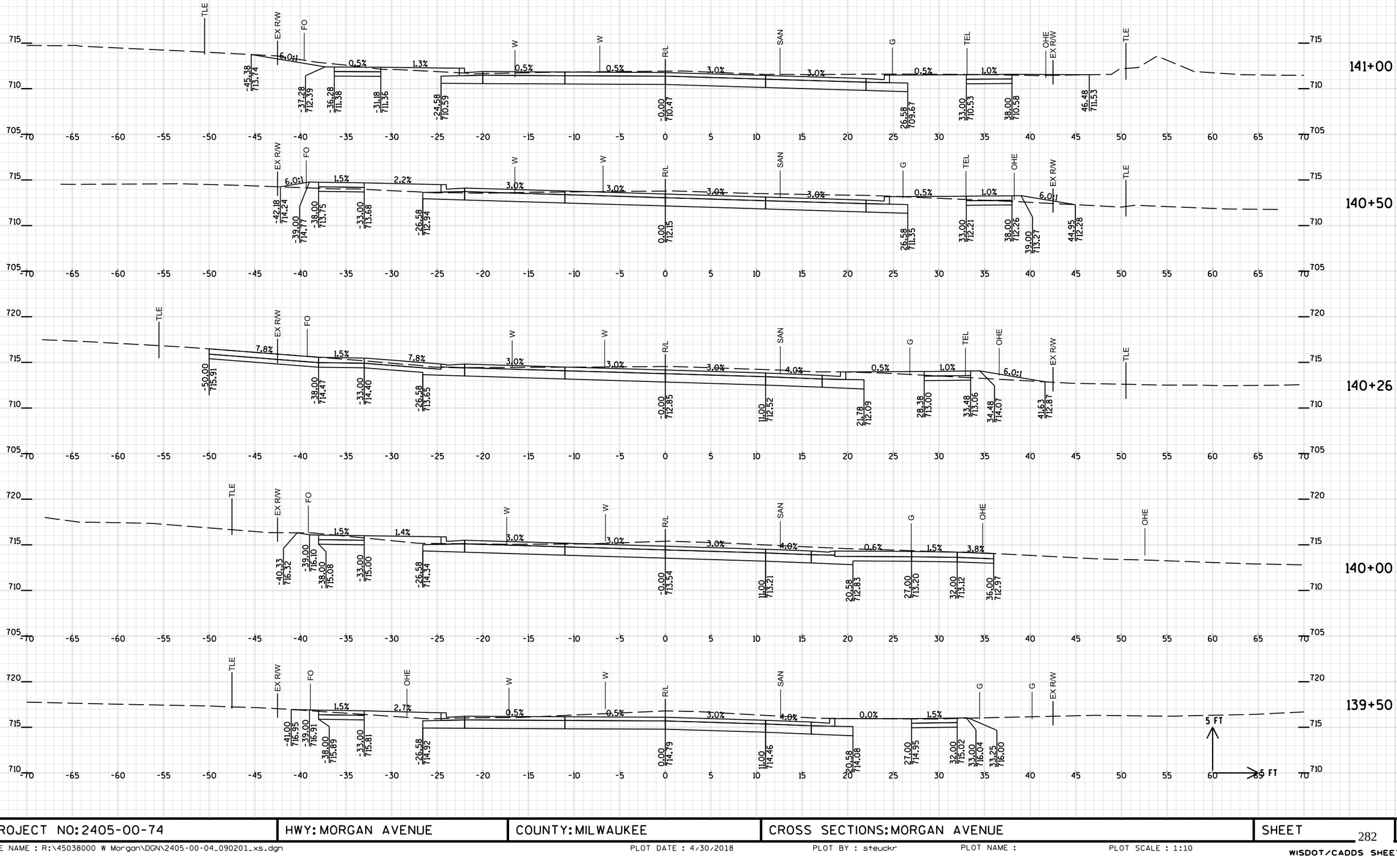
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET 280	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

