

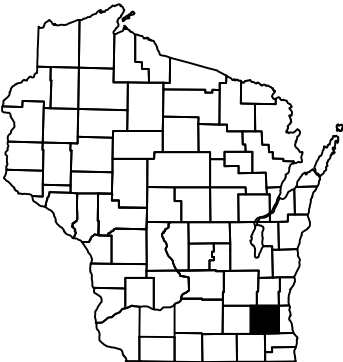
PROJECT ID: 1060-10-70

COUNTY: WAUKESHA

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 =



DESIGN DESIGNATION	ELMHURST	IH 94
A.A.D.T. 2020	= 2,800	70,350
A.A.D.T. 2040	= 3,100	77,700
D.H.V.	= 3080	-
D.D.	= 59-41	-
T.	= -	-
DESIGN SPEED	= 30 MPH	70 MPH
ESALS	= -	-

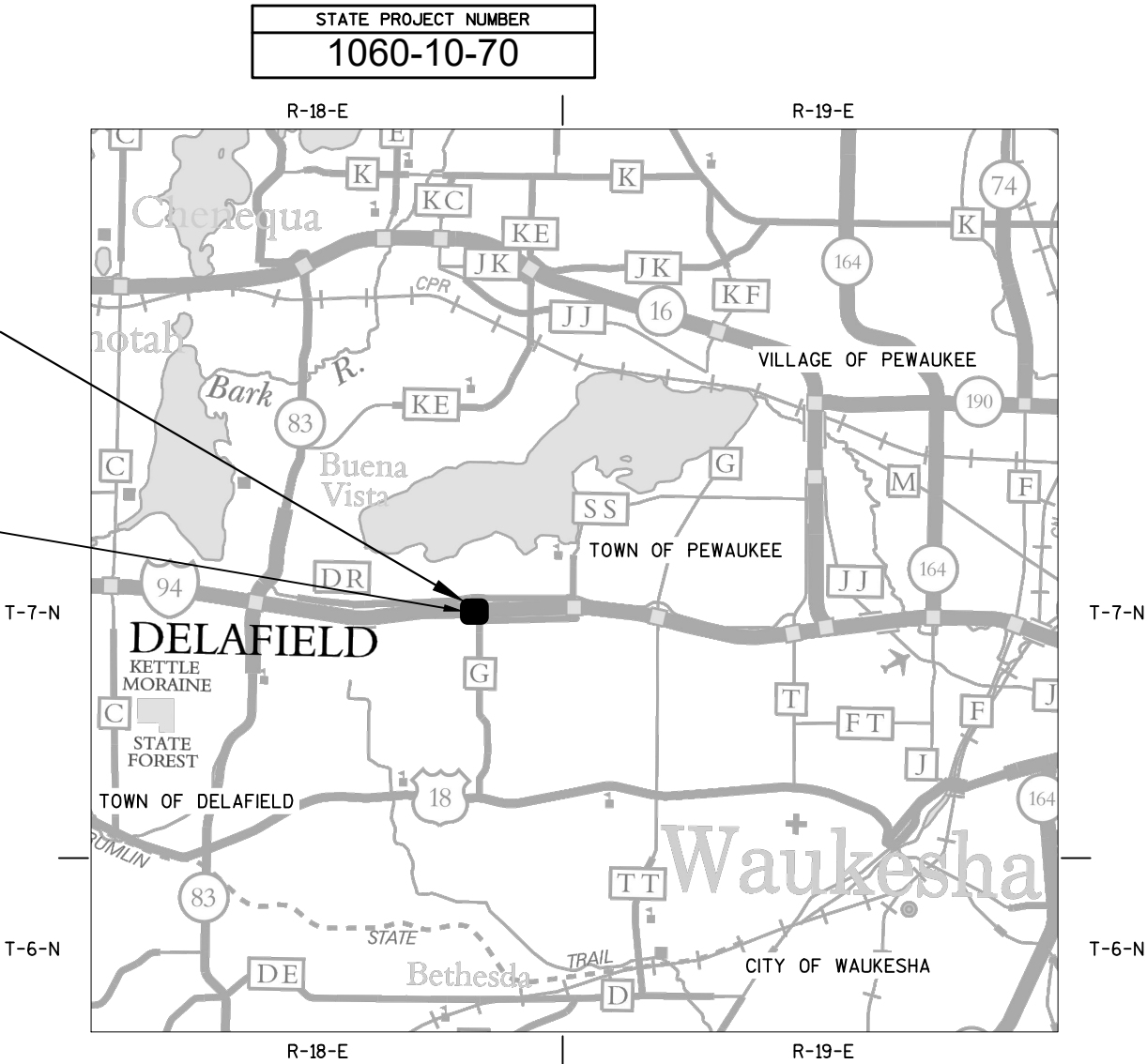
CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	---
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)	—
SPECIAL DITCH	—
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	—

PROJECT LOCATION
STA. 587+72.24
X = 658,147.1297
Y = 175,243.1219

STRUCTURE
B-67-59 (EXISTING)
B-67-369 (NEW)



LAYOUT
SCALE 0 1 MILE
TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2012)
HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, WAUKESHA COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
IH 94 EAST WEST FREEWAY
ELMHURST ROAD OVERPASS (B-67-0059)
IH 94
WAUKESHA COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1060-10-70		

DRAFT PS&E

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	SURVEYOR
Designer	WISDOT
Project Manager	SCOTT ANDERSON
Regional Examiner	
Regional Supervisor	WAFA-LEDAQ
APPROVED FOR THE DEPARTMENT	
DATE:	(Signature)

STANDARD ABBREVIATIONS

ASPH	ASPHALTIC
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C/L	CENTER OR CONSTRUCTION LINE
CONC	CONCRETE
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
D	LANE DISTRIBUTION
DHV	DESIGN HOURLY VOLUME
DIM	DIMENSION
EB	EASTBOUND
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
NB	NORTHBOUND
NORM	NORMAL
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION
PGL	PROFILE GRADE LINE
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RO	RUN OFF LENGTH
RT	RIGHT
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
SI	SLOPE INTERCEPT
STA	STATION
SY	SQUARE YARD
TYP	TYPICAL
VCL	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT
WB	WESTBOUND
V	DESIGN SPEED

- A
- B
- F

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- PLAN DETAILS
- PAVING GRADES
- EROSION CONTROL
- STORM SEWER PLAN
- PAVEMENT MARKING
- TRAFFIC CONTROL
- STAGE CONSTRUCTION
- DETOURS
- ALIGNMENT

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS
4 MT 58-28 S 3 MT 58-28 S	6"	2" UPPER LAYER 4" LOWER LAYER
3 MT 58-28 S	4"	4" SINGLE LAYER
4 MT 58-28 S 3 MT 58-28 S	4"	1 3/4" UPPER LAYER 2 1/4" LOWER LAYER

GENERAL NOTES

- NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
- ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES SHALL BE FILLED WITH GRANULAR BACKFILL.
- TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS.
- THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND ALL UTILITIES IN THE VICINITY OF THE PROJECT TO LOCATE THEIR FACILITIES AT LEAST THREE WORKING DAYS PRIOR TO BEGINNING WORK.
- PIPE ELEVATIONS SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.
- THE EROSION CONTROL FEATURES ARE SHOWN ON THE PLAN AND PROFILE SHEETS AT SUGGESTED LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED BY THE FIELD ENGINEER.
- EROSION CONTROL DEVICES ARE TO BE PLACED IN PROPER SEQUENCE WITH CONSTRUCTION OPERATIONS AND MAINTAINED THROUGHOUT THE PROJECT TO COMPETION OR AS DETERMINED BY THE ENGINEER.
- ADDITIONAL EROSION CONTROL NOTES AND INSTRUCTIONS MAY BE FOUND IN THE SPECIAL PROVISIONS.
- ALL PAVEMENT MARKING STATIONS ARE APPROXIMATE AND ARE TO BE VERIFIED BY THE ENGINEER IN THE FIELD.

DRAFT

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PEWAUKEE LAKE SANITARY DIST.
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TW TELECOM
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WAUKESHA WATER UTILITY
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CONTACTUS@WAUKESHA-WATER.COM

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WISDOT SIGNALS
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SIGNAL OPERATIONS LEAD WORKER
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WAUKESHA CO. AIRPORT (CRITES FIELD)
MR. KURT STANICH, AIRPORT MANAGER
2525 AVIATION DRIVE
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WAUKESHA METRO
BRIAN ENGELKING
TRANSIT MANAGER
2311 BADGER DRIVE
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TO OBTAIN LOCATION OF
PARTICIPANTS' UNDERGROUND
FACILITIES BEFORE YOU DIG IN
WISCONSIN

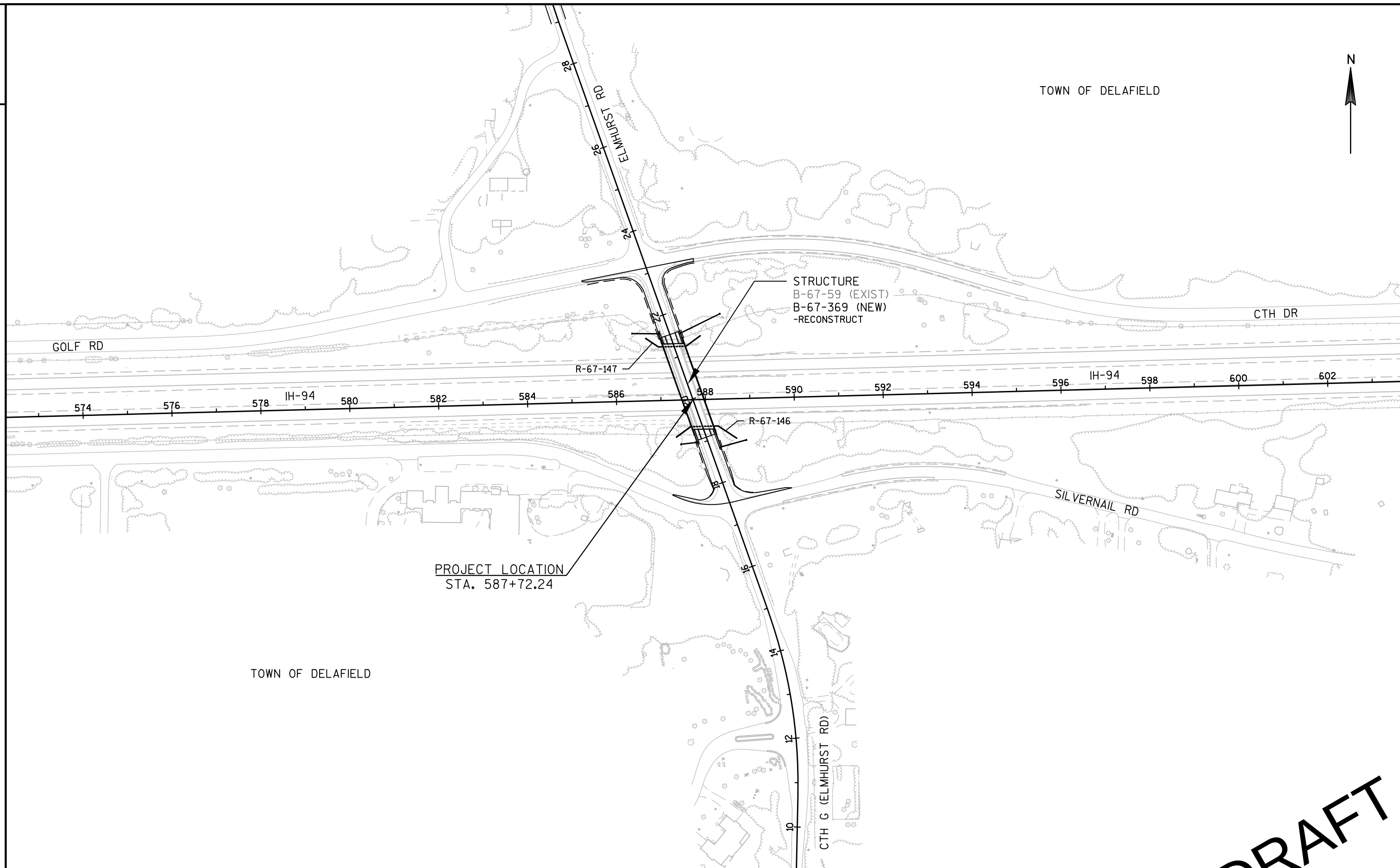
WIS. STATUTE 182.0175 (1974)
REQUIRES MIN. OF 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE

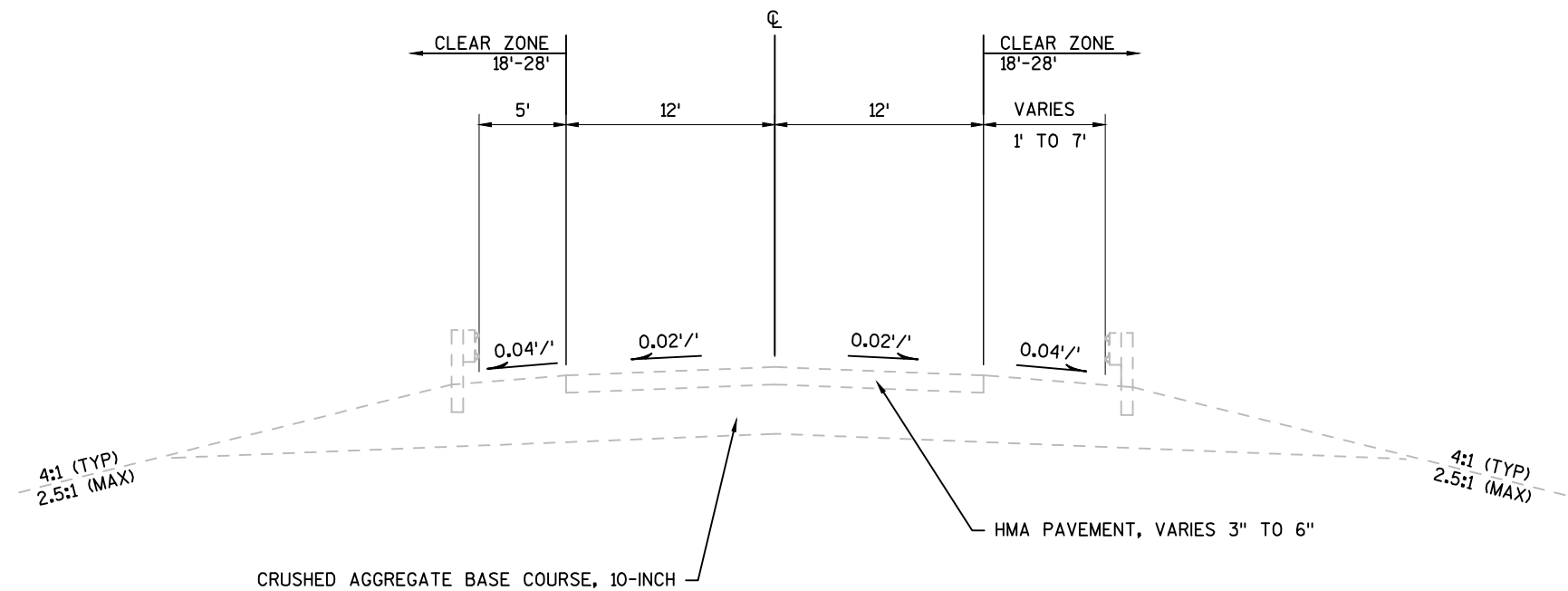


Dial  or (800) 242-8511

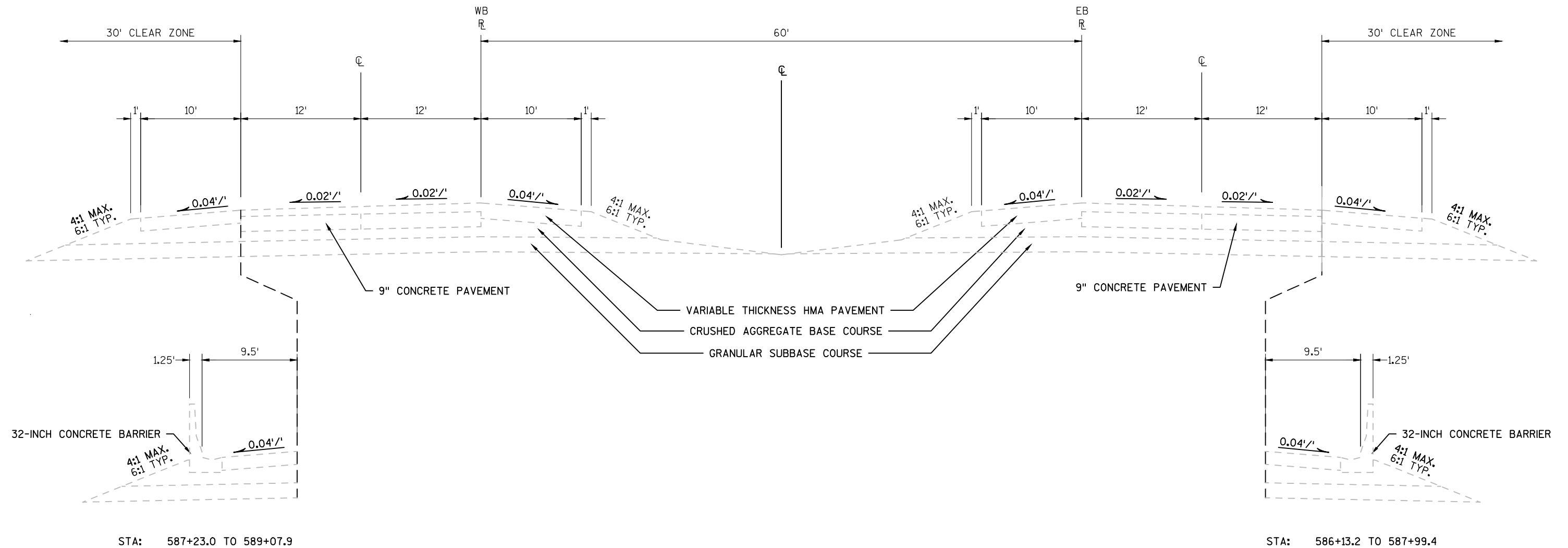
www.DiggersHotline.com

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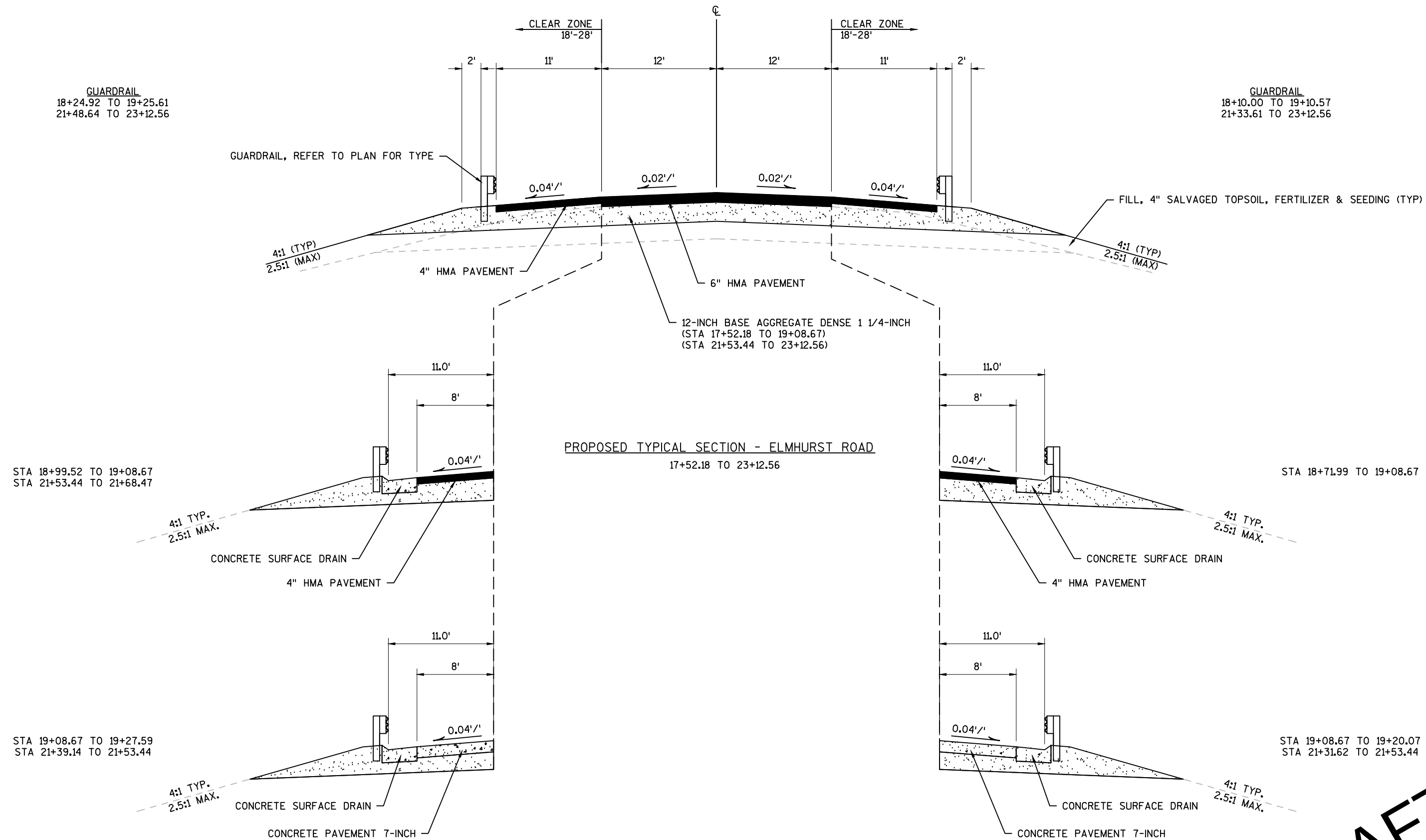


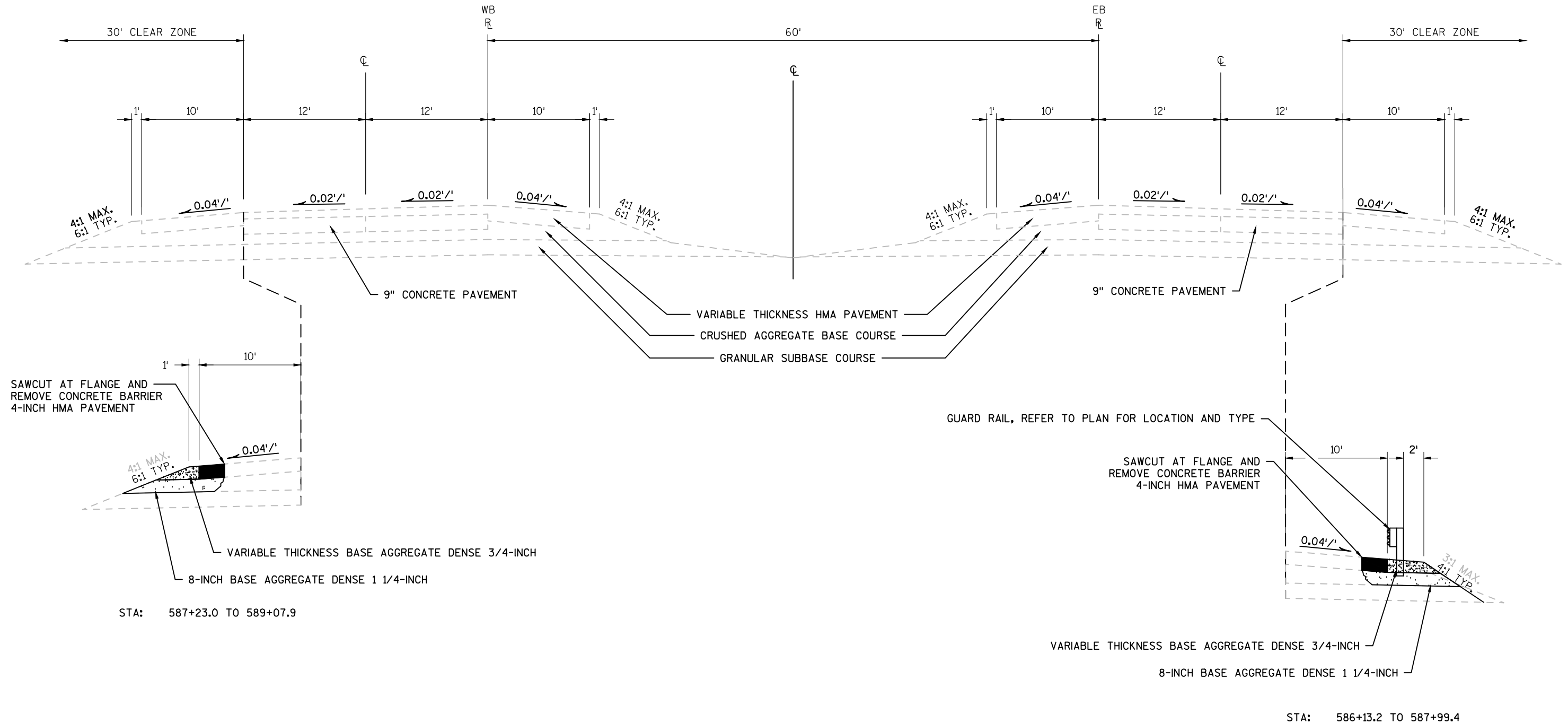


EXISTING TYPICAL SECTION - ELMHURST ROAD
17+52.18 TO 23+12.56

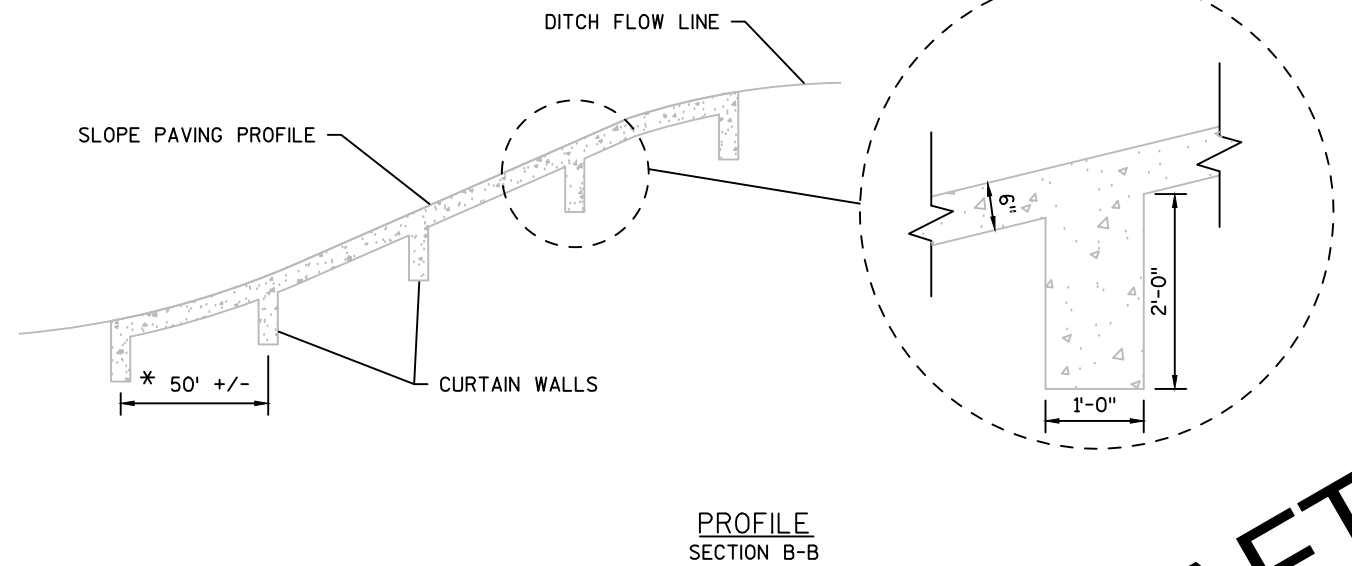
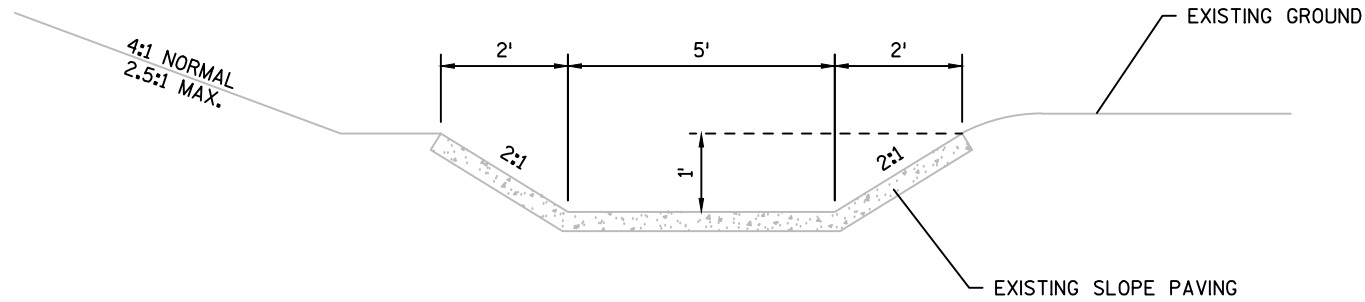
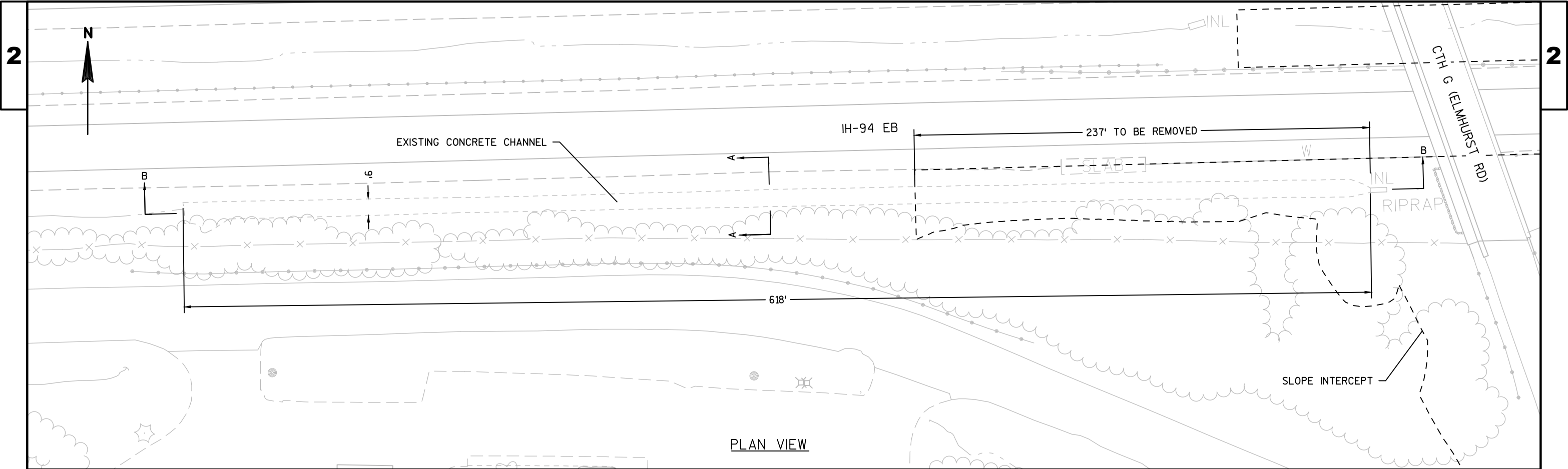


EXISTING TYPICAL SECTION - IH 94 (AT ELMHURST RD)
584+93 TO 589+08





PROPOSED TYPICAL SECTION - IH 94 (AT ELMHURST RD) - BARRIER REMOVAL



CONCRETE CHANNEL REMOVAL

PROJECT NO:1060-10-70

HWY:IH-94

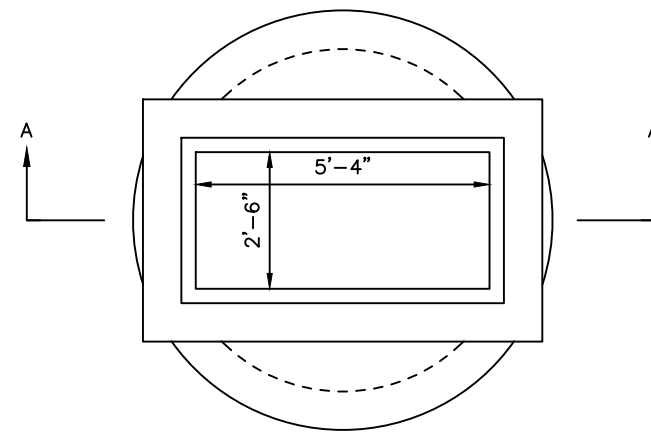
COUNTY:WAUKESHA

CONSTRUCTION DETAIL

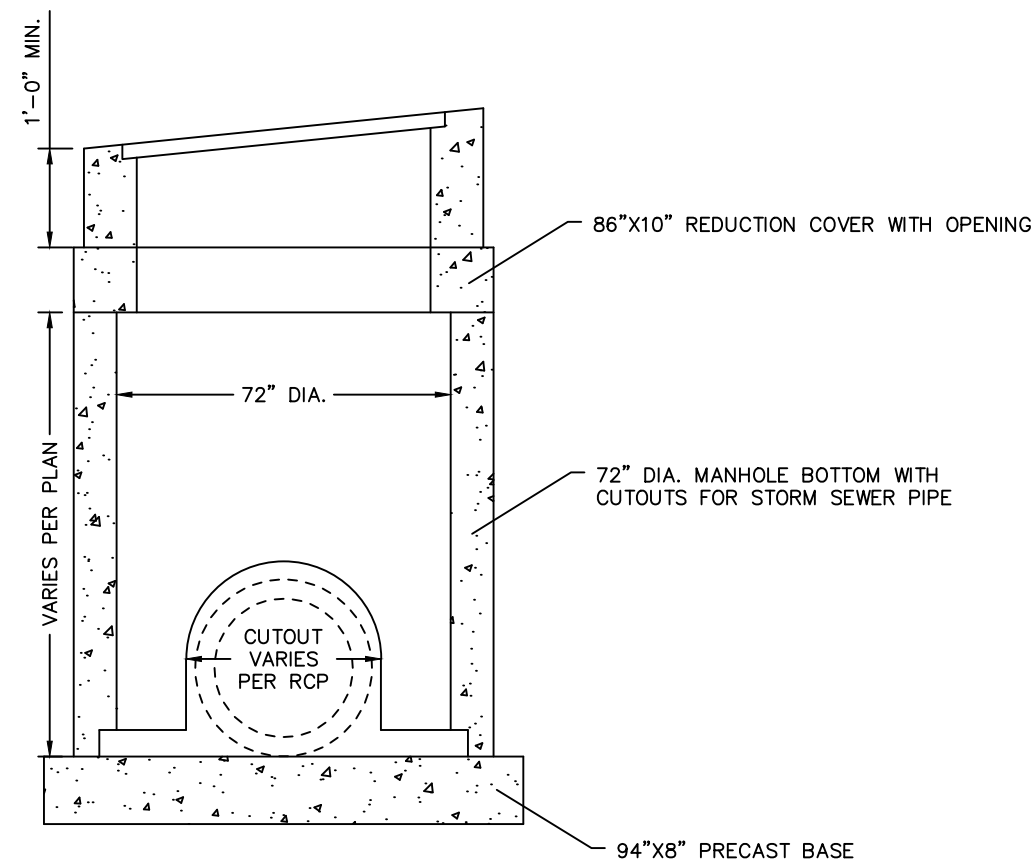
SHEET

PRE_9

E

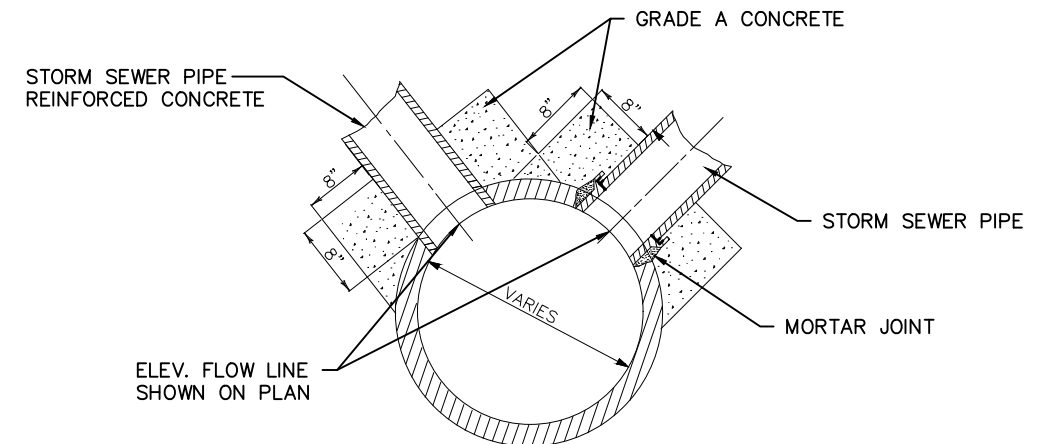


PLAN VIEW

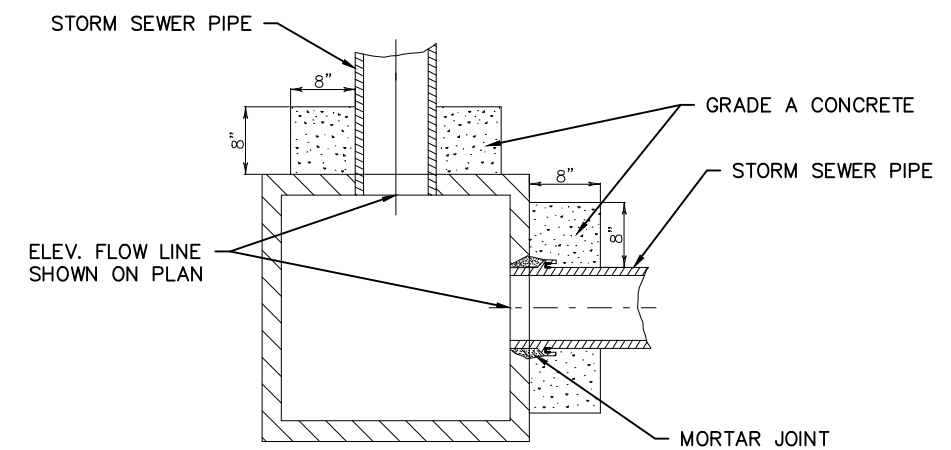


SECTION A-A

INLETS MEDIAN SPECIAL 2G-MS



AT MANHOLE
INCIDENTAL TO NEW STRUCTURE ITEMS WHEN
NEW PIPE CONNECTS TO NEW STRUCTURE



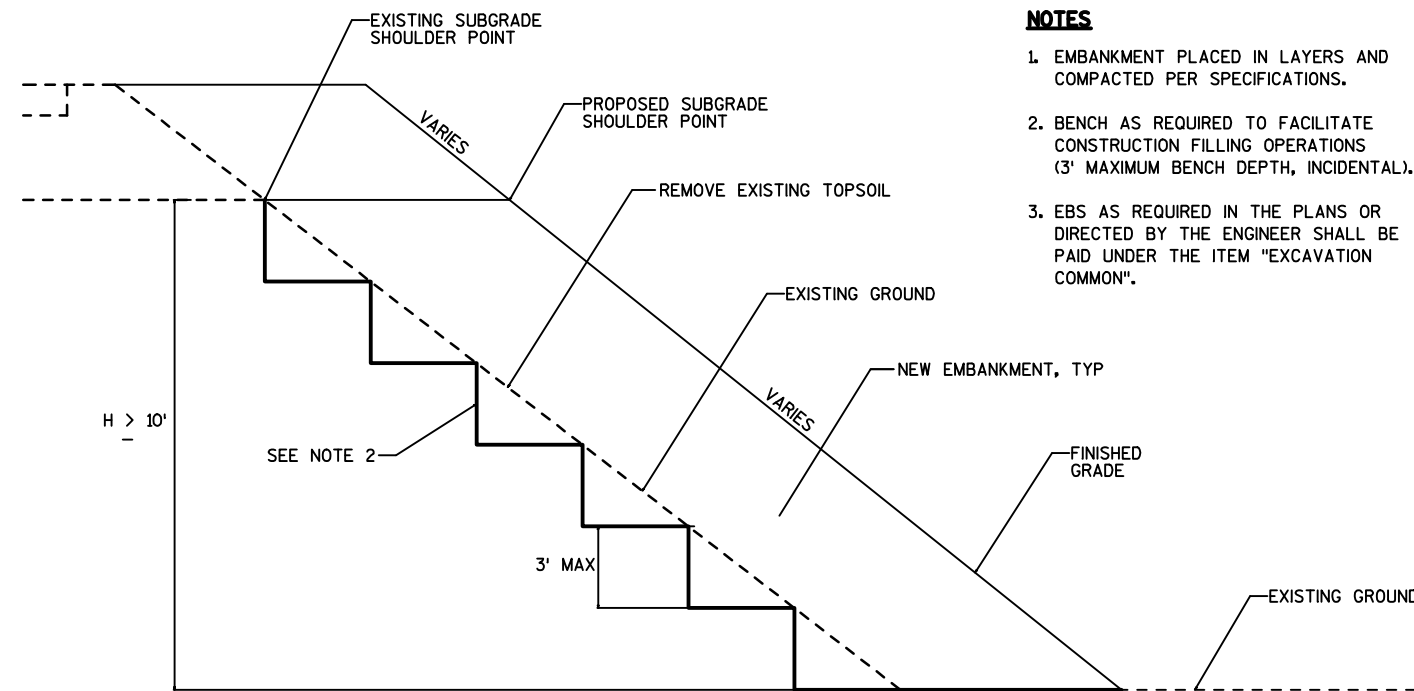
AT STORM SEWER INLET
INCIDENTAL TO NEW STRUCTURE ITEMS WHEN
NEW PIPE CONNECTS TO NEW STRUCTURE

NOTES:

- CONCRETE COLLAR INCIDENTAL TO THE SPECIAL PROVISION "RECONNECT STORM SEWER LATERAL" WHEN CONNECTING AND EXISTING PIPE TO A NEW STRUCTURE.
- CONCRETE COLLAR TO BE PAID AS A BID ITEM WHEN CONNECTING A NEW PIPE TO AN EXISTING STRUCTURE

CONCRETE COLLAR DETAIL

DRAFT

**NOTES**

1. EMBANKMENT PLACED IN LAYERS AND COMPACTED PER SPECIFICATIONS.
2. BENCH AS REQUIRED TO FACILITATE CONSTRUCTION FILLING OPERATIONS (3' MAXIMUM BENCH DEPTH, INCIDENTAL).
3. EBS AS REQUIRED IN THE PLANS OR DIRECTED BY THE ENGINEER SHALL BE PAID UNDER THE ITEM "EXCAVATION COMMON".

STEPPED EMBANKMENT**DRAFT**

NOTES:

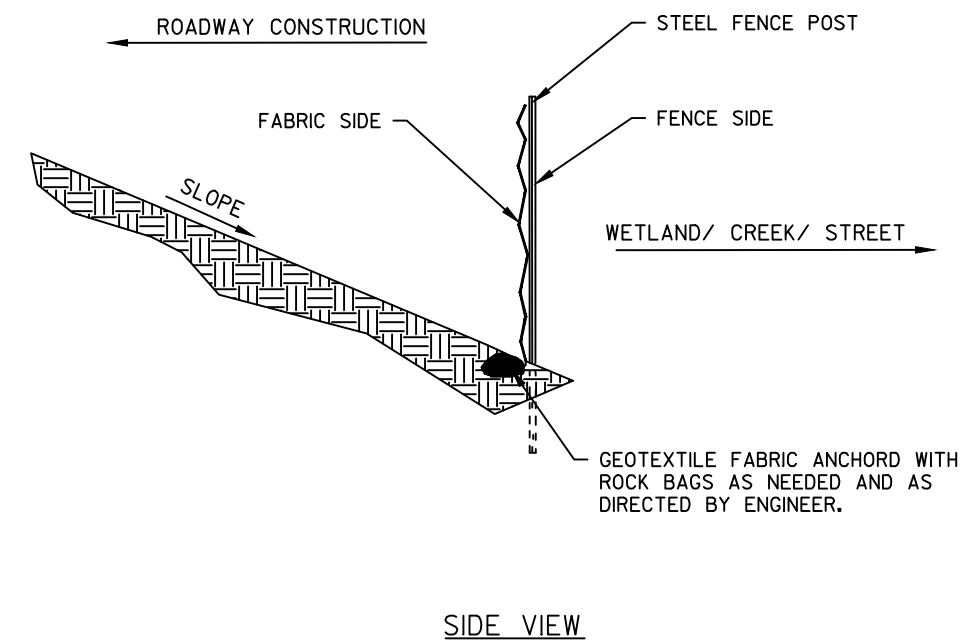
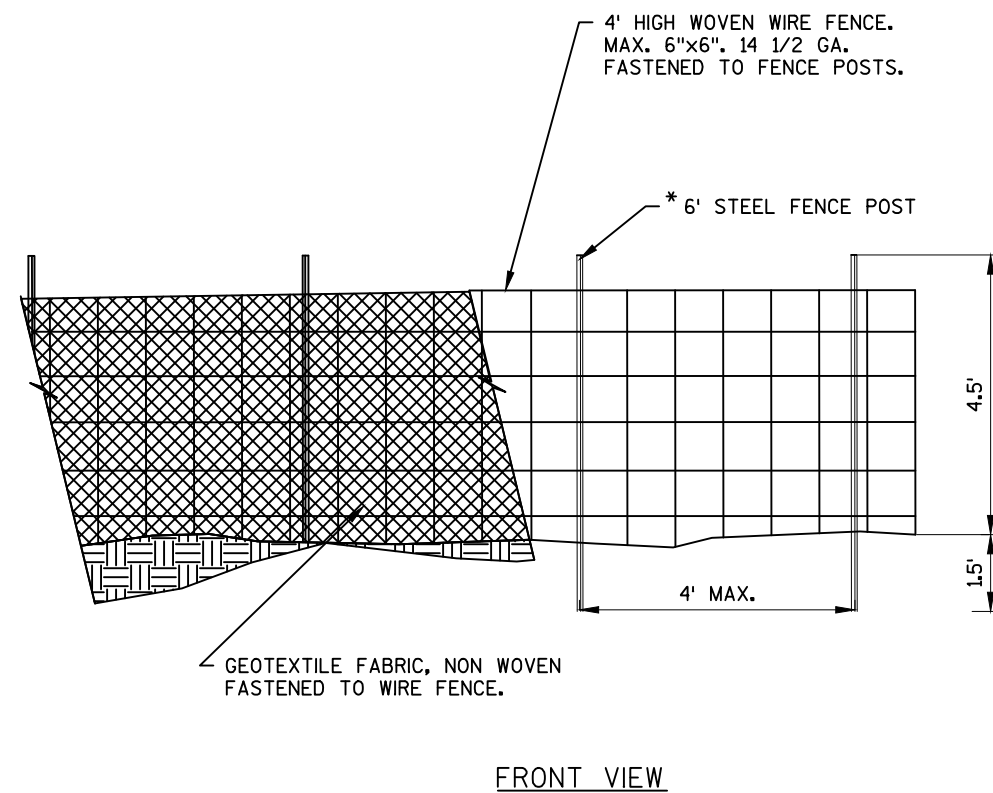
INSTALL SILT FENCE WITH MINIMUM 4" WIDE TRENCH & 6" MINIMUM TO BURY AND ANCHOR GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL. SEE STANDARD DETAIL 8 E 9-6 FOR TENCH DETAIL.

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 DEGRESS. B) HOOK THE END OF EACH SILT FENCE LENGTH.

OFF SET SILT FENCE 10 FEET OUTSIDE OF SLOPE INTERCEPT (SI) WHEN POSSIBLE.

USE 14 GAUGE GALVANIZED WIRE TO FASTEN SILT FENCE TO WELDED WIRE.

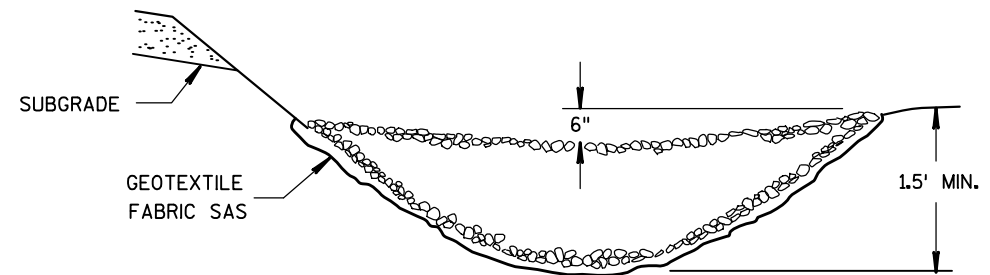
REFERENCE STANDARD DETAIL FOR JOINING TWO LENGHTS OF SILT FENCE AND TYPICAL APPLICATION OF SILT FENCE.



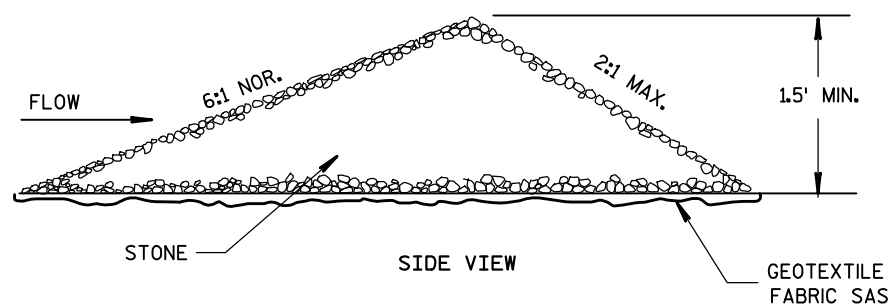
HEAVY DUTY SILT FENCE

* ADD GUY SUPPORTS TO SLOPE WHERE REQUIRED.

DRAFT



CROSS SECTIONAL VIEW



SIDE VIEW

TEMPORARY STONE DITCH CHECK

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.

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

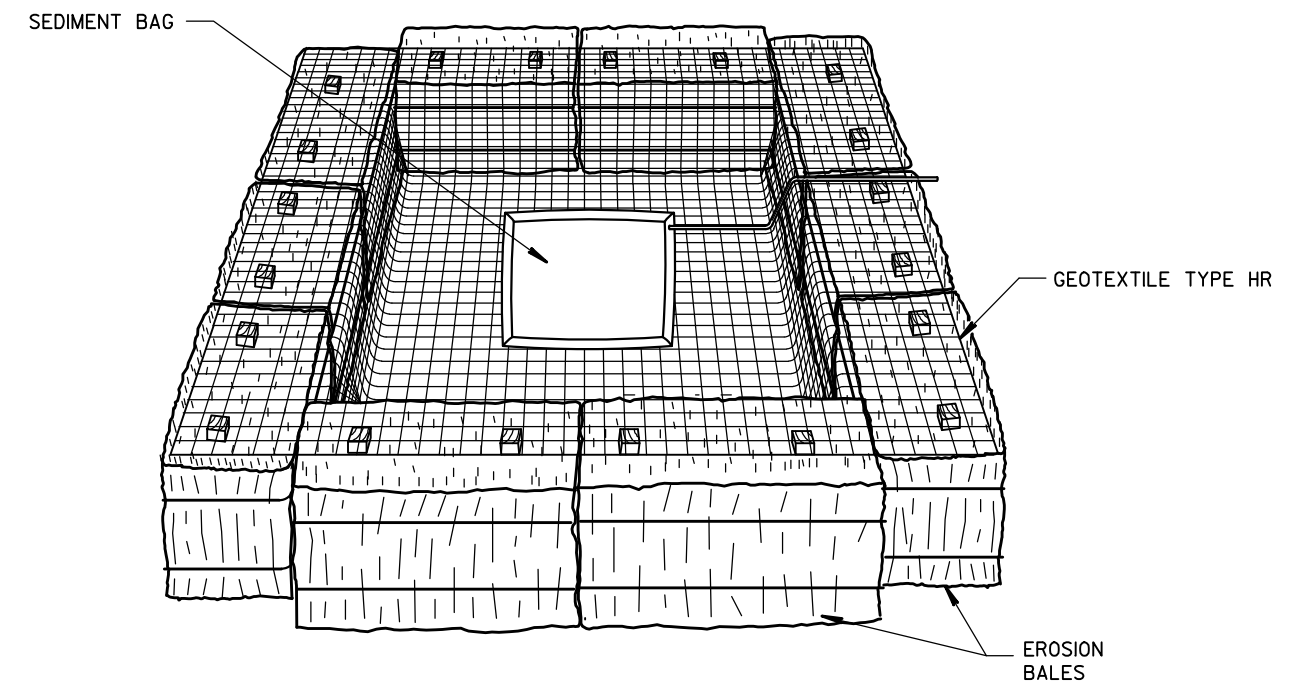
USE A 20 FT. X 27 FT. BASIN

NOTES

1) CONTRACTOR TO PUMP WATER FROM EXCAVATION TO SEDIMENT BAG INSIDE BASIN PRIOR TO DISCHARGING TO THE WATERWAY, SEDIMENT BAG TO BE PLACED IN AN UPLAND VEGETATED AREA OR EQUIVALENT LOCATION APPROVED BY THE ENGINEER.

2) BASIN TO BE KEPT LESS THAN 10% FULL OF SEDIMENT. GEOTEXTILE FABRIC AND SEDIMENTS TO BE DISPOSED BY THE CONTRACTOR OFF THE PROJECT SITE.

3) TEMPORARY SETTLING BASIN AND SEDIMENT BAG TO BE PAID FOR AS EROSION BALES AND GEOTEXTILE TYPE HR.



TEMPORARY SETTLING BASIN

(SIZE TO BE DETERMINED IN FIELD)

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LEGEND

- A** HMA PAVEMENT 4 MT 58-28 S, 2-INCH OVER
HMA PAVEMENT 3 MT 58-28 S, 4-INCH
- B** HMA PAVEMENT 3 MT 58-28 S, 4-INCH
- F** HMA PAVEMENT 4 MT 58-28 S, 1 3/4-INCH OVER
HMA PAVEMENT 3 MT 58-28 S, 2 1/4-INCH
- AG01** BASE AGGREGATE DENSE 3/4-INCH
- CP01** CONCRETE PAVEMENT 7-INCH
- PV01** CONCRETE PAVEMENT APPROACH SLAB
- PV03** CONCRETE SURFACE DRAINS
- BG02** STEEL THRIE BEAM STRUCTURE APPROACH
- BG04** STEEL PLATE BEAM GUARD CLASS A
- BG07** STEEL PLATE BEAM GUARD SHORT RADIUS
- BG09** STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
- BG10** GUARD RAIL MOW STRIP ASPHALT
- BG15** MGS GUARDRAIL 3
- BG16** MGS THRIE BEAM TRANSITION
- BG17** MGS GUARDRAIL TERMINAL EAT
- FE45** FENCE WOVEN WIRE 4.5-FEET
- IN01** DROP INLET
- SW01** SAWING ASPHALT FULL DEPTH

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2

2

LEGEND

CLEARING AND GRUBBING (I.D.)

