



CONSTRUCTION LEADERS

| LETTER OF TRANSMITTAL        |                            |
|------------------------------|----------------------------|
| DATE: <b>August 27, 2015</b> | PCL JOB NO: <b>5515002</b> |
| ATTN: <b>Chris Barker</b>    | TRANSMITTAL NO: <b>094</b> |

To: **State of Vermont Agency of Transportation**  
 One National Life Drive  
 Montpelier, VT 05633-5001  
 (802) 828-0053

Re: Hartford Lateral Slide  
 Project No.: IM 091-2(79)  
 Contract ID.: 12A132

County: Windsor PCL FILE NO: 5515002-044.4

WE ARE SENDING  Attached  Under separate cover via   **Email & SP**   the following:  
 Shop drawings  Prints  Plans  Samples  Specifications  
 Copy of Letter  Change Order  Other

| COPIES | SPEC.                   | REVISION | DESCRIPTION   |
|--------|-------------------------|----------|---|
| 1      | <b>Spec. Prov. #109</b> | 4        | <b>Contractor-Fabricated Pre-Cast Concrete Structures</b> |
|        |                         |          |   |
|        |                         |          |   |
|        |                         |          |   |
|        |                         |          |   |

TRANSMITTED for as checked below:

For approval  Approved as submitted  Resubmit  Copies for approval  
 For your use  Approved as noted  Submit  Copies for distribution  
 As requested  Returned for corrections  Return  Corrected prints  
 For review and comment

**Remarks:**

The included drawings have been revised to allow for the use of the GMK 5275 crane to set the approach slabs.

Please return an email of this approved submittal to Erich Heymann ([ewheymann@pcl.com](mailto:ewheymann@pcl.com)) and Jeremy Mackling ([jmackling@pcl.com](mailto:jmackling@pcl.com)).

We request the review and return of this submittal within **1 day**. Please advise if this request cannot be met so we can plan accordingly.

By: **Erich Heymann**, Project Engineer

COPY TO: Project Files



**CONSTRUCTION LEADERS**

**SUBMITTAL NO. : 44.4**  
**Contractor-Fabricated Pre-Cast Concrete Structures**

| <b>Item No.</b> | <b>Specification</b> | <b>Description</b>                                    |
|-----------------|----------------------|---|
| 1               | Spec. Prov. #109     | Contractor-Fabricated Pre-Cast<br>Concrete Structures |