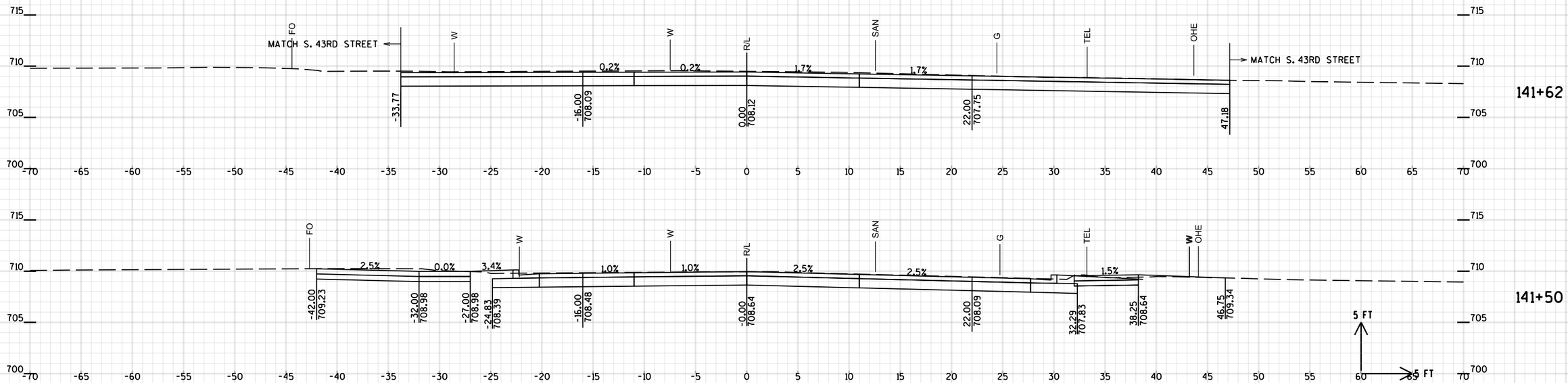


PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET 281	E



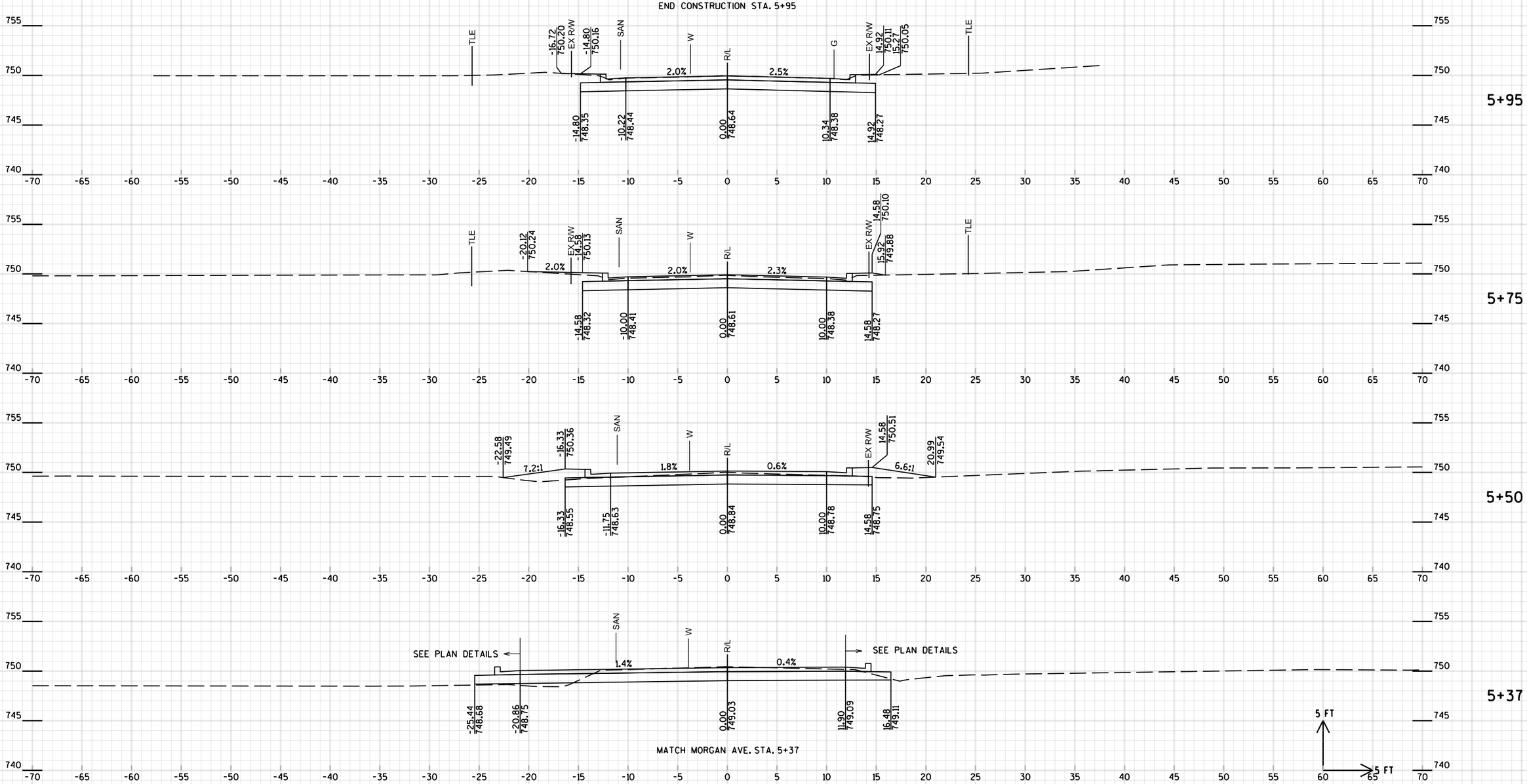
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090201_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10



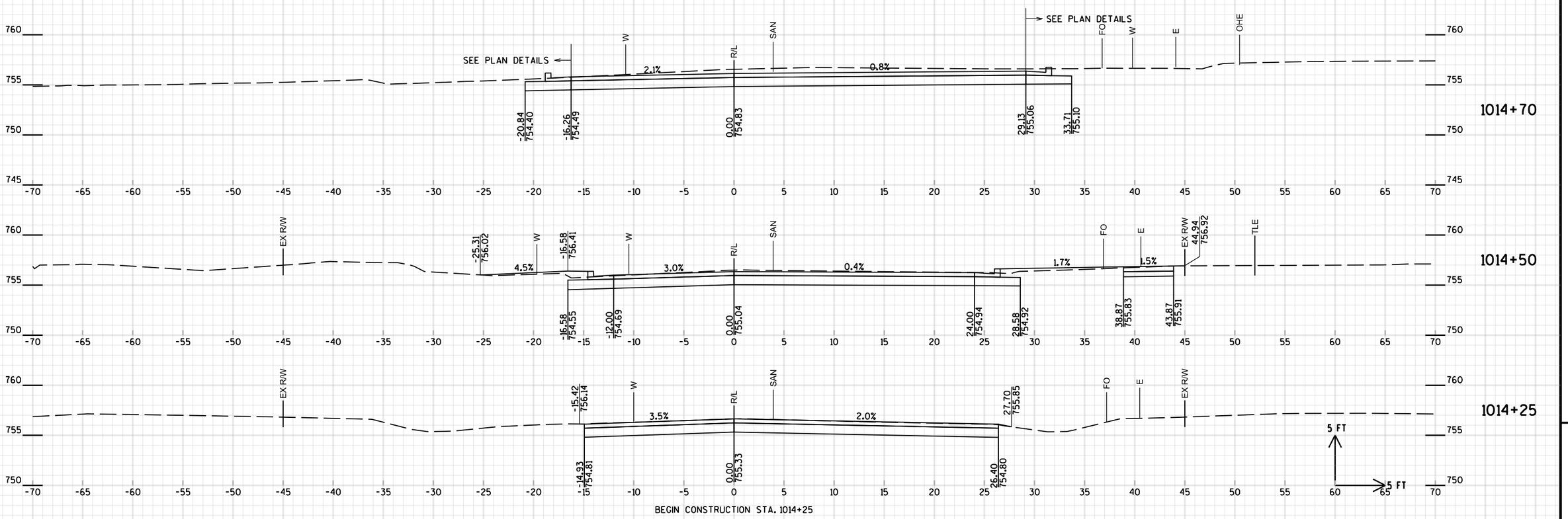
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: MORGAN AVENUE	SHEET 283 E