CLEARING AND GRUBBING (STATION)

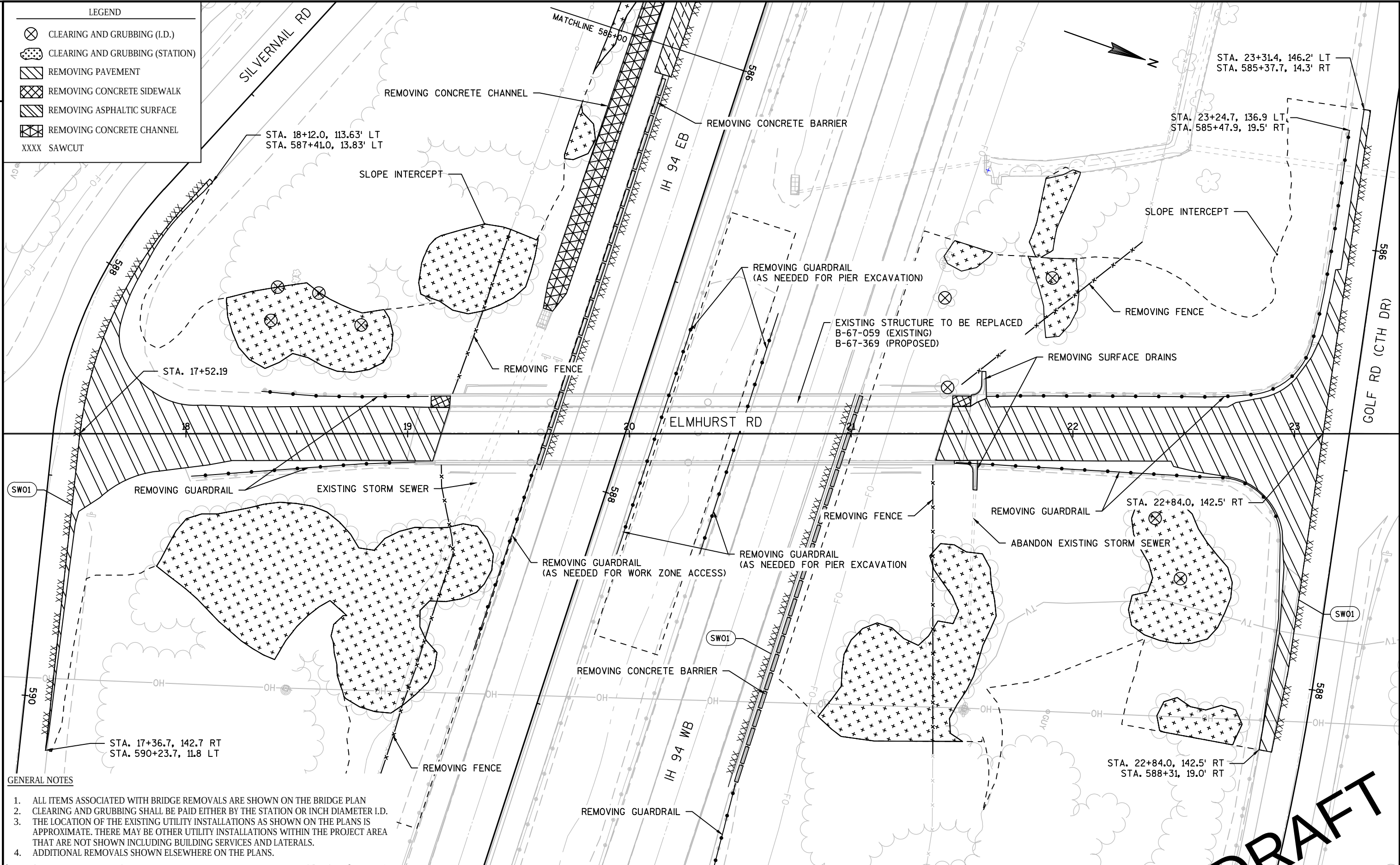
REMOVING PAVEMENT

REMOVING CONCRETE SIDEWALK

REMOVING ASPHALTIC SURFACE

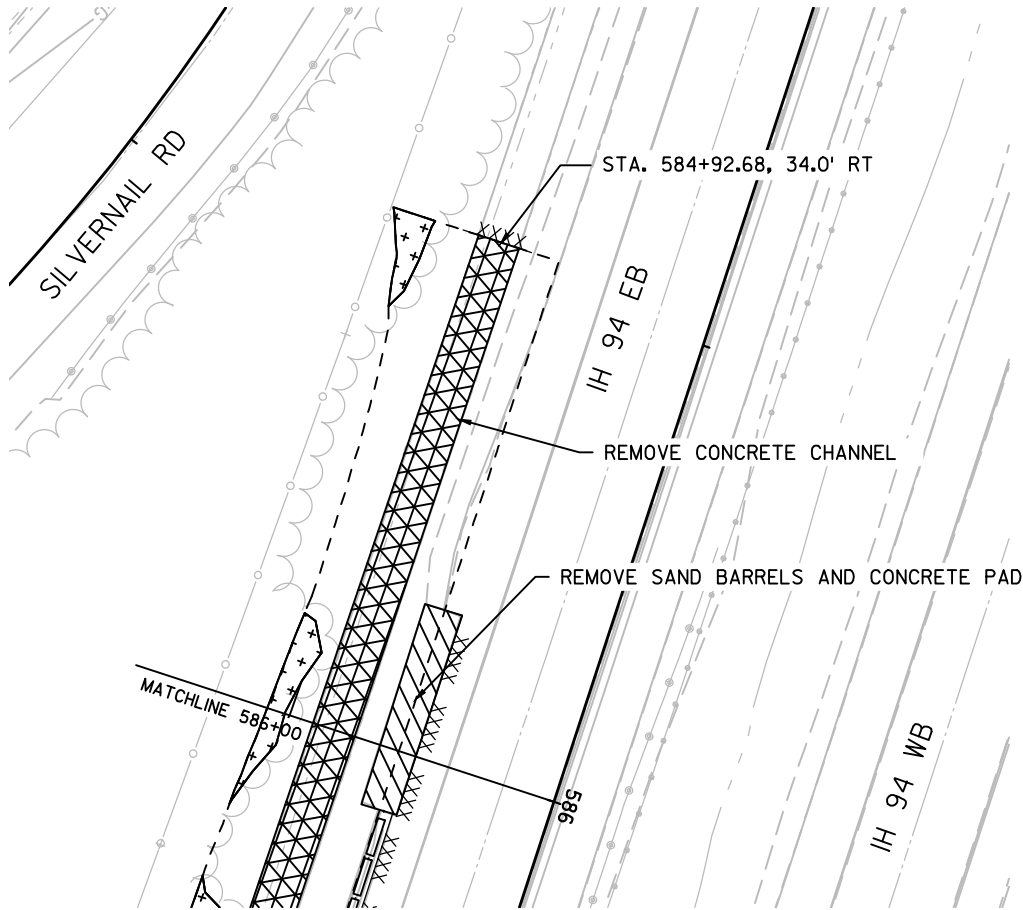
REMOVING CONCRETE CHANNEL

XXXX SAWCUT



GENERAL NOTES

1. ALL ITEMS ASSOCIATED WITH BRIDGE REMOVALS ARE SHOWN ON THE BRIDGE PLAN
2. CLEARING AND GRUBBING SHALL BE PAID EITHER BY THE STATION OR INCH DIAMETER I.D.
3. THE LOCATION OF THE EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN INCLUDING BUILDING SERVICES AND LATERALS.
4. ADDITIONAL REMOVALS SHOWN ELSEWHERE ON THE PLANS.

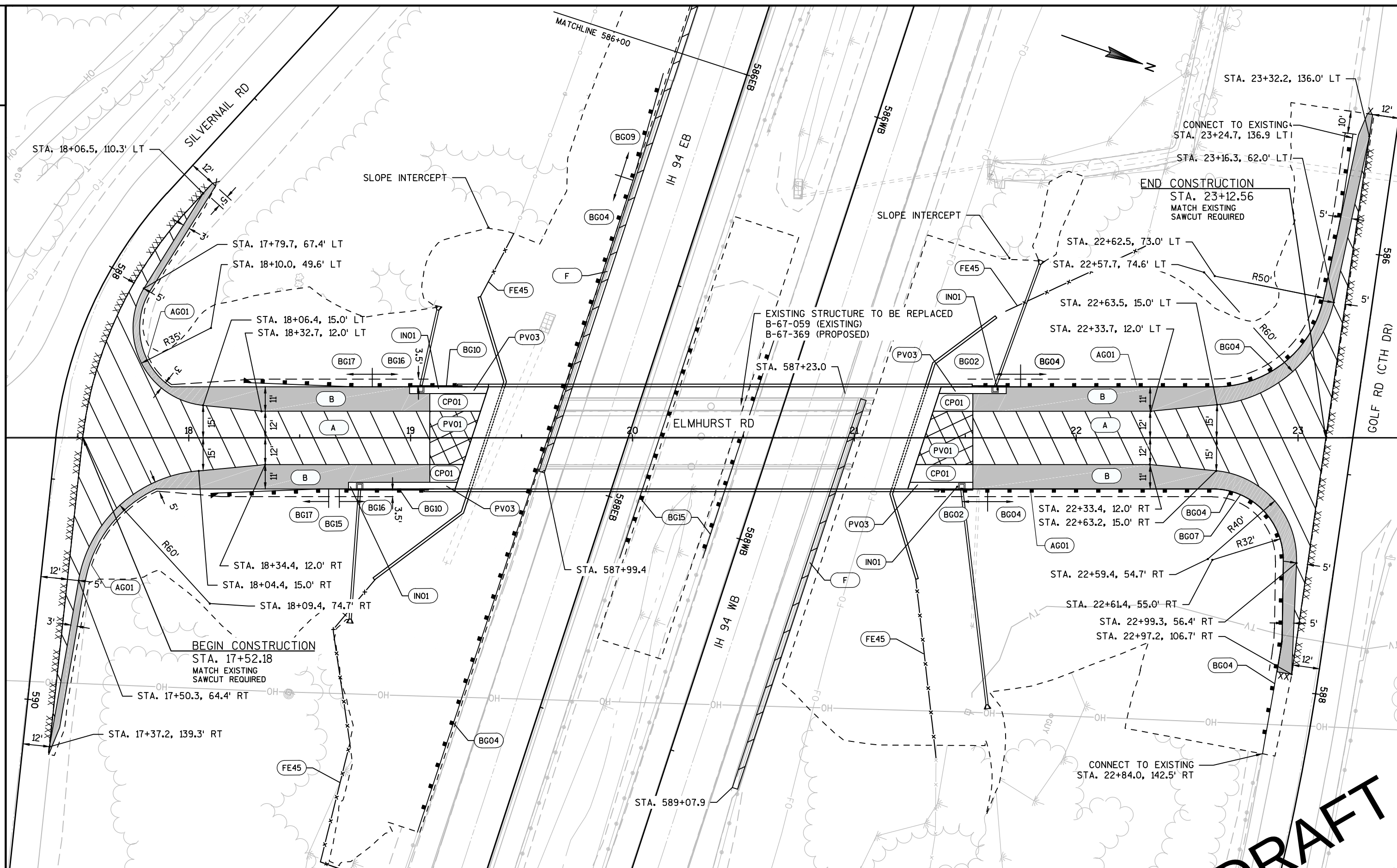


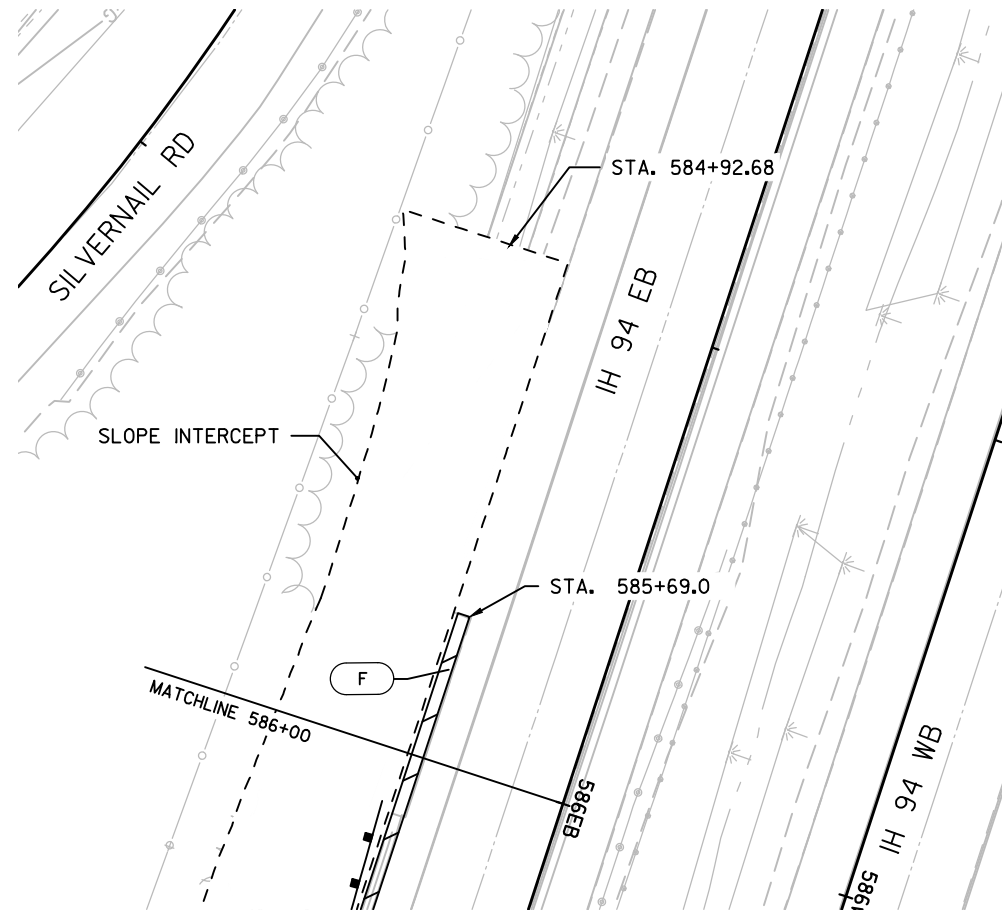
LEGEND

- CLEARING AND GRUBBING (I.D.)
- CLEARING AND GRUBBING (STATION)
- REMOVING PAVEMENT
- REMOVING CONCRETE SIDEWALK
- REMOVING ASPHALTIC SURFACE
- REMOVING CONCRETE CHANNEL
- XXXX SAWCUT

GENERAL NOTES

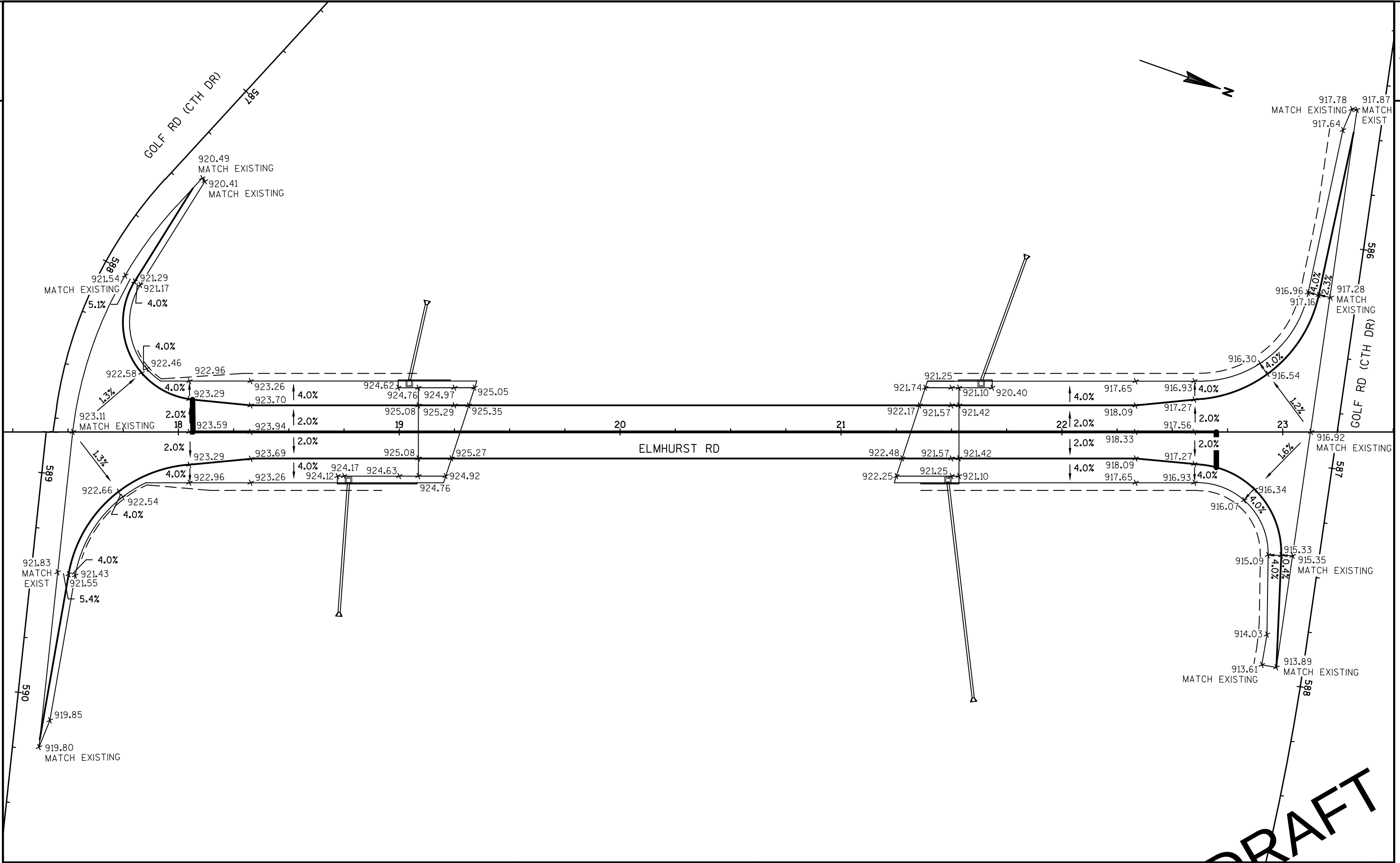
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2

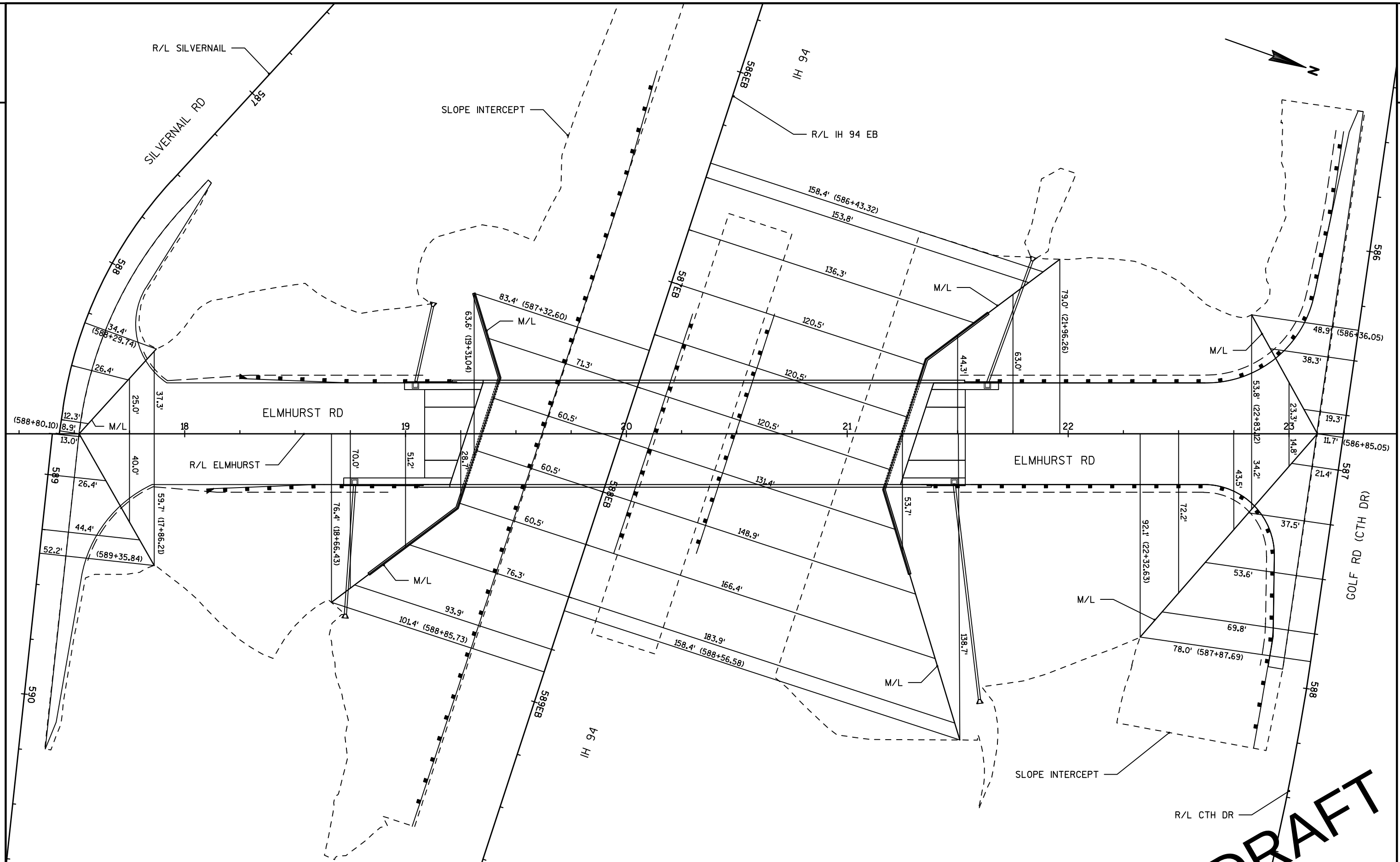
2



PROJECT NO:1060-10-70	HWY:IH-94	COUNTY:WAUKESHA	PAVING GRADES	SHEET
FILE NAME : N:\PDS\C3D\10601000\SHEETS\PLAN\RAFT PSE\PLAN\10601070\021301_JD ELMHURST.DWG		PLOT DATE : 3/14/2018 7:07 AM		PLOT BY : JOHANSEN, AMANDA A PLOT NAME :
LAYOUT NAME : 021301_ID		PLOT SCALE : 1 IN:40 FT		WISDOT/CADDs SHEET 42

2

2



PROJECT NO:1060-10-70	HWY:IH-94	COUNTY:WAUKESHA	CROSS SECTION MATCHLINES - ELMHURST	SHEET PRE_20 E
FILE NAME : N:\PDS\C3D\10601000\SHEETSP\N\RAFT PSE\PLAN\10601070\021701_XM ELMHURST.DWG		PLOT DATE : 3/29/2018 1:29 PM		PLOT BY : JOHANSEN, AMANDA A PLOT NAME :
LAYOUT NAME : 021701_XM		PLOT SCALE : 1 IN:40 FT		WISDOT/CADDs SHEET 42

**LEGEND**

- SILT FENCE
- HEAVY DUTY SILT FENCE
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT
- ⊗ INLET PROTECTION
- △△△ TEMPORARY DITCH CHECK
- ○ ○ CULVERT PIPE CHECK
- SURFACE WATER FLOW

PROJECT NO:1060-10-70

HWY: IH-94

COUNTY: WAUKESHA

INITIAL EROSION CONTROL PLAN

SHEET

PRE_21

E

FILE NAME : N:\PDS\C3D\10601000\SHEETPLAN\RAFT PSE\PLAN\10601070\022001-EC ELMHURST INITIAL.DWG
LAYOUT NAME - 022001-EC ELMHURST INITIAL

PLOT DATE : 3/12/2018 1:38 PM

PLOT BY : JOHANSEN, AMANDA A PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42



LEGEND

- ##### EROSION MAT URBAN CLASS I, TYPE A
WITH SEED MIXTURE NO. 20
(SEED MIXTURE NO. 60 IN WETLANDS)
- XXXXXX EROSION MAT CLASS II, TYPE B
WITH SEED MIXTURE NO. 20
(SEED MIXTURE NO. 60 IN WETLANDS)
- +—+—+— SILT FENCE
- +—+—+— HEAVY DUTY SILT FENCE
- +—+—+— RIP RAP OR STONE DITCH CHECK
- - - - - SLOPE INTERCEPT
- ⊠ INLET PROTECTION
- △△△ TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- ~> SURFACE WATER FLOW

PROJECT NO:1060-10-70

HWY:IH-94

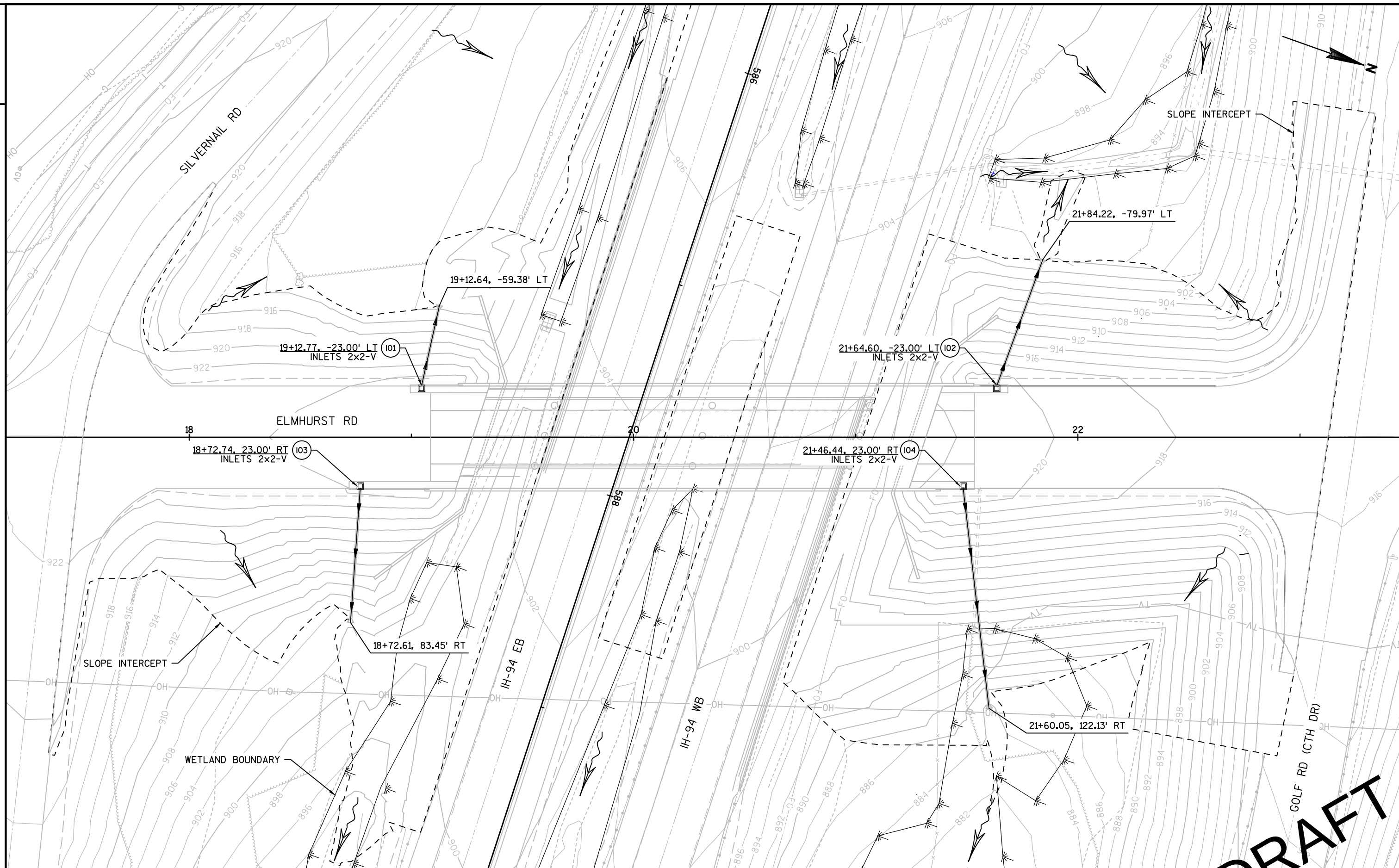
COUNTY:WAUKESHA

FINAL EROSION CONTROL PLAN

SHEET

PRE_22

E



PROJECT NO:1060-10-70

HWY:IH-94

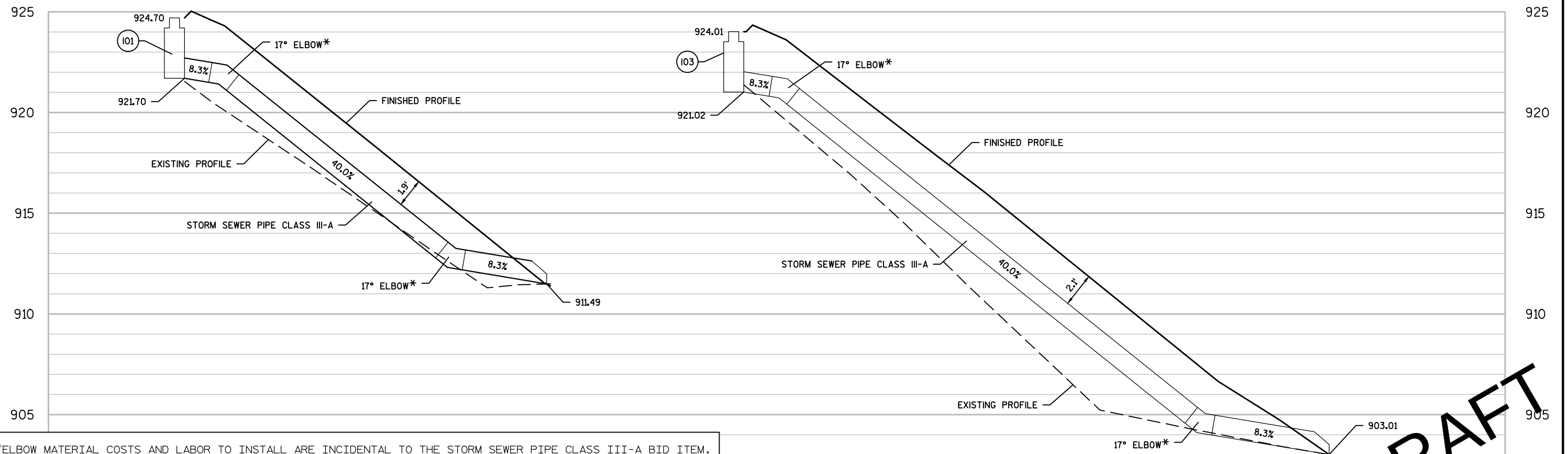
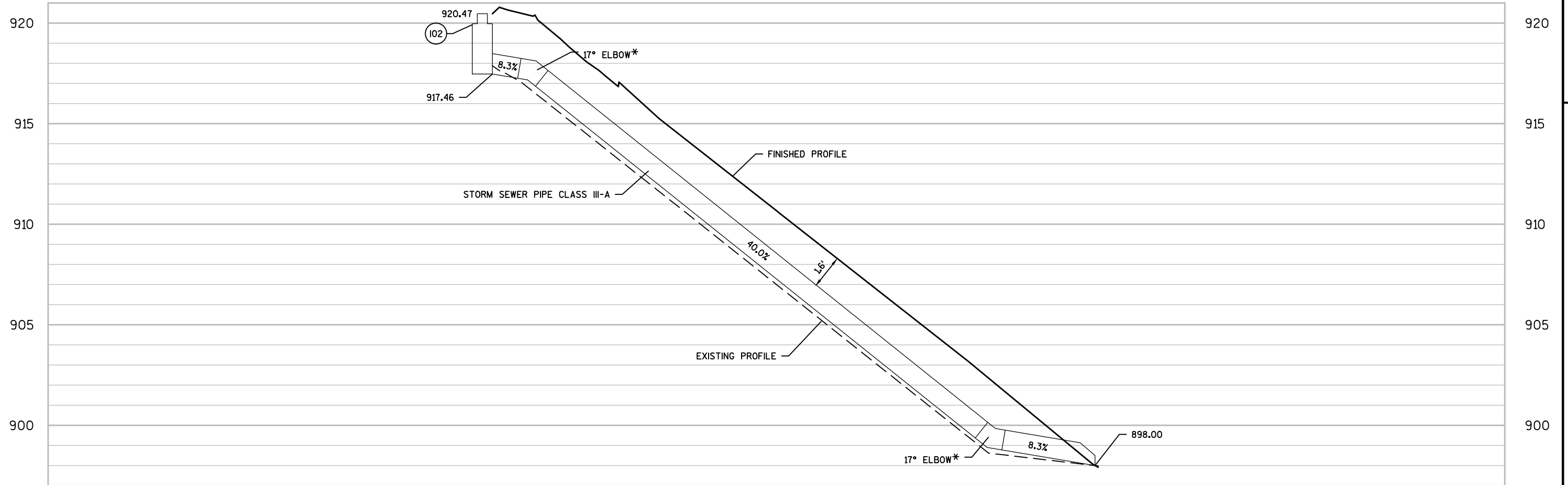
COUNTY:WAUKESHA

STORM SEWER: ELMHURST

SHEET

PRE_23

E



*ELBOW MATERIAL COSTS AND LABOR TO INSTALL ARE INCIDENTAL TO THE STORM SEWER PIPE CLASS III-A BID ITEM.

PROJECT NO:1060-10-70

HWY:IH-94

COUNTY:WAUKESHA

STORM SEWER: ELMHURST

SHEET

PRE_24

E

FILE NAME : N:\PDS\C3D\10601000\SHEETPLAN\RAFT PSE\PLAN\10601070\022501-SS ELMHURST.DWG
LAYOUT NAME - 022502-SS ELMHURST

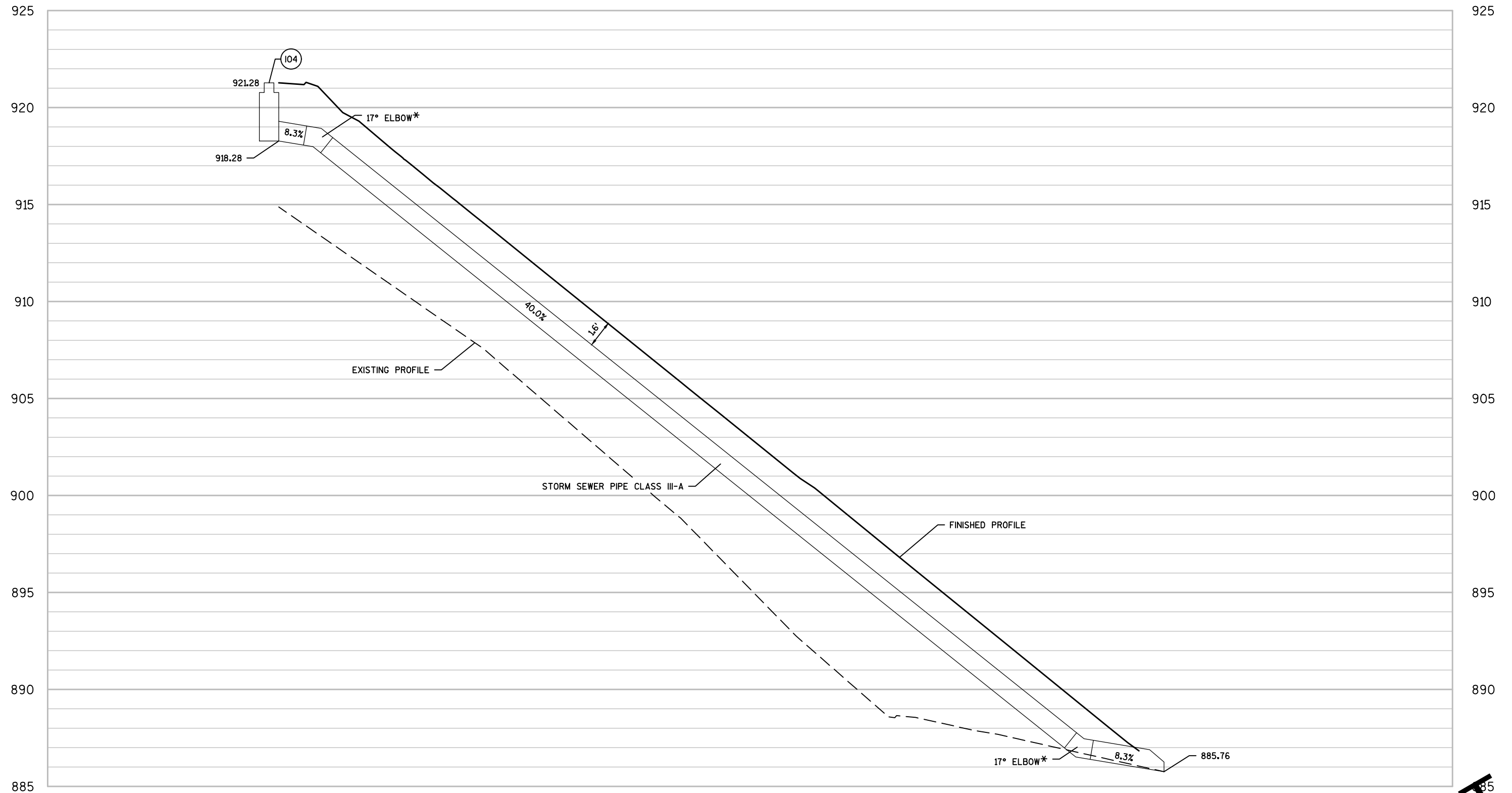
PLOT DATE : 3/27/2018 1:13 PM

PLOT BY : ANDERSON, SCOTT M

PLOT NAME :

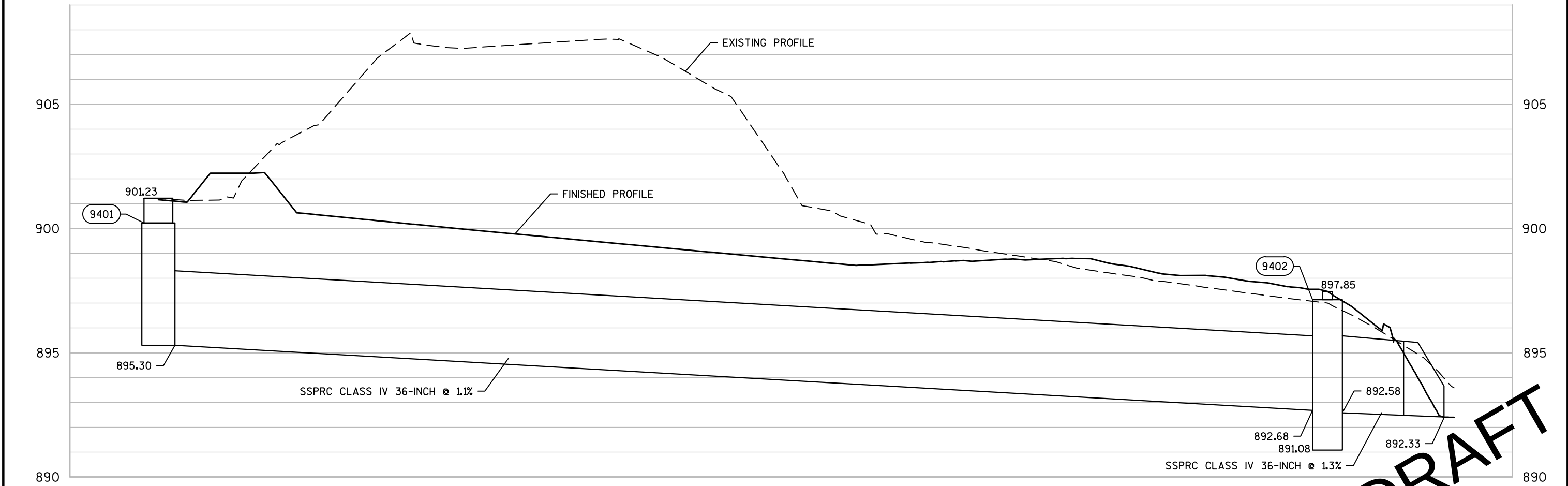
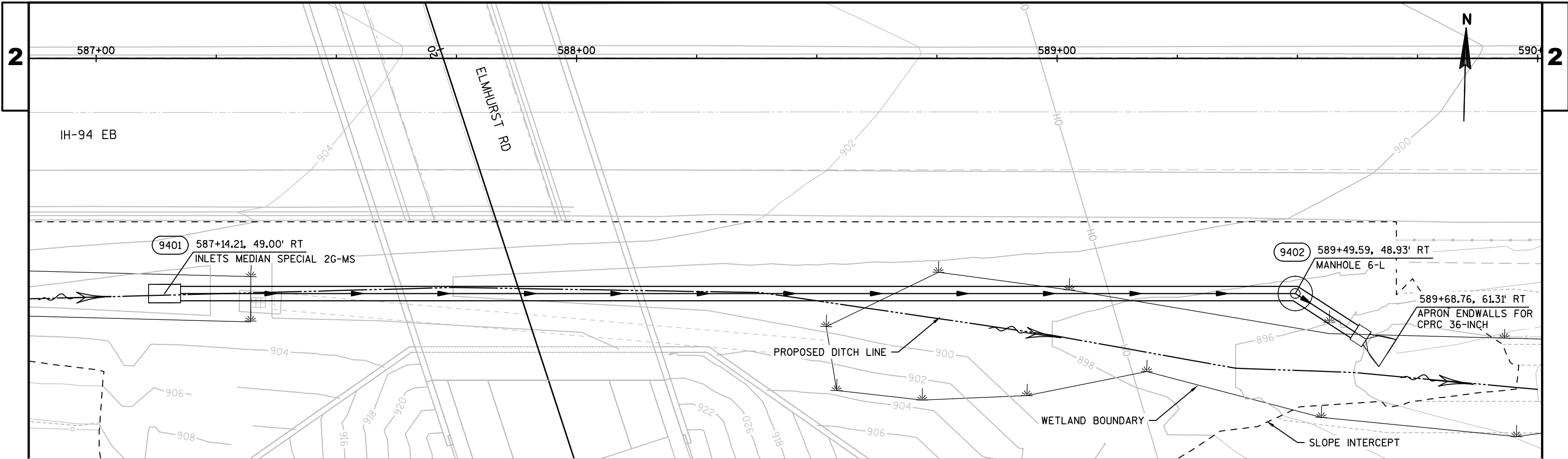
PLOT SCALE : *****

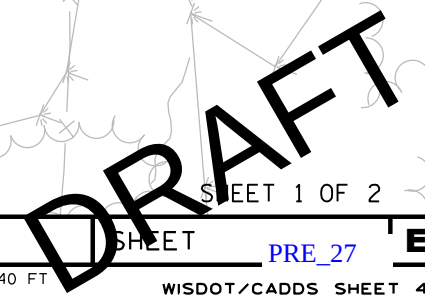
WISDOT/CADDs SHEET 42



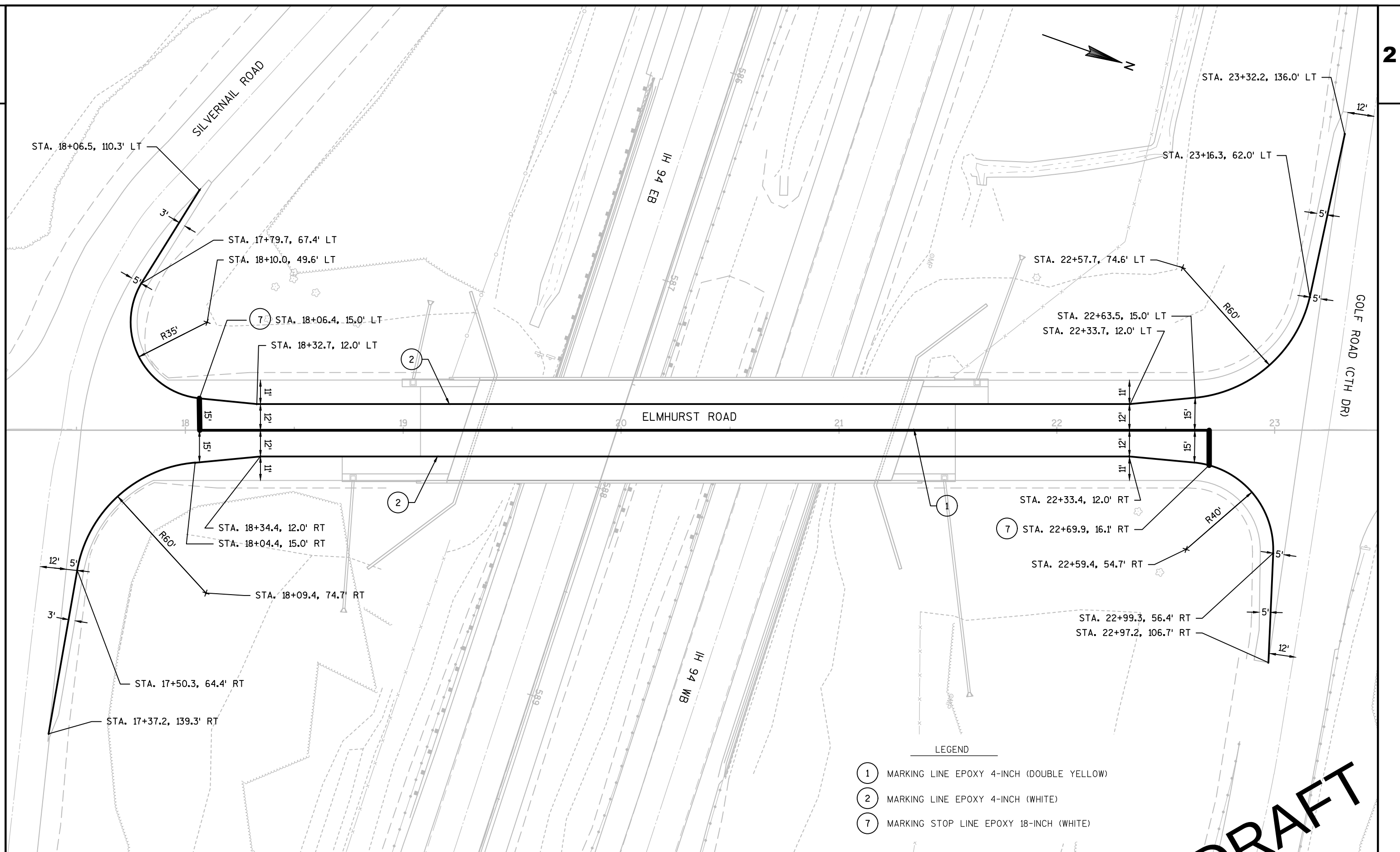
*ELBOW MATERIAL COSTS AND LABOR TO INSTALL ARE INCIDENTAL TO THE STORM SEWER PIPE CLASS III-A BID ITEM.

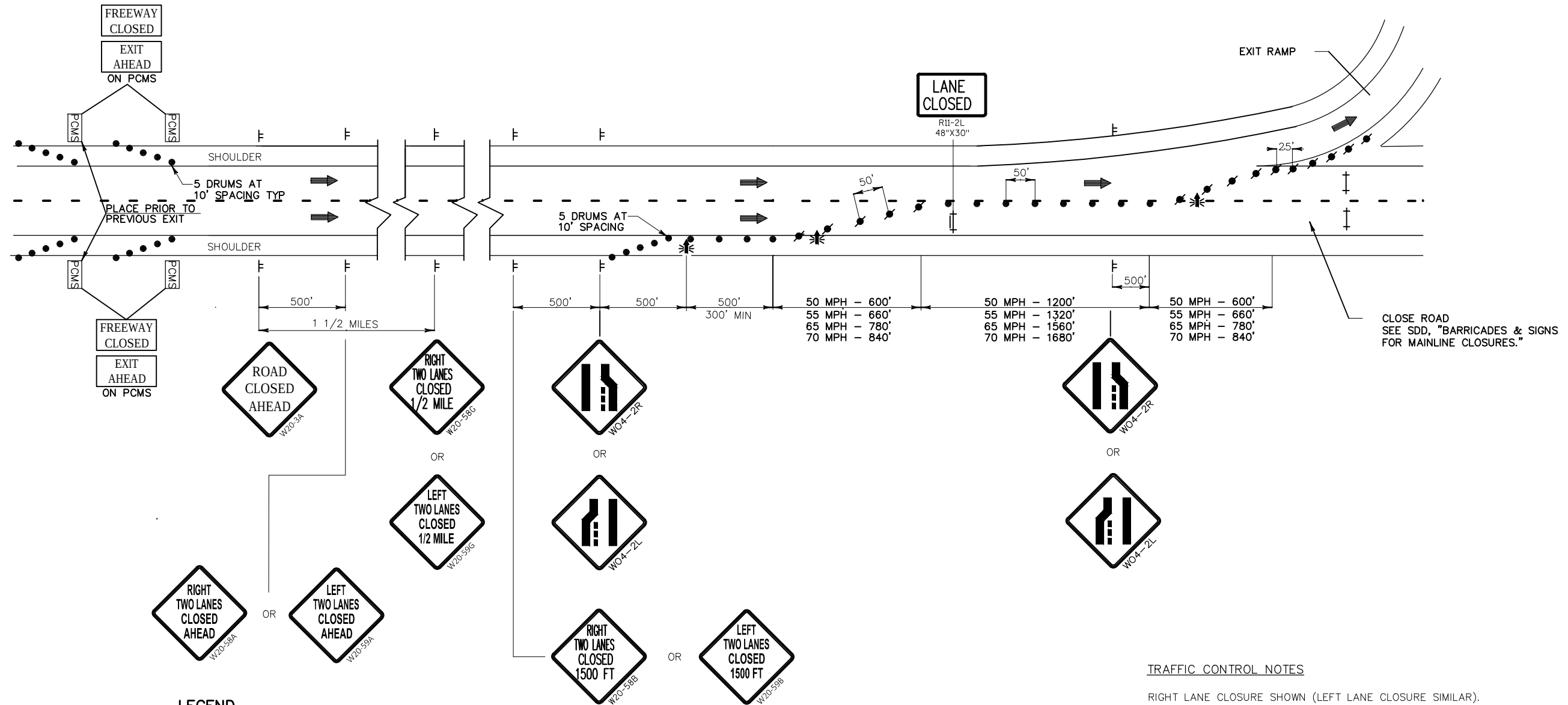
DRAFT









**LEGEND**

- TRAFFIC CONTROL DRUM
- ⦿ TRAFFIC CONTROL WITH TYPE "C" STEADY BURN LIGHT
- ⊥ TYPE III BARRICADE WITH TWO (2) TYPE "A" WARNING LIGHTS (FLASHING)
- ⊥ TYPE III BARRICADE WITH SIGN WITH TWO (2) TYPE "A" WARNING LIGHTS (FLASHING)
- SIGN ON PERMANENT SUPPORT
- ⊥ SIGN ON TEMPORARY SUPPORT
- ⚡ FLASHING ARROW BOARD
- ➔ DIRECTION OF TRAFFIC
- PCMS TRAFFIC CONTROL SIGN PORTABLE CHANGEABLE MESSAGE BOARD
- ▨ WORK AREA

TWO LANE FULL FREEWAY CLOSURE**TRAFFIC CONTROL NOTES**

RIGHT LANE CLOSURE SHOWN (LEFT LANE CLOSURE SIMILAR).

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A WARNING LIGHT, TYPE C (STEADY BURN).

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

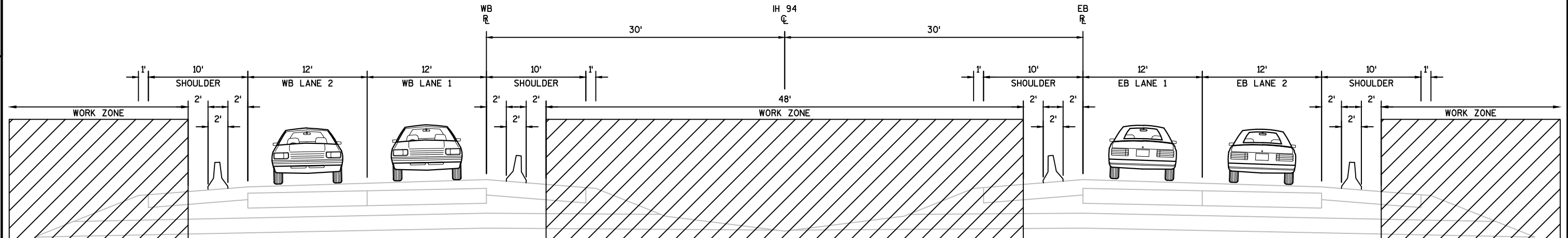
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROL SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS EACH CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500' IN FRONT OF DRUMS, WITH LANE CLOSED SIGN.

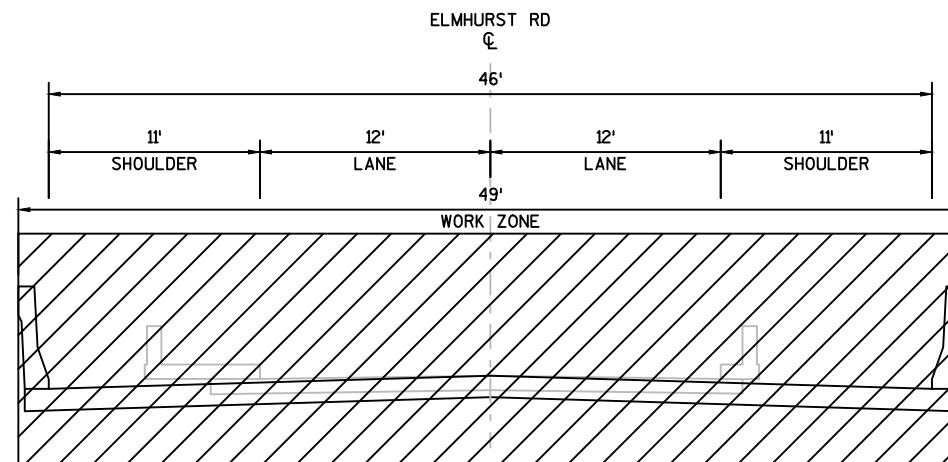
REFER TO DETOUR ROUTES FOR TRAFFIC CLOSING SIGNS.



