# Nellie Lane Bridge

## Corr Construction Services, Inc.

### General Notes.

*1) The bridge is designed for HL-93 vehicle loads, full impact, Strength I. The multiple presence factor was adjusted to 1.0 for ADT (loaded trucks, one way) less than 100.*

*2) The structural steel girders shall be A588 or ASTM 992 (Fy = 50 ksi, Fu= 65 ksi). Welding shall be performed by certified welders. Welds are designed for downhand installation, with safety factor of 2.0. Thus AWS D1.1 welding standard is acceptable, with no continuous weld inspection during welding procedures. All welds are to be 1/4 inch fillet welds useless called out otherwise. Use E70 electrodes.*

*3) Concrete in deck panels and precast wingwalls shall have a 28-day breaking strength (f'c) of 4000 psi and shall be as called out in the deck panel and wingwall design sheets.*

*4) Reinforcing steel (ASTM A615, Grade 60) shall be as called out in the deck panel design sheet.*

*5) Miscellaneous steel shall be A36 or better. Bolting hardware shall be ASTM F3125, Grade A325.*

*6) Permits, traffic control, utility protection and relocate, signaling and flagging, and environmental protections shall be by others. Barricading and signing shall be appropriately positioned, by others, when necessary to protect public from temporary hazard during construction*

*7) Pile shall be driven to 30 Ton if determined by standard Engineering News Equation. If modified Gates equation is used, drive pile to nominal capacity of 150,000 lbs (S.F = 2.5). Provide the Engineer with hammer specification and allow for verification of target pile set.*

**Sheet List**





1"

*Measure one inch on original drawing. Adjust scales accordingly*

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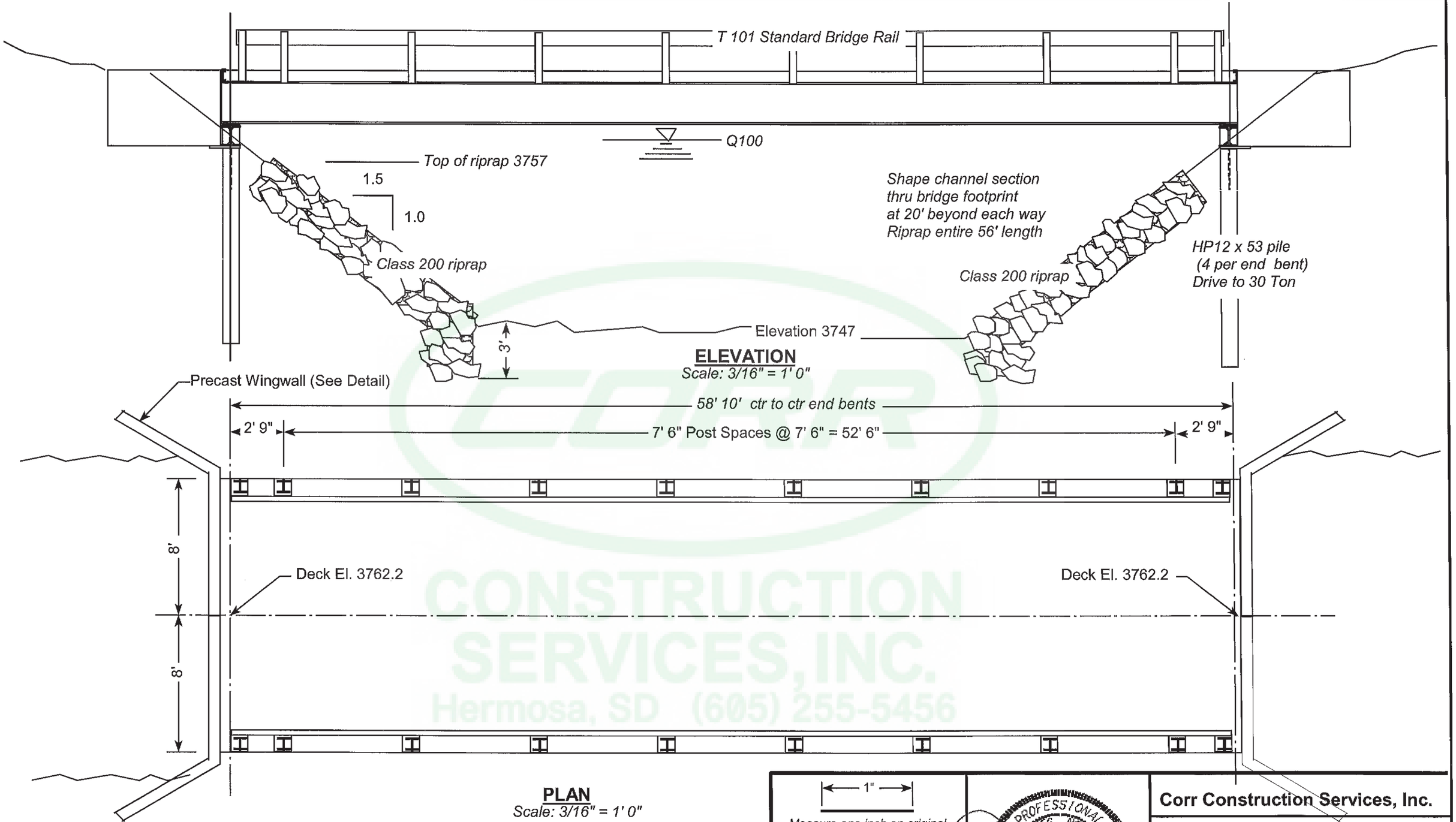
LICENSED PROFESSIONAL ENGINEER
REG. NO.
13454
DENNIS MACK
McGEE
SOUTH DAKOTA
9/2/2020

