



## **CMAA & AISC RUNWAY GIRDER AND ASCE RAIL TOLERANCE**

### **\\\\\\\\\\\\\\\\ Important Notice to Building Contractors \\\\\\\\\\\\\\\生**

If CraneWerks is employed to provide a bridge crane to run on existing runway girders supplied and installed by you; it is important that you install your girders straight, level, and with the proper span.

It is impossible for us to successfully install the bridge crane onto runway girders that are not:

1. Level within + or – 3/8 of an inch over the entire length of the runway
2. Positioned so that the elevation change is not more than 1/4 inch in every 20 ft.
3. Straight and within span of + or – 3/8 inch

Supporting data from CMAA and AISC listed below:

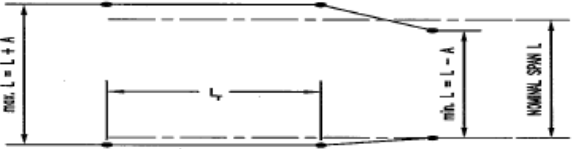
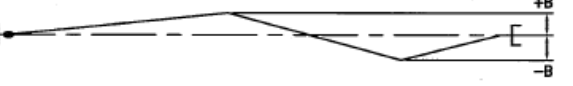

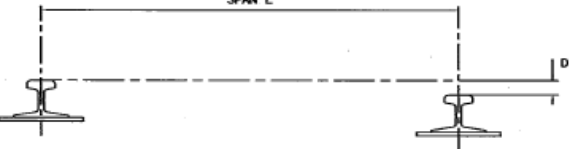
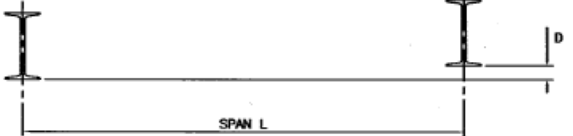
The Crane Manufacturer's Association of America's (CMAA's) Specification NO.74-2010 (page 9), per specification #74, have eight different metrics for evaluating crane runways.

These metrics are as follows:

- 1) Elevation of girders:  $\pm 3/8$ " above or below an assumed reference elevation
- 2) The maximum rate of elevation change: 1/4" in 20'-0"
- 3) Girder to Girder elevation:  $\pm 1/4$ " within the nominal average span length
- 4) The maximum rate of change of girder to girder elevation: 1/4" in 20'-0"
- 5) Straightness of girder:  $\pm 3/8$ " on either side of an assumed girder centerline
- 6) The maximum rate of change of girder straightness: 1/4" in 20'-0"
- 7) Variation in crane span:  $\pm 1/4$ " difference relative to the nominal crane span
- 8) The maximum rate of change of variation in crane span: 1/4" in 20'-0"

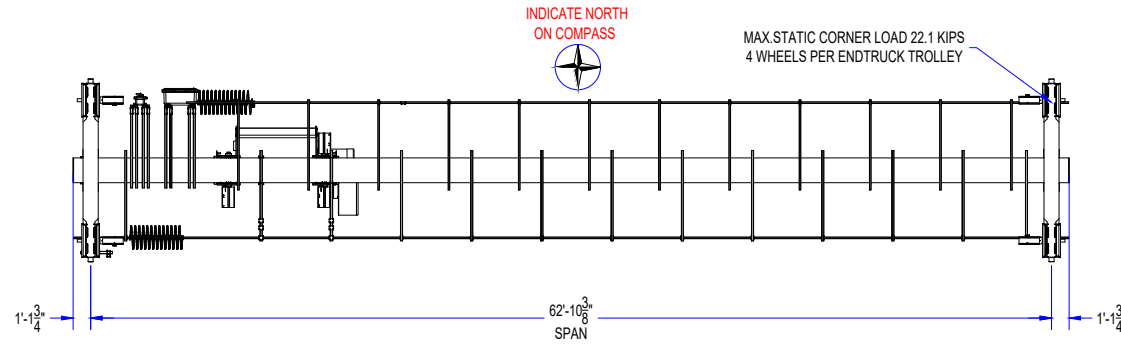
Customer also acknowledges that a minimum of: 2" side clearance and 3" overhead clearance is required as per OSHA specifications.