TYPICAL SECTION

IH 94
(ELMHURST RD RECONSTRUCTION)

WORK TO BE PERFORMED
ELMHURST RD RECONSTRUCTION
-BRIDGE DEMOLITION
-PILE AND FOOTING CONSTRUCTION/DRAINAGE
-CONSTRUCT SUBSTRUCTURE UNITS
-GIRDER PLACEMENT
-DECK CONSTRUCTION
-PARAPET/APPROACH SLAB/FLUMES
-ELMHURST ROADWAY

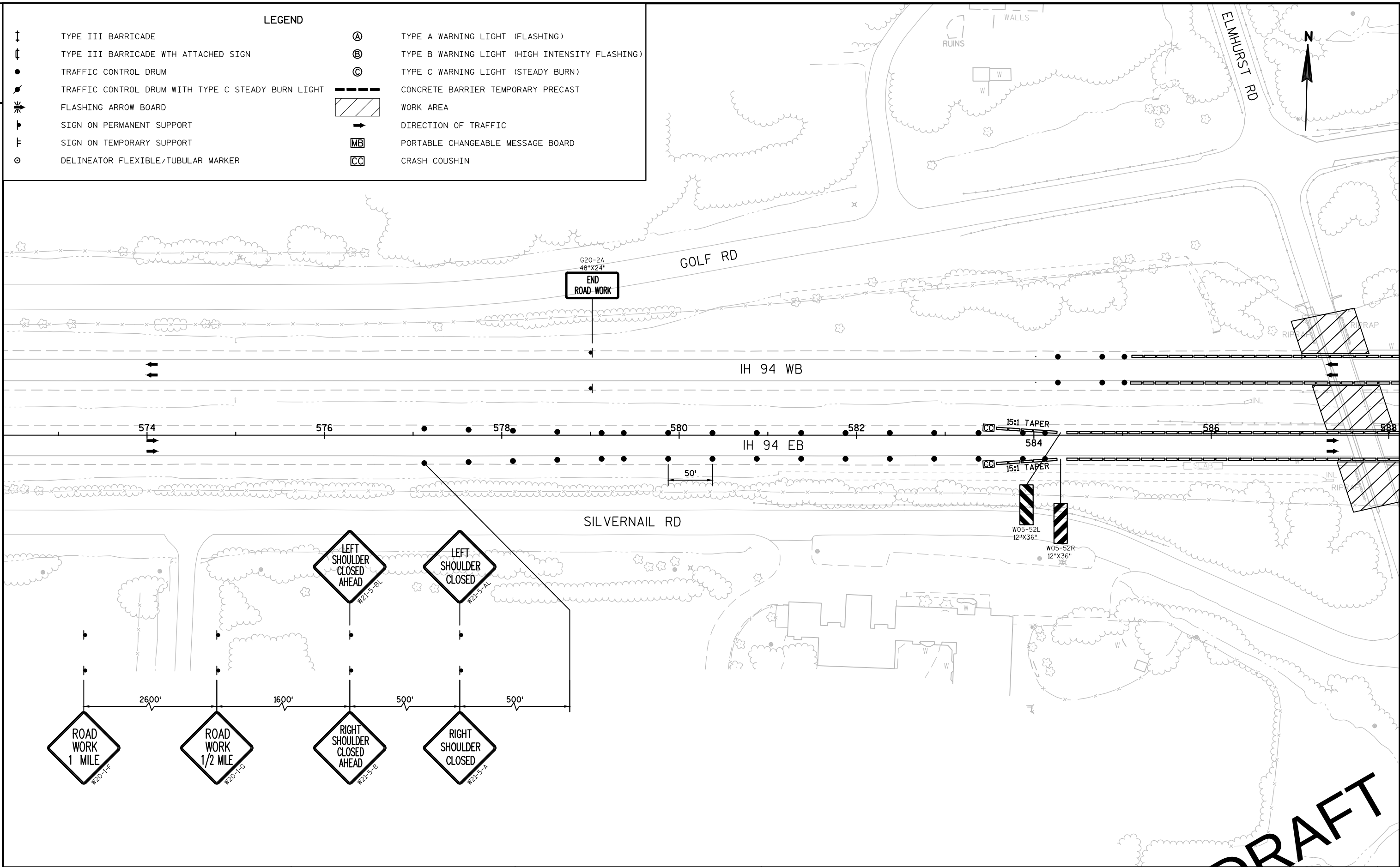


TYPICAL SECTION

ELMHURST RD
(ELMHURST RD RECONSTRUCTION)

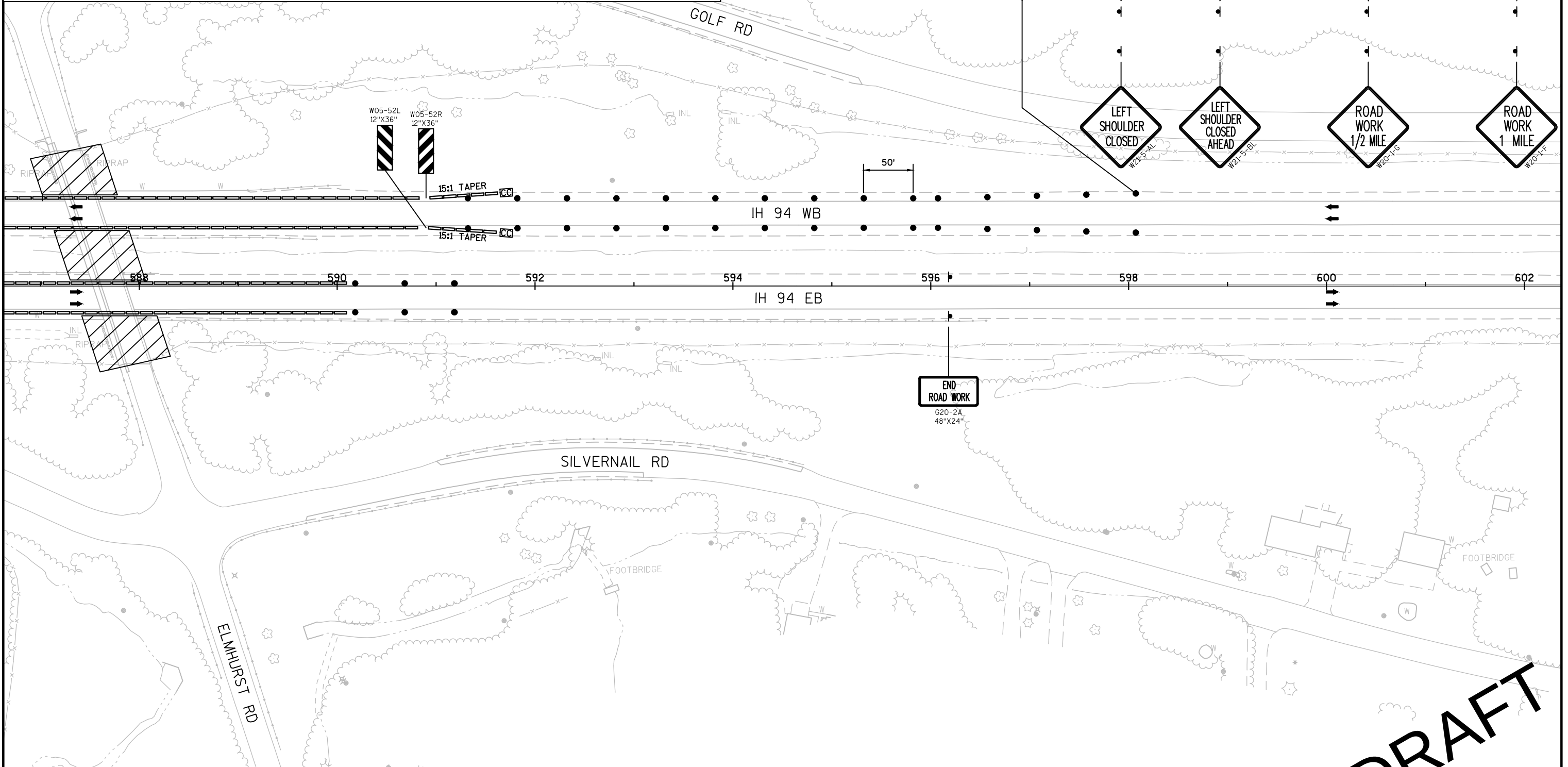
LEGEND

↑	TYPE III BARRICADE	Ⓐ	TYPE A WARNING LIGHT (FLASHING)
↑	TYPE III BARRICADE WTH ATTACHED SIGN	Ⓑ	TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
●	TRAFFIC CONTROL DRUM	Ⓒ	TYPE C WARNING LIGHT (STEADY BURN)
⦿	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	---	CONCRETE BARRIER TEMPORARY PRECAST
⚡	FLASHING ARROW BOARD	▨	WORK AREA
⌋	SIGN ON PERMANENT SUPPORT	→	DIRECTION OF TRAFFIC
⌋	SIGN ON TEMPORARY SUPPORT	MB	PORTABLE CHANGEABLE MESSAGE BOARD
○	DELINEATOR FLEXIBLE/TUBULAR MARKER	CC	CRASH COUSHIN



LEGEND

↑	TYPE III BARRICADE	Ⓐ	TYPE A WARNING LIGHT (FLASHING)
↑	TYPE III BARRICADE WITH ATTACHED SIGN	Ⓑ	TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
●	TRAFFIC CONTROL DRUM	Ⓒ	TYPE C WARNING LIGHT (STEADY BURN)
⦿	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	---	CONCRETE BARRIER TEMPORARY PRECAST
⚡	FLASHING ARROW BOARD	▨	WORK AREA
⌋	SIGN ON PERMANENT SUPPORT	→	DIRECTION OF TRAFFIC
⌋	SIGN ON TEMPORARY SUPPORT	MB	PORTABLE CHANGEABLE MESSAGE BOARD
○	DELINEATOR FLEXIBLE/TUBULAR MARKER	CC	CRASH COUSHIN



PROJECT NO:1060-10-70

HWY: IH 94

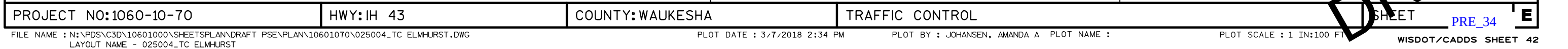
COUNTY: WAUKESHA

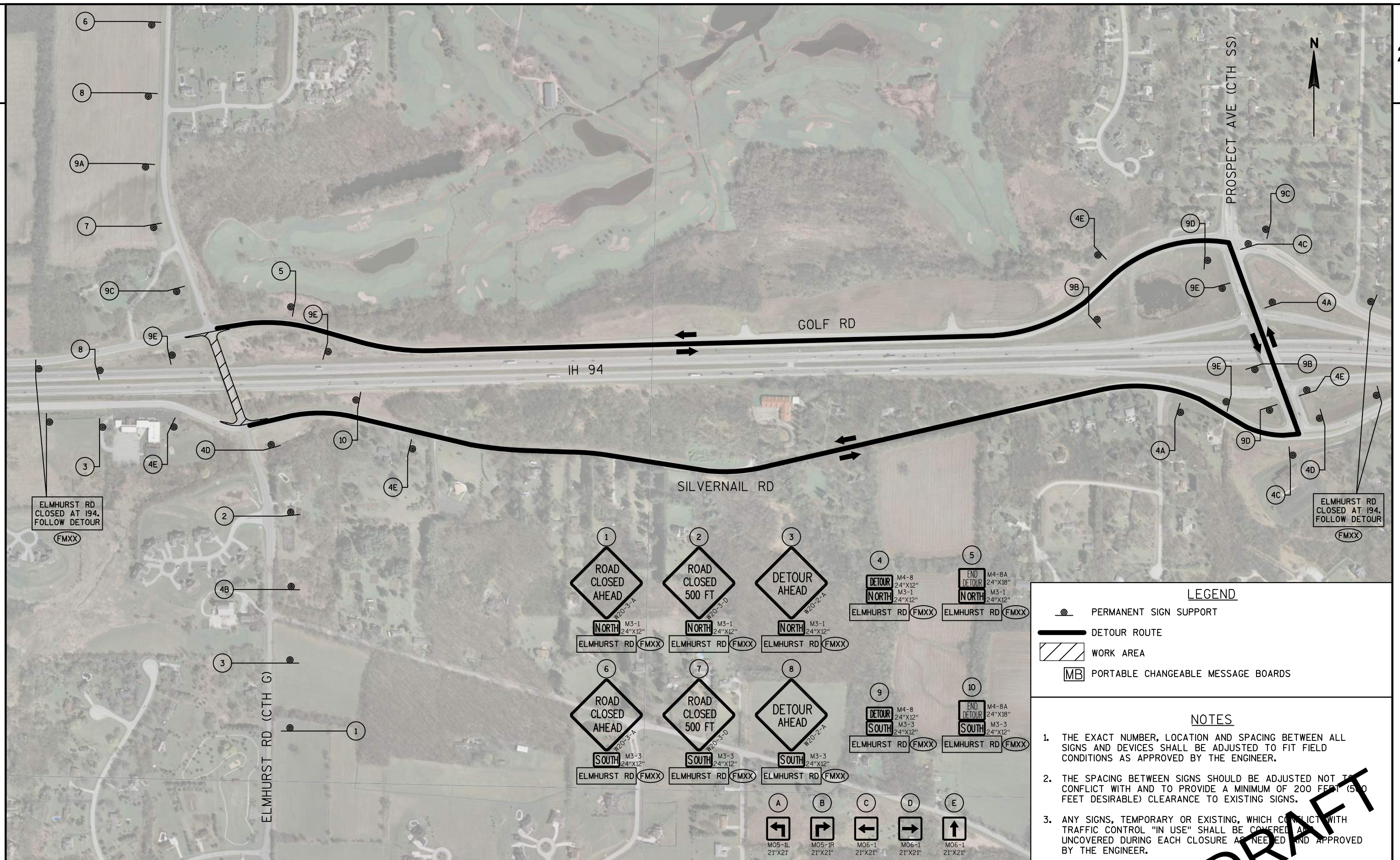
TRAFFIC CONTROL

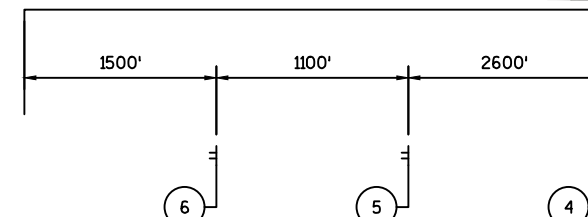
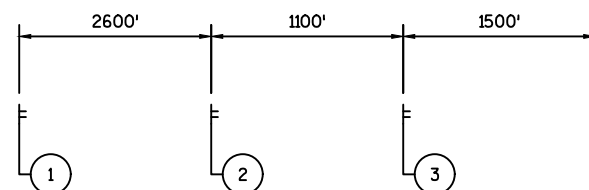
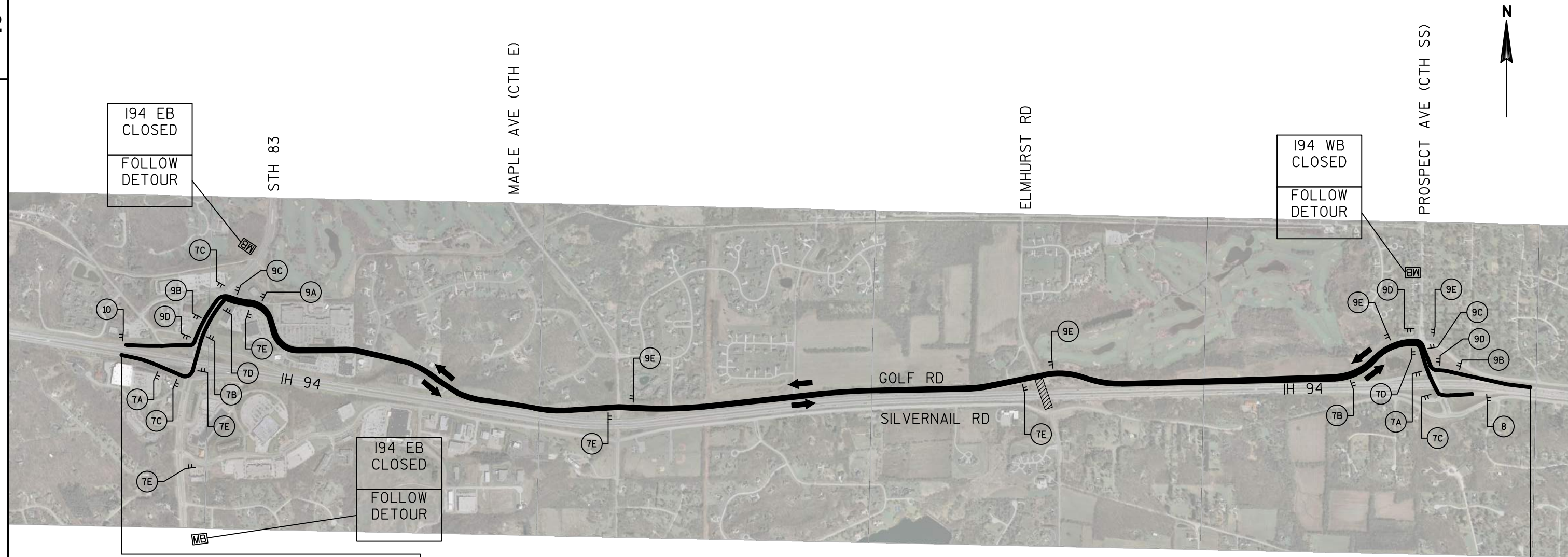
SHEET

PRE_33

E





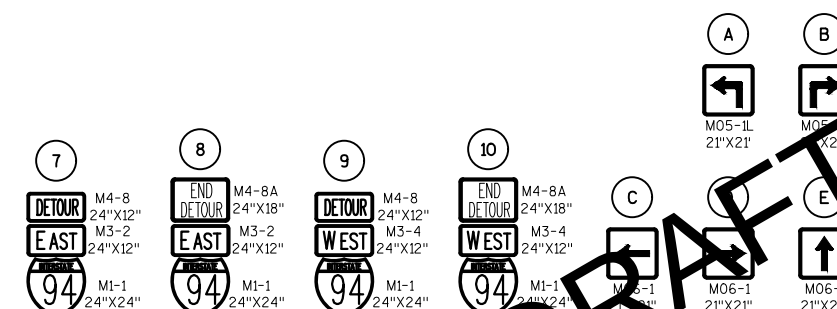
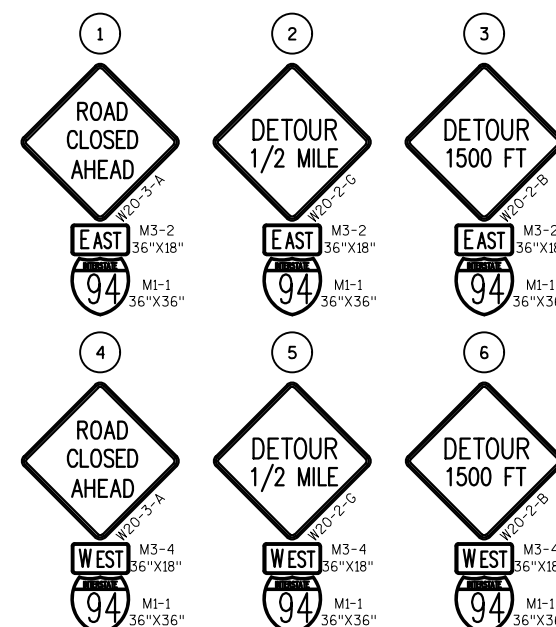


NOTES

1. THE EXACT NUMBER, LOCATION AND SPACING BETWEEN ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
2. THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED NOT TO CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.
3. ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AND UNCOVERED DURING EACH CLOSURE AS NEEDED AND APPROVED BY THE ENGINEER.
4. CLOSE ONLY ONE DIRECTION OF THE FREEWAY AT A TIME.

LEGEND

- TEMPORARY SIGN SUPPORT
- DETOUR ROUTE
- WORK AREA
- MB PORTABLE CHANGEABLE MESSAGE BOARDS



PROJECT NO:1060-10-70

HWY:IH-94

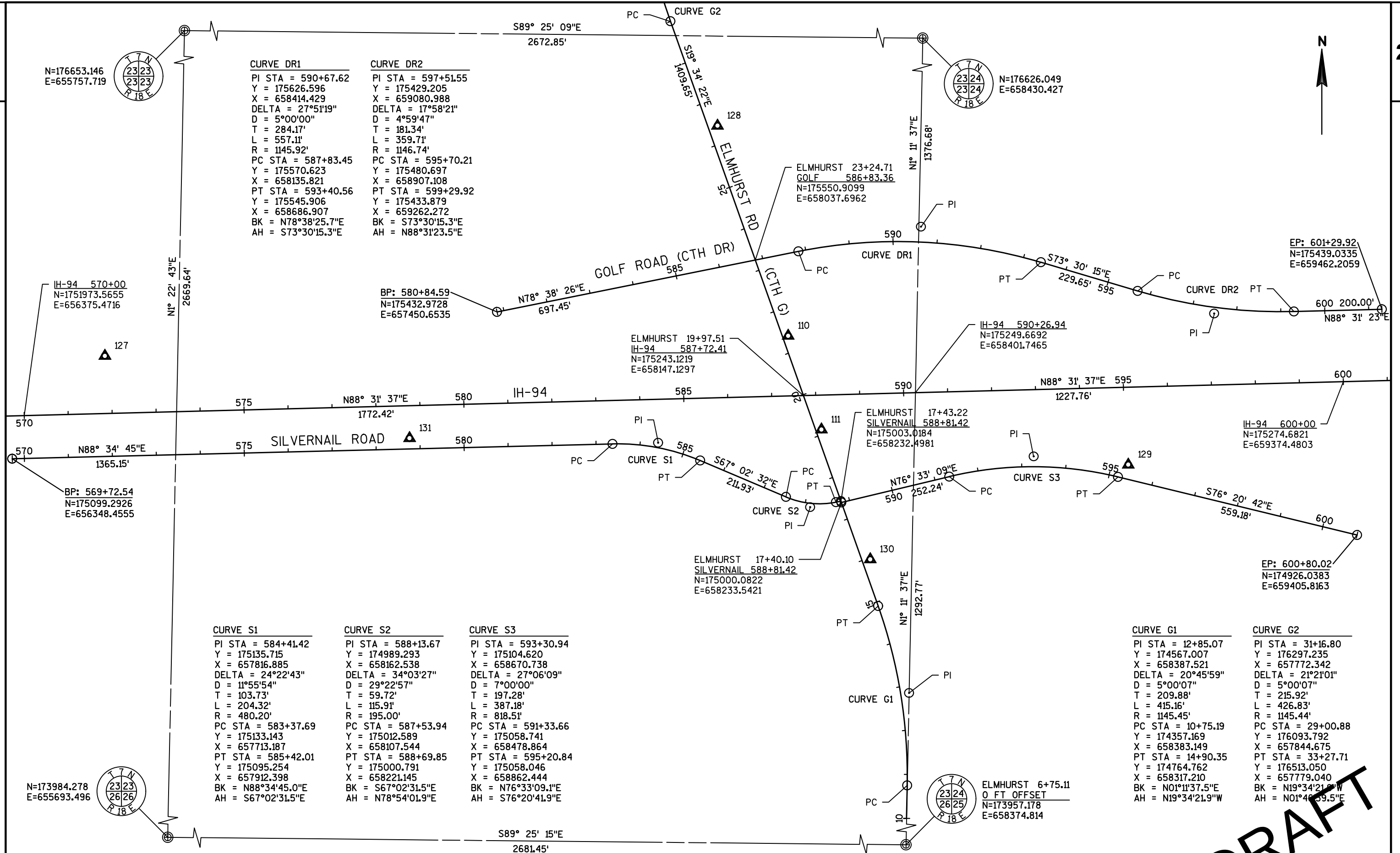
COUNTY:WAUKESHA

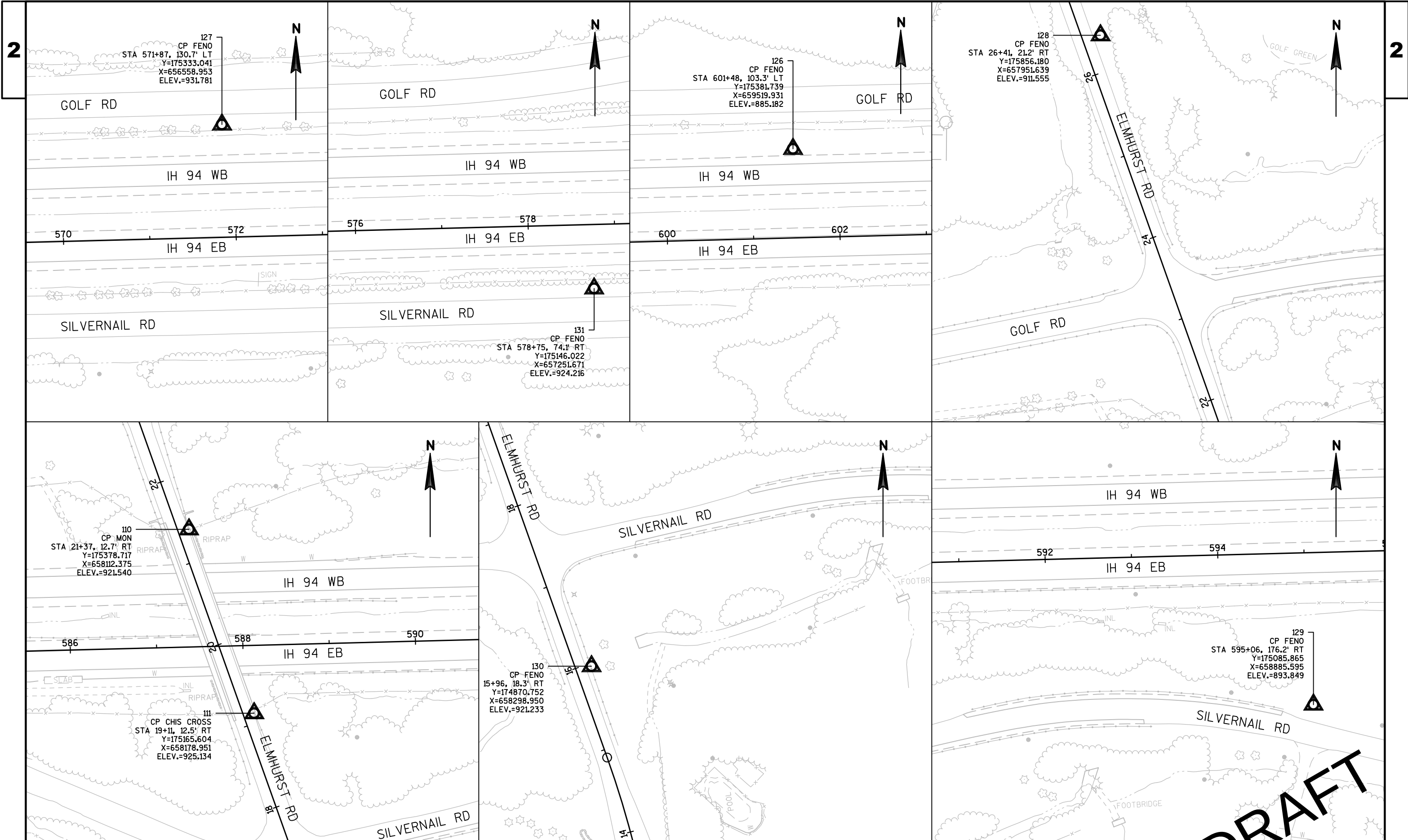
DETOUR - IH 94 (FULL FREEWAY CLOSURE)

SHEET

PRE_36

E





REMOVALS																		
CATEGORY	LOCATION	STATION	TO STATION	OFFSET	201.0105	201.0205	201.0120	201.0220	204.0110	204.0155	204.0157	204.0165	204.0170	204.0190	690.0150	690.0250	SPV.0060.01	
					CLEARING STA	GRUBBING STA	CLEARING ID	GRUBBING ID	REMOVING ASPHALTIC SURFACE SY	REMOVING CONCRETE SIDEWALK SY	REMOVING CONCRETE BARRIER LF	REMOVING GUARDRAIL LF	REMOVING FENCE LF	REMOVING SURFACE DRAIN EACH	SAWING ASPHALT LF	SAWING CONCRETE LF	REMOVING SAND BARRELS & CONCRETE PAD EACH	
0010	ELMHURST RD	17+96.03	19+40.69	RT	--	--	--	--	615	--	--	--	--	--	--	--	--	
	ELMHURST RD	18+00	19+00	LT	1	1	--	--	--	--	--	--	--	--	--	--	--	
	ELMHURST RD	18+00	20+00	RT	2	2	--	--	--	--	--	--	--	--	--	--	--	
	ELMHURST RD	18+02.46	19+19.25	RT	--	--	--	--	--	--	--	101	--	--	--	--	--	
	ELMHURST RD	18+34.17	19+09.33	LT	--	--	--	--	--	--	--	75	--	--	--	--	--	
	ELMHURST RD	18+38.27	19+15.15	50.93' LT	--	--	14	14	--	--	--	--	--	--	--	--	--	
	ELMHURST RD	18+40.00		65.98' LT	--	--	8	8	--	--	--	--	--	--	--	--	--	
	ELMHURST RD	18+60.00		63.76' LT	--	--	8	8	--	--	--	--	--	--	--	--	--	
	ELMHURST RD	18+73.08		RT	--	--	--	--	--	--	--	190	--	--	--	--	--	
	ELMHURST RD	18+79.65	48.427' LT	--	--	10	10	--	--	--	--	--	--	--	--	--	--	
	ELMHURST RD	19+10.76	19+19.25	LT	--	--	--	--	--	5	--	--	--	--	--	--	--	--
	ELMHURST RD	19+46.51	19+20.30	LT	--	--	--	--	--	--	--	--	78	--	--	--	--	--
	ELMHURST RD	21+36.83	21+36.83	RT	--	--	--	--	--	--	--	--	130	--	--	--	--	--
	ELMHURST RD	22+31.31	21+49.86	LT	--	--	--	--	--	--	--	--	104	--	--	--	--	--
	ELMHURST RD	21+40.92	23+12.81	60.05' LT	--	--	10	10	--	--	--	--	--	--	--	--	--	--
	ELMHURST RD	21+43.27		LT	--	--	--	--	754	--	--	--	--	--	--	--	--	--
	ELMHURST RD	21+44.44		19.56 LT	--	--	8	8	--	--	--	--	--	--	--	--	--	--
	ELMHURST RD	21+45.83		LT	--	--	--	--	--	4	--	--	--	--	--	--	--	--
	ELMHURST RD	21+47.67	22+94.20	RT	--	--	--	--	--	--	--	163	--	--	--	--	--	--
	ELMHURST RD	21+57.87	21+61.76	LT	--	--	--	--	--	--	--	--	--	2	--	--	--	--
	ELMHURST RD	21+61.68	23+14.00	LT	--	--	--	--	--	--	--	255	--	--	--	--	--	--
	ELMHURST RD	22+47.24	22+37.44	64.90' RT	--	--	12	12	--	--	--	--	--	--	--	--	--	--
	ELMHURST RD	37.13' RT		--	--	9	9	--	--	--	--	--	--	--	--	--	--	--
	IH 94 EB	584+92.68	587+29.84		--	--	--	--	--	--	--	--	--	--	--	--	--	--
	IH 94 EB	584+92.68	586+60		--	--	--	--	--	--	--	--	--	--	--	--	15	--
	IH 94 EB	584+93			2	2	--	--	--	--	--	--	--	--	--	--	--	--
	IH 94 EB	585+69.05			--	--	--	--	--	--	--	--	--	--	--	--	--	1
	IH 94 EB	585+69.05			--	--	--	--	--	--	--	--	--	--	--	--	236	--
	IH 94 WB	585+90	586+70		1	1	--	--	--	--	--	--	--	--	--	--	--	--
	IH 94 EB	586+12.97	587+99.40		--	--	--	--	--	--	186	--	--	--	--	--	--	--
	IH 94 EB	586+98.92	588+13.36	MED	--	--	--	--	--	--	--	114	--	--	--	--	--	--
	IH 94 WB	587+10.75	588+24.98	MED	--	--	--	--	--	--	--	114	--	--	--	--	--	--
	IH 94 WB	587+22.79	589+09.11	MED	--	--	--	--	--	--	--	--	--	--	--	--	186	--
IH 94 WB	587+23.03	589+08.26		--	--	--	--	--	--	187	--	--	--	--	--	--	--	
IH 94 WB	587+80	588+80		1	1	--	--	--	--	--	--	--	--	--	--	--	--	
IH 94 EB	587+97.76	588+86.22		--	--	--	--	--	--	--	88	--	--	--	--	--	--	
IH 94 WB	589+08.96	590+03.97		--	--	--	--	--	--	--	97	--	--	--	--	--	--	
GOLF RD	585+38.36	58+30.96	RT	--	--	--	--	--	--	--	--	--	--	--	293	--	--	
GOLF RD	587+20	587+90	RT	1	1	--	--	--	--	--	--	--	--	--	--	--	--	
GOLF RD	588+10	588+31	RT	1	1	--	--	--	--	--	--	--	--	--	--	--	--	
SILVERNAIL RD	587+41.03	590+21.62	LT	--	--	--	--	--	--	--	--	--	--	--	272	--	--	
TOTAL:					9	9	79	79	1,369	9	373	1,008	503	2	564	437	1	

DRAFT

EARTHWORK

DIVISION	LOCATION	FROM/TO STATION	COMMON		SALVAGED/ UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	EXPANDED EBS BACKFILL (6) FACTOR 1.25	UNEXPANDED FILL	EXPANDED FILL (13) FACTOR 1.25	MASS ORDINATE +/- (14)	WASTE	BORROW (ITEM #208.0100)
			EXCAVATION (1)	(item # 205.0100)								
			CUT (2)	EBS EXCAVATION (3)								
1	CTH DR (Golf Road)	585+38 to 588+30	173	--	25	148	--	156	195	-47	--	
	Elmhurst Road	17+53 to 19+31	565	--	135	430	--	4085	5106	-4676	--	
		21+25 to 23+12										
	IH 94	584+93 to 589+95	941	--	--	941	--	919	1149	-208	--	
	Silvernail Road	587+43 to 590+23	127	--	16	111	--	25	31	80	--	
SUBTOTAL			1806	--	176	1630	--	5185	6481	-4851	--	4851
TOTAL				1806	176	1630	--	5185	6481	-4851	--	4851

- 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 w ith cut material.
- 4) Salvaged/Unusable Pavement Material
- 5) Available Material = Cut - Salvaged/Unusuable Pavement Material
- 6) Expanded EBS Backfill - This is to be filled w ith cut material. EBS Backfill Factor = 1.25.
- 7) Expanded Fill. Factor = 1.25
Expanded Fill = Unexpanded Fill * Fill Factor
- 8) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material w ithin the Division. Minus indicates a shortage of material w ithin the Division.

DRAFT

CPM PROGRESS SCHEDULE

108.4400 CPM PROGRESS SCHEDULE EACH		
CATEGORY	PROJECT	
0010	1060-10-70	1
TOTAL:		1

BASE AGGREGATE

		305.0110 BASE AGGREGATE DENSE 3/4-INCH TON		305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	
CATEGORY	LOCATION	STATION	TO STATION		
0010	ELMHURST ROAD	17+52.18	19+07.89	--	857
	ELMHURST ROAD	21+53.33	23+12.56	--	1128
	APPROACH SLAB	19+07.89	19+27.59	--	41
	APPROACH SLAB	21+31.54	21+53.33	--	35
	IH 94 EB	587+99.4	585+69.0	18	80
	IH 94 WB	589+07.9	587+23.0	6	41
TOTAL:				24	2182

CONCRETE ITEMS

		415.0070 CONCRETE PAVEMENT 7-INCH AREA (SY)		415.0410 CONCRETE PAVEMENT APPROACH SLAB AREA (SY)		416.1010 CONCRETE SURFACE DRAINS VOLUME (CY)	
CATEGORY	LOCATION	STATION	TO STATION				
0010	ELMHURST RD (SOUTH)	19+08.63	19+34.91	--	51	--	
	ELMHURST RD (NORTH)	21+24.11	21+53.40	--	58	--	
	ELMHURST RD (SOUTH)	18+71.98	19+20.31	12	--	3	
	ELMHURST RD (SOUTH)	18+99.49	19+35.35	22	--	2	
	ELMHURST RD (NORTH)	21+39.12	21+68.35	15	--	2	
	ELMHURST RD (NORTH)	21+24.09	21+53.31	24	--	2	
TOTAL:				73	109	9	

ASPHALTIC ITEMS

		455.0605 TACK COAT GAL		460.6223 HMA PAVEMENT 3 MT 58-28 S TON		460.6224 HMA PAVEMENT 4 MT 58-28 S TON		460.2000 INCENTIVE DENSITY HMA PAVEMENT DOL	
CATEGORY	LOCATION	STATION	TO STATION						
0010	ELMHURST RD	17+52.18	19+07.89	35	153	77	--		
	ELMHURST RD SHLD LT	17+52.18	19+07.89	8	37	--	--		
	ELMHURST RD SHLD RT	17+52.18	18+67.59	8	37	--	--		
	ELMHURST RD	21+51.33	23+12.56	33	145	73	--		
	ELMHURST RD SHLD LT	21+70.26	23+12.56	11	48	--	--		
	ELMHURST RD SHLD RT	21+51.33	23+12.56	10	44	--	--		
	IH 94 WB	587+23.00	589+07.90	3	11	--	--		
	IH 94 EB	585+69.00	587+99.40	3	14	--	410		
TOTAL:				111	489	149	410		

DRAFT

DRAINAGE

											521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	608.0436 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 36-INCH LF	608.3012* STORM SEWER PIPE CLASS III-A 12-INCH LF	611.0545 INLET COVERS TYPE L EACH	611.0642 INLET COVERS TYPE MS EACH	611.0654 INLET COVERS TYPE V EACH	611.2006 MANHOLES 6-FT DIAMETER EACH	611.3220 INLETS 2X2-FT EACH	SPV.0600.03 INLETS MEDIAN SPECIAL 2G-MS EACH	NOTES			
CATEGORY	STRUCTURE NUMBER	STATION	OFFSET FT	RIM OR FLANGE ELEV	STR DEPTH FT	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE %														
1000	IH 94											PLAN LENGTH	ACTUAL LENGTH	PLAN LENGTH	ACTUAL LENGTH									
	9401	587+14.21	49.00	RT	901.23	5.9	9401	9402	895.30	892.68	1.1	--	--	236	230	--	--	--	2	--	--	1	FIELD DRAIN	
	9402	589+49.59	48.93	RT	897.85	6.8	9402	OUTLET	892.58	892.33	1.3	--	1	25	19	--	--	1	--	--	1	--	1.5-FT SUMP, DISCHARGES TO DITCH	
	ELMHURST ROAD																							
	I01	19+12.77	23.00	LT	924.70	3.0	I01	OUTLET	921.70	911.49	SEE PROFILE	1	--	--	--	44	41	--	--	1	--	1	--	DROP INLET, DRAINS TO DITCH
	I02	21+64.60	23.00	LT	920.47	4.5	I02	OUTLET	917.46	898.00	SEE PROFILE	1	--	--	--	74	71	--	--	1	--	1	--	DROP INLET, DRAINS TO DITCH
	I03	18+72.74	23.00	RT	924.01	4.5	I03	OUTLET	921.02	903.01	SEE PROFILE	1	--	--	--	72	69	--	--	1	--	1	--	DROP INLET, DRAINS TO DITCH
	I04	21+46.44	23.00	RT	921.28	4.5	I04	OUTLET	918.28	885.76	SEE PROFILE	1	--	--	--	114	111	--	--	1	--	1	--	DROP INLET, DRAINS TO DITCH
TOTAL											4	1	261	249	304	292	1	2	4	1	4	1		

* CLASS III-A PIPE LENGTHS INCLUDE THE ELBOWS. PAYMENT FOR MATERIAL COSTS AND LABOR TO INSTALL ELBOWS IS INCIDENTAL TO THE STORM SEWER PIPE CLASS III-A BID ITEM.

DRAFT

GUARDRAIL												
CATEGORY	LOCATION	STATION	TO STATION	614.0200	614.0305	614.0345	614.0370	614.0396	614.2300	614.2500	614.2610	
				STEEL THRIE BEAM STRUCTURE APPROACH LF	STEEL PLATE BEAM GUARD CLASS A LF	STEEL PLATE BEAM GUARD SHORT RADIUS LF	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL EACH	GUARDRAIL MOW STRIP ASPHALT SY	MGS GUARDRAIL 3 LF	MGS THRIE BEAM TRANSITION LF	MGS GUARDRAIL TERMINAL EAT EACH	
0010	ELMHURST RT	18+24.9	19+08.1	--	--	--	--	43	13	38	1	
	ELMHURST LT	18+10.0	19+23.1	--	--	--	--	43	13	38	1	
	ELMHURST RT	21+36.1	22+84	21	150	69	--	83	--	--	--	
	ELMHURST LT	21.49.9	23+24.7	21	175	88	--	100	--	--	--	
	IH 94 EB	586+11.1	589+70.8	--	360	--	1	141	--	--	--	
	IH 94 WB MED	586+99.2	588+13.4	--	--	--	--	43	119	--	--	
	IH 94 EB MED	587+10.7	588+24.9	--	--	--	--	43	119	--	--	
TOTAL:				41	685	156	1	496	263	75	2	

FENCING ITEMS					
CATEGORY	LOCATION	STATION	TO STATION	616.0100	616.0206
				FENCE WOVEN WIRE 4.5 FT LF	FENCE CHAIN LINK 6-FT LF
0010	IH 94 EB	587+00.65	587+32.32	--	32
	IH 94 EB	588+68.31	589+97.60	151	--
	IH 94 WB	586+17.58	586+64.45	70	--
	IH 94 WB	587+92.55	588+66.29	81	--
TOTAL:				302	32

DUST CONTROL			
CATEGORY	LOCATION	624.0100	628.7560
		WATER MGAL	TRACKING PADS EACH
0010	PROJECT 1060-10-70	1020	2
TOTAL		1020	2

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<u>MOBILIZATION</u>				
CATEGORY	PROJECT	619.1000	628.1905	628.1910
		MOBILIZATION	MOBILIZATIONS	MOBILIZATIONS EMERGENCY
		EACH	EROSION CONTROL	EROSION CONTROL
		EACH	EACH	EACH
0010	1060-10-70	1	11	6
TOTAL:		1	11	6

RIPRAP					
CATEGORY	STATION	LOCATION	L X W	606.0200	645.0130
				RIPRAP MEDIUM CY	GEOTEXTILE FABRIC TYPE R SY
0010	18+78.73	ELMHURST	4' x 8'	2	10
	19+10.05	ELMHURST	4' x 8'	2	10
	21+51.09	ELMHURST	4' x 8'	2	10
	21+76.10	ELMHURST	4' x 8'	2	10
	584+93.15	IH 94	9' x 15'	8	28
	587+59.04	IH 94	11' x 56'	34	106
	589+70.6	IH 94	8 x 16	7	28
TOTAL				57	202

EROSION CONTROL															
CATEGORY	LOCATION	STATION	TO STATION	OFFSET	628.1504	628.1520	628.2006	628.2023	628.7005	628.7010	628.7504	628.7555	628.7570	628.7515.S	SPV.0090.01
					SILT	SILT	EROSION MAT	EROSION MAT	INLET	INLET	TEMPORARY	CULVERT	ROCK	STONE OR	HEAVY DUTY
					FENCE	FENCE	URBAN CLASS I	CLASS II	PROTECTION	PROTECTION	DITCH	PIPE	BAGS	ROCK	SILT
					LF	LF	TYPE A	TYPE B	TYPE A	TYPE B	CHECKS	CHECKS	EACH	DITCH CHECKS	FENCE
							SY	SY	EA	EA	LF	EACH	EACH	CY	LF
0010	ELMHURST RD	17+36.77	18+84.02	RT	111	111	--	--	--	--	--	--	--	--	135
	ELMHURST RD	17+55.00	19+25.00	RT	--	--	804	--	--	--	--	--	--	--	--
	ELMHURST RD	17+87.00	19+43.00	LT	--	--	628	--	--	--	--	--	--	--	--
	ELMHURST RD	18+12.69	19+58.06	LT	256	256	--	--	--	--	--	--	--	--	--
	ELMHURST RD	18+74.71		23.0' RT	--	--	--	--	--	1	--	--	--	--	--
	ELMHURST RD	19+11.27		23.5' LT	--	--	--	--	--	1	--	--	--	--	--
	ELMHURST RD	20+62.14	22+77.23	RT	241	241	--	--	--	--	--	--	--	--	129
	ELMHURST RD	21+17.00	22+84.00	RT	--	--	1813	--	--	--	--	--	--	--	--
	ELMHURST RD	21+33.00	23+21.00	LT	--	--	945	--	--	--	--	--	--	--	--
	ELMHURST RD	21+34.60	23+23.77	LT	123	123	--	--	--	--	--	--	--	--	162
	ELMHURST RD	21+46.00		23.5' RT	--	--	--	--	--	1	--	--	--	--	--
	ELMHURST RD	21+63.00		21' LT	--	--	--	--	--	1	--	--	--	--	--
	IH 94	584+92.68		RT	--	--	--	--	--	--	18	--	--	--	--
	IH 94 EB	584+92.68	589+70	RT	--	--	--	1960	--	--	--	--	--	--	--
	IH 94	585+66.90		LT	--	--	--	--	--	--	--	1	--	--	--
	IH 94	586+42.36		41' LT	--	--	--	--	1	--	--	--	--	--	--
	IH 94 WB	586+44.00	588+55		--	--	--	899	--	--	--	--	--	--	--
	IH 94	587+13.63		51' RT	--	--	--	--	1	--	--	--	--	--	--
	IH 94	588+62.43		LT	--	--	--	--	--	--	15	--	--	6	--
	IH 94	590+07.41		RT	--	--	--	--	--	--	18	--	--	12	--
	IH 94	592+65.73		76' RT	--	--	--	--	1	--	--	--	--	--	--
UNDISTRIBUTED					183	183	1048	715	1	1	13	--	10	--	107
TOTAL:					914	914	5238	3574	4	5	64	1	10	18	533

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RESTORATION ITEMS							
CATEGORY	LOCATION	STATION	TO STATION	625.0500	629.0210	630.0120	630.0200
				SALVAGED TOPSOIL SY	FERTILIZER TYPE B CWT	SEED MIXTURE NO. 20 LB	SEEDING TEMPORARY LB
0010	ELMHURST RD RT	17+55.00	19+25.00	804	0.5	23	11
	ELMHURST RD LT	17+87.00	19+43.00	628	0.4	16	8
	ELMHURST RD RT	21+17.00	22+84.00	1,813	1.2	49	25
	ELMHURST RD LT	21+33.00	23+21.00	945	0.6	26	13
	IH 94 EB			1,960	1.2	51	25
	IH 94 WB			945	1.0	40	20
	UNDISTRIBUTED			--	0.1	5	26
	TOTAL:			7,095	5.0	210	128

TRAFFIC CONTROL		
CATEGORY	LOCATION	643.5000
		TRAFFIC CONTROL EACH
0010		1
TOTAL		1

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TRAFFIC CONTROL																	
CATEGORY	LOCATION	* DAYS	643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.1050		SPV.0060.02
			DRUMS		BARRICADES		WARNING LIGHTS		WARNING LIGHTS		ARROW BOARDS		SIGNS		SIGNS PCMS		TEMPORARY
			EACH	DAY	TYPE III	TYPE A	TYPE C	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY
0010	IH 94 EB	266	38	10108	--	--	--	--	--	--	--	--	12	3192	--	--	--
	IH 94 WB	266	36	9576	--	--	--	--	--	--	--	--	12	3192	--	--	--
	GOLF ROAD	266	46	12236	9	2394	18	4788	--	--	--	--	15	3990	--	--	--
	SILVERNAIL ROAD	266	49	13034	9	2394	18	4788	--	--	--	--	15	3990	--	--	--
DETOURS	ELMHURST	266	--	--	--	--	--	--	--	--	--	--	24	6384	--	--	--
	GOLF ROAD	266	--	--	--	--	--	--	--	--	--	--	22	5852	--	--	--
	SILVERNAIL ROAD	266	--	--	--	--	--	--	--	--	--	--	22	5852	--	--	--
	PROSPECT AVE (CTH SS)	266	--	--	--	--	--	--	--	--	--	--	18	4788	--	--	--
	FULL FREEWAY CLOSURE	4	--	--	--	--	--	--	--	--	--	--	128	512	4	16	28
NIGHTTIME CLOSURE	RAMP CLOSURE	4	6	24	3	12	4	16	--	--	--	--	12	48	--	--	10
	FULL FREEWAY CLOSURE EB	4	110	440	5	20	10	40	56	224	1	4	13	52	2	8	8
	FULL FREEWAY CLOSURE WB	4	160	640	8	32	16	64	78	312	4	16	18	72	2	8	14
	UNDISTRIBUTED	--	--	960	--	122	--	149	--	27	--	1	--	1629	--	1	1
TOTAL:			47018		4974		9845		563		21		39553		33		61
* FOR INFORMATION ONLY																	

FIXED MESSAGE SIGNS					
CATEGORY	LOCATION	SIGN NO.	SIZE	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE	
				SF	NOTES
0010	ELMHURST RD	FM06	8.0' x 2.0"	32	
	SILVERNAIL RD	FM01	3.5' x 2.0'	14	
	GOLF RD	FM01	3.5' x 2.0'	14	
DETOURS	ELMHURST RD	FM01	3.5' x 2.0'	70	
	ELMHURST RD	FM02	5.5' x 3.0'	33	
	GOLF RD	FM01	3.5' x 2.0'	56	
	SILVERNAIL RD	FM01	3.5' x 2.0'	49	
	SILVERNAIL RD	FM02	5.5' x 3.0'	33	
	PROSPECT AVE	FM01	3.5' x 2.0'	42	
TOTAL:				343	

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TEMPORARY CONCRETE BARRIER

CATEGORY	LOCATION	STATION	TO STATION	603.8000	603.8125	614.0905
				CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	CRASH CUSHIONS TEMPORARY EACH
0010	IH 94 EB	583+54.98	590+09.36	663	663	2
	IH 94 WB	585+08.89	591+64.77	663	663	2
TOTAL:				1,326	1,326	4

TEMPORARY PAVEMENT MARKINGS

CATEGORY	LOCATION	STAGE	STATION	TO STATION	646.9010	649.0150	649.0850
					MARKING		TEMPORARY MARKING
					REMOVAL LINE	TEMPORARY MARKING LINE	STOP LINE
					WATER BLASTING	REMOVABLE TAPE 4-INCH	REMOVABLE TAPE
					4-INCH	YELLOW	18-INCH (WHITE)
					LF	LF	LF
0010	GOLF ROAD	1	580+55.71	586+41.66	2314	1168	1167
			587+33.80	592+72.84	2140	1080	1151
	SILVERNAIL ROAD	1	580+57.71	586+41.66	2316	1194	1221
			587+33.80	592+72.84	2318	1171	1189
SUBTOTAL:					9088	4613	4728
TOTAL:					9088	9341	44

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PAVEMENT MARKINGS

CATEGORY	LOCATION	STATION	TO STATION	646.1020		646.6120
				MARKING LINE		MARKING STOP LINE
				EPOXY 4-INCH		EPOXY 18-INCH
				YELLOW	WHITE	WHITE
				LF	LF	LF
0010	ELMHURST RT	17+37.2	22+97.2	--	726	--
	ELMHURST LT	18+06.4	23+32.2	--	730	--
	ELMHURST	18+06.4	22+63.2	927	--	--
	ELMHURST	18+06.4		--	--	15
	ELMHURST	22+63.2		--	--	16
SUBTOTAL				927	1,456	31
TOTAL:				2,383		31

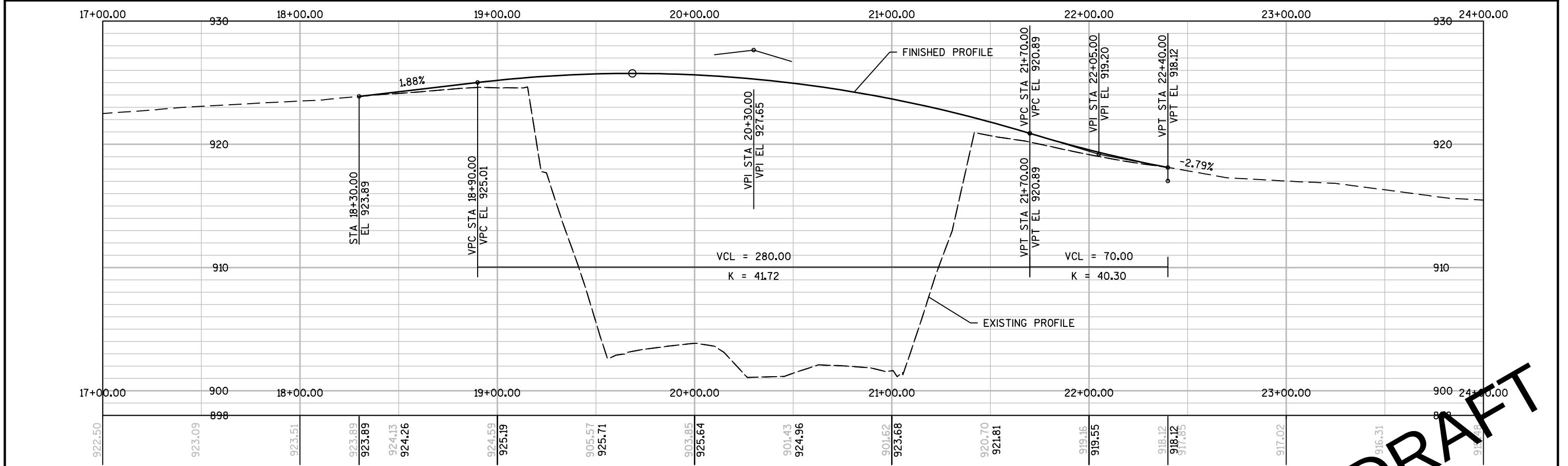
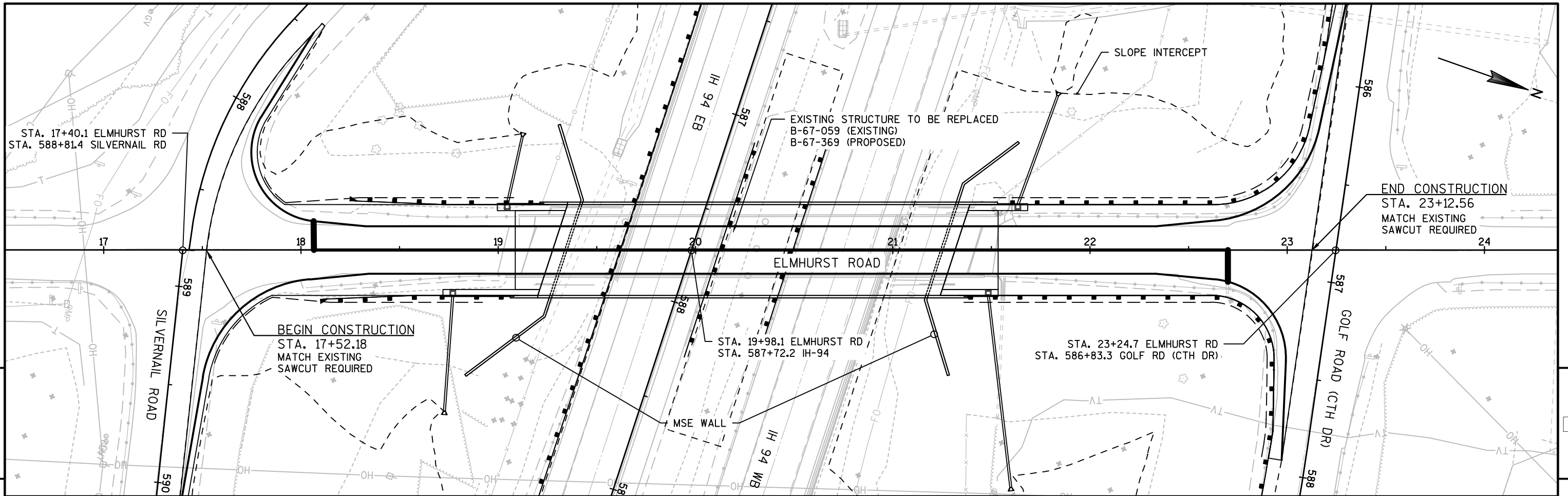
ROADWAY ITEMS

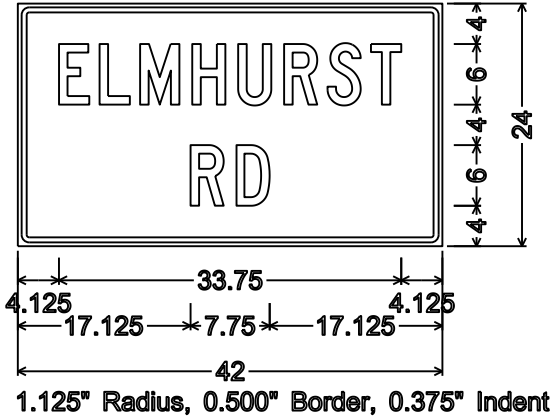
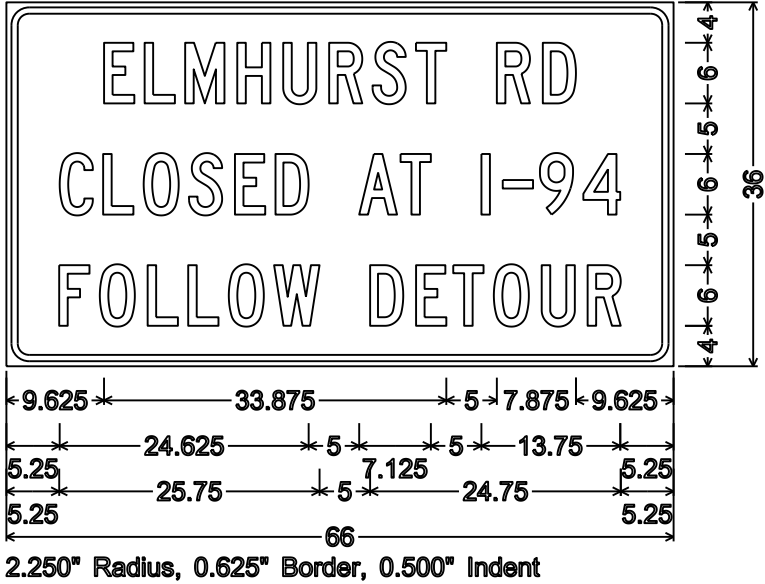
CATEGORY	LOCATION	213.0100	618.0100	642.5201	SPV.0105.01
		FINISHING ROADWAY (1060-10-70)	MAINTENANCE AND REPAIR OF HAUL ROADS (1060-10-70)	FIELD OFFICE TYPE C	SURVEY PROJECT (1060-10-70)
		EACH	EACH	EACH	LS
0010	PROJECT 1060-10-70	1	1	1	1
TOTAL:		1	1	1	1