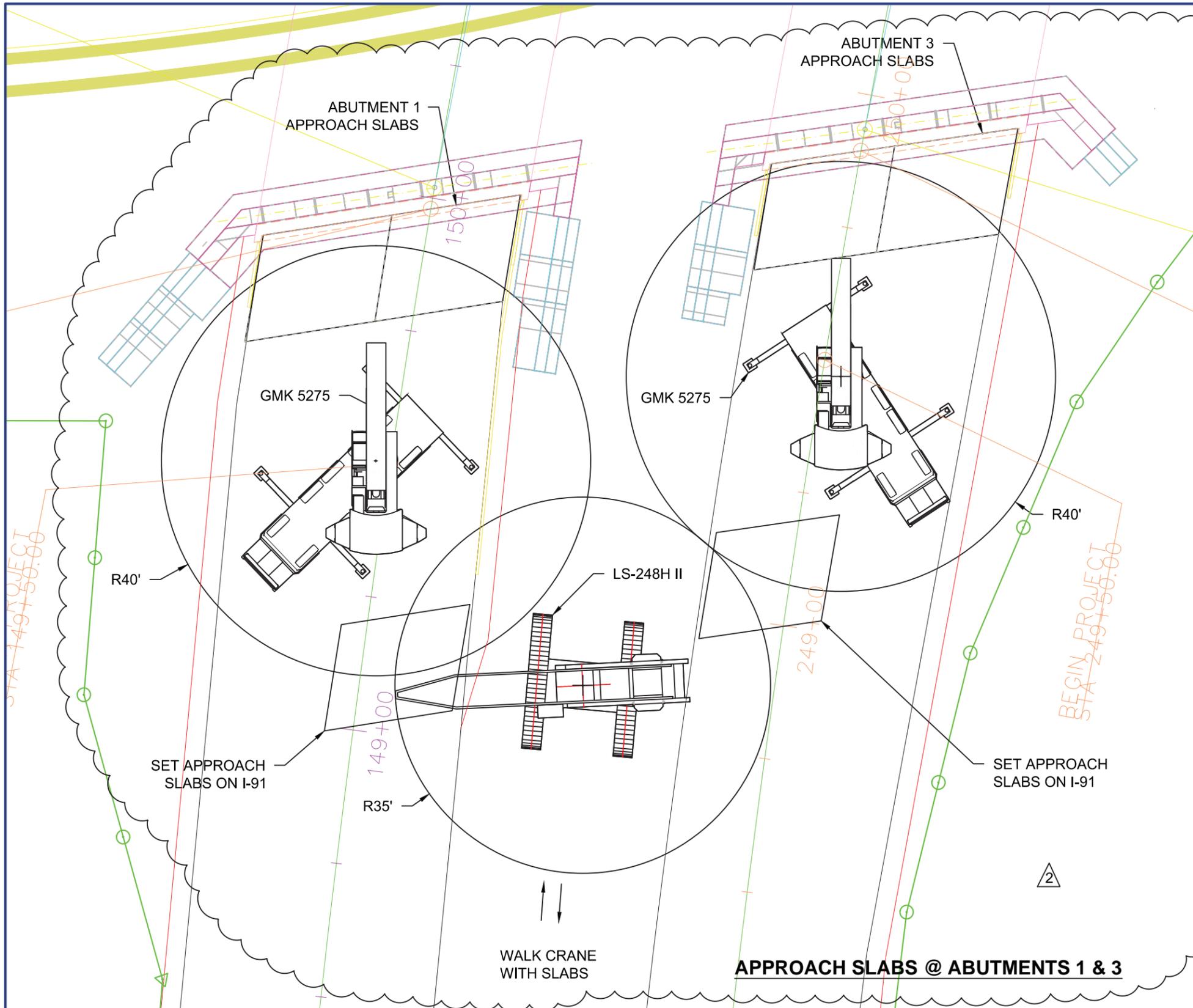
***PROJECT:***  
**HARTFORD LATERAL SLIDE**  
**PROJECT NO.: IM 091-2(79)**  
**CONTRACT ID.: 12A132**

***OWNER:***  
**STATE OF VERMONT AGENCY OF TRANSPORTATION**

***ENGINEER OF RECORD:***  
**STATE OF VERMONT AGENCY OF TRANSPORTATION**

***CONTRACTOR:***  
**PCL CIVIL CONSTRUCTORS, INC.**

**AUGUST 27, 2015**



|                        |     |                      |
|------------------------|-----|----------------------|
| CRANE INFO:            |     | LINK-BELT LS-248H II |
| BOOM LENGTH:           | FT  | 120'                 |
| PANEL WEIGHT:          | LBS | 85928                |
| PICK WEIGHT + RIGGING: | LBS | 93123                |
| MAX. CRANE RADIUS:     | FT  | 35                   |
| CRANE CAPACITY:        | LBS | 128,900              |
| % OF CHART:            |     | 72%                  |

|                        |     |                |
|------------------------|-----|----------------|
| CRANE INFO:            |     | GROVE GMK 5275 |
| BOOM LENGTH:           | FT  | 104.2'         |
| PANEL WEIGHT:          | LBS | 85928          |
| PICK WEIGHT + RIGGING: | LBS | 93059          |
| MAX. CRANE RADIUS:     | FT  | 40             |
| CRANE CAPACITY:        | LBS | 120,000        |
| % OF CHART:            |     | 78%            |

**PROCEDURE**

1. SET UP CRANE MATS ON I-91.
2. RIG TO APPROACH SLABS PER DETAILS ON SHEET 8
3. WALK CRANE (LS-248H) WITH APPROACH SLABS
4. SET APPROACH SLABS ON I-91
5. PICK APPROACH SLABS WITH GMK 5275
6. SET APPROACH SLABS IN POSITION

**GENERAL NOTES**

1. CRANE LOCATION & LOCATION OF WALKWAYS ARE APPROXIMATE, ACTUAL LOCATION WILL VARY.
2. LINK-BELT LS-248H II MUST BE IN ABC+A CTWT. CONFIGURATION
3. GMK 5275 MUST HAVE 169,700 LB. COUNTERWEIGHT

| Revision No. & Date |
|---------------------|
| 1 5/26/15           |
| 2 8/25/15           |

| Vermont Agency of Transportation |               |                          |  |
|----------------------------------|---------------|--------------------------|--|
| Road No.                         | County / City | Financial Project ID No. |  |
| I-91                             | Hartford      | IM 091-2(79)             |  |

