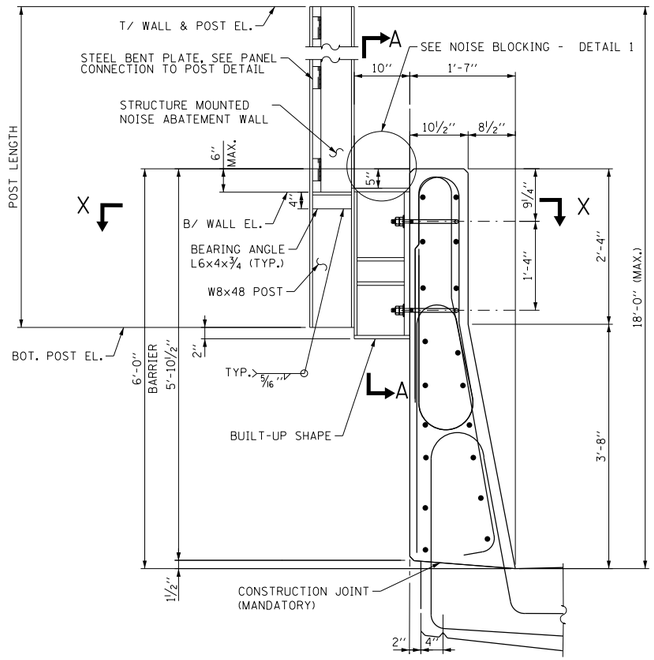
Illinois Tollway Base Sheet Revisions

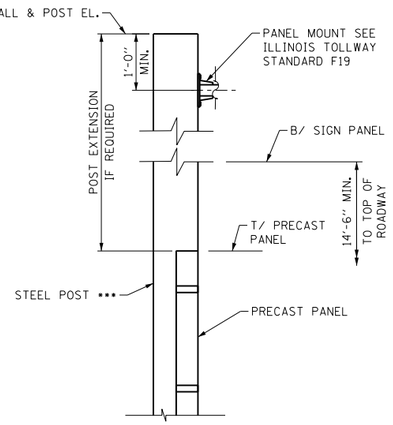
Section G	Structures	
	Drawing	**Modification Summary** **Effective: 04-01-2020**
	G12	**STRUCTURE MOUNTED NOISE ABATEMENT WALL DETAILS**
	Sheets 1-2	New Standard
	G13	**CENTRAL TRI-STATE STRUCTURE MOUNTED NOISE ABATEMENT WALL DETAILS**
	Sheets 1-2	New Standard
	G14	**CENTRAL TRI-STATE BUMP-OUT MOUNTED NOISE ABATEMENT WALL DETAILS**
	Sheets 1-2	New Standard
	G15	**NON-CRASHWORTHY GROUND MOUNTED NOISE ABATEMENT WALL DETAILS**
	Sheets 1-2	New Standard
	G16	**CRASHWORTHY GROUND MOUNTED NOISE ABATEMENT WALL DETAILS**
	Sheets 1-3	New Standard

ILLINOIS TOLLWAY CONSTANT SLOPE BARRIER - DETAILS



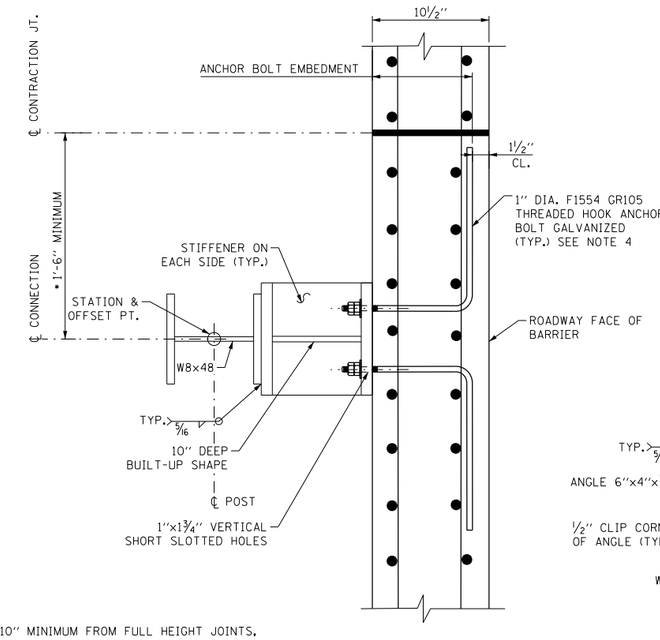
NOTES:

1. STEEL POST MAXIMUM SPACING IS 11'-8".
2. SLIPFORMING OF THE BARRIER IS NOT PERMITTED.
3. REFER TO ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL FOR SHOWN DECK REINFORCEMENT, JOINT DETAILS AND OTHER MISCELLANEOUS DETAILS NOT DETAILED IN THIS STANDARD.
4. ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE SUPPLIED BY THE FABRICATOR OF AN ADVANCE PROCUREMENT CONTRACT FOR THE STRUCTURAL STEEL POSTS. BENT ANCHOR BOLTS SHALL BE INSTALLED WITH ILLINOIS TOLLWAY CONSTANT SLOPE BARRIER. SEE SPECIAL PROVISION FOR FURNISHING NOISE ABATEMENT WALL STRUCTURAL STEEL.
5. MINIMUM DISTANCE TO CENTERLINE OF LIGHT POLE IS 4'-7" DESIRABLE AND 3'-7" MINIMUM.



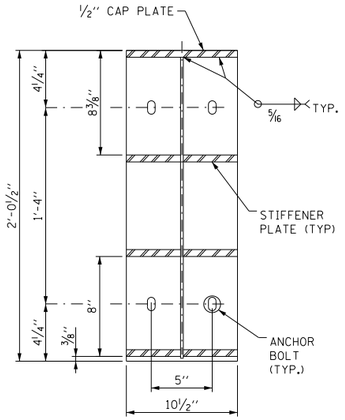
SIGN PANEL MOUNT POST EXTENSION DETAIL

•••STEEL POSTS HAVE BEEN DESIGNED TO ACCOMMODATE A 17'-3½" POST WITH MAX 32 SF SIGN AREA IN ACCORDANCE WITH ILLINOIS TOLLWAY STANDARD F19

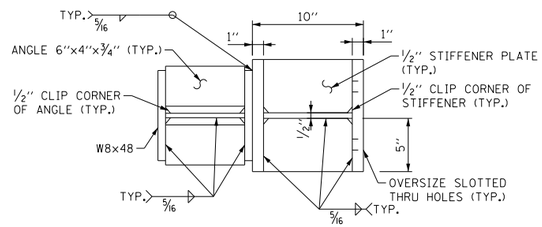


• USE 4'-10" MINIMUM FROM FULL HEIGHT JOINTS, UNLESS IT IS AN END POST, USE 1'-10" MINIMUM

SECTION X-X



SECTION A-A



BUILT UP SHAPE

GENERAL NOTES

1. ALL EXPOSED CONCRETE EDGES SHALL HAVE A ¾" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.
2. REINFORCEMENT BARS, INCLUDING EPOXY-COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
3. REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
4. REINFORCEMENT BAR BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.
5. REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
6. CONSTRUCTION CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.

DESIGN SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
8TH EDITION DATED SEPTEMBER 2017.

DESIGN STRESSES

f'c = 4,000 PSI (CLASS BS). (BARRIERS)
f'c = 5,000 PSI AT 28 DAYS (CLASS PC)
(PRECAST CONCRETE NAW PANELS)
fy = 60,000 PSI (REINFORCEMENT)

GRADE 50, Fy = 50,000 PSI, ASTM A709 (AASHTO M270) - STRUCTURAL STEEL POST
GRADE 36, Fy = 36,000 PSI, ASTM A709 (AASHTO M270) ALL OTHER STEEL (UNLESS NOTED OTHERWISE)
ALL STEEL SHALL BE HOT-DIP GALVANIZED

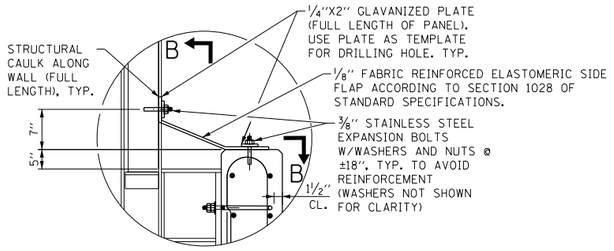
DESIGN LOADING

CONCRETE = 150 PCF
STEEL = 490 PCF
WIND LOADS = 50PSF (STR III)
= 15PSF (SERV I)

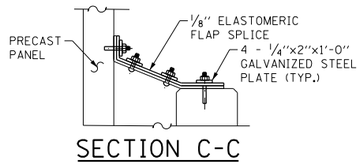
VEHICLE IMPACT - 4KIPS APPLIED AT THE HIGHEST POINT UP TO 14FT ABOVE SURFACE OF PAVEMENT IN FRONT OF BARRIER.

PRECAST PANEL MAX. ALLOWABLE DEFLECTION - L/180

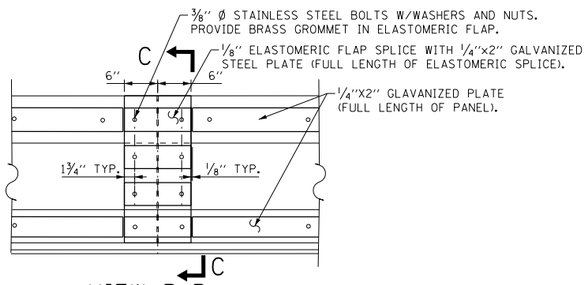
STEEL POST MAX. ALLOWABLE DEFLECTION - H/360



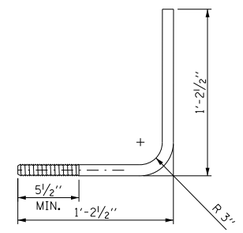
DETAIL 1
NOISE BLOCKING ASSEMBLY



SECTION C-C



VIEW B-B
AT ASSEMBLY SPLICE



BENT ANCHOR BOLT

MISCELLANEOUS STEEL CONNECTION QUANTITY

DESCRIPTION	WEIGHT
BUILT-UP SHAPE	219 LBS.
BEARING ANGLE (2 ANGLES)	32 LBS.
BENT PLATE ALLOWANCE (8 PLATES)	11 LBS.
ANCHOR BOLT ASSEMBLY (4 BOLTS)	26 LBS.
TOTAL	**288 LBS.**
NOISE BLOCKING ASSEMBLY BETWEEN POSTS (2 PLATES)	3.4 PLF
NOISE BLOCKING ASSEMBLY SPLICE (4 PLATES)	7 LBS.

Paul Kovacs
APPROVED . . . . . DATE 4-01-2020
CHIEF ENGINEERING OFFICER

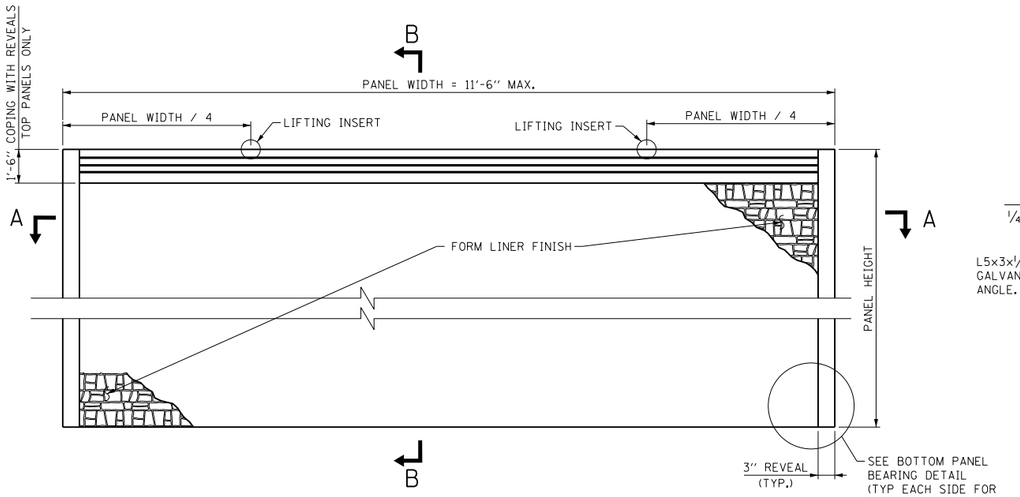
DATE	REVISIONS

SHEET 1 OF 2

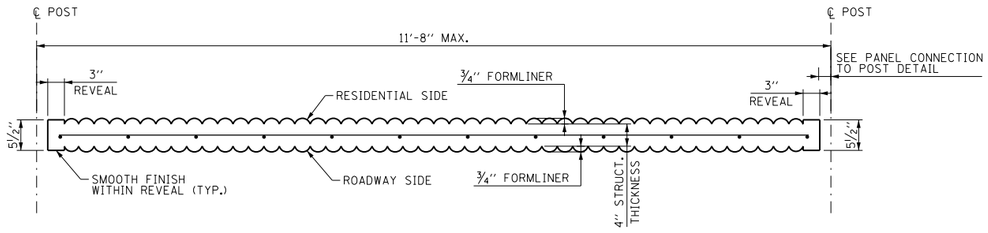
Illinois Tollway

STRUCTURE MOUNTED NOISE ABATEMENT WALL DETAILS

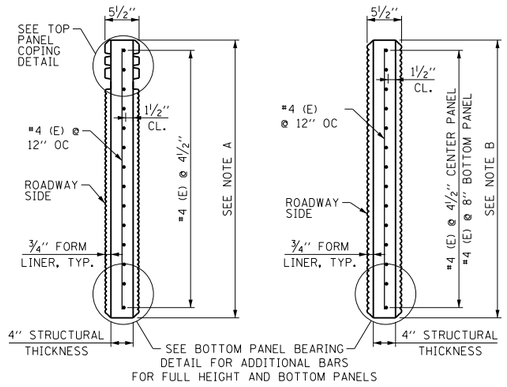
STANDARD G12-00



TYPICAL NOISE WALL PANEL DETAIL



TYPICAL PLAN VIEW THRU NOISE ABATEMENT WALL SECTION A-A

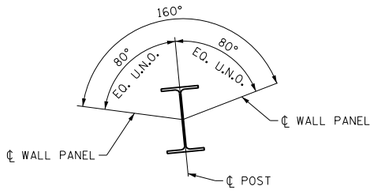


TOP PANEL OR FULL HEIGHT PANEL SECTION B-B

CENTER OR BOTTOM PANEL SECTION B-B

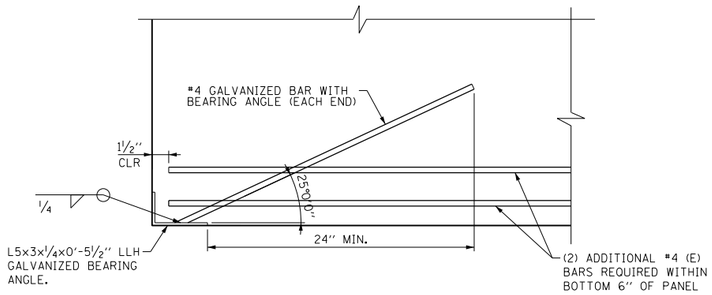
NOTE A
TO ACCOMODATE VARYING HEIGHT NAW, TOP PANEL HEIGHTS ARE PERMITTED TO BE 4'-0", 5'-0", 6'-0", 7'-0", OR 8'-0". FULL HEIGHT PANELS ARE PERMITTED TO BE 4'-0", 4'-6", 5'-0", 5'-6", 6'-0", 6'-6", 7'-0", 7'-6" OR 8'-0".