**Corr Construction Services, Inc.**

***Nellie Lane Bridge***

| | |
|---|---|
| Date: | 8/28/2020 |
| Drawn: | D. McGee |




**ELEVATION**
*Scale: 3/16" = 1' 0"*

**PLAN**
*Scale: 3/16" = 1' 0"*



1"
*Measure one inch on original drawing. Adjust scales accordingly*

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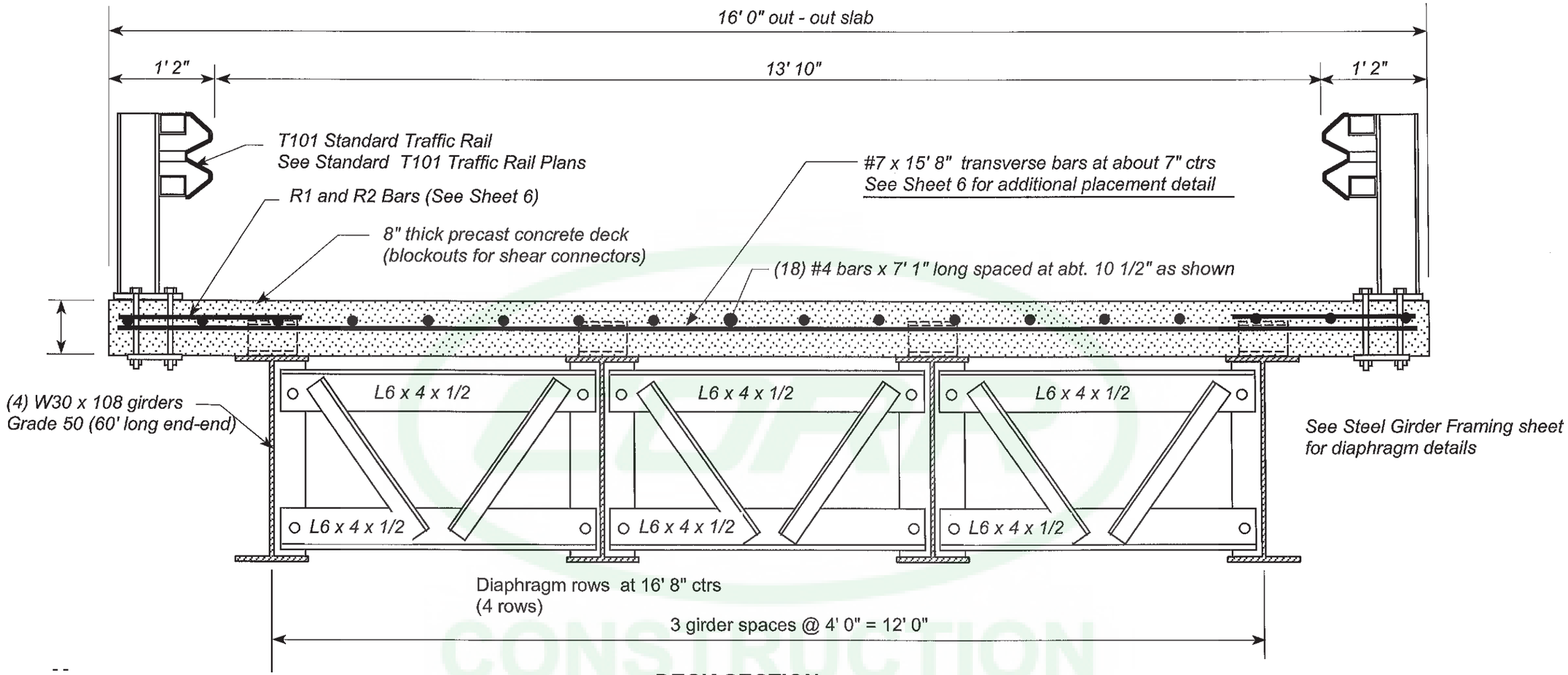
SOUTH DAKOTA
9/2/20

**Corr Construction Services, Inc.**

***Nellie Lane Bridge***

***Plan and Elevation***

| | | |
|---|---|---|
| Date: | 8/28/2020 | Sheet 1 of 7 |
| Drawn: | D. McGee | |




**DECK SECTION**

*Scale: 3/4" = 1' 0"*



1"