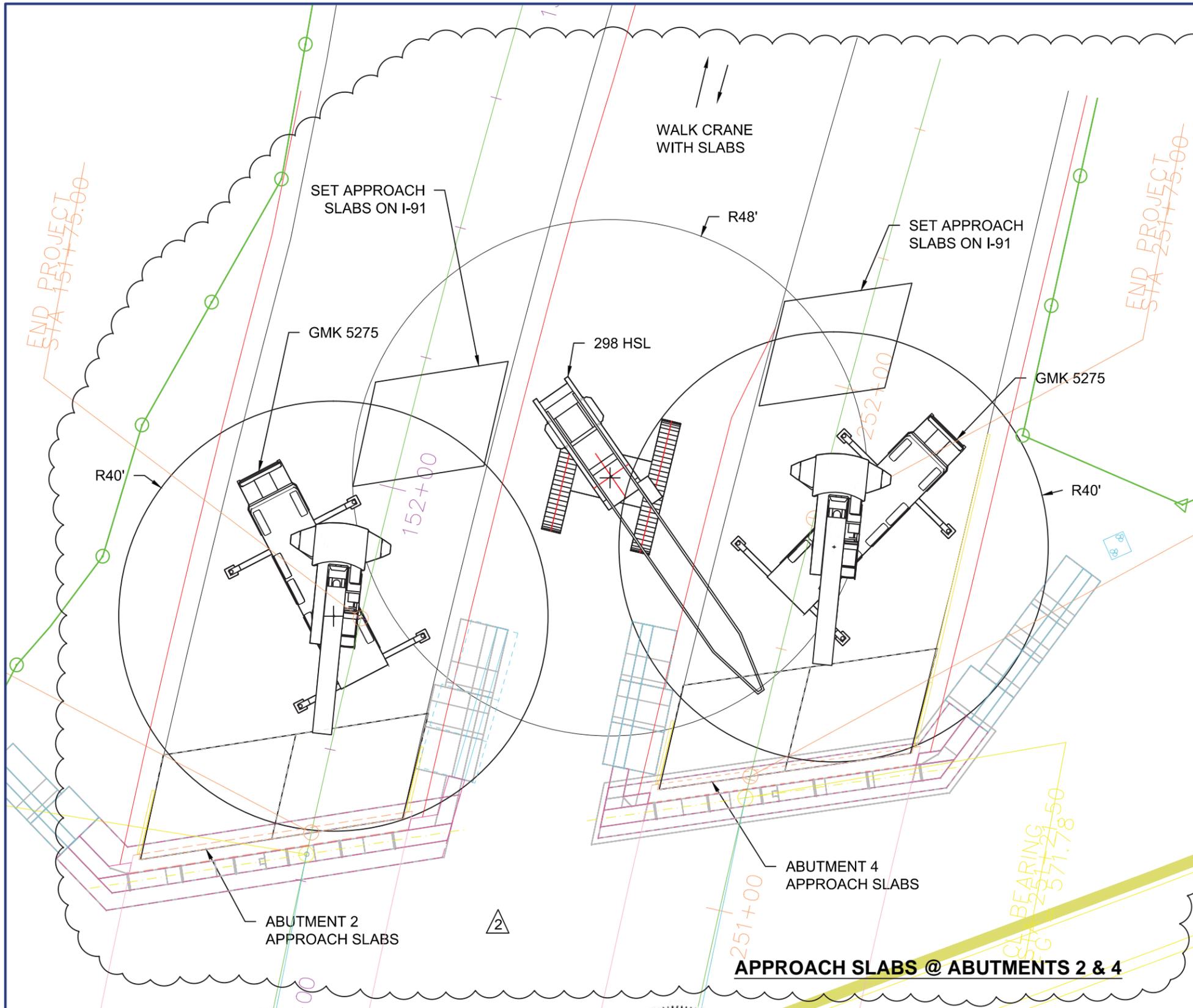


Drawing Status  
 Tim Davis, P.E.  
 Aug 27 2015 9:26 AM  
**FOR CONSTRUCTION**

| Name          | Date       |
|---------------|------------|
| Drawn By EWH  | 04/13/2015 |
| Design By EWH | 04/13/2015 |
| Check By TMD  | 05/05/2015 |

|   |  |
|---|--|
| <b>PCL Civil Constructors, Inc.</b>   |  |
| 3810 Northdale Blvd. Suite 200, Tampa Florida 33624<br>(813)-264-9500 ; Fax: (813)-264-6689 |  |
| Submittal<br>APPROACH SLABS   | PCL Project / Job No.<br>I-91 Hartford / 5514001 |
| Drawing Title<br>ERECTOR PLANS (ABUT 1 & 3)   | Sheet No.<br>2                                   |