TABLE 1.4.1-1

ITEM	FIGURE	OVERALL TOLERANCE	MAXIMUM RATE OF CHANGE
CRANE SPAN (L) MEASURED AT CRANE WHEEL CONTACT SURFACE		$L \leq 50'$ $A = \frac{3}{16}"$ $L > 50' \leq 100'$ $A = \frac{1}{4}"$ $L > 100'$ $A = \frac{3}{8}"$	$\frac{1}{4}"$ IN 20'-0"
STRAIGHTNESS (B)		$B = \frac{3}{8}"$	$\frac{1}{4}"$ IN 20'-0"
ELEVATION (C)		$C = \frac{3}{8}"$	$\frac{1}{4}"$ IN 20'-0"
TOP RUNNING TRANSVERSE RAIL TO RAIL ELEVATION (D)		$L \leq 50'$ $D = \pm \frac{3}{16}"$ $L > 50' \leq 100'$ $D = \pm \frac{1}{4}"$ $L > 100'$ $D = \pm \frac{3}{8}"$	N/A
TRANSVERSE GIRDER TO GIRDER ELEVATION UNDER RUNNING (D)			

Revision 2 approved by \_\_\_\_\_



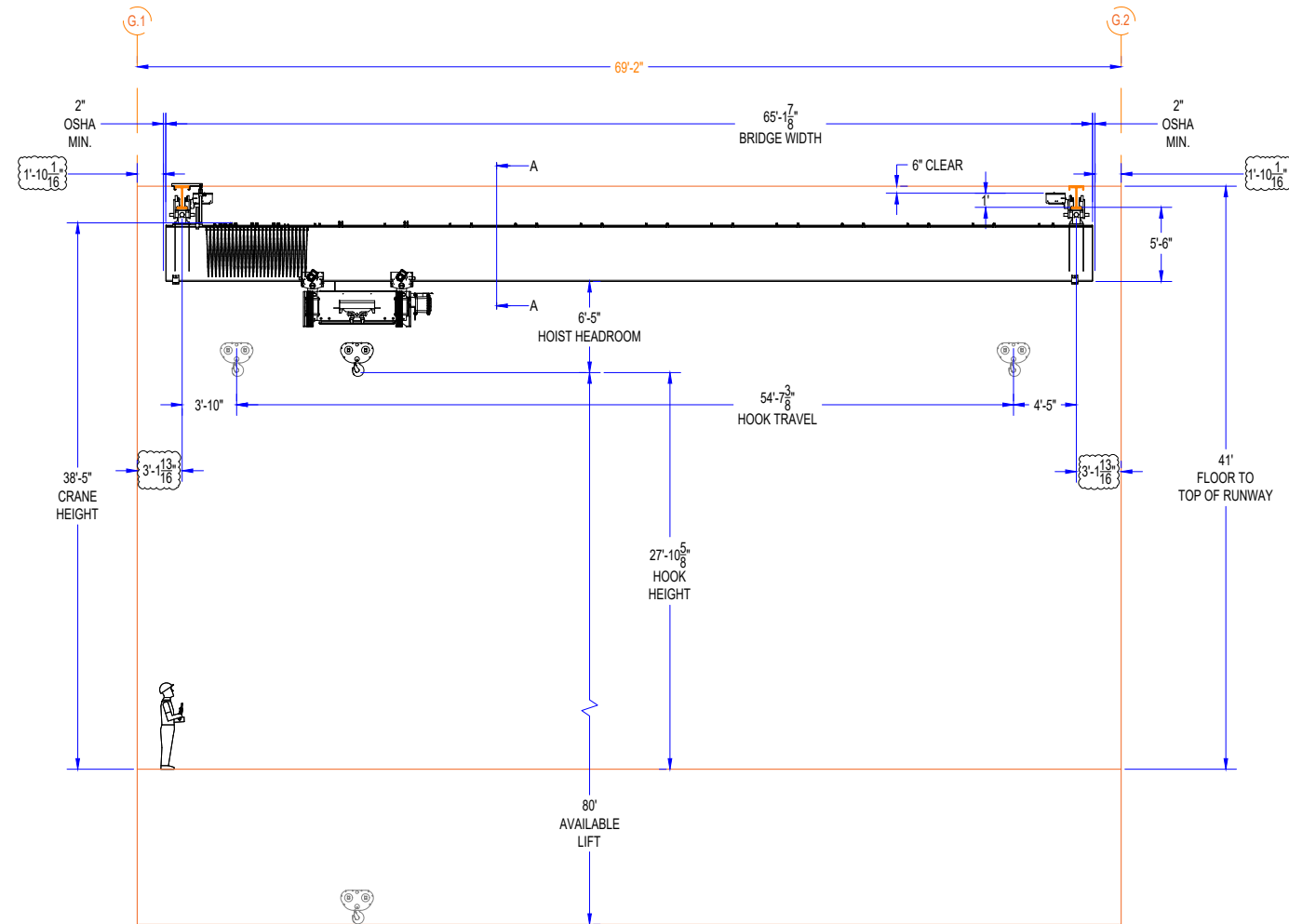


EXISTING BUILDING NOT SHOWN IN PLAN/SIDE VIEW FOR CLARITY

NOTE: THIS CONFIGURATION INCLUDES STANDARD OUTDOOR FEATURES, BUT DOES NOT TAKE INTO CONSIDERATION THE FOLLOWING:

1. WIND FORCE
2. LOAD SIZE
3. WHEEL SLIPPAGE

DISCLAIMER: SPARROWS REPRESENTATIVE IS REQUIRED TO BE ONSITE AT CRANEWERKS FOR FINAL VALIDATION RUN OFF PRIOR TO PAINT. CRANEWERKS IS NOT RESPONSIBLE FOR PAINT MARKING, CHARPY, UT AND THROUGH THICKNESS RESULTS.



BRIDGE SPECIFICATIONS

QUANTITY:

CMAA:

TYPE:

MARKING:

CERTIFICATION NUMBER:

CAPACITY:

SPAN:

MANUFACTURER:

WHEELBASE:

ENTRUCK WHEELS:

BRIDGE SPEED:

ELECTRIFICATION:

OPERATOR CONTROL TYPE:

VOLTAGE:

COLOR:

WARNING DEVICE:

CRANE RATING:

BRIDGE BEAM:

BRIDGE WEIGHT WITH HOISTS:

CRANE AMP DRAW:

HOIST/ TROLLEY

QUANTITY:

HOIST TYPE:

MANUFACTURER:

HOIST/TROLLEY WEIGHT:

CAPACITY:

HOOK HEIGHT:

LIFT:

HOOK:

HOIST SPEED:

TROLLEY SPEED:

VOLTAGE:

TRUE VERTICAL LIFT:

1

C

UNDER RUNNING SINGLE GIRDER

MARKING: CLASS 1, DIVISION 2, GROUPS B, C AND D, T3 (CLASS 1, ZONE 2, IIB + H2, T3) SUITABLE FOR HAZARDOUS AREAS: CLASS 1 DIVISION 2 (CLASS 1, ZONE 2)

CSA17CA70178035

15 TON

62'-10 3/8"

R&M

9'-2 1/4"

BRONZE

100 FPM 2 STEP VFD

FLAT WIRE FESTOON

HAZARDOUS LOCATION RADIO w/ FREE TRAVELING BACKUP PENDANT

460/3/60

EXTERIOR COATING SYSTEM NAC PARAMETERS

CARBOLINE 6666 - SAFETY YELLOW

LIGHT AND HORN COMBINATION

OUTDOOR / EXPLOSION PROOF

BOX GIRDER

26,000 LBS (ESTIMATED BEFORE ENGINEERING)

47 AMPS

1

WIRE ROPE

R&M

6,000 LBS PER HOIST

15 TON

27'-10 5/8"

83'

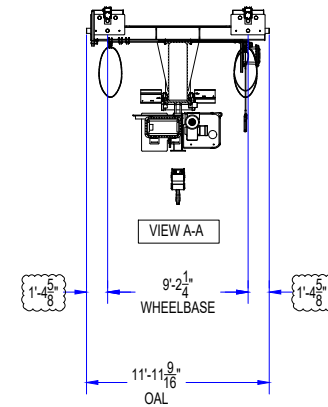
BRONZE

20/3.1 FPM

80/20 FPM

460/3/60

YES



EXISTING RUNWAY

LENGTH:

RUNWAY SIZE:

ELECTRIFICATION:

RUNWAY ENDSTOPS:

126'-2"

W18x71 w/ C12x20.7

SPARK RESISTANT FESTOON w/ STAINLESS STEEL TRACK AND CLAMPS

EXISTING

Turbo Crane

Revision 2 approved by: \_\_\_\_\_

Date: \_\_\_\_\_

Make necessary changes-sign and date.