*Measure one inch on original drawing. Adjust scales accordingly*

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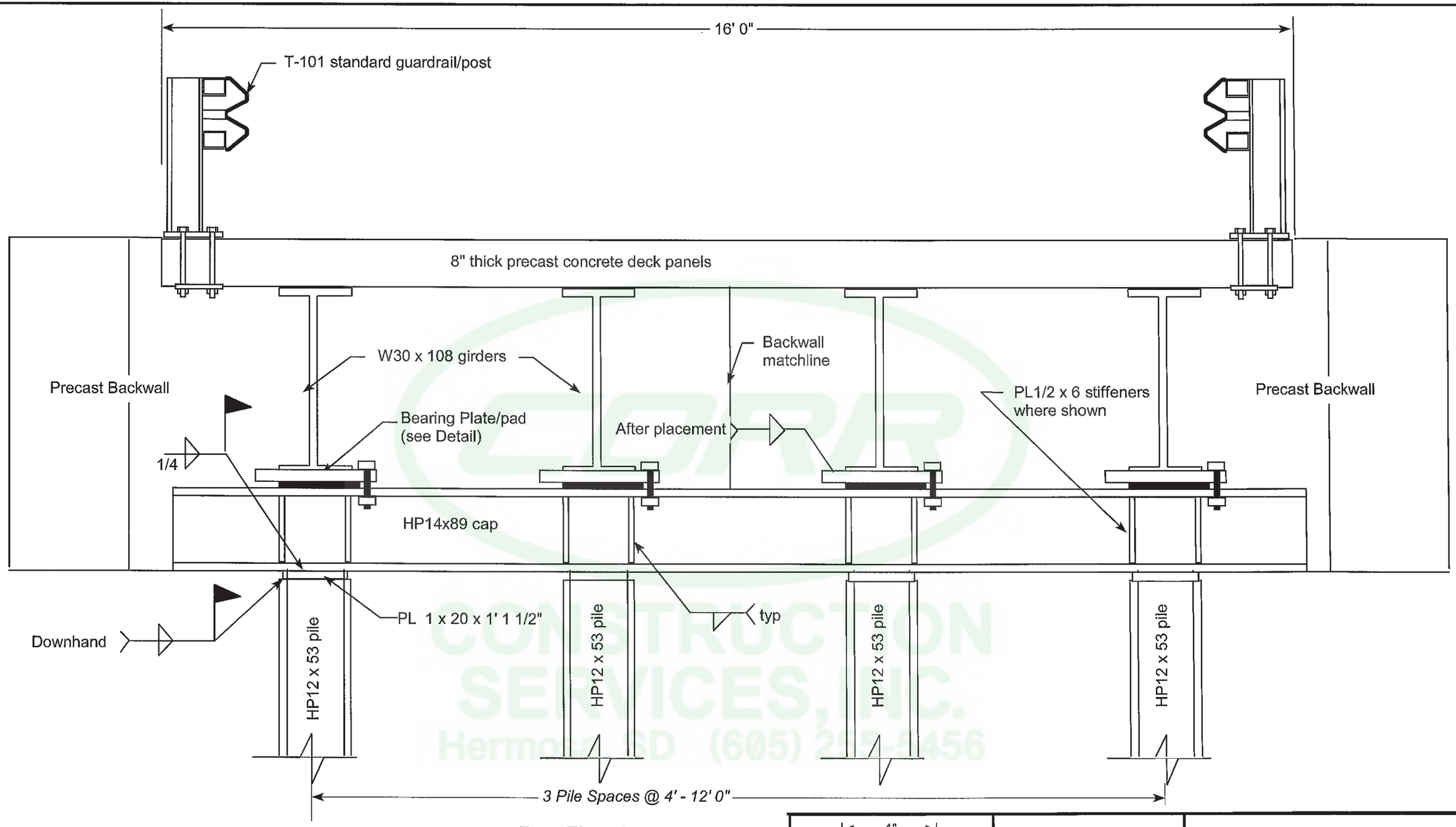
9/1/2020

**Corr Construction Services, Inc.**

***Nellie Lane Brodge***

***Deck Section***

| | | |
|---|---|---|
| Date: | 8/28/2020 | Sheet 2 of 7 |
| Drawn: | D. McGee | |




**Bent Elevation**

*Scale: 3/4" = 1' 0"*

1"

*Measure one inch on original drawing. Adjust scales accordingly*

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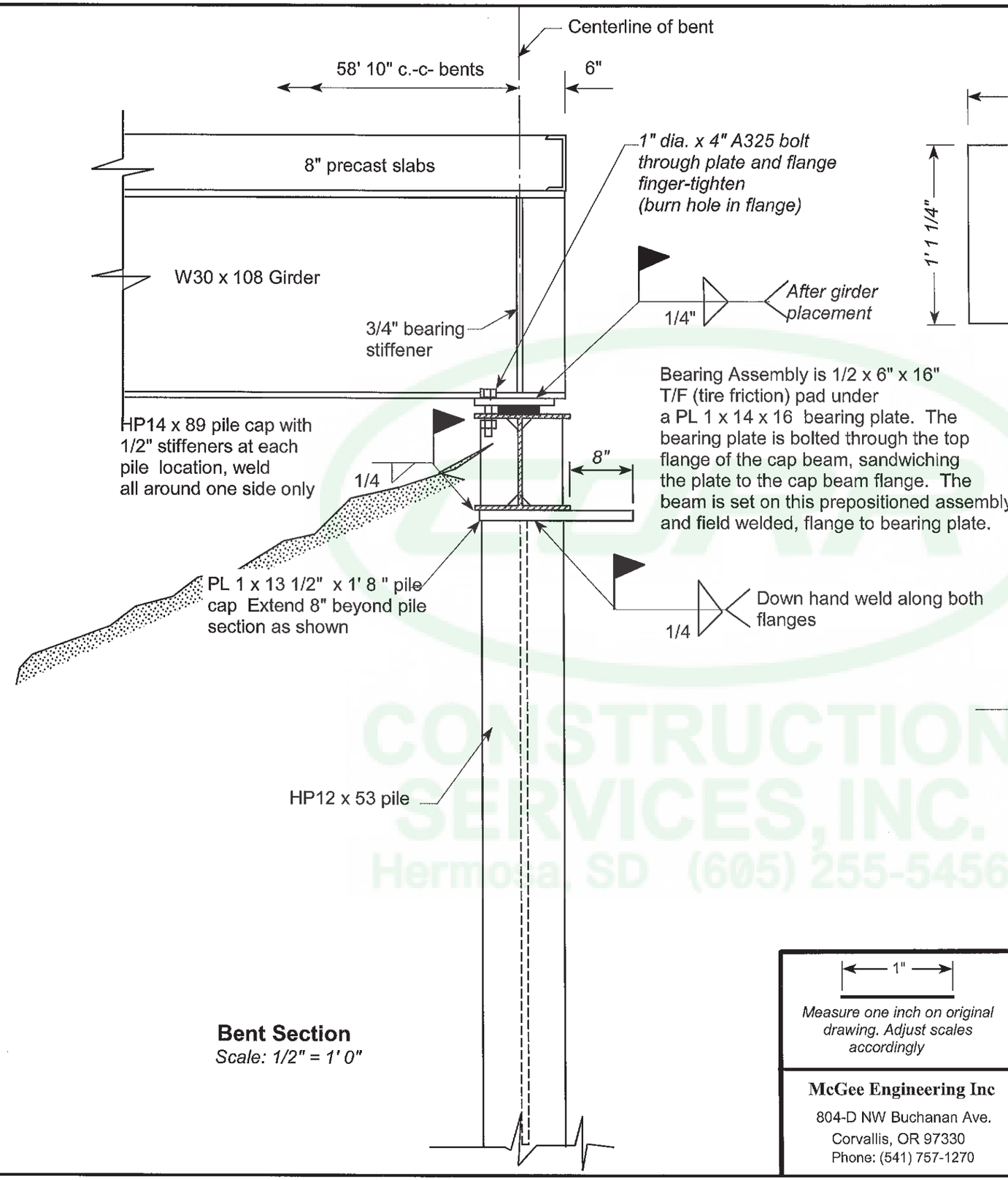
SOUTH DAKOTA
9/2/2020