NOTE B
BOTTOM PANEL HEIGHTS ARE PERMITTED TO BE 4'-0" OR 4'-6". CENTER PANEL HEIGHT IS 4'-0".

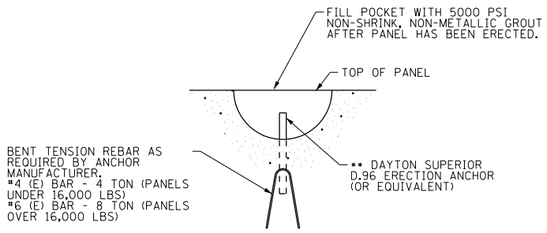


NOTE: MINIMUM ANGLE AT KINK IN WALL NOT REQUIRING SPECIAL POST.

MIN ANGLE BETWEEN PANELS AT TYP POST

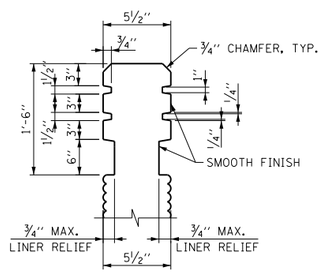


BOTTOM PANEL BEARING DETAIL

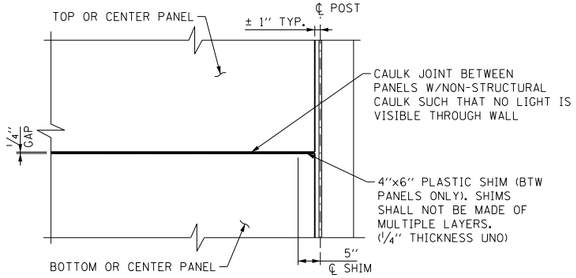


TYPICAL LIFTING INSERT DETAIL

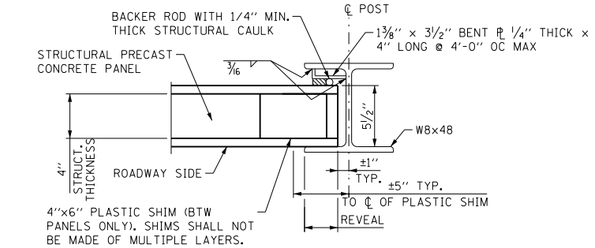
•• ERECTION ANCHORS SHALL BE HOT-DIPPED GALVANIZED



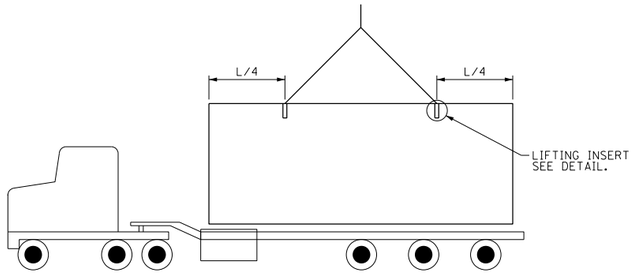
TOP PANEL COPING DETAIL



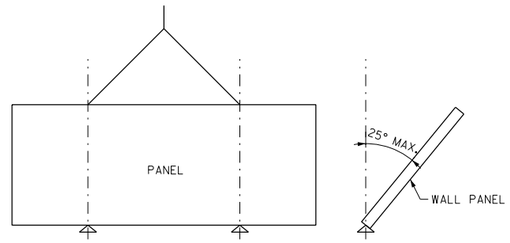
HORIZONTAL JOINT DETAIL



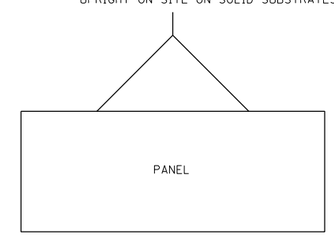
PANEL CONNECTION TO POST DETAIL



① REMOVE PANELS FROM TRUCK WITH RIGGING.



② TEMPORARILY SHORE PANELS STANDING UPRIGHT ON SITE ON SOLID SUBSTRATES.

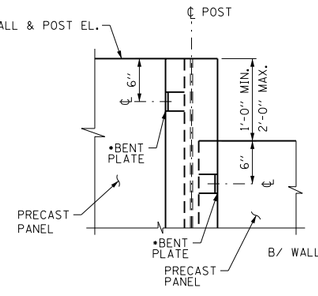


③ ERECT PANELS BETWEEN POSTS

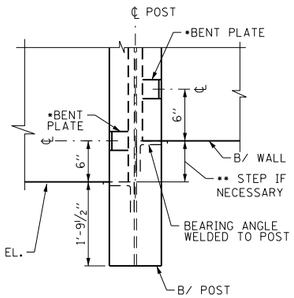
SUGGESTED TYPICAL NOISE ABATEMENT WALL INSTALLATION SEQUENCE AND PROCEDURE

NOTES:

1. STRUCTURAL CAULK - SIKADUR 51 NS FLEXIBLE EPOXY CONTROL -JOINT SEALER / ADHESIVE OR EQUIVALENT. CAULK SHALL BE APPLIED PER MANUFACTURER'S SPECIFICATION AND RECOMMENDATIONS.
2. BACKER ROD: MILE HIGH FOAM PRODUCT SIZED PER BACKER ROD MANUFACTURING, INC OR EQUIVALENT.
3. NON-STRUCTURAL CAULK SEALANT: SIKAFLEX 15 LM PER MANUFACTURERS STANDARD OR EQUIVALENT.
4. SHIMS: VERSA-A-SHIM HIGH IMPACT PLASTIC SHIMS ASTM D792 & ASTM D695
5. LIFTING INSERTS SHALL HAVE A FACTOR OF SAFETY OF 4:1
6. THE NAW INSTALLATION PROCEDURES SHOWN ON THIS SHEET PROVIDE GENERAL INSTALLATION SEQUENCE AND PROCEDURES FOR THE CONTRACTOR. THE CONTRACTOR SHALL RETAIN SOLE RESPONSIBILITY FOR THE MEANS, METHODS, AND TECHNIQUES OF CONSTRUCTION OF THE NAW FOR COMPLIANCE WITH LAWS, REGULATIONS, AND CODES, AND FOR THE SAFETY OF CONSTRUCTION APPLICABLE TO THIS WORK.



TOP OF POST



AT BEARING ANGLE

BENT PLATE DETAILS

• STEEL BENT PLATE AT 4'-0" OC MAX. EACH FACE OF WEB, TYP. U.N.O. (MIN. 2 PLATES/PANEL)

•• MAXIMUM DIMENSION OF BEARING ANGLE BELOW BARRIER IS 6" AND 3" ABOVE THE TOP OF THE BARRIER.

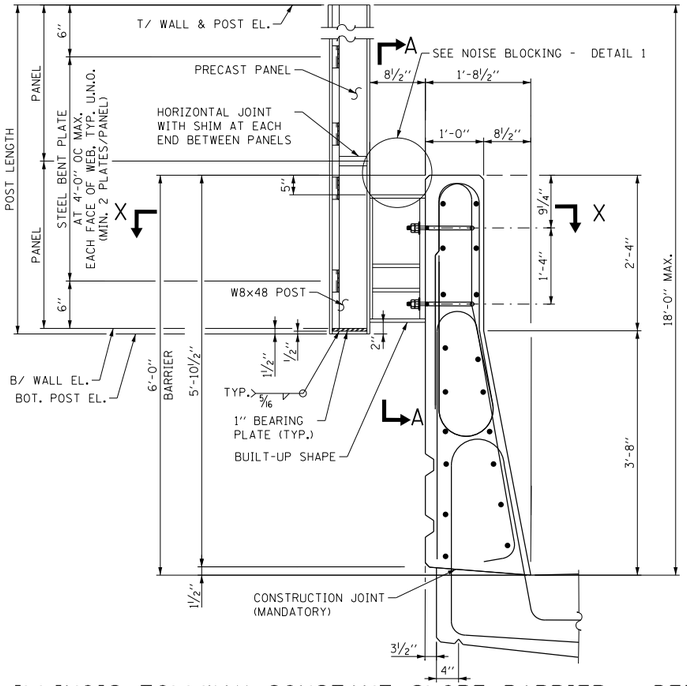
Paul Kovacs
APPROVED. . . . . DATE 4-01-2020
CHIEF ENGINEERING OFFICER

Illinois Tollway

DATE	REVISIONS

STRUCTURE MOUNTED NOISE ABATEMENT WALL DETAILS

STANDARD G12-00



ILLINOIS TOLLWAY CONSTANT SLOPE BARRIER - DETAILS

NOTES:
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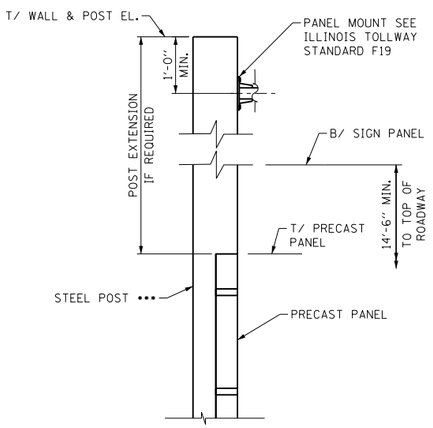

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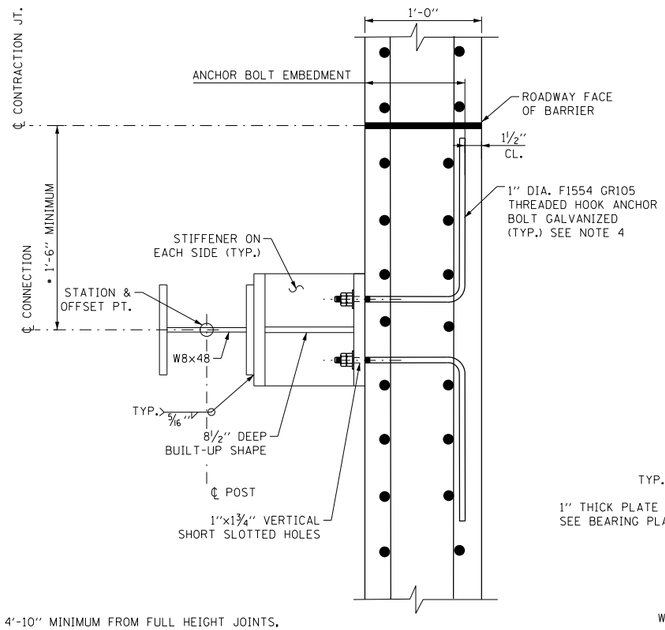

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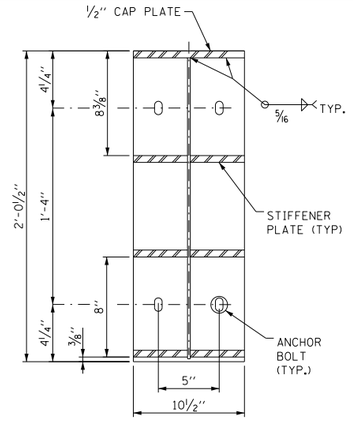
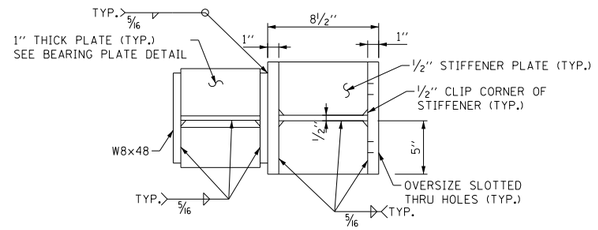
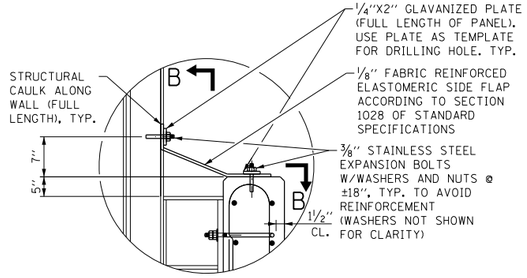
SECTION X-X



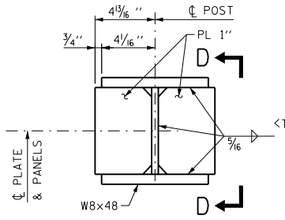
SECTION A-A



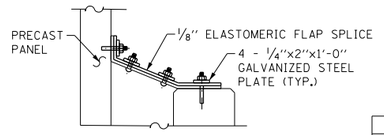
BUILT UP SHAPE



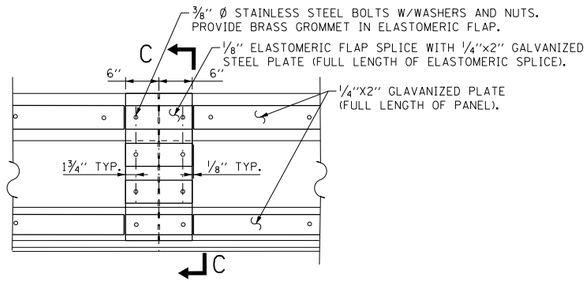
DETAIL 1
NOISE BLOCKING ASSEMBLY



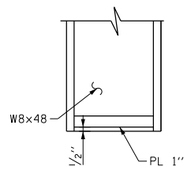
BEARING PLATE DETAIL



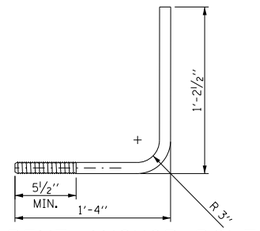
SECTION C-C



VIEW B-B
AT ASSMEBLY SPLICE



VIEW D-D



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= 15PSF (SERV I)
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STEEL POST MAX. ALLOWABLE DEFLECTION - H/360