Note:

CraneWerks is not responsible for supplying the runway, it is the responsibility of Altrad Sparrows to determine that the runway is adequately sized to support the loads that will be exerted onto it by the above illustrated crane as well as any other cranes that may exist on the same runway.

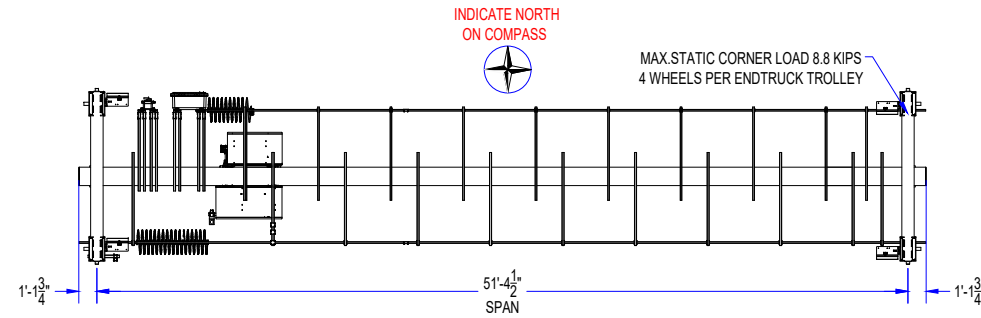
Revisions:

R1-5/23/24  
Per customer mark ups.

R2-6/12/24  
Per customer mark ups.



DRAWING		
15 TON UNDER RUNNING SINGLE GIRDER BRIDGE CRANE		
JOB SHELL STATIONARY PLATFORM		
DRAWING SCALE	DRAWN BY	DWG #
NTS	DARREN ATKINSON	6-270256R2
DATE	REVISED DATE	SHEET 1/3
3/26/24	6/12/24	