END CONSTRUCTION STA. 5+95

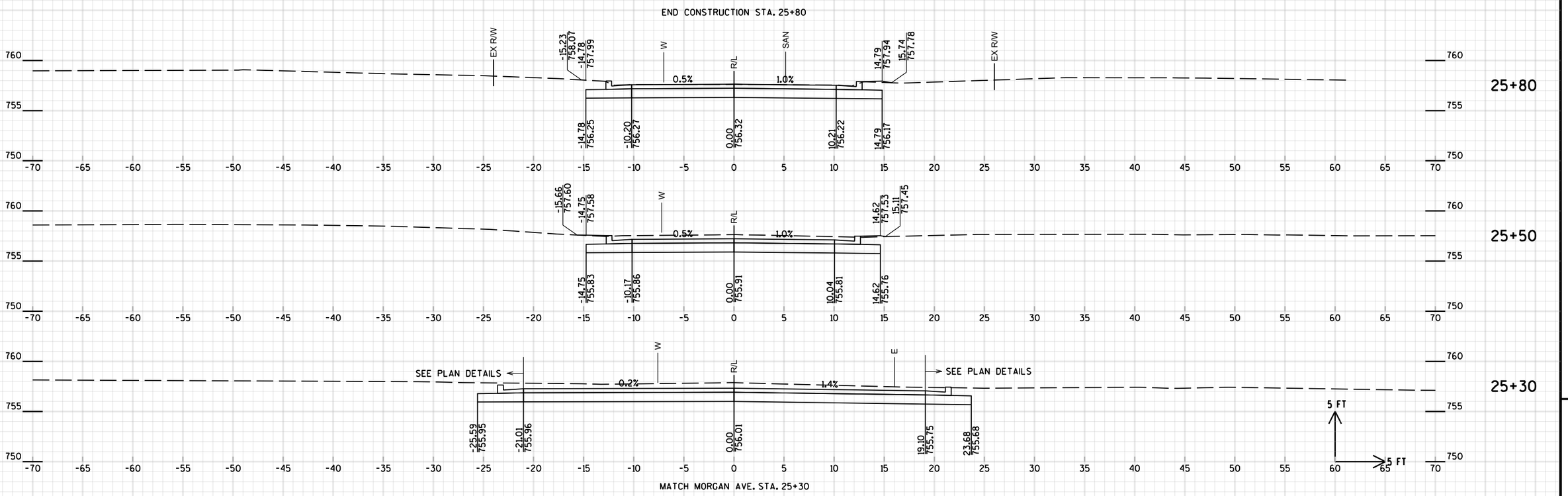


PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 52ND STREET	SHEET 284 E

MATCH MORGAN AVE. STA. 1014+70



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 51ST STREET	SHEET 285 E

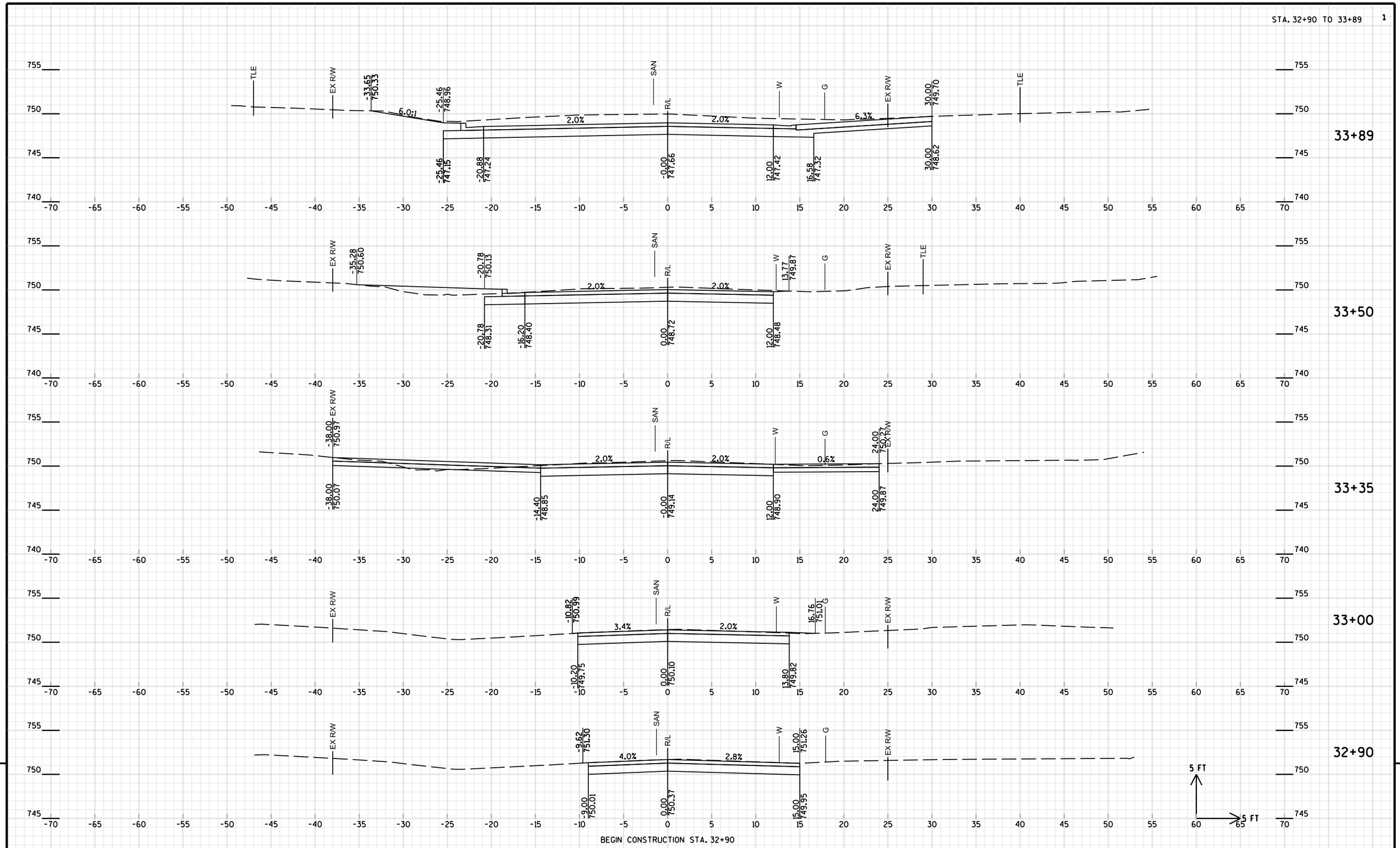


9 9

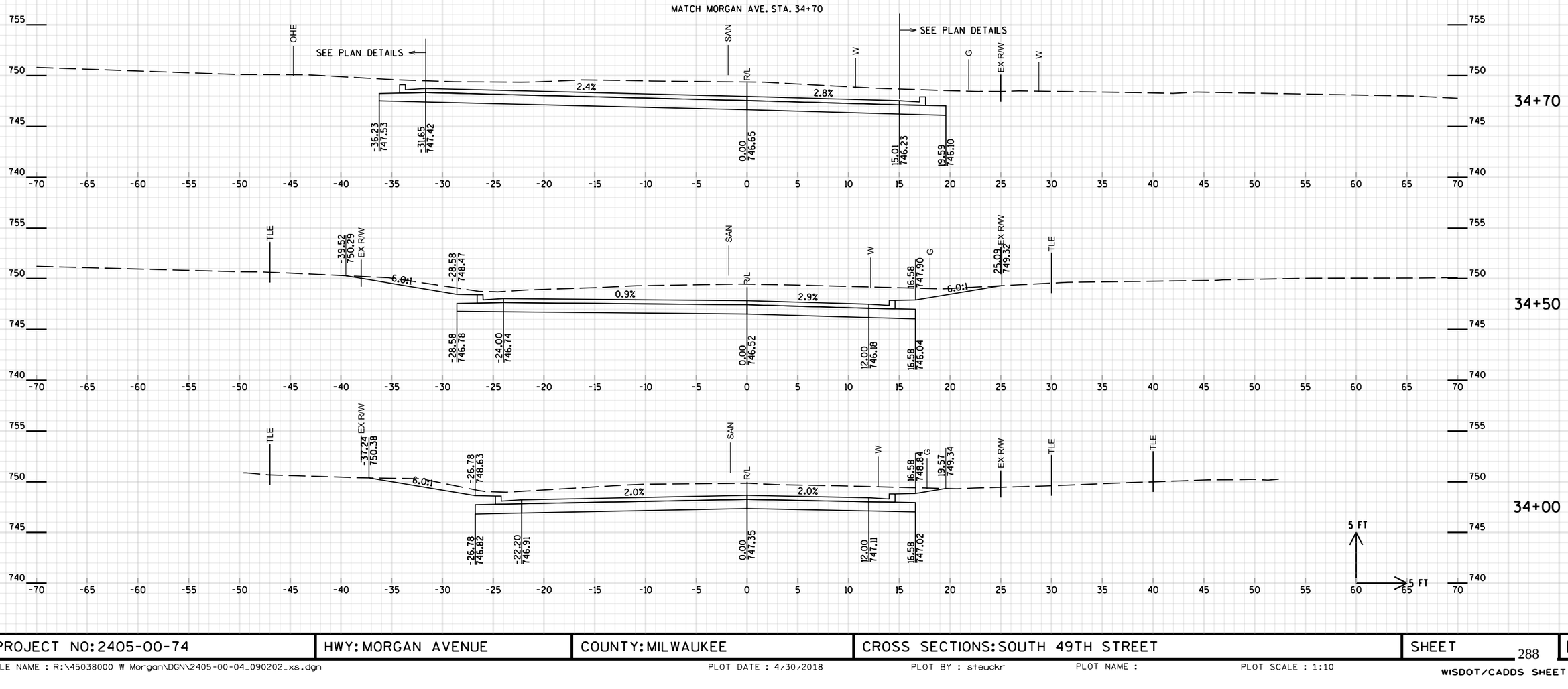
PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 50TH PLACE	