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TYPE II PERMANENT SIGNING - 1060-10-70												1060-10-70, ELMHURST RD, IH 94	
SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE			637.2210	637.2230	638.2602	638.3000	634.0818	634.0618	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
			W [IN.]	x x	H [IN.]	SIGNS TYPE II REFLC H [SF]	SIGNS TYPE II REFLC F [SF]	REMOVING SIGNS TYPE II [EA]	REMOVING SMALL SIGN SUPPORTS [EA]	POST TUBULAR STEEL 4"x6"x18" [EA]	WOOD POSTS 4"x6"x18" [EA]		
1	R1-1(2S)	CTH G	30	x	30	5.180		1	1	1	--	--	
--	R1-3P (2S)		24	x	9	1.500		--	--	--	--	1	
2	J3-1(2S)		24	x	45	7.500		1	1	--	1	--	
--	-- M1-5A		24	x	24			--	--	--	--	--	
--	-- M6-6		21	x	21			--	--	--	--	--	
3	J3-1(2S)	CTH G	24	x	45	7.500		1	1	--	1	--	
--	-- M1-5A		24	x	24			--	--	--	--	--	
--	-- M6-1		21	x	21			--	--	--	--	--	
4	R1-1(2S)		30	x	30	5.180		1	1	1	--	--	
--	R1-3P (2S)		24	x	9	1.500		--	--	--	--	4	
5	R1-1(2S)		36	x	36	7.460		1	1	1	--	--	
--	R1-3P (2S)		24	x	9	1.500		--	--	--	--	5	
6	S1-1(2S)		36	x	36		6.750	1	1	1	--	--	
--	S16-9P(2S)		30	x	18		3.750	--	--	--	--	6	
7	R2-1(2S)	SPD LIMIT 50 CTH G	24	x	30	5.000		1	1	1	--	--	4' MOUNTING HT. -- -- --
8	W5-52L(2S)		12	x	36		3.000	1	1	1	--	--	
9	W5-52L(2S)		12	x	36		3.000	1	1	--	--	--	
10	J3-1(2S)		24	x	45	7.500		1	1	--	1	--	
--	-- M1-5A		24	x	24			--	--	--	--	--	
--	-- M6-6	21	x	21			--	--	--	--	--	--	
11	J1-1(2S)	CTH DR	24	x	39	6.500		1	1	--	1	--	-- -- --
--	-- M2-1		21	x	15			--	--	--	--	--	
--	M1-5A		24	x	24			--	--	--	--	--	
12	R1-1(2S)		30	x	30	5.180		1	1	1	--	--	
--	R1-3P (2S)	24	x	9	1.500		--	--	--	--	12	--	
13	J3-1(2S)	CTH G	24	x	45	7.500		1	1	--	1	--	-- -- --
--	-- M1-5A		24	x	24			--	--	--	--	--	
--	-- M6-1		21	x	21			--	--	--	--	--	
14	W5-52R(2S)		12	x	36		3.000	1	1	1	--	--	--
15	W5-52R(2S)		12	x	36		3.000	1	1	--	--	--	
16	J1-1(2S)	CTH G IH 94	24	x	39	6.500		1	1	--	1	--	-- -- -- -- -- --
--	-- M2-1		21	x	15			--	--	--	--	--	
--	M1-5A		24	x	24			--	--	--	--	--	
17	J3-1(2S)		24	x	57	9.500		1	1	--	1	--	
--	-- MB4-1		24	x	12			--	--	--	--	--	
--	-- M1-1		24	x	24			--	--	--	--	--	
--	-- MB6-1	21	x	21			--	--	--	--	--		
18	R1-1(2S)		30	x	30	5.180		1	1	1	--	--	-- -- -- -- --
--	R1-3P (2S)		24	x	9	1.500		--	--	--	--	18	
19	R1-1(2S)		30	x	30	5.180		1	1	1	--	--	
--	R1-3P (2S)		24	x	9	1.500		--	--	--	--	19	
20	R1-1(2S)		30	x	30	5.180		1	1	1	--	--	
--	R1-3P (2S)		24	x	9	1.500		--	--	--	--	20	
21	J3-1(2S)	CTH DR	24	x	45	7.500		1	1	--	1	--	-- -- --
--	-- M1-5A		24	x	24			--	--	--	--	--	
--	-- M6-4		21	x	21			--	--	--	--	--	
22	R1-1(2S)	IH 94	30	x	30	5.180		1	1	1	--	--	-- -- -- -- -- --
--	R1-3P (2S)		24	x	9	1.500		--	--	--	--	22	
23	J3-1(2S)		24	x	57	9.500		1	1	--	1	--	
--	-- MB4-1		24	x	12			--	--	--	--	--	
--	-- M1-1		24	x	24			--	--	--	--	--	
--	-- MB6-1		21	x	21			--	--	--	--	--	
24	R1-1(2S)		30	x	30	5.180		1	1	1	--	--	-- -- -- --
--	R1-3P (2S)		24	x	9	1.500		--	--	--	--	24	
25	R1-1(2S)		30	x	30	5.180		1	1	1	--	--	
--	R1-3P (2S)		24	x	9	1.500		--	--	--	--	25	
26	W3-1(2S)		36	x	36		9.000	1	1	1	--	--	SEE SHT 1 OF 2 SEE SHT 1 OF 2
27	W3-1(2S)		36	x	36		9.000	1	1	1	--	--	
TOTALS						143.580	40.500	27	27	16	9		

DRAFT





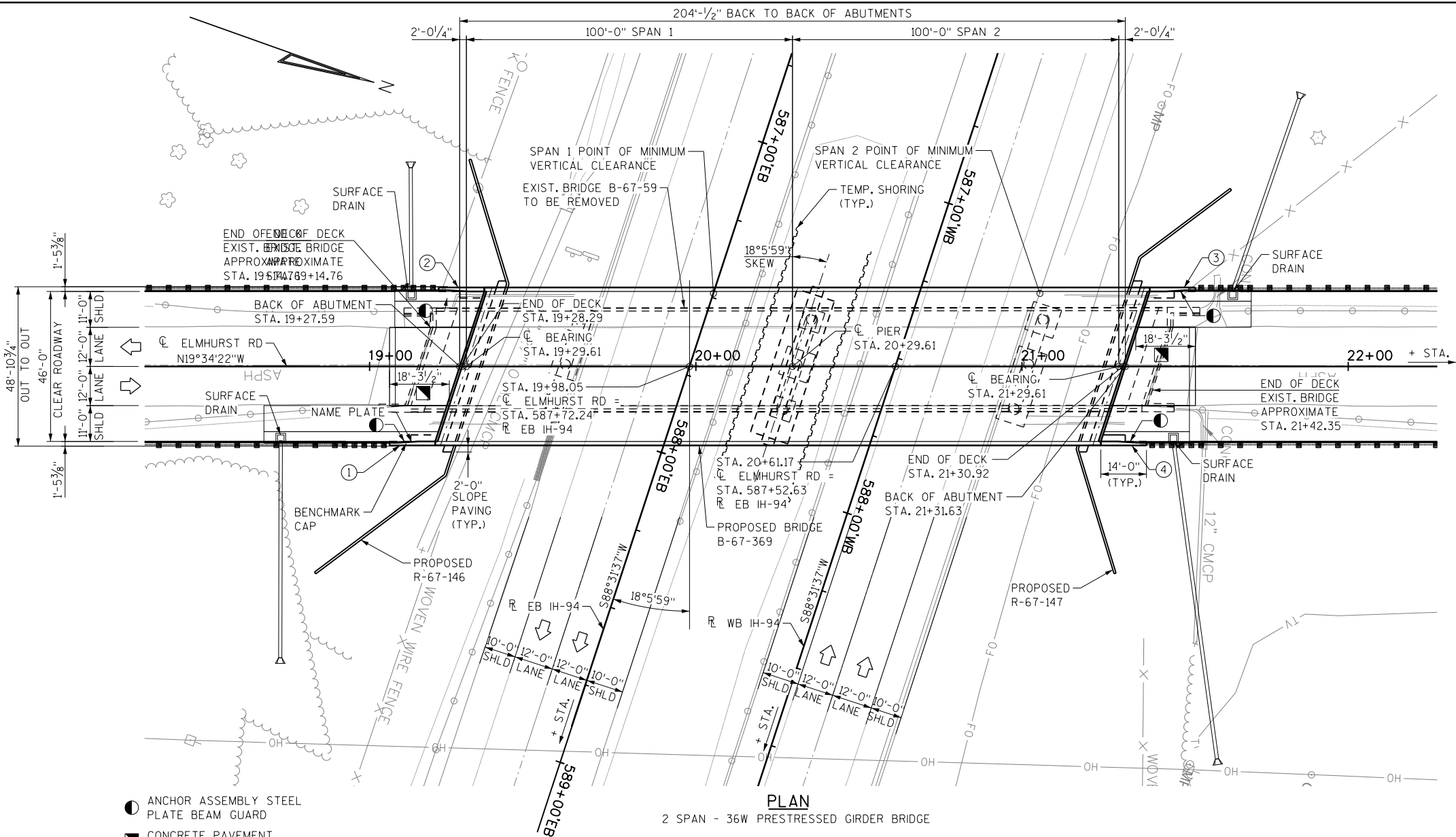
NOTES

- 1. All Signs Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - C

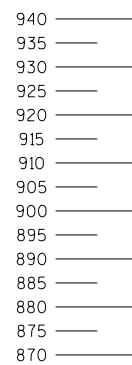
DRAFT

LIST OF DRAWINGS:

1. GENERAL PLAN & ELEVATION
2. TYPICAL SECTIONS & NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. PIER
9. PIER DETAILS
10. PIER DETAILS CONTINUED
11. 36W" PRESTRESSED GIRDER
12. 36W" PRESTRESSED GIRDER DETAILS
13. SUPERSTRUCTURE FRAMING PLAN
14. SUPERSTRUCTURE REINFORCEMENT
15. SUPERSTRUCTURE DETAILS
16. STEEL DIAPHRAGM
17. SINGLE SLOPE PARAPET MODIFIED



- ANCHOR ASSEMBLY STEEL PLATE BEAM GUARD
- CONCRETE PAVEMENT APPROACH SLAB (ROADWAY ITEM)
- ⊗ WINGWALL NO.



ELEVATION

BENCHMARKS

NAME	ELEVATION	DESCRIPTION	STATION	OFFSET
BM110	921.54	CP CHIS CROSS	21+37	12.7 RT
BM111	925.13	CP CHIS CROSS	19+11	12.5 RT
BM128	911.56	CP FENO	26+41	21.2 RT
BM130	921.23	CP FENO	15+96	18.3 RT

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:	CONSULTANT:
WILLIAM DREHER, PE (608) 266-8489	WILLIAM J. ZIPPEL, PE, SE ALFRED BENESCH & CO 1300 W CANAL ST, SUITE 150 MILWAUKEE, WI 53233 (414) 308-1321

STATE PROJECT NUMBER

1060-10-70

DESIGN DATA

LIVE LOAD:
DESIGN LOADING HL-93
INVENTORY RATING FACTOR 1.12
OPERATING RATING FACTOR 1.45
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) = 250 KIPS
DESIGN ACCOUNTS FOR FUTURE WEARING SURFACE = 20 PSF

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE (HPC) f'c = 4,000 psi
SUBSTRUCTURE f'c = 4,000 psi
36W-INCH PRESTRESSED GIRDERS f'c = 8,000 psi
BAR STEEL REINFORCEMENT fy = 60,000 psi
STAINLESS STEEL BAR REINFORCEMENT fy = 60,000 psi
STEEL PILING fy = 50,000 psi
PRESTRESSING STRANDS:
ULTIMATE TENSILE STRENGTH = 270,000 psi

FOUNDATION DATA:

PLACE ABUTMENTS ON STEEL HP 12x53 PILING WITH PILE POINTS DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 190 TONS/PILE* AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.

* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

EST. PILE LENGTHS: 40 FT AT N. ABUT.
20 FT AT S. ABUT.

PIER IS TO BE SUPPORTED ON SPREAD FOOTING. THE REQUIRED NOMINAL BEARING RESISTANCE OF THE NATIVE SOIL AT THE BOTTOM OF THE FOOTING IS 24.4 KSF. THE NOMINAL BEARING CAPACITY MUST BE VERIFIED BY ENGINEER PRIOR TO CONSTRUCTION OF THE PIER FOOTING.

THE FACTORED NET BEARING RESISTANCE OF THE NATIVE SOIL IS THE REQUIRED NOMINAL BEARING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.45. FACTORED NET BEARING RESISTANCE IS 11 KSI.

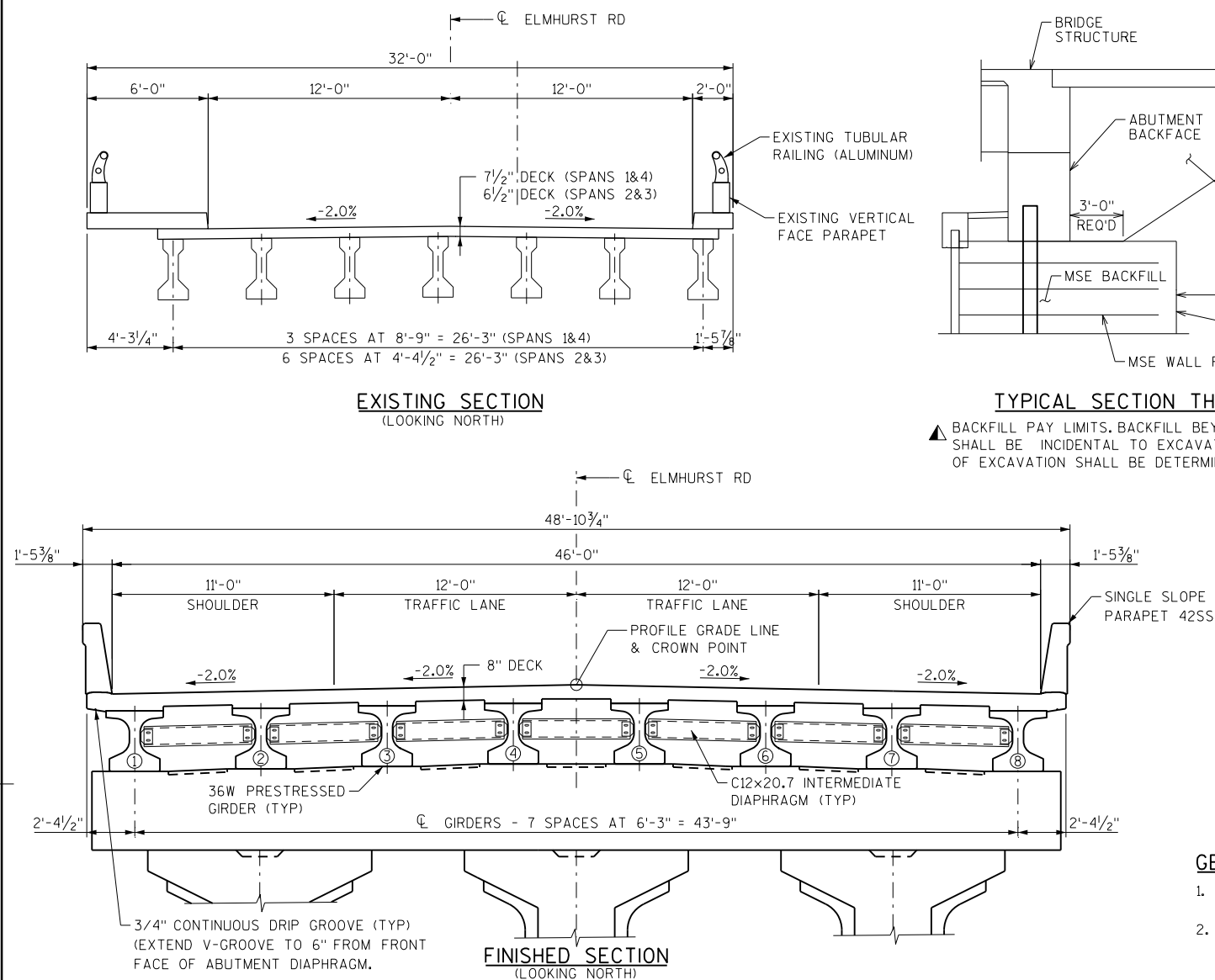
TRAFFIC DATA

ELMHURST RD IH-94
AADT (2020) = 2,800 AADT (2020) = 70,350
AADT (2040) = 3,100 AADT (2040) = 77,700
D = 59/41 DESIGN SPEED = 70 MPH.
DESIGN SPEED = 40 MPH.

EXISTING STRUCTURE

THE EXISTING BRIDGE (B-67-059) IS A 221'-6" LONG, 32'-0" WIDE FOUR SPAN PRESTRESSED CONCRETE GIRDER BRIDGE SUPPORTED ON CONCRETE PIERS AND ABUTMENTS. PLANS OF THE EXISTING BRIDGE ARE AVAILABLE FOR REVIEW AT WISDOT SE REGION OFFICE, 141NW BARSTOW ST. WAUKESHA, WI OR THROUGH THE WISDOT STRUCTURES WEBSITE.

NO.	DATE	REVISION	BY
Alfred Benesch & Company 1300 West Canal Street, Suite 150 Milwaukee, Wisconsin 53233 414-308-1310 Job No. 20205.00			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		CHIEF STRUCTURES DESIGN ENGINEER	DATE
STRUCTURE B-67-369			
ELMHURST ROAD OVER IH-94			
COUNTY	WAUKESHA	TOWN/CITY	DELAFIELD
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	JAP	DESIGN CHECKED BY	WJZ
GENERAL PLAN AND ELEVATION			SHEET 1 OF 17
			PRE_52

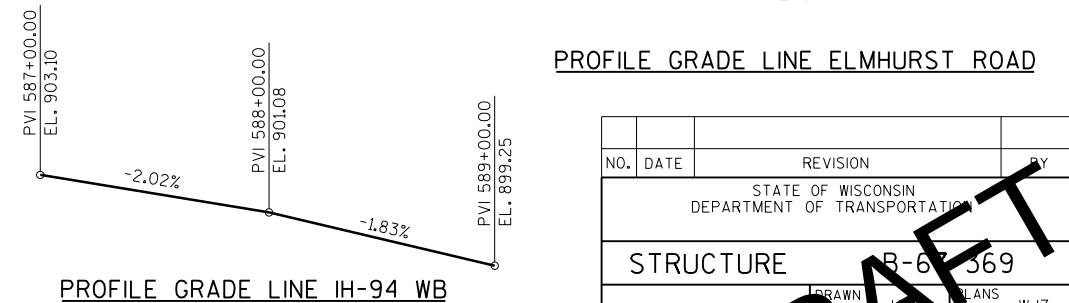
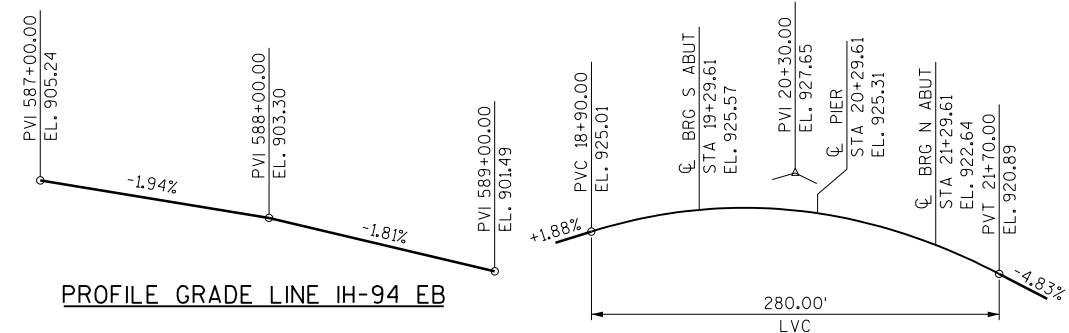
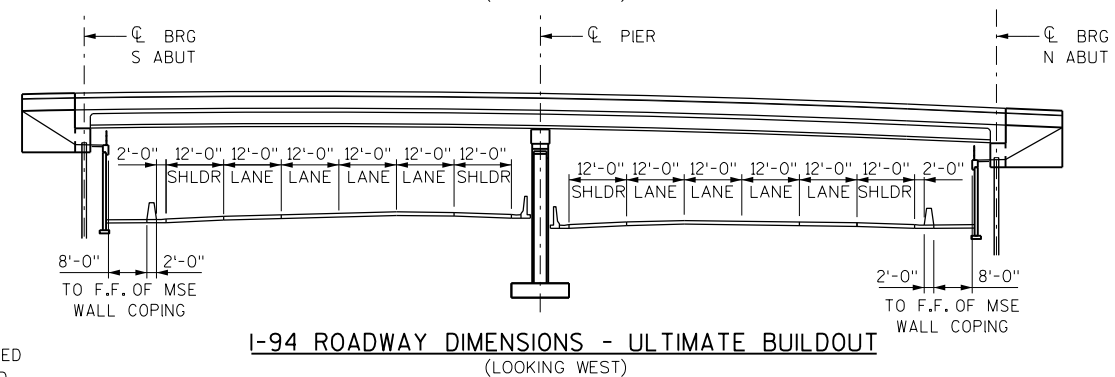
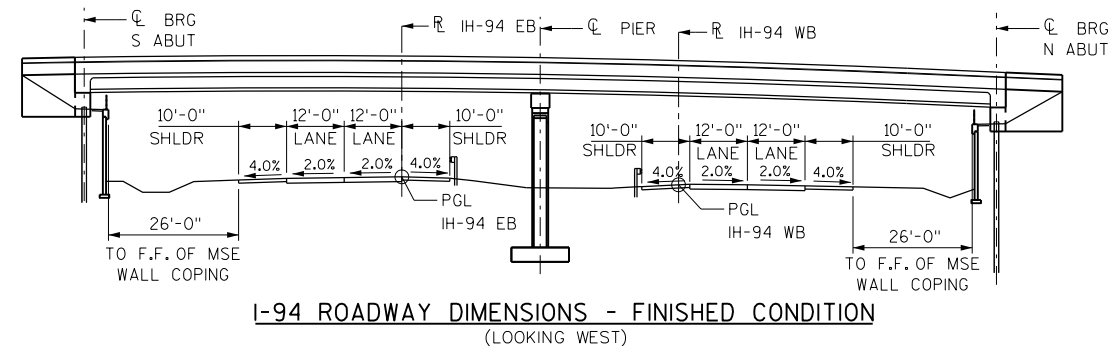
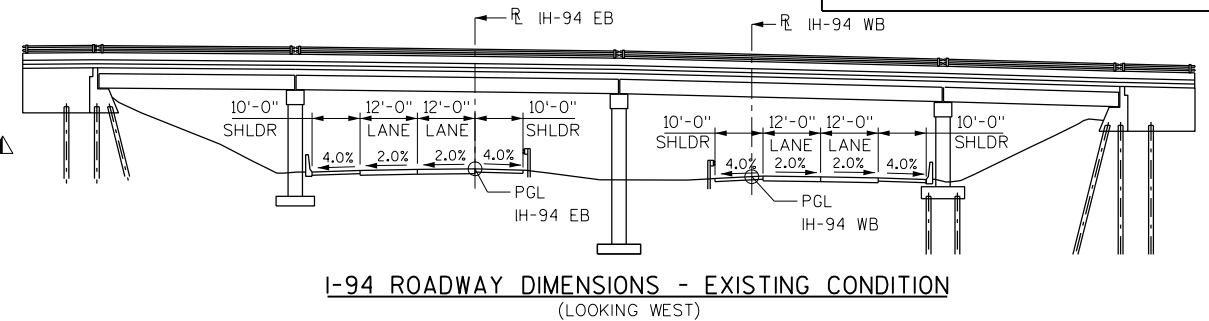


TOTAL ESTIMATE OF QUANTITIES

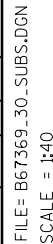
BID NO.	BID ITEMS	UNIT	SOUTH ABUT.	PIER	NORTH ABUT.	SUPER	TOTAL
203.0200	REMOVING OLD STRUCTURE STA 19+15	LS					1
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-67-59	LS					1
210.1100	BACKFILL STRUCTURE TYPE A	CY	59	524	59		642
501.1000.S	ICE HOT WEATHER CONCRETING	LB	360	1088	375	2843	4666
502.0100	CONCRETE MASONRY BRIDGES	CY	48	145	50	379	622
502.3200	PROTECTIVE SURFACE TREATMENT	SY				1043	1043
502.3210	PIGMENTED SURFACE SEALER	SY				227	227
503.0137	PRESTRESSED GIRDER TYPE 136W-INCH	LF				1606	1606
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3119	6743	3272	0	13134
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1618	21140	1624	83720	108102
506.2605	BEARING PADS ELASTOMERIC LON-LAMINATED	EACH				32	32
506.4000	STEEL DIAPHRAGMS B-67-369	EACH				28	28
511.1200	TEMPORARY SHORING B-67-369	SF		1620			1620
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11		11		22
550.0500	PILE POINTS	EACH	10		10		20
550.1120	PIILING STEEL HP 12-INCH X 53 LB	LF	200		400		600
604.0400	SLOPE PAVING CONCRETE	SY	14		14		28
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2		2		4
SPV.0035.41	LEAN CONCRETE	CY		60			60
NON-BID ITEMS							
	NAME PLATE						
	JOINT FILLER						
	NON-BITUMINOUS JOINT SEALER						

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED. THE TOP LAYER OF BAR STEEL REINFORCEMENT IN THE DECK SHALL BE PLACED WITH 2 1/2" OF CONCRETE COVER.
- BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS NOTED OTHERWISE.
- ALL STATIONS AND ELEVATIONS ARE IN FEET.
- THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.
- THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS AND ABUTMENTS.
- AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS.
- EXISTING PILING IS TO BE CUT OFF AT THE BOTTOM OF PROPOSED MSE WALL. COST IS INCIDENTAL TO REMOVING OLD STRUCTURE STA 19+15.

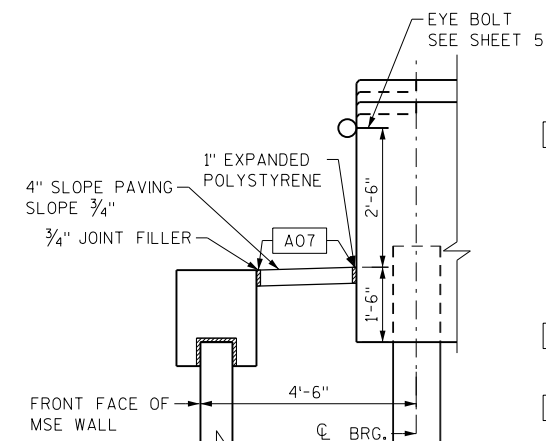


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67-369			
DRAWN BY PLANS CKD. WJZ			
TYPICAL SECTION AND NOTES			
SHEET 2 OF 17			PRE_53

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-67369	
DRAWN BY		PLANS CHECK'D.	WJZ
SUBSURFACE EXPLORATION		SHEET 3 OF 17	
		PRE_54	

FILE= B67369_30_SUBS.DGN
SCALE = 1:40

WALL SECTION

A01 ABUTMENT TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO THE REQUIRED DRIVING RESISTANCE OF 190 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH = 20 FEET. INSTALL BRIDGE PILING BEFORE MSE WALL. PLACE REINFORCING MAT AROUND PILING FOR ABUTMENT.

THE FACTORED AXIAL RESISTANCE OF PILE IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

A02 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE AS DIRECTED BY THE ENGINEER. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.

A03 VERT. CONSTR. JOINT KEYWAY FORMED AT C OF ABUTMENT BY A BEVELED 2"x8".
DEFINE BY 3/4" V-GROOVE ON FRONT FACE.

A04 1/2" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

A05 3/4" CORK FILLER ON VERT. BEAM SEAT FACES, TYP.

A06	18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
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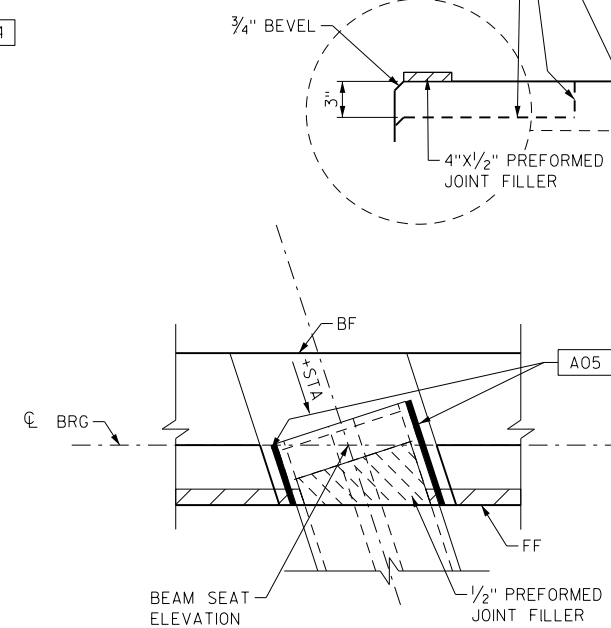
A07 SEAL ALL HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

XX PILE NUMBER, SEE SHEET 5 FOR PILE SPLICE DETAILS.

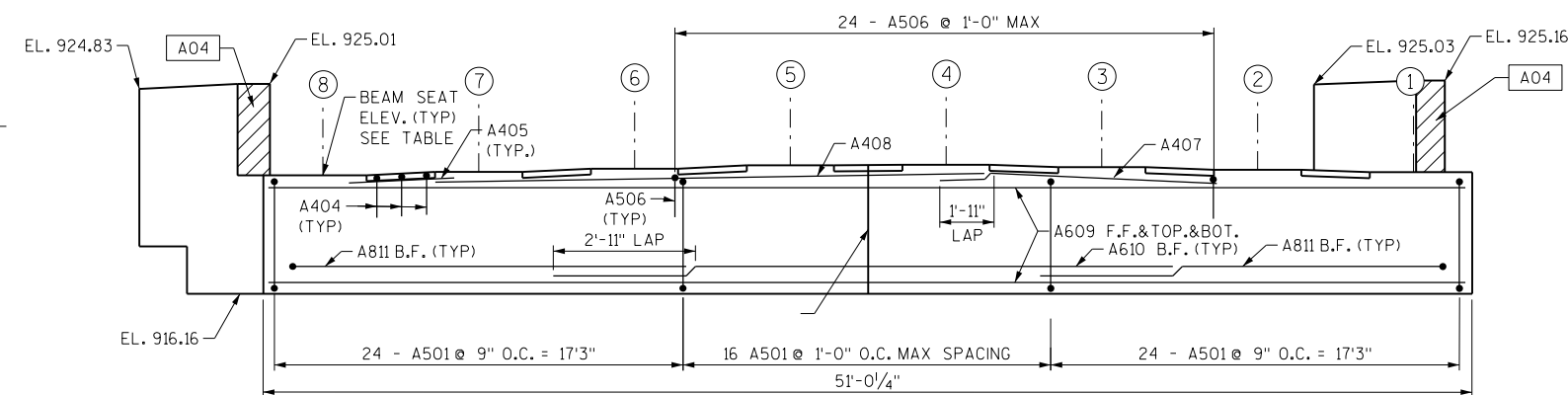
(X) GIRDER NUMBER, SEE SHEETS 11, 12 & 13 FOR GIRDER DETAILS.

(X) WINGWALL NUMBER, SEE SHEET 5 FOR WINGWALL DETAILS.

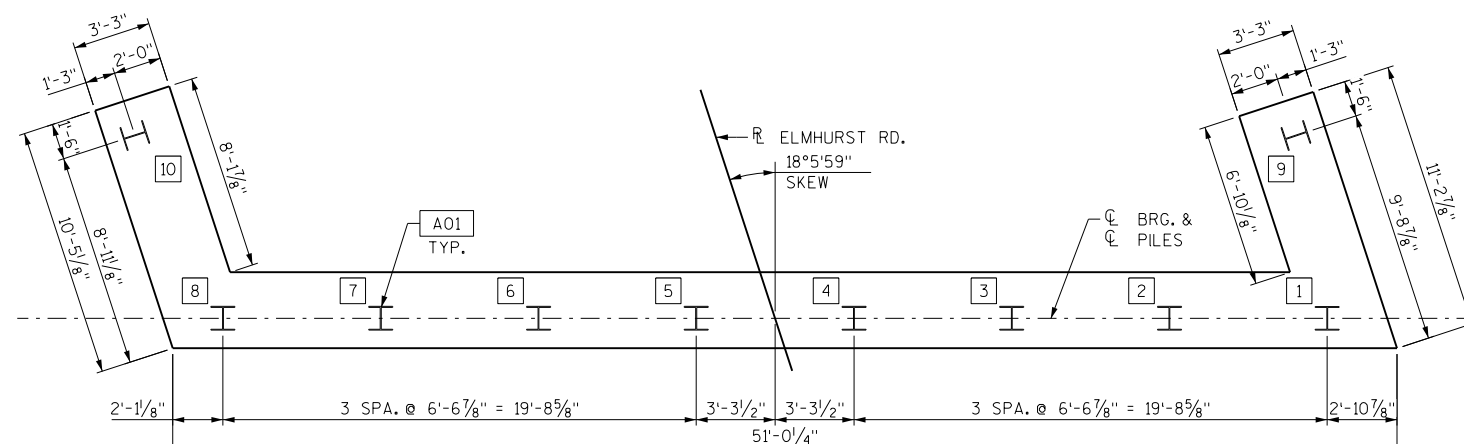
STEEL TROWEL TOP SURFACE OF ABUTMENT.
PLACE MULTIPLE LAYERS OF POLYETHYLENE
SHEETS OVER ENTIRE ABUTMENT TOP BEFORE
PLACING BEARING PADS AND/OR
SUPERSTRUCTURE. TOTAL THICKNESS OF
SHEETS SHALL BE AT LEAST 0.03"

[illegible]

SECTION THRU BODY



ELEVATION
(LOOKING SOUTH)



PILING PLAN

GIRDER	BEAM SEAT ELEVATION (F)
1	921.29
2	921.40
3	921.51
4	921.62
5	921.60
6	921.45
7	921.31
8	921.16

NOTES:
EXCAVATE TO BOTTOM OF ABUTMENTS
BEFORE DRIVING PILES

DO NOT PLACE FILL ABOVE 3'-0" FROM
BOTTOM OF ABUTMENT, UNTIL
SUPERSTRUCTURE IS IN PLACE

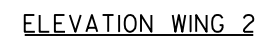
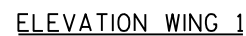
FF DENOTES FRONT FACE

BF DENOTES BACK FACE

EF DENOTES EACH FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		R-6 369	
DRAWN BY		PLANS CKD. WJZ	
SOUTH ABUTMENT		SHEET 4 OF 17	
		PRE_55	

FILE= B67369_40_SABU1.DGN
SCALE = 1:8



BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED	BAR SERIES	1618 ■ COATED 3119 ■ UNCOATED	LOCATION
A501		64	15'-0"	X				ABUT BODY STIRRUPS
A402		16	2'-3"					ABUT PILES - 2 PER PILE
A403		8	28'-0"	X				ABUT PILES - 1 PER PILE
A404		21	4'-6"	X				ABUT BODY TOP - BETWEEN BEAM SEATS
A405		14	4'-11"					ABUT BODY TOP - BETWEEN BEAM SEATS
A506		24	5'-11"	X				ABUT BODY TOP - UNDER GIRDERS 3 THRU 5
A407		4	11'-5"					ABUT BODY TOP - UNDER GIRDERS 3 THRU 4
A408		4	13'-2"					ABUT BODY TOP - UNDER GIRDERS 4 THRU 5
A609		11	50'-8"					ABUT BODY LONGITUDINAL
A610		6	22'-8"					ABUT BODY LONGITUDINAL - BF MID
A811		12	18'-1"					ABUT BODY LONGITUDINAL - BF ENDS
A612	X	10	10'-1"					WINGWALL 1 FOOTING - HORIZ. BARS - BF & TOP
A613	X	10	8'-9"					WINGWALL 2 FOOTING - HORIZ. BARS - BF & TOP
A514	X	6	10'-1"					WINGWALL 1 FOOTING - HORIZ. BARS - FF
A515	X	6	10'-11"					WINGWALL 2 FOOTING - HORIZ. BARS - FF
A516	X	9	15'-8"	X				WINGWALL 1 FOOTING - STIRRUPS
A517	X	8	16'-0"	X				WINGWALL 2 FOOTING - STIRRUPS
A418	X	5	4'-8"					WINGWALL 1 - ABUTMENT END VERTICAL
A419	X	4	4'-10"					WINGWALL 2 - ABUTMENT END VERTICAL
A420	X	18	13'-7"					WINGWALL 1 & 2 - HORIZONTAL FF & BF
A621	X	4	13'-7"					WINGWALL 1 & 2 - HORIZONTAL TOP
A522	X	20	13'-4"	X				WINGWALL 1 - U BARS
A523	X	20	13'-10"	X				WINGWALL 2 - U BARS
A424	X	16	7'-9"					WINGWALL 1 & 2 - HORIZONTAL BARS - FF & BF

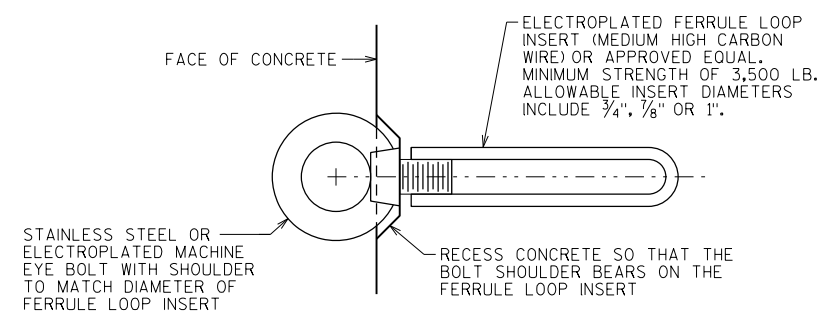
The image contains two elevation drawings of building wings, labeled 'WING 1' and 'WING 2'.

WING 1: This drawing shows a cross-section of a wing with a total width of 5'-0" and a total height of 3'-10 1/4". The top section is 1'-3" wide and contains a 3/4" V-GROOVE. The main section is 2'-0" wide and contains a 3/4" V-GROOVE. The bottom section is 1'-3" wide and contains a 3/4" V-GROOVE. The drawing includes dimensions for the top section (1'-3", 3'-10 1/4", 2'-0", 1'-3"), the main section (5'-0", 3'-10 1/4", 2'-0", 1'-3"), and the bottom section (1'-3", 3'-10 1/4", 2'-0", 1'-3"). It also shows dimensions for the top section (1'-3", 3'-10 1/4", 2'-0", 1'-3") and the main section (5'-0", 3'-10 1/4", 2'-0", 1'-3").

WING 2: This drawing shows a cross-section of a wing with a total width of 5'-1 1/2" and a total height of 3'-10 1/2". The top section is 1'-3" wide and contains a 3/4" V-GROOVE. The main section is 2'-0" wide and contains a 3/4" V-GROOVE. The bottom section is 1'-3" wide and contains a 3/4" V-GROOVE. The drawing includes dimensions for the top section (1'-3", 3'-10 1/2", 2'-0", 1'-3"), the main section (5'-1 1/2", 3'-10 1/2", 2'-0", 1'-3"), and the bottom section (1'-3", 3'-10 1/2", 2'-0", 1'-3"). It also shows dimensions for the top section (1'-3", 3'-10 1/2", 2'-0", 1'-3") and the main section (5'-1 1/2", 3'-10 1/2", 2'-0", 1'-3").

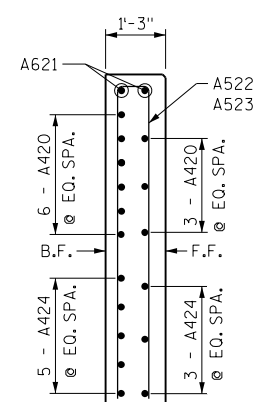
SECTION A-A

SECTION B-B

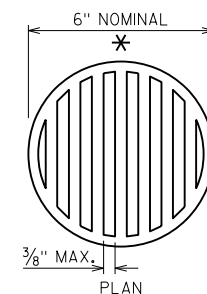


EYE BOLT DETAIL

COST INCIDENTAL TO BID ITEM
"CONCRETE MASONRY BRIDGES"

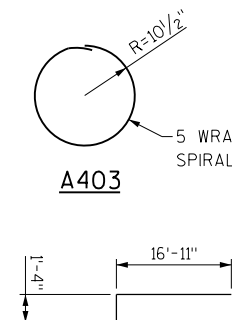


SECTION C-C
(TYP. THRU WING)

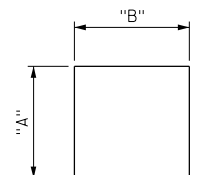


RODENT SHIELD DETAIL

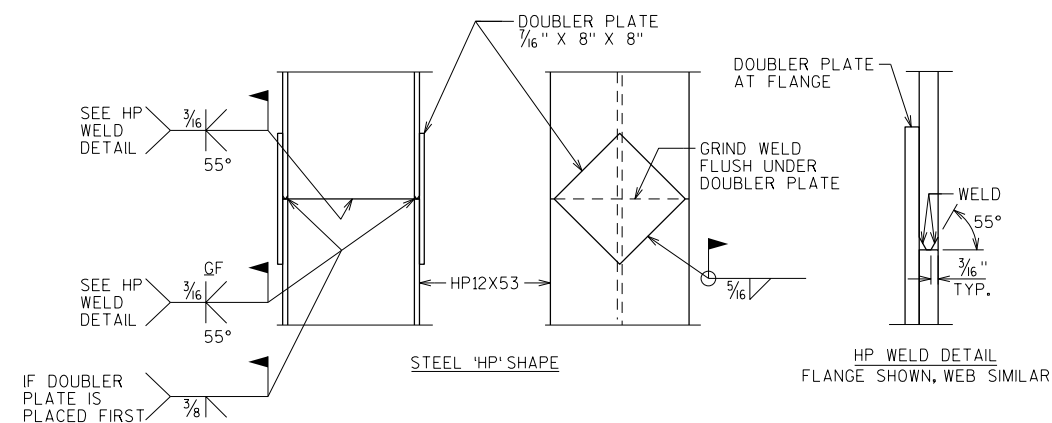
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

A811

BAR NO.	DIM "A"	DIM "B"	DIM "C"
A501	4'-4"	2'-10"	4"
A516	4'-7"	2'-11"	4"
A517	4'-4"	2'-11"	4"

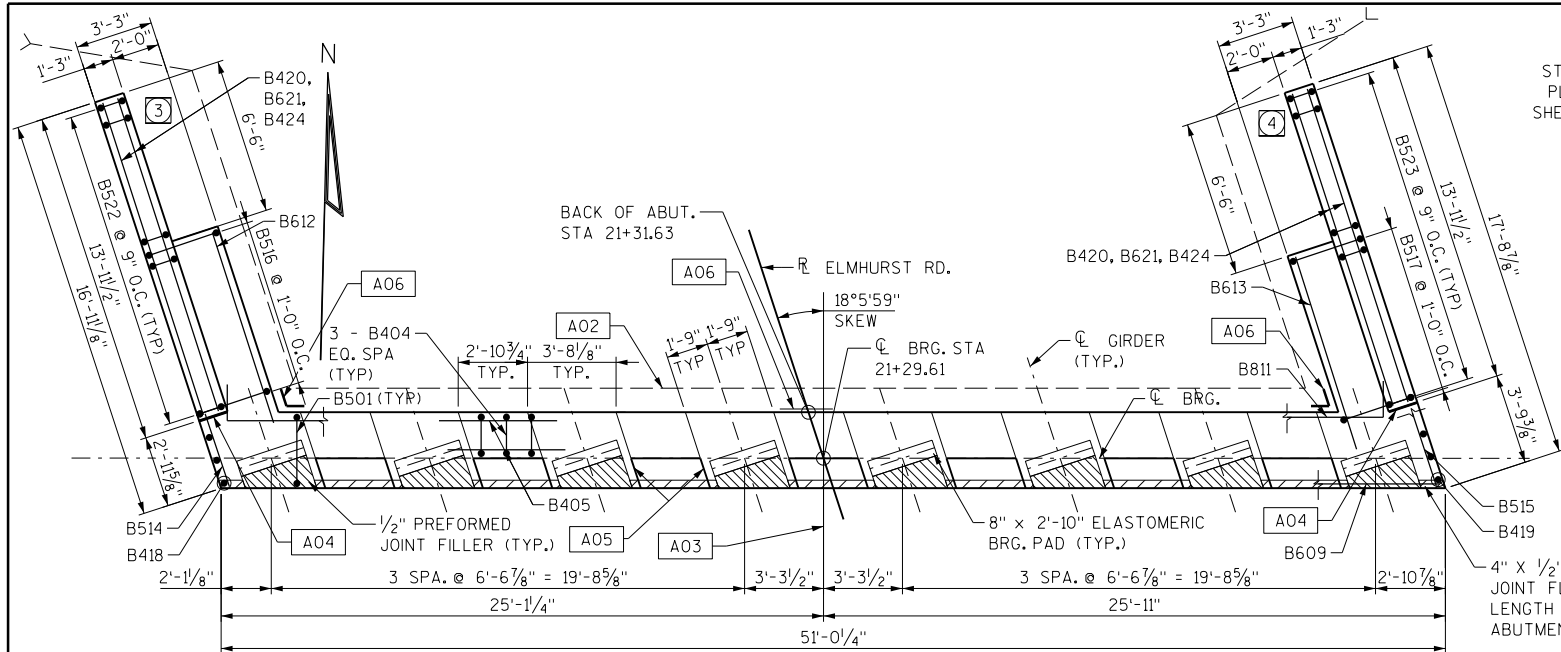


BAR NO.	DIM "A"	DIM "B"
A404	1'-6"	1'-8"
A506	1'-5"	2'-10"
A522	6'-4"	0'-11"
A523	6'-7"	0'-11"

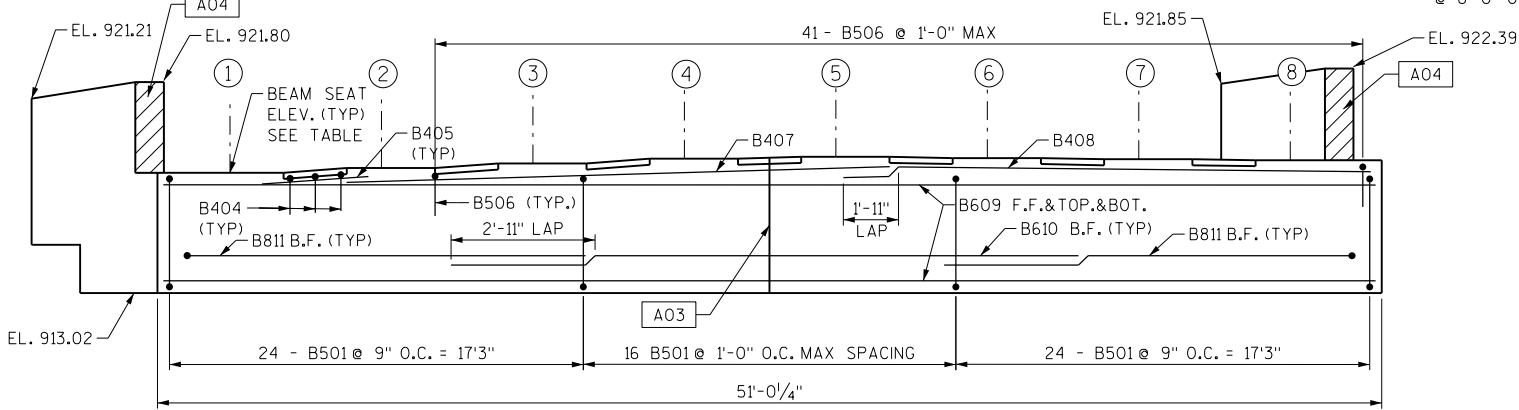


STEEL PILING SPLICE DETAILS

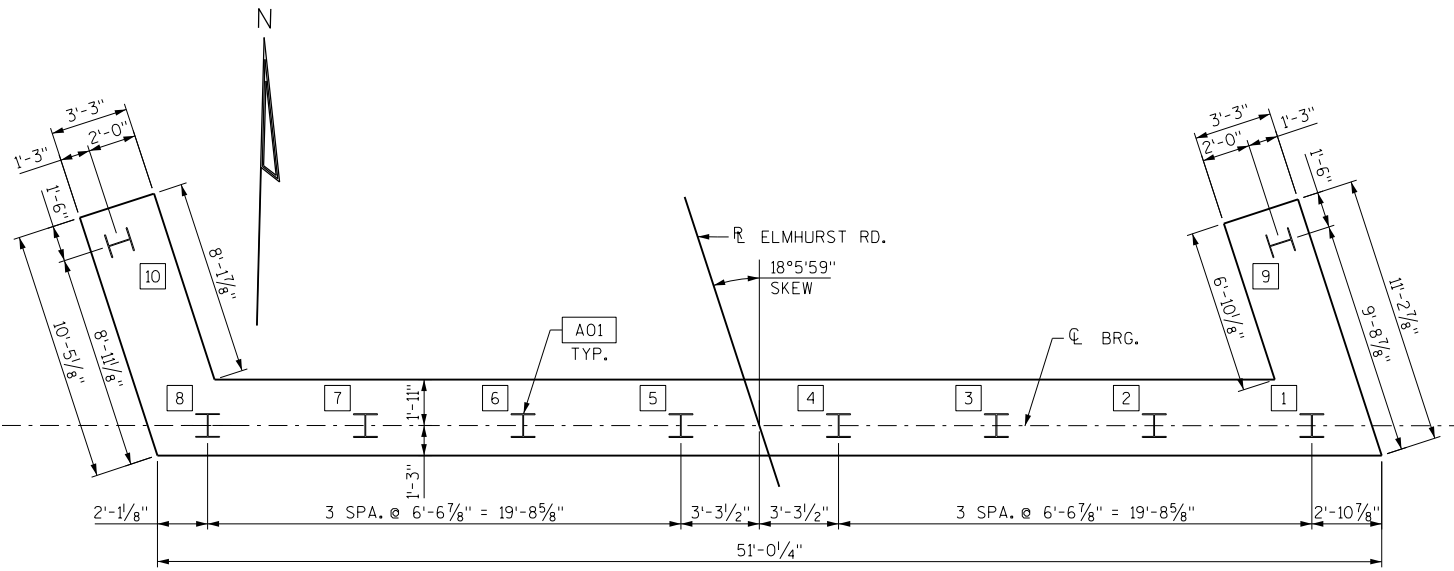
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-67369	
DRAWN BY	CHECKED	DESIGNED BY	WJZ
SOUTH ABUTMENT DETAILS		SHEET 5 OF 17	
		PRE_56	



PLAN

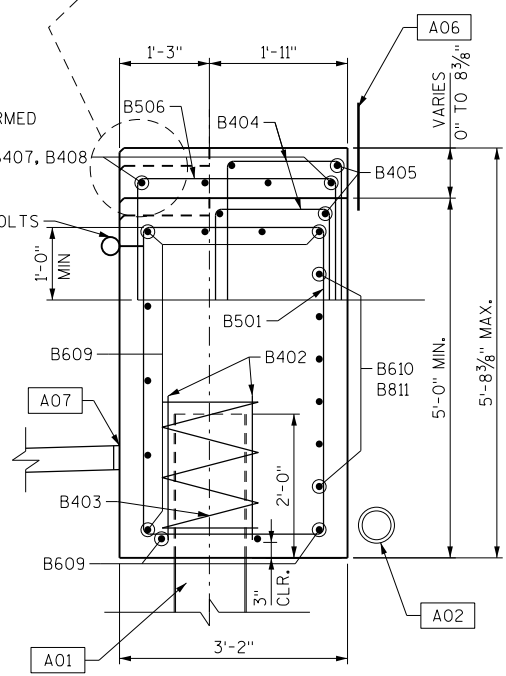
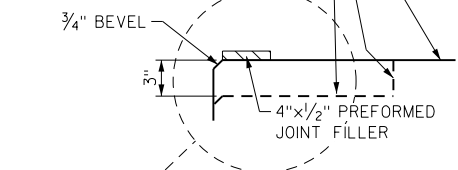


ELEVATION
LOOKING NORTH

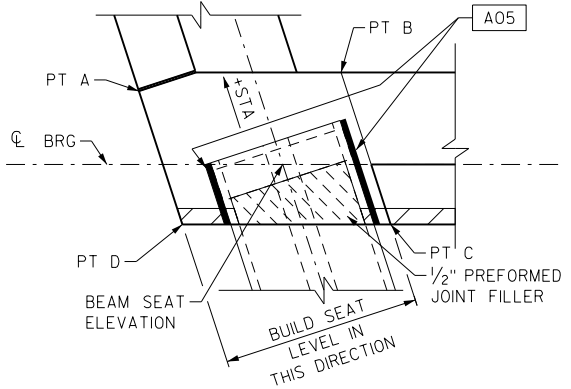


PILING PLAN

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"



SECTION THRU BODY

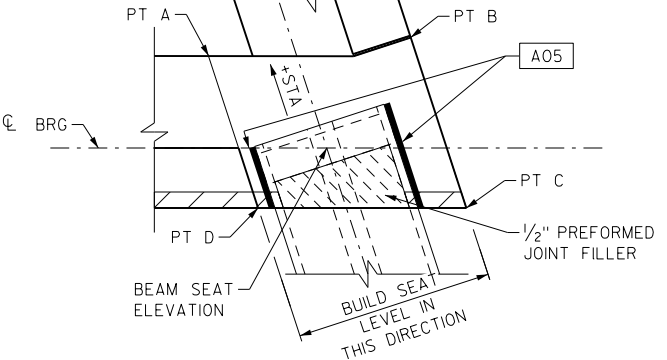


SLOPED BEAM SEAT DETAIL
GIRDER 1

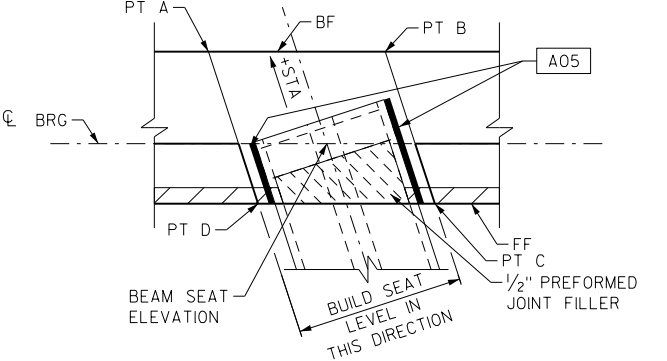
GIRDER	BEAM SEAT ELEVATION (FT)	CHANGE IN SEAT ELEVATION (FT)			
		PT A	PT B	PT C	PT D
1	918.02	-0.08	-0.05	0.06	0.02
2	918.23	-0.08	-0.04	0.06	0.02
3	918.43	-0.08	-0.04	0.06	0.02
4	918.64	-0.08	-0.04	0.06	0.02
5	918.72	-0.08	-0.04	0.06	0.02
6	918.67	-0.08	-0.04	0.06	0.02
7	918.62	-0.08	-0.04	0.06	0.02
8	918.57	-0.08	-0.05	0.06	0.02

NOTES:

- A01 ABUTMENT TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO THE REQUIRED DRIVING RESISTANCE OF 190 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH = 40 FEET. INSTALL BRIDGE PILING BEFORE MSE WALL. PLACE REINFORCING MAT AROUND PILING FOR ABUTMENT.
- ** THE FACTORED AXIAL RESISTANCE OF PILE IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.
- A02 PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE AS DIRECTED BY THE ENGINEER. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 5.
- A03 VERT. CONSTR. JOINT KEYWAY FORMED AT CL ABUTMENT BY A BEVELED 2"X8". DEFINE BY 3/4" V-GROOVE ON FRONT FACE.
- A04 1/2" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.
- A05 3/4" CORK FILLER ON VERT. BEAM SEAT FACES, TYP.
- A06 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- A07 SEAL ALL HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER, (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).
- XX PILE NUMBER, SEE SHEET 5 FOR PILE SPLICE DETAILS.
- X GIRDER NUMBER, SEE SHEETS 11, 12 & 13 FOR GIRDER DETAILS.
- X WINGWALL NUMBER, SEE SHEET 7 FOR WINGWALL DETAILS.