**Corr Construction Services, Inc.**

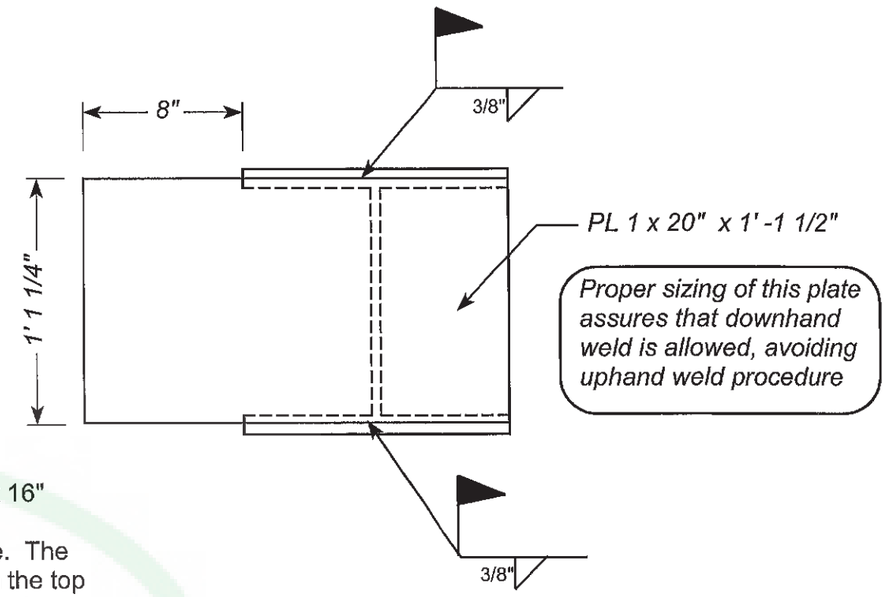
**Nellie Lane Bridge**

***Bent Elevation***

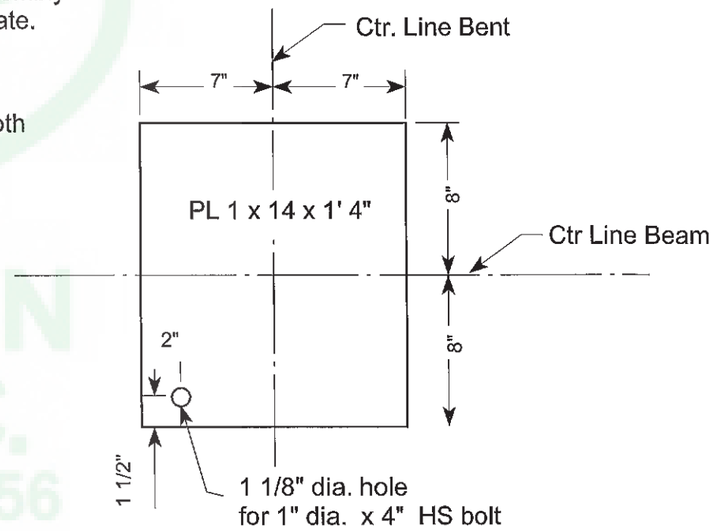
| | | |
|---|---|---|
| Date: | 8/28/2020 | Sheet 3 of 7 |
| Drawn: | D. McGee | |