SHEET	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090202_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 49TH STREET	SHEET 287	E

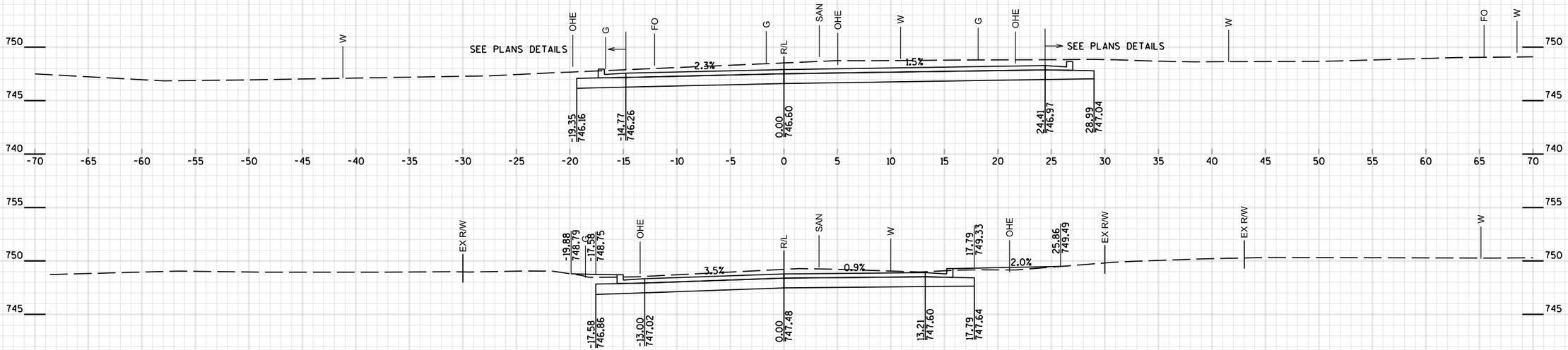


9 9

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 49TH STREET	SHEET E

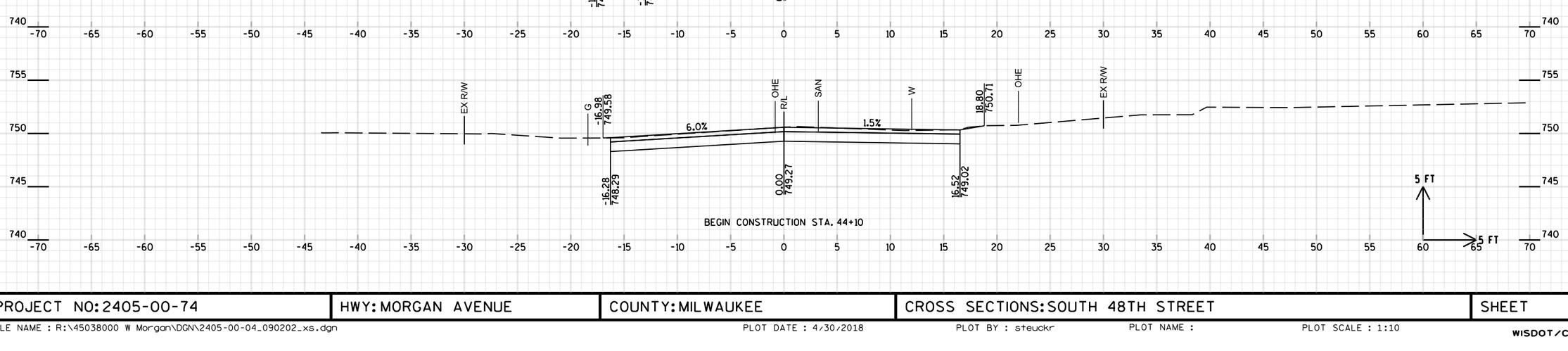
FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090202_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