W:\149150\I-91\ERECTOR\ERECTOR Plans\Approach Slab\Approach Slab Erection Plans Rev.dwg 8/26/2015 3:07 PM



|                        |     |                   |
|------------------------|-----|-------------------|
| CRANE INFO:            |     | LINK-BELT 298 HSL |
| BOOM LENGTH:           | FT  | 140'              |
| PANEL WEIGHT:          | LBS | 85928             |
| PICK WEIGHT + RIGGING: | LBS | 96305             |
| MAX. CRANE RADIUS:     | FT  | 48                |
| CRANE CAPACITY:        | LBS | 124,200           |
| % OF CHART:            |     | 78%               |

|                        |     |                |
|------------------------|-----|----------------|
| CRANE INFO:            |     | GROVE GMK 5275 |
| BOOM LENGTH:           | FT  | 104.2'         |
| PANEL WEIGHT:          | LBS | 85928          |
| PICK WEIGHT + RIGGING: | LBS | 93059          |
| MAX. CRANE RADIUS:     | FT  | 40             |
| CRANE CAPACITY:        | LBS | 120,000        |
| % OF CHART:            |     | 78%            |

**PROCEDURE**

1. SET UP CRANE MATS ON I-91.
2. RIG TO APPROACH SLABS PER DETAILS ON SHEET 8
3. WALK CRANE (298 HSL) WITH APPROACH SLABS
4. SET APPROACH SLABS ON I-91
5. PICK APPROACH SLABS WITH GMK 5275
6. SET APPROACH SLABS IN POSITION

**GENERAL NOTES**

1. CRANE LOCATION & LOCATION OF WALKWAYS ARE APPROXIMATE, ACTUAL LOCATION WILL VARY.
2. LINK-BELT 298 HSL MUST BE IN ABCDE+A CTWT. CONFIGURATION
3. GMK 5275 MUST HAVE 169,700 LB. COUNTERWEIGHT

**APPROACH SLABS @ ABUTMENTS 2 & 4**

|                     |                                  |               |                          |  |                     |      |            |   |                         |
|---------------------|----------------------------------|---------------|--------------------------|--|---------------------|------|------------|---|-------------------------|
| Revision No. & Date | Vermont Agency of Transportation |               |                          |  | Drawing Status      | Name | Date       | PCL Civil Constructors, Inc.  |                         |
| 1 5/26/15           |                                  |               |                          |  | Aug 27 2015 9:26 AM | EWH  | 04/13/2015 | 3810 Northdale Blvd. Suite 200, Tampa Florida 33624<br>(813)-264-9500 ; Fax: (813)-264-6689 |                         |
| 2 8/25/15           | Road No.                         | County / City | Financial Project ID No. |  | FOR CONSTRUCTION    | EWH  | 04/13/2015 | Submittal   | PCL Project / Job No.   |
|                     | I-91                             | Hartford      | IM 091-2(79)             |  |                     | TMD  | 05/05/2015 | APPROACH SLABS  | I-91 Hartford / 5514001 |
|                     |                                  |               |                          |  |                     |      |            | Drawing Title   | Sheet No.               |
|                     |                                  |               |                          |  |                     |      |            | ERECTION PLANS (ABUT 2 & 4)   | 3                       |

