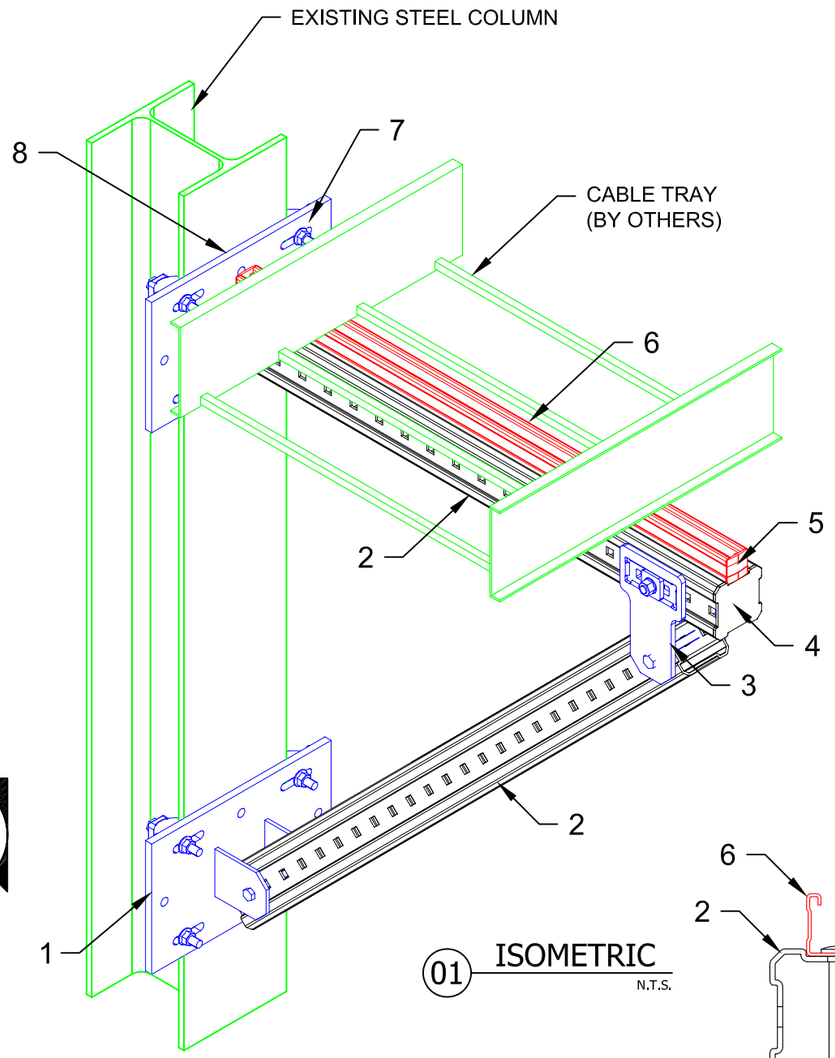
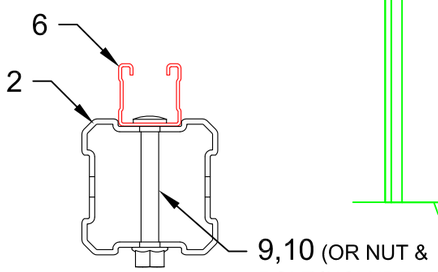
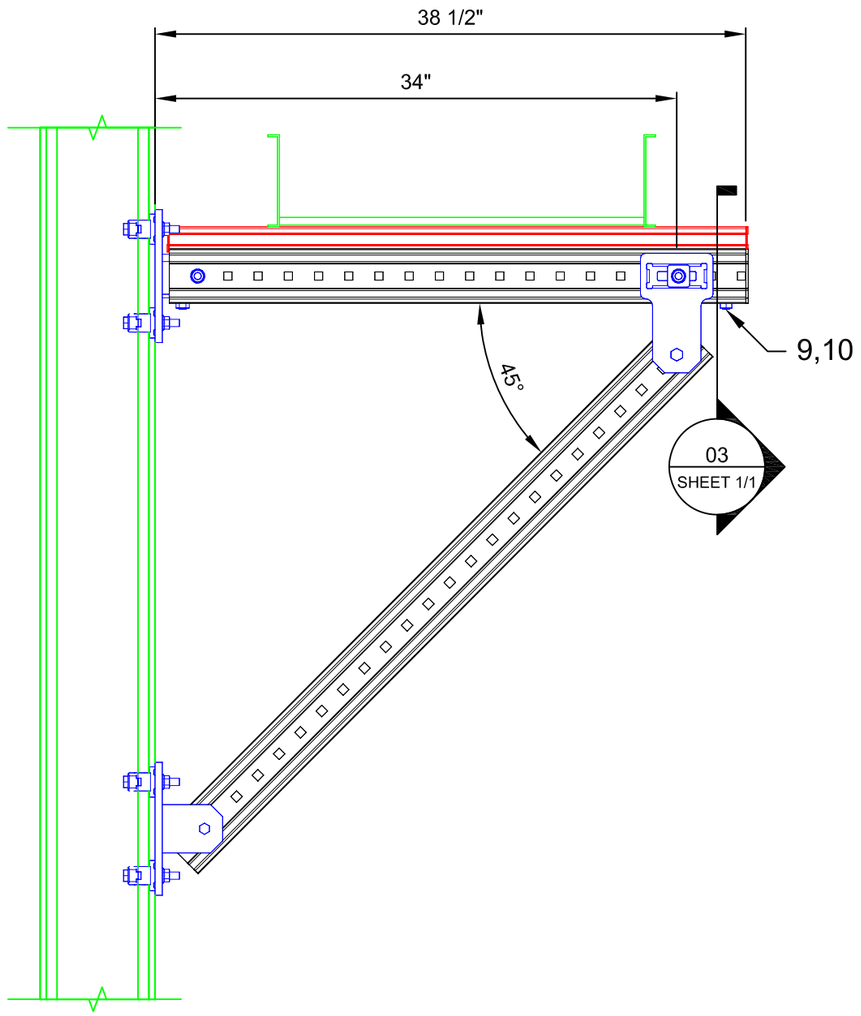


01 ISOMETRIC
N.T.S.



03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

MIC-SX-MA

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304815
B	6.5 to 9.2	304816
C	9.2 to 11.8	304817

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	1	EA	CONNECTOR MIC-SX-MA STEEL (SEE TABLE)	VARIES	VARIES	VARIES
2	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
3	1	PR	CONNECTOR MIC-U-MA	2	1	304806
4	1	EA	GIRDER END CAP MIA-EC90	25	1	432077
5	4	EA	CHANNEL END CAP MEK RED	50	1	244886
6	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
7	8	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
8	1	EA	CONNECTOR MIC-S90-X STEEL (SEE TABLE)	VARIES	VARIES	VARIES
9	1	EA	ONEHAND SCREW MIA-OH90	10	1	304889
10	1	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. SUPPORT DEAD LOAD 675kg (1500lb) (ONLY DEAD LOAD CONSIDERED)
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED CANTILEVER SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	05 JAN 15

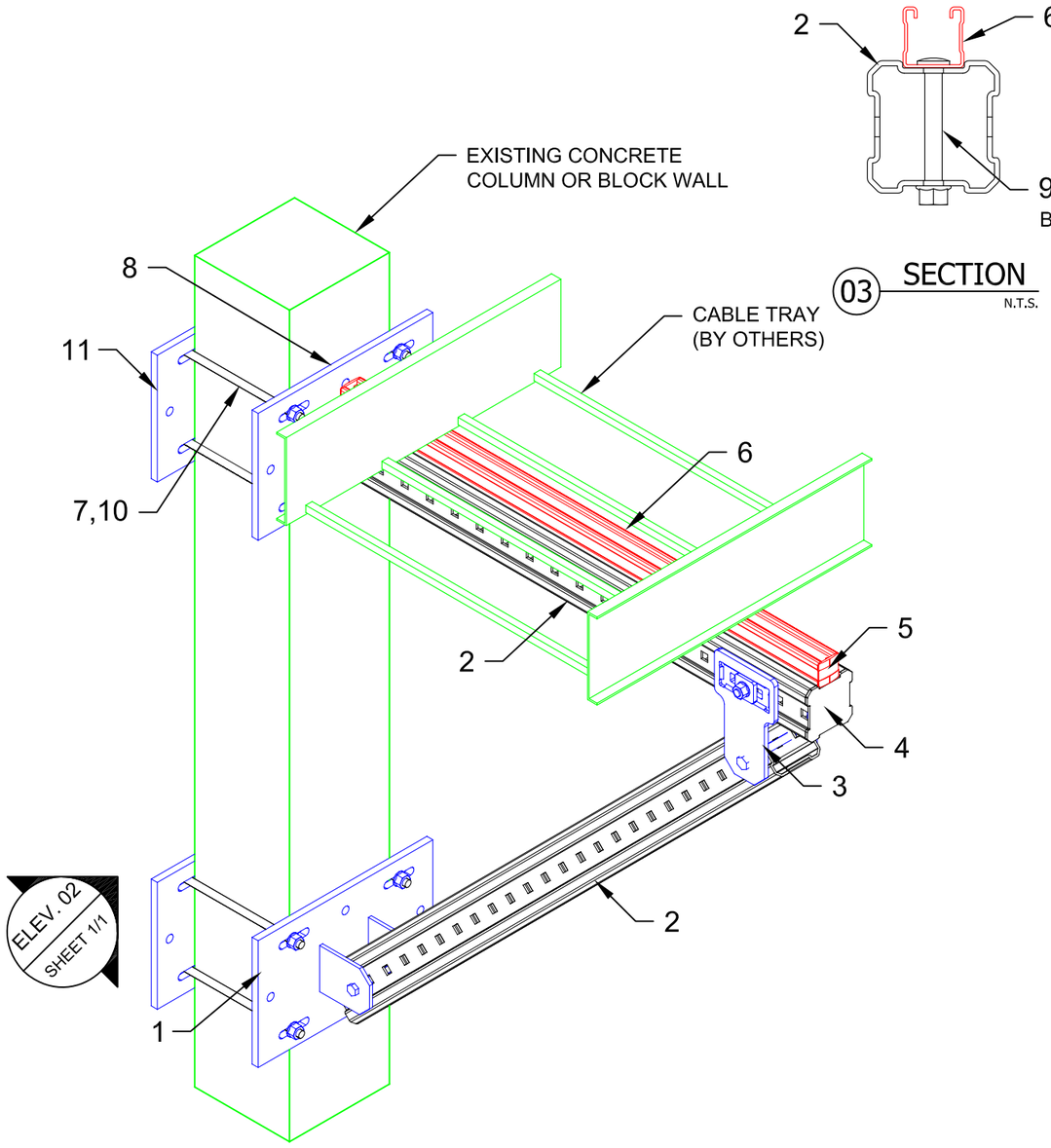
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	05 JAN 15

TYPICAL DETAIL NOMENCLATURE:

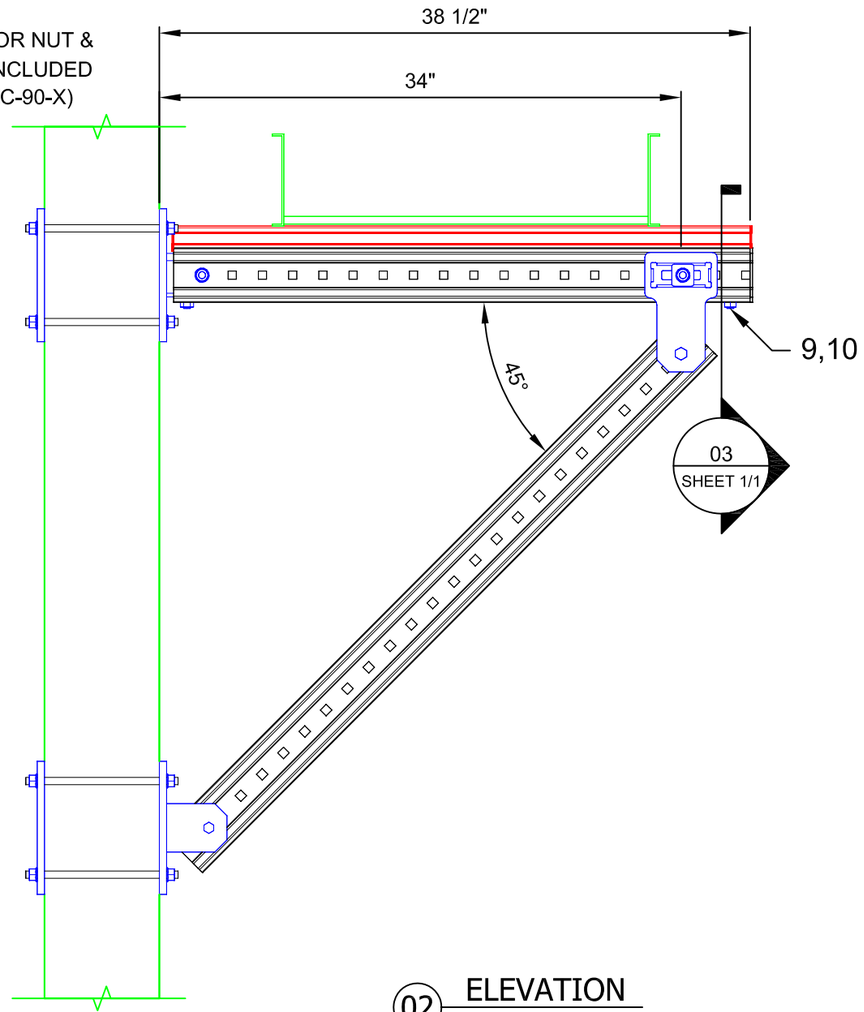
CT-BC01-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.

03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

MIC-SX-MA

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304815
B	6.5 to 9.2	304816
C	9.2 to 11.8	304817

MIB-SX

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304821
B	6.5 to 9.2	304822
C	9.2 to 11.8	304823

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	1	EA	CONNECTOR MIC-SX-MA STEEL (SEE TABLE)	VARIES	VARIES	VARIES
2	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
3	1	PR	CONNECTOR MIC-U-MA	2	1	304806
4	1	EA	GIRDER END CAP MIA-EC90	25	1	432077
5	4	EA	CHANNEL END CAP MEK RED	50	1	244886
6	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
7	AS REQ'D	EA	THREADED STUD Grade 8.8 M12X1000-F (3.28 ft)	15	AS REQ'D	304774
8	1	EA	CONNECTOR MIC-S90-X STEEL (SEE TABLE)	VARIES	VARIES	VARIES
9	1	EA	ONEHAND SCREW MIA-OH90	10	1	304889
10	17	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
11	2	EA	BASEPLATE MIB-SX STEEL (SEE TABLE)	VARIES	VARIES	VARIES

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. SUPPORT DEAD LOAD = 675kg (1500lb) (ONLY DEAD LOADS CONSIDERED)
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED CANTILEVER
SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	05 JAN 15

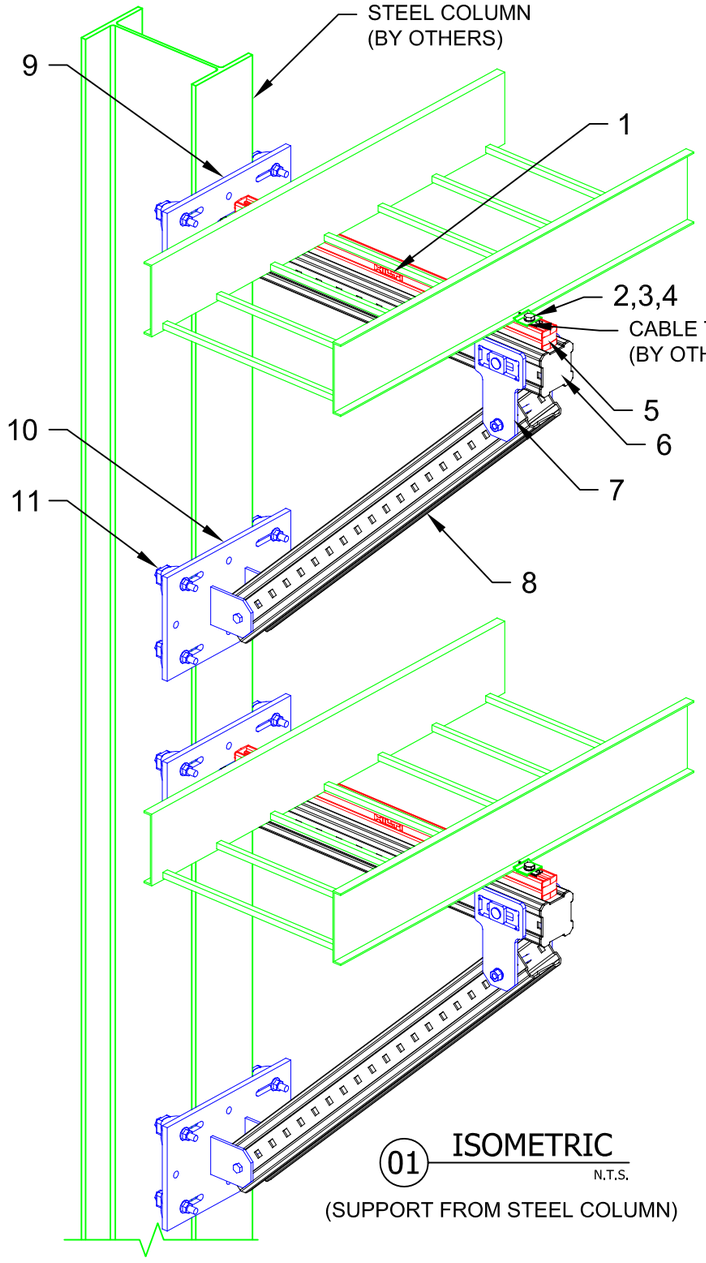
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	05 JAN 15

TYPICAL DETAIL NOMENCLATURE:

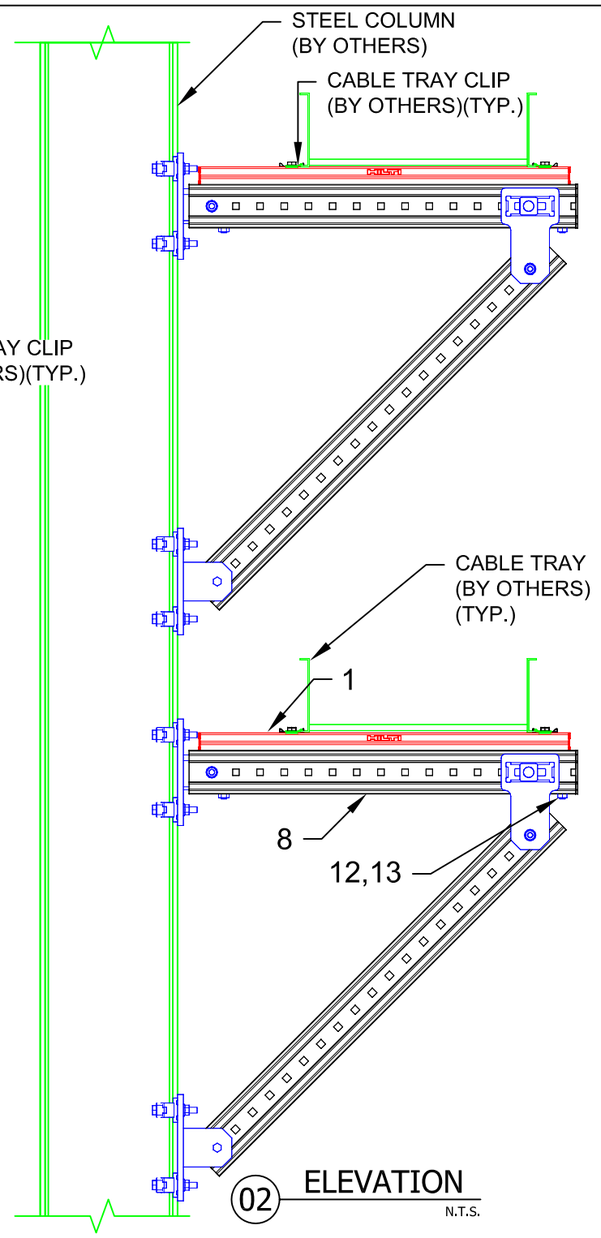
CT-BC02-S

DRAWING NUMBER:	SHEET:
01	1/1



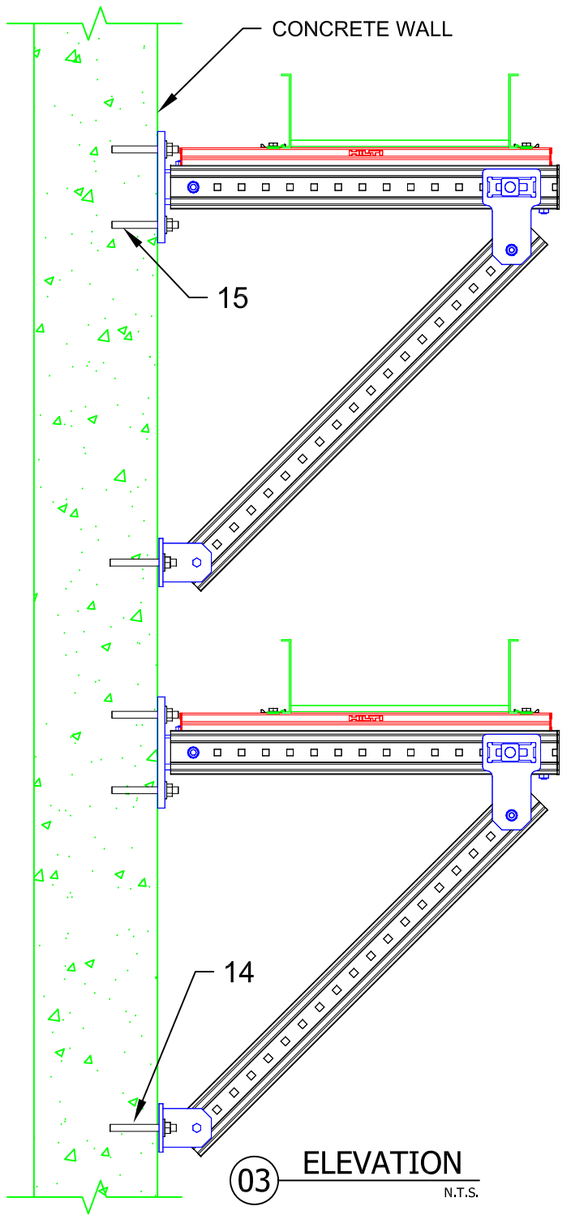
01 ISOMETRIC N.T.S.

(SUPPORT FROM STEEL COLUMN)



02 ELEVATION N.T.S.

(SUPPORT FROM STEEL COLUMN)



03 ELEVATION N.T.S.

(SUPPORT FROM CONCRETE WALL)

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
2	AS REQ'D	EA	WING NUT MQM-F1/2"	50	AS REQ'D	377883
3	AS REQ'D	EA	HEX HEAD BOLT 1/2" x 1-1/4"	50	AS REQ'D	411767
4	AS REQ'D	EA	WASHER 1/2"	100	AS REQ'D	411758
5	AS REQ'D	EA	CHANNEL END CAP MEK RED	50	AS REQ'D	244886
6	AS REQ'D	EA	GIRDER END CAP MIA-EC90	25	AS REQ'D	432077
7	AS REQ'D	PR	CONNECTOR MIC-U-MA	2	AS REQ'D	304806
8	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
9	AS REQ'D	EA	CONNECTOR MIC-S90-X STEEL (SEE TABLE)	VARIES	AS REQ'D	VARIES
10	AS REQ'D	EA	CONNECTOR MIC-SX-MA STEEL (SEE TABLE)	VARIES	AS REQ'D	VARIES
11	AS REQ'D	EA	BEAM CLAMP MI-SGC-M12	16	AS REQ'D	233859
12	AS REQ'D	EA	ONEHAND SCREW MIA-OH90	10	AS REQ'D	304889
13	AS REQ'D	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	AS REQ'D	382897
14	AS REQ'D	EA	USE 1/2" Ø KB3 OR KB-TZ AS APPROPRIATE (TYP.)	VARIES	AS REQ'D	VARIES
15	AS REQ'D	EA	USE 5/8" Ø KB3 OR KB-TZ AS APPROPRIATE (TYP.)	VARIES	AS REQ'D	VARIES

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

MIC-SX-MA

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304815
B	6.5 to 9.2	304816
C	9.2 to 11.8	304817

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. NO LOADS CONSIDERED - CONCEPT ONLY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED CANTILEVER STACKED

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	05 JAN 15

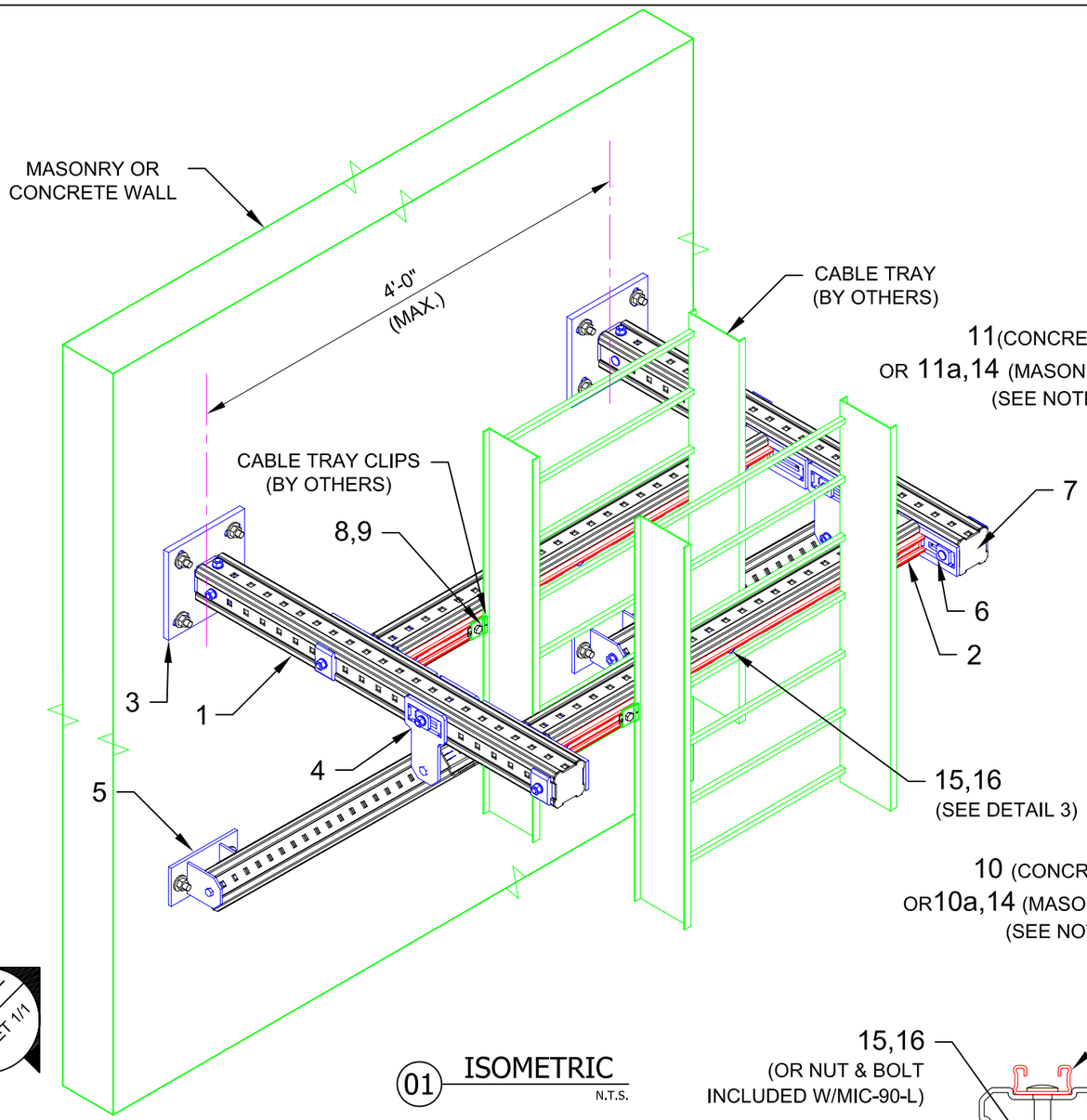
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	05 JAN 15

TYPICAL DETAIL NOMENCLATURE:

CT-BC03-C/S

DRAWING NUMBER:	SHEET:
01	1/1



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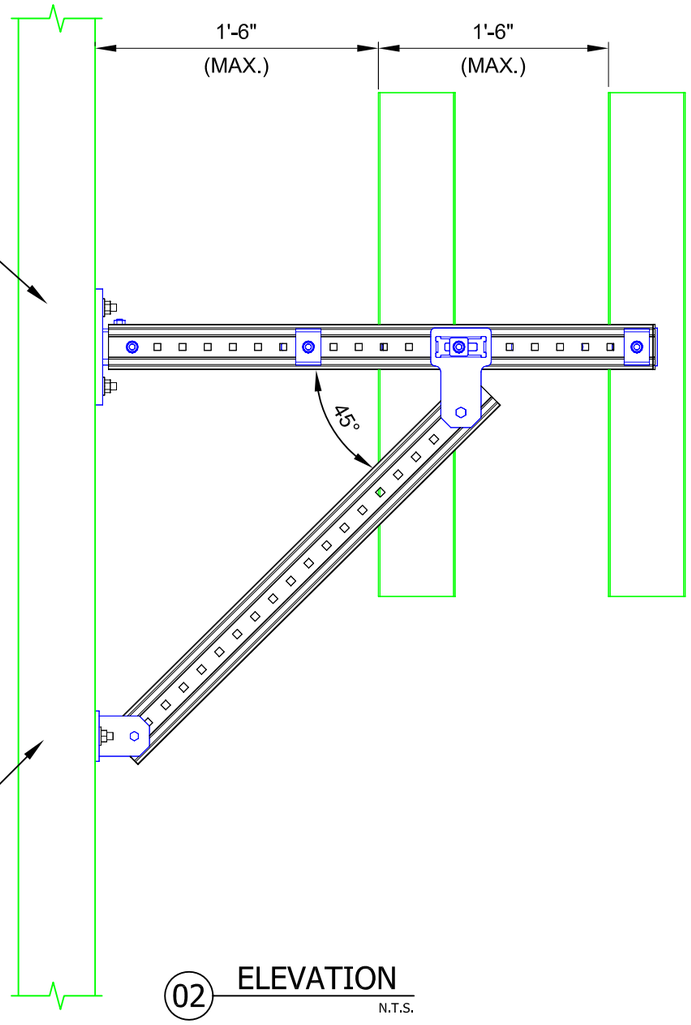
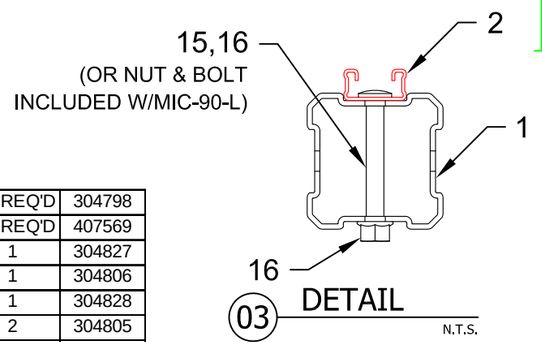


02 ELEVATION
N.T.S.



03 DETAIL
N.T.S.

1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
3	2	EA	CONNECTOR MIC-C90-D CONCRETE	2	1	304827
4	2	EA	CONNECTOR MIC-U-MA	2	1	304806
5	2	EA	CONNECTOR MIC-CU-MA CONCRETE	4	1	304828
6	4	EA	CONNECTOR MIC-90-L	2	2	304805
7	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
8	4	EA	WING NUT MQM-F3/8"-F	25	1	304136
9	4	EA	3/8" HEX BOLT x LENGTH AS REQUIRED (HDG)	VARIES	AS REQ'D	SPECIAL
10	4	EA	KB3 HDG 1/2" X AS APPROPRIATE	VARIES	AS REQ'D	VARIES
10a	4	EA	HAS-R 316 1/2" X AS APPROPRIATE	VARIES	AS REQ'D	VARIES
11	8	EA	KB3 HDG 5/8" X AS APPROPRIATE	VARIES	AS REQ'D	VARIES
11a	8	EA	HAS-R 316 5/8" X AS APPROPRIATE	VARIES	AS REQ'D	VARIES
12	AS REQ'D	EA	HIT-SC 12X85 COMPOSITE SLEEVE	20	AS REQ'D	375980
13	AS REQ'D	EA	HIT-SC 16X85 COMPOSITE SLEEVE	20	AS REQ'D	375982
14	AS REQ'D	EA	HIT-HY 70 AS REQUIRED	VARIES	AS REQ'D	VARIES
15	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
16	2	EA	PREVAIL TORQUE HEX NUT M12-F-SL-WS 3/4"	100	1	382897

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 1000 lbs. PER CABLE TRAY
   b. LATERAL LOADS NOT CONSIDERED
   c. CORROSION RESISTANCE REQD.: HDG
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. USE ALSO ITEM 12 FOR UN-GROUTED MASONRY.
5. USE ALSO ITEM 13 FOR UN-GROUTED MASONRY.
6. MAX. ASSUMED DEAD LOAD OUT-PLANE ECCENTRICITY = 4in.
7. E.O.R. MUST VERIFY THE CAPACITY OF CONCRETE OR MASONRY TO SUPPORT IMPOSED LOADS..

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED CANTILEVER
DOUBLE - VERTICAL

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	05 JAN 15

REVISIONS:

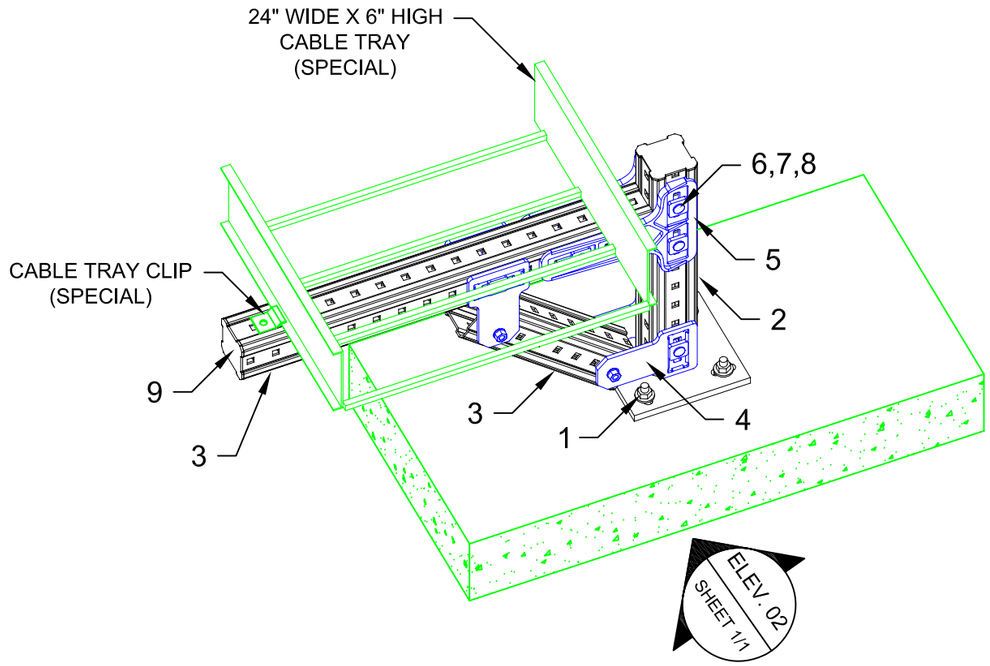
NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	05 JAN 15

TYPICAL DETAIL NOMENCLATURE:

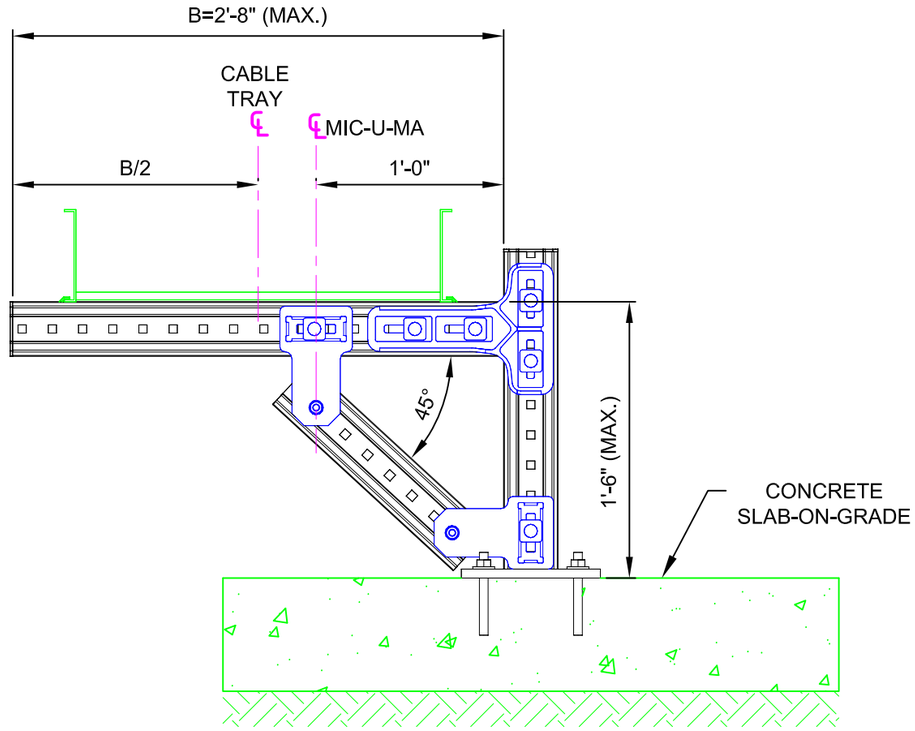
CT-BC04-C/M

DRAWING NUMBER:	SHEET:
01	1/1

ELEV. 02
SHEET 1/1



01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	4	EA	USE 5/8" Ø KB-TZ SS AS APPROPRIATE	VARIES	VARIES	VARIES
2	1	EA	CONNECTOR MIC-C90-D-2000 WELDED BRACKET	1	1	267793
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	2	PR	CONNECTOR MIC-U-MA	2	1	304806
5	1	PR	CONNECTOR MIC-90-LH	3	1	2048107
6	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
7	4	EA	TOOTHED PLATE MIA-TP	20	1	305707
8	4	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
9	2	EA	GIRDER END CAP MIA-EC90	25	1	432077