MISCELLANEOUS STEEL CONNECTION QUANTITY

DESCRIPTION	WEIGHT
BUILT-UP SHAPE	205 LBS.
BEARING PLATE (2 PIECES)	40 LBS.
BENT PLATE ALLOWANCE (8 PIECES)	14 LBS.
ANCHOR BOLT ASSEMBLY (4 BOLTS)	29 LBS.
TOTAL	**288 LBS.**
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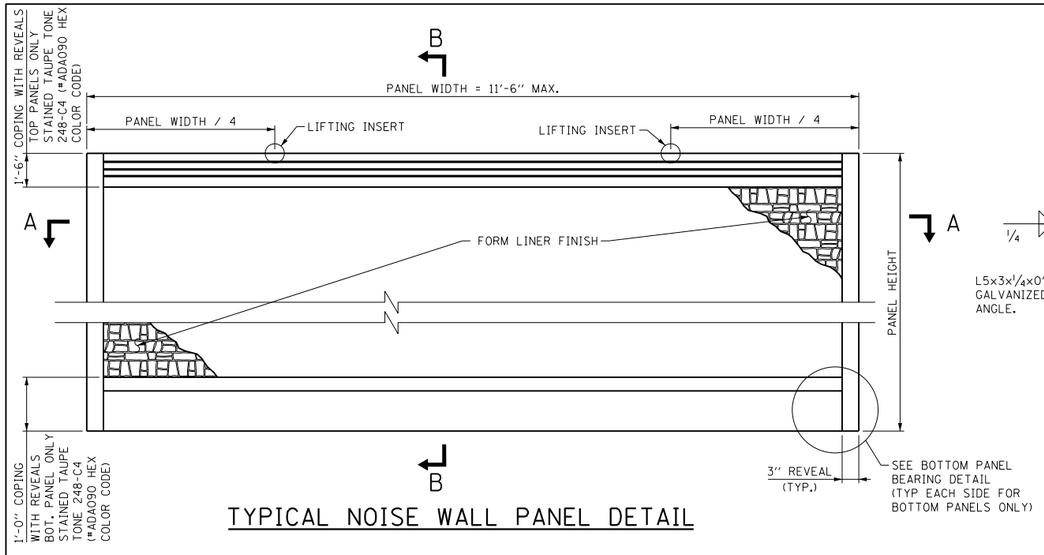
Paul Kovacs
APPROVED ..... DATE 4-01-2020
CHIEF ENGINEERING OFFICER

DATE	REVISIONS

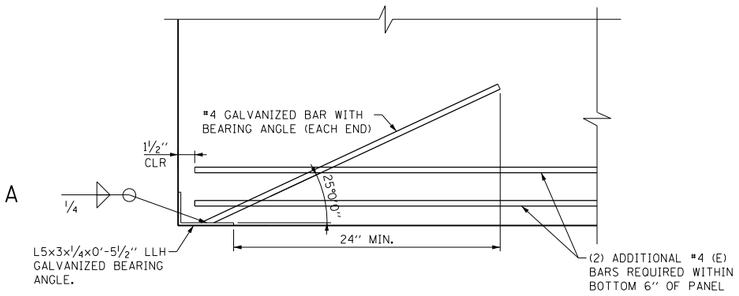
Illinois Tollway

CENTRAL TRI-STATE STRUCTURE MOUNTED NOISE ABATEMENT WALL DETAILS

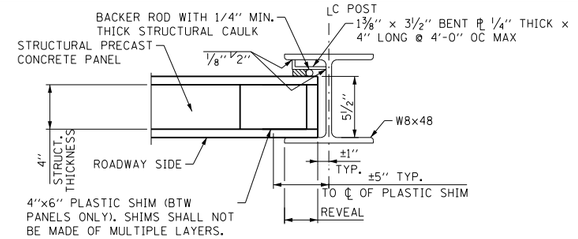
STANDARD G13-00



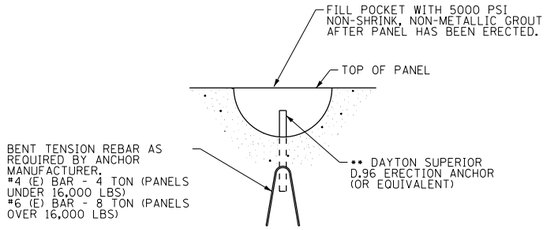
TYPICAL NOISE WALL PANEL DETAIL



BOTTOM PANEL BEARING DETAIL

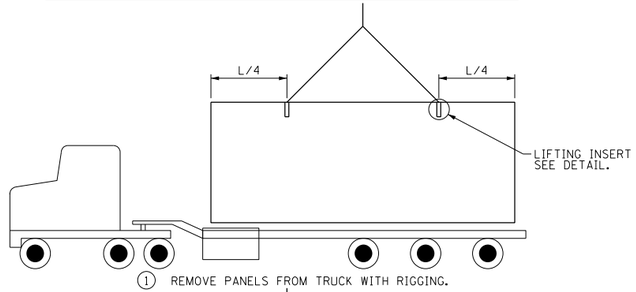


PANEL CONNECTION TO POST DETAIL

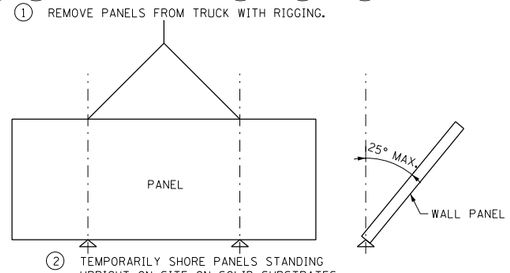


TYPICAL LIFTING INSERT DETAIL

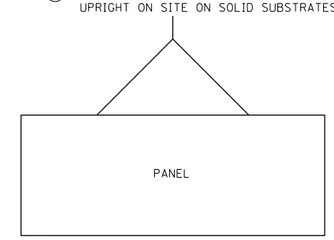
•• ERECTION ANCHORS SHALL BE HOT-DIPPED GALVANIZED



① REMOVE PANELS FROM TRUCK WITH RIGGING.

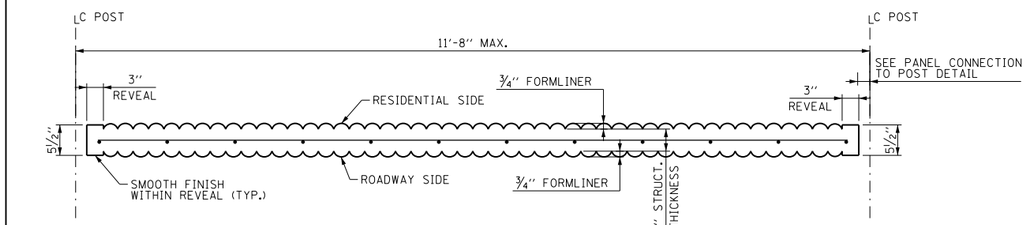


② TEMPORARILY SHORE PANELS STANDING UPRIGHT ON SITE ON SOLID SUBSTRATES.

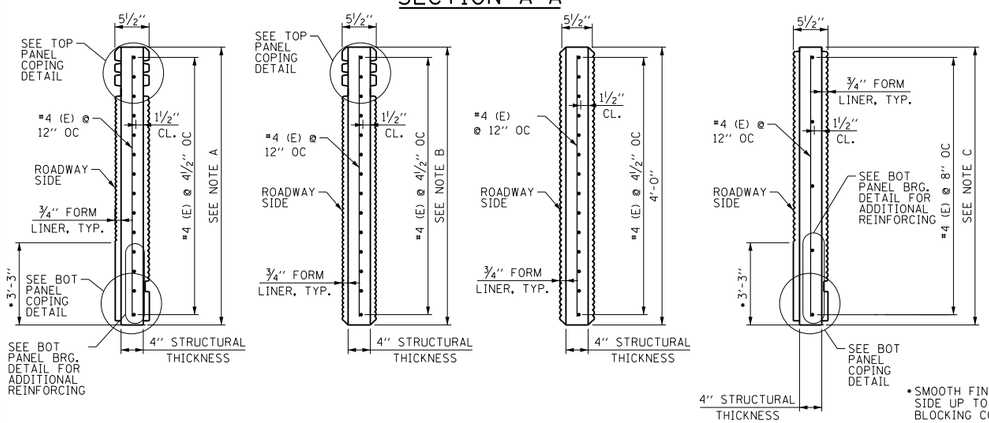


③ ERECT PANELS BETWEEN POSTS

SUGGESTED TYPICAL NOISE ABATEMENT WALL INSTALLATION SEQUENCE AND PROCEDURE



TYPICAL PLAN VIEW THRU NOISE ABATEMENT WALL



SECTION A-A

FULL HEIGHT PANEL SECTION B-B

TOP PANEL SECTION B-B

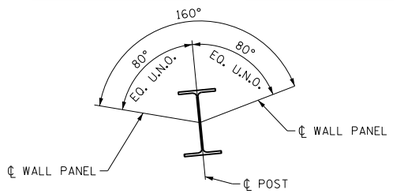
CENTER PANEL SECTION B-B

BOTTOM PANEL SECTION B-B

NOTE A
TO ACCOMMODATE VARYING HEIGHT NAW WITHIN ONE PANEL WITH TOP AND BOTTOM COPING, FULL HEIGHT PANEL IS PERMITTED TO BE 4'-0", 4'-6", 5'-0", 5'-6", 6'-0", 6'-6", 7'-0", 7'-6", OR 8'-0" TALL

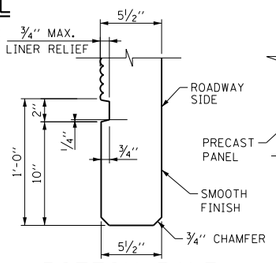
NOTE B
TO ACCOMMODATE VARYING HEIGHT NAW, TOP PANEL WITH ONLY TOP COPING IS PERMITTED TO BE 4'-0", 5'-0", 6'-0", 7'-0" OR 8'-0" TALL

NOTE C
TO ACCOMMODATE BOTTOM STEPS IN PANEL, BOTTOM PANEL IS PERMITTED TO BE 4'-0" OR 4'-6" TALL

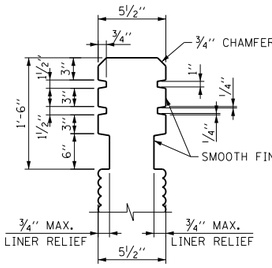


NOTE: MINIMUM ANGLE AT KINK IN WALL NOT REQUIRING SPECIAL POST.

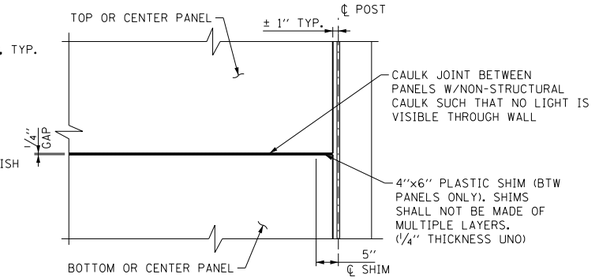
MIN ANGLE BETWEEN PANELS AT TYP POST



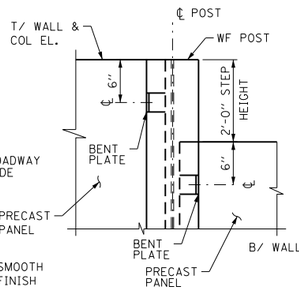
BOTTOM PANEL COPING DETAIL



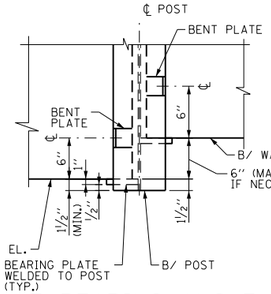
TOP PANEL COPING DETAIL



HORIZONTAL JOINT DETAIL



TOP OF POST



AT BEARING ANGLE

BENT PLATE DETAILS

NOTES:
1. STRUCTURAL CAULK - SIKADUR 51 NS FLEXIBLE EPOXY CONTROL -JOINT SEALER / ADHESIVE OR EQUIVALENT. CAULK SHALL BE APPLIED PER MANUFACTURER5*32S SPECIFICATION AND RECOMMENDATIONS.
2. BACKER ROD: MILE HIGH FOAM PRODUCT SIZED PER BACKER ROD MANUFACTURING, INC OR EQUIVALENT.
3. NON-STRUCTURAL CAULK SEALANT: SIKAFLEX 15 LM PER MANUFACTURERS STANDARD OR EQUIVALENT.
4. SHIMS: VERSA-A-SHIM HIGH IMPACT PLASTIC SHIMS ASTM D792 & ASTM D695
5. LIFTING INSERTS SHALL HAVE A FACTOR OF SAFETY OF 4:1
6. THE NAW INSTALLATION PROCEDURES SHOWN ON THIS SHEET PROVIDE GENERAL INSTALLATION SEQUENCE AND PROCEDURES FOR THE CONTRACTOR. THE CONTRACTOR SHALL RETAIN SOLE RESPONSIBILITY FOR THE MEANS, METHODS, AND TECHNIQUES OF CONSTRUCTION OF THE NAW FOR COMPLIANCE WITH LAWS, REGULATIONS, AND CODES, AND FOR THE SAFETY OF CONSTRUCTION APPLICABLE TO THIS WORK.