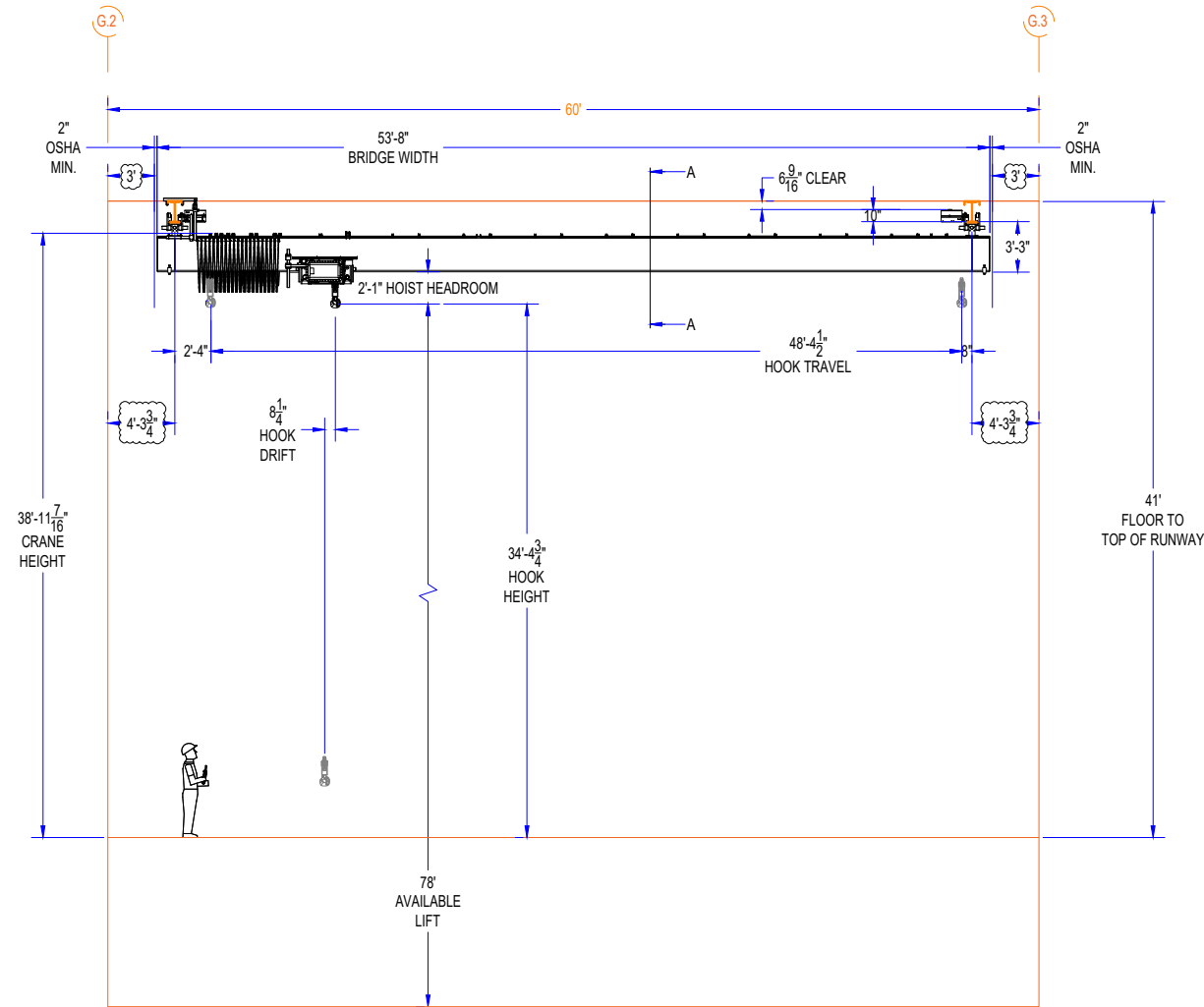
INDICATE NORTH ON COMPASS

MAX. STATIC CORNER LOAD 8.8 KIPS  
4 WHEELS PER ENDRUCK TROLLEY

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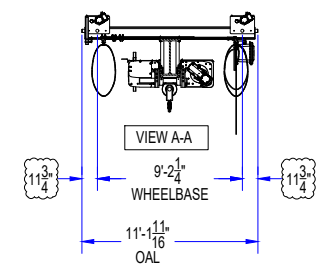


BRIDGE SPECIFICATIONS

QUANTITY: 1  
CMAA: C  
TYPE: UNDER RUNNING SINGLE GIRDER  
MARKING: CLASS I, DIVISION 2, GROUPS B, C AND D, T3 (CLASS I, ZONE 2, IIB + H2, T3)  
SUITABLE FOR HAZARDOUS AREAS: CLASS I DIVISION 2 (CLASS I, ZONE 2)  
CSA17CA70178035  
CAPACITY: 5 TON  
SPAN: 51'-4 1/2"  
R&M  
WHEELBASE: 9'-2 1/4"  
ENTRUCK WHEELS: BRONZE  
BRIDGE SPEED: 100 FPM 2 STEP VFD  
ELECTRIFICATION: FLAT WIRE FESTOON  
OPERATOR CONTROL TYPE: HAZARDOUS LOCATION RADIO w/ FREE TRAVELING BACKUP PENDANT  
460/3/60  
VOLTAGE: EXTERIOR COATING SYSTEM NAC PARAMETER  
COLOR: CARBOLINE 6666 - SAFETY YELLOW  
WARNING DEVICE: LIGHT AND HORN COMBINATION  
CRANE RATING: OUTDOOR / EXPLOSION PROOF  
BRIDGE BEAM: W27x161  
BRIDGE WEIGHT WITH HOISTS: 14,500 LBS  
CRANE AMP DRAW: 26 AMPS