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 40 lb/ft
      LL: 200 lbs.
      WL: 26 psf.
      EL: E_h= 0.24 DL (LATERAL), E_v= 0.08 DL (VERTICAL)
   b. BUILDING CODE: IBC 2009
   c. CORROSION RESISTANCE REQD.: HDG
   d. MAX. SUPPORT SPACING = 9'-6"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED CANTILEVER
SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	05 JAN 15

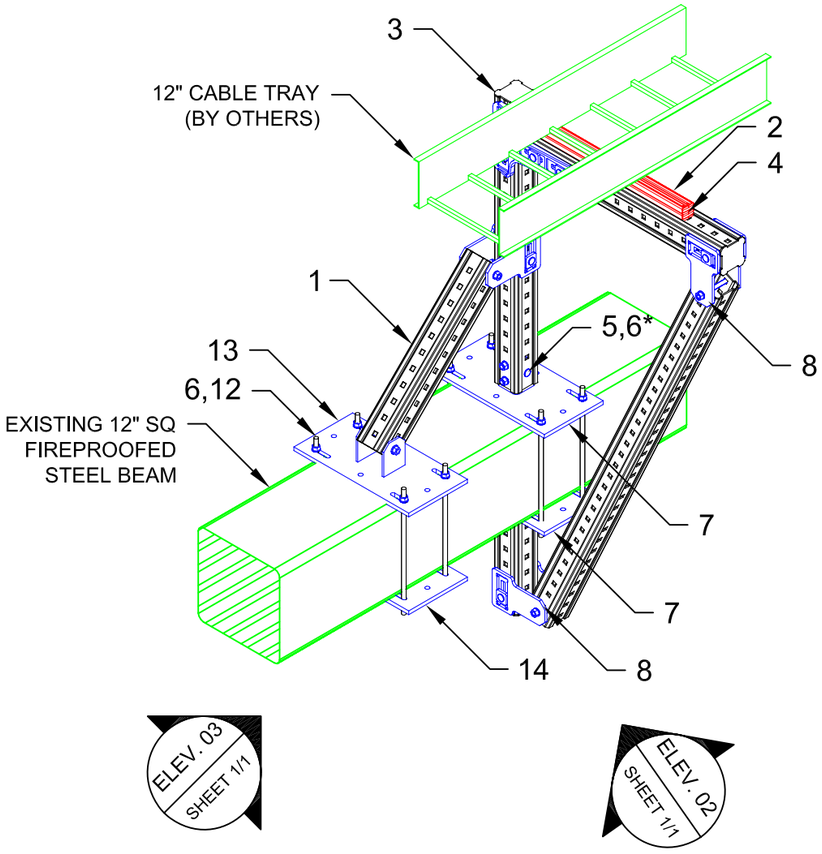
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	05 JAN 15

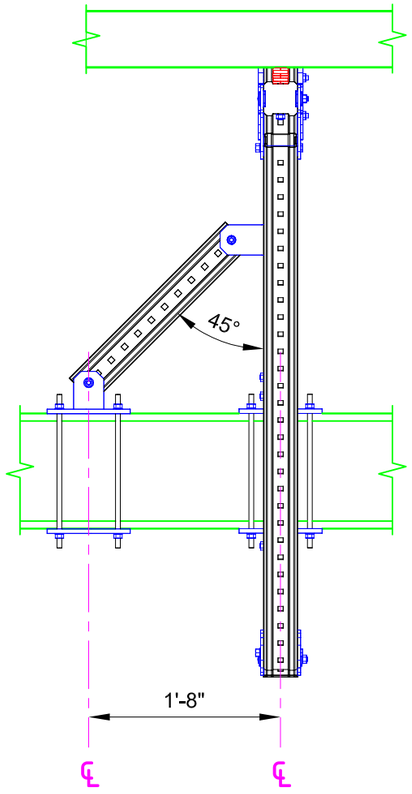
TYPICAL DETAIL NOMENCLATURE:

CT-BC05-C

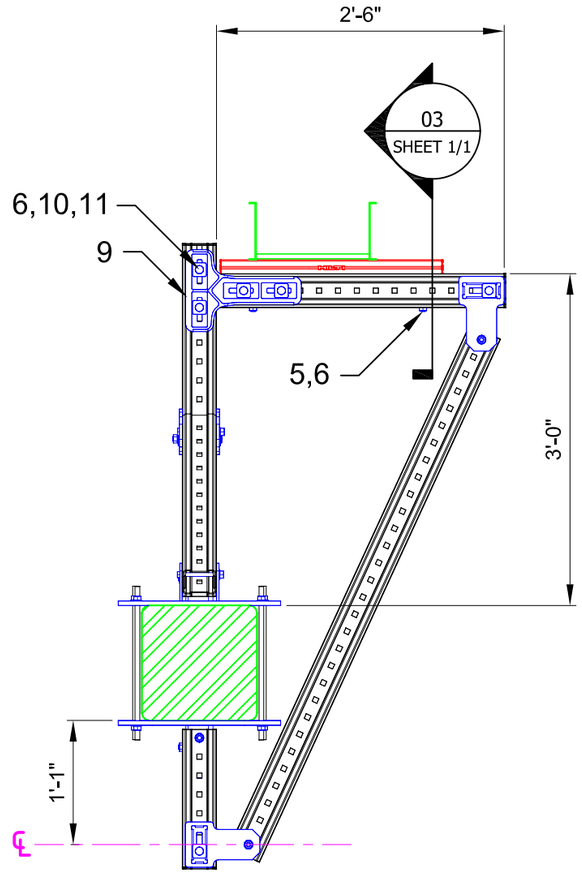
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.

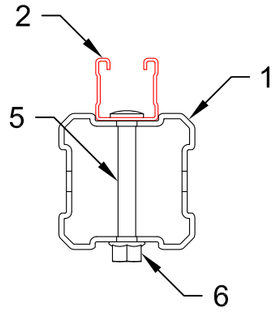


02 ELEVATION
N.T.S.



03 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	3	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	22	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	2	EA	CONNECTOR MIC-S90-C STEEL	2	1	304814
8	3	PR	CONNECTOR MIC-U-MA	2	2	304806
9	1	PR	CONNECTOR MIC-90-LH	3	1	2048107
10	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
11	4	EA	TOOTHED PLATE MIA-TP	20	1	305707
12	4	EA	THREADED STUD Grade 8.8 M12X1000-F (3.28 ft)	15	1	304774
13	1	EA	CONNECTOR MIC-SC-MA STEEL	2	1	304817
14	1	EA	BASEPLATE MIB-SC STEEL	2	1	304823



03 SECTION
N.T.S.

NOTE(S):
1. PRELIMINARY NOT FOR CONSRUTCION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 875 lbs.
      EL: MAX. 140 lbs.
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS.
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. *GIRDER CONNECTION REQUIRES 3 BOLTS ORIENTED AS SHOWN.
5. FIELD TO VERIFY ALL DIMENSIONS AND EXISTING BEAM SIZES AND ELEVATIONS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED CANTILEVER
SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	05 JAN 15

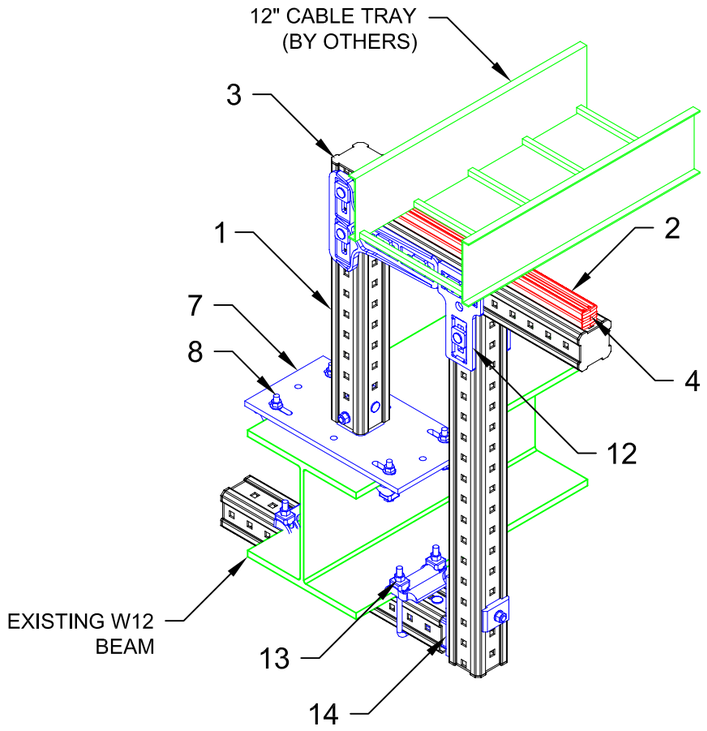
REVISIONS:

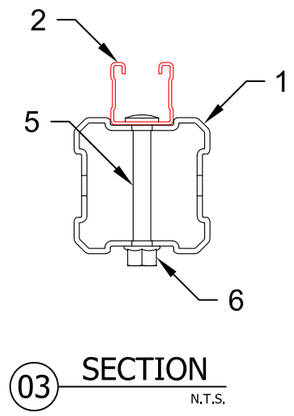
NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	05 JAN 15

TYPICAL DETAIL NOMENCLATURE:

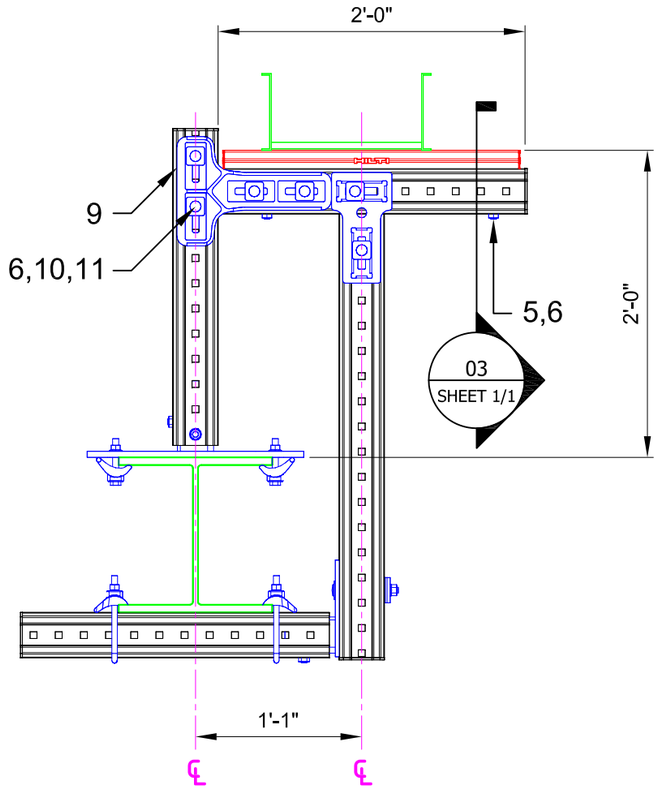
CT-BC06-S

DRAWING NUMBER:	SHEET:
01	1/1





03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	6	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	1	EA	CONNECTOR MIC-S90-C STEEL	2	1	304814
8	4	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
9	1	PR	CONNECTOR MIC-90-LH	3	1	2048107
10	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
11	4	EA	TOOTHED PLATE MIA-TP	20	1	305707
12	1	PR	CONNECTOR MIC-T	2	1	304807
13	2	EA	BEAM CLAMP MI-DGC 90	4	1	233860
14	1	EA	CONNECTOR MIC-90-U	4	1	304803

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 1400 lbs.
      EL: MAX. 196 lbs.
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS.
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. FIELD TO VERIFY ALL DIMENSIONS AND EXISTING BEAM SIZES AND ELEVATIONS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED CANTILEVER
SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	05 JAN 15

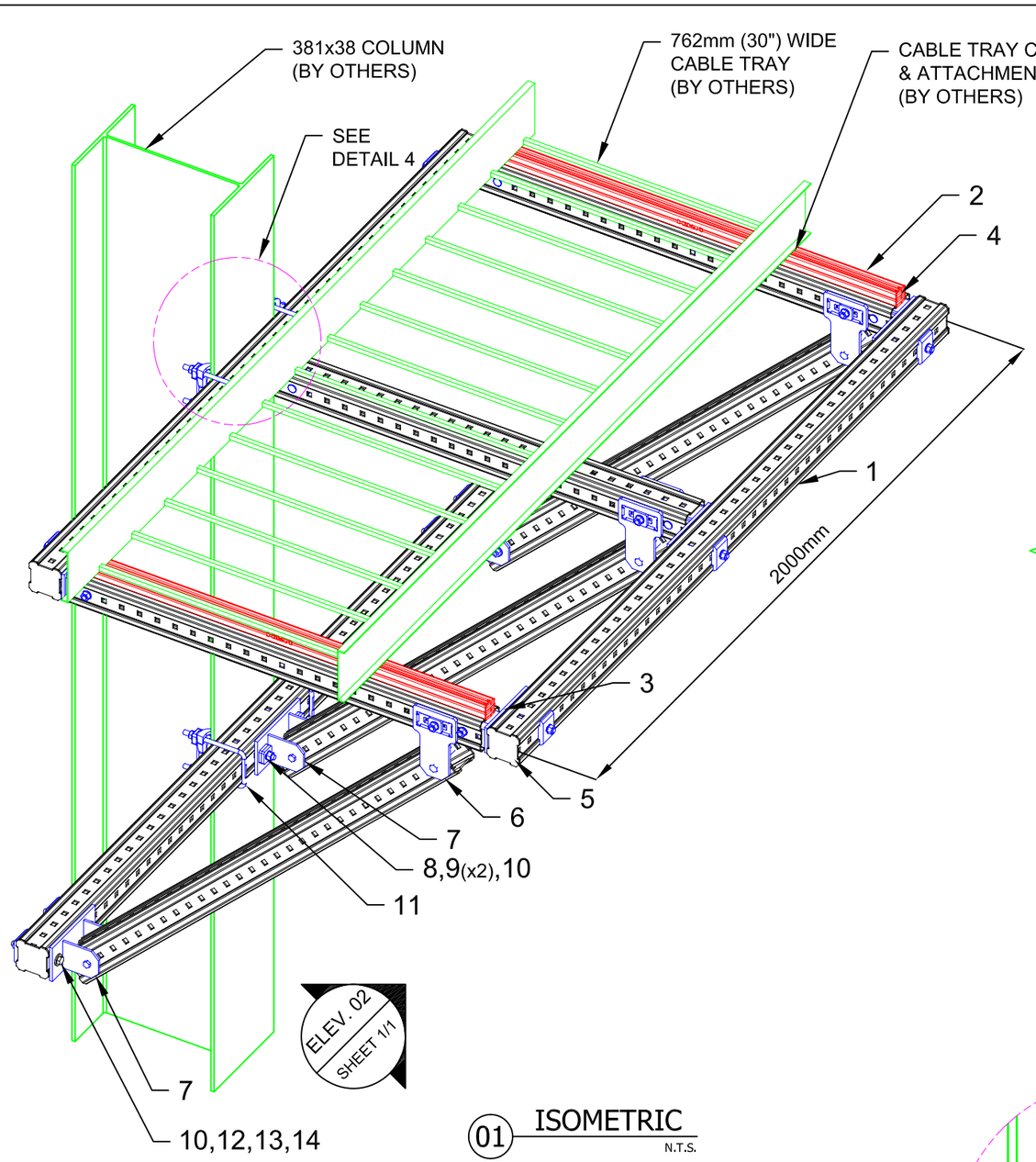
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	05 JAN 15

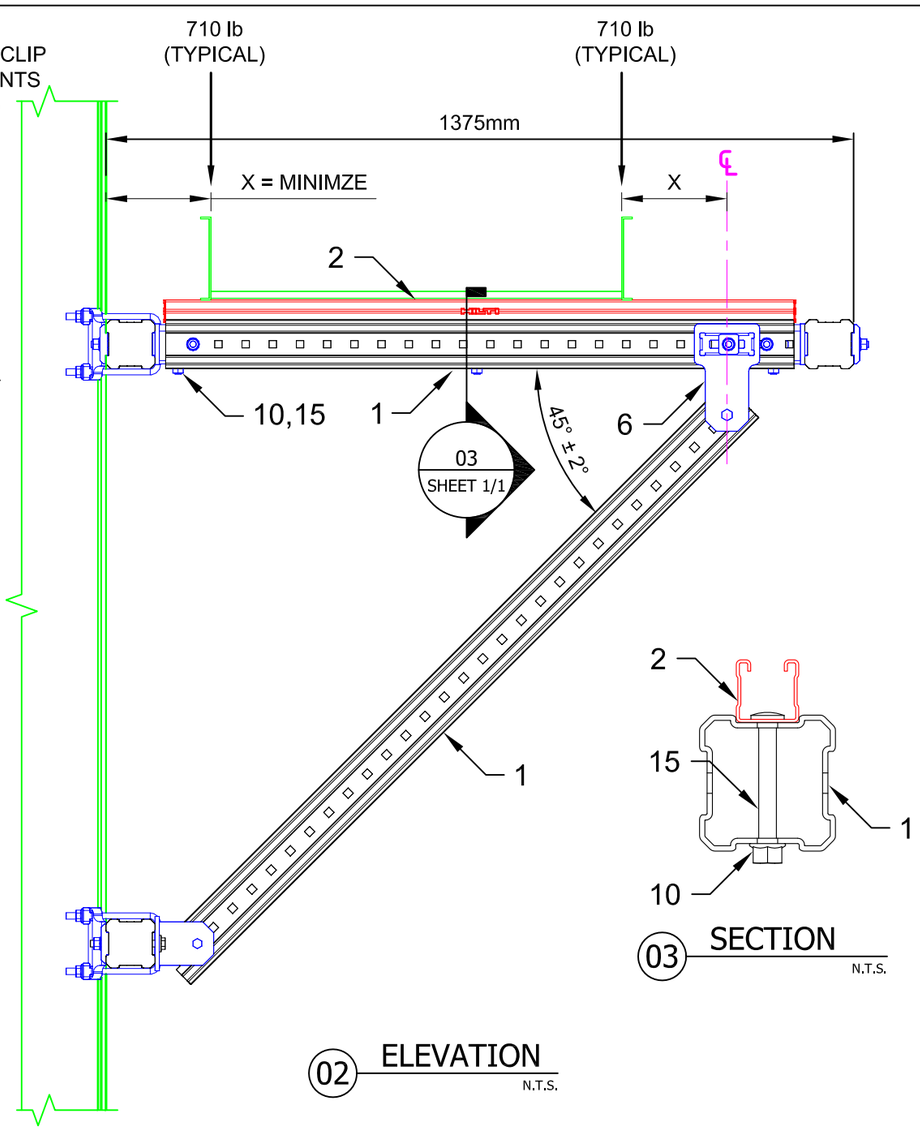
TYPICAL DETAIL NOMENCLATURE:

CT-BC07-S

DRAWING NUMBER:	SHEET:
01	1/1

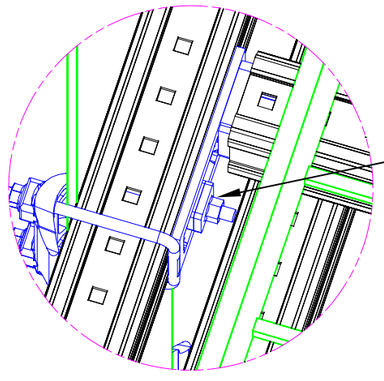


01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

03 SECTION
N.T.S.



04 DETAIL
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 6M	1	AS REQ'D	304799
2	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
3	6	EA	CONNECTOR MIC-90-U	4	2	304803
4	8	EA	CHANNEL END CAP MEK RED	50	1	244886
5	6	EA	GIRDER END CAP MIA-EC90	25	1	432077
6	3	PR	CONNECTOR MIC-U-MA	2	2	304806
7	3	EA	CONNECTOR MIC-CU-MA CONCRETE	4	1	304828
8	3	EA	ONEHAND SCREW MIA-OH120	10	1	304890
9	6	EA	TOOTHED PLATE MIA-TP	20	1	305707
10	13	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
11	4	EA	BEAM CLAMP MI-DGC 90	4	1	233860
12	4	EA	HEX HEAD BOLT M12x120-F/8.8	40	1	283595
13	4	EA	WASHER A 13-F	100	1	304771
14	4	EA	BACKING PLATE MIA-EH-P	10	1	304891
15	6	EA	ONEHAND SCREW MIA-OH90	10	1	304889

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      SEE DRAWING. TOTAL SUPPORT FACTORED LOAD = 2840 lbs.
   b. LATERAL LOADS NOT CONSIDERED
   c. CORROSION RESISTANCE REQD.: HDG
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED CANTILEVER
SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	05 JAN 15

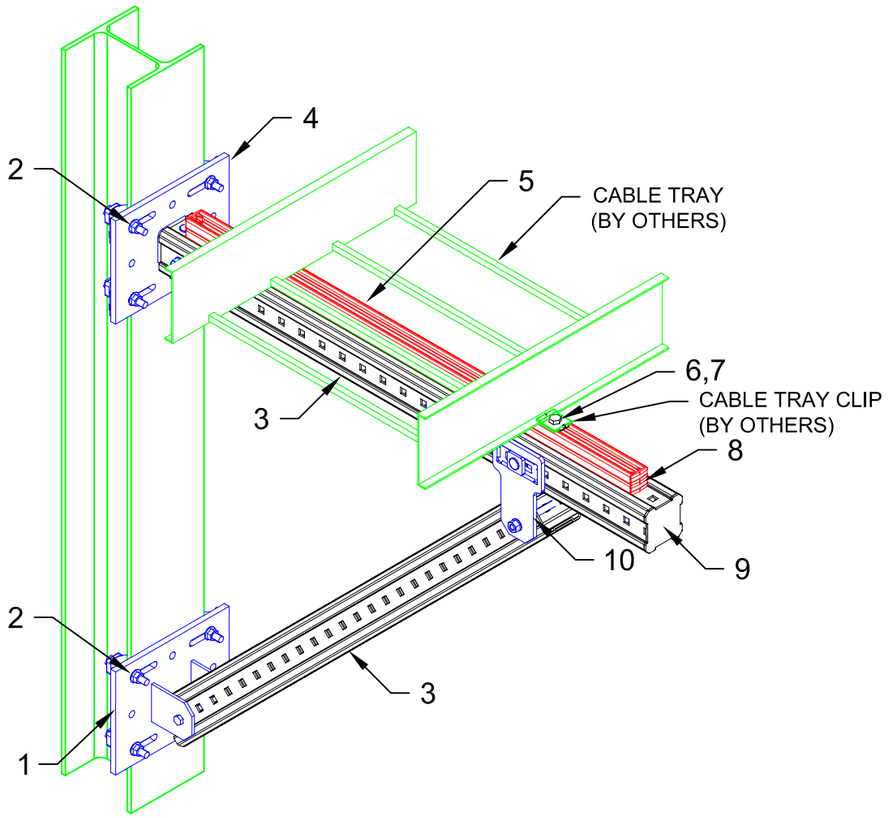
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	05 JAN 15

TYPICAL DETAIL NOMENCLATURE:

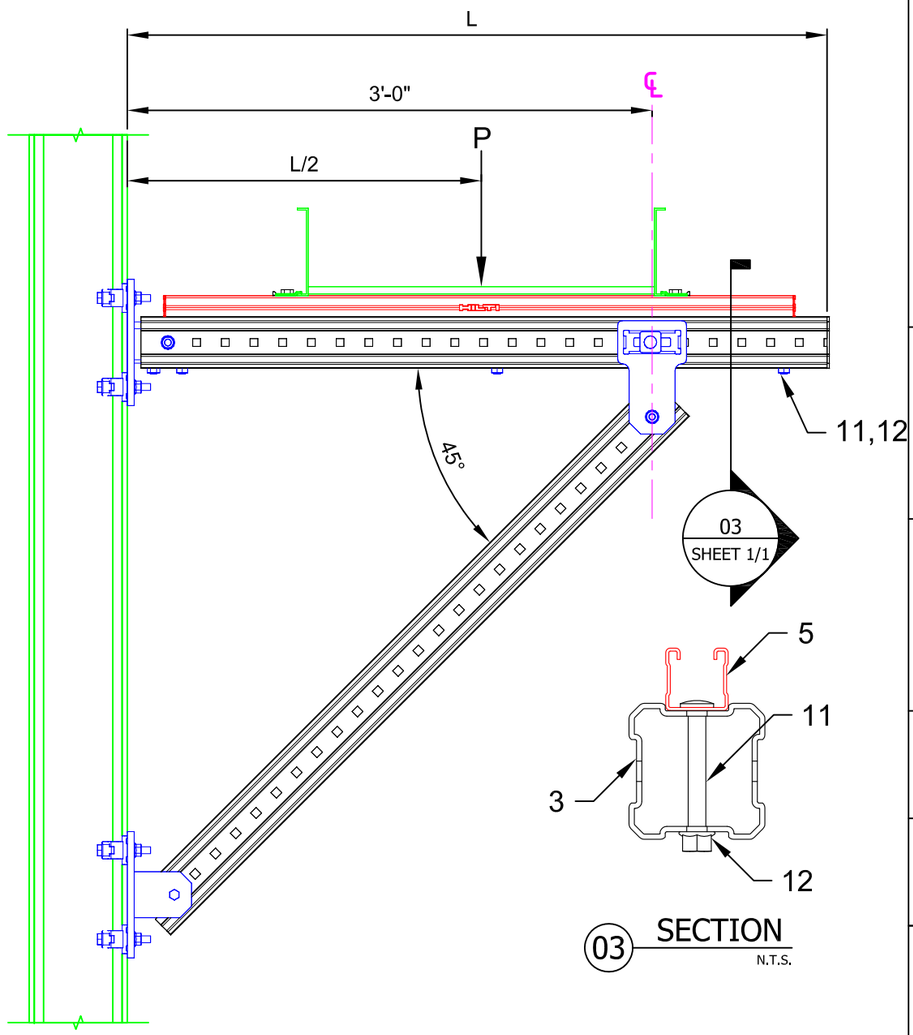
CT-BC08-S

DRAWING NUMBER:	SHEET:
01	1/1



ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	1	EA	CONNECTOR MIC-SA-MA STEEL	2	1	304815
2	8	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	1	EA	CONNECTOR MIC-S90-A STEEL	2	1	304812
5	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
6	2	EA	HEX HEAD BOLT 1/2"X1" HDG	VARIES	VARIES	SPECIAL
7	2	EA	WING NUT MQM-F1/2"-F	25	1	304137
8	4	EA	CHANNEL END CAP MEK RED	50	1	244886
9	1	EA	GIRDER END CAP MIA-EC90	25	1	432077
10	1	PR	CONNECTOR MIC-U-MA	2	1	304806
11	3	EA	ONEHAND SCREW MIA-OH90	10	1	304889
12	3	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL:
      L=4'-0": P_{MAX}=1000 lbs
      L=5'-0": P_{MAX}=1000 lbs
      L=6'-0": P_{MAX}=1000 lbs
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NBC
   d. CORROSION RESISTANCE REQD.: HDG / EG
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED CANTILEVER
SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	05 JAN 15

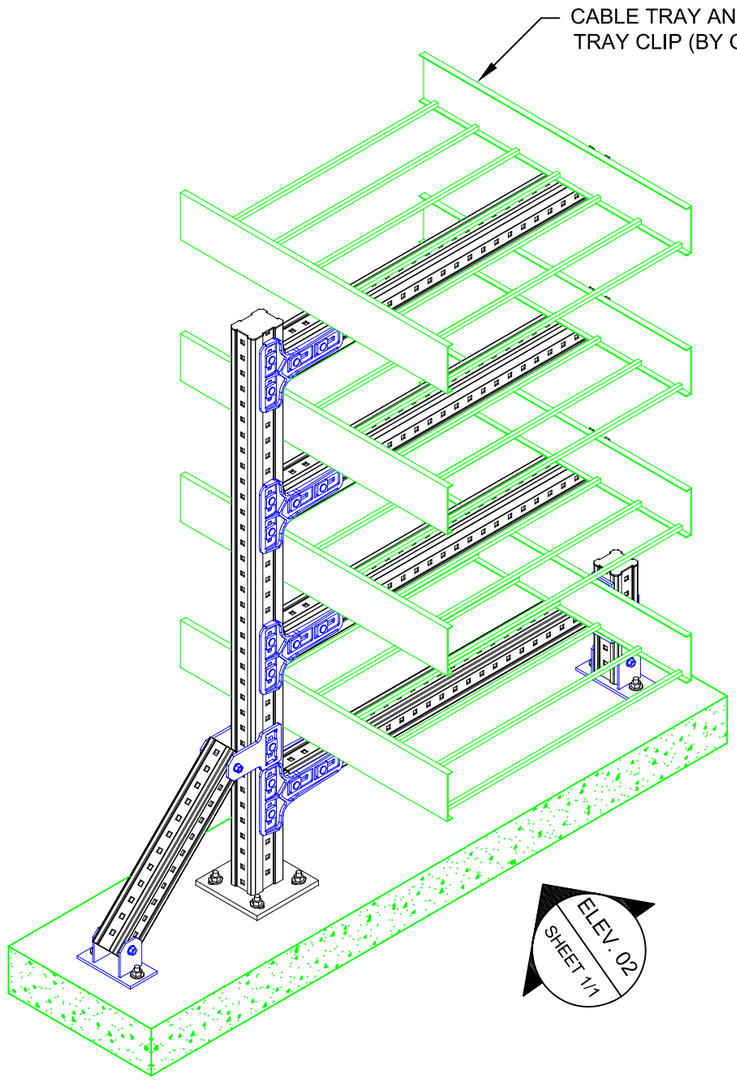
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	05 JAN 15

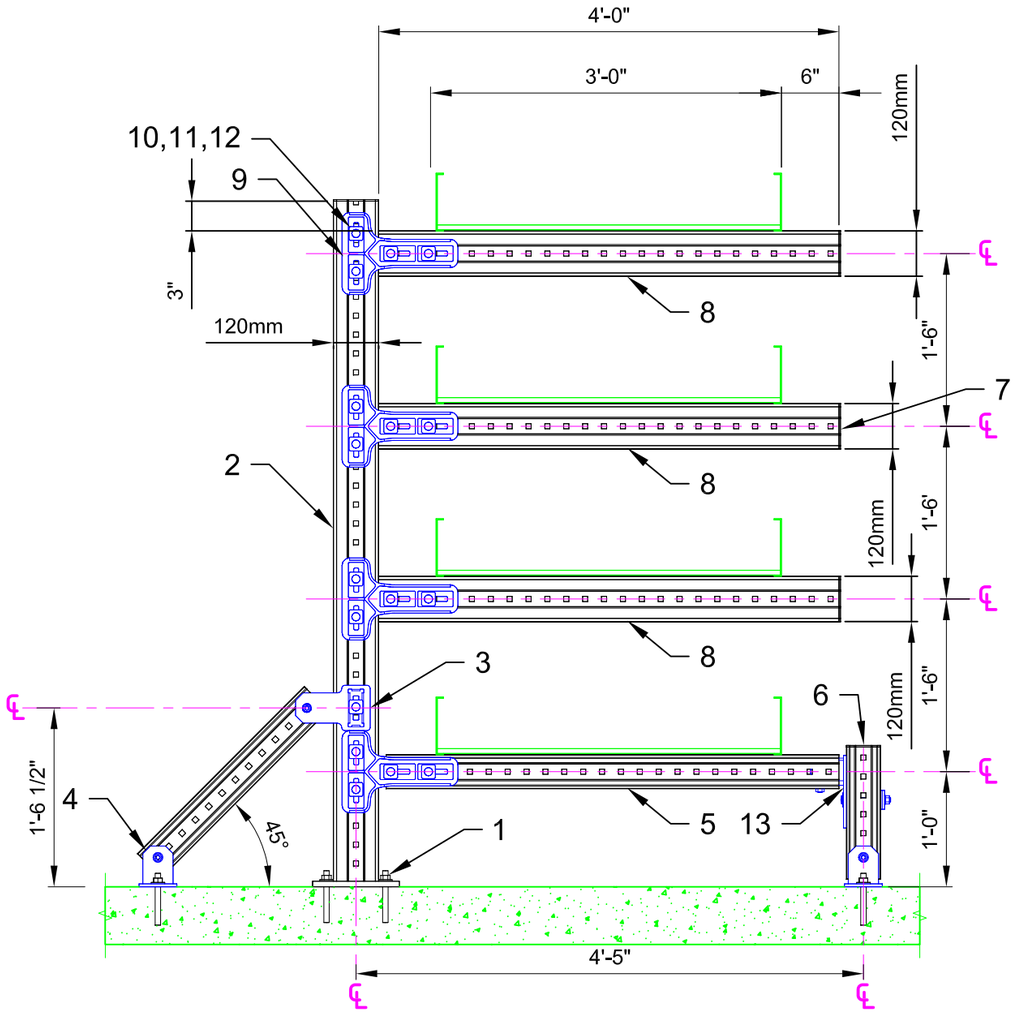
TYPICAL DETAIL NOMENCLATURE:

CT-BC09-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	4	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
2	1	EA	CONNECTOR MIC-C120-D-2000 WELDED BRACKET	1	1	270472
3	1	PR	CONNECTOR MIC-U-MA	2	1	304806
4	2	EA	CONNECTOR MIC-CU-MA CONCRETE	4	1	304828
5	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
6	1	EA	GIRDER END CAP MIA-EC90	25	1	432077
7	4	EA	GIRDER END CAP MIA-EC120	25	1	432078
8	AS REQ'D	EA	GIRDER MI-120 3M	1	AS REQ'D	304800
9	4	PR	CONNECTOR MIC-90-LH	3	2	2048107
10	16	EA	EASYHAND SCREW MIA-EH90	10	2	304887
11	16	EA	TOOTHED PLATE MIA-TP	20	1	305707
12	16	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
13	1	EA	CONNECTOR MIC-90-U	4	1	304803

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN LOADS:
   DL: 30 lb/ft.
   LL: N/A
   WL: 0.32kPa
   EL: S_{DS} = 0.156
   S_{D1} = 0.032
   SNOW LOAD NOT INCLUDED DUE TO LOCATION OF SUPPORTS UNDER BLDG.
3. REFER TO APPROPRIATE IFUs FOR RECOMMENDED INSTALLATION INFO.
4. MAX. SUPPORT SPACING = 8'-0"

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED F - SHAPE - 4 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	15 DEC 14

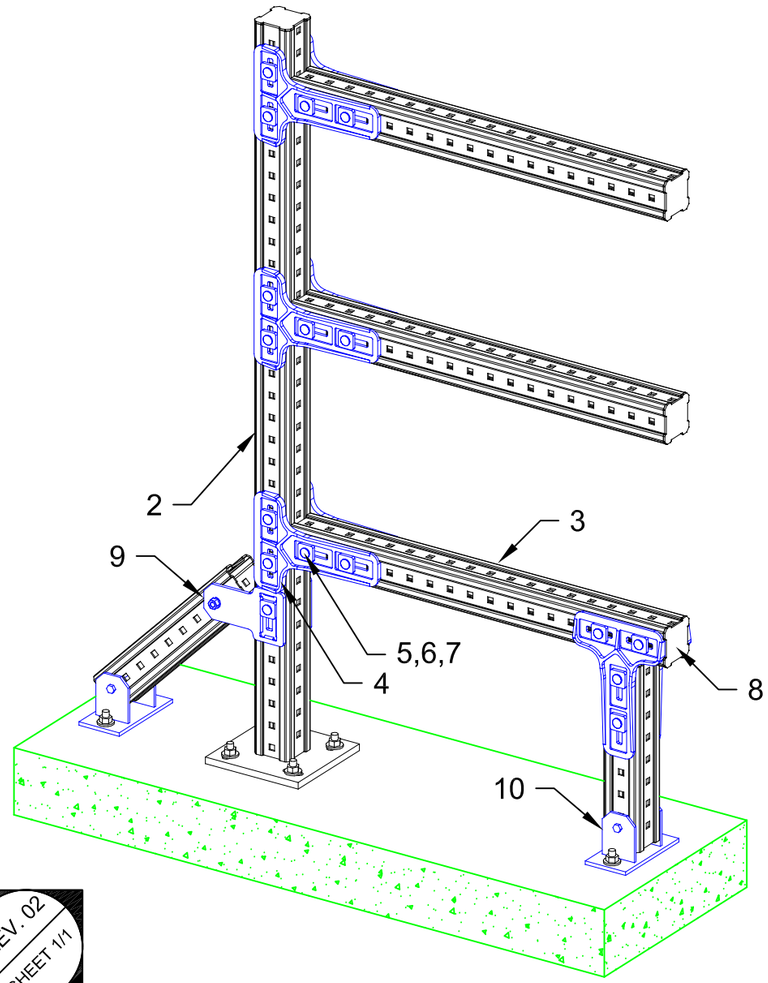
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	15 DEC 14

TYPICAL DETAIL NOMENCLATURE:

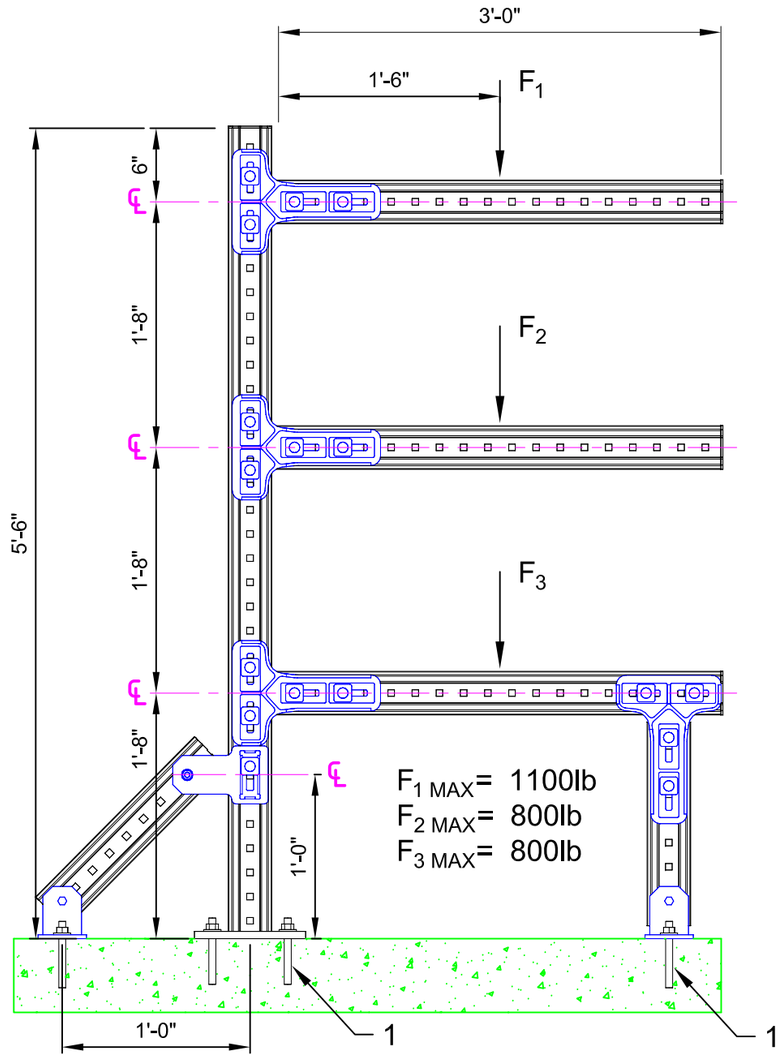
CT-BF01-C

DRAWING NUMBER:	SHEET:
01	1/1



ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	8	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
2	1	EA	CONNECTOR MIC-C90-D-2000 WELDED BRACKET	1	1	267793
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	4	PR	CONNECTOR MIC-90-LH (2048107)	3	2	SPECIAL
5	16	EA	EASYHAND SCREW MIA-EH90	10	2	304887
6	16	EA	TOOTHED PLATE MIA-TP	20	1	305707
7	16	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
9	1	PR	CONNECTOR MIC-U-MA	2	1	304806
10	2	EA	CONNECTOR MIC-CU-MA CONCRETE	4	1	304828

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN LOADS
   DL: AS SHOWN ON SUPPORT
   LOADS ARE ULTIMATES.
3. NO LATERAL LOADS CONSIDERED.
4. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
5. MAX. SUPPORT SPACING: TBD.
6. CABLE TRAY ATTACHMENT BY OTHERS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED F - SHAPE - 3 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	15 DEC 14

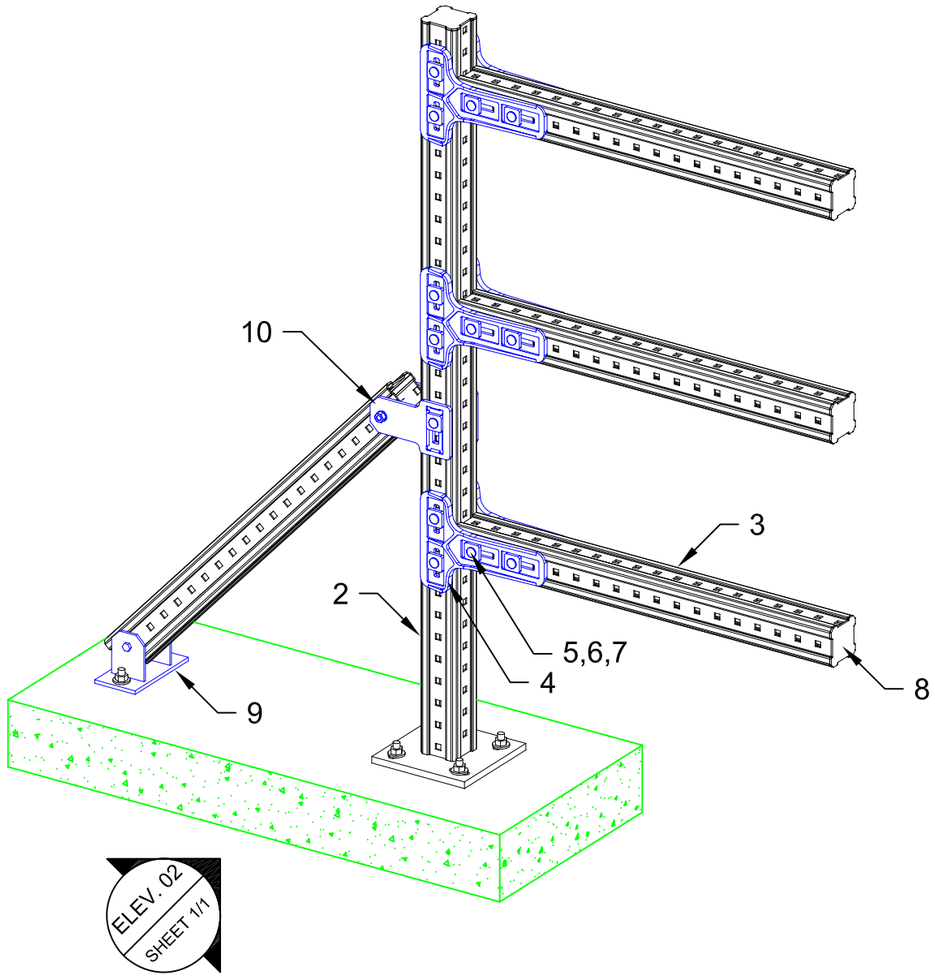
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	15 DEC 14

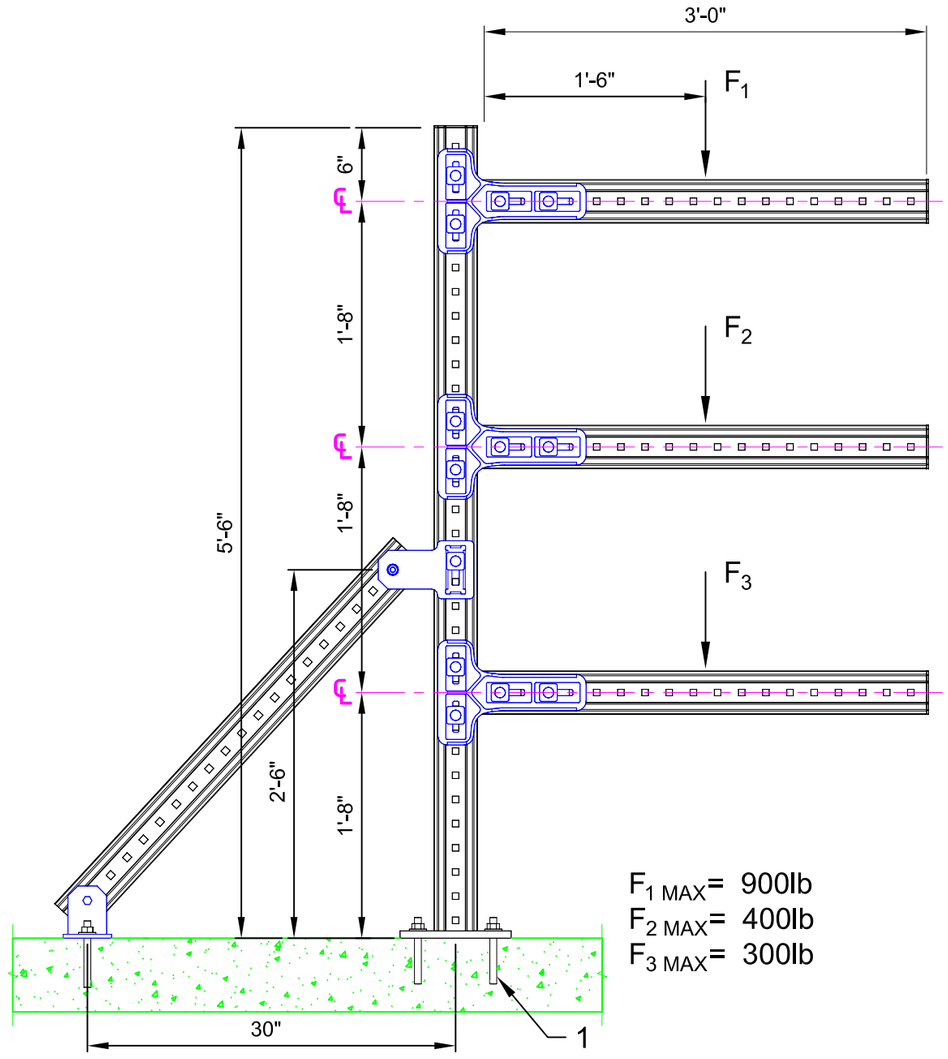
TYPICAL DETAIL NOMENCLATURE:

CT-BF02-C

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



$F_{1\ MAX}$= 900lb
$F_{2\ MAX}$= 400lb
$F_{3\ MAX}$= 300lb

02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	6	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
2	1	EA	CONNECTOR MIC-C90-D-2000 WELDED BRACKET	1	1	267793
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	3	PR	CONNECTOR MIC-90-LH (2048107)	3	1	SPECIAL
5	12	EA	EASYHAND SCREW MIA-EH90	10	2	304887
6	12	EA	TOOTHED PLATE MIA-TP	20	1	305707
7	12	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
9	1	EA	CONNECTOR MIC-CU-MA CONCRETE	4	1	304828
10	1	PR	CONNECTOR MIC-U-MA	2	1	304806

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN LOADS
   DL: AS SHOWN ON SUPPORT
   LOADS ARE ULTIMATES.
3. NO LATERAL LOADS CONSIDERED.
4. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
5. MAX. SUPPORT SPACING: TBD.
6. CABLE TRAY ATTACHMENT BY OTHERS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED F - SHAPE - 3 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	15 DEC 14

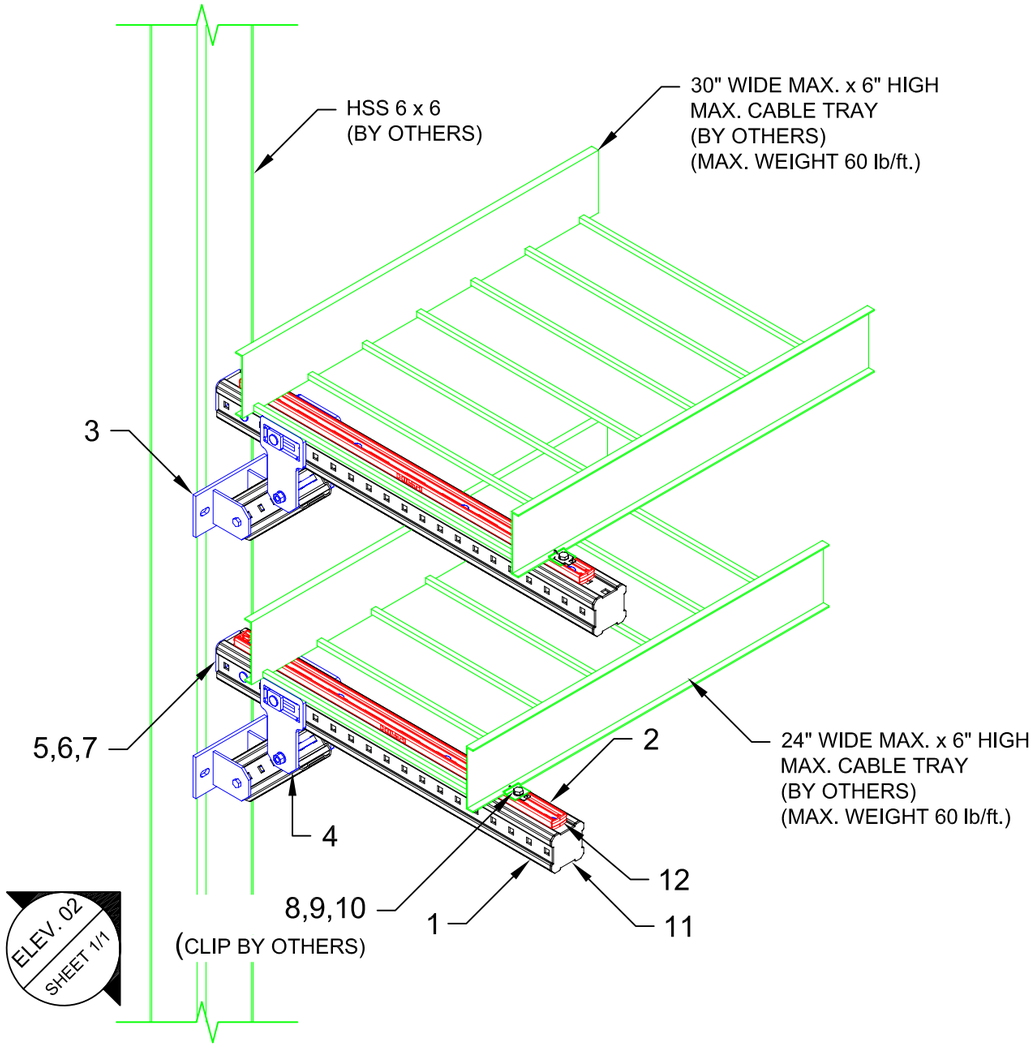
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	15 DEC 14

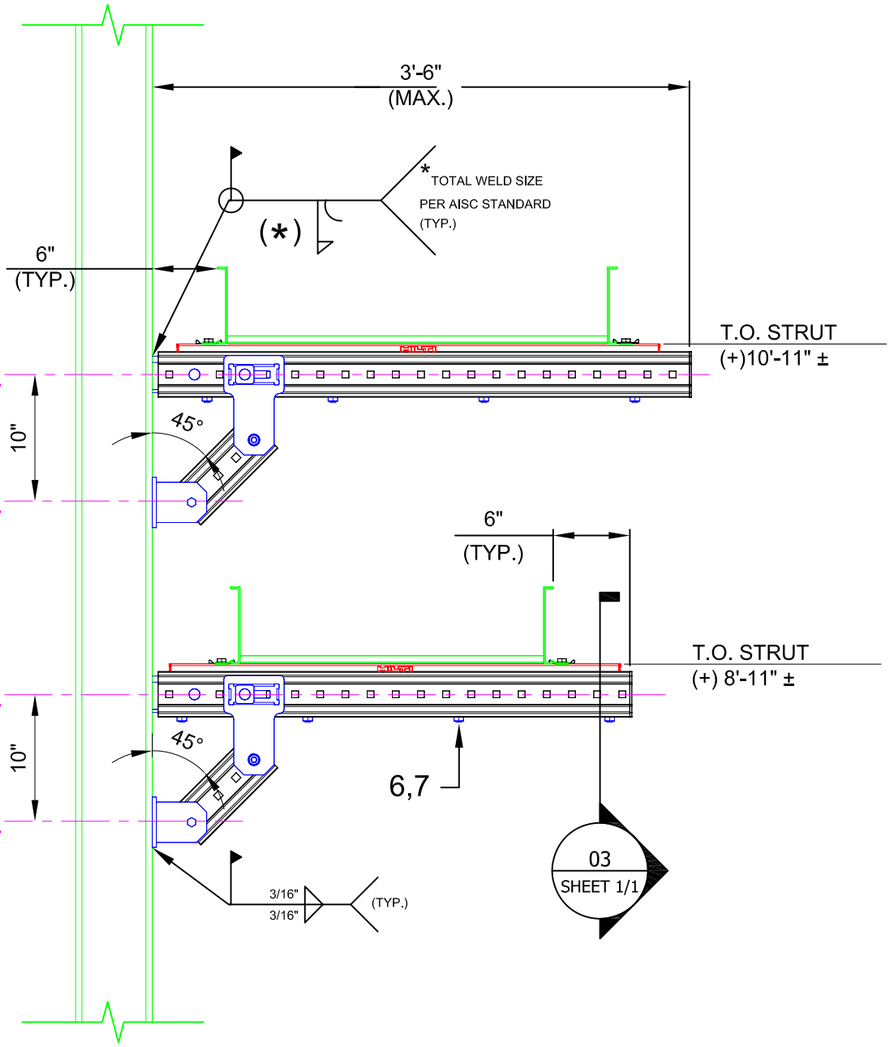
TYPICAL DETAIL NOMENCLATURE:

CT-BF03-C

DRAWING NUMBER:	SHEET:
01	1/1

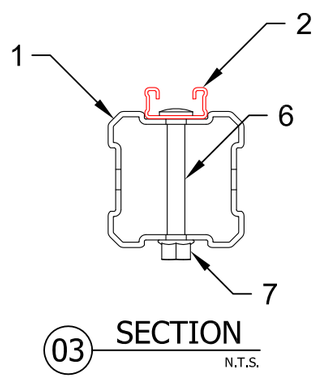


01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-1316-12/PG 10'	1	AS REQ'D	407543
3	2	EA	CONNECTOR MIC-CU-MA CONCRETE	4	1	304828
4	2	PR	CONNECTOR MIC-U-MA	2	1	304806
5	2	EA	CONNECTOR MIC-SC90	2	1	304824
6	10	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	10	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	4	EA	WING NUT MQM-F3/8"	50	1	377882
9	4	EA	WASHER 3/8"	200	1	411757
10	4	EA	HEX HEAD BOLT 3/8" x 1-1/4"	100	1	411764
11	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
12	2	EA	CHANNEL END CAP MEK RED	50	1	244886



03 SECTION
N.T.S.

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN LOADS:
   DL: 60 lb./ft. PER CABLE TRAY
   WL: 8 psf. (INTERNAL WIND PRESSURE)
3. REFER TO APPROPRIATE IFUs FOR RECOMMENDED INSTALLATION INFO.
4. MAX. SUPPORT SPACING = 8'-10"
5. ADEQUACY OF STEEL FRAMING BY OTHERS, NOT VERIFIED BY HILTI.
6. UNIT WEIGHT OF FRAMING AS FOLLOWS:
   a. MI-90: 6.34 lb/ft
   b. STRUT HS-1316-12/PG: 1.287 lb/ft

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER - DOUBLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	04 DEC 14

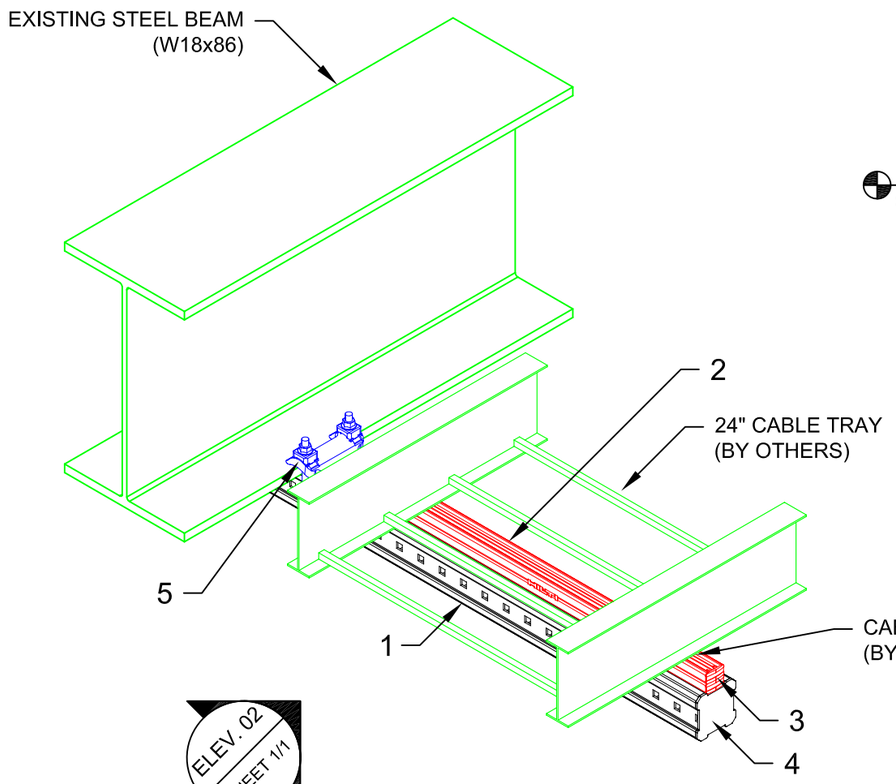
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	04 DEC 14