**Bent Section**
*Scale: 1/2" = 1' 0"*




**PLAN OF PILE TOP PLATE**
*Scale: 1 1/2" = 1' 0"*




**PLAN OF BEARING PLATE**

1"
*Measure one inch on original drawing. Adjust scales accordingly*

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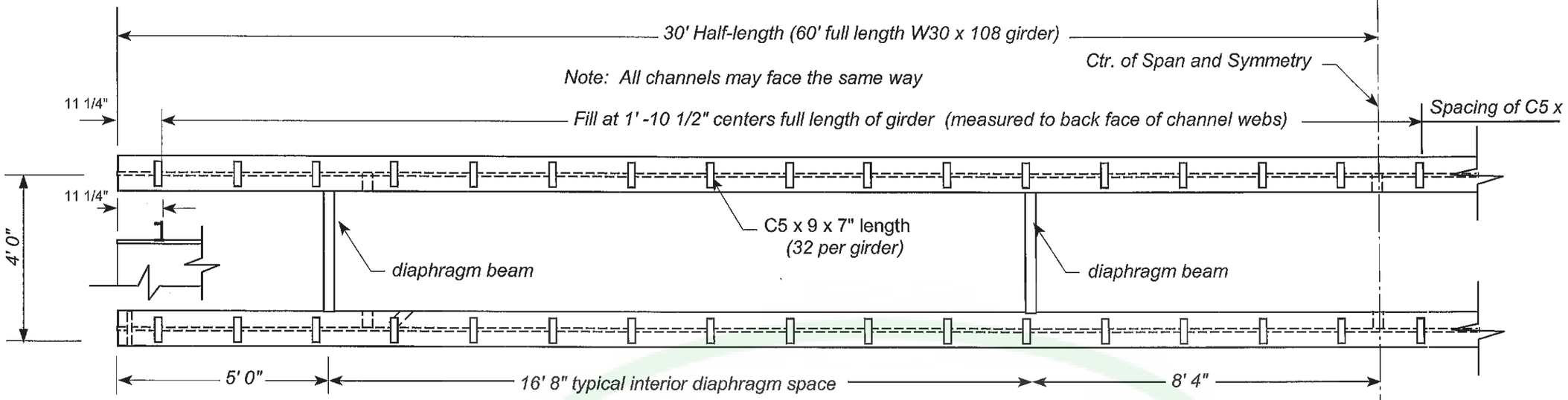
**Corr Construction Services, Inc.**

***Nellie Lane Bridge***

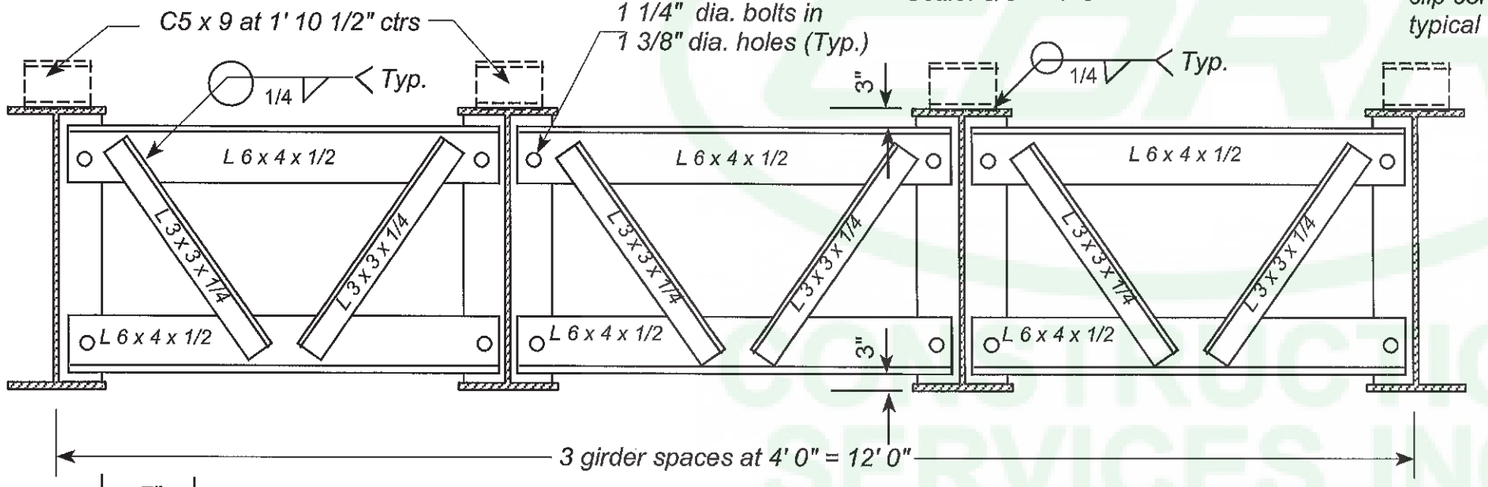
***Bent Section***

| | | |
|---|---|---|
| Date: | *8/28/2020* | Sheet 4 of 7 |
| Drawn: | D. McGee | |



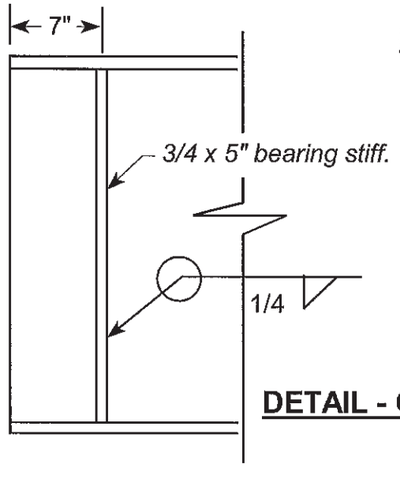

## HALF-PLAN - FRAMING TYP. GIRDER BAY

Scale: 3/8" = 1' 0"