MATCH MORGAN AVE. STA. 44+70



44+70

44+50



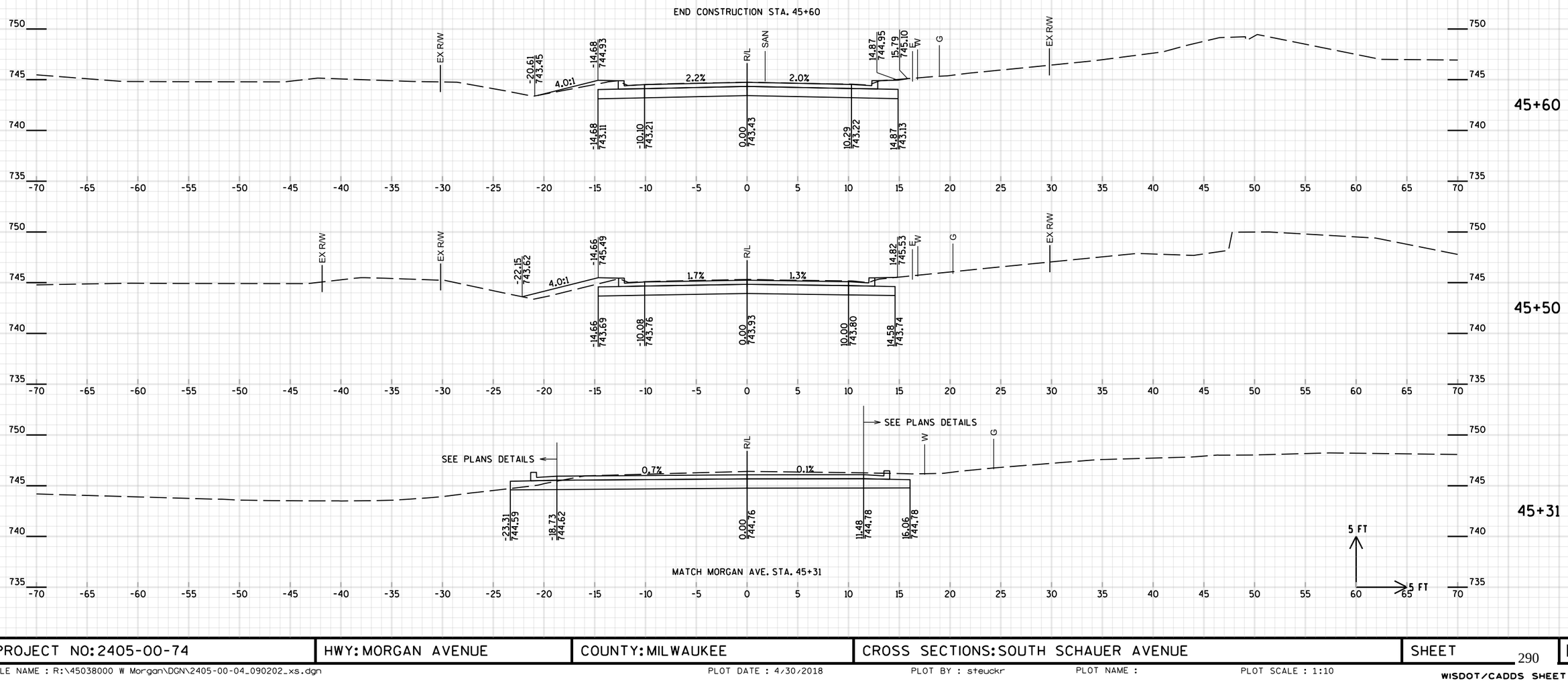
44+10

9 9

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 48TH STREET	SHEET E

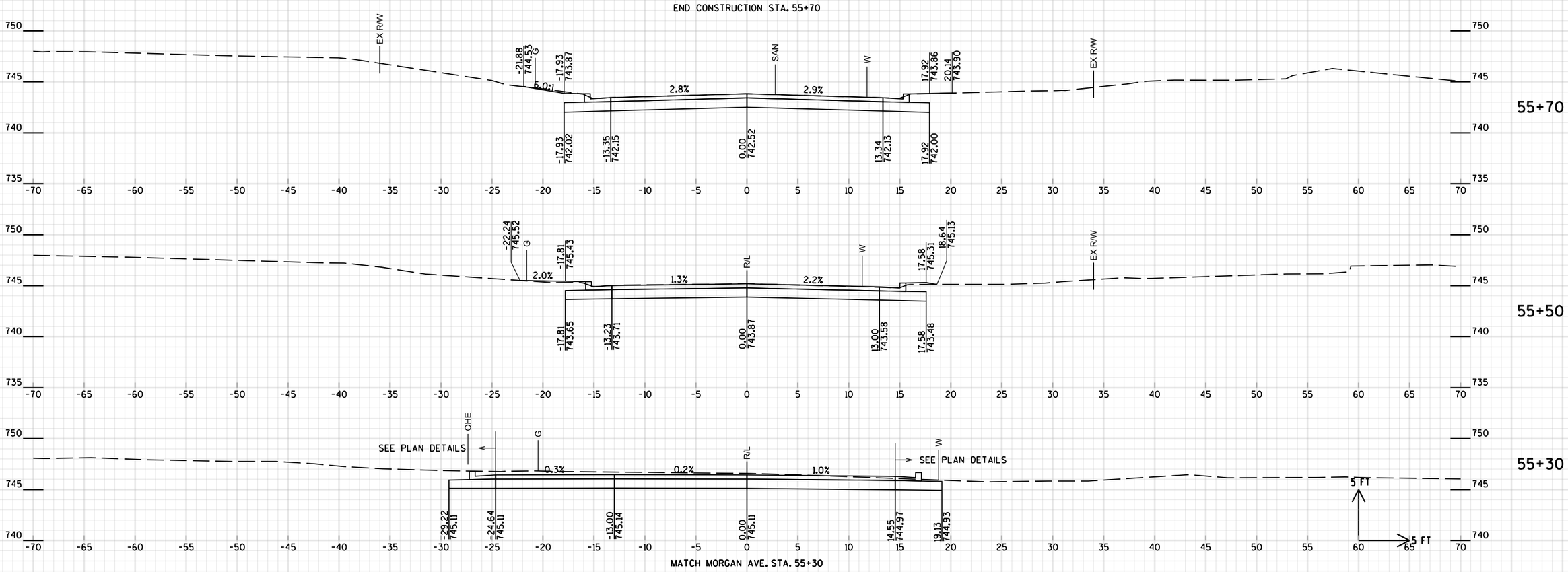
FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090202_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

END CONSTRUCTION STA. 45+60



9 9

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH SCHAUER AVENUE	SHEET 290 E