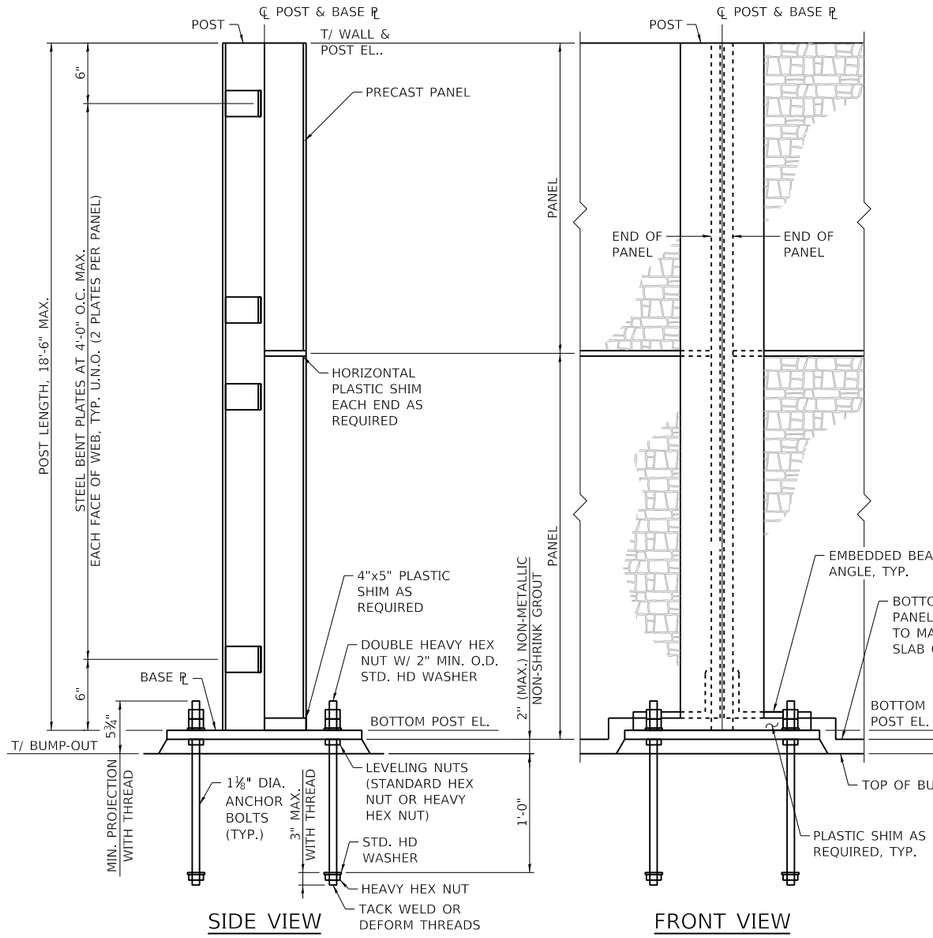
Paul Kovacs
APPROVED . . . . . DATE 4-01-2020
CHIEF ENGINEERING OFFICER

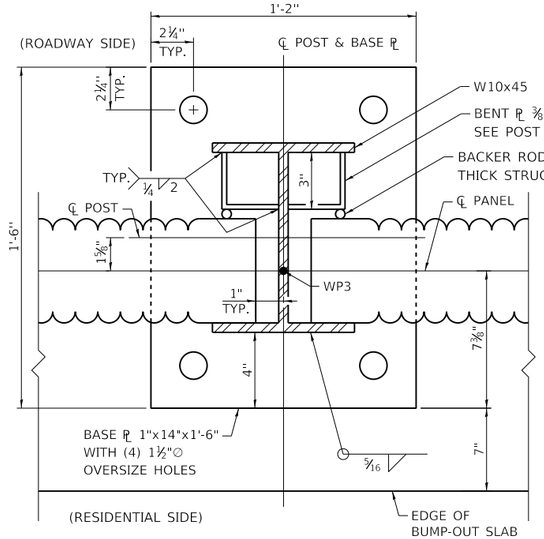
Illinois Tollway

DATE	REVISIONS

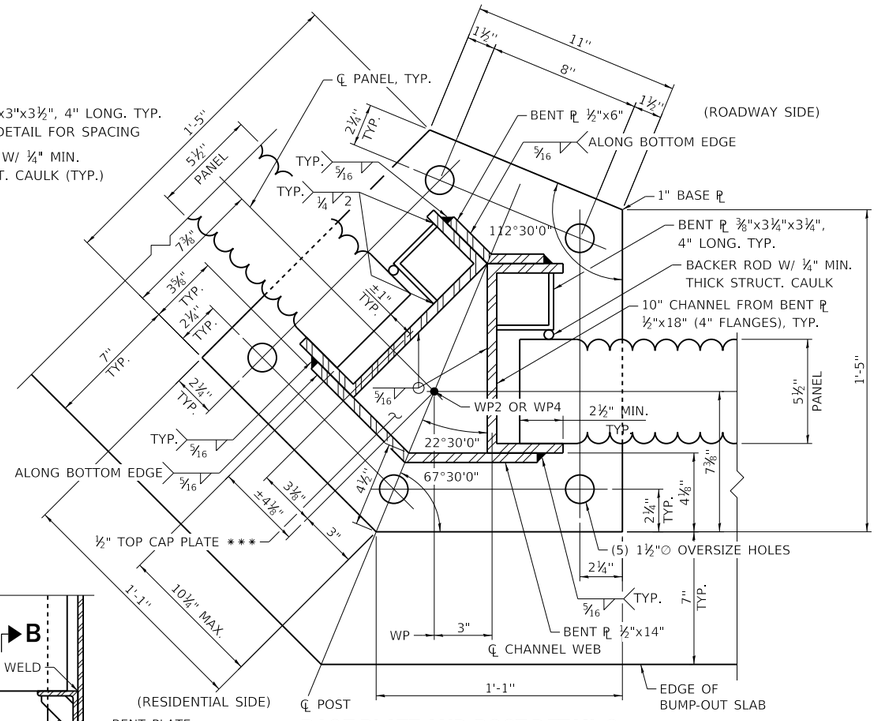
CENTRAL TRI-STATE STRUCTURE MOUNTED NOISE ABATEMENT WALL DETAILS

STANDARD G13-00



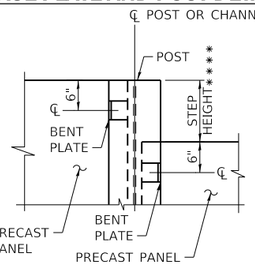


BASE PLATE AND POST DETAIL 1



BASE PLATE AND POST DETAIL 2

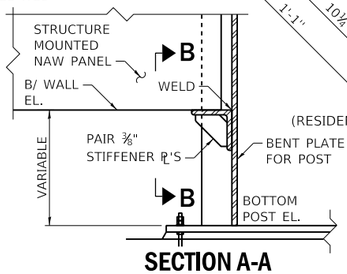
***TOP CAP PLATE (NOT SHOWN) WELDED ALL AROUND PERIMETER USING ¼" FILLET WELD TO COMPLETELY SEAL POST INTERIOR. SEE DETAIL BELOW.



STEP DETAIL

AT BUMP-OUT ONLY

****STEP IN 6" INCREMENTS UP TO 2'-0" IF NECESSARY.



SECTION A-A

STRUCTURE MOUNTED CONNECTION (REQUIRED AT DETAIL 3 AND 4 LOCATIONS)

GENERAL NOTES

1. ALL EXPOSED CONCRETE EDGES SHALL HAVE A ¾" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.
2. REINFORCEMENT BARS, INCLUDING EPOXY-COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
3. REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
4. REINFORCEMENT BAR BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.
5. REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
6. CONSTRUCTION CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
7. STRUCTURAL STEEL SHALL BE PAINTED USING A TOLLWAY APPROVED TWO-COAT PAINT SYSTEM MANUFACTURED BY IDOT APPROVED PRODUCERS. THE FIRST COAT SHALL BE EPOXY POLYAMIDE MEETING THE REQUIREMENTS OF ARTICLE 1008.05 (d) OF THE STANDARD SPECIFICATIONS. THE SECOND COAT SHALL BE ALIPHATIC URETHANE MEETING THE REQUIREMENTS OF ARTICLE 1008.05 (e) OF THE STANDARD SPECIFICATIONS. THE PAINT SYSTEM SHALL BE APPLIED ACCORDING TO THE APPLICABLE PORTIONS OF SECTION 506 AND THE GALVANIZE AND PAINT MANUFACTURER'S RECOMMENDATIONS.
8. THE COLOR OF THE STRUCTURAL STEEL FINAL COAT PAINT SHALL MATCH THE COLOR OF THE PRECAST CONCRETE PANEL STAIN OF SHERWIN-WILLIAMS 7633, TAUPE TONE 248-C4 (#ADA090 HEX COLOR CODE).
9. STRUCTURAL CAULK - SIKADUR 51 NS FLEXIBLE EPOXY CONTROL -JOINT SEALER / ADHESIVE OR EQUIVALENT. CAULK SHALL BE APPLIED PER MANUFACTURER5#32S SPECIFICATION AND RECOMMENDATIONS.
10. BACKER ROD: MILE HIGH FOAM PRODUCT SIZED PER BACKER ROD MANUFACTURING, INC OR EQUIVALENT.
11. NON -STRUCTURAL CAULK SEALANT: SIKAFLEX 15 LM PER MANUFACTURERS STANDARD OR EQUIVALENT.
12. SHIMS: VERS-A-SHIM HIGH IMPACT PLASTIC SHIMS ASTM D792 & D695. SHIMS SHALL NOT BE MADE OF MULTIPLE LAYERS.
13. GROUT SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1024.02 OF THE STANDARD SPECIFICATIONS. GROUT UNDER POSTS PRIOR TO INSTALLATION OF THE PANELS.
14. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL ANY PROPOSED HOLES IN THE BUILT-UP POST FOR GALVANIZING AND/OR ERECTION.

DESIGN LOADS

WIND LOAD = 50 PSF (STR. III)
= 15 PSF (SERV I)

DEFLECTION:
PANEL = L/180
POST = H/360

DESIGN SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. 8TH EDITION DATED SEPTEMBER 2017.

DESIGN STRESSES

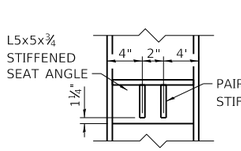
PRECAST CONCRETE:
f'c = 5,000 PSI AT 28 DAYS (CLASS PC)
f'c = 3,500 PSI AT 5 DAYS (SHIPPING)
DENSITY = 150 PCF

STEEL POST:
ASTM A709 (AASHTO M270)
GRADE 50, fy = 50 KSI
ALL STEEL POSTS TO BE HOT DIPPED GALVANIZED

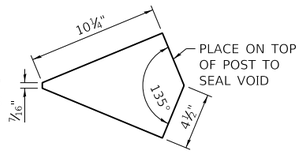
BENT PLATE AND BEARING ANGLES:
ASTM A709 (AASHTO M270)
GRADE 50, fy = 50 KSI U.N.O.
ALL STEEL TO BE HOT DIPPED GALVANIZED

ANCHOR BOLT ASSEMBLY:
BOLT: ASTM F1554, GRADE 105
HEAVY HEX NUTS: ASTM A563, DH3
HARDENED WASHERS: ASTM F436
ASSEMBLY PIECES SHALL BE HOT-DIP GALVANIZED

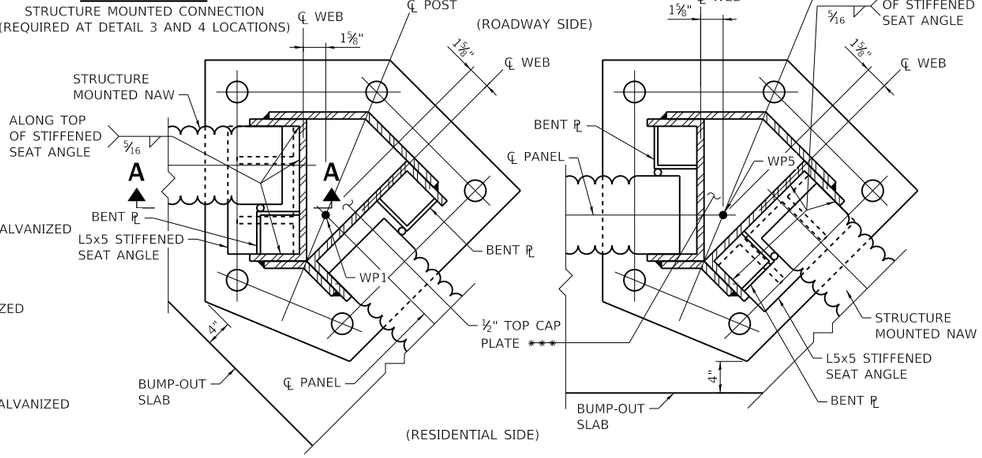
REINFORCING STEEL:
ASTM A709 (AASHTO M270)
fy = 60,000 PSI (EPOXY COATED)



SECTION B-B



TOP CAP PLATE



BASE PLATE AND POST DETAIL 3**

BASE PLATE AND POST DETAIL 4**

**BASE PLATE AND POST DETAILS 3 AND 4 ARE SIMILAR TO BASE PLATE AND POST DETAIL 2, EXCEPT AS NOTED.

POST DETAIL*

*TYPICAL POST SHOWN, OTHERS SIMILAR

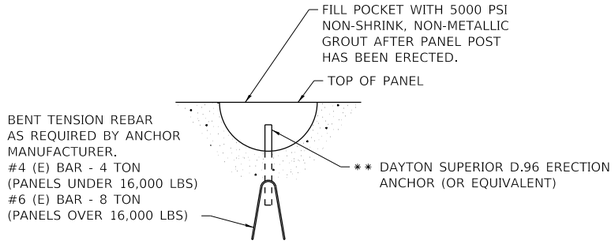
Paul Kovacs
APPROVED. . . . . DATE 4-01-2020
CHIEF ENGINEERING OFFICER

DATE	REVISIONS

Illinois Tollway

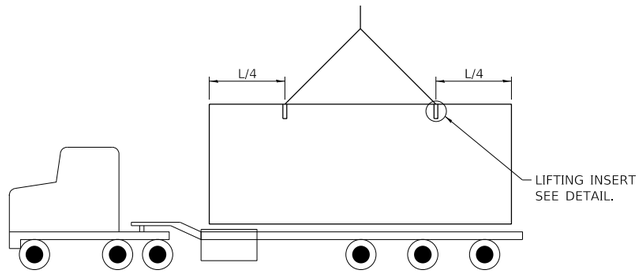
CENTRAL TRI-STATE BUMP-OUT MOUNTED NOISE ABATEMENT WALL DETAILS

STANDARD G14-00

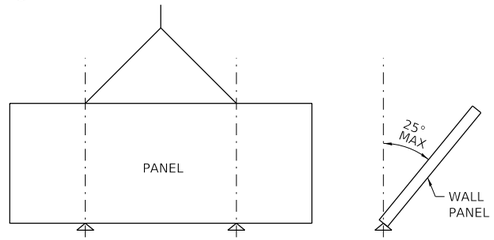


TYPICAL LIFTING INSERT DETAIL

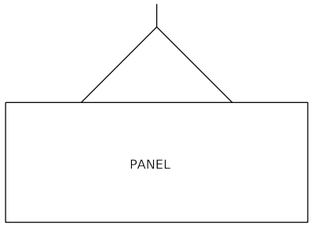
**ERECTION ANCHORS SHALL BE HOT-DIPPED GALVANIZED



① REMOVE PANELS FROM TRUCK WITH RIGGING.



② TEMPORARILY SHORE PANELS STANDING UPRIGHT ON SITE ON SOLID SUBSTRATES.