SLOPED BEAM SEAT DETAIL
GIRDER 8



SLOPED BEAM SEAT DETAIL
GIRDERS 2-7

- NOTES:
- EXCAVATE TO BOTTOM OF ABUTMENTS BEFORE DRIVING PILES
- DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT, UNTIL SUPERSTRUCTURE IS IN PLACE
- FF DENOTES FRONT FACE
- BF DENOTES BACK FACE
- EF DENOTES EACH FACE

STATE PROJECT NUMBER

1060-10-70

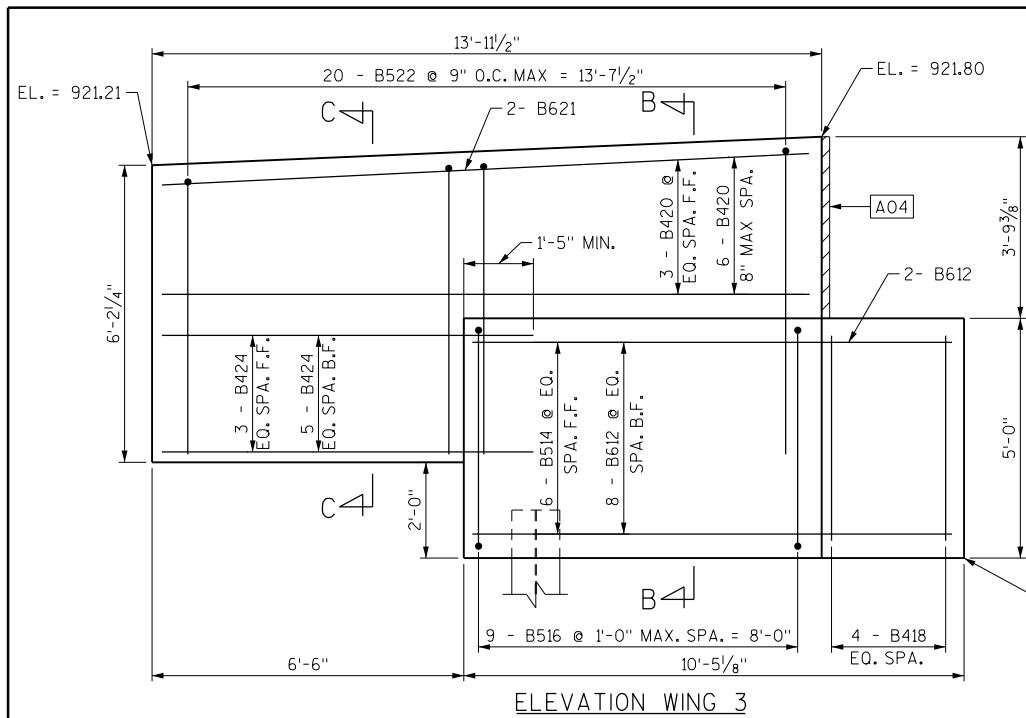
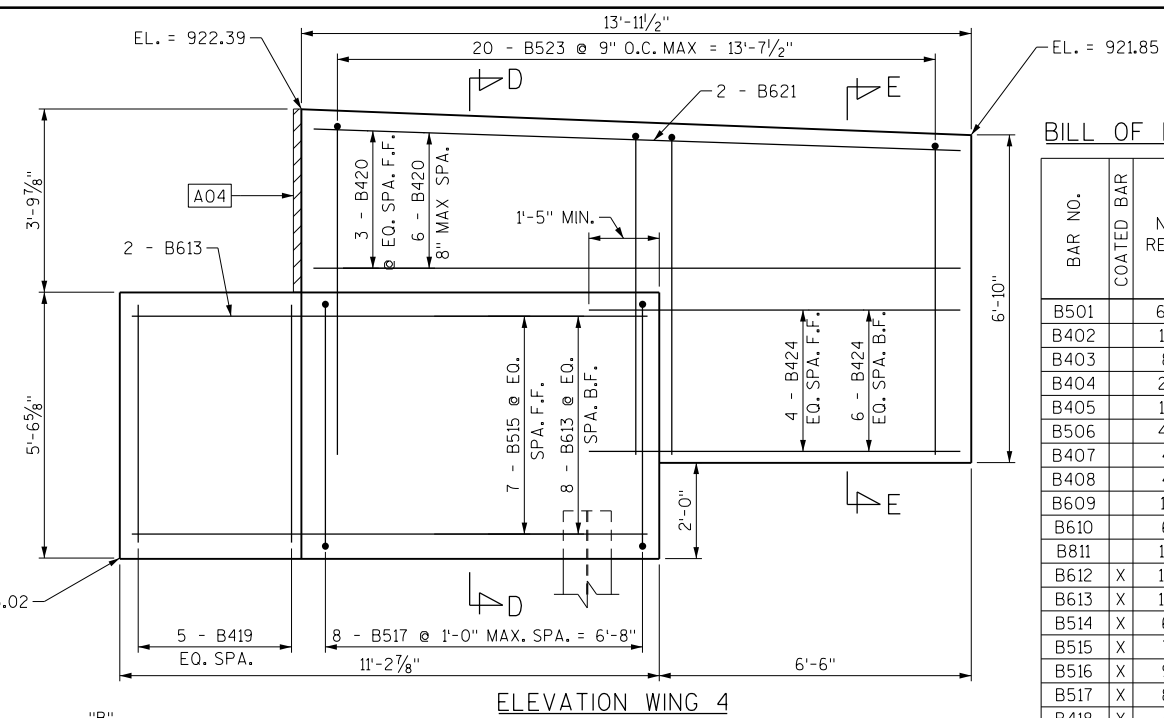
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DATE

REVISION

BY

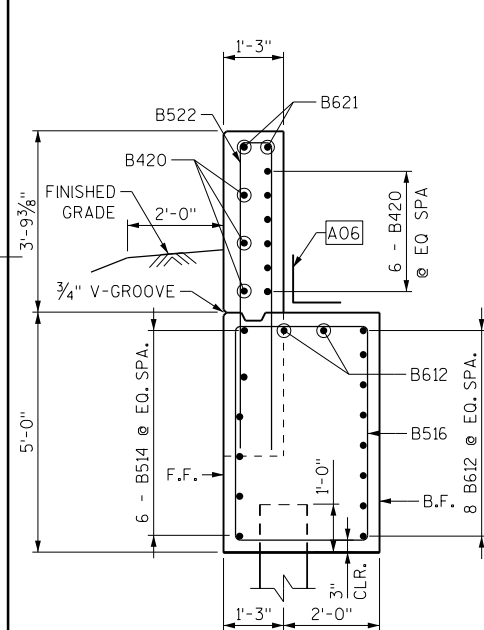
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-67369	
DRAWN BY		PLANS CKD. WJZ	
SHEET 6 OF 17		PRE_57	

ELEVATION WING 3ELEVATION WING 4

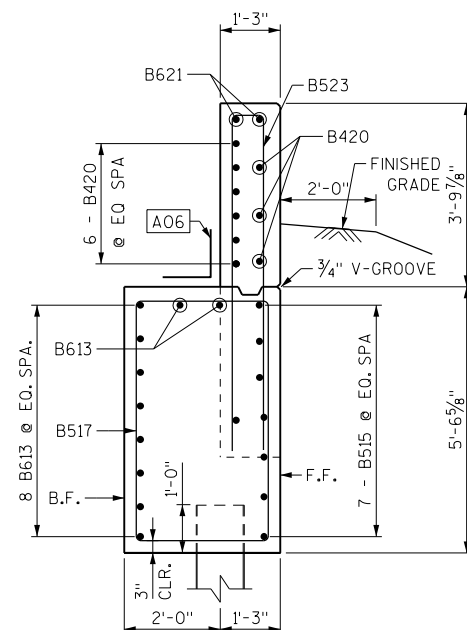
BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED BAR	BAR SERIES	▲	1624 # COATED 3272 # UNCOATED
								LOCATION
B501		64	15'-0"	X				ABUT BODY STIRRUPS
B402		16	2'-3"					ABUT PILES - 2 PER PILE
B403		8	28'-0"	X				ABUT PILES - 1 PER PILE
B404		21	4'-9"	X				ABUT BODY TOP - BETWEEN BEAM SEATS
B405		14	4'-11"					ABUT BODY TOP - BETWEEN BEAM SEATS
B506		41	5'-11"	X				ABUT BODY TOP - UNDER GIRDERS 3 THRU 8
B407		4	19'-0"					ABUT BODY TOP - UNDER GIRDERS 3 THRU 5
B408		4	22'-5"					ABUT BODY TOP - UNDER GIRDERS 5 THRU 8
B609		11	50'-8"					ABUT BODY LONGITUDINAL
B610		6	22'-8"					ABUT BODY LONGITUDINAL - BF MID
B811		12	18'-1"	X				ABUT BODY LONGITUDINAL - BF ENDS
B612	X	10	10'-1"					WINGWALL 3 FOOTING HORIZ. BARS - BF & TOP
B613	X	10	8'-9"					WINGWALL 4 FOOTING HORIZ. BARS - BF & TOP
B514	X	6	10'-1"					WINGWALL 3 FOOTING HORIZ. BARS - FF
B515	X	7	10'-11"					WINGWALL 4 FOOTING HORIZ. BARS - FF
B516	X	9	15'-8"	X				WINGWALL 3 FOOTING STIRRUPS
B517	X	8	16'-10"	X				WINGWALL 4 FOOTING STIRRUPS
B418	X	4	4'-8"					WINGWALL 3 ABUTMENT END VERTICAL
B419	X	5	5'-2"					WINGWALL 4 ABUTMENT END VERTICAL
B420	X	18	13'-7"					WINGWALL 3 & 4 HORIZONTAL FF & BF
B621	X	4	13'-7"					WINGWALL 3 & 4 HORIZONTAL TOP
B522	X	20	12'-4"	X				WINGWALL 3 U-BARS
B523	X	20	13'-8"	X				WINGWALL 4 U-BARS
B424	X	18	7'-9"					WINGWALL 3 & 4 HORIZONTAL BARS - FF & BF

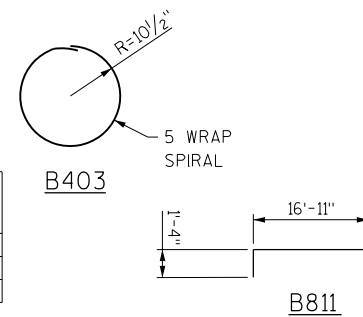
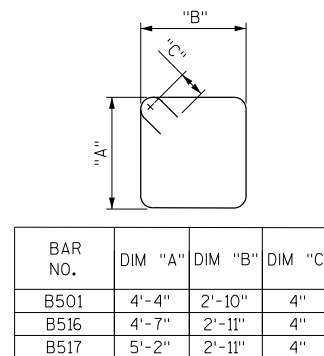
THE FIRST DIGIT OR FIRST TWO DIGITS OF A BAR MARK INDICATES THE BAR SIZE.
ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.



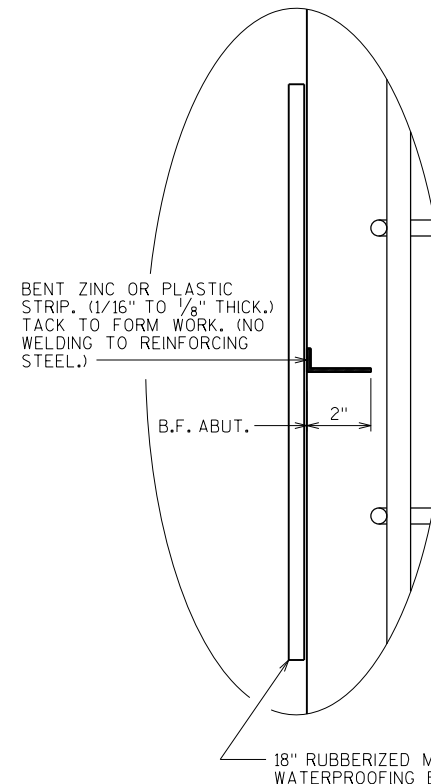
SECTION B-B



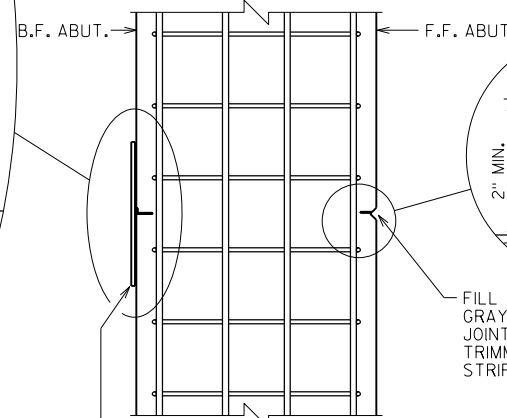
SECTION D-D



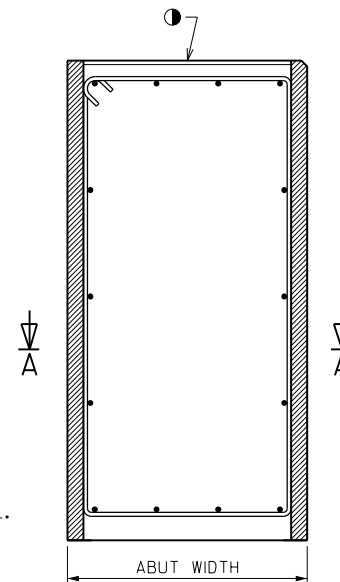
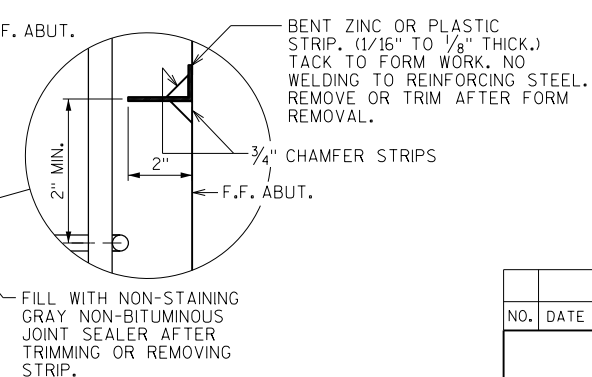
BAR NO.	DIM "A"	DIM "B"
B404	1'-8"	1'-7"
B506	1'-8"	2'-10"
B522	5'-10"	0'-11"
B523	6'-6"	0'-11"



ALTERNATE CONSTRUCTION JOINT AT ABUTMENT



SECTION A-A



SECTION THRU
ABUTMENT BODY

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-67-369	
DRAWN BY		CHECK'D. WJZ	
NORTH ABUTMENT DETAILS		SHEET 7 OF 17	
		PRE_58	

SCALE = 1:4

P01 KEYED CONSTRUCTION JOINT FORMED BY SURFACE, BEVELLED
4" x 1'-3" x 2'-6" TYPICAL AT TOP AND BOTTOM OF COLUMNS.

P02 FOR BEAM SEAT ELEVATIONS SEE SHEET 10

P03 2" x 6" BEVELD KEYWAY BETWEEN BEAM SEATS

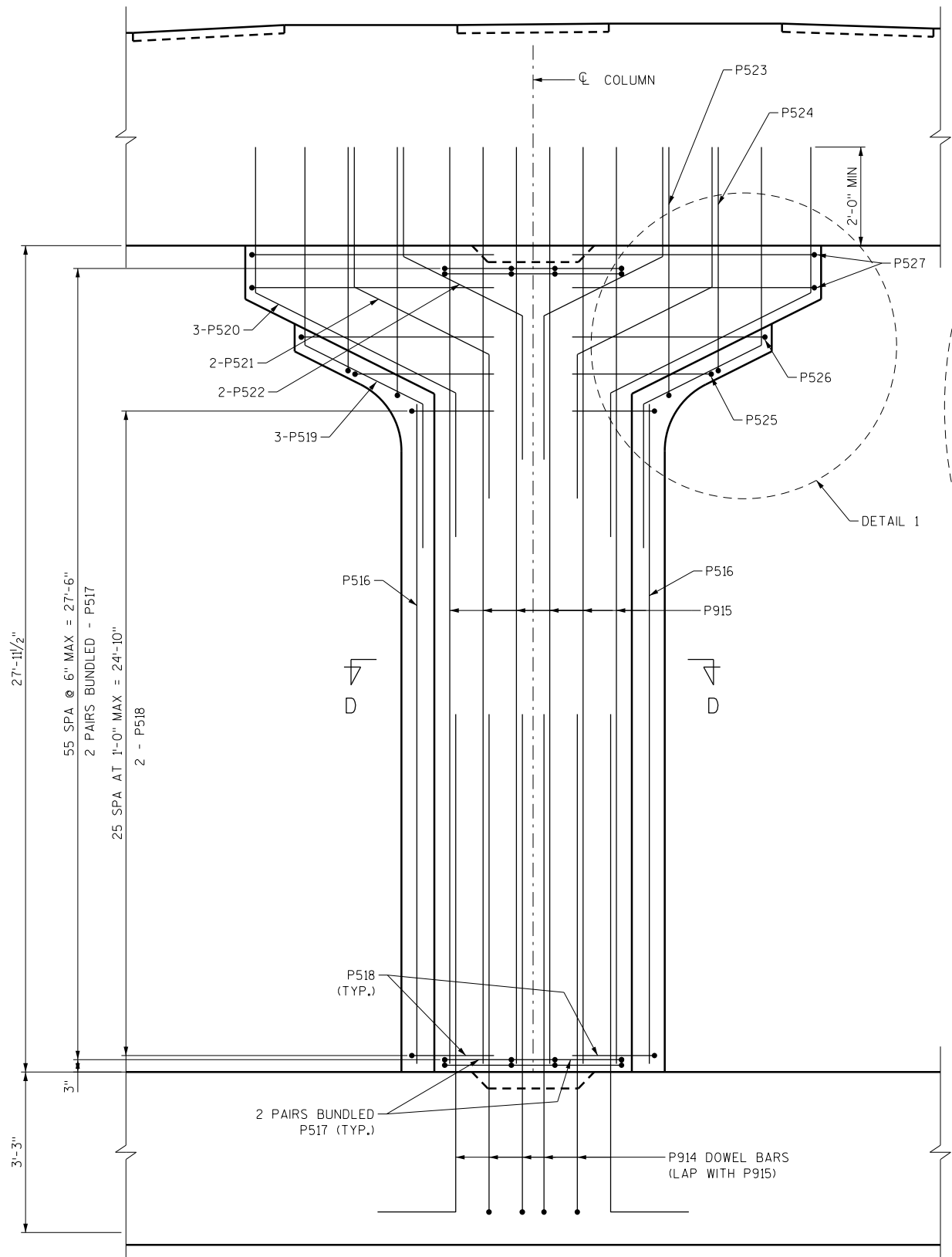
SEE SHEET 9 FOR SECTIONS A-A, B-B, AND C-C

FOR REINFORCEMENT BILL OF BARS SEE SHEET 10

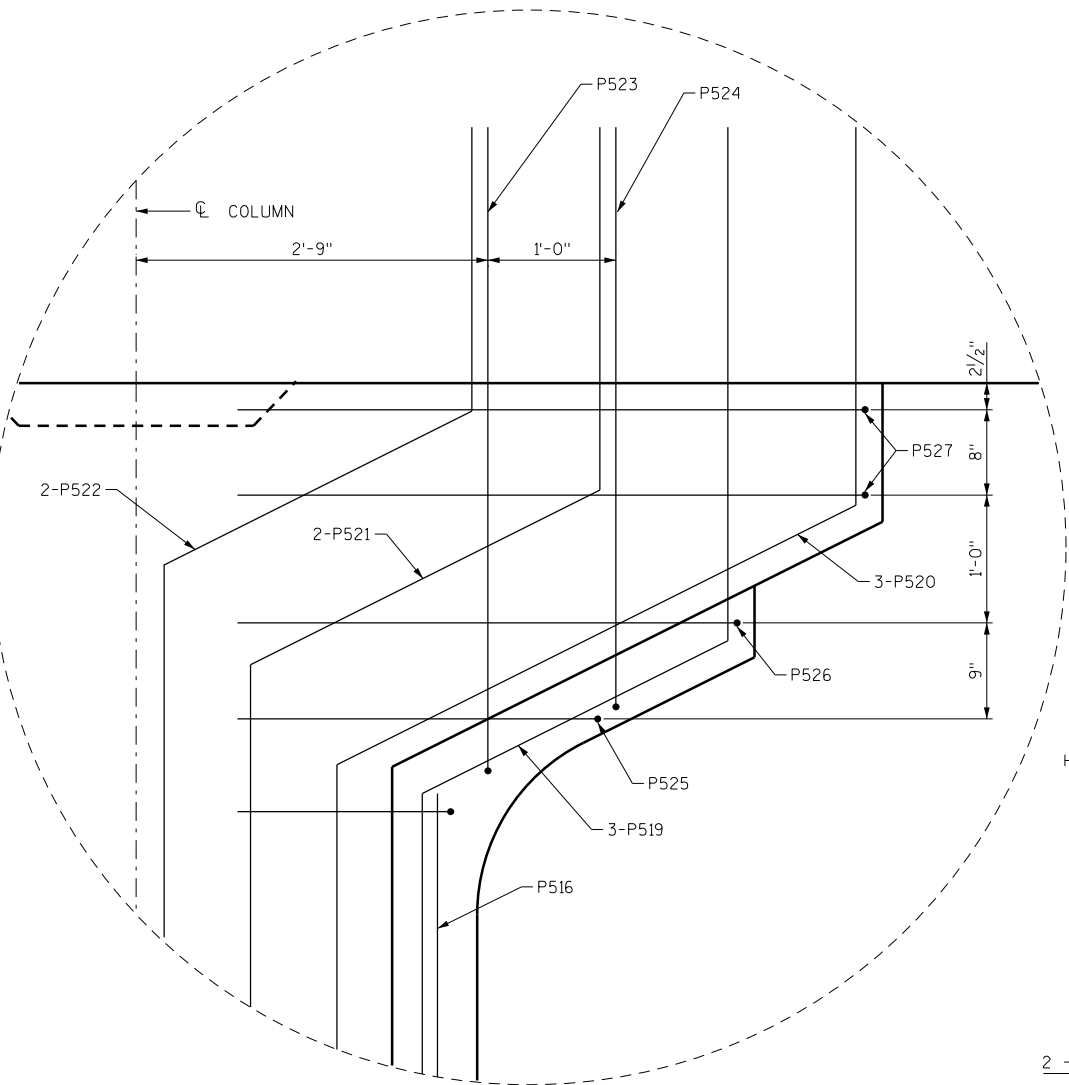
PIER FOOTING TO BE BACKFILLED TO WITHIN 2 FT OF FINISHED
GRADE BEFORE SUPERSTRUCTURE CONSTRUCTION.



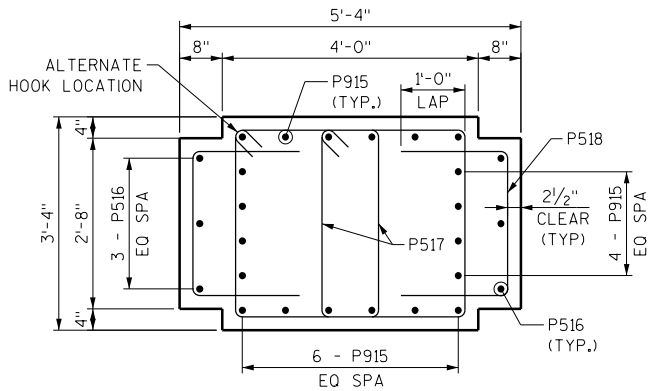
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-67369	
DRAWN BY	DATE	DESIGNED BY	DATE
		WJZ	
PIER		SHEET 8 OF 17	
		PRE_59	



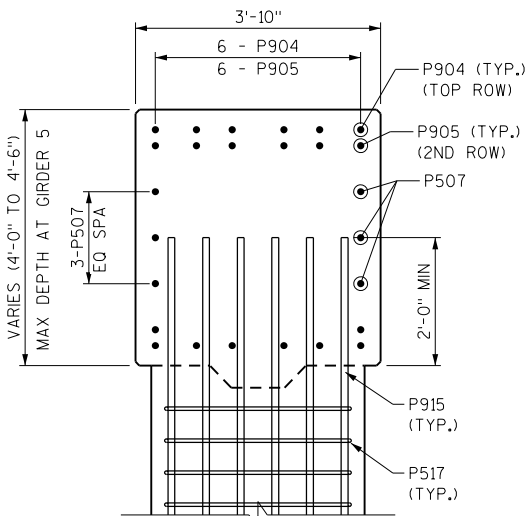
PIER COLUMN ELEVATION



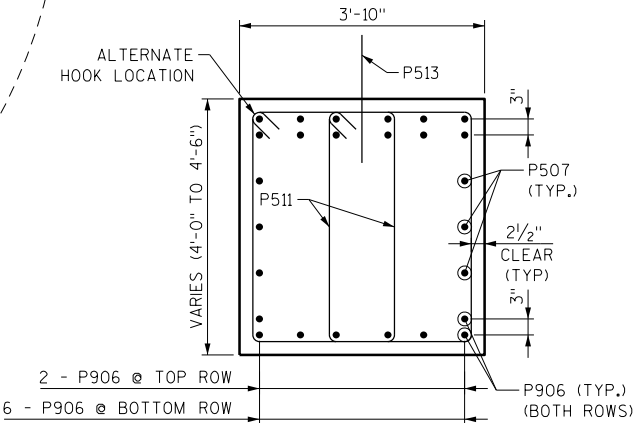
DETAIL 1
SECONDARY REINFORCEMENT ONLY



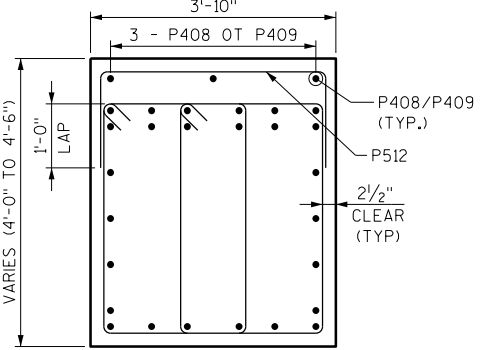
SECTION D-D



SECTION A-A
(SEE SHEET 8)

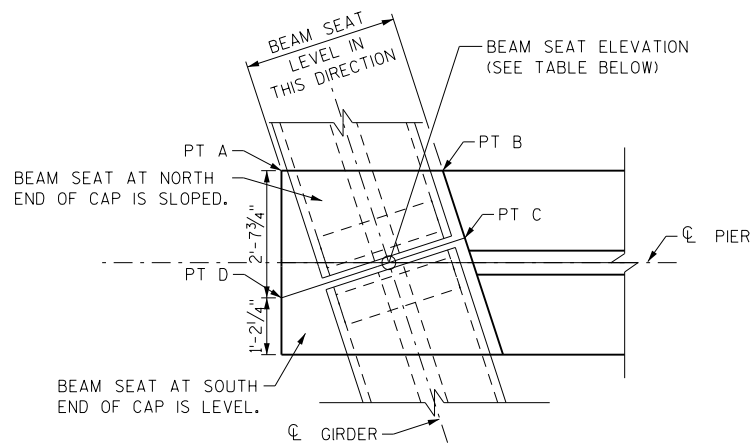


SECTION B-B
(SEE SHEET 8)



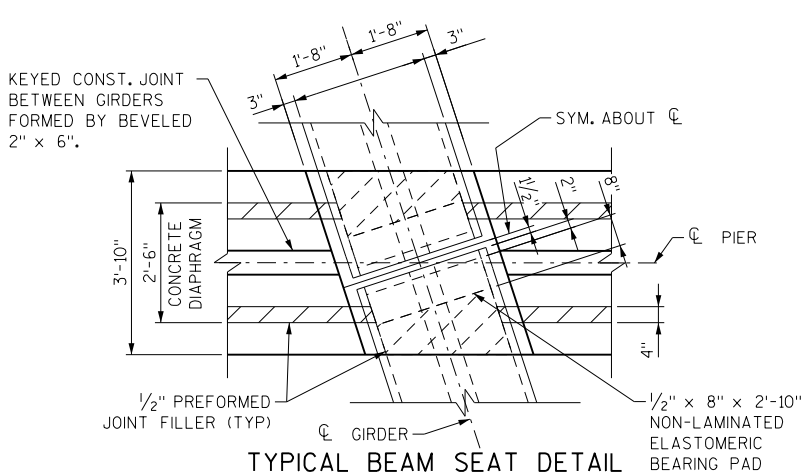
SECTION C-C
(SEE SHEET 8)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67369			
DRAWN BY WJZ CHECKED BY WJZ			
PIER DETAILS			SHEET 9 OF 17
			PRE_60

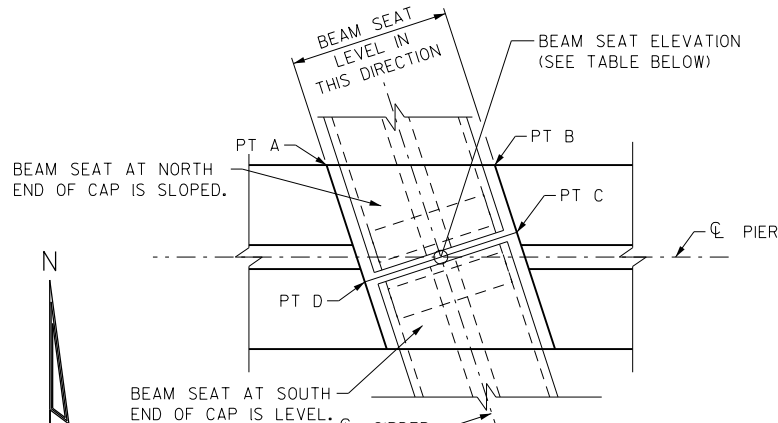


SLOPED BEAM SEAT DETAIL

GIRDER 1

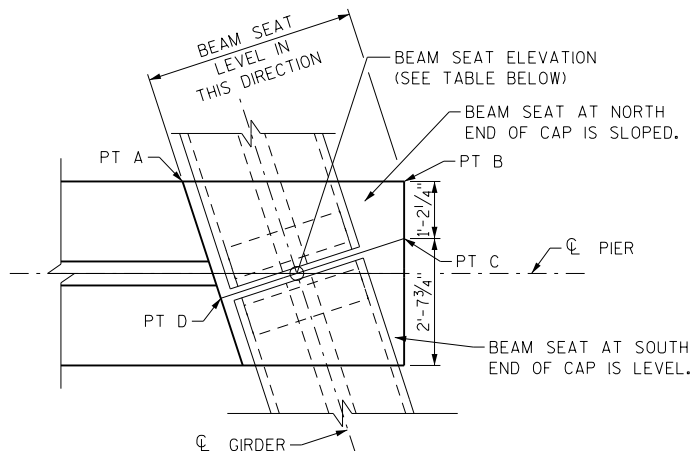


TYPICAL BEAM SEAT DETAIL



SLOPED BEAM SEAT DETAIL

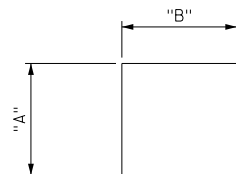
GIRDERS 2-7



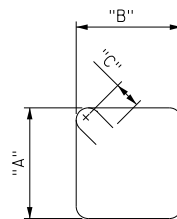
SLOPED BEAM SEAT DETAIL

GIRDER 8

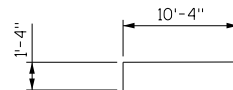
GIRDER	BEAM SEAT ELEVATION (FT)	CHANGE IN SEAT ELEVATION (FT)			
		PT A	PT B	PT C	PT D
1	920.86	-0.06	-0.04	0.00	0.00
2	921.01	-0.06	-0.04	0.00	0.00
3	921.17	-0.06	-0.04	0.00	0.00
4	921.33	-0.06	-0.03	0.00	0.00
5	921.36	-0.06	-0.03	0.00	0.00
6	921.26	-0.06	-0.03	0.00	0.00
7	921.16	-0.06	-0.03	0.00	0.00
8	921.07	-0.05	-0.02	0.00	0.00



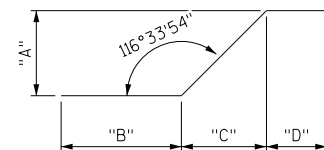
BAR NO.	DIM "A"	DIM "B"
P801	1'-4"	45'-6"
P1004	1'-9 1/2"	50'-1"
P1005	1'-9 1/2"	49'-7"
P510	2'-11"	3'-3 1/2"
P512	1'-4"	3'-7"
P518	1'-8"	2'-3"
P523	5'-1"	2'-3"
P524	4'-6"	2'-3"
P525	2'-11"	2'-3"
P526	3'-11"	2'-3"
P527	4'-11"	2'-11"



BAR NO.	DIM "A"	DIM "B"	DIM "C"
P511	3'-7"	2'-2 1/2"	4"
P517	2'-11"	2'-2 3/4"	4"



P914



BAR NO.	DIM "A"	DIM "B"	DIM "C"	DIM "D"
P519	2'-4 3/4"	4'-0 1/4"	1'-2 1/4"	2'-11"
P520	4'-0 3/4"	2'-11 1/2"	2'-0 1/4"	2'-11"
P521	2'-8 3/4"	2'-10"	1'-4 1/2"	2'-11"
P522	2'-4 3/4"	2'-2 3/4"	1'-2 1/4"	2'-11"

BILL OF BARS

BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED	BAR SERIES	21140 # COATED 6743 # UNCOATED
							LOCATION
P801		34	47'-9"	X			FOOTING HORIZONTAL - TOP AND BOTTOM
P602		47	11'-6"				FOOTING TRANSVERSE - TOP
P803		52	11'-6"				FOOTING TRANSVERSE - BOTTOM
P904	X	6	53'-6"	X			CAP HORIZONTAL - TOP
P905	X	6	53'-1"	X			CAP HORIZONTAL - TOP
P906	X	8	50'-1"				CAP HORIZONTAL - BOTTOM
P507	X	6	50'-1"				CAP HORIZONTAL - SIDES
P408	X	6	8'-11"				CAP HORIZONTAL - BEAM SEAT TOP
P409	X	3	10'-1"				CAP HORIZONTAL - BEAM SEAT TOP
P510	X	10	8'-11"	X			CAP HORIZONTAL - END TIE
P511	X	100	12'-3"	X			CAP TRANSVERSE - STIRRUPS
P512	X	12	6'-0"	X			CAP TRANSVERSE - ADDITIONAL TIE AT BEAM SEAT
P513	X	28	2'-0"				CAP VERTICAL - BETWEEN BEAM SEATS
P914	X	60	11'-8"	X			COLUMN VERTICAL - DOWEL BARS
P915	X	60	30'-0"				COLUMN VERTICAL - PRIMARY
P516	X	24	24'-10"				COLUMN VERTICAL - AESTHETIC DETAIL
P517	X	672	7'-0"	X			COLUMN HORIZONTAL - PRIMARY STIRRUP
P518	X	156	4'-4"	X			COLUMN HORIZONTAL AESTHETIC STIRRUP
P519	X	18	9'-8"	X			COLUMN SECONDARY - VERTICAL BENT
P520	X	18	10'-5"	X			COLUMN SECONDARY - VERTICAL BENT
P521	X	12	8'-10"	X			COLUMN SECONDARY - VERTICAL BENT
P522	X	12	7'-10"	X			COLUMN SECONDARY - VERTICAL BENT
P523	X	6	12'-0"	X			COLUMN SECONDARY - VERTICAL "U" BAR
P524	X	6	10'-10"	X			COLUMN SECONDARY - VERTICAL "U" BAR
P525	X	6	7'-10"	X			COLUMN SECONDARY - HORIZONTAL "U" BAR
P526	X	6	9'-10"	X			COLUMN SECONDARY - HORIZONTAL "U" BAR
P527	X	12	12'-6"	X			COLUMN SECONDARY - HORIZONTAL "U" BAR

THE FIRST DIGIT OR FIRST TWO DIGITS OF A BAR MARK INDICATES THE BAR SIZE.
ALL DIMENSIONS IN THE BAR BENDS ARE OUT TO OUT.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-67369	
DRAWN BY		WJZ	
PIER DETAILS CONTINUED		SHEET 10 OF 17	
		PRE_61	

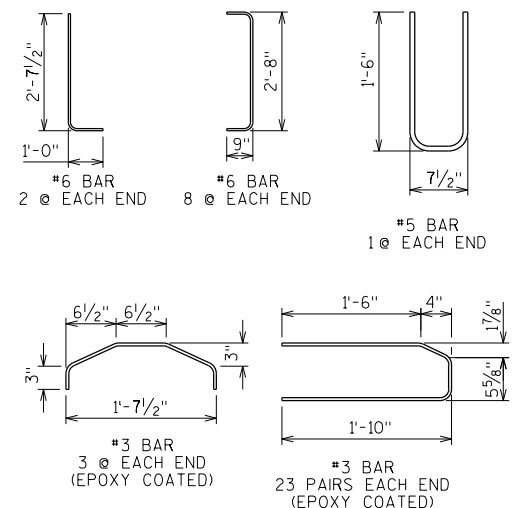
TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED
TRANSVERSELY, EXCEPT THE THE OUTSIDE 8" OF GIRDER,
WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED
CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH
SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING
DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE
SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

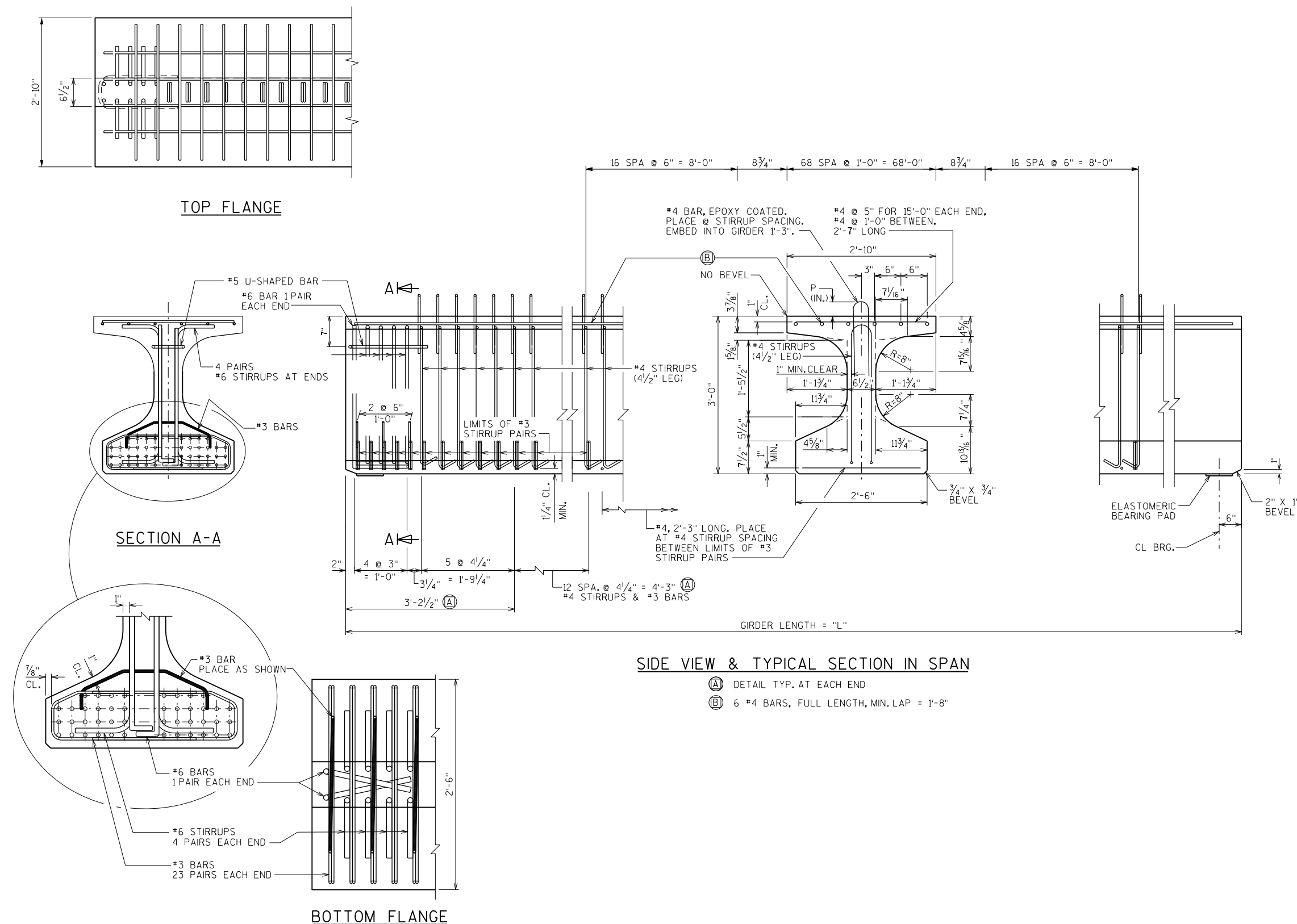
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF)
ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP
REINFORCEMENT SHOWN, UPON APPROVAL OF THE
STRUCTURES DEVELOPMENT SECTION.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE
"STEEL DIAPHRAGM" SHEET.

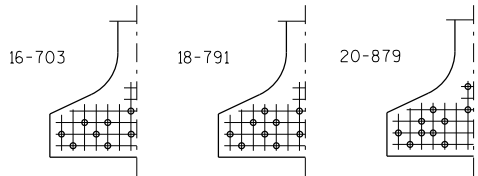


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-67-369	
DRAWN BY		WJZ	
CHECKED BY		WJZ	
36"W. PRESTRESSED GIRDER		SHEET 11 OF 17	
		PRE_62	

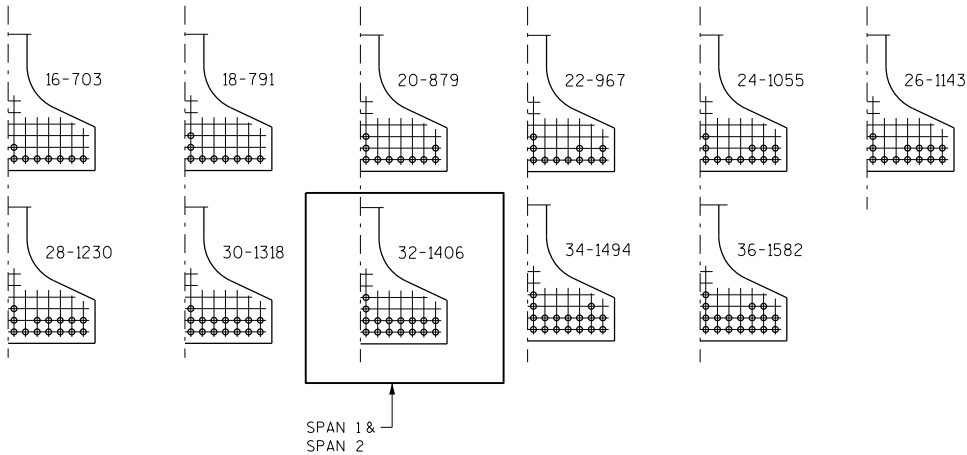


GIRDER DATA																									
SPAN	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)										CONC. STRENGTH. f' c (p.s.i.)	"P" 0'-0" TO 5'-0"	"P" 5'-0" TO 15'-0"	"P" 15'-0" TO 25'-0"	"P" 25'-0" TO 75'-4 1/2"	"P" 75'-4 1/2" TO 85'-4 1/2"	"P" 85'-4 1/2" TO 95'-4 1/2"	"P" 95'-4 1/2" TO 100'-4 1/2"	DIA. OF STRAND (IN.)	DRAPED PATTERN				
		1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	TOTAL NO. OF STRANDS										f' c (P.S.I.) X	(IN.)			
1	100'-4 1/2"	7/8"	15/8"	2 1/8"	2 1/2	2 5/8"	2 1/2	2 1/8"	15/8"	7/8"	8000	7"	7 1/2"	8"	9"	8"	7 1/2"	7"	0.6	32	6800	31	1 1/4	1 3/4	5
2	100'-4 1/2"	7/8"	15/8"	2 1/8"	2 1/2	2 5/8"	2 1/2	2 1/8"	15/8"	7/8"	8000	7"	7 1/2"	8"	9"	8"	7 1/2"	7"	0.6	32	6800	31	1 1/4	1 3/4	5

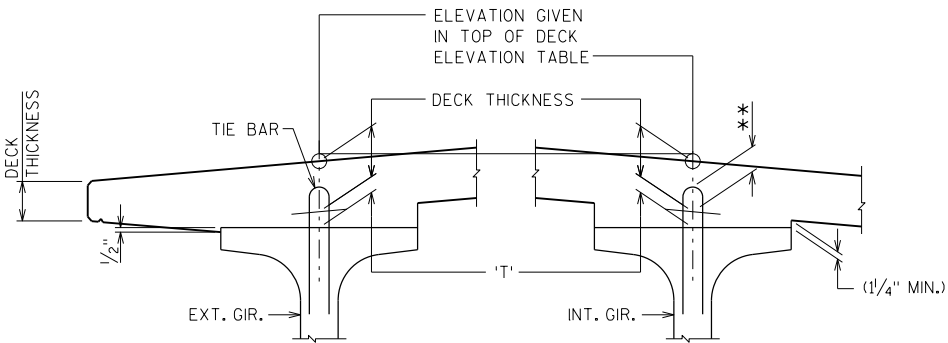
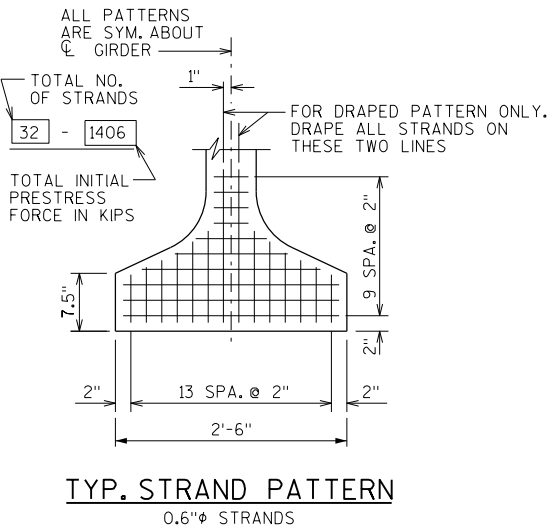
* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.



STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY
TO AVOID DRAPING OF STRANDS
0.6"Ø STRANDS



ARRANGEMENT AT $\mathcal{C}$ SPAN - FOR GIRDERS WITH DRAPED STRANDS
0.6"Ø STRANDS

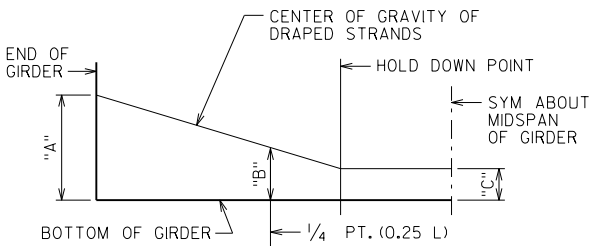
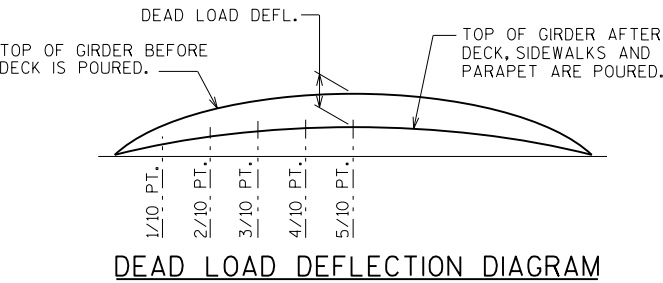


IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, ** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT $\mathcal{C}$ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

- TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
- + DEAD LOAD DEFLECTION
- DECK THICKNESS
- = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



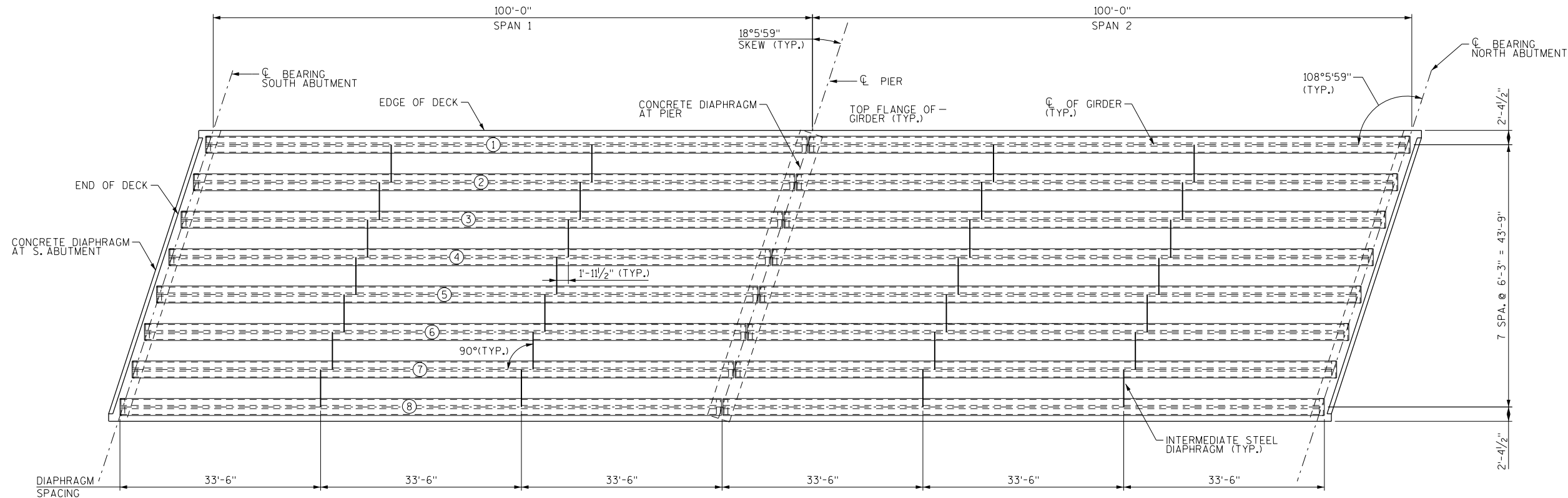
DRAPED STRAND PROFILE

SPAN	CAMBER (IN.) *
1	3/4"
2	3/4"

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67369			
DRAWN BY PLANS CKD. WJZ			
36"W PRESTRESSED GIRDER DETAILS			SHEET 12 OF 17
			PRE_63



FRAMING PLAN

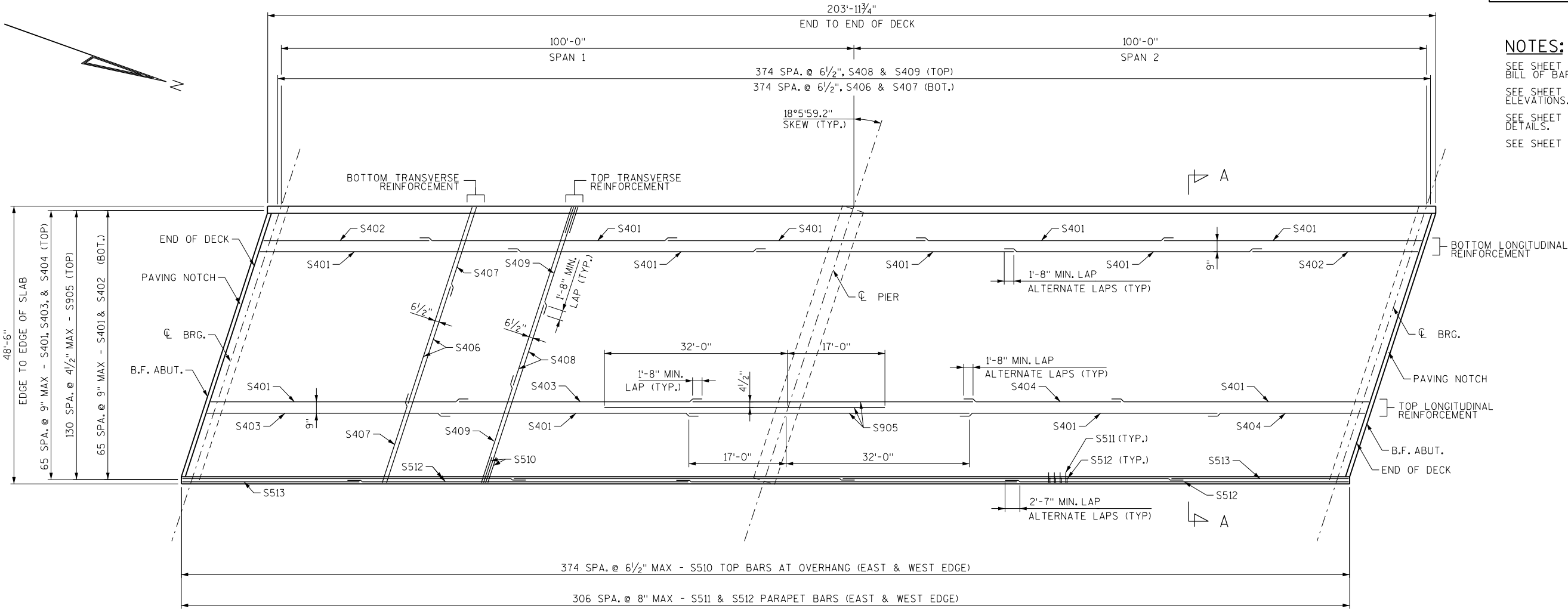
TOP OF DECK ELEVATIONS

GIRDER LINE	CL BRG.	SPAN 1									CL BRG.	SPAN 2									CL BRG.
	S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	PIER	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	N. ABUT.
EAST FLOWLINE	925.18	925.24	925.28	925.30	925.29	925.25	925.22	925.12	925.01	924.88	924.73	924.55	924.35	924.13	923.88	923.61	923.31	922.99	922.65	922.28	921.89
1	925.20	925.26	925.30	925.32	925.31	925.28	925.22	925.14	925.04	924.91	924.76	924.58	924.38	924.16	923.91	923.64	923.35	923.03	922.68	922.31	921.92
2	925.31	925.38	925.42	925.44	925.44	925.41	925.36	925.29	925.19	925.06	924.92	924.75	924.55	924.33	924.09	923.82	923.53	923.22	922.88	922.52	922.13
3	925.41	925.49	925.54	925.56	925.57	925.54	925.50	925.43	925.33	925.22	925.07	924.91	924.72	924.50	924.27	924.00	923.72	923.41	923.08	922.72	922.34
4	925.52	925.60	925.65	925.69	925.69	925.68	925.63	925.57	925.48	925.37	925.23	925.07	924.88	924.67	924.44	924.19	923.90	923.60	923.27	922.92	922.54
CROWN	925.57	925.66	925.71	925.75	925.76	925.74	925.70	925.64	925.55	925.44	925.31	925.15	924.97	924.76	924.53	924.27	924.00	923.69	923.37	923.02	922.64
5	925.50	925.59	925.65	925.68	925.69	925.68	925.64	925.58	925.50	925.39	925.26	925.10	924.92	924.72	924.49	924.24	923.96	923.66	923.34	922.99	922.62
6	925.36	925.45	925.51	925.55	925.57	925.56	925.53	925.47	925.39	925.29	925.16	925.01	924.84	924.64	924.42	924.17	923.90	923.60	923.28	922.94	922.57
7	925.21	925.30	925.37	925.42	925.44	925.44	925.41	925.36	925.29	925.19	925.07	924.92	924.75	924.56	924.34	924.10	923.83	923.54	923.23	922.89	922.53
8	925.06	925.16	925.24	925.29	925.31	925.32	925.29	925.25	925.18	925.09	924.97	924.83	924.66	924.47	924.26	924.02	923.76	923.48	923.17	922.83	922.48
WEST FLOWLINE	925.04	925.14	925.21	925.26	925.29	925.29	925.27	925.23	925.16	925.07	924.95	924.81	924.65	924.46	924.24	924.01	923.75	923.46	923.16	922.82	922.47

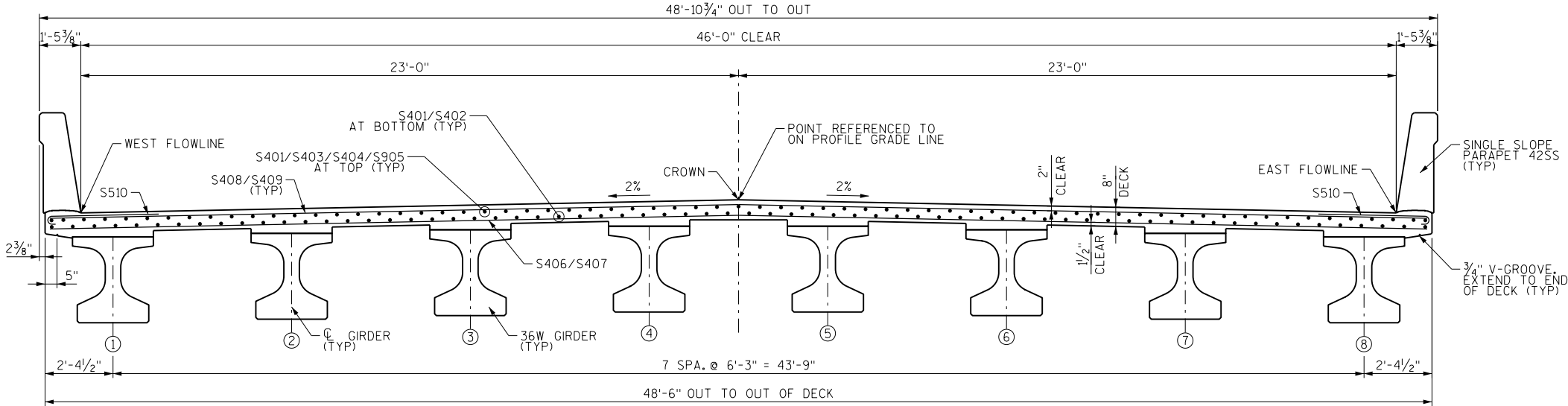
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-67369	
DRAWN BY		WJZ	
SUPERSTRUCTURE		SHEET 13 OF 17	
FRAMING PLAN		PRE_64	

NOTES:

SEE SHEET 16 FOR SUPERSTRUCTURE BILL OF BARS AND DECK DETAILS.
SEE SHEET 14 FOR TOP OF DECK ELEVATIONS.
SEE SHEET 16 FOR STEEL DIAPHRAGM DETAILS.
SEE SHEET 18 FOR PARAPET DETAILS.