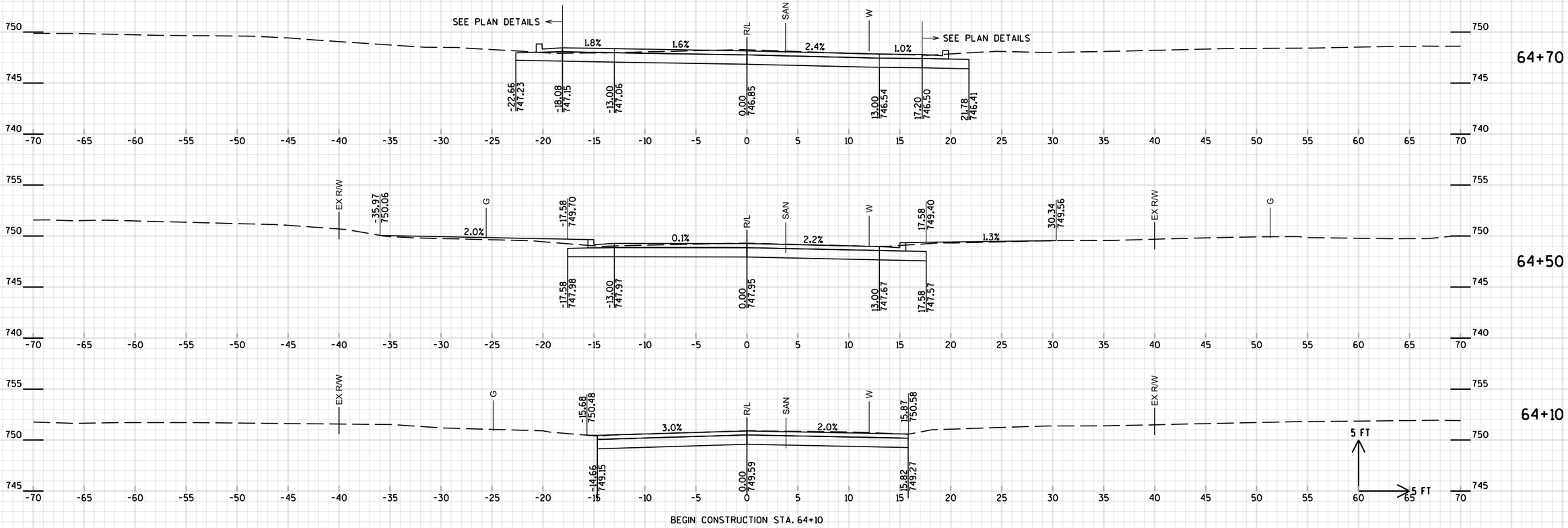


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PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH STROTHMANN DRIVE	SHEET 291	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090202_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