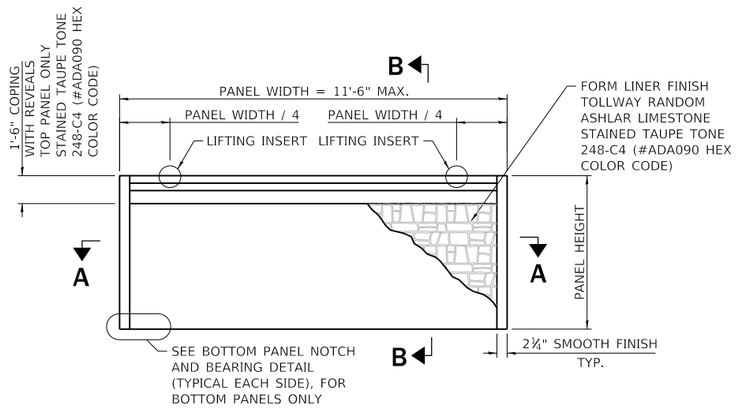


③ ERECT PANELS BETWEEN POSTS

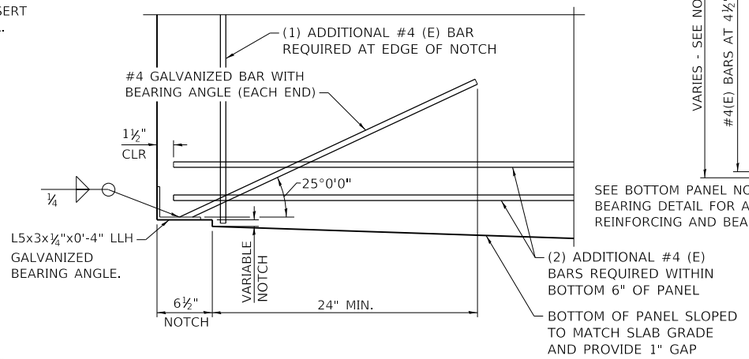
SUGGESTED TYPICAL NOISE ABATEMENT WALL INSTALLATION SEQUENCE AND PROCEDURE

NOTES:

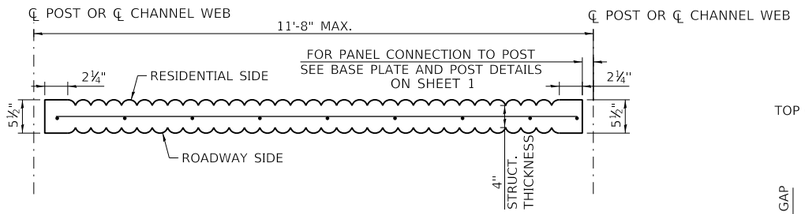
1. LIFTING INSERTS SHALL HAVE A FACTOR OF SAFETY OF 4:1
2. THE NAW INSTALLATION PROCEDURES SHOWN ON THIS SHEET PROVIDE GENERAL INSTALLATION SEQUENCE AND PROCEDURES FOR THE CONTRACTOR. THE CONTRACTOR SHALL RETAIN SOLE RESPONSIBILITY FOR THE MEANS, METHODS, AND TECHNIQUES OF CONSTRUCTION OF THE NAW FOR COMPLIANCE WITH LAWS, REGULATIONS, AND CODES, AND FOR THE SAFETY OF CONSTRUCTION APPLICABLE TO THIS WORK.



TYPICAL NOISE WALL PANEL DETAIL



BOTTOM PANEL NOTCH AND BEARING DETAIL



TYPICAL PLAN VIEW THRU NOISE ABATEMENT WALL

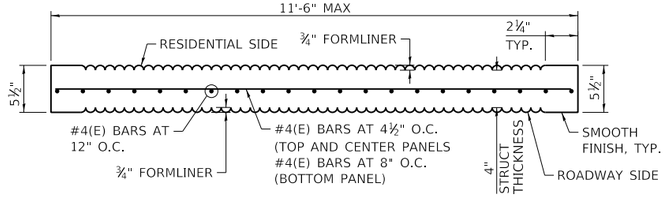
MISCELLANEOUS STEEL QUANTITY

W POST

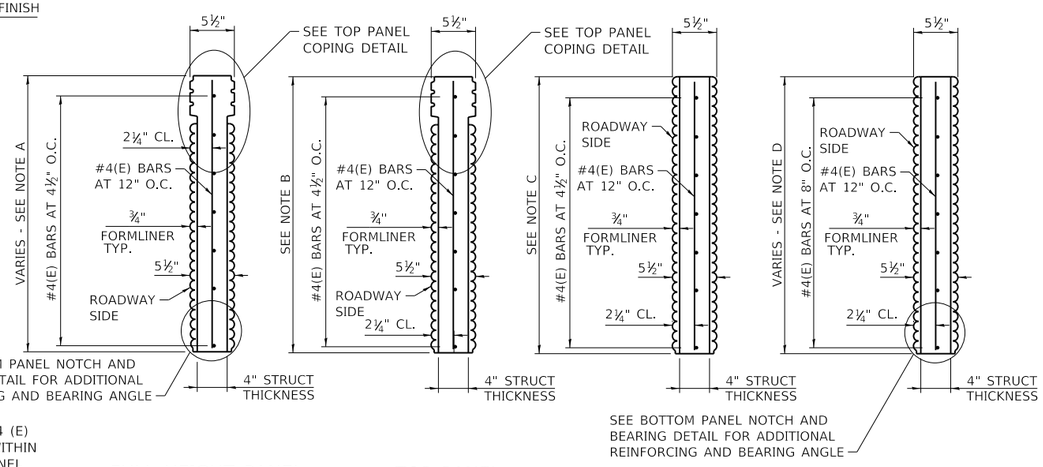
DESCRIPTION	WEIGHT
BASE PLATE	71 LBS.
BENT PLATE ALLOWANCE (16 PIECES)	44 LBS.
ANCHOR BOLT ASSEMBLY (4 EACH)	32 LBS.
TOTAL	147 LBS.

BUILT-UP POST

DESCRIPTION	WEIGHT
BASE PLATE	95 LBS.
TOP CAP PLATE	7 LBS.
BENT PLATE ALLOWANCE (16 PIECES)	44 LBS.
ANCHOR BOLT ASSEMBLY (5 EACH)	39 LBS.
STRUCTURE MOUNTED CONNECTION	21 LBS.
TOTAL	206 LBS.



SECTION A-A



FULL HEIGHT PANEL **SECTION B-B**

TOP PANEL **SECTION B-B**

CENTER PANEL **SECTION B-B**

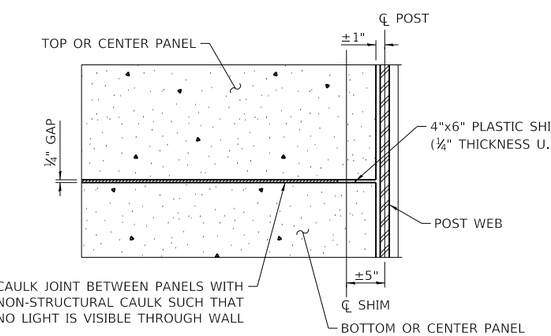
BOTTOM PANEL **SECTION B-B**

NOTE A
TO ACCOMMODATE VARYING SLAB GRADES, FULL HEIGHT PANEL WILL VARY TO FOLLOW SLOPE ON BUMP-OUT SLAB AND TO MAINTAIN A 1" GAP.

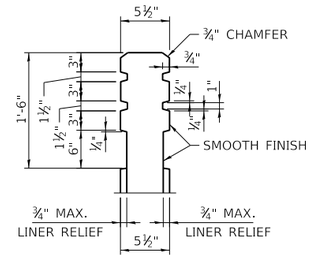
NOTE B
TO ACCOMMODATE VARYING HEIGHT NAW, TOP PANEL IS PERMITTED TO BE 4'-0", 5'-0", 6'-0", 7'-0" OR 8'-0" TALL.

NOTE C
TO ACCOMMODATE VARYING HEIGHT NAW, CENTER PANEL IS PERMITTED TO BE 4'-0" OR 4'-6" TALL.

NOTE D
TO ACCOMMODATE VARYING SLAB GRADES, BOTTOM PANEL HEIGHT WILL VARY TO FOLLOW SLOPE ON BUMP-OUT SLAB AND TO MAINTAIN A 1" GAP. PANEL HEIGHT SHOULD NOT EXTEND ABOVE BOTTOM OF STRUCTURE MOUNTED BOTTOM PANEL.



HORIZONTAL JOINT DETAIL



TOP PANEL COPING DETAIL

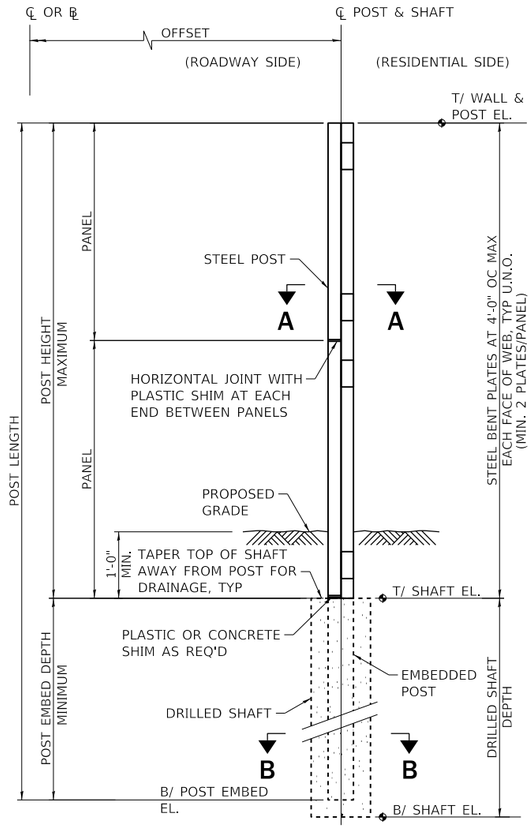
Paul Kovacs
APPROVED . . . . . DATE 4-01-2020
CHIEF ENGINEERING OFFICER

Illinois Tollway

DATE	REVISIONS

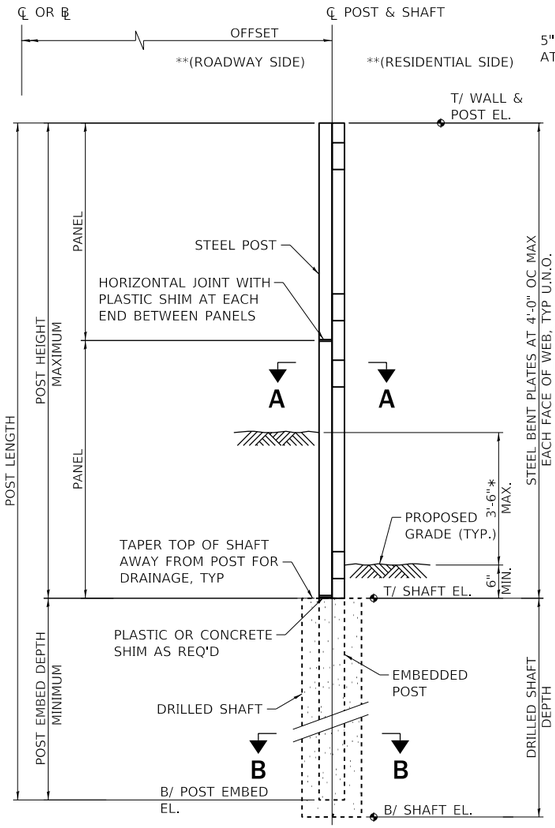
CENTRAL TRI-STATE BUMP-OUT MOUNTED NOISE ABATEMENT WALL DETAILS

STANDARD G14-00



TYPICAL CROSS SECTION

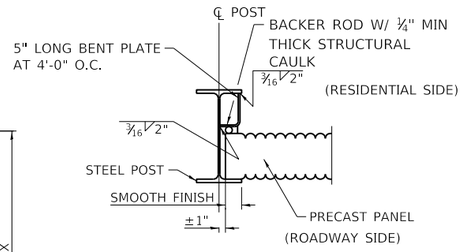
(BALANCED SOIL LOAD)



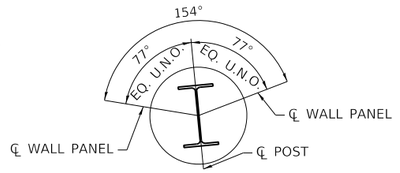
TYPICAL CROSS SECTION

(UNBALANCED SOIL LOAD)

** TYPICAL SECTION SHOWS ROADWAY ON THE HIGH SIDE.
DETAILS OF POST FOR ROADWAY ON THE LOW SIDE ARE MIRRORED.

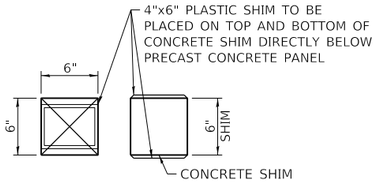


PANEL TO POST CONNECTION DETAIL



NOTE: MINIMUM ANGLE AT KINK IN WALL NOT REQUIRING SPECIAL POST.

MIN ANGLE BETWEEN PANELS AT TYP POST



CONCRETE SHIM DETAIL DETAIL 1

SHIMS TO BE SECURED TO THE POST, SEE DETAIL 2.

* 3'-6" IS MAX. UNBALANCED SOIL LOAD WHEN NAW IS PLACED WELL OUTSIDE CLEAR ZONE. FOR NAW'S WITHIN CLEAR ZONE ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL AND TRAFFIC BARRIER GUIDELINES FOR TEST LEVEL AND DROP OFF REQUIREMENTS SHALL APPLY.

GENERAL NOTES

1. ALL EXPOSED CONCRETE EDGES SHALL HAVE A ¾" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.
2. REINFORCEMENT BARS, INCLUDING EPOXY-COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
3. REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
4. REINFORCEMENT BAR BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.
5. REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
6. CONSTRUCTION CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
7. END POSTS SHALL HAVE NO BENT PLATES ON EXPOSED SIDE.
8. THE FOUNDATION DETAILS SHOWN ARE BASED ON THE PRESENCE OF MOSTLY COMMON COHESIVE SOIL CONDITIONS (SILTY OR SANDY CLAY), WITH AN AVERAGE UNCONFINED COMPRESSIVE STRENGTH (Qu) > 1.25 TON/SQ. FT. WHICH SHALL BE DETERMINED BY PREVIOUS SOIL INVESTIGATIONS AT THE JOBSITE. WHEN OTHER CONDITIONS ARE INDICATED, THE FOUNDATION DIMENSIONS SHOWN SHALL BE INCLUDED IN THE PLANS AND THE FOUNDATION DIMENSIONS SHOWN SHALL BE THE RESULT OF SITE SPECIFIC DESIGNS. IF CONDITIONS ENCOUNTERED IN THE FIELD ARE DIFFERENT THAN THOSE INDICATED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO DETERMINE IF THE FOUNDATION DIMENSIONS NEED TO BE MODIFIED.

DESIGN STRESSES

PRECAST CONCRETE (GROUND MOUNTED NAW):
- f'c = 5,000 PSI AT 28 DAYS (CLASS PC)
- f'c = 3,500 PSI AT 5 DAYS (SHIPPING)
- DENSITY = 150 PCF

FOUNDATION CONCRETE CLASS SI:
- f'c = 3,500 PSI AT 14 DAYS PER SECTION 1020 OF IDOT STANDARD SPECIFICATIONS.