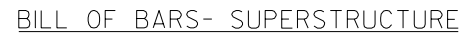
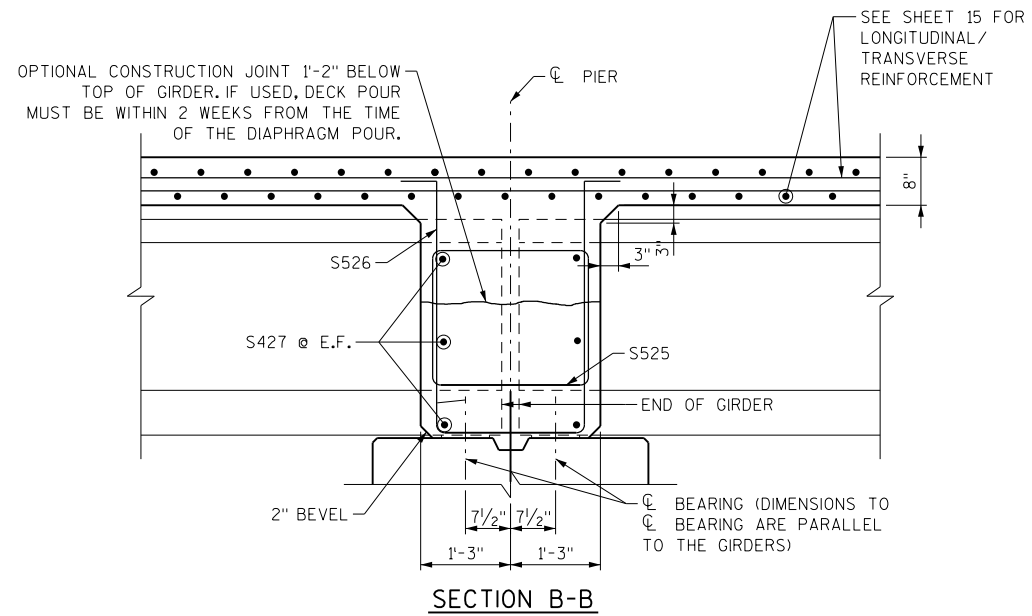
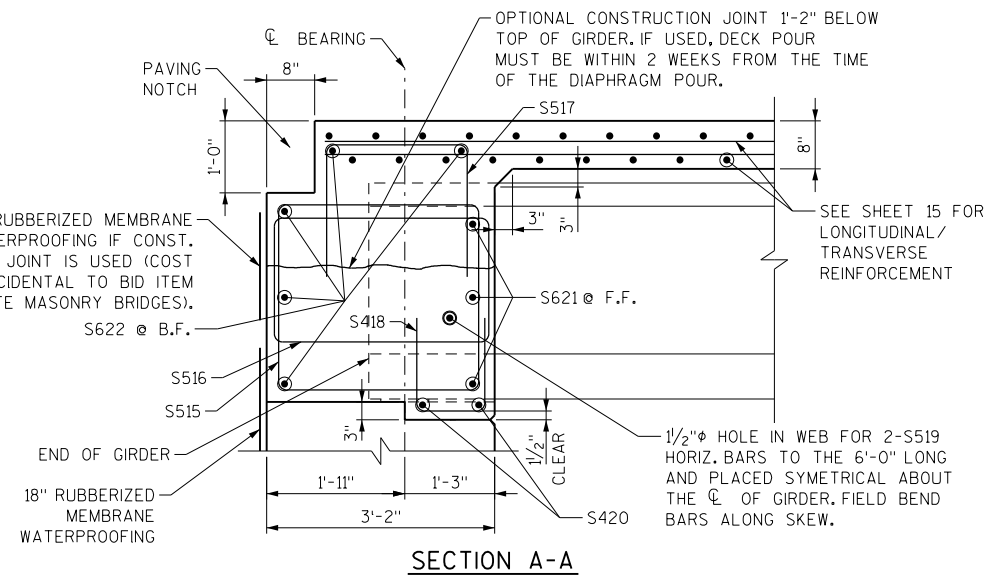
DECK REINFORCEMENT PLAN



TYPICAL DECK SECTION A-A
LOOKING NORTH

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-67369			
DRAWN BY		PLANS CKD. WJZ	
SUPERSTRUCTURE REINFORCEMENT		SHEET 14 OF 17	
		PRE_65	

FILE= B67369_140_DECKREINF.DGN
SCALE = 1:20



BAR NO.	COATED BAR	NO. REQ'D	LENGTH	BENT BAR	BUNDLED BAR	SERIES	83720 # COATED 0 # UNCOATED
							LOCATION
S401	X	396	45'-0"				SLAB LONGITUDINAL - TOP & BOTTOM
S402	X	66	29'-0"				SLAB LONGITUDINAL - BOTTOM
S403	X	66	42'-6"				SLAB LONGITUDINAL - TOP
S404	X	66	27'-6"				SLAB LONGITUDINAL - TOP
S905	X	131	49'-0"				SLAB LONGITUDINAL - TOP AT PIER
S406	X	375	36'-1"				SLAB TRANSVERSE - BOTTOM
S407	X	375	16'-3"				SLAB TRANSVERSE - BOTTOM
S408	X	375	32'-9"				SLAB TRANSVERSE - TOP
S409	X	375	19'-7"				SLAB TRANSVERSE - TOP
S510	X	750	4'-7"	X			SLAB TRANSVERSE - TOP AT OVERHANG
S511	X	614	4'-5"	X			PARAPET CONNECTION
S512	X	614	6'-8"	X			PARAPET U-BAR
S513	X	48	60'-0"				PARAPET LONGITUDINAL
S514	X	16	32'-5"				PARAPET LONGITUDINAL
S515	X	92	11'-10"	X			ABUTMENT DIAPHRAGM - LARGE STIRRUP
S516	X	32	10'-0"	X			ABUTMENT DIAPHRAGM - SMALL STIRRUP
S517	X	92	5'-8"	X			ABUTMENT DIAPHRAGM - TOP U-BAR
S418	X	56	3'-6"	X			ABUTMENT DIAPHRAGM - BOTTOM U-BAR
S519	X	32	6'-0"				ABUTMENT DIAPHRAGM - THROUGH GIRDER WEB
S420	X	28	2'-7"				ABUTMENT DIAPHRAGM - LONGITUDINAL AT SEAT
S621	X	84	3'-11"				ABUTMENT DIAPHRAGM - LONGITUDINAL F.F.
S622	X	20	50'-8"				ABUTMENT DIAPHRAGM - LONGITUDINAL B.F.
S623	X	8	6'-4"	X			ABUTMENT DIAPHRAGM - END U-BAR LONG
S624	X	4	4'-4"	X			ABUTMENT DIAPHRAGM - END U-BAR SHORT
S525	X	14	8'-6"	X			PIER DIAPHRAGM - SMALL STIRRUP
S526	X	35	9'-5"	X			PIER DIAPHRAGM - LARGE U-BAR
S427	X	84	3'-7"				PIER DIAPHRAGM - LONGITUDINAL E.F.

Technical drawings of three pipe fittings:

- S511:** A 90-degree elbow fitting. Dimensions include a 175° arc, a 4 1/2" radius, a 1'-2" vertical height, a 1'-3" vertical height, and a 9° angle.
- S526:** A 180-degree U-bend fitting. Dimensions include a 3'-4" vertical height, a 6" horizontal width, a 2'-3" horizontal distance, and a 4 1/2" R radius with a 189° arc.
- S510:** A 180-degree U-bend fitting. Dimensions include a 7" horizontal width, a 4'-0" horizontal distance, and a 4 1/2" R radius.

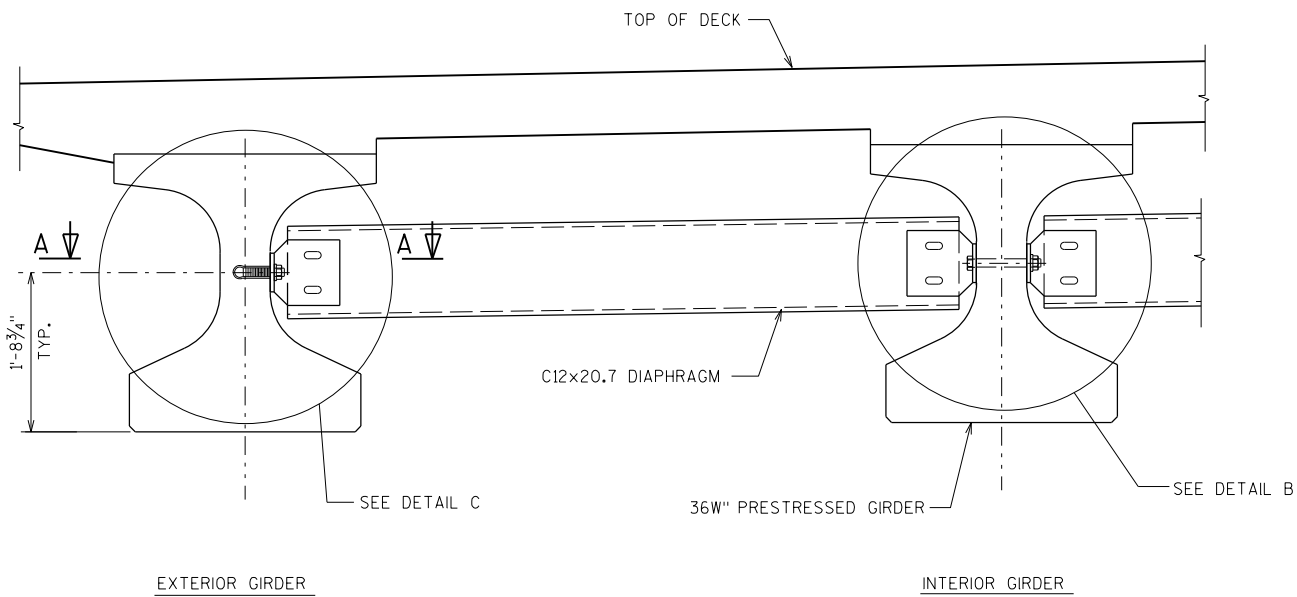
BAR NO.	DIM "A"	DIM "B"
S623	1'-10"	3'-0"
S624	10"	3'-0"

BAR NO.	DIM "A"	DIM "B"
S623	1'-10"	3'-0"
S624	10"	3'-0"

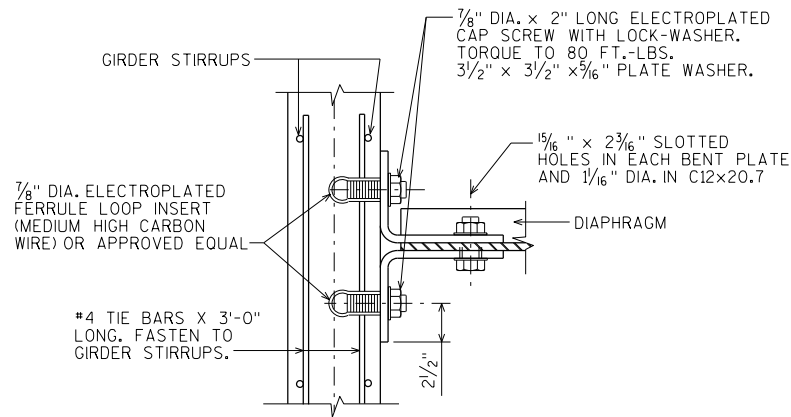
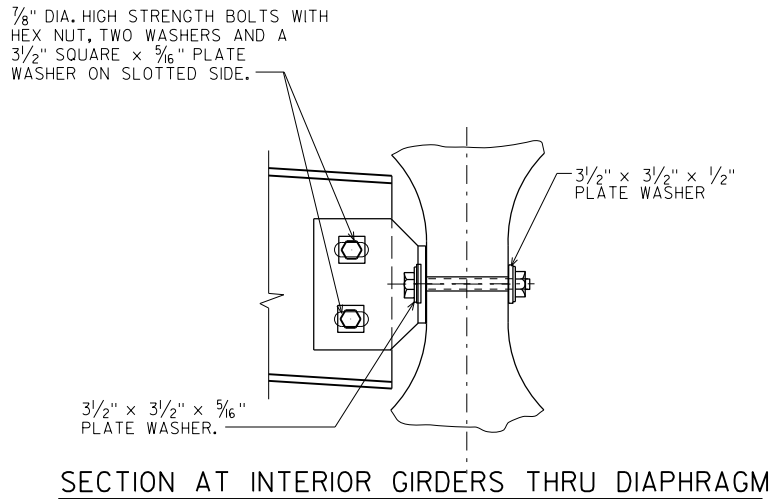
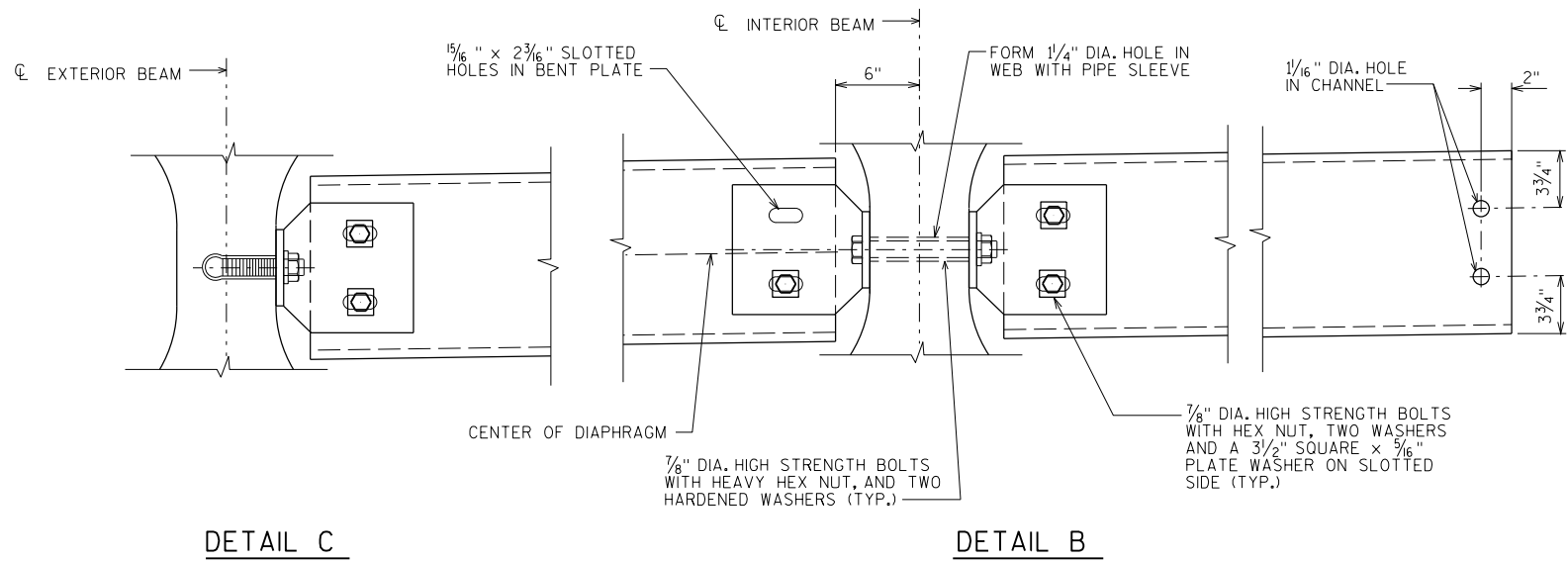
BAR NO.	DIM "A"	DIM "B"
S517	1'-10"	2'-3"
S418	1'-4"	1'-0"

BAR NO.	DIM "A"	DIM "B"	DIM "C"
S515	2'-7"	3'-0"	5"
S516	1'-8"	3'-0"	5"
S525	1'-8"	2'-3"	5"

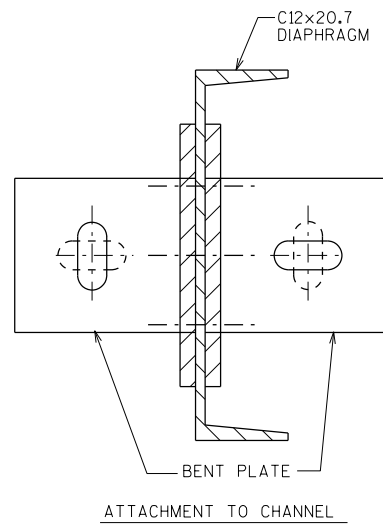
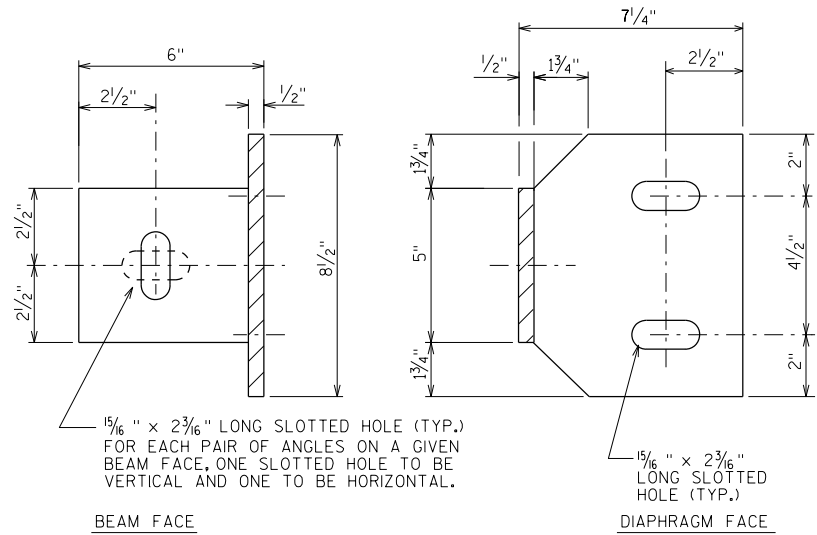
E.F. = EACH FACE



PART TRANSVERSE SECTION AT DIAPHRAGM



SECTION A-A
(FOR EXTERIOR ATTACHMENT)



STATE PROJECT NUMBER
1060-10-70

NOTES
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-67-369, EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-67-369	
DRAWN BY		PLANS CKD. WJZ	
STEEL DIAPHRAGM		SHEET 16 OF 17	
		PRE_67	

FILE= B67369_160_STEELDIAPHRAGM.DGN
SCALE = 1:1

BAR MARK	COAT	ABUT.	ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	16	16	5-10	X		PARAPET VERT.
R502	X	16	16	6-8	X		PARAPET VERT.
R503	X	24	24	3-0	X		PARAPET VERT.
R504	X	34	34	5-7	X		PARAPET VERT.
R505	X	10	10	6-5	X		PARAPET VERT.
R506	X	12	12	6-6	X		PARAPET VERT.
R507	X	2	2	13-7	X		PARAPET HORIZ.
R508	X	10	10	13-7			PARAPET HORIZ.
R509	X	12	12	5-5	X	▲	PARAPET VERT.
R510	X	4	4	13-7	X		PARAPET HORIZ.
		5	5				
		1	1				
		2	2				

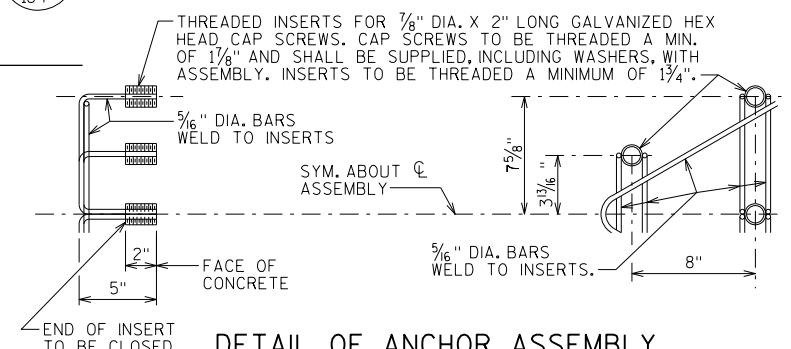
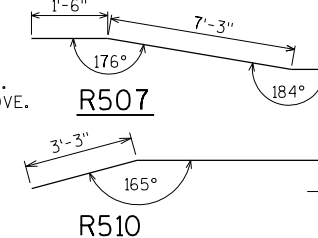
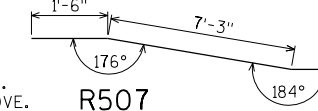
BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

4 R505 R506 R509

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD". EACH.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		B-67-369	
DRAWN BY		PLANS	WJZ
CITY		CRD.	
SINGLE SHEET		SHEET 17 OF 17	
PARAPET 42SS		PRE_68	



▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



DESIGN DATA

LIVE LOAD:

LIVE LOAD SURCHARGE = 240 PSF

MATERIAL PROPERTIES:

CONCRETE MASONRY RETAINING WALLS

F'c = 3,500 PSI

PRECAST CONCRETE WALL PANELS

F'c = 5,000 PSI

BAR STEEL REINFORCEMENT

fy = 60,000 PSI

FOUNDATION DATA

MSE WALL

SEE TABLE ON SHEET 3

ALLOWABLE WALL SYSTEMS

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ ", UNLESS OTHERWISE SHOWN.

ALL STATIONS AND DIMENSIONS ARE ALONG THE FRONT FACE OF THE WALL, UNLESS OTHERWISE SHOWN.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN. ALL BAR STEEL REINFORCEMENT IN CAST IN PLACE CONCRETE SHALL BE EPOXY COATED.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF THE WALL R-67-146 WITH THE CONSTRUCTION OF BRIDGE B-67-369.

THE QUANTITY OF CONCRETE MASONRY AND REINFORCING STEEL FOR THE CAST-IN-PLACE COPING IS PAID FOR UNDER THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH".

CONTRACTOR SHALL SUPPLY AND INSTALL A NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR THE WALL.

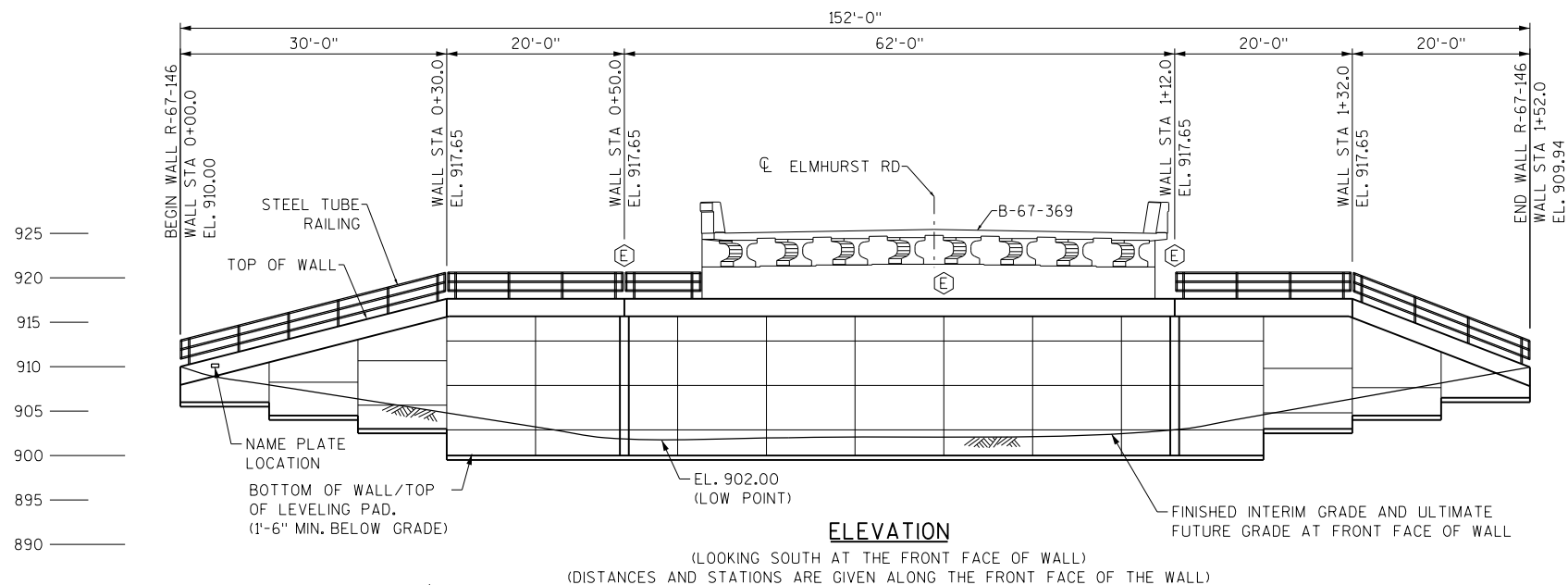
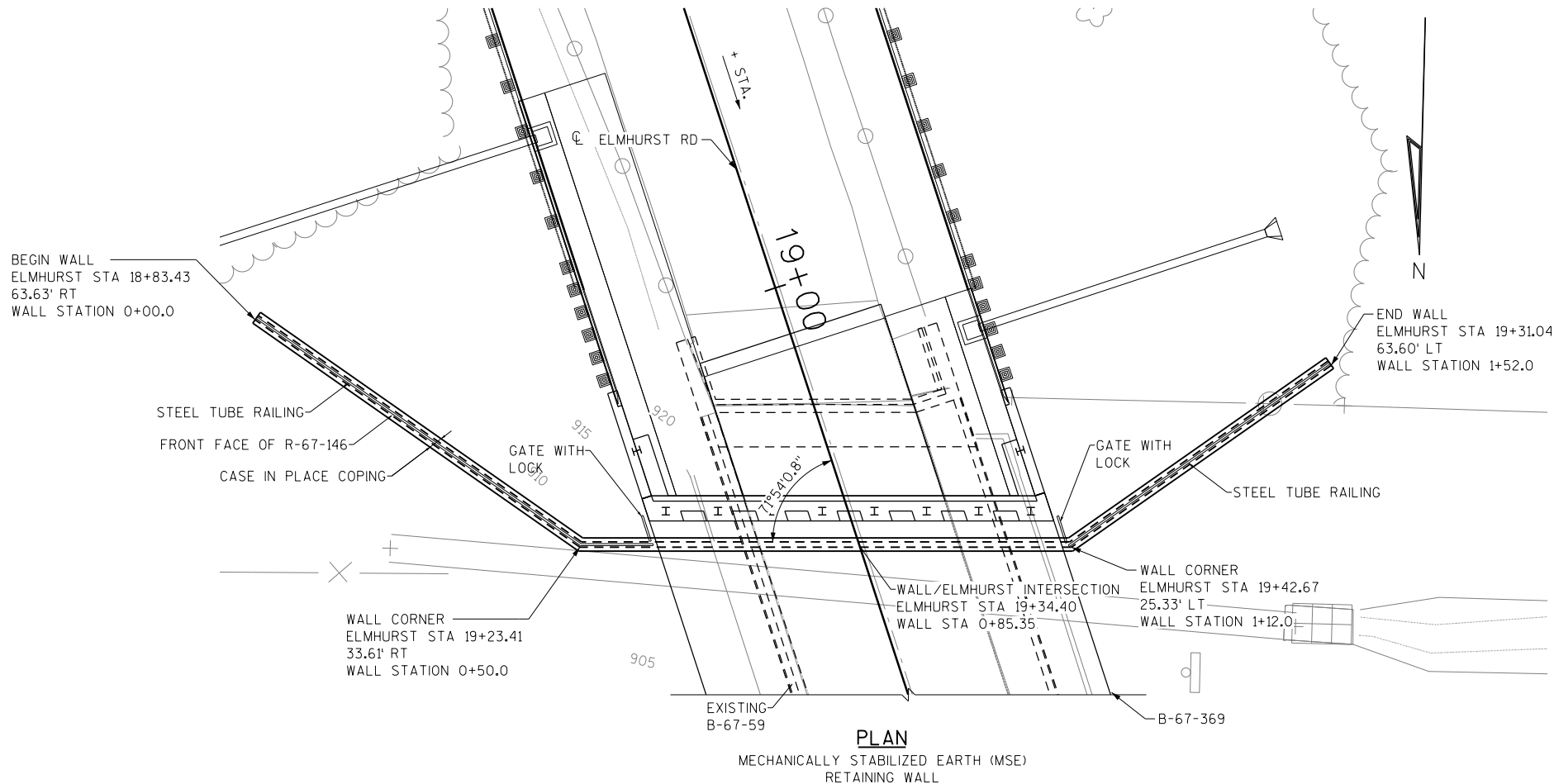
THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH" IS BASED ON WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO A CONSTANT DEPTH OF 1'-6" BELOW THE FINISHED GRADE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH".

PLANS ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

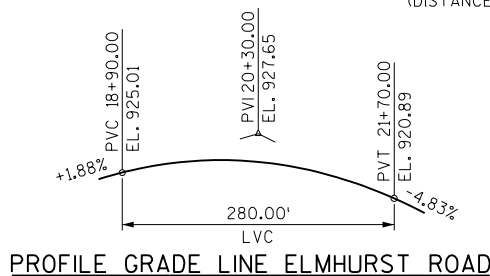
THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

DESIGN THE WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS WITH A LIVE LOAD SURCHARGE OF 240 PSF.



LEGEND

ⓔ INDICATES AN EXPANSION JOINT IN THE COPING



STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:

WILLIAM DREHER, PE
(608) 266-8489

CONSULTANT:

WILLIAM J. ZIPPEL, PE, SE
ALFRED BENESCH & CO
1300 W CANAL ST, SUITE 150
MILWAUKEE, WI 53233
(414) 308-1321

BENCHMARKS

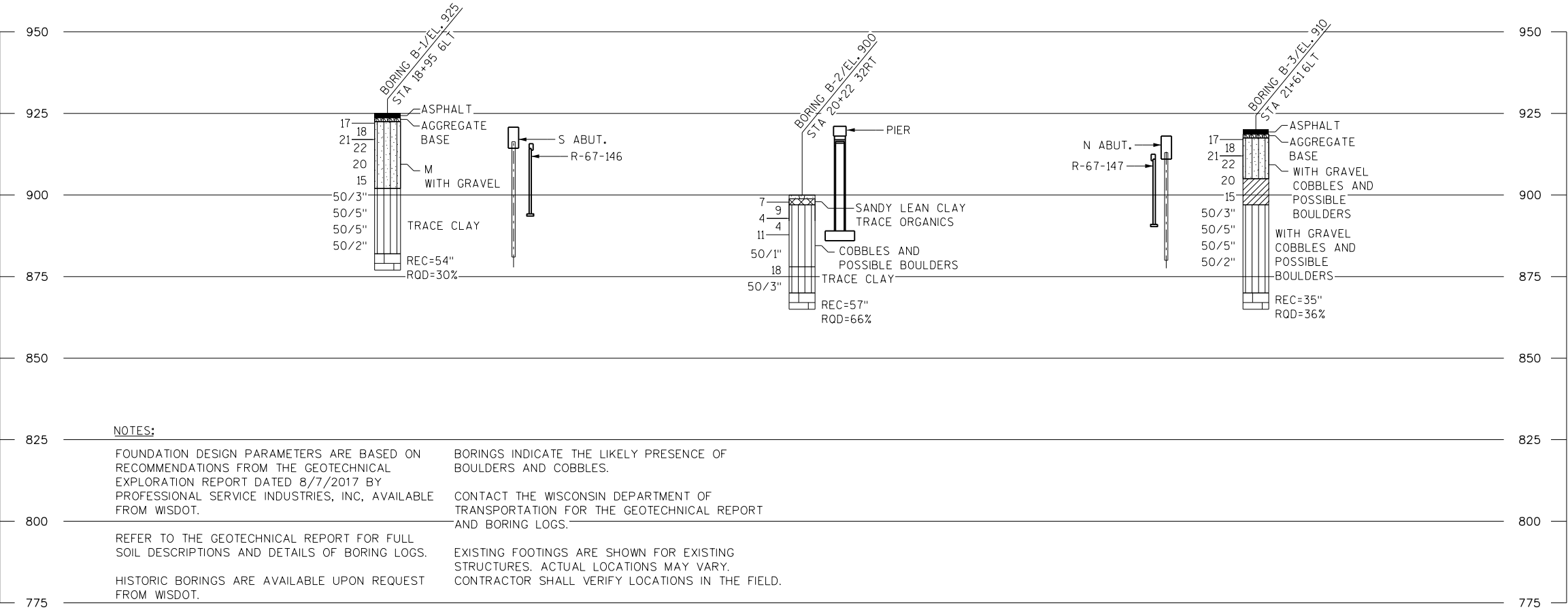
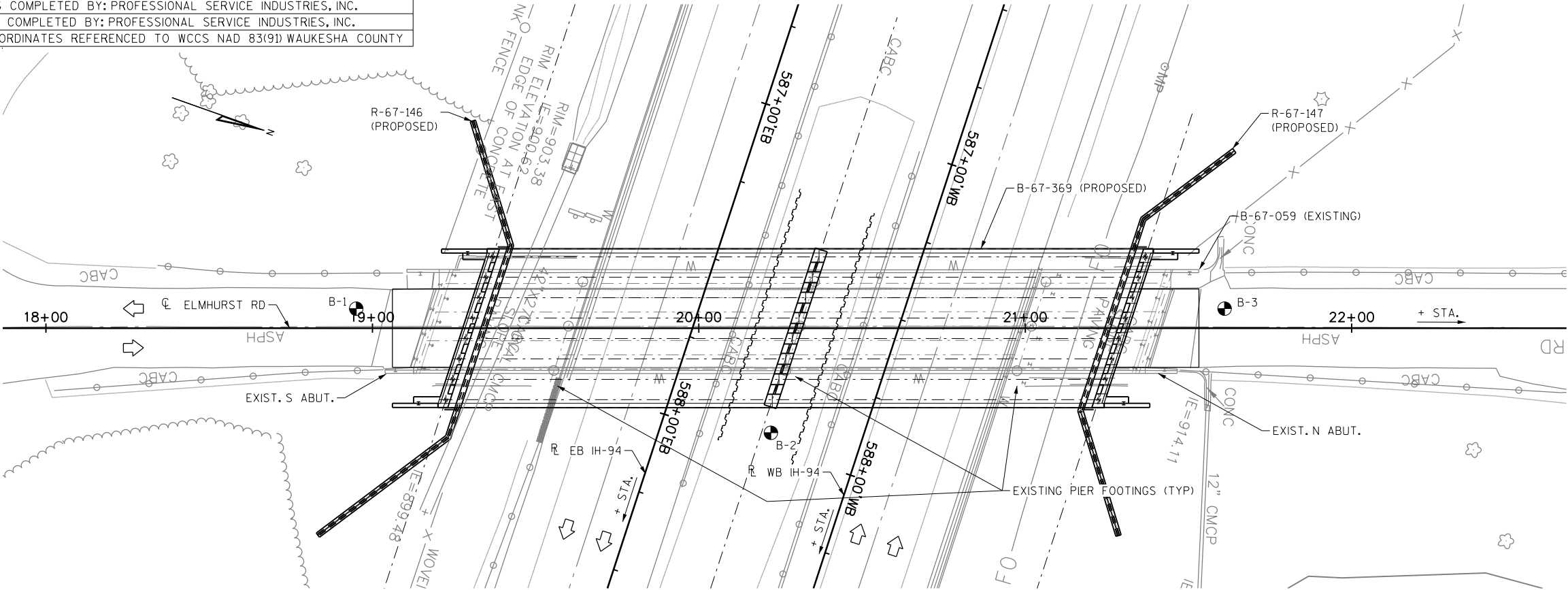
NAME			STATION	OFFSET
BM110	921.54	CP CHIS CROSS	21+37	12.7 RT
BM111	925.13	CP CHIS CROSS	19+11	12.5 RT
BM128	911.56	CP FENO	26+41	21.2 RT
BM130	921.23	CP FENO	15+96	18.3 RT

LIST OF DRAWINGS:

- GENERAL PLAN & ELEVATION
- SUBSURFACE EXPLORATION
- WALL DETAILS & QUANTITIES
- COPING & MISCELLANEOUS DETAILS
- RAILING DETAILS

NO.	DATE	REVISION	BY
benesch Alfred Benesch & Company 1300 West Canal Street, Suite 150 Milwaukee, Wisconsin 53233 414-308-1310 Job No. 20205.00			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED _____ DATE _____ CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE R-67-146			
ELMHURST ROAD OVER IH-94			
COUNTY	WAUKESHA	TOWN/CITY/VILLAGE	DELAFIELD
DESIGN SPEC.	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	DESIGNED BY	JAP
DESIGNED BY	JAP	CHK'D.	WJZ
DRAWN BY	JAP	CHK'D.	WJZ
GENERAL PLAN AND ELEVATION			SHEET 1 OF 5
			PRE_69

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	8-25-2016	175,144.02	658,176.00
2	8-26-2016	175,276.41	658,169.26
3	8-29-2016	175,394.65	658,086.89
BORINGS COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.			
REPORT COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) WAUKESHA COUNTY			



NOTES:

FOUNDATION DESIGN PARAMETERS ARE BASED ON RECOMMENDATIONS FROM THE GEOTECHNICAL EXPLORATION REPORT DATED 8/7/2017 BY PROFESSIONAL SERVICE INDUSTRIES, INC., AVAILABLE FROM WISDOT.

BORINGS INDICATE THE LIKELY PRESENCE OF BOULDERS AND COBBLES.

CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION FOR THE GEOTECHNICAL REPORT AND BORING LOGS.

REFER TO THE GEOTECHNICAL REPORT FOR FULL SOIL DESCRIPTIONS AND DETAILS OF BORING LOGS.

EXISTING FOOTINGS ARE SHOWN FOR EXISTING STRUCTURES. ACTUAL LOCATIONS MAY VARY. CONTRACTOR SHALL VERIFY LOCATIONS IN THE FIELD.

HISTORIC BORINGS ARE AVAILABLE UPON REQUEST FROM WISDOT.

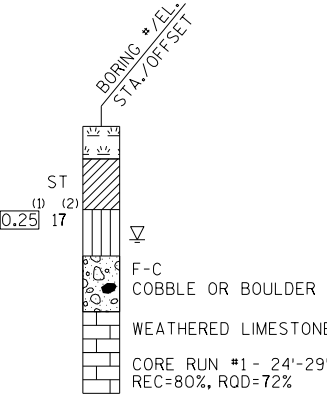
STATE PROJECT NUMBER

1060-10-70

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

▽ AFTER DRILLING

ABBREVIATIONS

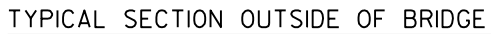
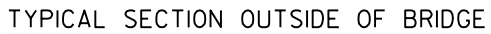
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE R-67-146			
DRAWN BY: WJZ CHECKED BY: WJZ			
SUBSURFACE EXPLORATION			SHEET 2 OF 5
			PRE_70

FILE= R67146-15-SUBS.DGN
SCALE = 1:40



BID NO.	BID ITEMS	UNIT	TOTAL
206.3000	EXCAVATION FOR STRUCTURES RETAINING WALL R-67-146	LS	1
513.2001	RAILING PIPE R-67-146	LF	107
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	2
532.0500.S	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH	SF	2054
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	192
	NON BID ITEMS		
	PREFORMED JOINT FILLER		
	NON-BITUMINOUS JOINT SEALER		
	NAME PLATE		

WALL STATION	ELMHURST ROAD STATION	OFFSET	LOCATION	TOP OF WALL	FINISHED GRADE
0+00.0	18+83.43	63.63 RT	BEGIN WALL	910.00	909.71
0+30.0	19+07.42	43.63 RT	END TAPER	917.65	904.58
0+50.0	19+23.41	33.61 RT	WALL CORNER	917.65	901.65
0+85.35	19+34.40	0	WALL/ELMHURST INTERSECTION	917.65	902.31
1+12.0	19+42.67	25.33 LT	WALL CORNER	917.65	902.81
1+32.0	19+36.85	44.46 LT	START TAPER	917.65	906.38
1+52.0	19+31.04	63.60 LT	END WALL	909.94	909.94

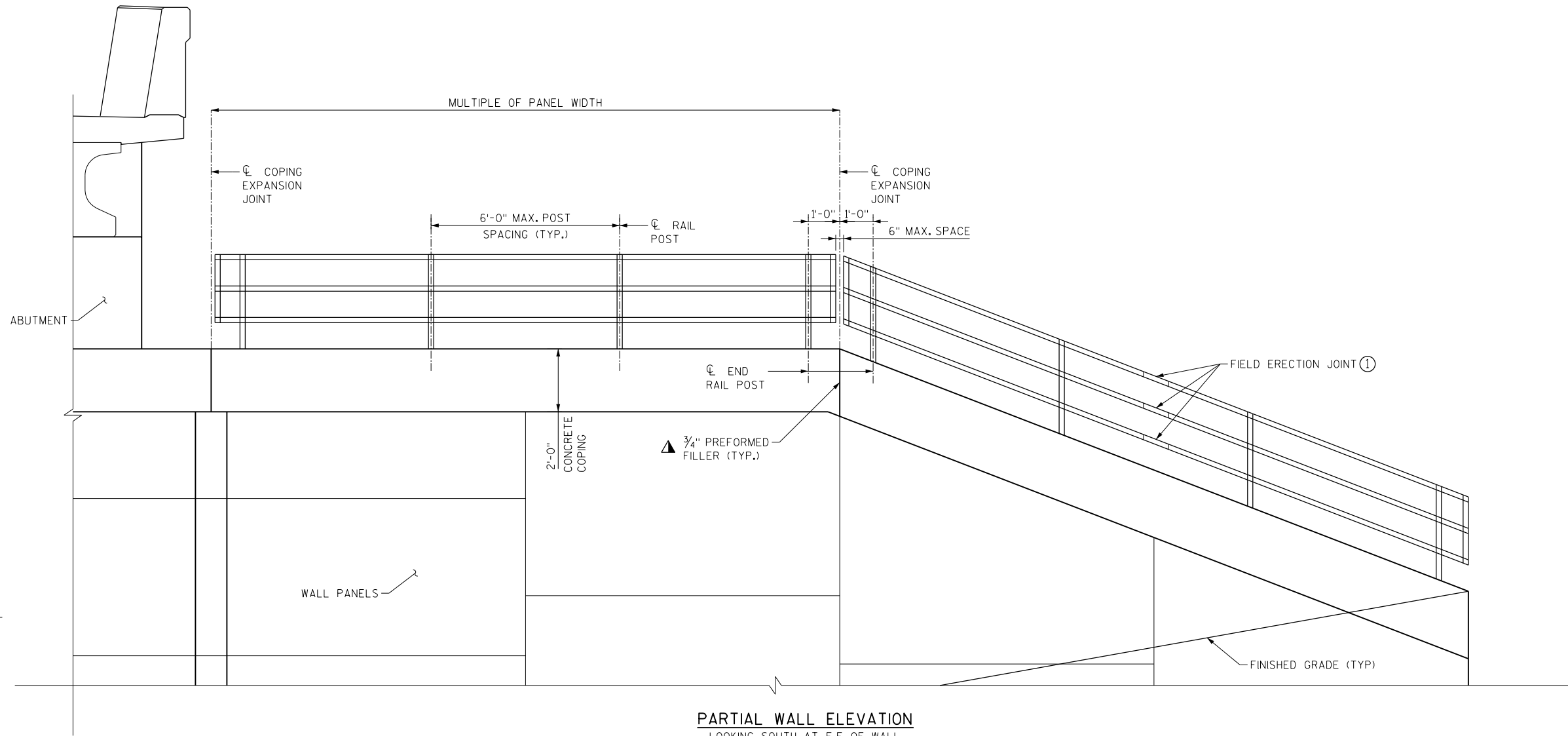
DIMENSIONS	EVALUATED LOCATIONS	
WALL HEIGHT (FEET)	17.1	16.0
EXPOSED WALL HEIGHT (FEET)	15.6	14.5
MINIMUM LENGTH OF REINFORCEMENT (FEET)	20.5	19.2
WALL STATION	0+78	0+40
BORING USED	B-1, B-3	B-1, B-3
CAPACITY TO DEMAND RATIO		
SLIDING (CDR > 1.0)	1.5	1.9
ECCENTRICITY (CDR > 1.0)	1.8	4.0
OVERALL STABILITY (CDR > 1.0)	1.1	1.0
BEARING RESISTANCE (CDR > 1.0)	3.6	3.1
FACTORED BEARING RESISTANCE (PSF)	13,100	13,100

STRATUM LOCATIONS & SOIL DESCRIPTIONS	TOTAL UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREE)	COHESION (PSF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	30	0
NATURAL SILTY SAND OR OR SILT/SANDY SILT RETAINED/FOUNDATION SOIL	125	32	0

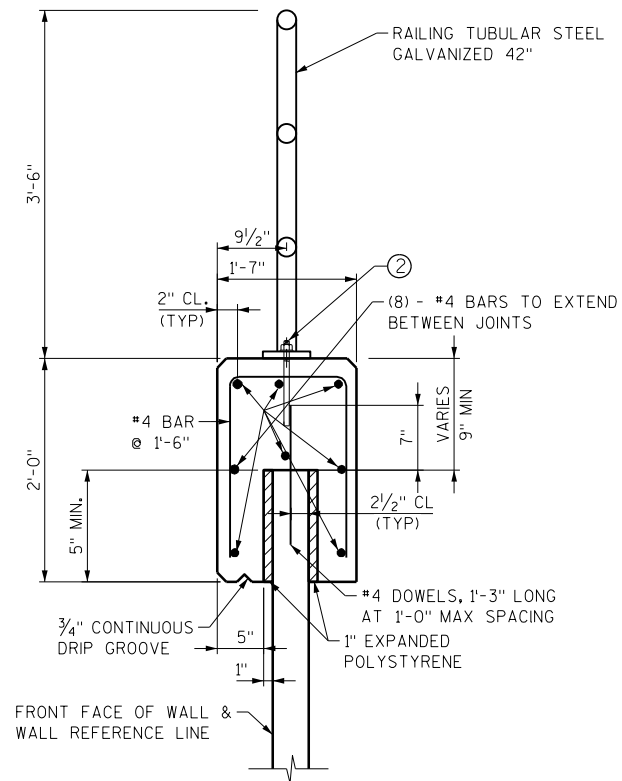
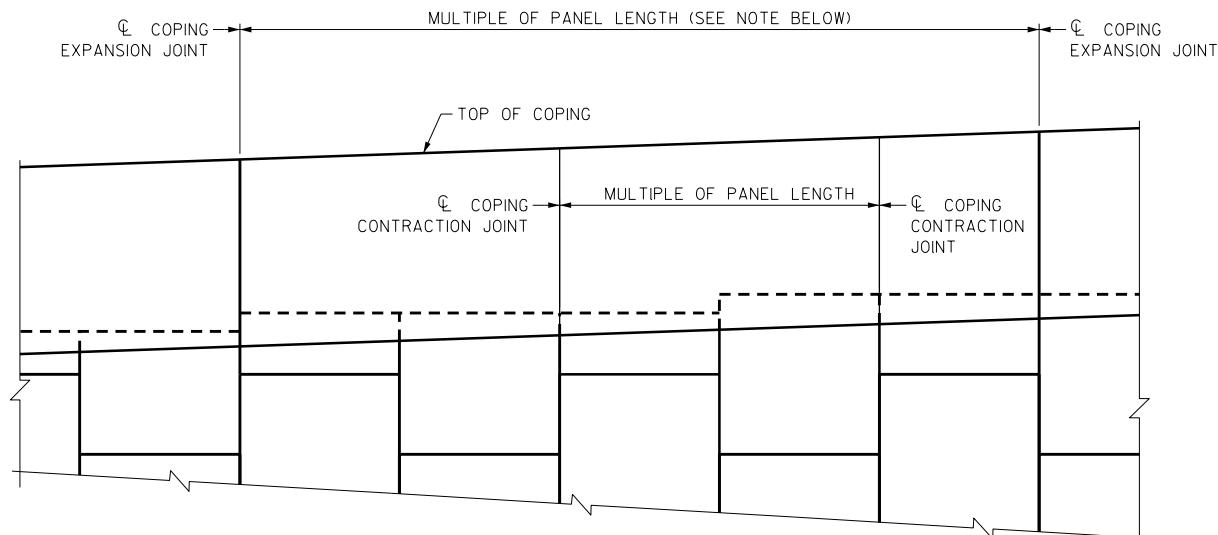


THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO.10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

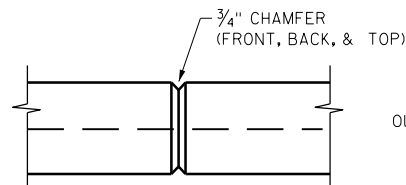
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		R-67-146	
DRAWN BY		PLANS CHECK'D.	WJZ
WALL DETAILS & QUANTITIES		SHEET 3 OF 5	
		PRE_71	

**PARTIAL WALL ELEVATION**

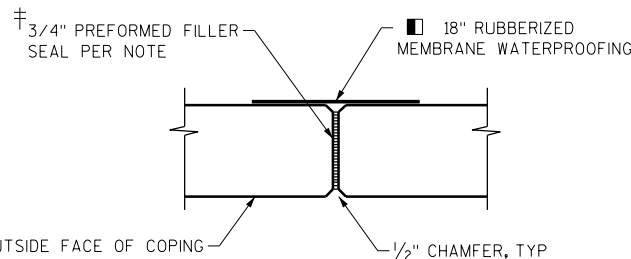
LOOKING SOUTH AT F.F. OF WALL

**CAST-IN-PLACE
CONCRETE COPING DETAIL**

NOTE: ALL COPING JOINTS SHALL BE LOCATED AS SHOWN ON WALL ELEVATIONS AND MUST COINCIDE WITH PANEL JOINT ON FRONT FACE.

C.I.P. COPING PARTIAL ELEVATION**COPING CONTRACTION JOINT**DO NOT RUN BAR STEEL THROUGH JOINT.
MAX SPACING OF JOINTS = 12 FT

LOCATE TO MISSING RAILING POSTS

**COPING EXPANSION JOINT**DO NOT RUN BAR STEEL THROUGH JOINT.
MAX SPACING OF JOINTS = 50 FT

MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS

SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE)

NOTES

- ① SEE PIPE RAILING DETAILS FOR MORE INFORMATION (SHEET 5)
- ② 5/8" DIA. STAINLESS STEEL MASONRY ANCHORS TYPE S WITH NUT AND WASHER EMBED 7" MIN
- ▲ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE.)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		R-67-146	
DRAWN BY		PLANS	WJZ
COPING & MISS.		SHEET 4	OF 5
DETAILS		PRE_72	

NOTES

BID ITEM SHALL BE "RAILING PIPE R-67-146, WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN, CONCRETE MASONRY ANCHORS, AND GALVANIZING.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 2 POSTS MINIMUM.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS A CONCRETE COPING EXPANSION JOINT BETWEEN THE RAIL POSTS.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES SHALL CONFORM TO A.S.T.M. A709 GRADE 36. STANDARD PIPE SHALL CONFORM TO A.S.T.M. A500 GRADE B.

ANCHORAGES SHALL BE ACURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D FOR ALIGNMENT.

FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES, AND CAULK AROUND PERIMETER OF BASE PLATES WITH NON-STAINING GREY NON-BITUMINOUS JOINT SEALER.

ALL JOINTS SHALL BE CONTINUOUSLY WELDED AND GROUND SMOOTH. COPE COMPONENTS AT PERPENDICULAR AND SKEW CONNECTIONS TO PROVIDE CLOSE FIT. OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP. REMOVE FLUX IMMEDIATELY.

SUPPLY CONCRETE MASONRY ANCHORS, TYPE S (EPOXY), $\frac{5}{8}$ -INCH HAVING A MINIMUM PULLOUT CAPACITY OF 9.2 KIPS. EMBED A MINIMUM OF 7" INTO SOUND CONCRETE. ANCHORS SHALL BE STAINLESS STEEL.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

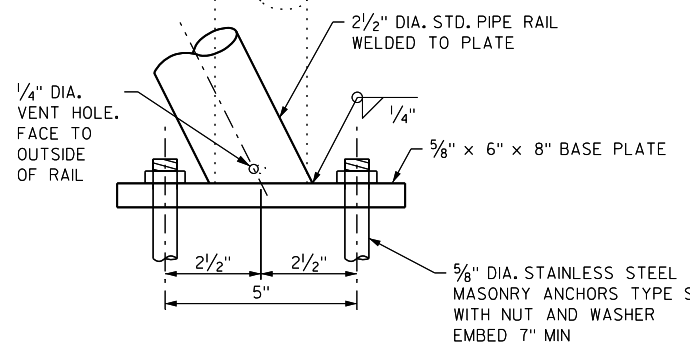
GALVANIZE AFTER FABRICATION PER ASTM A123.

SHIMS SHALL BE GALVANIZED.

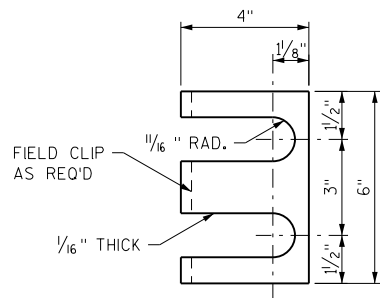
HANDRAIL AND POSTS TO BE SMOOTH AND FREE OF NICKS, BURRS, AND ABRASIONS AFTER GALVANIZING.