MATCH MORGAN AVE. STA. 64+70



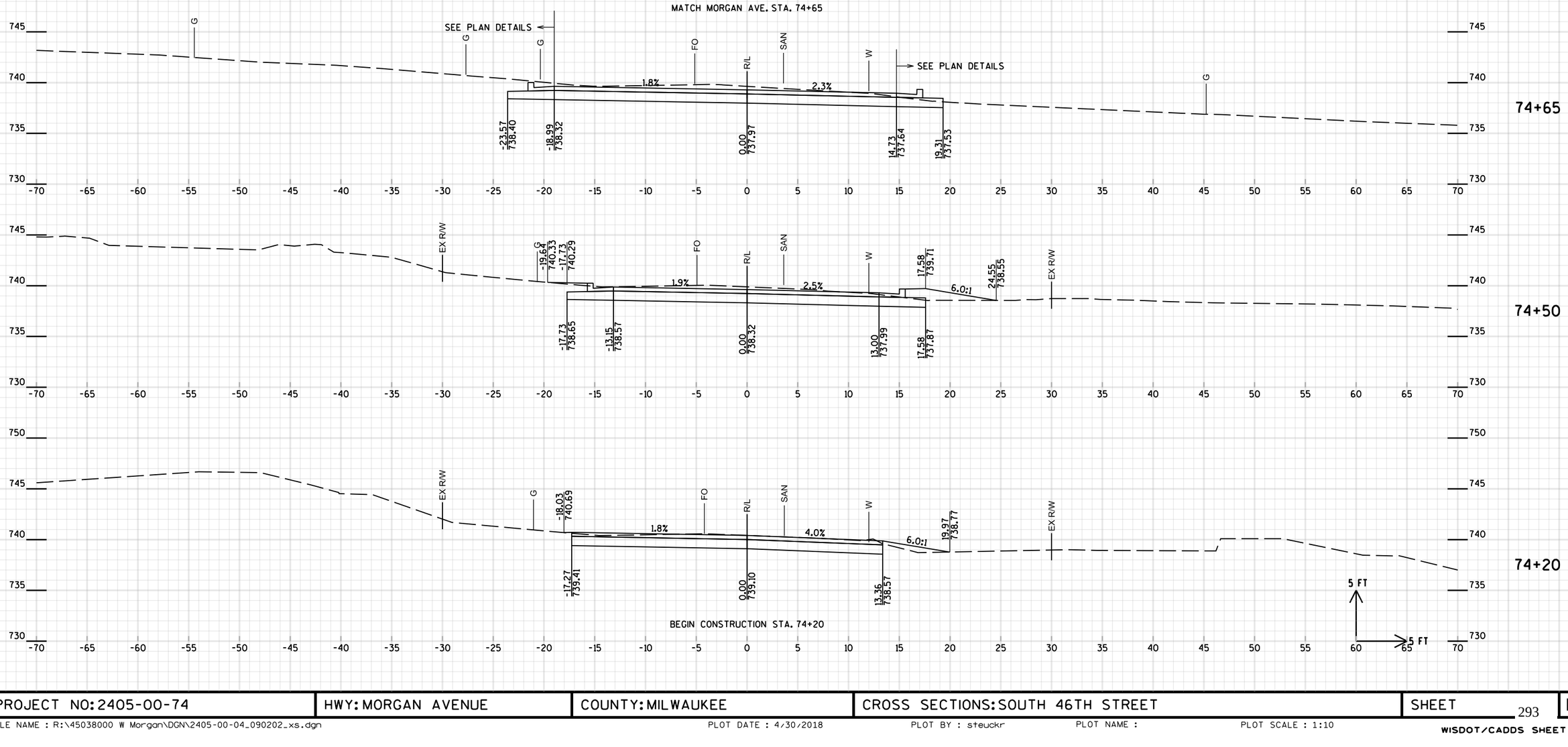
BEGIN CONSTRUCTION STA. 64+10

9 9

PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 47TH STREET	SHEET E

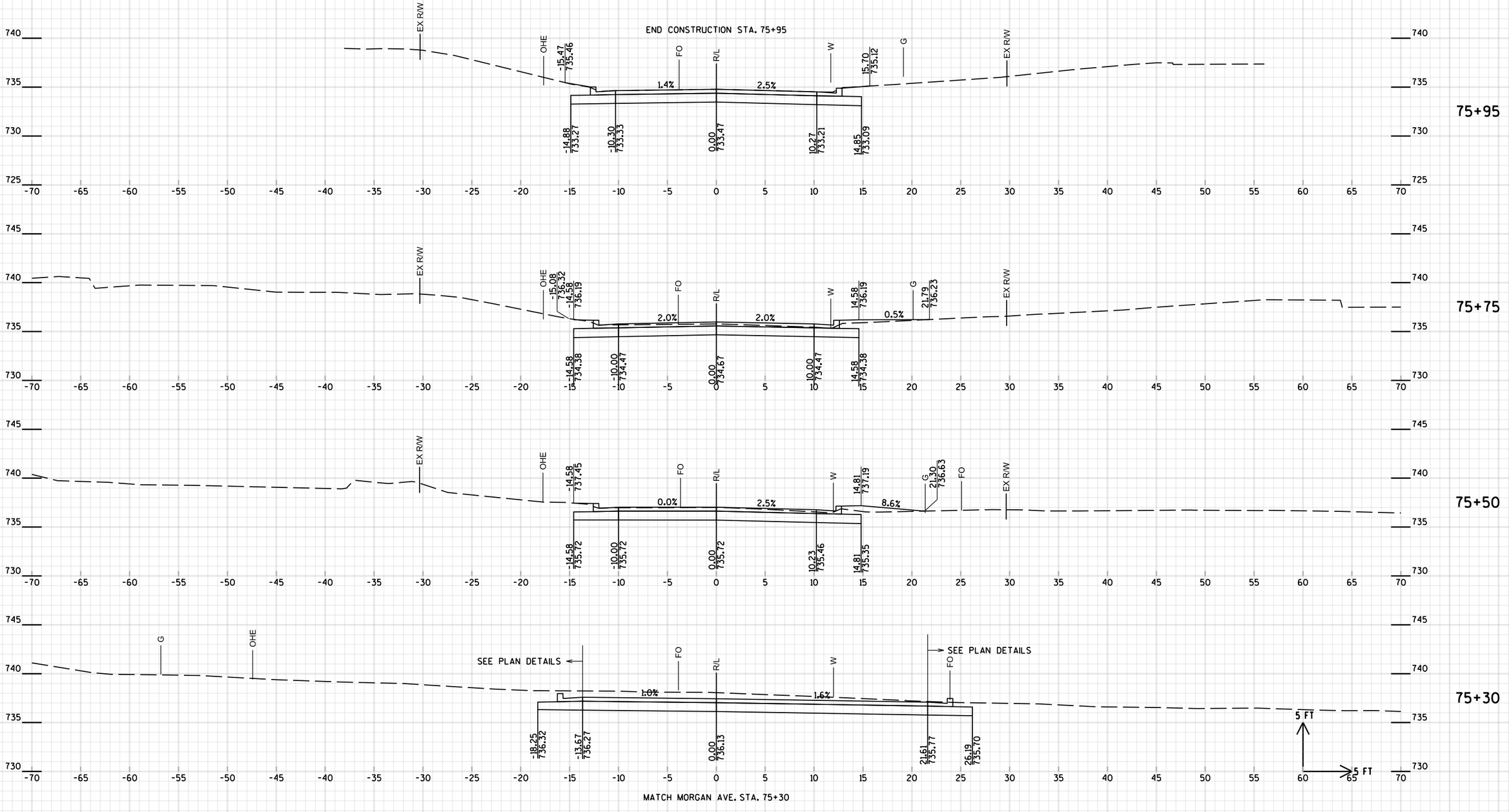
FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090202_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21



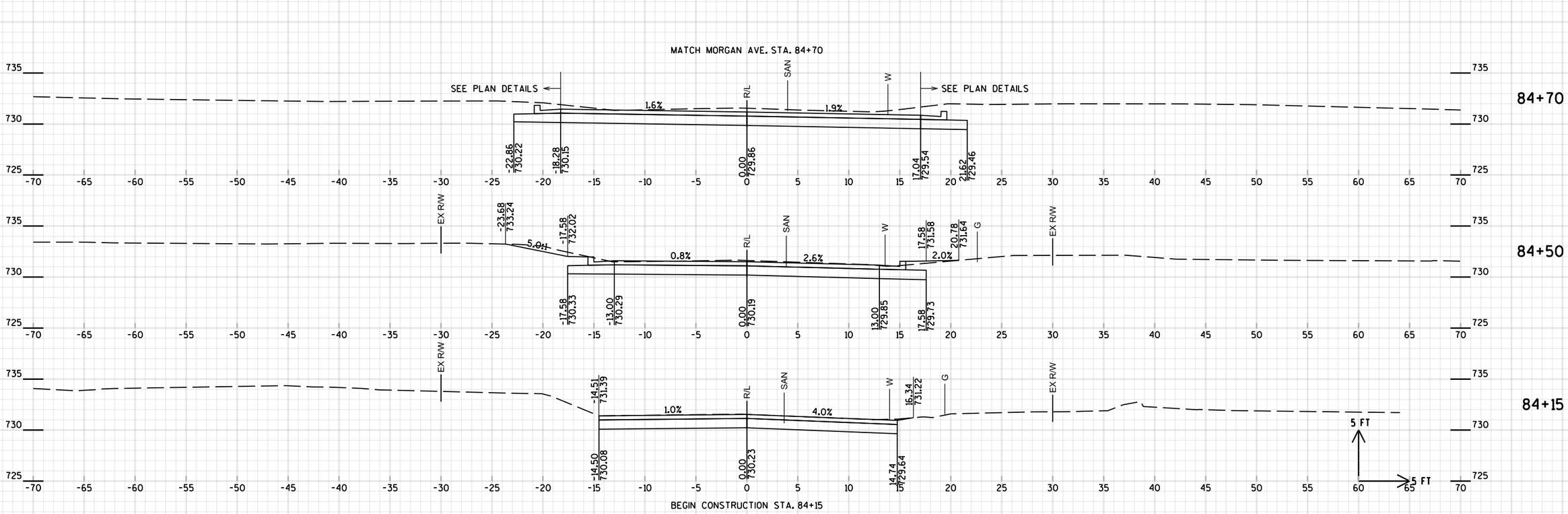
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PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 46TH STREET	SHEET 293	E