### CRANE LIFT STUDY ANALYSIS - SHORT FORM

Project: Hartford Lateral Slide

Name: Erich Heymann

Date/Time: 8/25/2015

**Crane Configuration**

Model/Serial # Grove GMK 5275 Boom Length/Type: 104.2

Maximum Capacity 275 TN Jib Length/Type: N/A

Anti-two block device: Yes X No \_\_\_\_\_ Barge/Crane List: 0

**Ground Conditions:** Nature of Soil (Soil Type) Asphalt/Crane Pads

Are the uses of crane mats, or compacted fill required? Yes \_\_\_\_\_ No X

**Calculations**

Load Description: Approach Slabs Load Weight: 85,928 LBS

**Rigging:**

80 Ton Main Block = 2094 LBS

12 Ton Ball = 661 LBS

Main Line = 756 LBS

Whip Line = 40 LBS

Other Rigging: Lifting Lugs = 300 LBS

50 Ton Spreader = 1400 LBS

(2) 25 Ton Spreaders = 1000 LBS

(2) 26 Ton Slings = 250 LBS

(4) 14 Ton Slings = 200 LBS

(4) 12 Ton Slings = 100 LBS

Shackles (35T, 17T, 12T) = 330 LBS

Total Rigging: = 7131 LBS

Load Weight + Rigging = 93,059 LBS CSX FACTOR X 1.5 \_\_\_\_\_ lbs

Maximum Crane Radius = 40, Associated Boom Angle = 69

Unfactored Load 77.5% of Chart Factored CSX load \_\_\_\_\_ of Chart

**Final Checks Prior to Start**

- Verify Gross Weight and Load Chart Capacities, (De-rated if Crane on Barge)
- Inspected Crane and Verified Components (Daily Logs and Annual Certification Checked)
- Inspected Rigging for Condition and Size
- Ground Stability. Outrigger pads/blocking sized correctly? Barge/Crane List, (Derated Chart?)
- Distance to Nearest Utility \_\_\_\_\_ (above and below ground)
- Weather and wind load considerations, checked and verified at time of lift.
- Pre-Lift Meeting and Rigging Crew, Operator, and Signal Person (Attach sign-in sheet)
- Rigging Drawings Attached
- Method of Communication, (radios, hand signals etc.) checked & verified
- Lift Abort Procedures, checked and verified. JHA/PSI conducted