HOIST/ TROLLEY

QUANTITY: 1  
HOIST TYPE: WIRE ROPE  
MANUFACTURER: R&M  
HOIST/TROLLEY WEIGHT: 1,700 LBS PER HOIST  
CAPACITY: 5 TON  
HOOK HEIGHT: 34'-4 3/4"  
LIFT: 78'  
HOOK: BRONZE  
HOIST SPEED: 30/5 FPM  
TROLLEY SPEED: 80/20 FPM  
VOLTAGE: 460/3/60  
TRUE VERTICAL LIFT: NO



EXISTING RUNWAY

LENGTH: 126'-2"  
RUNWAY SIZE: W16x57 w/ C12x20.7  
ELECTRIFICATION: SPARK RESISTANT FESTOON w/ STAINLESS STEEL TRACK AND CLAMPS  
RUNWAY ENDSTOPS: EXISTING

Turbo Crane

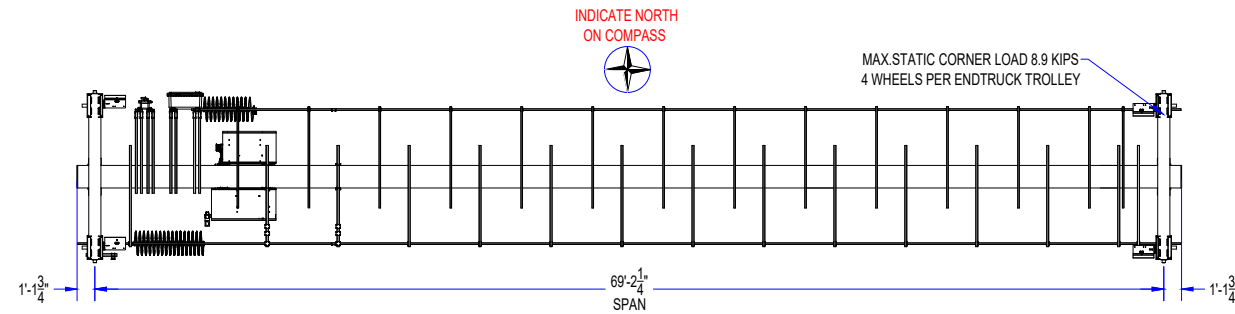
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Revisions:  
R1-5/23/24  
Per customer mark ups.  
R2-6/12/24  
Per customer mark ups.



DRAWING		
5 TON 51'-4 1/2" SPAN UNDER RUNNING SINGLE GIRDER BRIDGE CRANE		
JOB SHELL STATIONARY PLATFORM		
DRAWING SCALE	DRAWN BY	DWG #
NTS	DARREN ATKINSON	6-270256R2
DATE	REVISED DATE	
3/26/24	6/12/24	SHEET 2/3