STEEL POSTS:
- ASTM A709 (AASHTO M270)
- GRADE 50, fy = 50 KSI
- ALL STEEL POSTS SHALL BE HOT-DIP GALVANIZED

BENT PLATE AND BEARING ANGLES:
- ASTM A709 (AASHTO M270)
- GRADE 36, fy = 36 KSI U.N.O.
- ALL STEEL SHALL BE HOT-DIP GALVANIZED

REINFORCING STEEL:
- fy = 60,000 PSI (EPOXY COATED)

DESIGN LOADS

GROUND MOUNTED
WIND LOAD =35 PSF (STR. III)
=15 PSF (SERV I)
RETAINED EARTH:
SOIL HORIZONTAL LOAD = 120PCF
DEFLECTION:
PANEL = L/240
POST = H/360

DESIGN SPECIFICATIONS

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. 8TH EDITION DATED SEPTEMBER 2017.

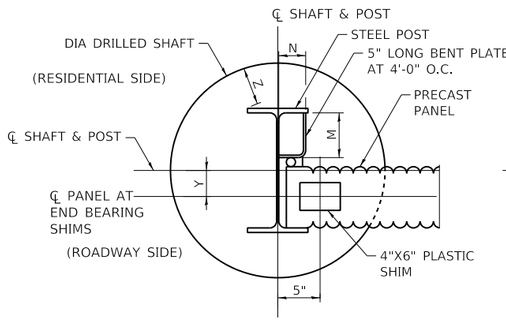
ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, LATEST EDITION

ILLINOIS TOLLWAY GEOTECHNICAL MANUAL, LATEST EDITION

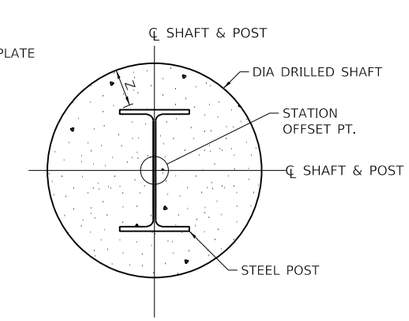
POST & DRILLED SHAFT DESIGN

NAW TYPE	MAX POST HEIGHT	MIN POST EMBED DEPTH	MAX DRILLED SHAFT SPACING	DRILLED SHAFT DEPTH	STEEL POST SIZE	Y	BENT PLATE M x N x THICK.	Z	DIA
NON-CRASHWORTHY GROUND MOUNTED I	15'-0"	10'-0"	20'-0"	12'-0"	W18X35**	3 15/16"	7"x2⅜"x⅜"	5⅝"	2'-6"
NON-CRASHWORTHY GROUND MOUNTED II	20'-0"	12'-0"	20'-0"	16'-0"	W21X50**	5⅜"	10"x2¾"x⅜"	4⅛"	2'-6"
NON-CRASHWORTHY GROUND MOUNTED III	25'-0"	12'-6"	20'-0"	15'-0"	W21X68	5⅜"	10"x3½"x⅜"	6⅝"	3'-0"
NON-CRASHWORTHY GROUND MOUNTED IV	28'-0"	13'-6"	20'-0"	15'-6"	W21X83	5⅜"	10"x3½"x⅜"	9½"	3'-6"

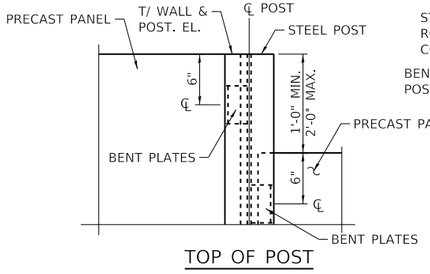
** USE W18x65 FOR NON-CRASHWORTHY GROUND MOUNTED I AND W21X68 FOR NON-CRASHWORTHY GROUND MOUNTED II WHEN SIGN PANEL MOUNT POST EXTENSION IS USED TO ACCOMODATE A SIGN PANEL ATTACHED TO POST



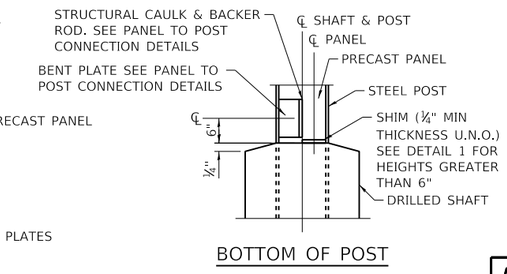
SECTION A-A



SECTION B-B

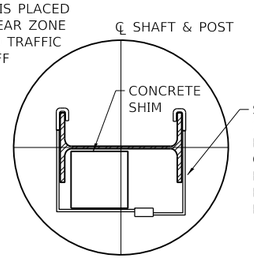


TOP OF POST



BOTTOM OF POST

BENT PLATE DETAILS



SHIM TO POST CONNECTION DETAIL 2

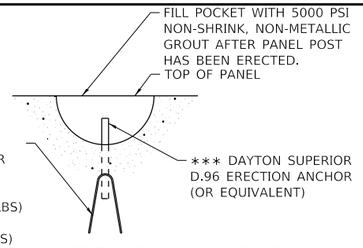
Paul Kovacs
APPROVED . . . . . DATE 4-01-2020
CHIEF ENGINEERING OFFICER

DATE	REVISIONS

Illinois Tollway

NON-CRASHWORTHY GROUND MOUNTED NOISE ABATEMENT WALL DETAILS

STANDARD G15-00

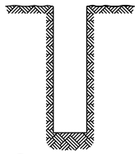


TYPICAL LIFTING INSERT DETAIL

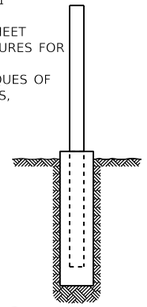
*** ERECTION ANCHORS SHALL BE HOT-DIPPED GALVANIZED

NOTES:

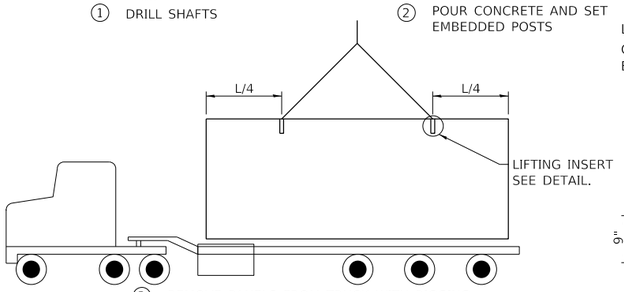
1. LIFTING INSERTS SHALL HAVE A FACTOR OF SAFETY OF 4:1
2. THE NAW INSTALLATION PROCEDURES SHOWN ON THIS SHEET PROVIDE GENERAL INSTALLATION SEQUENCE AND PROCEDURES FOR THE CONTRACTOR. THE CONTRACTOR SHALL RETAIN SOLE RESPONSIBILITY FOR THE MEANS, METHODS, AND TECHNIQUES OF CONSTRUCTION OF THE NAW FOR COMPLIANCE WITH LAWS, REGULATIONS, AND CODES, AND FOR THE SAFETY OF CONSTRUCTION APPLICABLE TO THIS WORK.



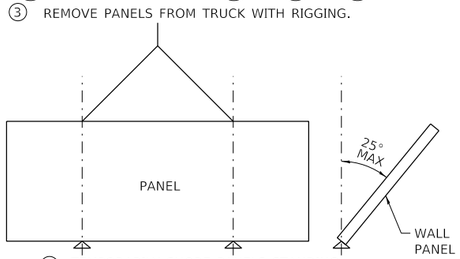
① DRILL SHAFTS



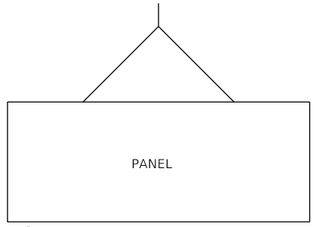
② POUR CONCRETE AND SET EMBEDDED POSTS



③ REMOVE PANELS FROM TRUCK WITH RIGGING.

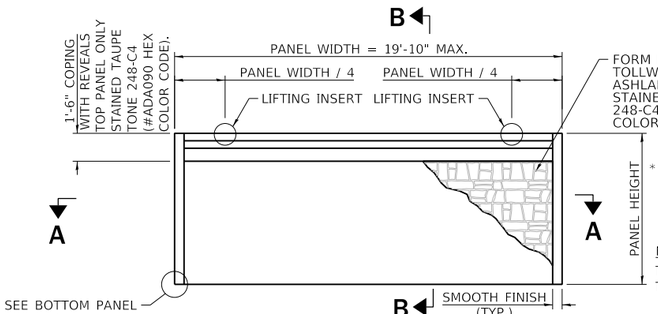


④ TEMPORARILY SHORE PANELS STANDING UPRIGHT ON SITE ON SOLID SUBSTRATES.

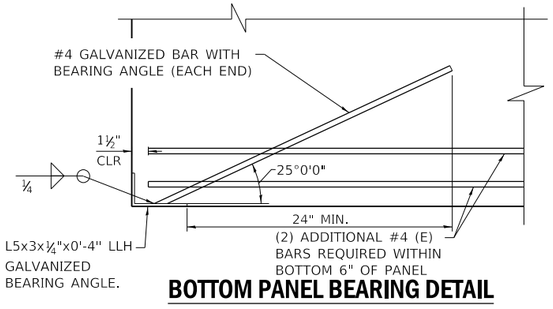


⑤ ERECT PANELS BETWEEN POSTS

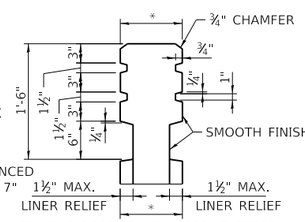
SUGGESTED TYPICAL NOISE ABATEMENT WALL INSTALLATION SEQUENCE AND PROCEDURE



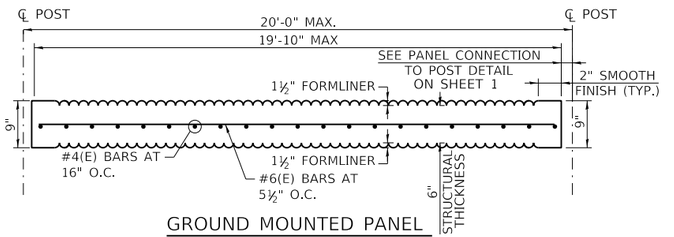
TYPICAL NOISE WALL PANEL DETAIL



BOTTOM PANEL BEARING DETAIL



TOP PANEL COPING DETAIL

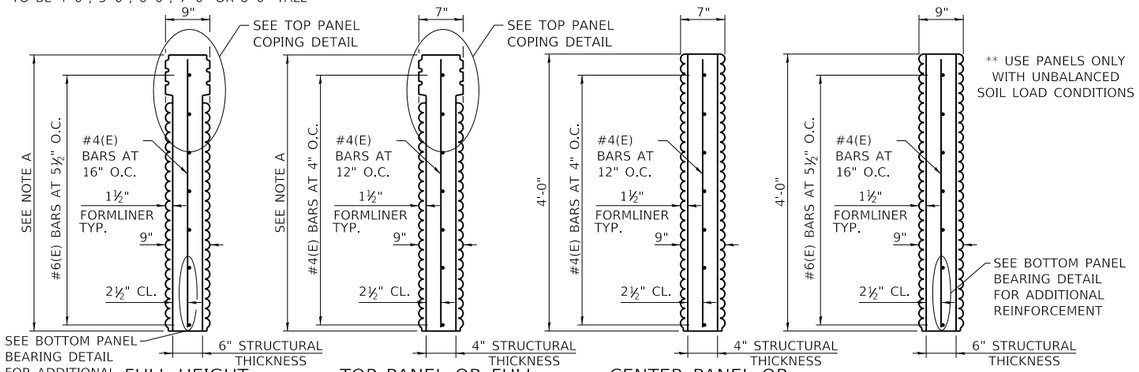


GROUND MOUNTED PANEL (UNBALANCED SOIL LOAD)

SECTION A-A

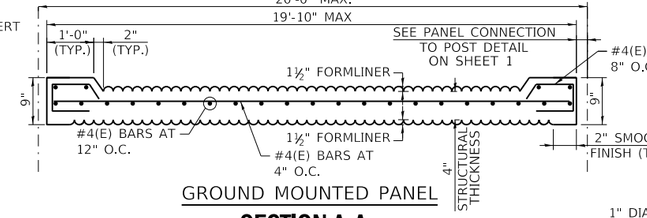
NOTE A:

TO ACCOMMODATE VARYING HEIGHT NAW, FULL HEIGHT AND TOP PANELS ARE PERMITTED TO BE 4'-0", 5'-0", 6'-0", 7'-0" OR 8'-0" TALL



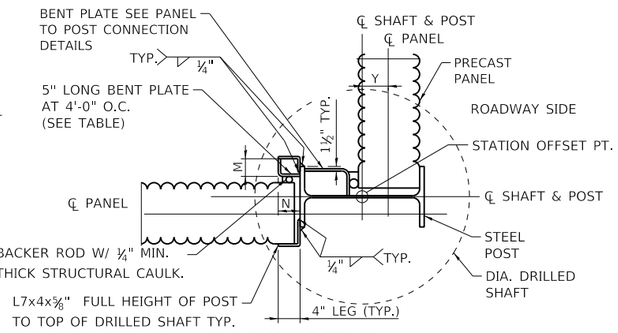
FULL HEIGHT PANEL** — TOP PANEL OR FULL HEIGHT PANEL — CENTER PANEL OR BOTTOM PANEL — BOTTOM PANEL**

SECTION B-B



GROUND MOUNTED PANEL

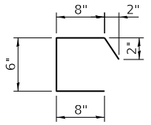
SECTION A-A



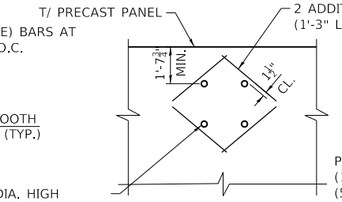
90° TURN DETAIL

90° TURN BENT PLATE TABLE

NAW TYPE	BENT PLATE M x N x THICK.
NON-CRASHWORTHY GROUND MOUNTED I	6"x3"x⅜"
NON-CRASHWORTHY GROUND MOUNTED II	6½"x3"x⅜"
NON-CRASHWORTHY GROUND MOUNTED III	8½"x3"x⅜"
NON-CRASHWORTHY GROUND MOUNTED IV	8½"x3"x⅜"

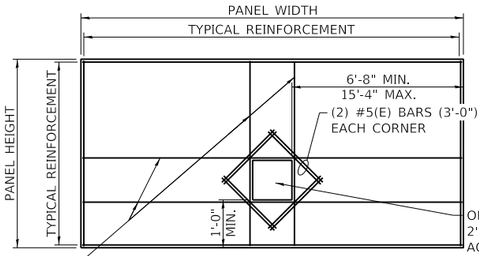


END BAR DETAIL

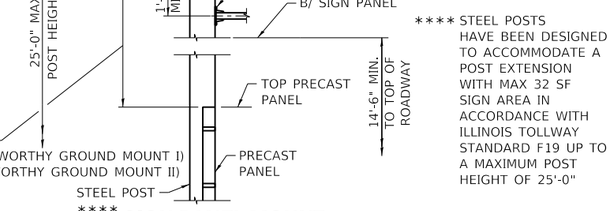


SIGN PANEL MOUNT TO PANEL DETAIL

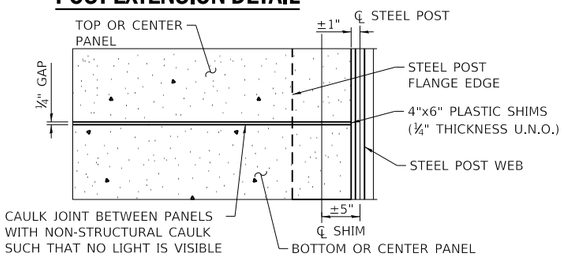
PRECAST PANELS HAVE BEEN DESIGNED TO ACCOMODATE SIGN PANEL MOUNTED WITH MAX 32 SF SIGN AREA IN ACCORDANCE WITH ILLINOIS TOLLWAY STANDARD F19. MIN. PANEL HEIGHT SUPPORTING SIGN SHALL BE 5'-0".