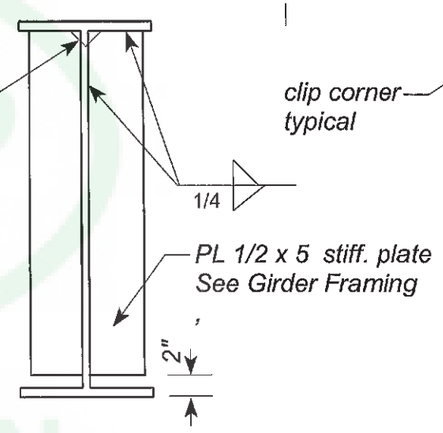



## SECTION - GIRDER FRAMING

Scale: 3/4" = 1' 0"

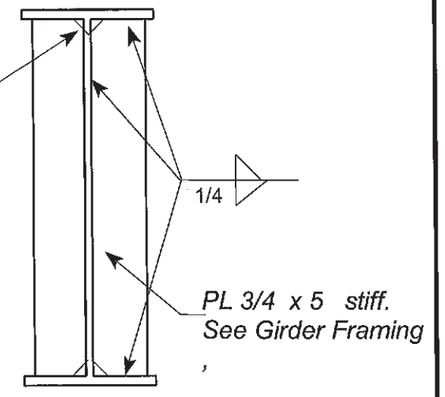



## DETAIL - GIRDER END




## Typ. Interm. Stiffener

Scale: 1" = 1' 0"




## Typ. Bearing Stiffener

Scale: 1" = 1' 0"



1"

*Measure one inch on original drawing. Adjust scales accordingly*

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9/2/2020

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***Nellie Lane Bridge***

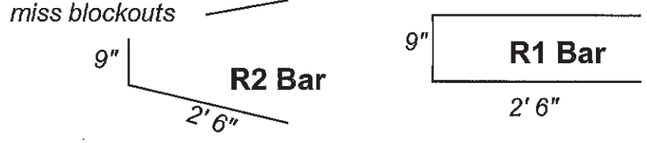
***Steel Girder Framing***

| | | |
|---|---|---|
| Date: | 8/28/2020 | Sheet 5 of 7 |
| Drawn: | D. McGee | |

*Note: Enclose the anchor bolts with #5 R1 and # 5R2 bars shown on T101 Rail Standard drawings*

*Bend as req'd to miss blockouts*

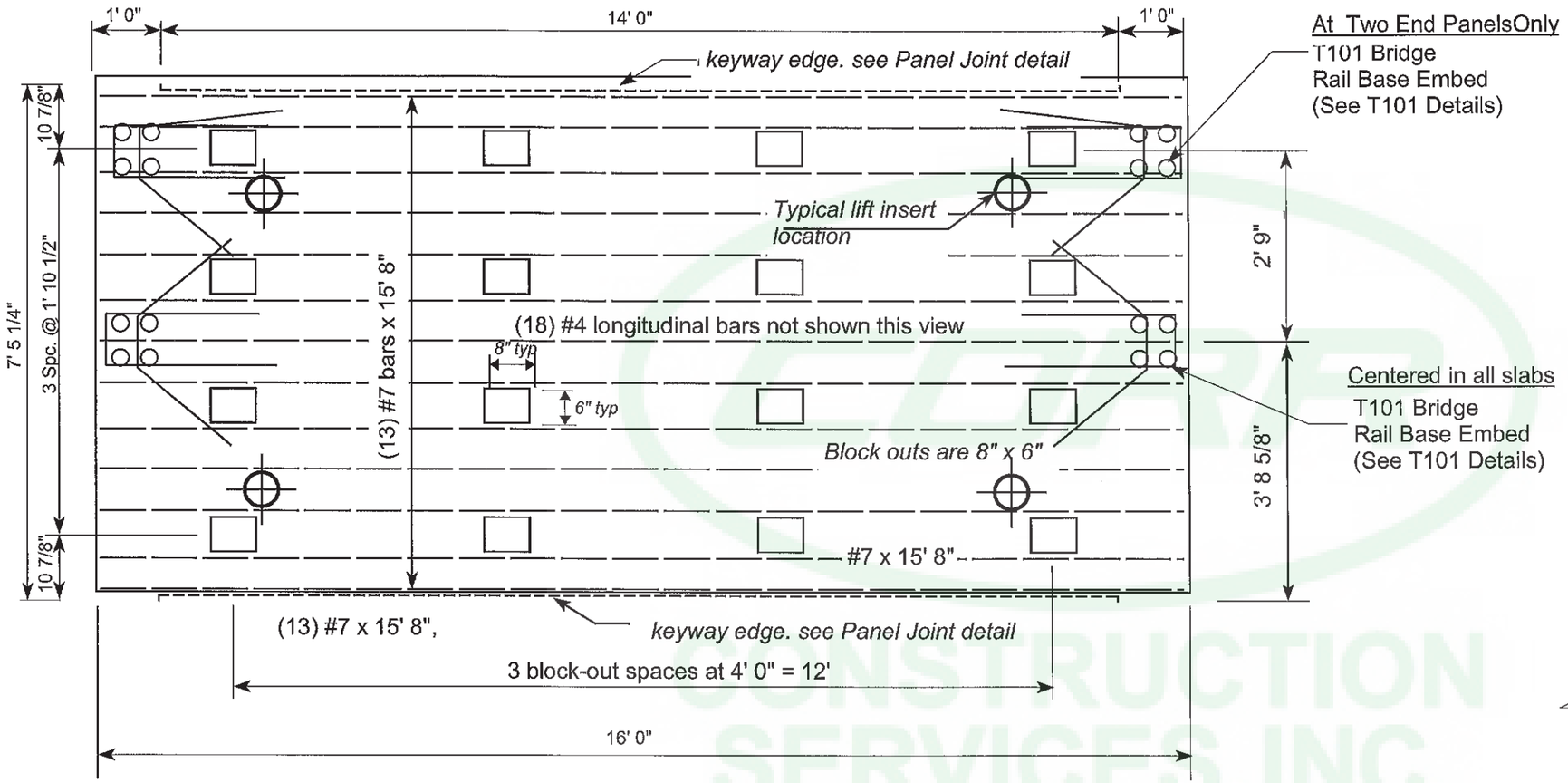
*R2 bar around exterior bolts, R1 around interior bolts* *18 R1 and 18 R2 bars are required*