LEGEND

- ① 2" ϕ PIPE SLEEVE X 1'-10" LONG FOR 2 $\frac{1}{2}$ " STEEL PIPE RAILING. PROVIDE $\frac{1}{2}$ " ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF 2 $\frac{1}{2}$ " ϕ STEEL PIPE. PROVIDE $\frac{3}{8}$ " ϕ X $\frac{1}{2}$ " WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
- ② GATE POST TO BE PLACED VERTICAL AND EVEN WITH THE END RAIL POSTS. SWING GATE SHALL PIVOT AROUND POST. EMBED MIN. 2'-8" INTO 10" ϕ CONCRETE FOOTING, AND AVOID WALL REINFORCEMENT

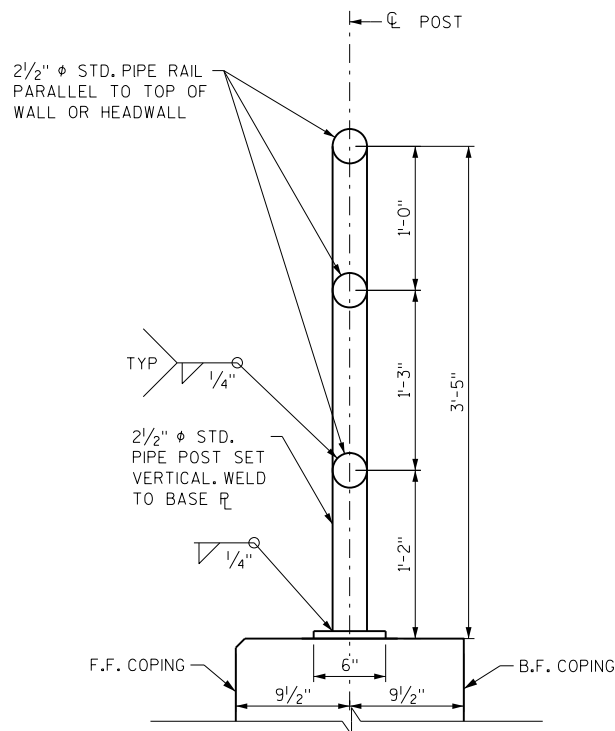


RAIL POST BASE PLATE

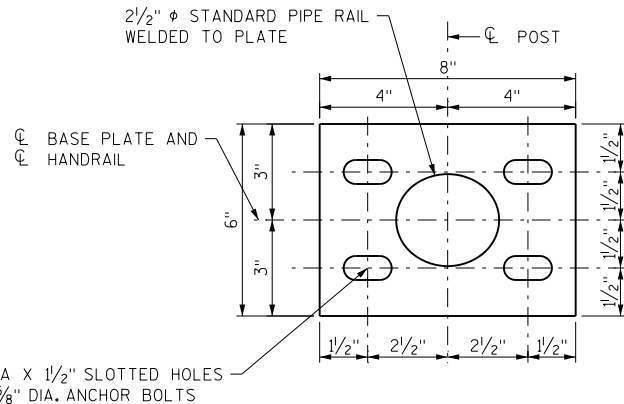


SHIM DETAIL

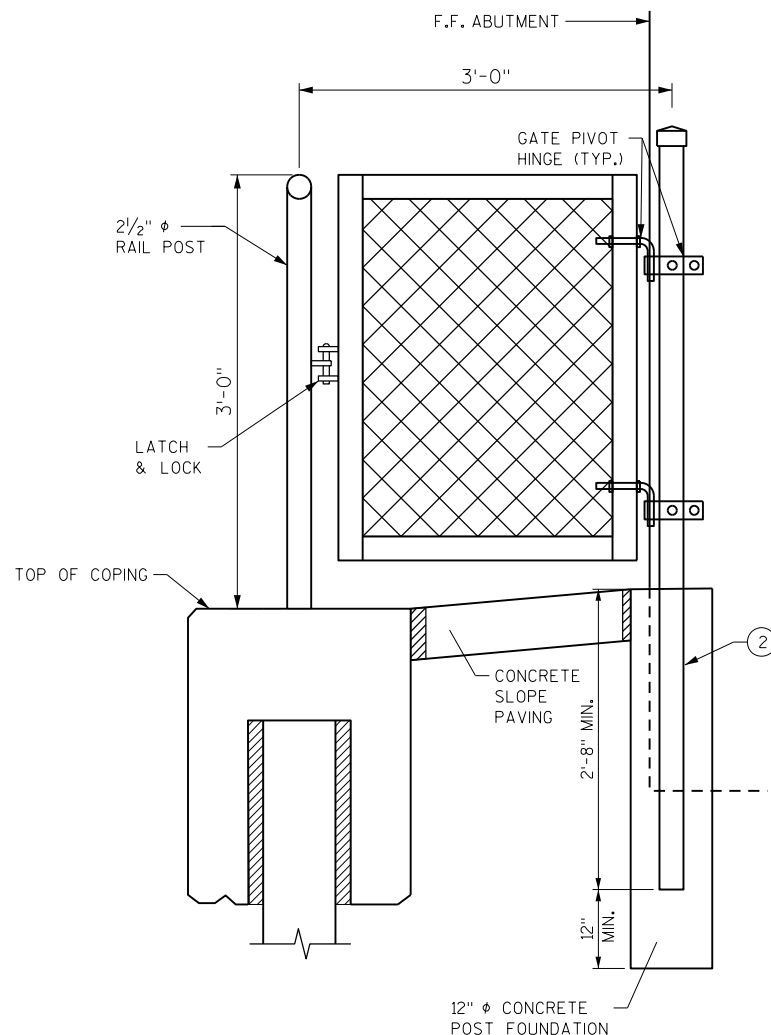
STEEL SHIMS SHALL BE PROVIDED AND USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT (PROVIDE 4 SETS PER POST)



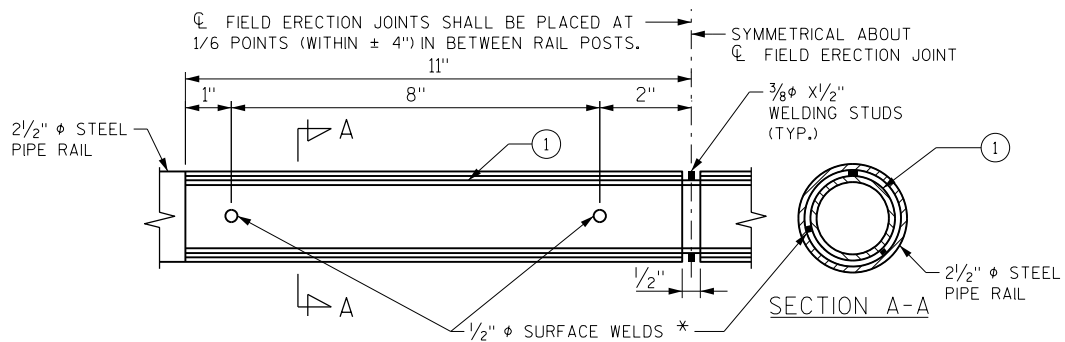
SECTION THROUGH RAIL AT POST



BASE PLATE DETAIL



GATE DETAIL



FIELD ERECTION JOINT DETAIL

* MIN. $\frac{5}{8}$ " FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE R-67-146			
DRAWN BY: WJZ CHECKED BY: WJZ			
PIPE RAILING DETAILS			SHEET 5 OF 5
			PRE_73

DESIGN DATA

LIVE LOAD:

LIVE LOAD SURCHARGE = 240 PSF

MATERIAL PROPERTIES:

CONCRETE MASONRY RETAINING WALLS

F'c = 3,500 PSI

PRECAST CONCRETE WALL PANELS

F'c = 5,000 PSI

BAR STEEL REINFORCEMENT

fy = 60,000 PSI

FOUNDATION DATA

MSE WALL

SEE TABLE ON SHEET 3

ALLOWABLE WALL SYSTEMS

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ ", UNLESS OTHERWISE SHOWN.

ALL STATIONS AND DIMENSIONS ARE ALONG THE FRONT FACE OF THE WALL, UNLESS OTHERWISE SHOWN.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN. ALL BAR STEEL REINFORCEMENT IN CAST IN PLACE CONCRETE SHALL BE EPOXY COATED.

THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF THE WALL R-67-146 WITH THE CONSTRUCTION OF BRIDGE B-67-369.

THE QUANTITY OF CONCRETE MASONRY AND REINFORCING STEEL FOR THE CAST-IN-PLACE COPING IS PAID FOR UNDER THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MSE PRECAST WALL PANELS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH".

CONTRACTOR SHALL SUPPLY AND INSTALL A NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION FOR THE WALL.

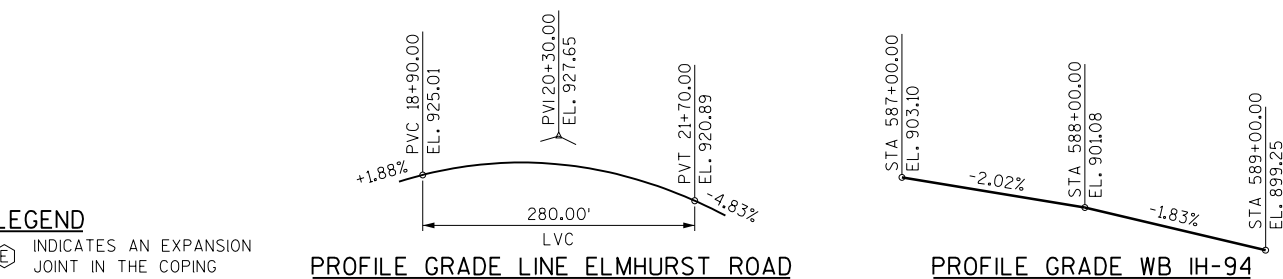
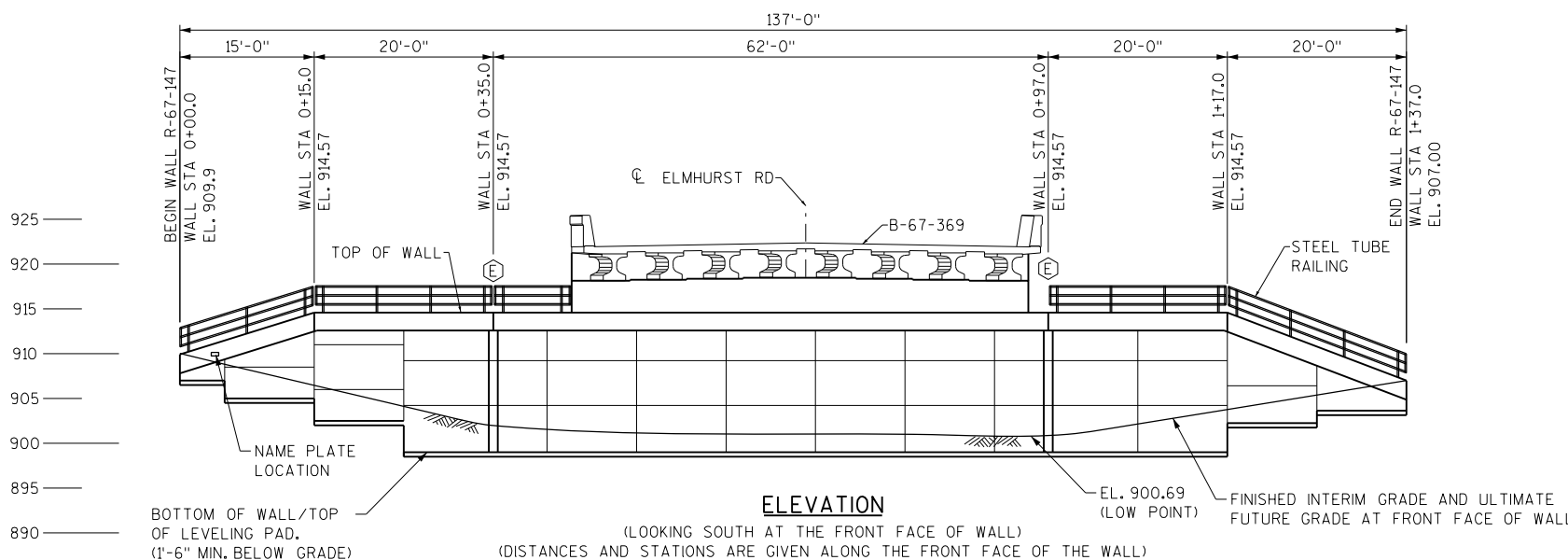
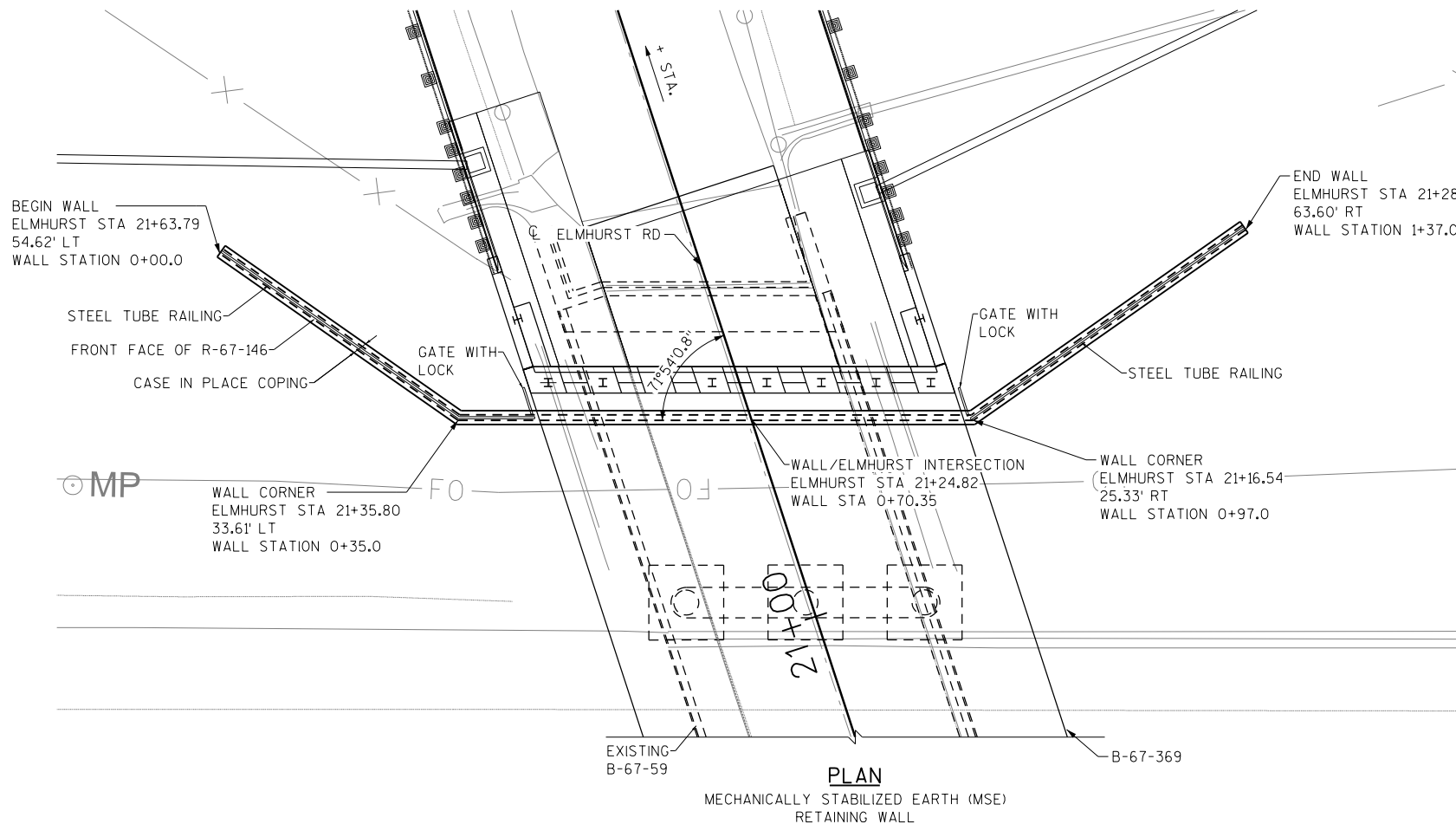
THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH" IS BASED ON WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO A CONSTANT DEPTH OF 1'-6" BELOW THE FINISHED GRADE.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALL IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH".

PLANS ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

DESIGN THE WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND THE WALL AS SHOWN IN THESE PLANS AND THE ROADWAY CROSS SECTIONS WITH A LIVE LOAD SURCHARGE OF 240 PSF.



LEGEND

INDICATES AN EXPANSION JOINT IN THE COPING

BENCHMARKS

NAME			STATION	OFFSET
BM110	921.54	CP CHIS CROSS	21+37	12.7 RT
BM111	925.13	CP CHIS CROSS	19+11	12.5 RT
BM128	911.56	CP FENO	26+41	21.2 RT
BM130	921.23	CP FENO	15+96	18.3 RT

STRUCTURES DESIGN CONTACTS

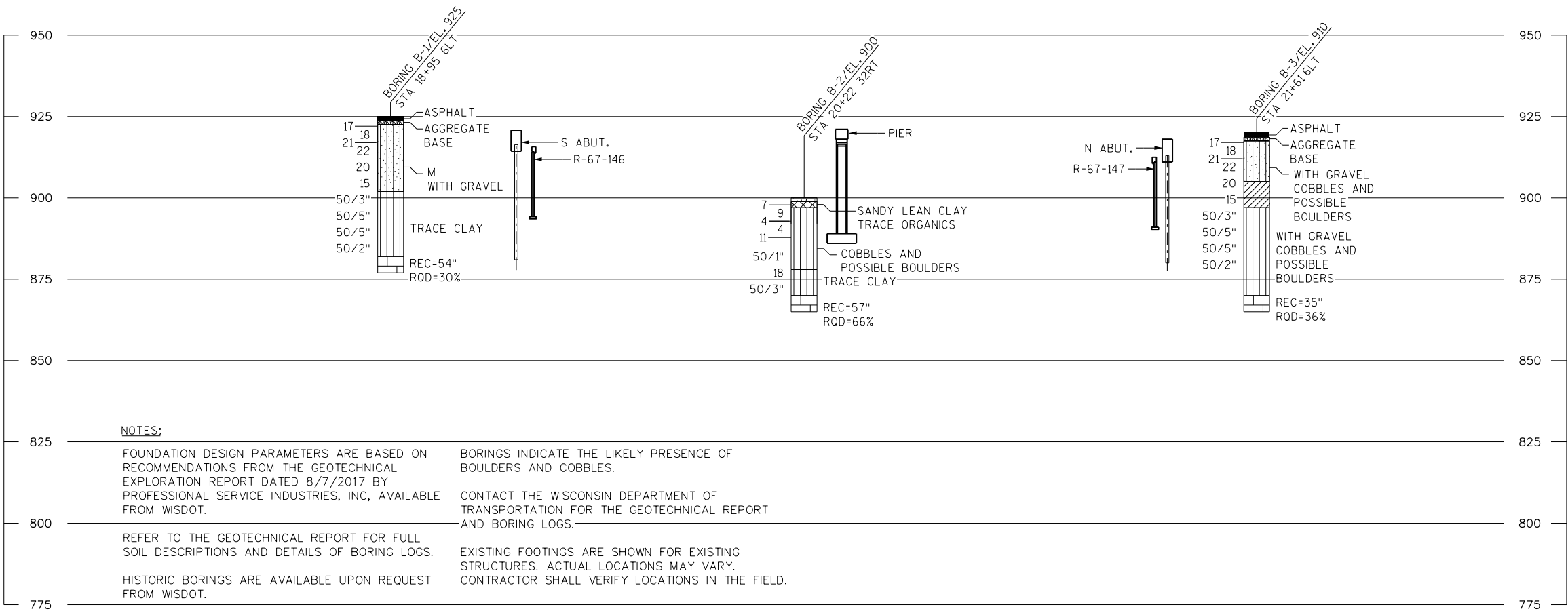
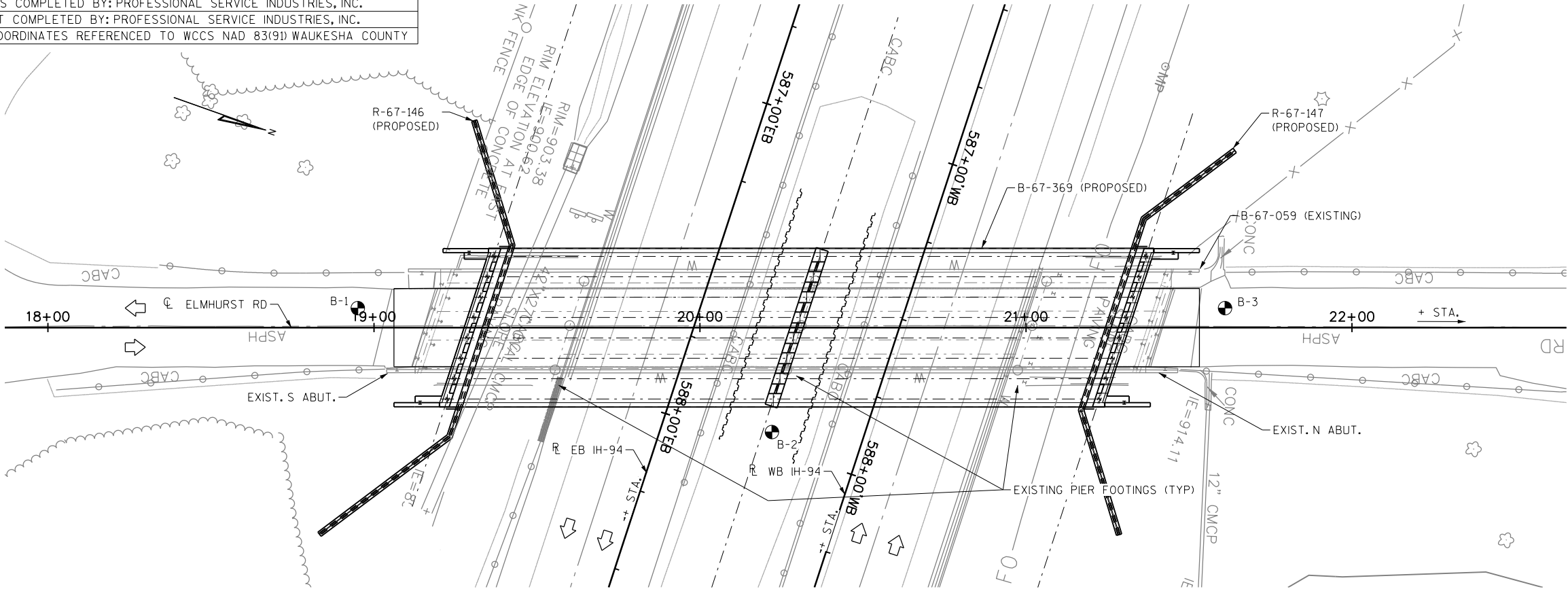
BRIDGE OFFICE:
WILLIAM DREHER, PE
(608) 266-8489CONSULTANT:
WILLIAM J. ZIPPEL, PE, SE
ALFRED BENESCH & CO
1300 W CANAL ST, SUITE 150
MILWAUKEE, WI 53233
(414) 308-1321

LIST OF DRAWINGS:

- GENERAL PLAN & ELEVATION
- SUBSURFACE EXPLORATION
- WALL DETAILS & QUANTITIES
- COPING & MISCELLANEOUS DETAILS
- RAILING DETAILS

NO.	DATE	REVISION	BY
Alfred Benesch & Company 1300 West Canal Street, Suite 150 Milwaukee, Wisconsin 53233 414-308-1310 Job No. 20205.00			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED _____ CHIEF STRUCTURES DESIGN ENGINEER DATE _____			
STRUCTURE R-67-147			
ELMHURST ROAD OVER IH-94			
COUNTY	WAUKESHA	TOWN/CITY	DELAFIELD
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	JAP	DESIGN CKD.	WJZ
GENERAL PLAN AND ELEVATION			
SHEET 1 OF 5			
PRE_74			

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	8-25-2016	175,144.02	658,176.00
2	8-26-2016	175,276.41	658,169.26
3	8-29-2016	175,394.65	658,086.89
BORINGS COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.			
REPORT COMPLETED BY: PROFESSIONAL SERVICE INDUSTRIES, INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) WAUKESHA COUNTY			



NOTES:

FOUNDATION DESIGN PARAMETERS ARE BASED ON RECOMMENDATIONS FROM THE GEOTECHNICAL EXPLORATION REPORT DATED 8/7/2017 BY PROFESSIONAL SERVICE INDUSTRIES, INC. AVAILABLE FROM WISDOT.

REFER TO THE GEOTECHNICAL REPORT FOR FULL SOIL DESCRIPTIONS AND DETAILS OF BORING LOGS.

HISTORIC BORINGS ARE AVAILABLE UPON REQUEST FROM WISDOT.

BORINGS INDICATE THE LIKELY PRESENCE OF BOULDERS AND COBBLES.

CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION FOR THE GEOTECHNICAL REPORT AND BORING LOGS.

EXISTING FOOTINGS ARE SHOWN FOR EXISTING STRUCTURES. ACTUAL LOCATIONS MAY VARY. CONTRACTOR SHALL VERIFY LOCATIONS IN THE FIELD.

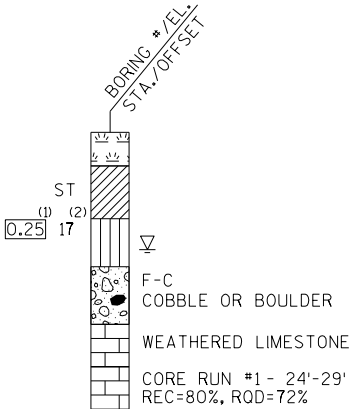
STATE PROJECT NUMBER

1060-10-70

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ END OF DRILLING

▽ AFTER DRILLING

ABBREVIATIONS

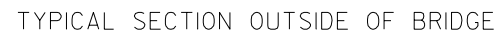
F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		R-67-147	
DRAWN BY		PLANS CHECK'D.	WJZ
SUBSURFACE EXPLORATION		SHEET 2 OF	
		PRE_75	

FILE= R67147_15.SUBS.DGN
SCALE = 1:40



BID NO.	BID ITEMS	UNIT	TOTAL
206.3000	EXCAVATION FOR STRUCTURES RETAINING WALL R-67-146	LS	1
513.2001	RAILING PIPE R-67-146	LF	91
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	2
532.0500.S	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH	SF	1664
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	177
	NON BID ITEMS		
	PREFORMED JOINT FILLER		
	NON-BITUMINOUS JOINT SEALER		
	NAME PLATE		

WALL STATION	ELMHURST ROAD STATION	OFFSET	LOCATION	TOP OF WALL	FINISHED GRADE
0+00.0	21+63.79	54.62 LT	BEGIN WALL	909.9	909.43
0+15.0	21+51.79	45.63 LT	END TAPER	915.57	906.46
0+35.0	21+35.80	33.61 LT	WALL CORNER	915.57	901.96
0+70.35	21+24.82	0	WALL/ELMHURST INTERSECTION	915.57	901.23
1+97.0	21+16.54	25.33 RT	WALL CORNER	915.57	900.69
1+17.0	21+22.35	44.46 RT	START TAPER	915.57	903.76
1+37.0	21+28.17	63.60 RT	END WALL	907.00	907.00

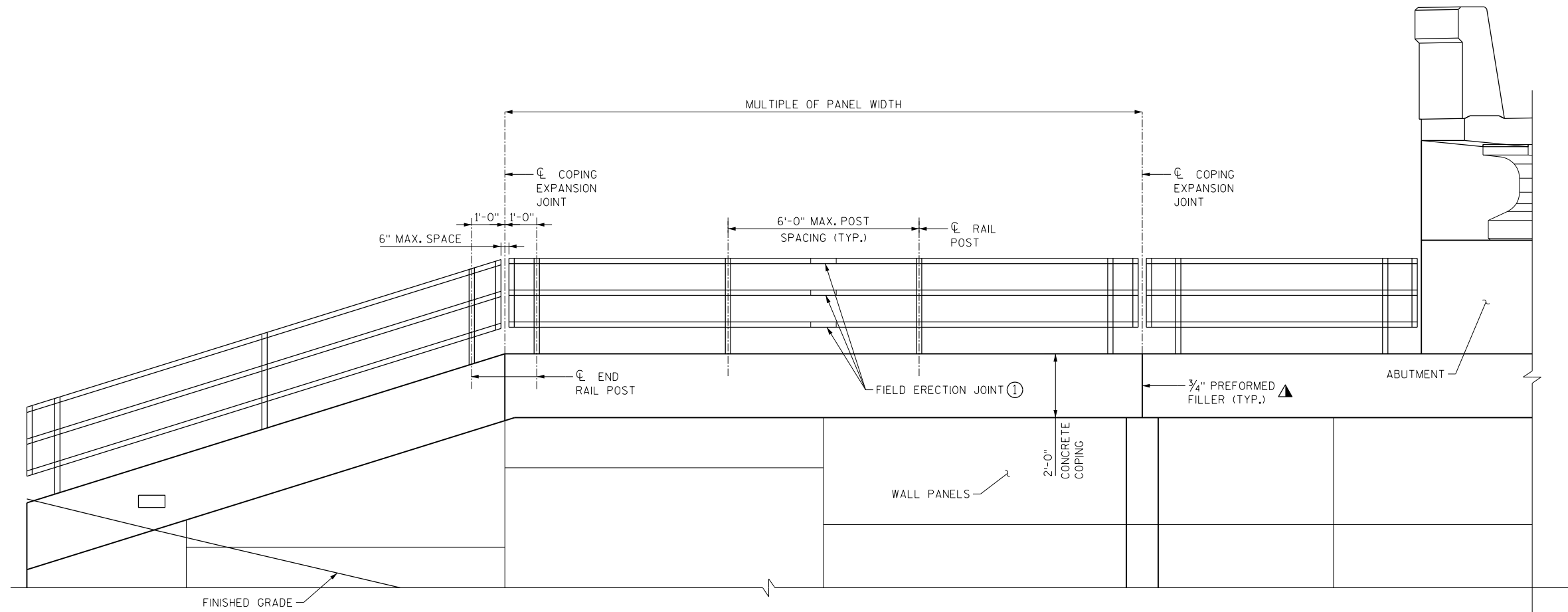
DIMENSIONS	EVALUATED LOCATIONS	
WALL HEIGHT (FEET)	17.1	16.0
EXPOSED WALL HEIGHT (FEET)	15.6	14.5
MINIMUM LENGTH OF REINFORCEMENT (FEET)	20.5	19.2
WALL STATION	0+78	0+40
BORING USED	B-1, B-3	B-1, B-3
CAPACITY TO DEMAND RATIO		
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ECCENTRICITY (CDR > 1.0)	1.8	4.0
OVERALL STABILITY (CDR > 1.0)	1.1	1.0
BEARING RESISTANCE (CDR > 1.0)	3.6	3.1
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STRATUM LOCATIONS & SOIL DESCRIPTIONS	TOTAL UNIT WEIGHT (PCF)	FRICTION ANGLE (DEGREE)	COHESION (PSF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	30	0
NATURAL SILTY SAND OR OR SILT/SANDY SILT RETAINED/FOUNDATION SOIL	125	32	0

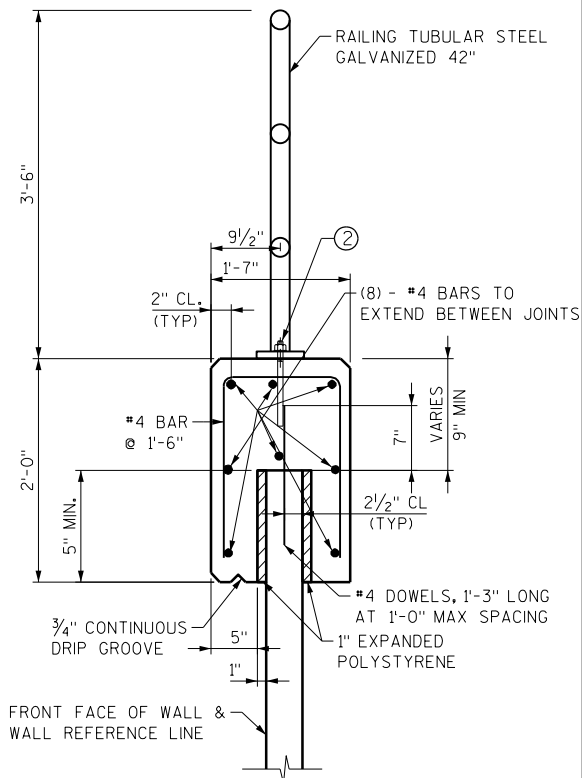


THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER, A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

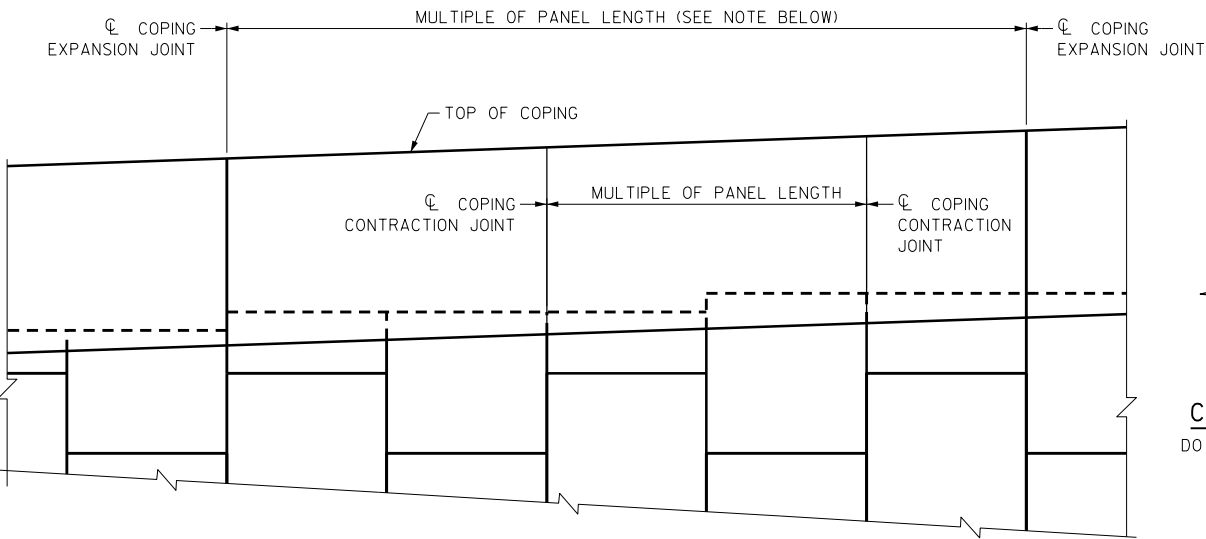
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE		R-67-147	
DRAWN BY		PLANS	WJZ
CHECK'D.			
WALL DETAILS & QUANTITIES		SHEET 3 OF 5	
		PRE_76	



PARTIAL WALL ELEVATION
LOOKING SOUTH AT F.F. OF WALL

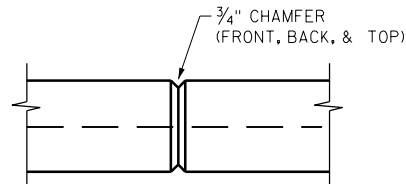


**CAST-IN-PLACE
CONCRETE COPING DETAIL**



NOTE: ALL COPING JOINTS SHALL BE LOCATED AS SHOWN ON WALL ELEVATIONS AND MUST COINCIDE WITH PANEL JOINT ON FRONT FACE.

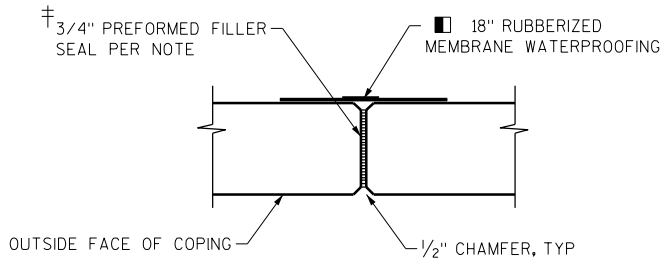
C.I.P. COPING PARTIAL ELEVATION



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THROUGH JOINT.
MAX SPACING OF JOINTS = 12 FT

LOCATE TO MISSING RAILING POSTS



COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THROUGH JOINT.
MAX SPACING OF JOINTS = 50 FT

MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS

SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE)

NOTES

- ① SEE PIPE RAILING DETAILS FOR MORE INFORMATION (SHEET 5)
- ② 5/8" DIA. STAINLESS STEEL MASONRY ANCHORS TYPE S WITH NUT AND WASHER EMBED 7" MIN.
- ▲ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE.)

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE R-67-147			
DRAWN BY: WJZ CHECKED BY: WJZ			
COPING & MISS. DETAILS			SHEET 4 OF 5
			PRE_77

NOTES

BID ITEM SHALL BE "RAILING PIPE R-67-147, WHICH SHALL INCLUDE ALL STEEL ITEMS SHOWN, CONCRETE MASONRY ANCHORS, AND GALVANIZING.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 2 POSTS MINIMUM.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS A CONCRETE COPING EXPANSION JOINT BETWEEN THE RAIL POSTS.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES SHALL CONFORM TO A.S.T.M. A709 GRADE 36. STANDARD PIPE SHALL CONFORM TO A.S.T.M. A500 GRADE B.

ANCHORAGES SHALL BE ACURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

CUT BOTTOM OF POST TO MAKE POST VERTICAL IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D FOR ALIGNMENT.

FILL BOLT SLOT OPENINGS IN SHIMS AND BASE PLATES, AND CAULK AROUND PERIMETER OF BASE PLATES WITH NON-STAINING GREY NON-BITUMINOUS JOINT SEALER.

ALL JOINTS SHALL BE CONTINUOUSLY WELDED AND GROUND SMOOTH. COPE COMPONENTS AT PERPENDICULAR AND SKEW CONNECTIONS TO PROVIDE CLOSE FIT. OBTAIN FUSION WITHOUT UNDERCUT OR OVERLAP. REMOVE FLUX IMMEDIATELY.

SUPPLY CONCRETE MASONRY ANCHORS, TYPE S (EPOXY), 5/8-INCH HAVING A MINIMUM PULLOUT CAPACITY OF 9.2 KIPS. EMBED A MINIMUM OF 7" INTO SOUND CONCRETE. ANCHORS SHALL BE STAINLESS STEEL.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

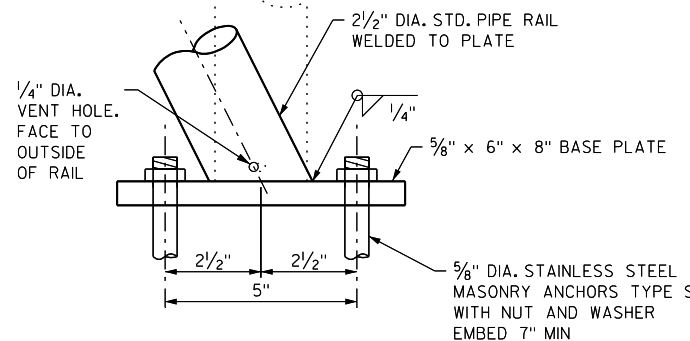
GALVANIZE AFTER FABRICATION PER ASTM A123.

SHIMS SHALL BE GALVANIZED.

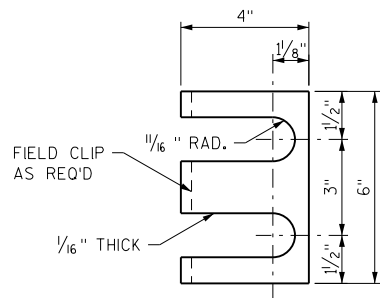
HANDRAIL AND POSTS TO BE SMOOTH AND FREE OF NICKS, BURRS, AND ABRASIONS AFTER GALVANIZING.

LEGEND

- ① 2" ϕ PIPE SLEEVE X 1'-10" LONG FOR 2 1/2" STEEL PIPE RAILING. PROVIDE 1/2" ϕ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF 2 1/2" ϕ STEEL PIPE. PROVIDE 3/8" ϕ X 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
- ② GATE POST TO BE PLACED VERTICAL AND EVEN WITH THE END RAIL POSTS. SWING GATE SHALL PIVOT AROUND POST. EMBED MIN. 2'-8" INTO 10" ϕ CONCRETE FOOTING, AND AVOID WALL REINFORCEMENT

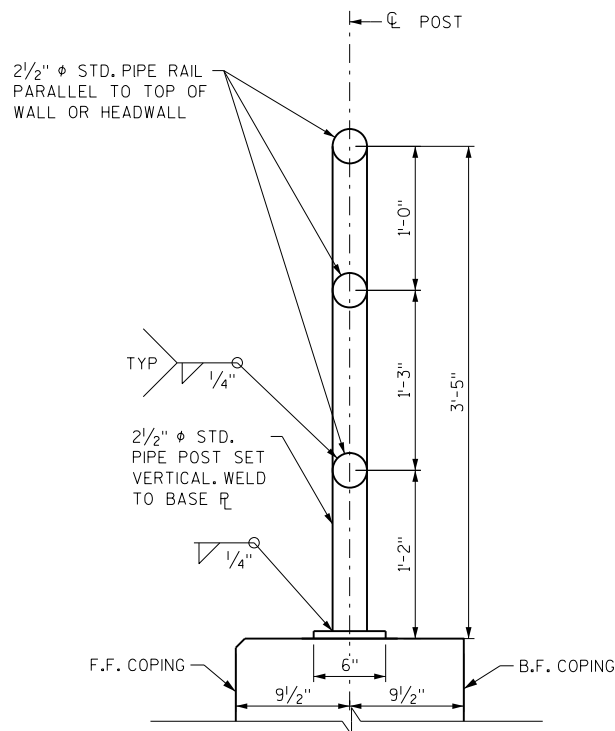


RAIL POST BASE PLATE

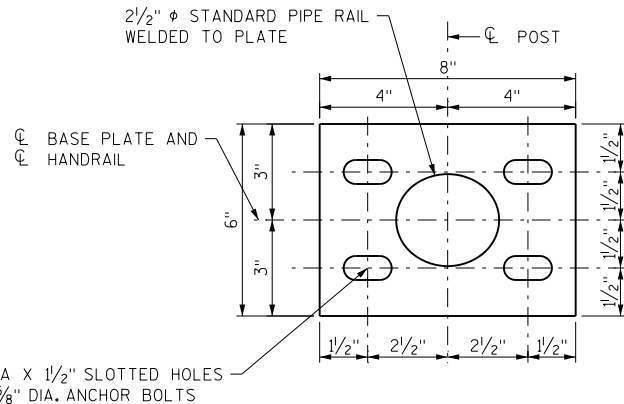


SHIM DETAIL

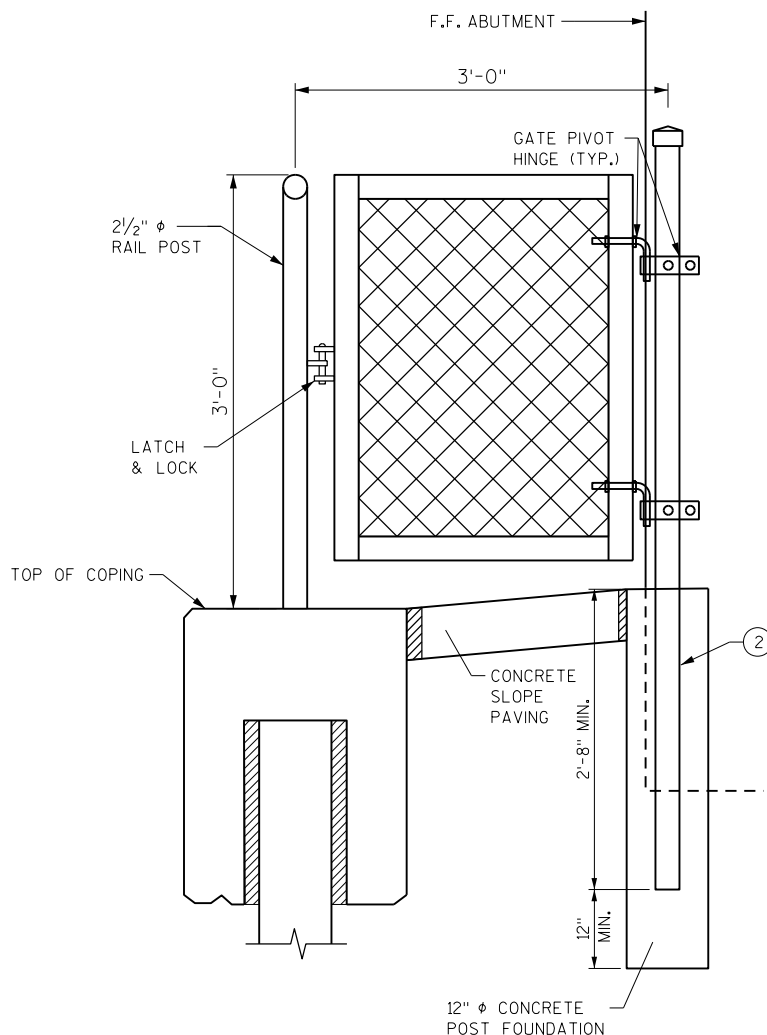
STEEL SHIMS SHALL BE PROVIDED AND USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT (PROVIDE 4 SETS PER POST)



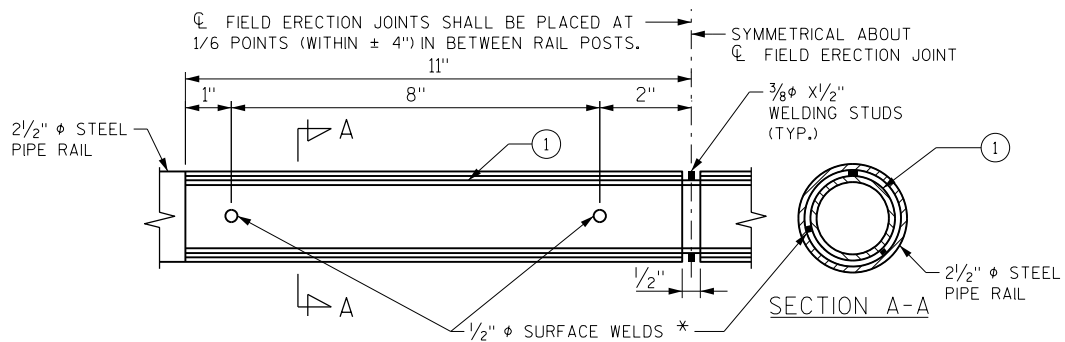
SECTION THROUGH RAIL AT POST



BASE PLATE DETAIL



GATE DETAIL



FIELD ERECTION JOINT DETAIL

* MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE R-67-147			
DRAWN BY: WJZ CHECKED BY: WJZ			
PIPE RAILING DETAILS			SHEET 5 OF 5
			PRE_78

CTH DR (GOLF ROAD)

STATION	Real Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
			Cut	Fill	Cut	Fill	Cut	Expanded Fill	
					Note 1	Note 3	Note 1	Note 8	
585+38	58538.00	0.00	13.83	13.39	0	0	0	0	0
585+50	58550.00	12.00	13.82	11.92	6	6	6	7	-1
585+75	58575.00	25.00	14.28	8.37	13	9	19	19	0
586+00	58600.00	25.00	16.08	9.27	14	8	33	29	4
586+25	58625.00	25.00	18.34	8.11	16	8	49	39	10
586+36.04	58636.04	11.04	22.26	12.84	8	4	57	44	13
586+50	58650.00	13.96	26.68	2.92	13	4	70	49	21
586+75	58675.00	25.00	10.89	0.00	17	1	87	51	36
586+85.05	58685.05	10.05	0.00	0.00	2	0	90	51	38
587+00	58700.00	14.95	13.78	0.00	4	0	93	51	42
587+25	58725.00	25.00	24.19	0.98	18	0	111	52	59
587+50	58750.00	25.00	15.70	12.50	18	6	129	60	70
587+75	58775.00	25.00	14.16	12.94	14	12	143	74	69
587+88	58788.00	13.00	15.22	43.52	7	14	150	91	59
588+00	58800.00	12.00	14.71	54.50	7	22	157	118	38
588+25	58825.00	25.00	13.90	56.00	13	51	170	182	-12
588+30	58830.00	5.00	13.86	54.93	3	10	173	195	-23
SUBTOTAL =					173	156	173	195	-23

ELMHURST ROAD

STATION	Real Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
			Cut	Fill	Cut	Fill	Cut 1.00 Note 1	Expanded Fill 1.25 Note 1	
17+53	1753.00	0.00	2.80	0.00	0	0	0	0	0
17+75	1775.00	22.00	70.67	20.16	30	8	30	10	20
17+86.21	1786.21	11.21	69.52	68.26	29	18	59	33	26
18+00	1800.00	13.79	58.57	164.41	33	59	92	107	-16
18+25	1825.00	25.00	58.58	326.72	54	227	146	392	-246
18+50	1850.00	25.00	51.15	314.51	51	297	197	763	-566
18+66.43	1866.43	16.43	46.55	285.08	30	182	227	991	-764
18+75	1875.00	8.57	43.55	301.00	14	93	241	1,107	-866
19+00	1900.00	25.00	27.68	309.45	33	283	274	1,460	-1187
19+25	1925.00	25.00	0.00	330.34	13	296	287	1,831	-1544
19+31.04	1931.04	6.04	0.00	223.33	0	62	287	1,908	-1621
21+25	2125.00	0.00	0.00	228.87	0	0	287	1,908	-1621
21+50	2150.00	25.00	13.05	735.19	6	446	293	2,466	-2173
21+75	2175.00	25.00	27.89	648.06	19	640	312	3,266	-2955
21+96.26	2196.26	21.26	38.23	591.03	26	488	338	3,876	-3539
22+00	2200.00	3.74	40.06	569.10	5	80	343	3,977	-3634
22+25	2225.00	25.00	50.77	408.23	42	452	385	4,542	-4157
22+32.63	2232.63	7.63	53.21	352.91	15	108	400	4,677	-4277
22+50	2250.00	17.37	57.35	222.94	36	185	435	4,908	-4473
22+75	2275.00	25.00	64.65	66.28	56	134	492	5,076	-4584
22+83.12	2283.12	8.12	69.03	31.18	20	15	512	5,094	-4582
23+00	2300.00	16.88	57.04	0.00	39	10	551	5,106	-4555
23+12	2312.00	12.00	3.53	0.00	13	0	565	5,106	-4541
SUBTOTAL =					565	4,085	565	5,106	-4541

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IH 94

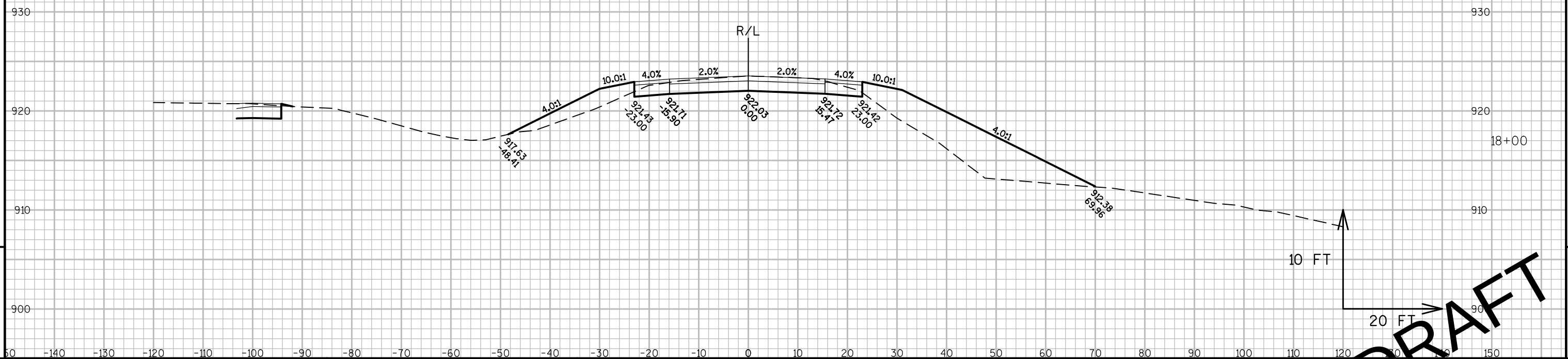
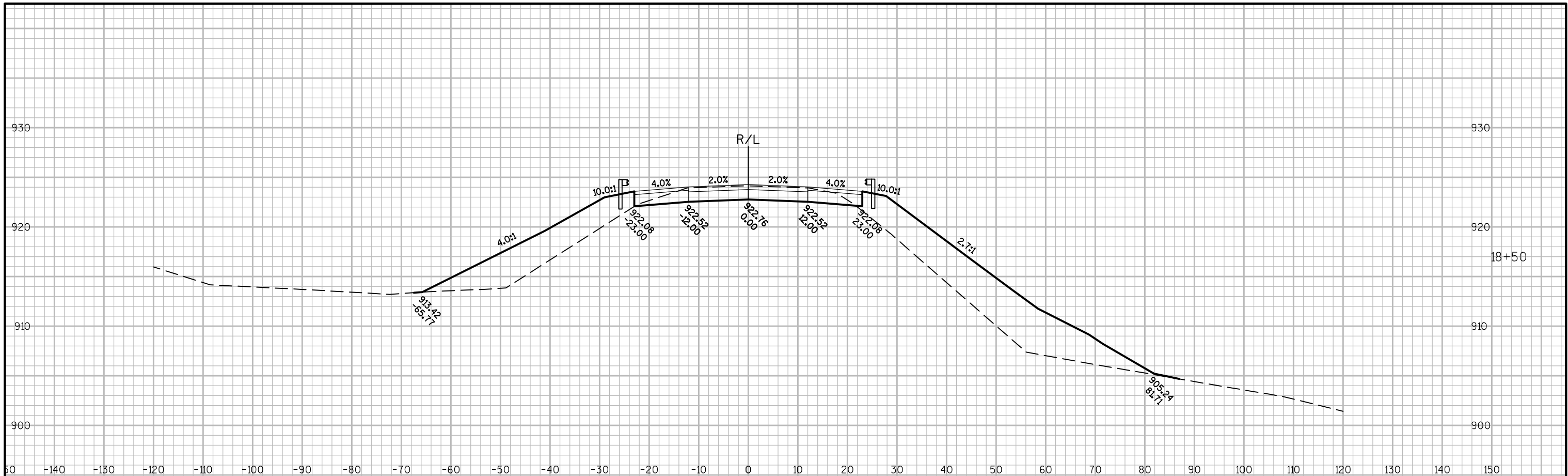
STATION	Real Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
			Cut	Fill	Cut	Fill	Cut 1.00	Expanded Fill 1.25	
584+93	58493.00	0.00	6.14	2.23	0	0	0	0	0
585+00	58500.00	7.00	5.97	1.53	2	0	2	1	1
585+25	58525.00	25.00	4.58	1.64	5	1	6	2	4
585+50	58550.00	25.00	4.66	1.81	4	2	11	4	6
585+75	58575.00	25.00	3.46	2.92	4	2	14	7	7
586+00	58600.00	25.00	3.84	4.65	3	4	18	12	6
586+25	58625.00	25.00	3.55	7.39	3	6	21	19	3
586+43.32	58643.32	18.32	3.93	43.98	3	17	24	40	-16
586+50	58650.00	6.68	4.01	104.81	1	18	25	63	-39
586+75	58675.00	25.00	29.85	10.82	16	54	40	130	-90
587+00	58700.00	25.00	108.31	9.72	64	10	104	142	-38
587+25	58725.00	25.00	110.57	12.36	101	10	206	155	51
587+32.6	58732.60	7.60	116.44	3.79	32	2	238	158	80
587+50	58750.00	17.40	229.33	0.00	111	1	349	159	190
587+75	58775.00	25.00	196.20	0.40	197	0	546	160	387
588+00	58800.00	25.00	151.90	250.20	161	116	707	305	403
588+25	58825.00	25.00	124.83	259.31	128	236	835	599	236
588+50	58850.00	25.00	23.32	202.76	69	214	904	867	37
588+56.58	58856.58	6.58	15.13	191.29	5	48	909	927	-18
588+75	58875.00	18.42	9.14	116.92	8	105	917	1,058	-141
588+85.73	58885.73	10.73	5.83	52.53	3	34	920	1,100	-180
589+00	58900.00	14.27	1.02	7.38	2	16	922	1,120	-198
589+25	58925.00	25.00	4.51	9.70	3	8	924	1,130	-206
589+50	58950.00	25.00	0.13	11.85	2	10	926	1,142	-216
589+75	58975.00	25.00	17.76	0.01	8	5	935	1,149	-215
589+95	58995.00	20.00	0.11	0.01	7	0	941	1,149	-208
SUBTOTAL =				941	919	941	1,149	-208	