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 46TH STREET	SHEET 294 E

STA. 84+15 TO 84+70 1

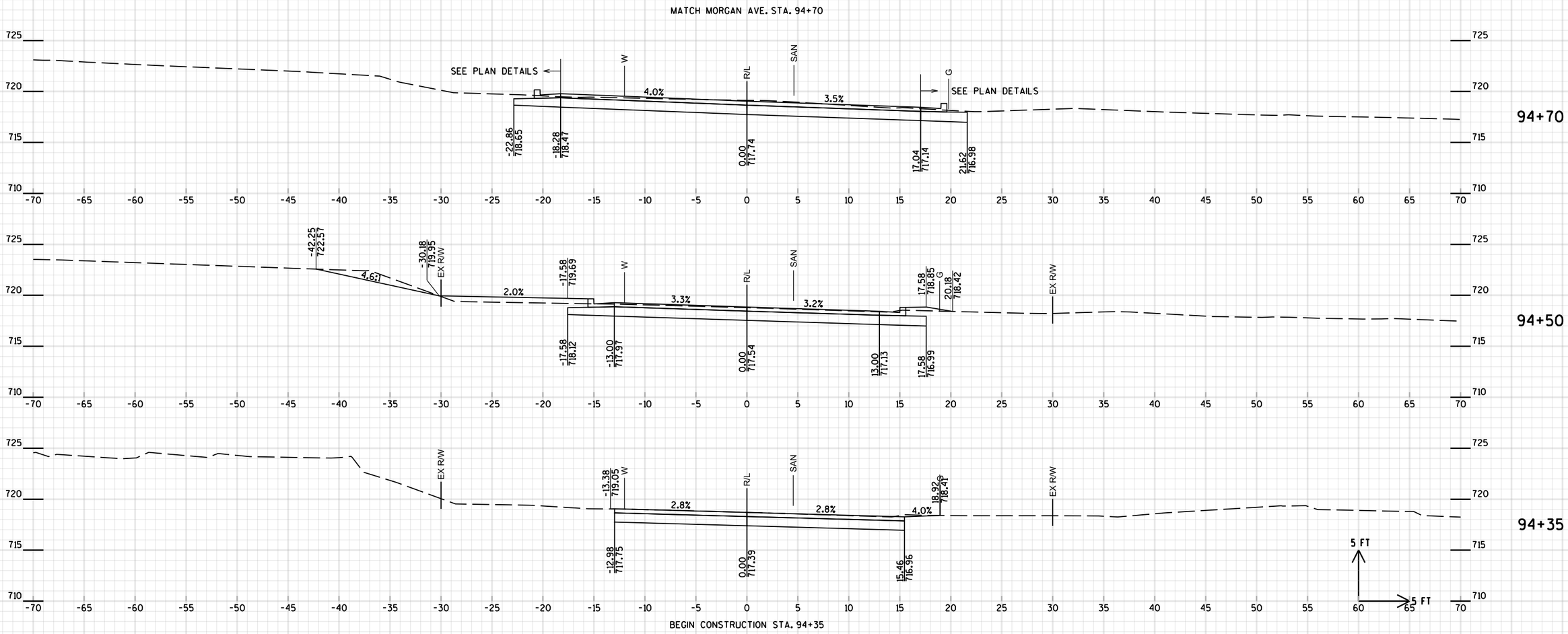


PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 45TH STREET	SHEET 295	E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090202_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

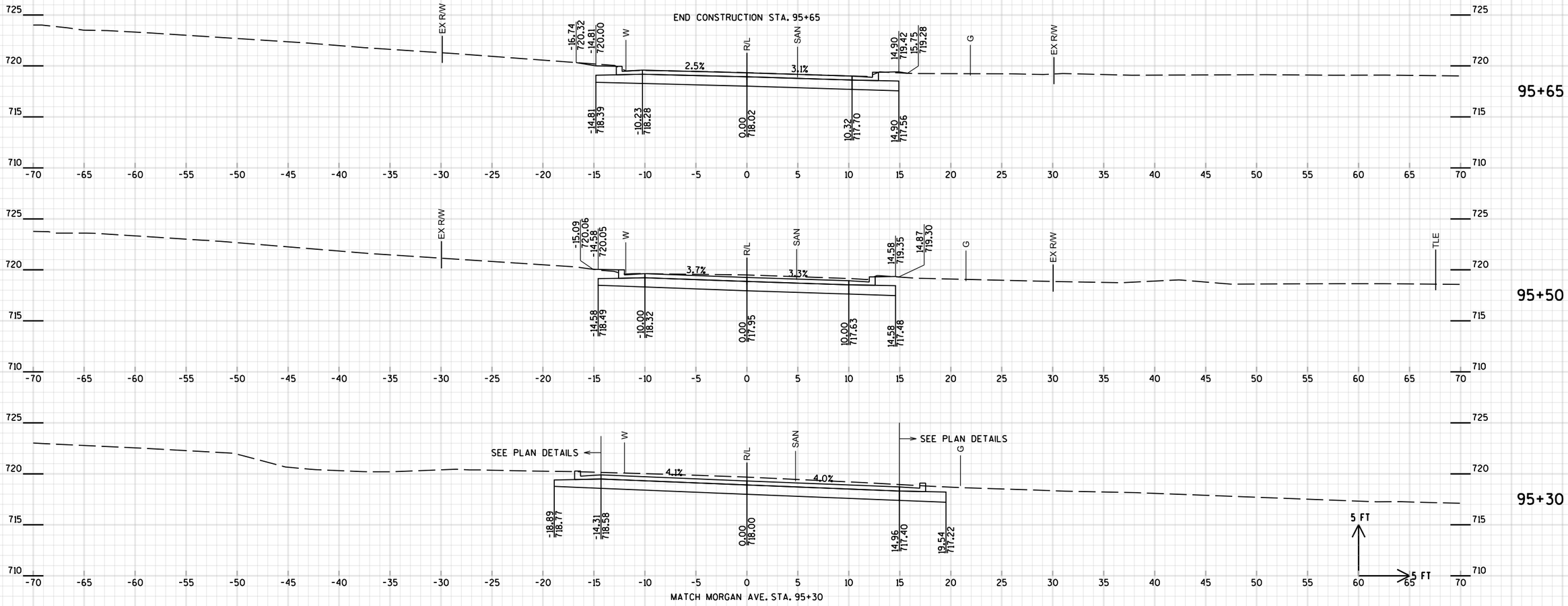
STA. 94+35 TO 94+70 1



PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 44TH STREET	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090202_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21



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PROJECT NO: 2405-00-74	HWY: MORGAN AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS: SOUTH 44TH STREET	SHEET E

FILE NAME : R:\45038000 W Morgan\DGN\2405-00-04_090202_xs.dgn PLOT DATE : 4/30/2018 PLOT BY : steuckr PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

Wisconsin Department of Transportation

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