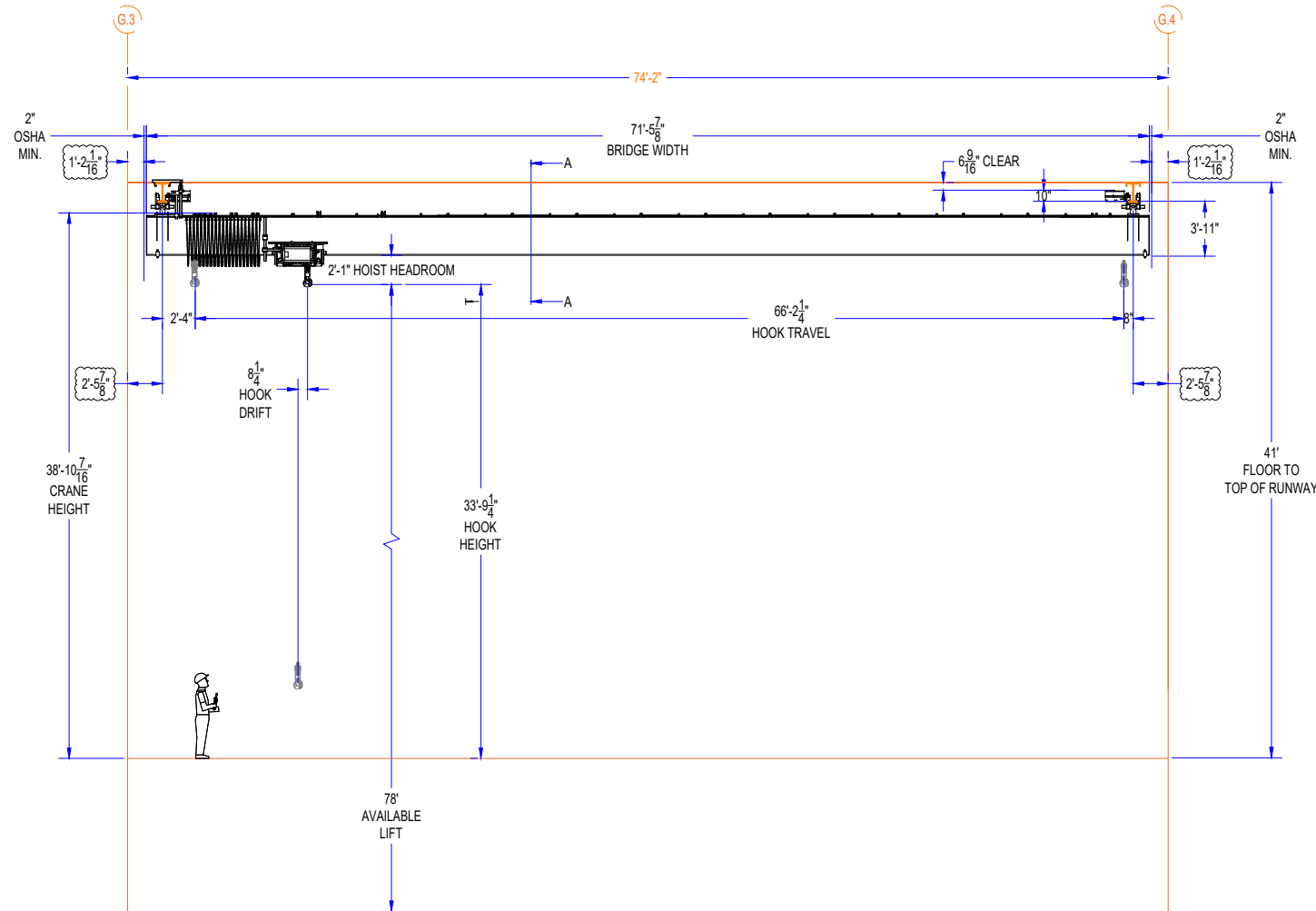


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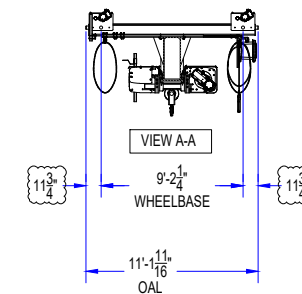


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 SUITABLE FOR HAZARDOUS AREAS: CLASS I DIVISION 2 (CLASS I, ZONE 2)  
 CSA17CA70178035  
 CAPACITY: 5 TON  
 SPAN: 69'-2 1/4"  
 MANUFACTURER: R&M  
 WHEELBASE: 9'-2 1/4"  
 ENTRUCK WHEELS: BRONZE  
 BRIDGE SPEED: 100 FPM 2 STEP VFD  
 ELECTRIFICATION: FLAT WIRE FESTOON  
 OPERATOR CONTROL TYPE: HAZARDOUS LOCATION RADIO w/ FREE TRAVELING BACKLUP PENDANT  
 460/3/60  
 VOLTAGE: EXTERIOR COATING SYSTEM NAC PARAMETER  
 COLOR: (CARBOLINE 6666 - SAFETY YELLOW)  
 WARNING DEVICE: LIGHT AND HORN COMBINATION  
 CRANE RATING: OUTDOOR / EXPLOSION PROOF  
 BRIDGE BEAM: BOX GIRDER  
 BRIDGE WEIGHT WITH HOISTS: 15,500 LBS (ESTIMATED BEFORE ENGINEERING)  
 CRANE AMP DRAW: 26 AMPS

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 R2-6/12/24  
 Per customer mark ups.



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5 TON 69'-2 1/4" SPAN UNDER RUNNING SINGLE GIRDER BRIDGE CRANE		
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DRAWING SCALE	DRAWN BY	DWG #
NTS	DARREN ATKINSON	6-270256R2
DATE	REVISED DATE	
3/26/24	6/12/24	SHEET 3/3