FIRE HYDRANT ACCESS OPENING DETAIL



SIGN PANEL MOUNT POST EXTENSION DETAIL



HORIZONTAL JOINT DETAIL

SHEET 2 OF 2

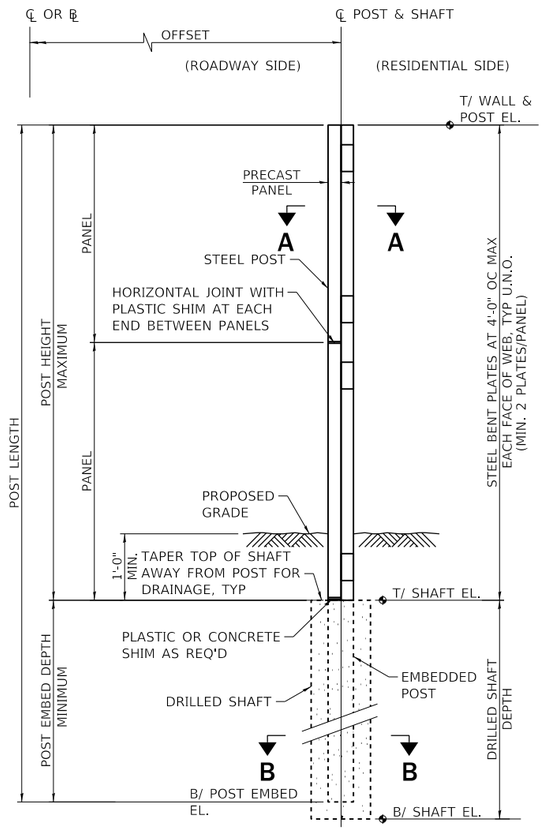
Paul Kovacs
APPROVED. . . . . DATE 4-01-2020
CHIEF ENGINEERING OFFICER

DATE	REVISIONS

Illinois Tollway

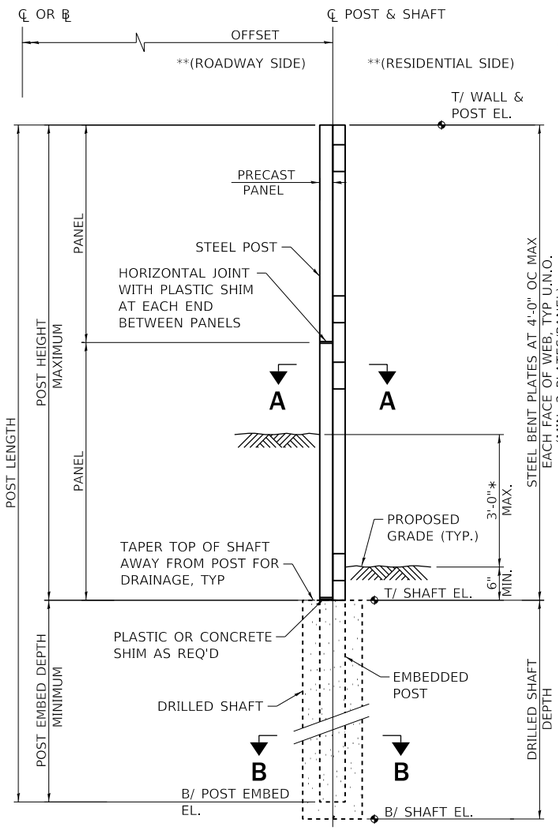
NON-CRASHWORTHY GROUND MOUNTED NOISE ABATEMENT WALL DETAILS

STANDARD G15-00



TYPICAL CROSS SECTION

(BALANCED SOIL LOAD)



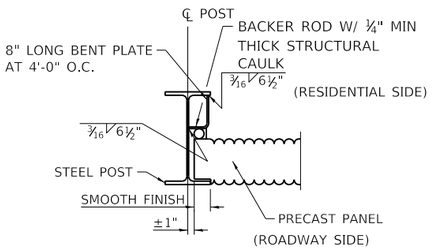
TYPICAL CROSS SECTION

(UNBALANCED SOIL LOAD)

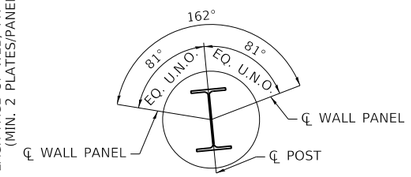
** TYPICAL SECTION SHOWS ROADWAY ON THE HIGH SIDE.
DETAILS OF POST FOR ROADWAY ON THE LOW SIDE ARE MIRRORED.

POST & DRILLED SHAFT DESIGN

NAW TYPE	MAX POST HEIGHT	MIN POST EMBED DEPTH	MAX DRILLED SHAFT SPACING	DRILLED SHAFT DEPTH	STEEL POST SIZE	Y	BENT PLATE M x N x THICK.	Z	DIA
CRASHWORTHY GROUND MOUNTED I	15'-0"	16'-6"	15'-0"	18'-6"	W21x68	5 1/16"	6½"x3½"x½"	6⅜"	3'-0"
CRASHWORTHY GROUND MOUNTED II	20'-0"	16'-6"	15'-0"	18'-6"	W21x68	5 1/16"	6½"x3½"x½"	6⅜"	3'-0"
CRASHWORTHY GROUND MOUNTED III	25'-0"	16'-6"	15'-0"	18'-6"	W21x68	5 1/16"	6½"x3½"x½"	6⅜"	3'-0"
CRASHWORTHY GROUND MOUNTED IV	28'-0"	16'-6"	15'-0"	19'-0"	W21x68	5 1/16"	6½"x3½"x½"	6⅜"	3'-0"

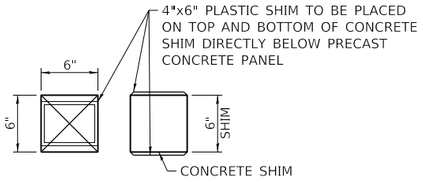


PANEL TO POST CONNECTION DETAIL



NOTE: MINIMUM ANGLE AT KINK IN WALL NOT REQUIRING SPECIAL POST.

MIN ANGLE BETWEEN PANELS AT TYP POST

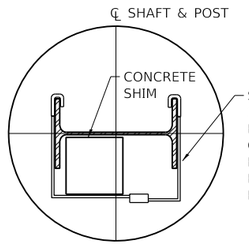


CONCRETE SHIM DETAIL

DETAIL 1

SHIMS TO BE SECURED TO THE POST
SEE DETAIL 2

∗ 3'-0" IS MAX. UNBALANCED SOIL LOAD WHEN NAW IS PLACED INSIDE CLEAR ZONE TO MAINTAIN TL-4 TEST LEVEL.



SHIM TO POST CONNECTION DETAIL 2

GENERAL NOTES

1. ALL EXPOSED CONCRETE EDGES SHALL HAVE A ¾" X 45° CHAMFER, EXCEPT WHERE SHOWN OTHERWISE. CHAMFER ON VERTICAL EDGES SHALL BE CONTINUED A MINIMUM OF ONE FOOT BELOW FINISHED GROUND LEVEL.
2. REINFORCEMENT BARS, INCLUDING EPOXY-COATED REINFORCEMENT BARS, SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31 (ASTM A706), GRADE 60, DEFORMED BARS.
3. REINFORCEMENT BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
4. REINFORCEMENT BAR BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE LATEST "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.
5. REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
6. CONSTRUCTION CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM THE CONTRACT PLANS FOR CONSTRUCTION PURPOSES. SCALES SHOWN ARE FOR INFORMATION ONLY.
7. END POSTS SHALL HAVE NO BENT PLATES ON EXPOSED SIDE.
8. THE FOUNDATION DETAILS SHOWN ARE BASED ON THE PRESENCE OF MOSTLY COMMON COHESIVE SOIL CONDITIONS (SILTY OR SANDY CLAY), WITH AN AVERAGE UNCONFINED COMPRESSIVE STRENGTH (Qu) > 1.25 TON/SQ. FT. WHICH SHALL BE DETERMINED BY PREVIOUS SOIL INVESTIGATIONS AT THE JOBSITE. WHEN OTHER CONDITIONS ARE INDICATED, THE FOUNDATION DIMENSIONS SHOWN SHALL BE INCLUDED IN THE PLANS AND THE FOUNDATION DIMENSIONS SHOWN SHALL BE THE RESULT OF SITE SPECIFIC DESIGNS. IF CONDITIONS ENCOUNTERED IN THE FIELD ARE DIFFERENT THAN THOSE INDICATED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO DETERMINE IF THE FOUNDATION DIMENSIONS NEED TO BE MODIFIED.

DESIGN STRESSES

PRECAST CONCRETE (GROUND MOUNTED NAW):
- f'c = 5,000 PSI AT 28 DAYS (CLASS PC)
- f'c = 3,500 PSI AT 5 DAYS (SHIPPING)
- DENSITY = 150 PCF

FOUNDATION CONCRETE CLASS SI:
- f'c = 3,500 PSI AT 14 DAYS PER SECTION 1020 OF IDOT STANDARD SPECIFICATIONS.

STEEL POSTS:
- ASTM A709 (AASHTO M270)
- GRADE 50, fy = 50 KSI
- ALL STEEL POSTS SHALL BE HOT-DIP GALVANIZED

BENT PLATE AND BEARING ANGLES:
- ASTM A709 (AASHTO M270)
- GRADE 36, fy = 36 KSI U.N.O.
- ALL STEEL SHALL BE HOT-DIP GALVANIZED

REINFORCING STEEL:
- fy = 60,000 PSI (EPOXY COATED)

DESIGN LOADS

CRASHWORTHY GROUND MOUNTED

WIND LOAD = 35 PSF (STR. III)
= 15 PSF (SERV I)

RETAINED EARTH:
- HORIZONTAL SOIL LOAD = 120 PCF
- LIVE LOAD SURCHARGE = 2FT

TL-4 VEHICLE COLLISION LOADING:
- 54 KIP APPLIED AT 6'-0" ABOVE ROADWAY PAVEMENT

SECONDARY IMPACT (NO TL-4 IMPACT):
- 4 KIP APPLIED AT AT THE HIGHEST POINT UP TO 14FT ABOVE SURFACE OF PAVEMENT IN FRONT OF NAW

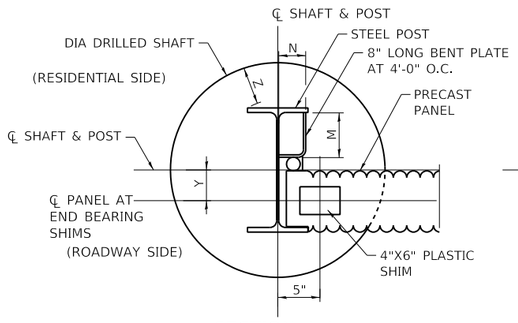
DEFLECTION:
- PANEL = L/240
- POST = H/360

DESIGN SPECIFICATIONS

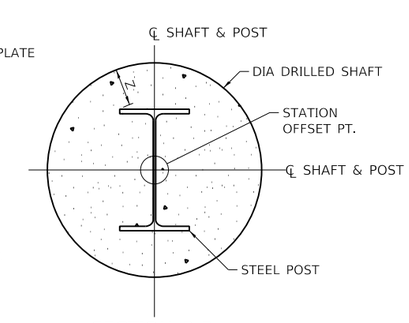
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. 8TH EDITION DATED SEPTEMBER 2017.

ILLINOIS TOLLWAY STRUCTURE DESIGN MANUAL, LATEST EDITION

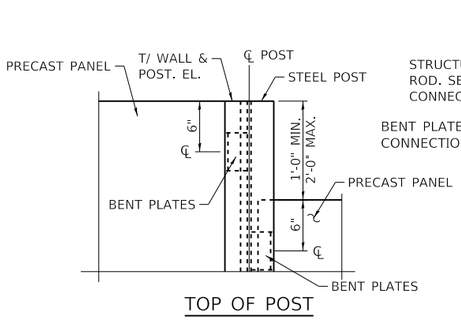
ILLINOIS TOLLWAY GEOTECHNICAL MANUAL, LATEST EDITION



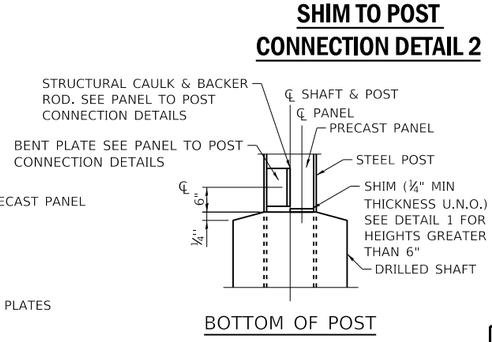
SECTION A-A



SECTION B-B



TOP OF POST



BOTTOM OF POST

BENT PLATE DETAILS

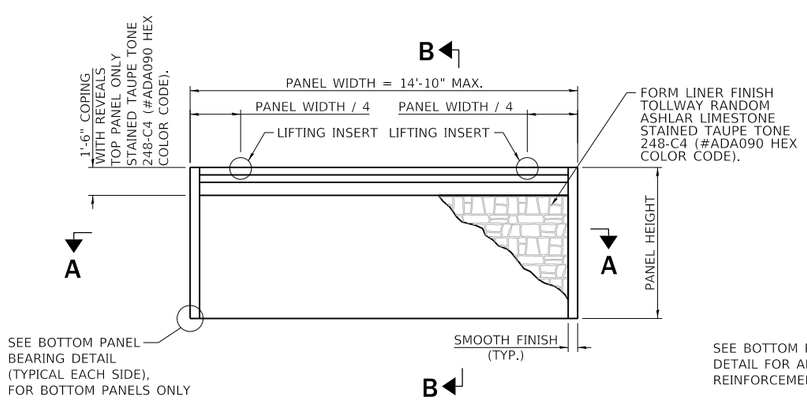
APPROVED Paul Kovacs DATE 4-01-2020
CHIEF ENGINEERING OFFICER