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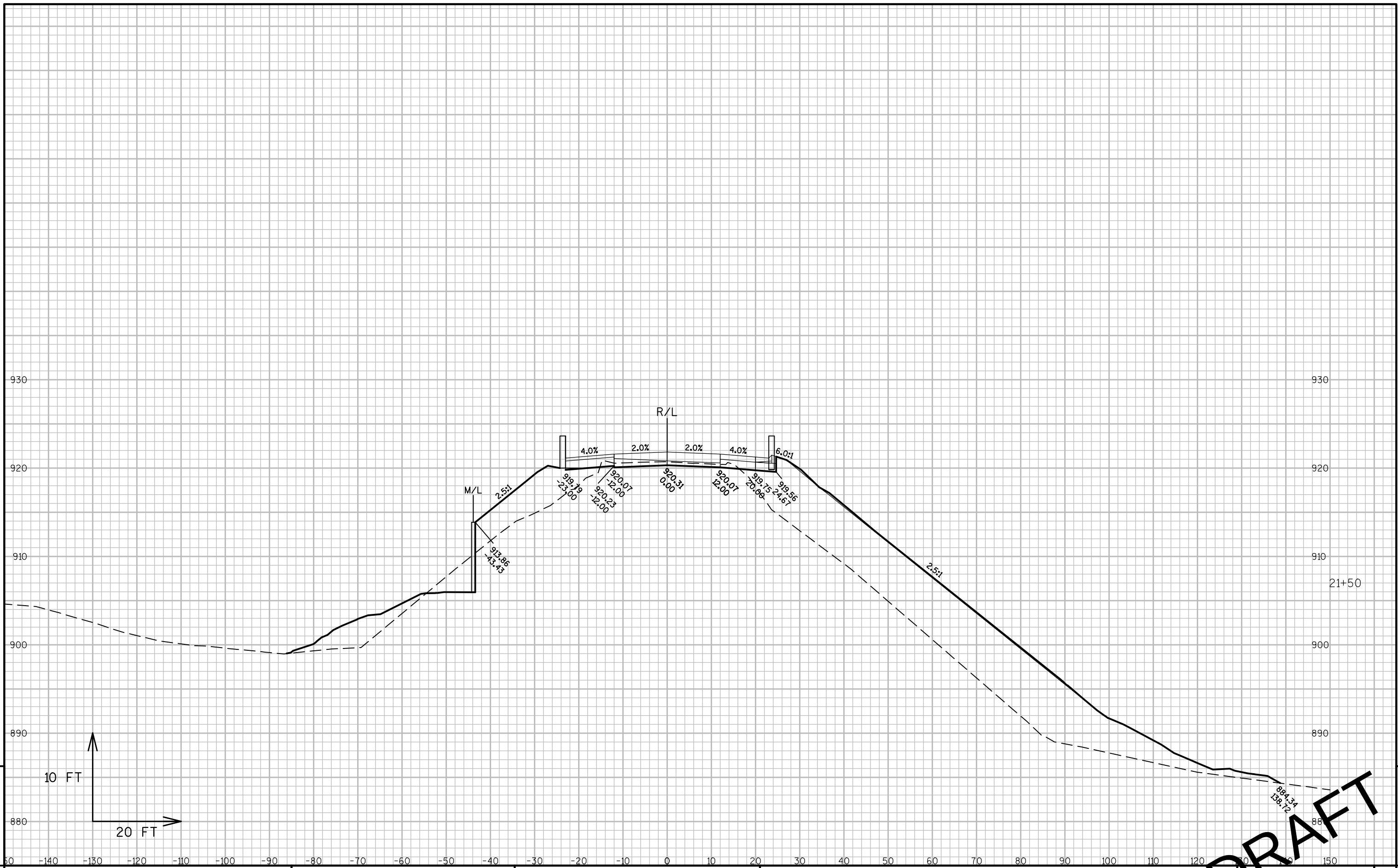
SILVERNAIL ROAD

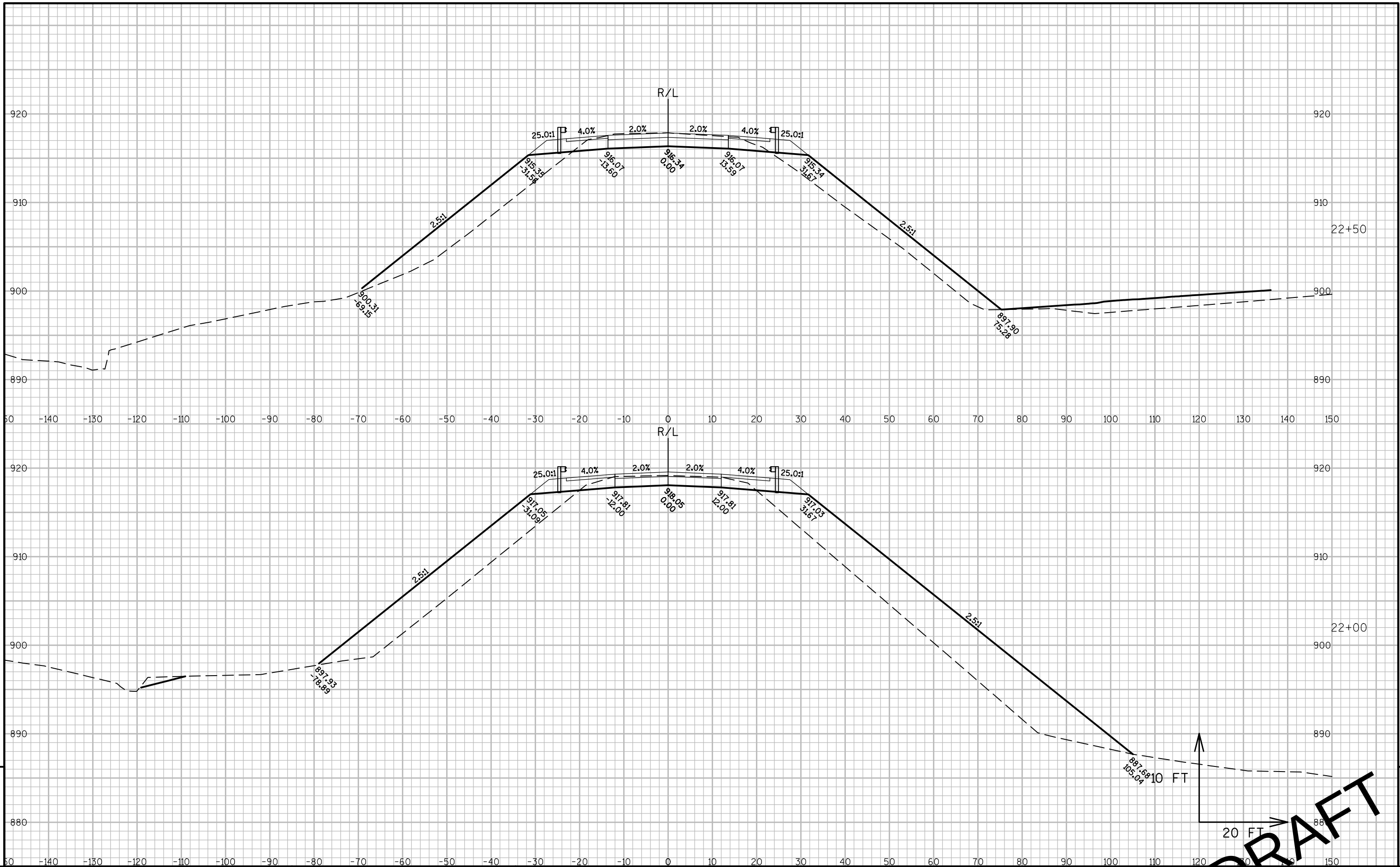
STATION	Real Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
			Cut	Fill	Cut	Fill	Cut 1.00 Note 1	Expanded Fill 1.25	
587+43	58743.00	0.00	3.13	0.00	0	0	0	0	0
587+50	58750.00	7.00	5.04	0.02	1	0	1	0	1
587+75	58775.00	25.00	10.01	0.10	7	0	8	0	8
588+00	58800.00	25.00	12.11	0.09	10	0	18	0	18
588+25	58825.00	25.00	19.68	0.30	15	0	33	0	33
588+29.74	58829.74	4.74	22.44	1.04	4	0	37	1	36
588+50	58850.00	20.26	24.56	0.00	18	0	54	1	53
588+75	58875.00	25.00	4.34	0.00	13	0	68	1	67
588+80.1	58880.10	5.10	0.00	0.00	0	0	68	1	67
588+81.42	58881.42	0.00	1.18	0.00	0	0	68	1	67
589+00	58900.00	18.58	23.29	0.00	8	0	77	1	75
589+25	58925.00	25.00	15.77	27.58	18	13	95	17	78
589+35.84	58935.84	10.84	13.23	11.63	6	8	100	27	74
589+50	58950.00	14.16	11.32	0.22	6	3	107	31	76
589+75	58975.00	25.00	9.21	0.13	10	0	116	31	85
590+00	59000.00	25.00	6.48	0.18	7	0	124	31	93
590+23	59023.00	23.00	0.47	0.47	3	0	127	31	95
SUBTOTAL =				127	25	127	31	95	
TOTAL =				1,806	5,186	1,806	6,482	-4,677	

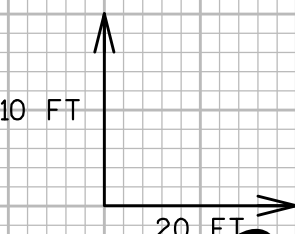
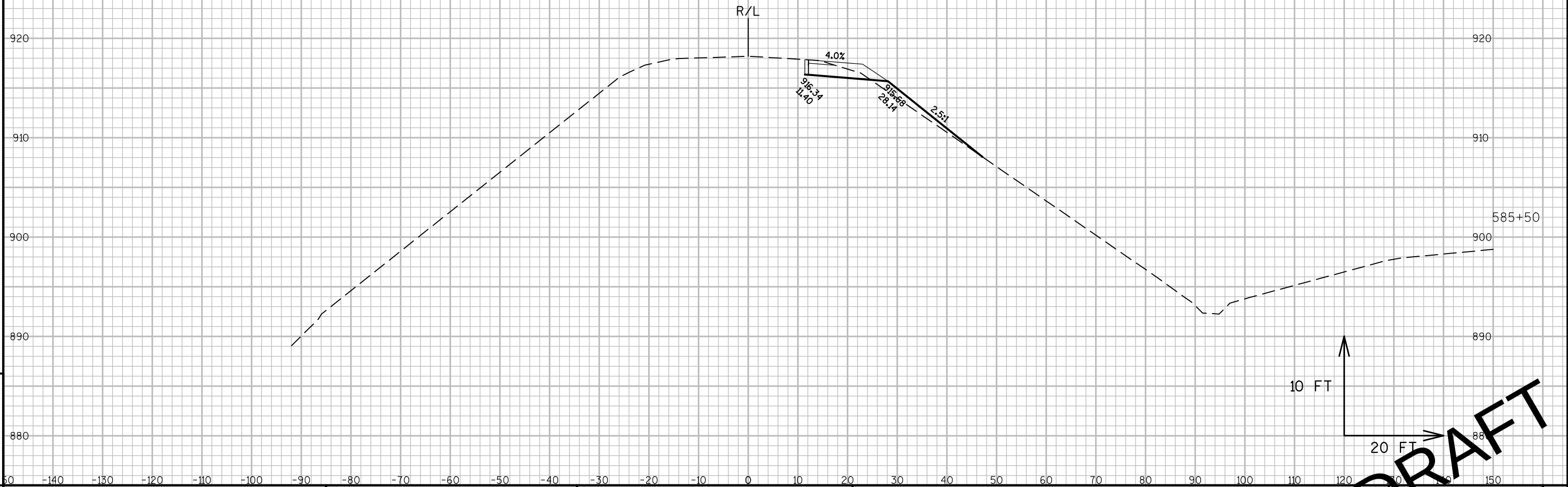
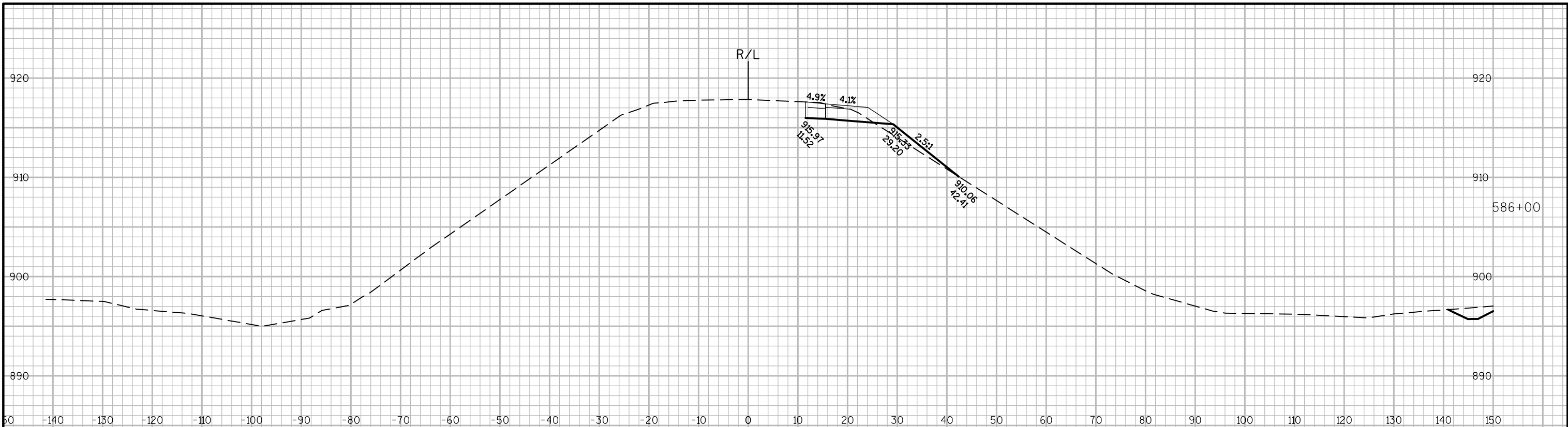
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PROJECT NO:1060-10-70 HWY:IH-94 COUNTY:WAUKESHA CROSS SECTIONS: ELMHURST ROAD SHEET PRE_82 E



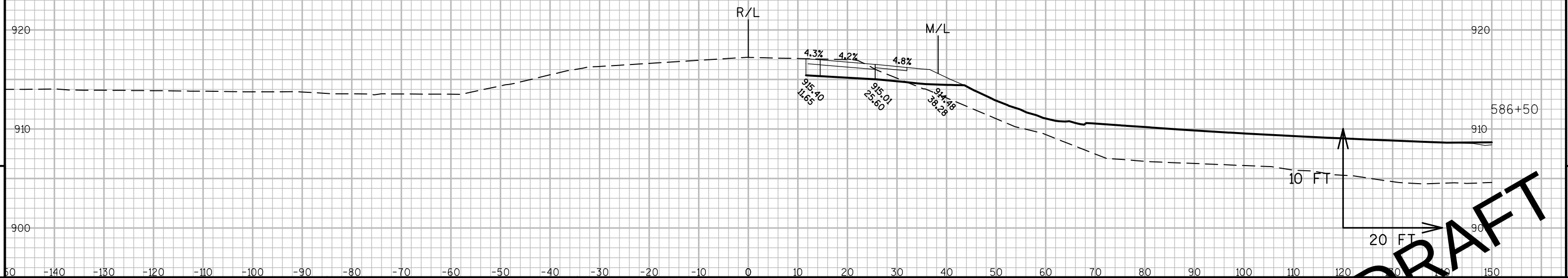
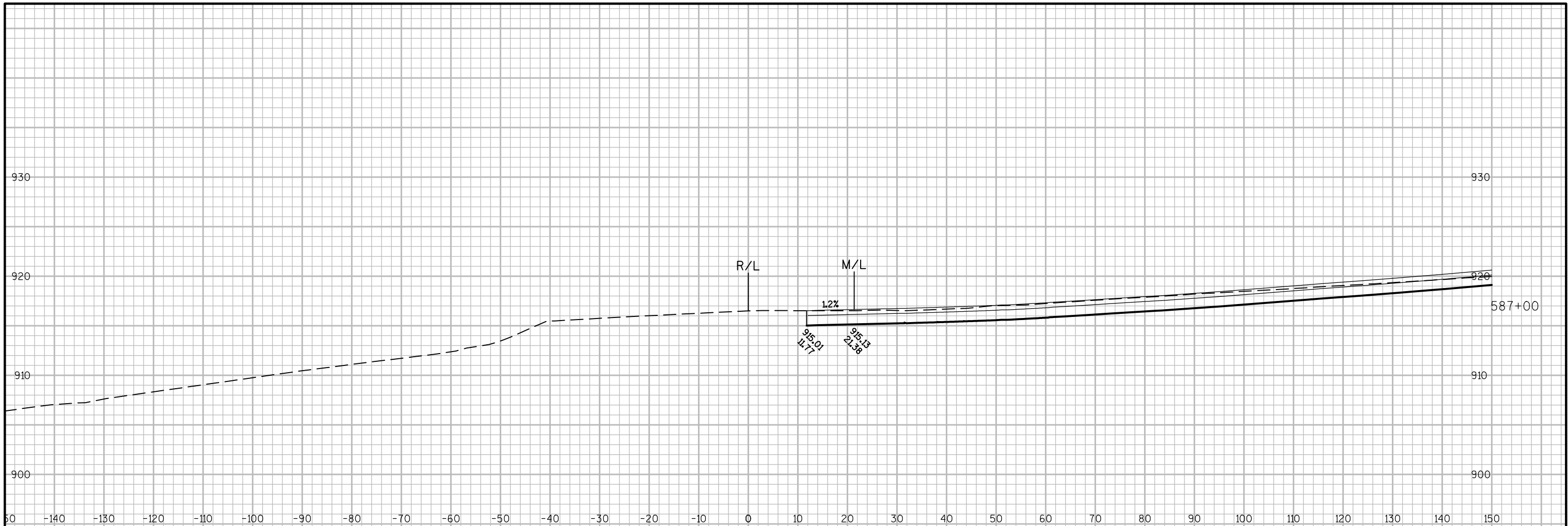




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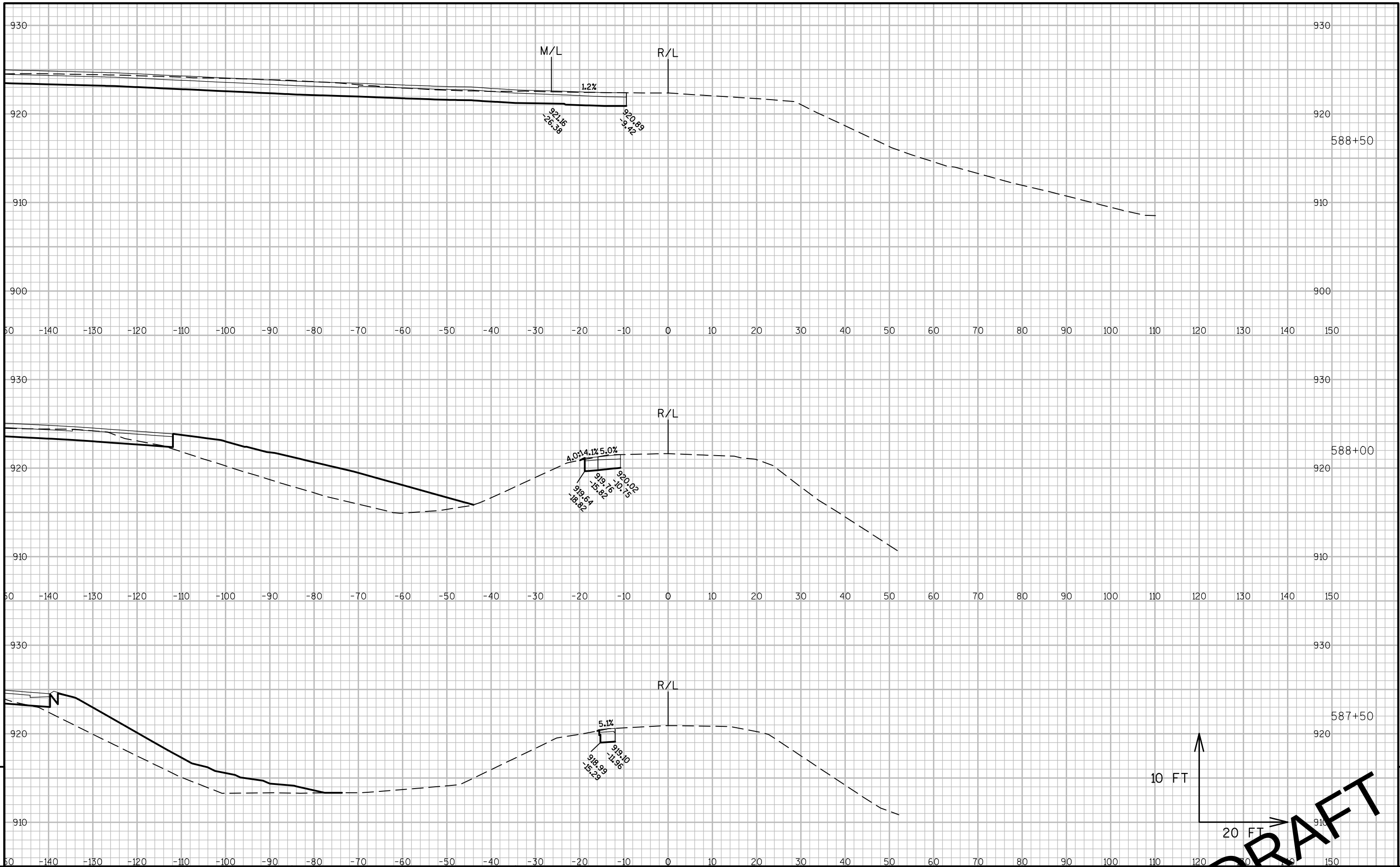
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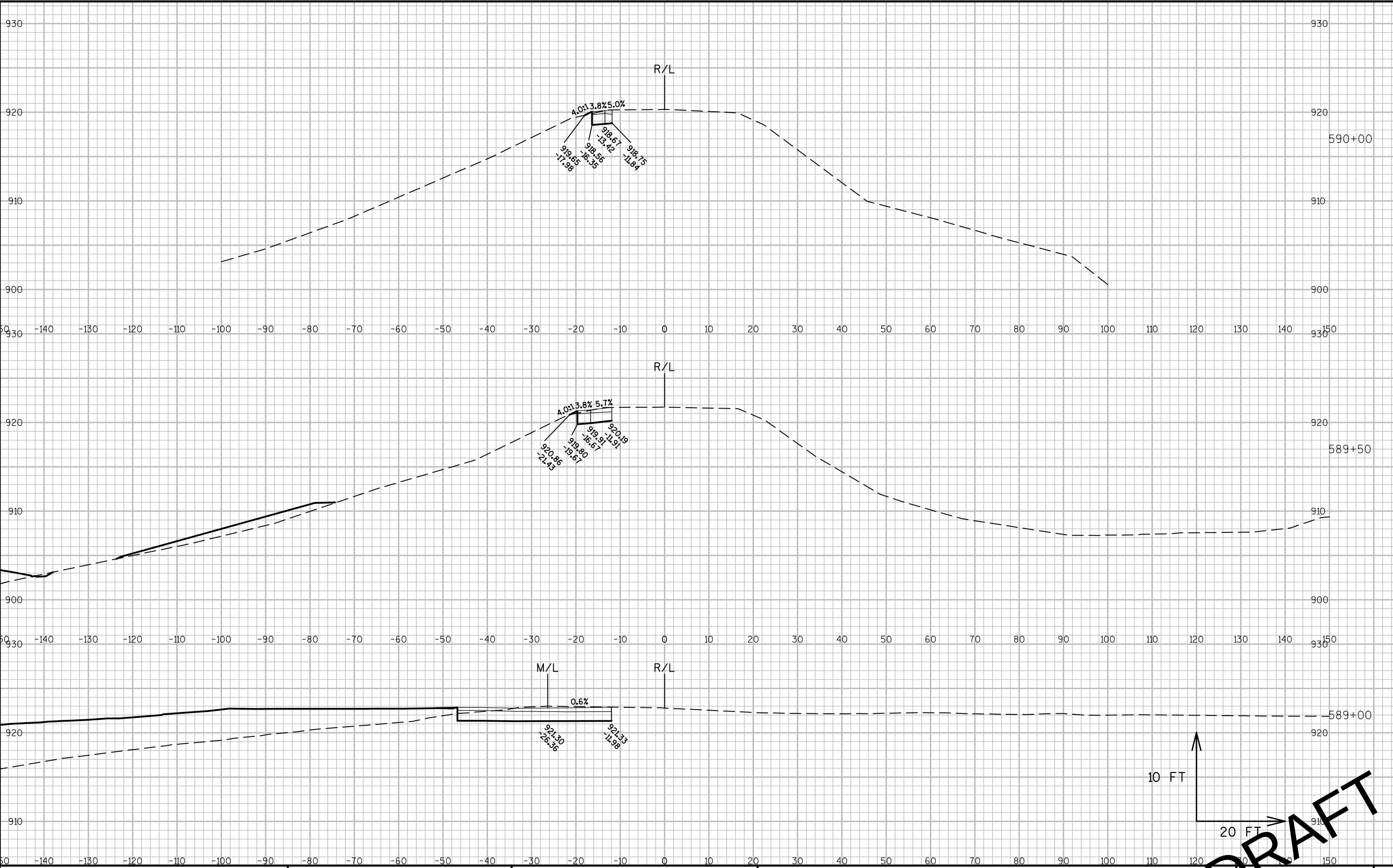
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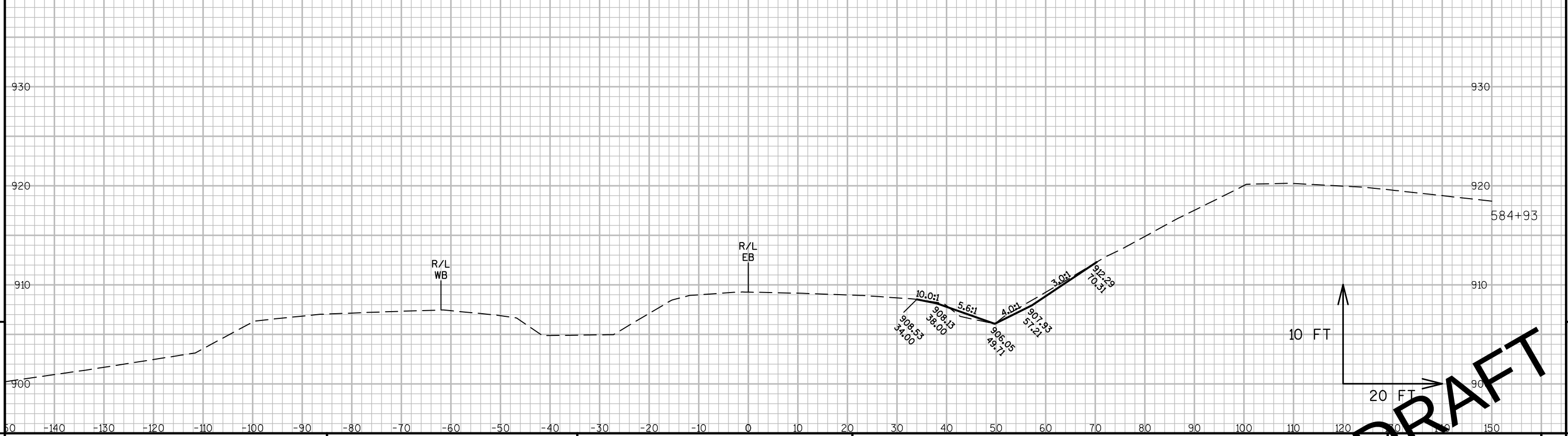
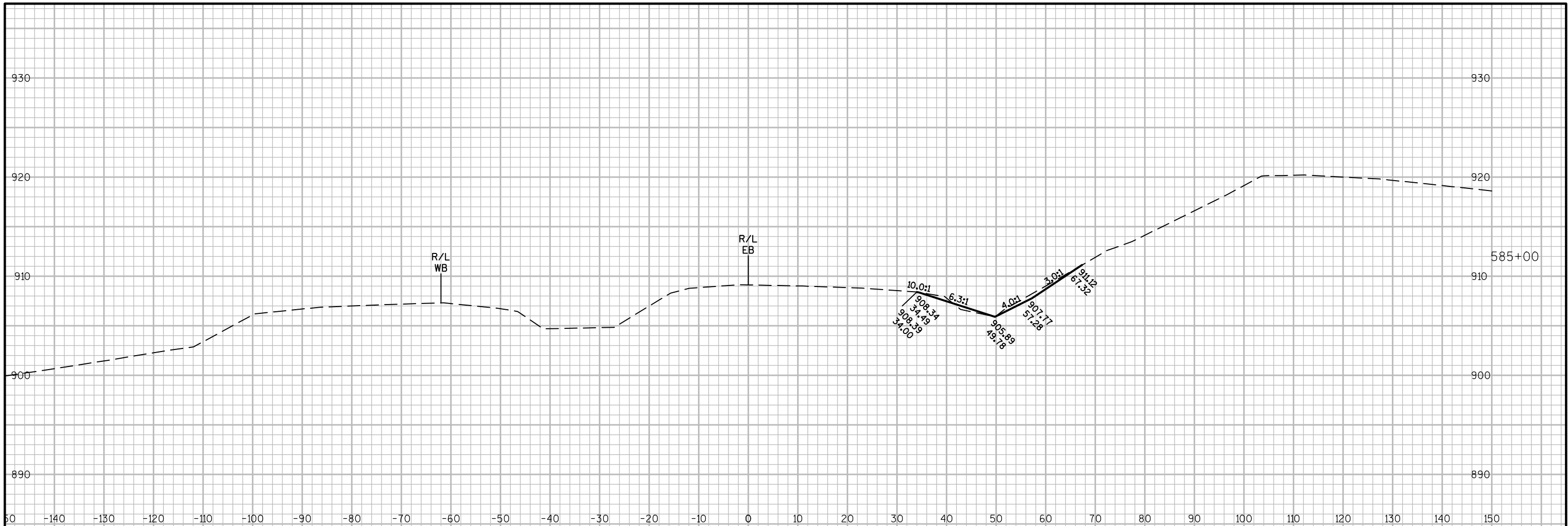


PROJECT NO:1060-10-70 HWY:IH-94 COUNTY:WAUKESHA CROSS SECTIONS: CTH DR (GOLF ROAD) SHEET PRE_87 E

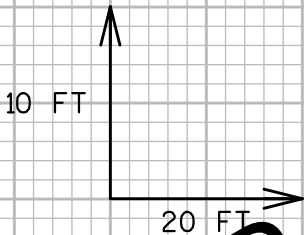
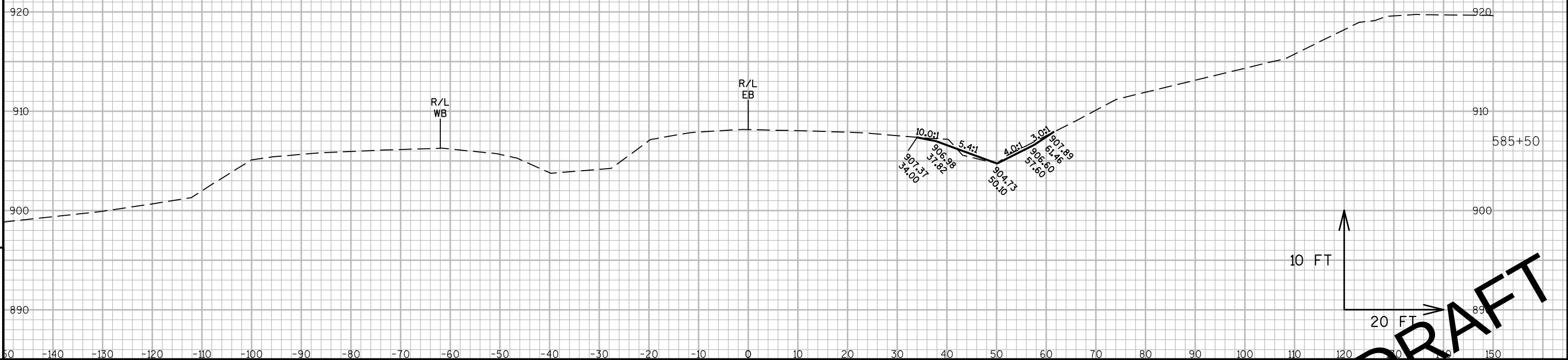
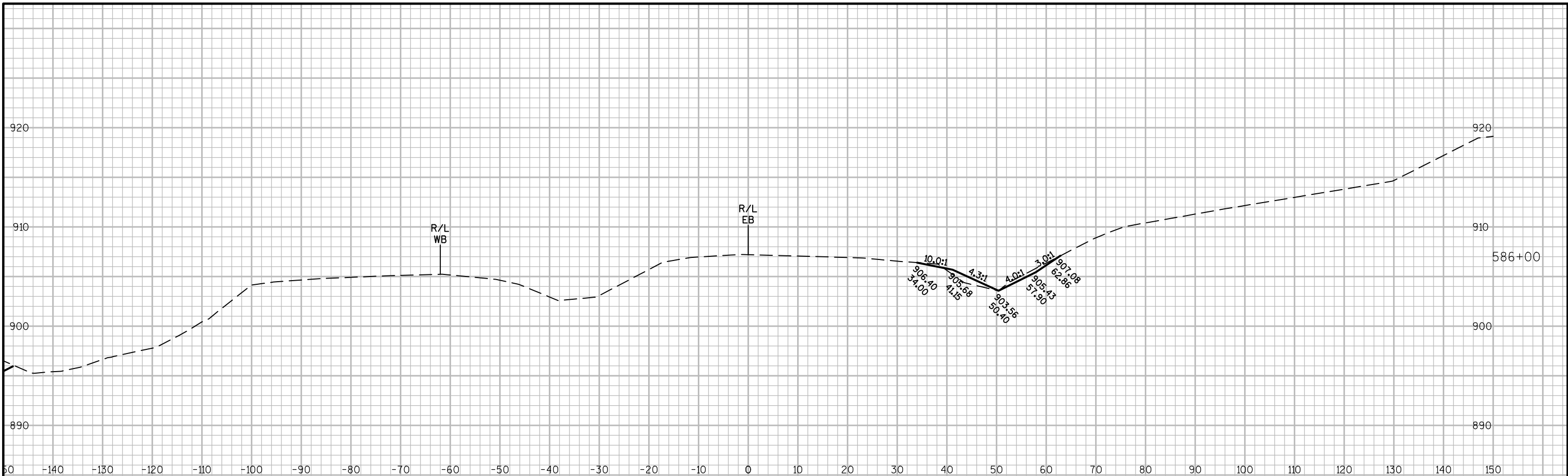
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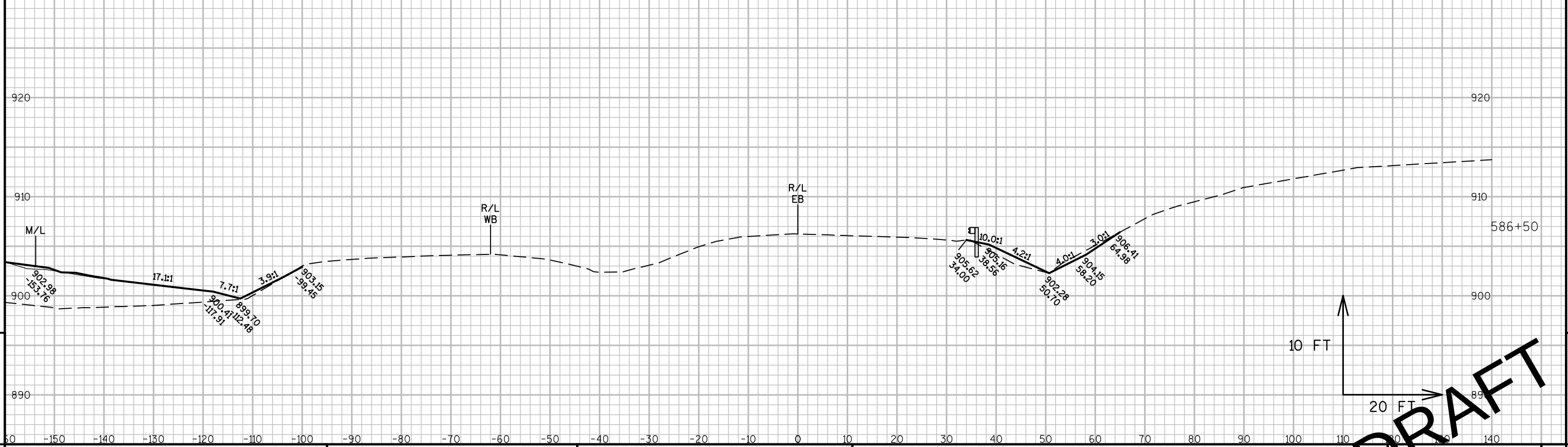
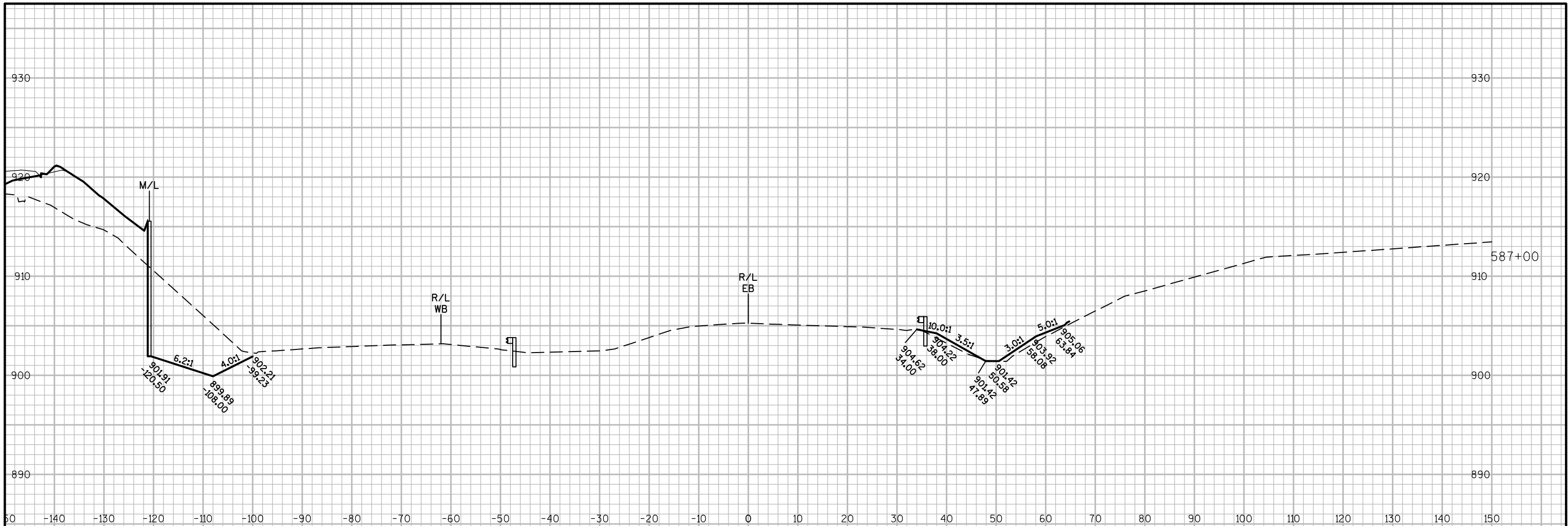




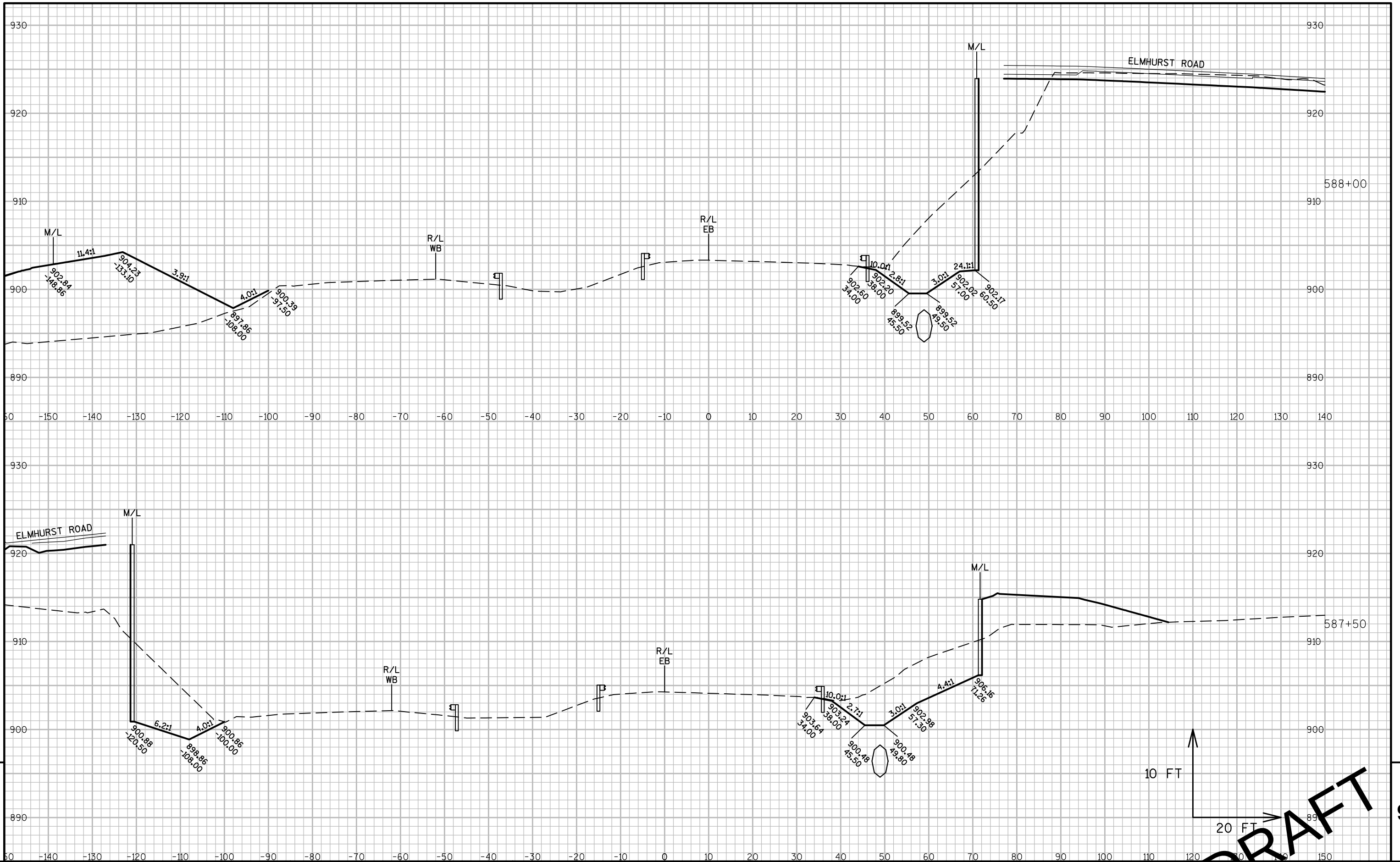
PROJECT NO:1060-10-70 HWY:IH-94 COUNTY:WAUKESHA CROSS SECTIONS: IH-94

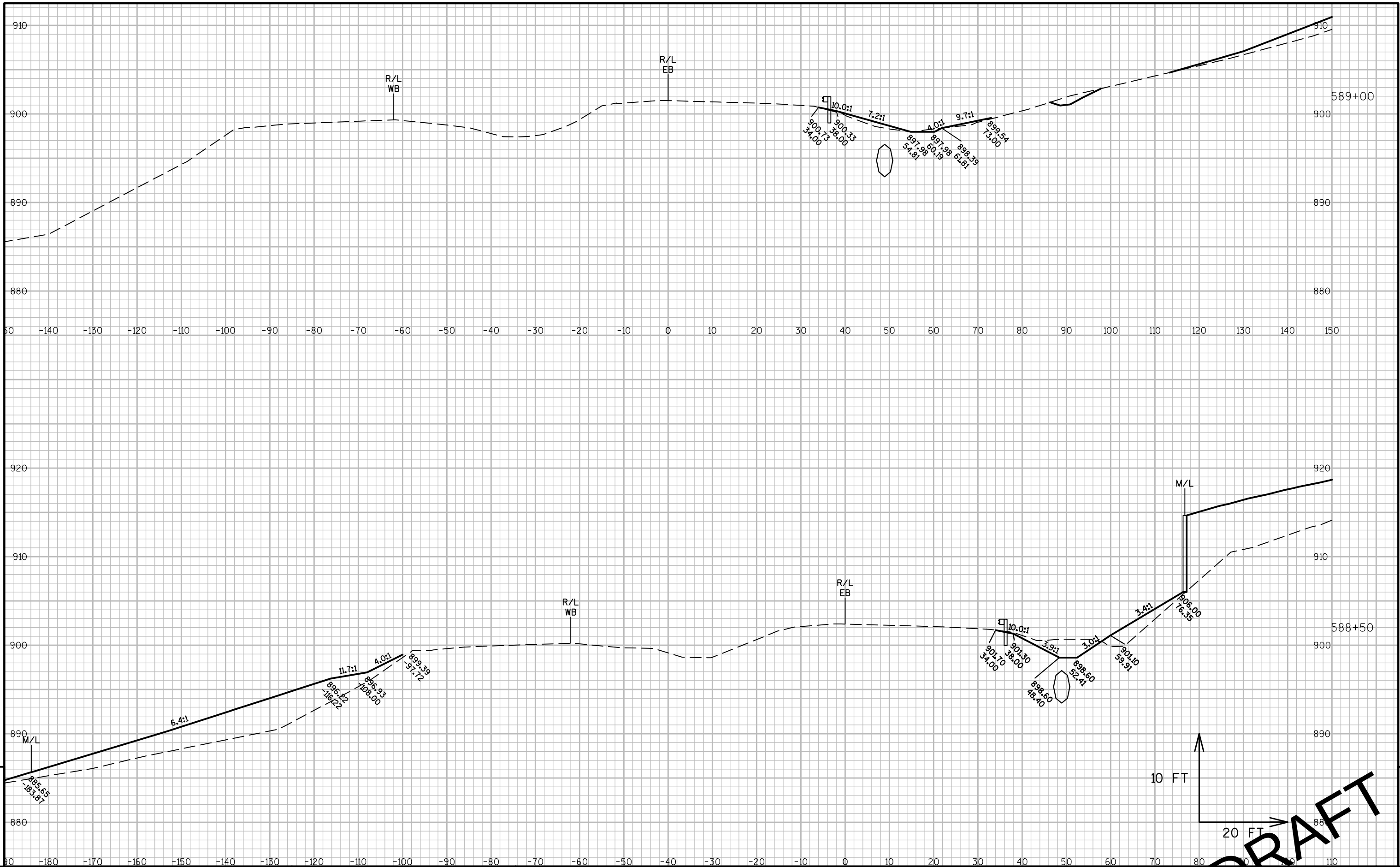


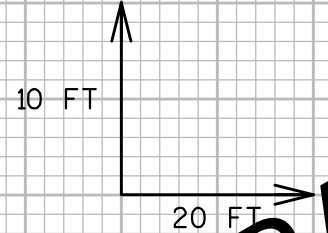
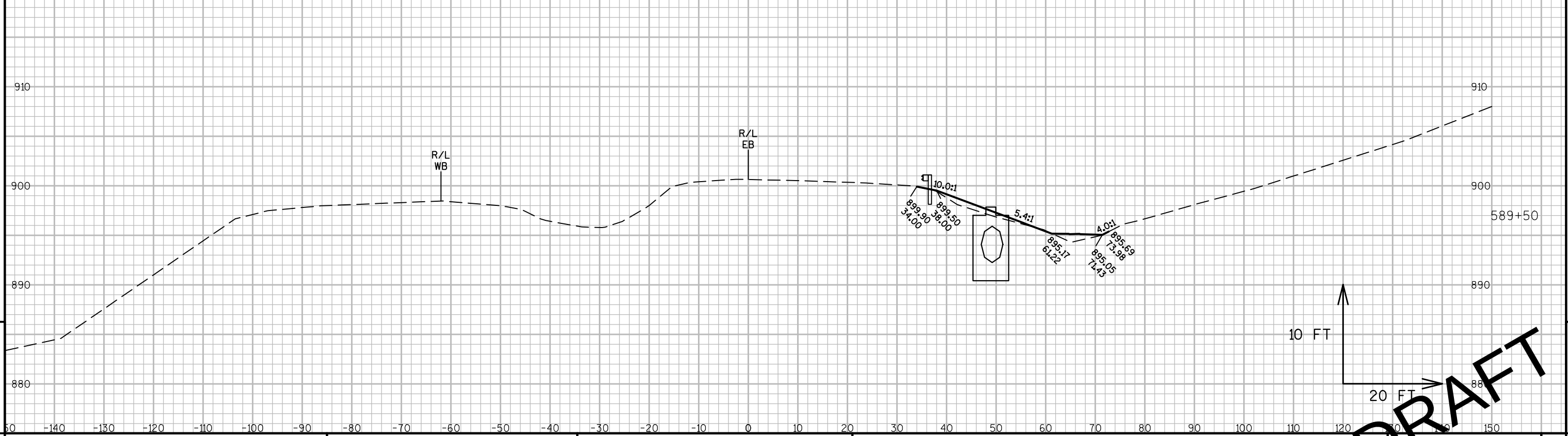
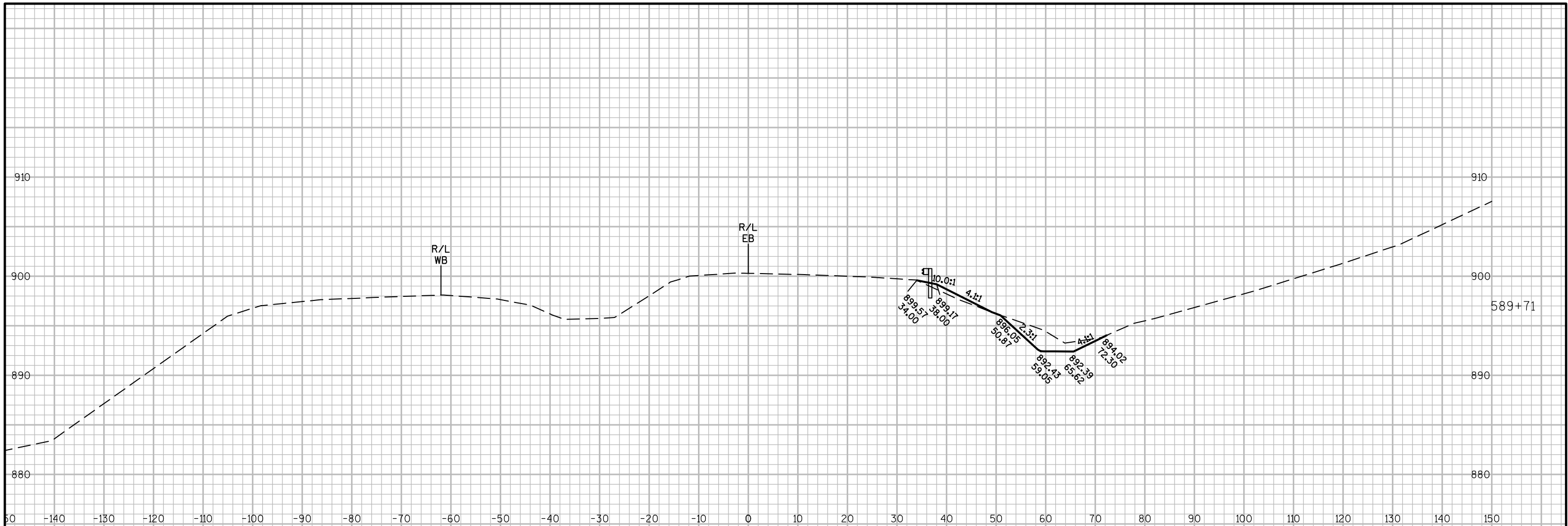
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PROJECT NO: 1060-10-70 HWY: IH-94 COUNTY: WAUKESHA CROSS SECTIONS: IH-94 SHEET PRE_93 E



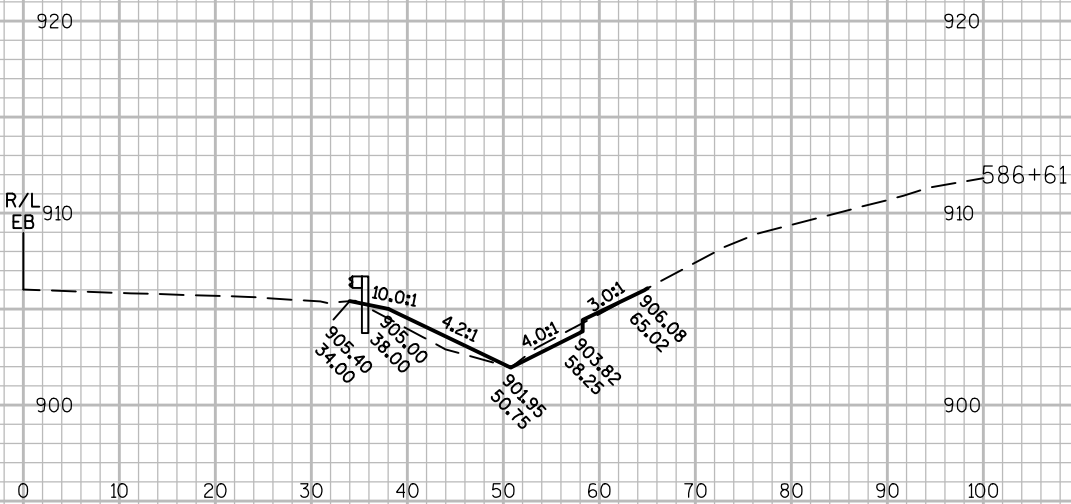




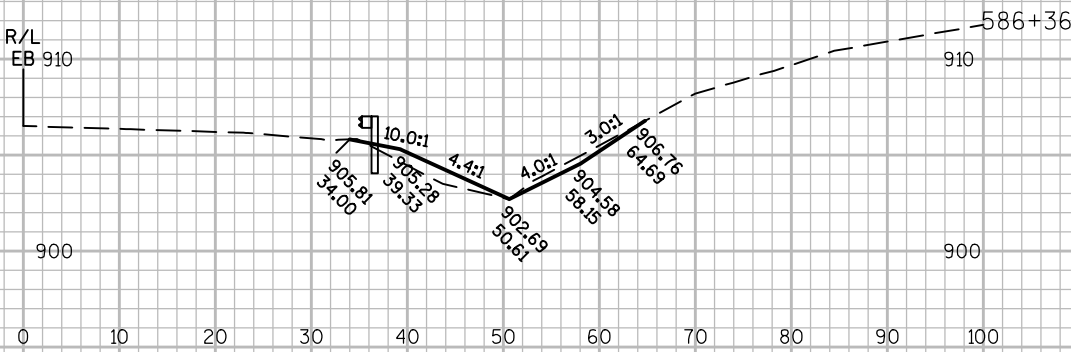
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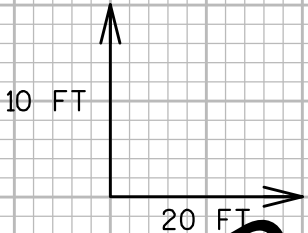
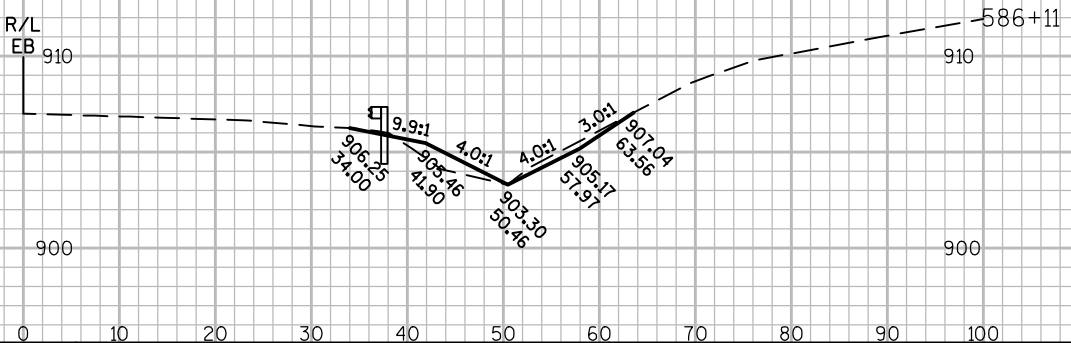
POST 9



POST 5



POST 1



DRAFT

9

EPlans Preliminary Sheet Numbering Tool

This sheet: ftp://ftp.dot.state.wi.us/transp/roads/eplans/prelim_sheet_numbers.pdf

Notes

- Acrobat 5 or higher is required to use this tool.
- The Bureau of Highway Construction places sheet numbers in the final plan.
- This sheet is for placing preliminary sheet numbers with a "PRE_" prefix.
- If a plan contains multiple projects, number each plan individually.
- Leave this sheet in the plan.

TO ADD PRELIMINARY SHEET NUMBERS

- 1. Insert this sheet at the end of the plan**
 - a. With the plan open in Acrobat, select Document > Insert Pages.
 - b. In the Select File to Insert dialog box, select this file (prelim_sheet_numbers.pdf)
 - c. In the Insert dialog box, choose After for Location and Last page for Page.
 - d. Click OK.
- 2. Click the Place Preliminary Sheet Numbers button**
 - a. Go to the last sheet of the plan.
 - b. Click the Place Preliminary Sheet Numbers button once.
(The preliminary sheet number appears in the bottom right corner of the sheets.
The number should match te page number in the Acrobat Status bar).
- 3. Re-Save the PDF**
 - a. Select File > Save As and save the PDF.

Place Preliminary Sheet Numbers

TO REMOVE PRELIMINARY SHEET NUMBERS

Remove

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