TYPICAL DETAIL NOMENCLATURE:

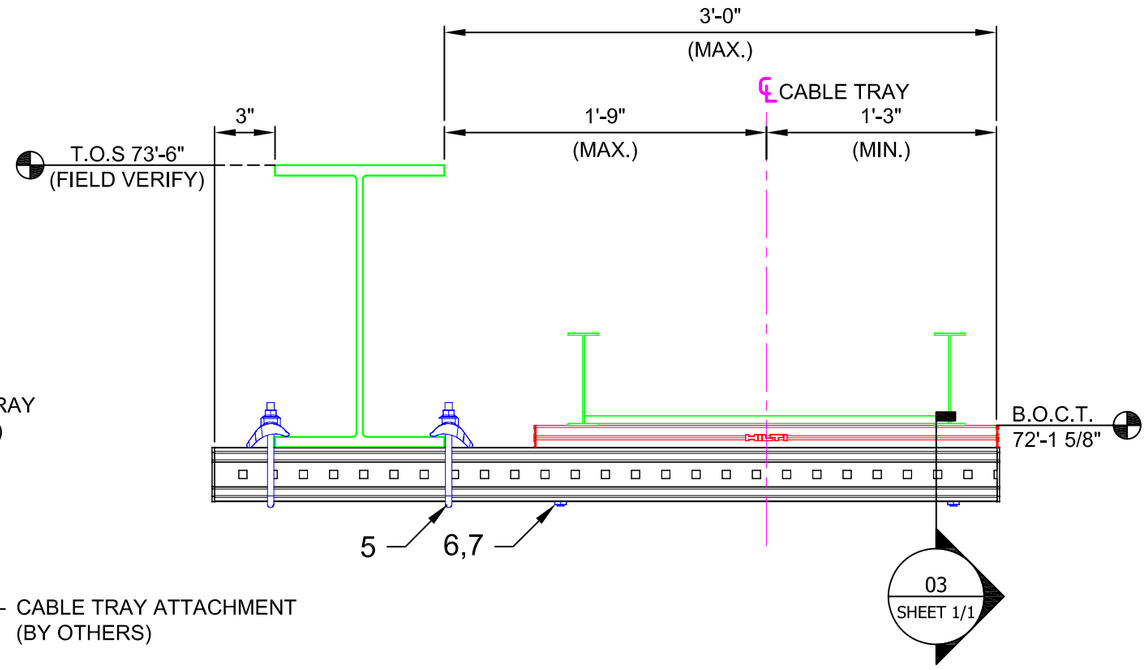
CT-C01-S

DRAWING NUMBER:	SHEET:
01	1/1



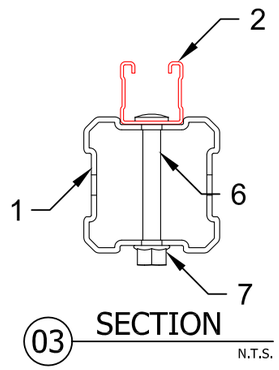
ELEV. 02 / SHEET 1/1

01 ISOMETRIC
N.T.S.



03 / SHEET 1/1

02 ELEVATION
N.T.S.



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
3	4	EA	CHANNEL END CAP MEK RED	50	1	244886
4	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
5	2	EA	BEAM CLAMP MI-DGC 90	4	1	233860
6	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	2	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL TRAY:10 lbs/ft
      DL CABLE: 100 lbs/ft
      WL: 85 mph, Exp C, I_P=1.15
      EL: SDS = 1.146, I_P=1.25
   b. BUILDING CODE: LOS ANGELES COUNTY BUILDING CODE 2014
   c. CORROSION RESISTANCE REQD.: HDG
   d. MAX. SUPPORT SPACING = 4'-0"
2. ALL LOADS ASSUMED TO ACT AT CENTER LINE OF TRAY.
3. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
4. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	04 DEC 14

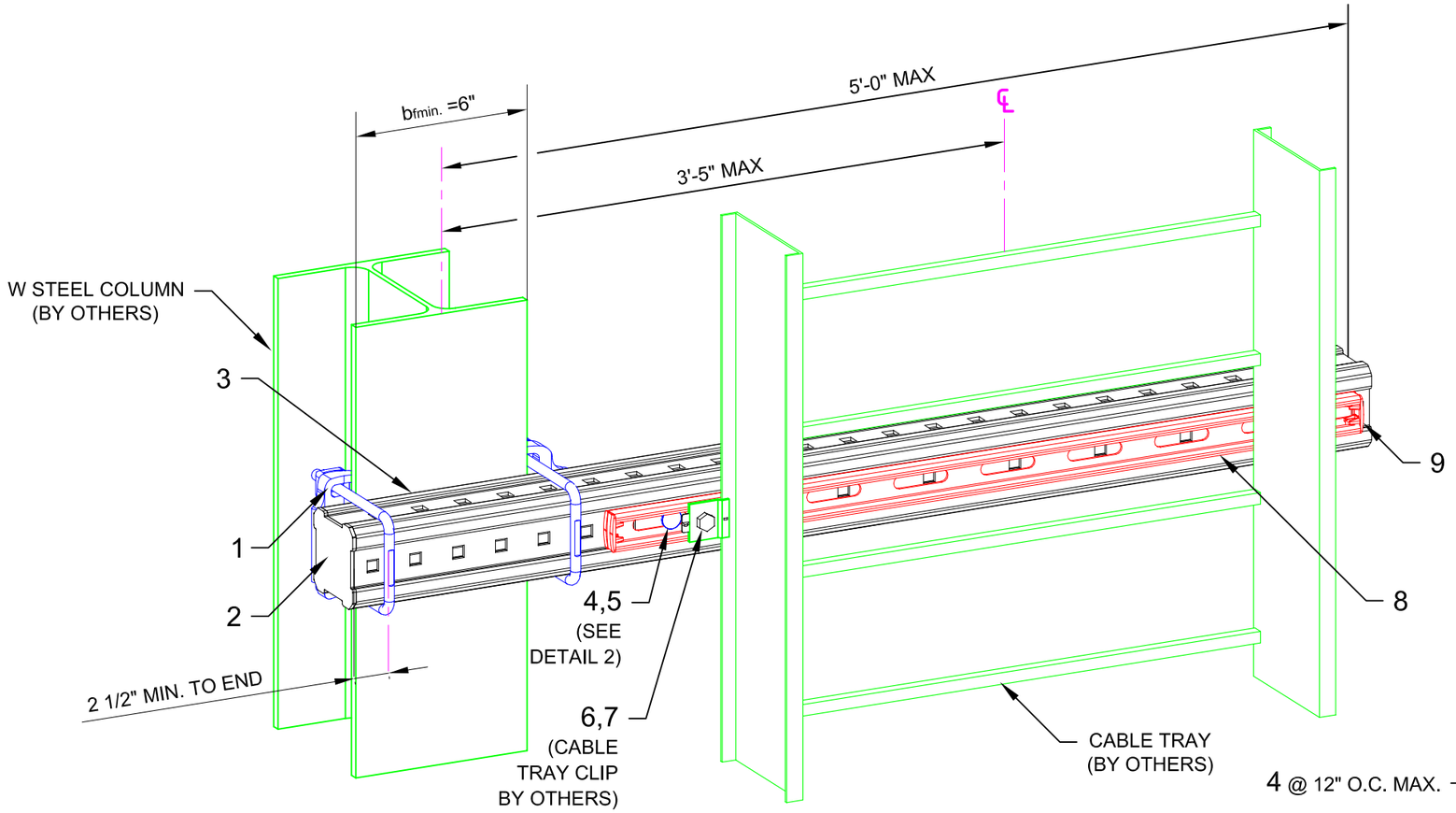
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	04 DEC 14

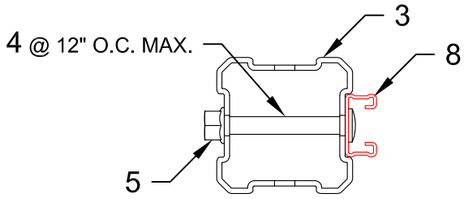
TYPICAL DETAIL NOMENCLATURE:

CT-C02-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 DETAIL
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	2	EA	BEAM CLAMP MI-DGC 90	4	1	233860
2	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	5	EA	ONEHAND SCREW MIA-OH90	10	1	304889
5	5	EA	PREVAIL TORQUE HEX NUT M12-F-SL-WS 3/4"	100	1	382897
6	2	EA	HEX HEAD BOLT HDG 0.375in x LENGTH AS REQUIRED	VARIES	AS REQ'D	SPECIAL
7	2	EA	WING NUT MQM-F3/8"-F	25	1	304136
8	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
9	2	EA	CHANNEL END CAP MEK RED	50	1	244886

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 80 lb/ft
   b. LATERAL LOADS NOT CONSIDERED
   c. CORROSION RESISTANCE REQD.: HDG
   d. MAX. SUPPORT SPACING = 4'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. MAX. ASSUMED DEAD LOAD = 4 IN. OUT-PLANE ECCENTRICITY.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER - VERTICAL

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	04 DEC 14

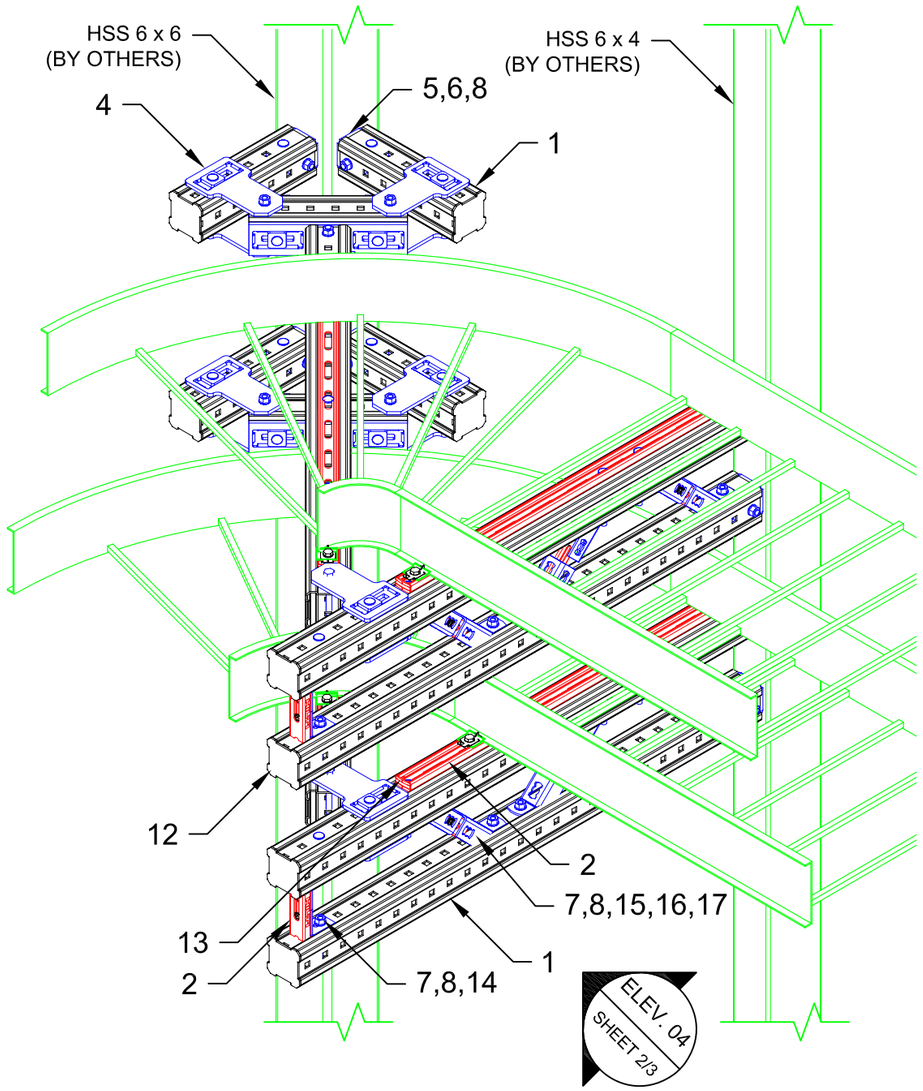
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	04 DEC 14

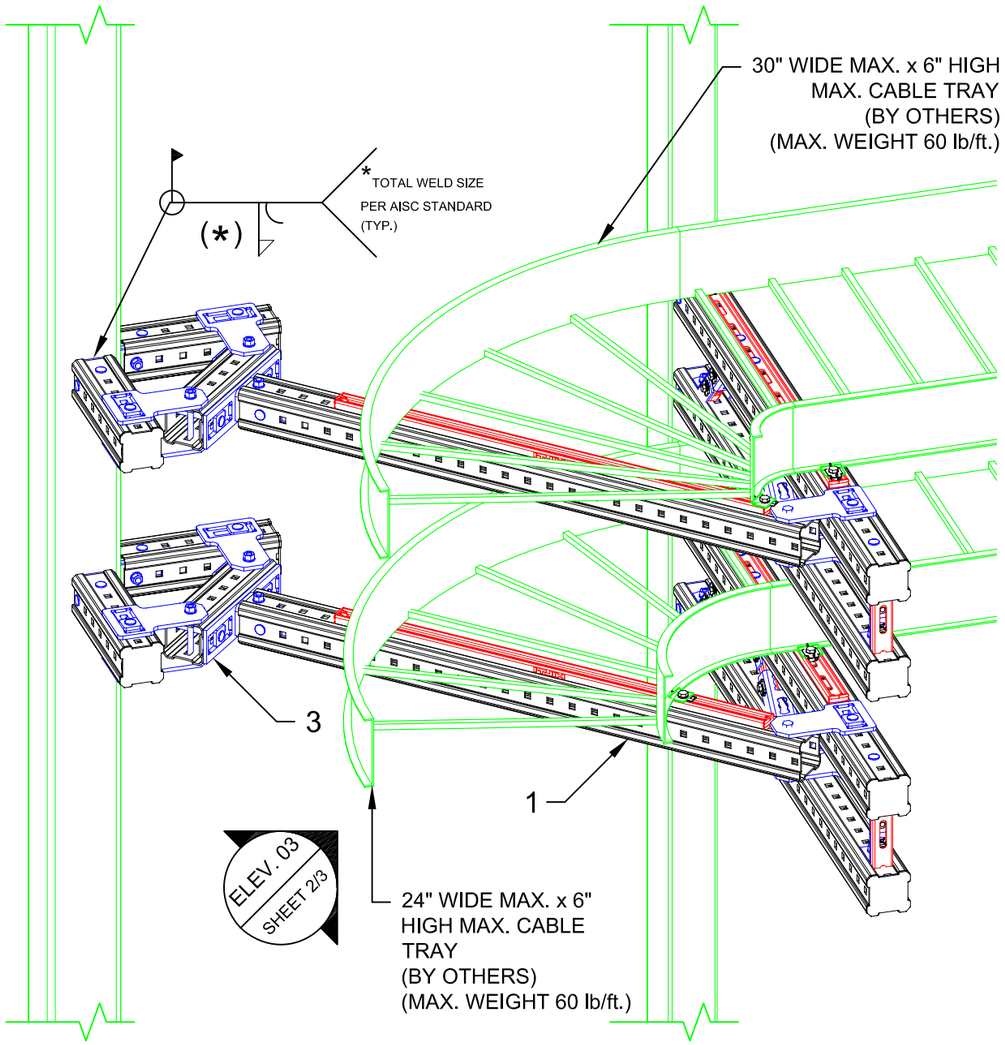
TYPICAL DETAIL NOMENCLATURE:

CT-C03-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 ISOMETRIC
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-1316-12/PG 10'	1	AS REQ'D	407543
3	2	EA	CONNECTOR MIC-90-L	2	1	304805
4	6	PR	CONNECTOR MIC-U-MA	2	3	304806
5	8	EA	CONNECTOR MIC-SC90	2	4	304824
6	32	EA	ONEHAND SCREW MIA-OH90	10	4	304889
7	6	EA	ONEHAND SCREW MIA-OH120	10	1	304890
8	38	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
9	8	EA	WING NUT MQM-F3/8"	50	1	377882
10	8	EA	WASHER 3/8"	200	1	411757
11	8	EA	HEX HEAD BOLT 3/8" x 1-1/4"	100	1	411764
12	8	EA	GIRDER END CAP MIA-EC90	25	1	432077
13	8	EA	CHANNEL END CAP MEK RED	50	1	244886
14	4	EA	BASE MQP-1/1-F	20	1	304161
15	12	EA	RAIL SUPPORT MQP-45	10	2	369649
16	12	EA	TOOTHED PLATE MIA-TP	20	1	305707
17	16	EA	CHANNEL CONNECTOR MQN PG	50	1	369623

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN LOADS:
   DL: 60 lb./ft. PER CABLE TRAY
   WL: 8 psf. (INTERNAL WIND PRESSURE)
3. REFER TO APPROPRIATE IFUs FOR RECOMMENDED INSTALLATION INFO.
4. MAX. SUPPORT SPACING = 8'-10"
5. ADEQUACY OF STEEL FRAMING BY OTHERS, NOT VERIFIED BY HILTI.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER
ROUNDED CORNER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