DATE	REVISIONS

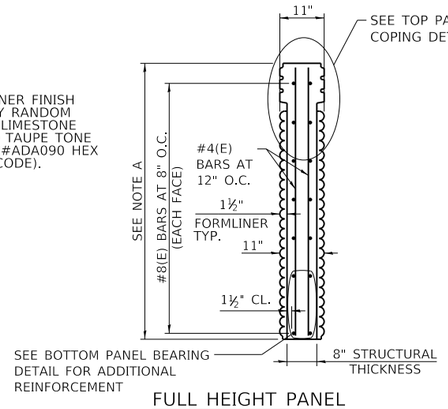
Illinois Tollway

CRASHWORTHY GROUND MOUNTED NOISE ABATEMENT WALL DETAILS

STANDARD G16-00

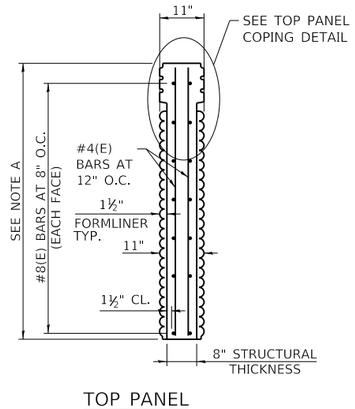


TYPICAL NOISE WALL PANEL DETAIL



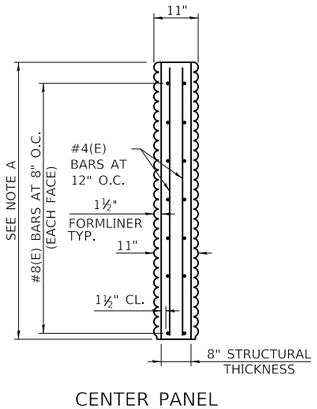
FULL HEIGHT PANEL
(TL-4 IMPACT LOAD)

SECTION B-B



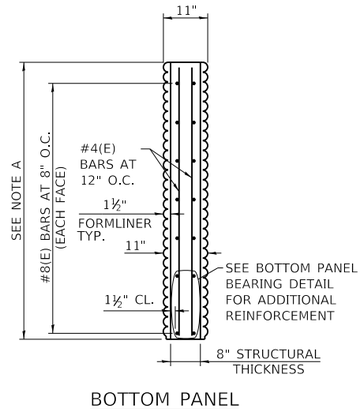
TOP PANEL
(TL-4 IMPACT LOAD)

SECTION B-B



CENTER PANEL
(TL-4 IMPACT LOAD)

SECTION B-B



BOTTOM PANEL
(TL-4 IMPACT LOAD)

SECTION B-B

NOTE A:
TO ACCOMMODATE VARYING HEIGHT NAW PANELS ARE PERMITTED TO BE 6'-0", 7'-0", 8'-0" OR 9'-0" TALL

GROUND MOUNTED PANEL
(TL-4 IMPACT LOAD)

GROUND MOUNTED PANEL
(NO TL-4 IMPACT LOAD)

SECTION A-A

TOP PANEL
(NO TL-4 IMPACT LOAD)

SECTION B-B

CENTER PANEL
(NO TL-4 IMPACT LOAD)

SECTION B-B

NOTE B:
TO ACCOMMODATE VARYING HEIGHT NAW, TOP PANEL (NO TL-4 IMPACT LOAD) IS PERMITTED TO BE 5'-0", 6'-0", 7'-0", 8'-0" OR 9'-0" TALL

BOTTOM PANEL BEARING DETAIL

FIRE HYDRANT ACCESS OPENING DETAIL

TOP PANEL COPING DETAIL

* 11" FOR TL-4 IMPACT LOAD PANEL OR 9" FOR NO TL-4 IMPACT LOAD PANEL

END BAR DETAIL

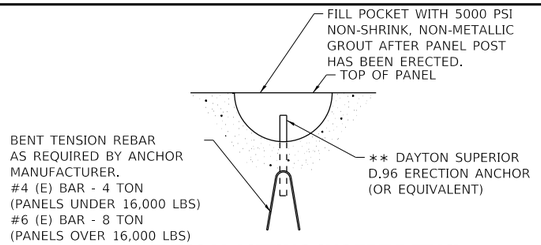
Paul Kovacs
APPROVED ..... DATE 4-01-2020
CHIEF ENGINEERING OFFICER

DATE	REVISIONS

Illinois Tollway

CRASHWORTHY GROUND MOUNTED NOISE ABATEMENT WALL DETAILS

STANDARD G16-00

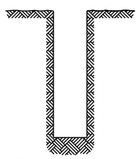


TYPICAL LIFTING INSERT DETAIL

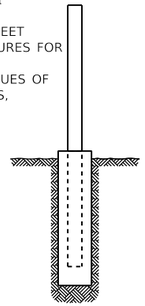
** ERECTION ANCHORS SHALL BE HOT-DIPPED GALVANIZED

NOTES:

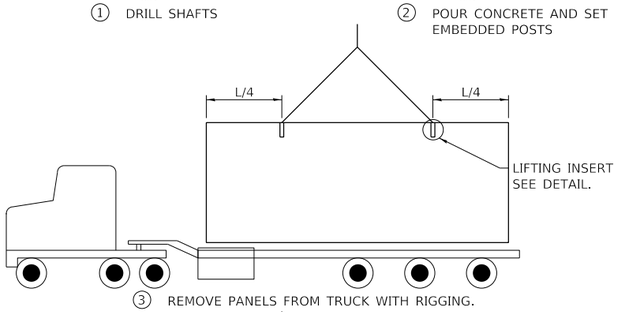
1. LIFTING INSERTS SHALL HAVE A FACTOR OF SAFETY OF 4:1
2. THE NAW INSTALLATION PROCEDURES SHOWN ON THIS SHEET PROVIDE GENERAL INSTALLATION SEQUENCE AND PROCEDURES FOR THE CONTRACTOR. THE CONTRACTOR SHALL RETAIN SOLE RESPONSIBILITY FOR THE MEANS, METHODS, AND TECHNIQUES OF CONSTRUCTION OF THE NAW FOR COMPLIANCE WITH LAWS, REGULATIONS, AND CODES, AND FOR THE SAFETY OF CONSTRUCTION APPLICABLE TO THIS WORK.



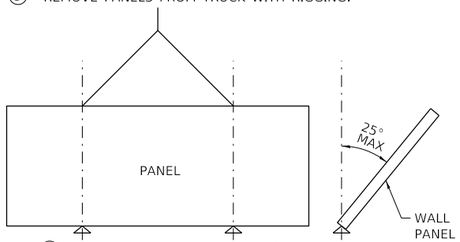
① DRILL SHAFTS



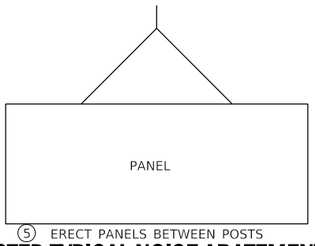
② POUR CONCRETE AND SET EMBEDDED POSTS



③ REMOVE PANELS FROM TRUCK WITH RIGGING.

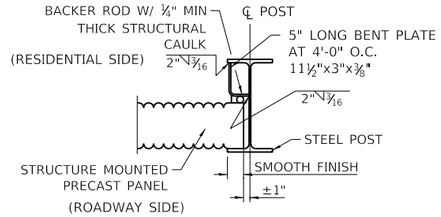


④ TEMPORARILY SHORE PANELS STANDING UPRIGHT ON SITE ON SOLID SUBSTRATES.

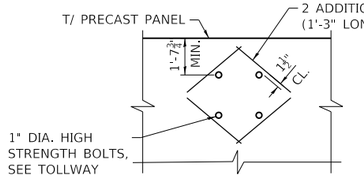


⑤ ERECT PANELS BETWEEN POSTS

SUGGESTED TYPICAL NOISE ABATEMENT WALL INSTALLATION SEQUENCE AND PROCEDURE

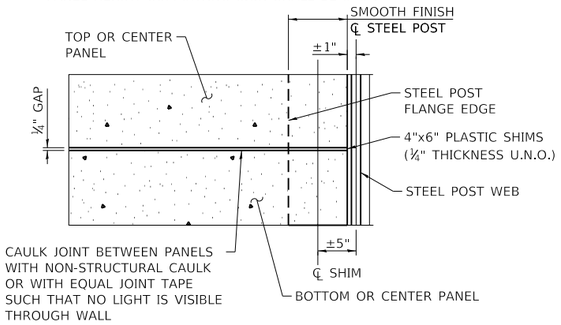


STRUCTURE MOUNTED PANEL TO POST CONNECTION DETAIL

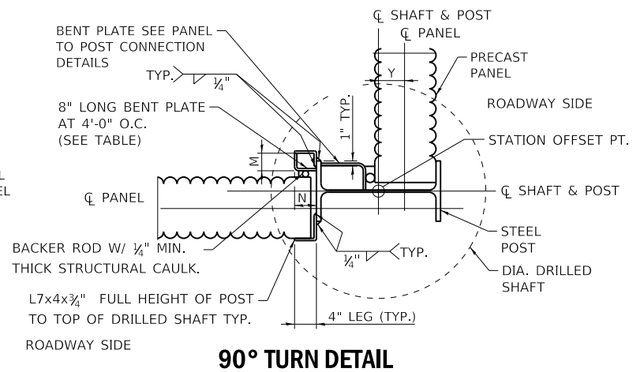


SIGN PANEL MOUNT TO PANEL DETAIL

*** PRECAST PANELS HAVE BEEN DESIGNED TO ACCOMMODATE SIGN PANEL MOUNT WITH MAX 32 SF SIGN AREA IN ACCORDANCE WITH ILLINOIS TOLLWAY STANDARD F19. MIN. PANEL HEIGHT SUPPORTING SIGN SHALL BE 5'-0".



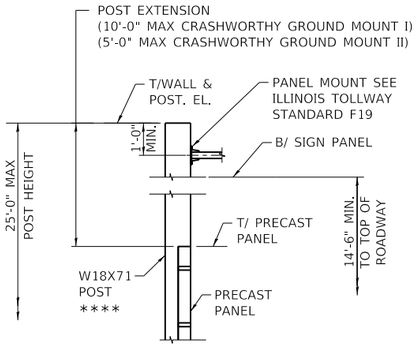
HORIZONTAL JOINT DETAIL



90° TURN DETAIL

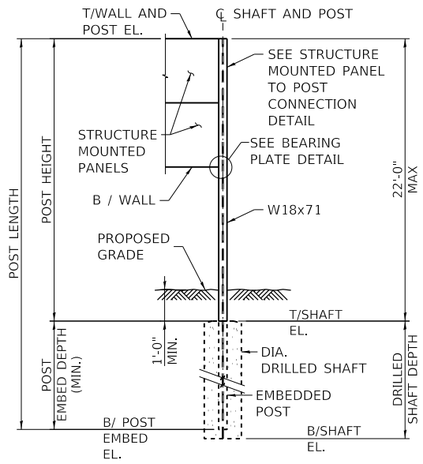
90° TURN BENT PLATE TABLE

NAW TYPE	BENT PLATE N x M x THICK.
CRASHWORTHY GROUND MOUNTED I	3"x8"x⅜"
CRASHWORTHY GROUND MOUNTED II	3"x8"x⅜"
CRASHWORTHY GROUND MOUNTED III	3"x8"x⅜"
CRASHWORTHY GROUND MOUNTED IV	3"x8"x⅜"

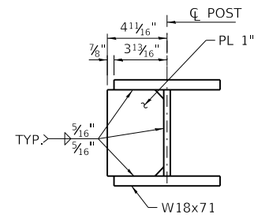


SIGN PANEL MOUNT POST EXTENSION DETAIL

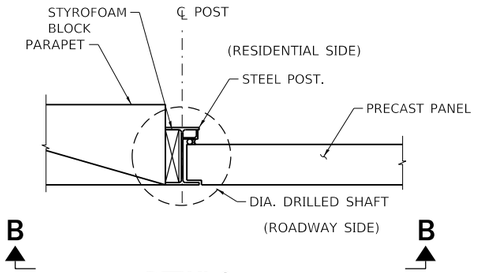
**** W18X71 POSTS HAVE BEEN DESIGNED TO ACCOMMODATE A POST EXTENSION WITH MAX 32 SF SIGN AREA IN ACCORDANCE WITH ILLINOIS TOLLWAY STANDARD F19 UP TO A MAXIMUM POST HEIGHT OF 25'-0"



DETAIL 1

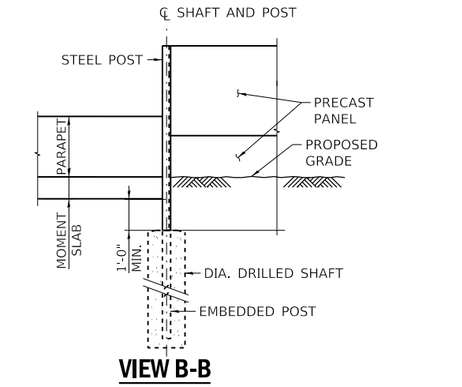


BEARING PLATE DETAIL



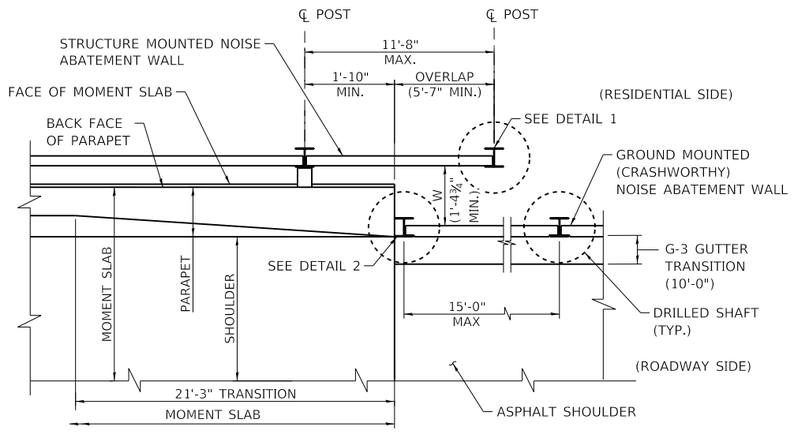
DETAIL 2

CRASHWORTHY GROUND MOUNTED NAW TRANSITION TO PARAPET



VIEW B-B

(STRUCTURE MOUNTED NAW) NOT SHOWN FOR CLARITY



NAW TRANSITION DETAIL PLAN

Paul Kovacs
APPROVED . . . . . DATE 4-01-2020
CHIEF ENGINEERING OFFICER

DATE	REVISIONS

Illinois Tollway

CRASHWORTHY GROUND MOUNTED NOISE ABATEMENT WALL DETAILS

STANDARD G16-00