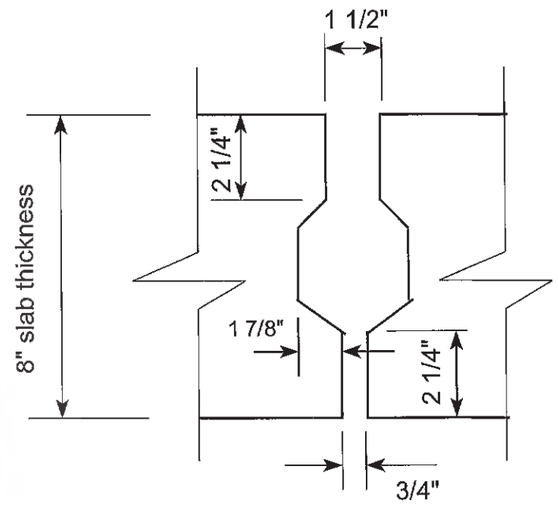


**See Sheet 2 for additional reinforcing steel placement detail**



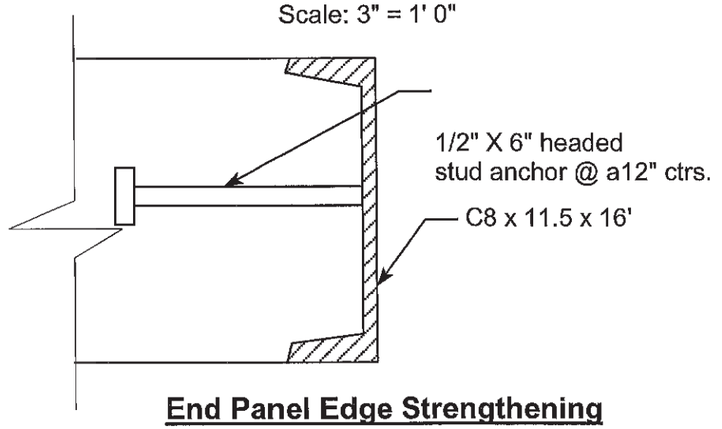

**Plan of Deck Slab**

Scale: 1/2" = 1' 0"




**Interior Panel Joint**

Scale: 3" = 1' 0"




**End Panel Edge Strengthening**

Scale: 3" = 1' 0"

## SHEET NOTES

*Concrete in deck panels shall have a 28 day breaking strength (f'c) of 4000 psi. Entrained air shall added to maintain an air content range of 4- 7&*

*Reinforcing steel shall be ASTM A615. Place #7 bars centered in the slab depth*

*Slabs weigh 11,500 lbs and shall be kept in a flat position during casting, shipping and erecting. Contractor may use proprietary lifting inserts, four lift inserts are required with a 4000 lb SWL each.*

*Panel keyway joints shall be filled with prepackaged nonshrink grouth that will attain compressive strength of 5000 psi. Use backer rod in bottom of keyway*



1"

*Measure one inch on original drawing. Adjust scales accordingly*

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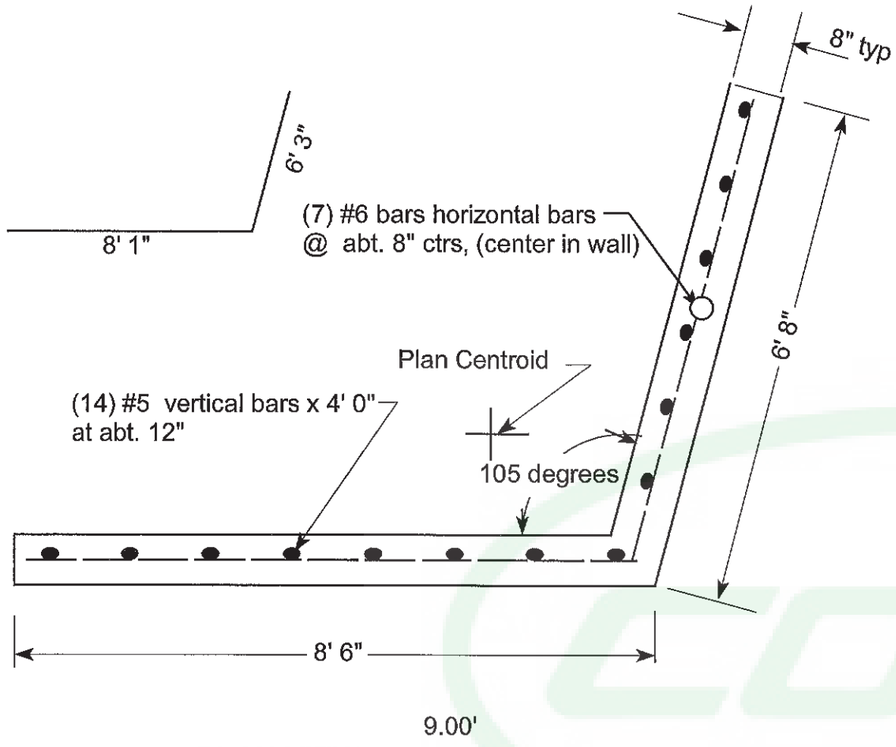
**Corr Construction Services, Inc.**