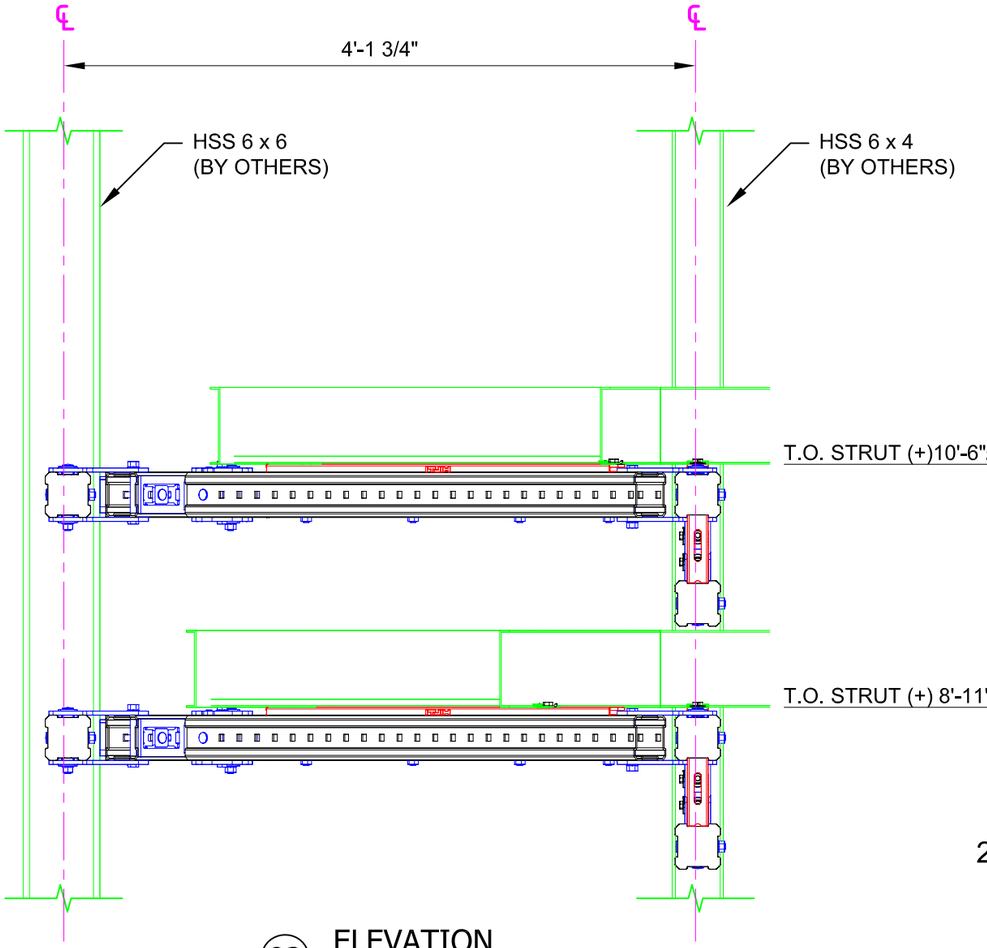
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

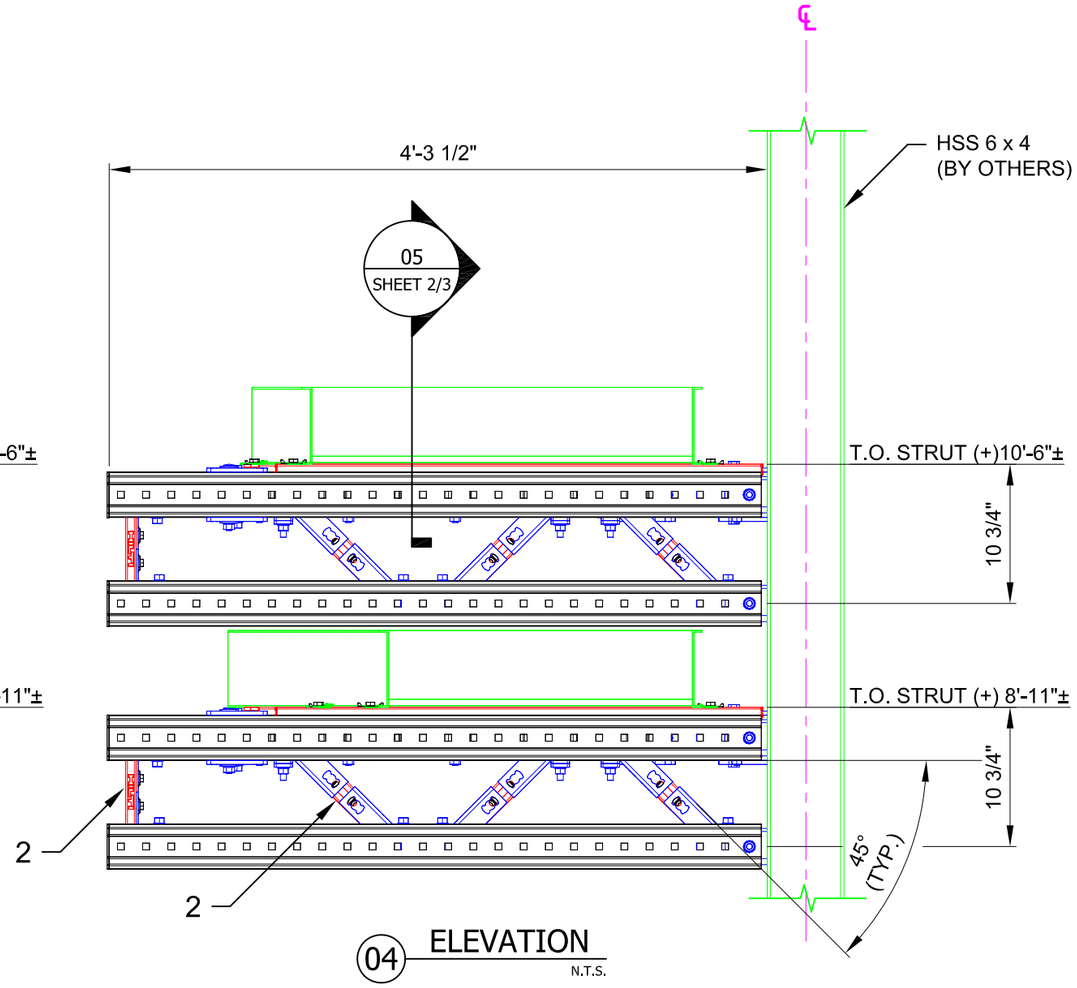
TYPICAL DETAIL NOMENCLATURE:

CT-C04-S

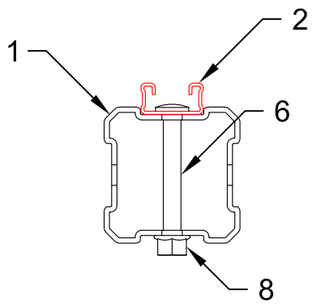
DRAWING NUMBER:	SHEET:
01	1/3



03 ELEVATION
N.T.S.



04 ELEVATION
N.T.S.



05 SECTION
N.T.S.

NOTE(S):
1. REFER TO SHEET 1 FOR APPLICABLE NOTE(S).

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER
ROUNDED CORNER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

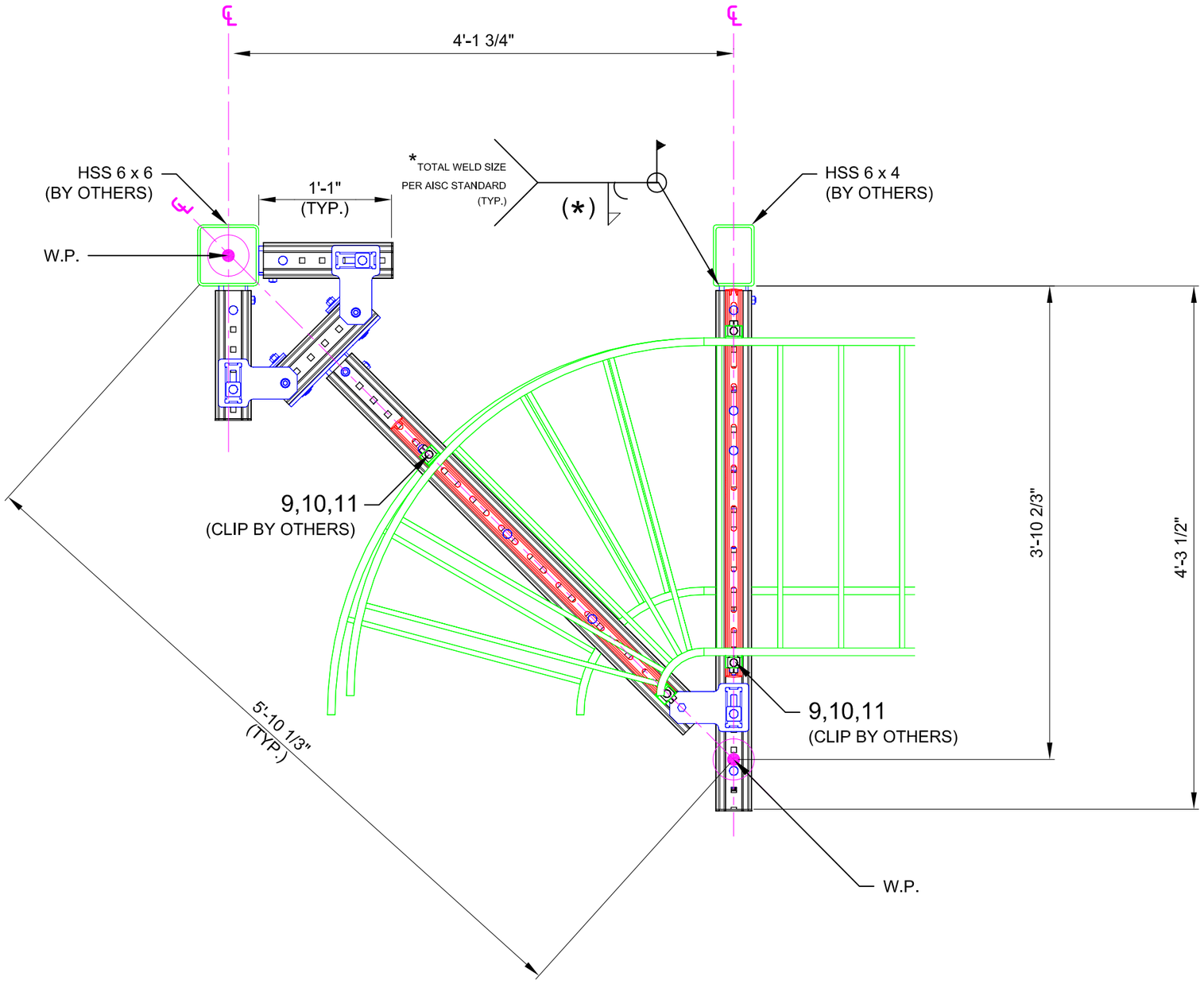
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

TYPICAL DETAIL NOMENCLATURE:

CT-C04-S

DRAWING NUMBER:	SHEET:
01	2/3



06 PLAN VIEW
N.T.S.

NOTE(S):
1. REFER TO SHEET 1 FOR APPLICABLE NOTE(S).

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER
ROUNDED CORNER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

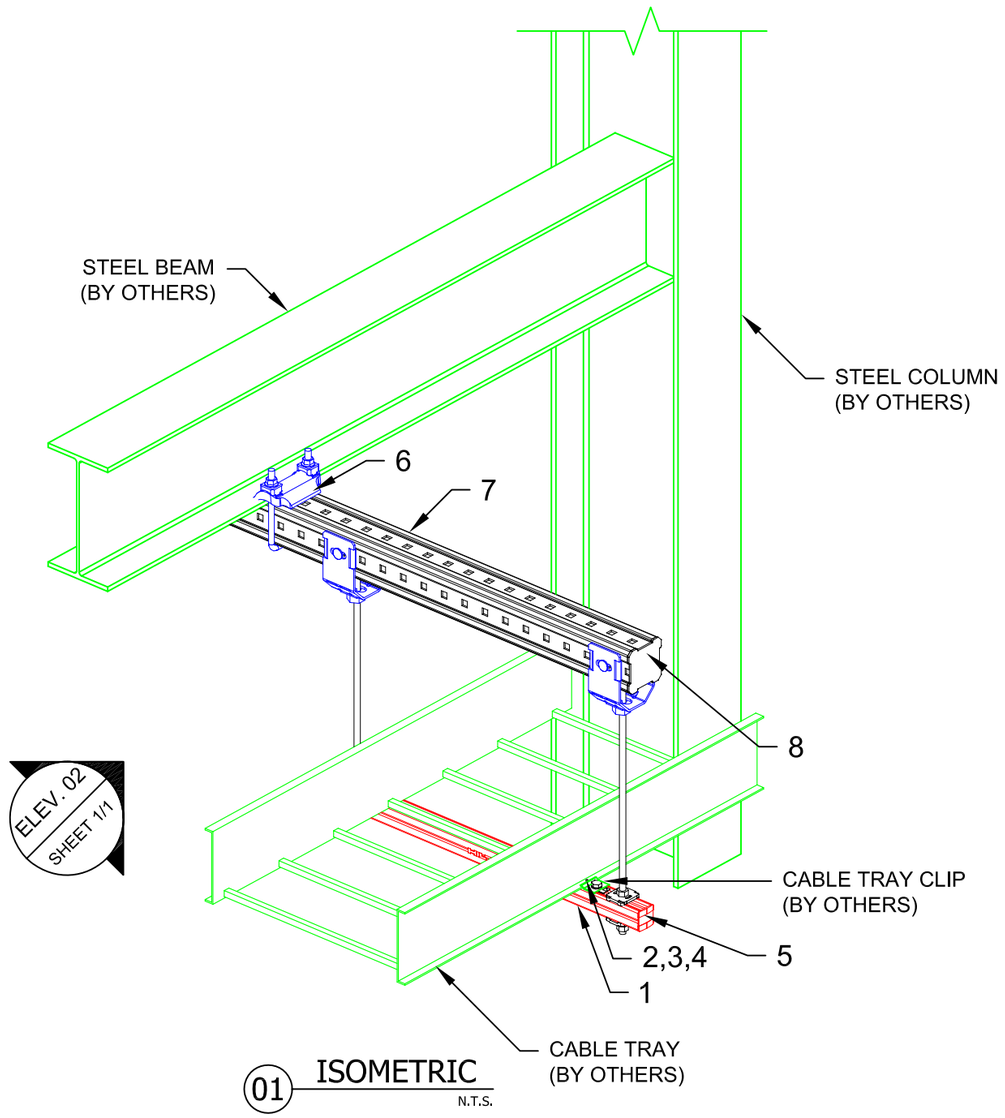
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

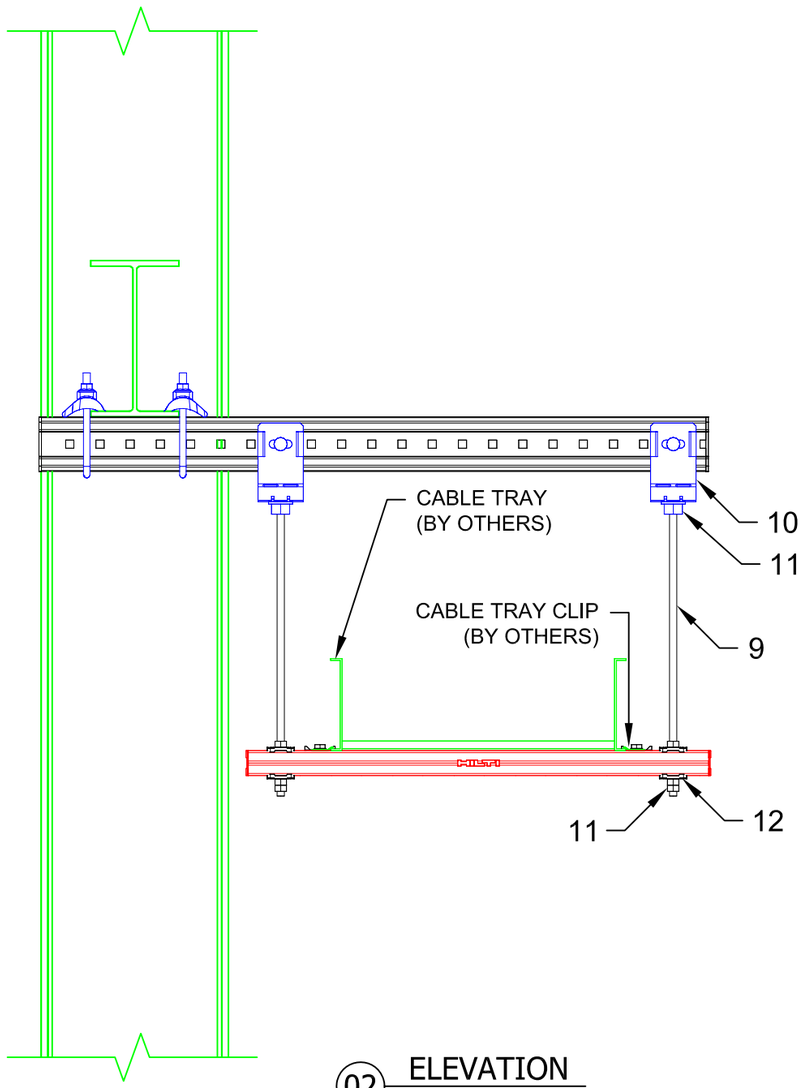
TYPICAL DETAIL NOMENCLATURE:

CT-C04-S

DRAWING NUMBER:	SHEET:
01	3/3



01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
2	AS REQ'D	EA	WING NUT MQM-F3/8"	50	AS REQ'D	377882
3	AS REQ'D	EA	HEX HEAD BOLT 3/8" x 1-1/4"	100	AS REQ'D	411764
4	AS REQ'D	EA	WASHER 3/8"	200	AS REQ'D	411757
5	AS REQ'D	EA	CHANNEL END CAP MEK RED	50	AS REQ'D	244886
6	AS REQ'D	EA	BEAM CLAMP MI-DGC 90	4	AS REQ'D	233860
7	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
8	AS REQ'D	EA	GIRDER END CAP MIA-EC90	25	AS REQ'D	432077
9	AS REQ'D	EA	THREADED ROD 1/2"-6' ZINC	12	AS REQ'D	257965
10	AS REQ'D	EA	THREADED ROD CONNECTOR MIC-TRC M12-1/2"	2	AS REQ'D	233856
11	AS REQ'D	EA	HEX NUT-HEAVY DUTY 1/2"	100	AS REQ'D	411753
12	AS REQ'D	EA	BASE PLATE MQZ-L1/2"	20	AS REQ'D	370633

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. NO LOADS CONSIDERED - CONCEPT ONLY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER - SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

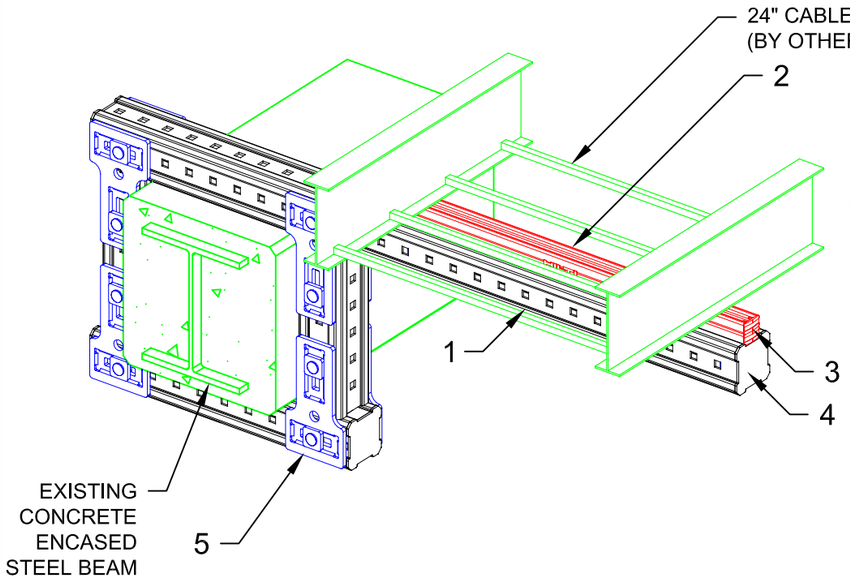
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