**Responsible Personnel** (Print Name & Sign)

Level 1 or 2 Lift Specialist: \_\_\_\_\_

Superintendent: \_\_\_\_\_

Operator: \_\_\_\_\_

**Main Boom  
169,700 lb. Counterweight  
Outriggers Fully Extended  
360°**

| Radius | Boom Length |       |       |       |        |        |        |        |        |        |        |        | Radius |        |
|--------|-------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|        | 43.7'       | 59.1' | 74.3' | 89.3' | 104.2' | 119.1' | 133.4' | 148.8' | 164.0' | 179.0' | 193.9' | 208.7' |        | 223.1' |
| 8      | *550.0      |       |       |       |        |        |        |        |        |        |        |        |        | 8      |
| 10     | 346.0       | 332.0 | 312.0 | 244.0 |        |        |        |        |        |        |        |        |        | 10     |
| 15     | 272.0       | 270.0 | 260.0 | 242.0 | 185.0  |        |        |        |        |        |        |        |        | 15     |
| 20     | 220.0       | 222.0 | 215.0 | 212.0 | 182.0  | 144.0  | 106.0  |        |        |        |        |        |        | 20     |
| 25     | 184.0       | 185.0 | 181.0 | 181.0 | 166.0  | 140.0  | 106.0  | 86.0   |        |        |        |        |        | 25     |
| 30     | 152.0       | 157.0 | 157.0 | 155.0 | 151.0  | 129.0  | 105.0  | 86.0   | 69.0   | 55.0   | 45.0   |        |        | 30     |
| 35     |             | 136.0 | 136.0 | 135.0 | 136.0  | 118.0  | 96.0   | 86.0   | 69.0   | 55.0   | 45.0   | 36.4   |        | 35     |
| 40     |             | 121.0 | 119.0 | 118.0 | 120.0  | 108.0  | 88.0   | 82.0   | 69.0   | 55.0   | 45.0   | 36.4   | 30.8   | 40     |
| 45     |             | 99.0  | 106.0 | 104.0 | 106.0  | 99.0   | 81.0   | 75.0   | 68.0   | 55.0   | 45.0   | 36.4   | 30.8   | 45     |
| 50     |             |       | 95.0  | 93.0  | 95.0   | 92.0   | 76.0   | 70.0   | 63.0   | 55.0   | 45.0   | 36.4   | 30.8   | 50     |
| 55     |             |       | 83.0  | 84.0  | 85.0   | 85.0   | 72.0   | 64.0   | 59.0   | 52.0   | 45.0   | 36.4   | 30.8   | 55     |
| 60     |             |       |       | 76.0  | 77.0   | 79.0   | 67.0   | 59.0   | 54.0   | 49.0   | 44.0   | 36.4   | 30.8   | 60     |
| 65     |             |       |       | 70.0  | 70.0   | 72.0   | 63.0   | 54.0   | 50.0   | 46.0   | 41.2   | 36.4   | 30.8   | 65     |
| 70     |             |       |       | 63.0  | 64.0   | 66.0   | 60.0   | 50.0   | 47.0   | 43.4   | 39.0   | 36.0   | 30.8   | 70     |
| 75     |             |       |       | 50.0  | 58.0   | 61.0   | 57.0   | 46.0   | 43.0   | 40.4   | 36.8   | 34.4   | 30.8   | 75     |
| 80     |             |       |       |       | 53.0   | 55.0   | 54.0   | 42.8   | 39.6   | 37.6   | 34.8   | 32.6   | 30.4   | 80     |
| 85     |             |       |       |       | 49.0   | 51.0   | 51.0   | 40.2   | 37.2   | 35.2   | 33.0   | 31.0   | 29.2   | 85     |
| 90     |             |       |       |       | 39.2   | 46.0   | 48.0   | 37.6   | 34.6   | 32.8   | 31.2   | 29.4   | 28.0   | 90     |
| 95     |             |       |       |       |        | 42.4   | 44.0   | 35.2   | 32.4   | 30.8   | 29.4   | 28.0   | 26.8   | 95     |
| 100    |             |       |       |       |        | 38.2   | 40.8   | 33.2   | 30.4   | 28.8   | 27.8   | 26.4   | 25.6   | 100    |
| 105    |             |       |       |       |        |        | 37.6   | 31.4   | 28.8   | 27.2   | 26.4   | 24.8   | 24.4   | 105    |
| 110    |             |       |       |       |        |        | 34.8   | 29.6   | 27.0   | 25.6   | 24.8   | 23.0   | 23.2   | 110    |
| 115    |             |       |       |       |        |        | 30.4   | 28.0   | 25.2   | 23.8   | 23.0   | 21.4   | 22.0   | 115    |
| 120    |             |       |       |       |        |        |        | 26.6   | 23.2   | 21.8   | 21.2   | 20.4   | 20.8   | 120    |
| 125    |             |       |       |       |        |        |        | 25.2   | 21.4   | 20.0   | 19.4   | 19.4   | 19.4   | 125    |
| 130    |             |       |       |       |        |        |        | 24.4   | 20.2   | 19.0   | 18.4   | 18.4   | 18.0   | 130    |
| 135    |             |       |       |       |        |        |        |        | 19.2   | 18.0   | 17.4   | 17.4   | 17.2   | 135    |
| 140    |             |       |       |       |        |        |        |        | 18.2   | 17.0   | 16.4   | 16.6   | 16.4   | 140    |
| 145    |             |       |       |       |        |        |        |        | 17.2   | 16.0   | 15.6   | 15.8   | 15.6   | 145    |
| 150    |             |       |       |       |        |        |        |        | 12.8   | 15.4   | 14.8   | 15.0   | 15.0   | 150    |
| 155    |             |       |       |       |        |        |        |        |        | 14.8   | 14.0   | 14.2   | 14.2   | 155    |
| 160    |             |       |       |       |        |        |        |        |        | 14.4   | 13.2   | 13.4   | 13.6   | 160    |
| 165    |             |       |       |       |        |        |        |        |        |        | 12.6   | 12.8   | 13.0   | 165    |
| 170    |             |       |       |       |        |        |        |        |        |        | 11.8   | 12.2   | 12.4   | 170    |
| 175    |             |       |       |       |        |        |        |        |        |        | 11.4   | 11.6   | 11.8   | 175    |
| 180    |             |       |       |       |        |        |        |        |        |        |        | 11.0   | 11.2   | 180    |
| 185    |             |       |       |       |        |        |        |        |        |        |        | 10.6   | 10.6   | 185    |
| 190    |             |       |       |       |        |        |        |        |        |        |        | 9.6    | 10.2   | 190    |
| 195    |             |       |       |       |        |        |        |        |        |        |        |        | 9.6    | 195    |
| 200    |             |       |       |       |        |        |        |        |        |        |        |        | 9.2    | 200    |

\* Over the rear with special equipment  
 Loads greater than 297,000 lb. can only be lifted with additional equipment  
 Loads greater than 335,000 lb. can only be lifted with special equipment