***Nellie Lane Bridge***

***Precast Deck Details***

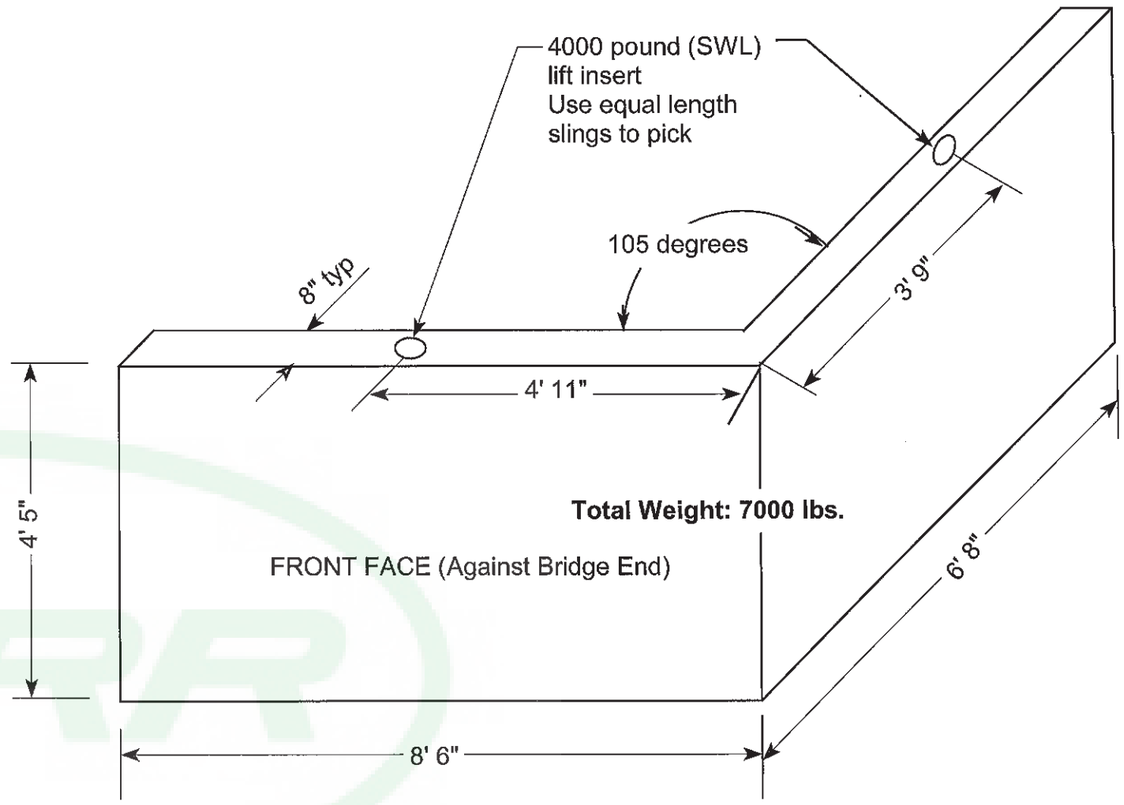
| Date: | 8/28/2020 | Sheet 6 of 7 |
|---|---|---|
| Drawn: | D. McGee | |




**PLAN VIEW**

1/2" = 1' 0"

*Right Hand Unit Shown, cast two as shown.*
*Cast two Left Hand Units in the mirror image*




**ISOMETRIC VIEW**

1/2" = 1' 0"

*Right Hand Unit Shown, cast two thus*
*Cast two Left Hand Units in the mirror image*

## SHEET NOTES

*Concrete in deck panels shall have a 28 day breaking strength (f'c) of 4000 psi. Entrained air shall added to maintain an air content range of 4- 7&*

*Reinforcing steel shall be ASTM A615. Place #6 horizontal bars centered in the wall thickness depth*

*Backwall units weigh 7000 lbs and shall be kept in a upright position during casting, shipping and erecting. Contractor may use proprietary lifting inserts, two lift inserts are required with a 4000 lb SWL each.*

*Place wingwall units on pile cap plate extension for vertical support. Provide temporary support or bracing until adequate backfill is placed to hold the backwall tight to the bridge girder ends. Keep personnel clear of possible wingwall tipout until the system is stabilized by backfill.*



1"

*Measure one inch on original drawing. Adjust scales accordingly*

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9/2/2020

**Corr Construction Services, Inc.**

***Nellie Lane Bridge***

***Precast Wingwall Details***

| | | |
|---|---|---|
| Date: | 8/28/2020 | Sheet 7 of 7 |
| Drawn: | D. McGee | |

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