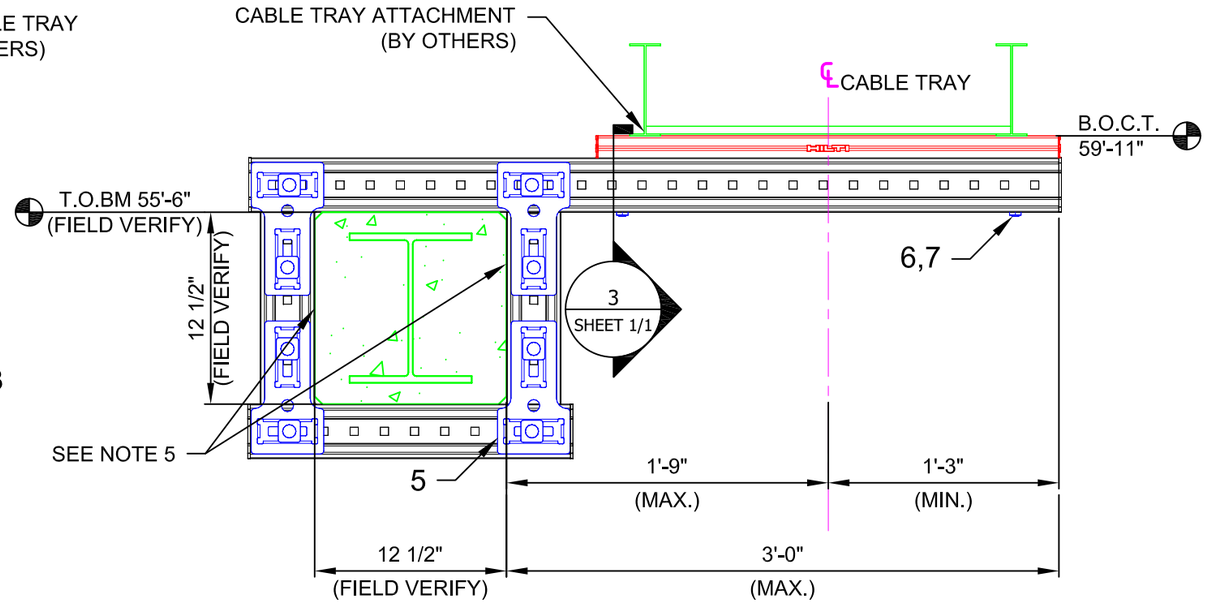
TYPICAL DETAIL NOMENCLATURE:

CT-C05-S

DRAWING NUMBER:	SHEET:
01	1/1

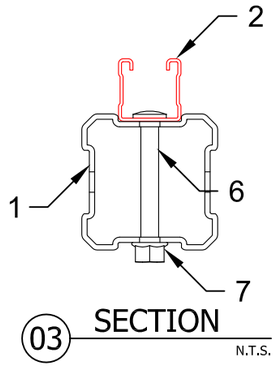


01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

ELEV. 02
SHEET 1/1



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
3	4	EA	CHANNEL END CAP MEK RED	50	1	244886
4	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
5	4	PR	CONNECTOR MIC-T	2	2	304807
6	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	2	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL TRAY:10 lbs/ft
      DL CABLE: 100 lbs/ft
      WL: 85 mph, Exp C, I_p=1.15
      EL: SDS = 1.146, I_p=1.25
   b. BUILDING CODE: LOS ANGELES COUNTY BUILDING CODE 2014
   c. CORROSION RESISTANCE REQD.: HDG
   d. MAX. SUPPORT SPACING = 4'-0"
2. ALL LOADS ASSUMED TO ACT AT CENTER LINE OF TRAY.
3. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
4. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
5. INSTALL SUPPORT STRUCTURE TIGHT TO FACE OF CONCRETE.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER - SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

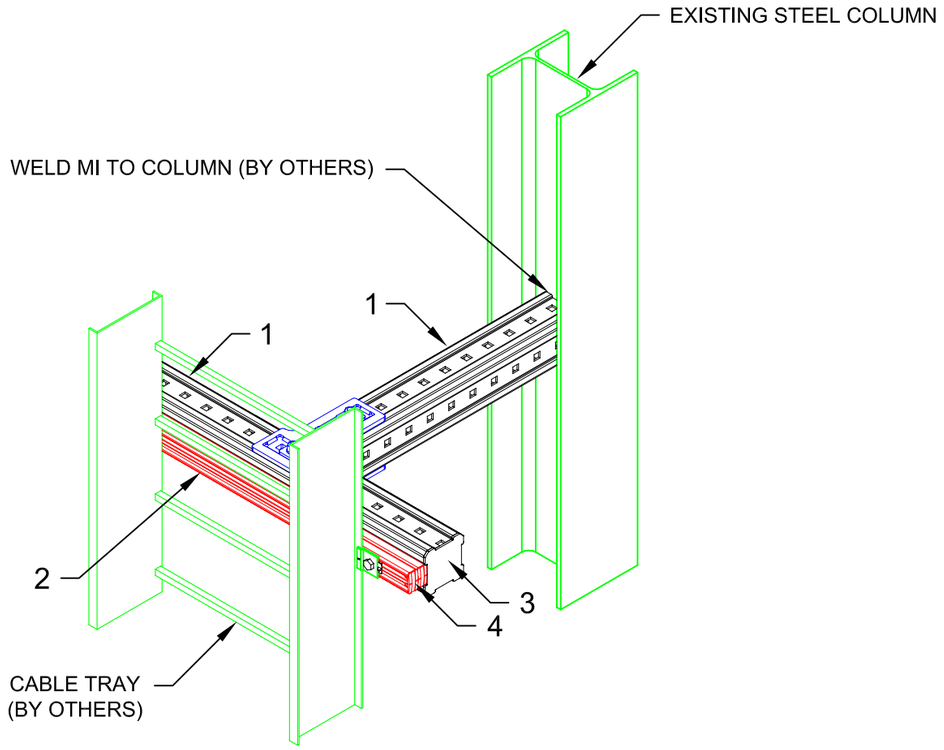
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

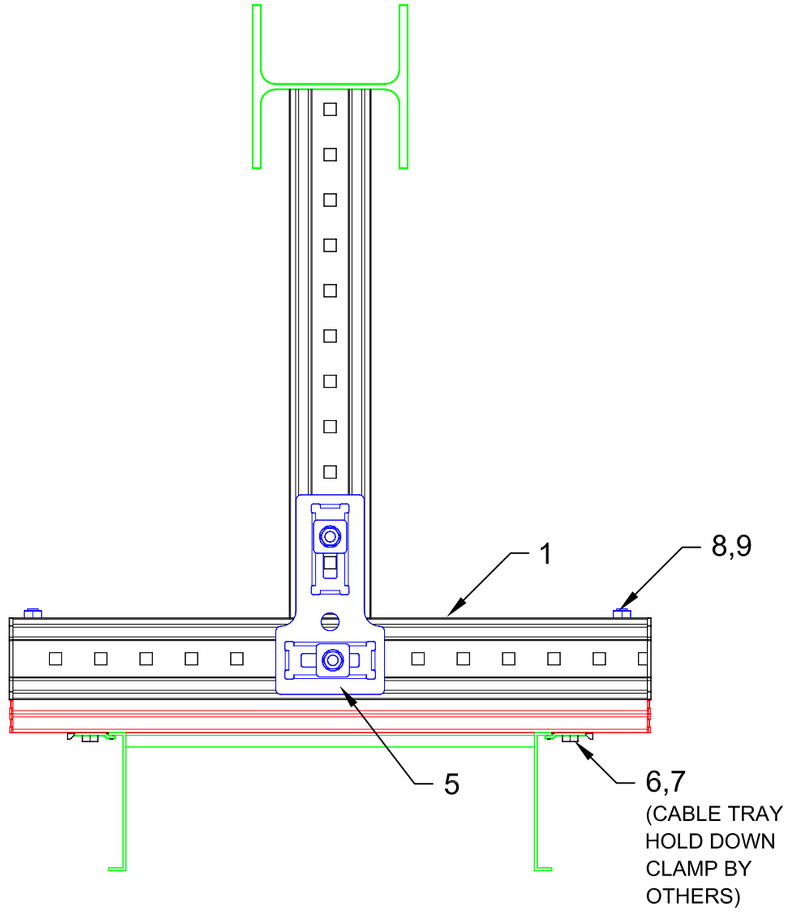
TYPICAL DETAIL NOMENCLATURE:

CT-C06-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 PLAN
N.T.S.

NOTE(S):
A. VERTICAL CABLE TRAY SHALL HAVE A MINIMUM OF TWO SUPPORT POINTS.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
3	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	1	PR	CONNECTOR MIC-T	2	1	304807
6	2	EA	HEX HEAD BOLT HDG 3/8"x1"	VARIES	VARIES	SPECIAL
7	2	EA	WING NUT MQM-F3/8"-F	25	1	304136
8	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
9	2	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. NO LOADS CONSIDERED - CONCEPT ONLY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: HDG/SS
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

WELDED CANTILEVER SINGLE - VERTICAL

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

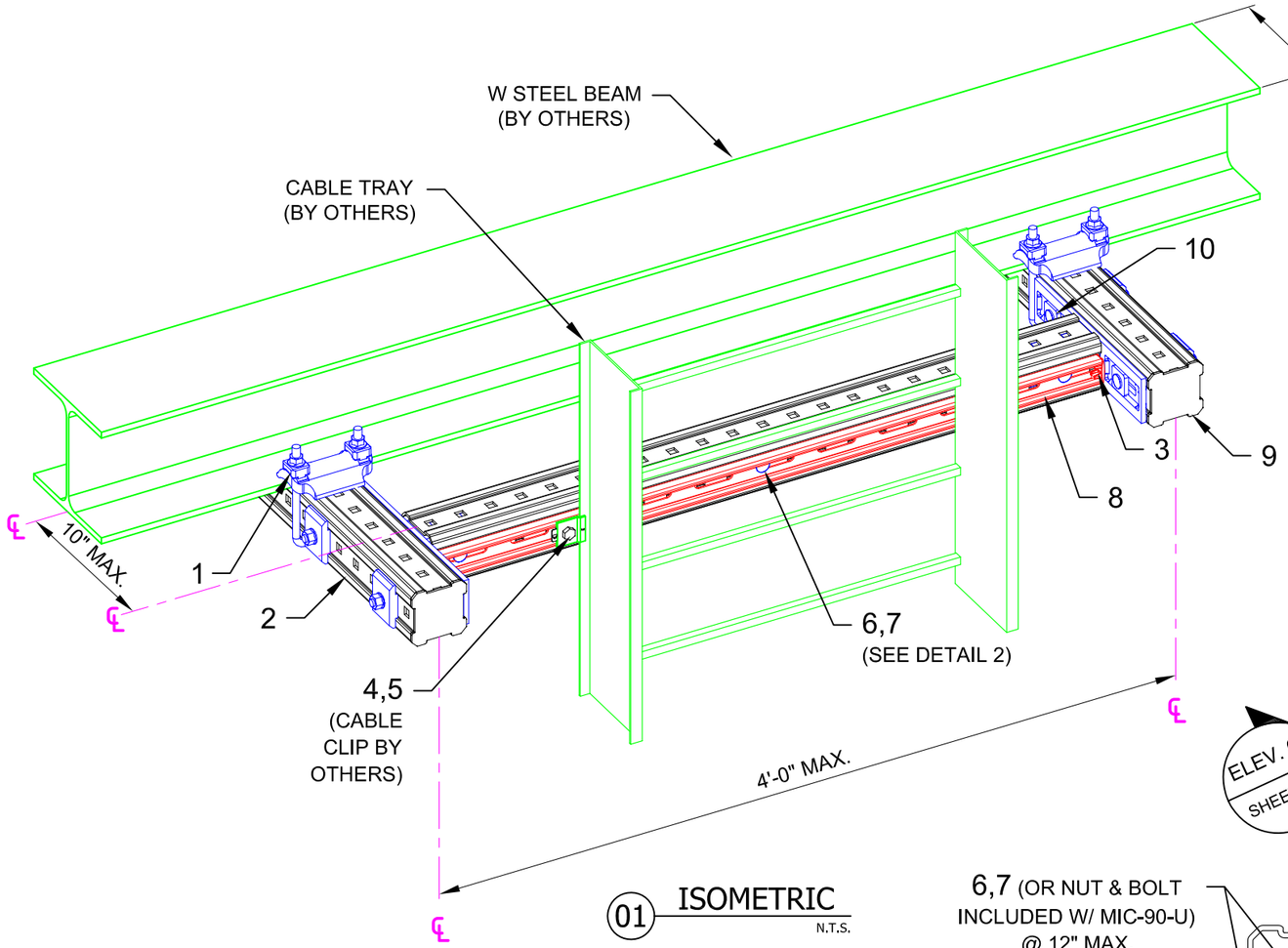
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

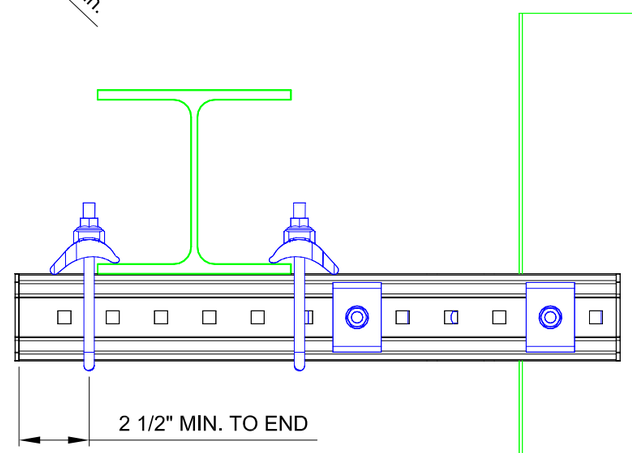
TYPICAL DETAIL NOMENCLATURE:

CT-C07-S

DRAWING NUMBER:	SHEET:
01	1/1



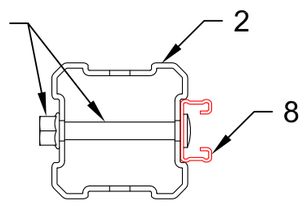
01 ISOMETRIC
N.T.S.



01 ELEVATION
N.T.S.

ELEV. 02
SHEET 1/1

6,7 (OR NUT & BOLT INCLUDED W/ MIC-90-U) @ 12" MAX.



03 DETAIL
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	4	EA	BEAM CLAMP MI-DGC 90	4	1	233860
2	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
3	2	EA	CHANNEL END CAP MEK RED	50	1	244886
4	2	EA	HEX HEAD BOLT HDG 0.375in x LENGTH AS REQUIRED	VARIES	AS REQ'D	SPECIAL
5	2	EA	WING NUT MQM-F3/8"-F	25	1	304136
6	1	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	1	EA	PREVAIL TORQUE HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
9	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
10	2	EA	CONNECTOR MIC-90-L	2	1	304805

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 1200 lbs.
   b. LATERAL LOADS NOT CONSIDERED
   c. CORROSION RESISTANCE REQD.: HDG
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. MAX. ASSUMED DEAD LOAD OUT-PLANE ECCENTRICITY = 4 IN.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER
SINGLE - VERTICAL

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

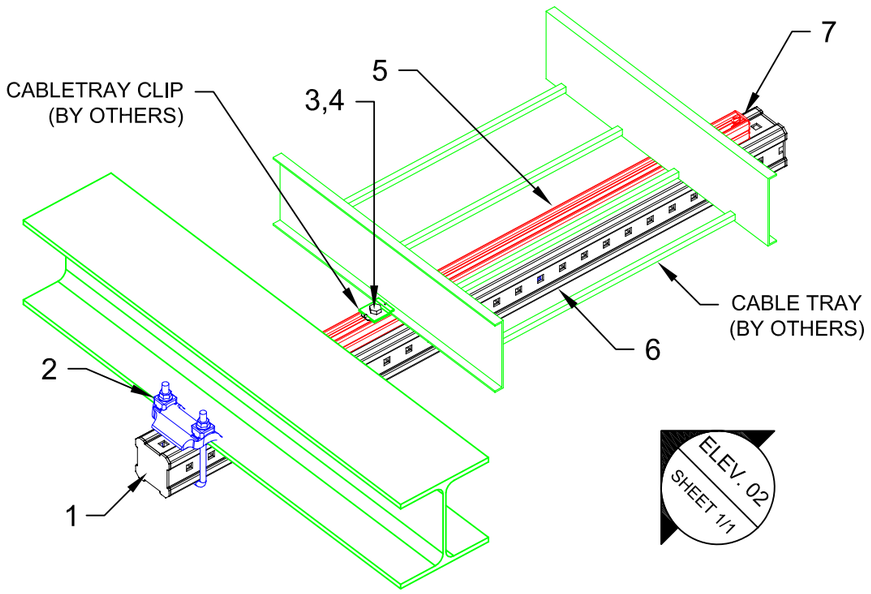
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

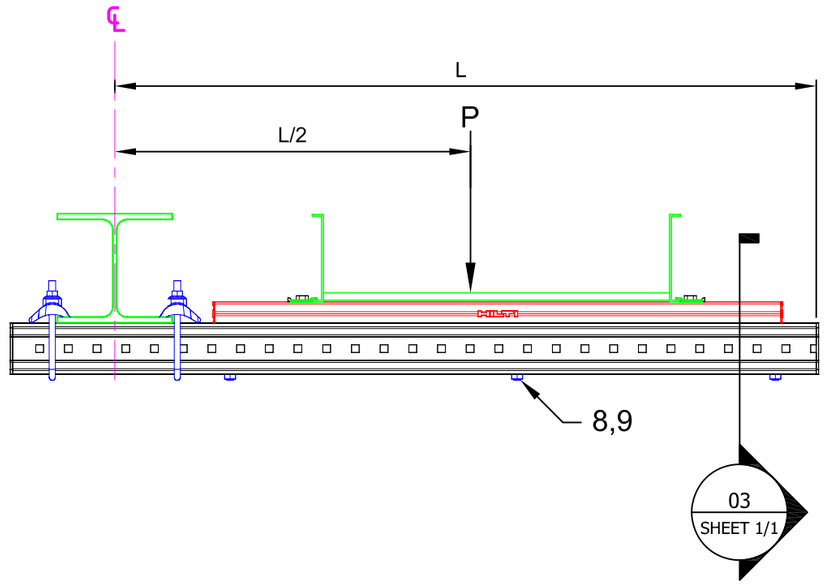
TYPICAL DETAIL NOMENCLATURE:

CT-C08-S

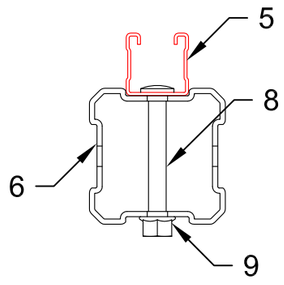
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
2	2	EA	BEAM CLAMP MI-DGC 90	4	1	233860
3	2	EA	HEX HEAD BOLT 1/2"X1" HDG	VARIES	VARIES	SPECIAL
4	2	EA	WING NUT MQM-F1/2"-F	25	1	304137
5	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
6	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
7	4	EA	CHANNEL END CAP MEK RED	50	1	244886
8	3	EA	ONEHAND SCREW MIA-OH90	10	1	304889
9	3	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL:
      L=4'-0": P_{MAX}=540 lbs
      L=5'-0": P_{MAX}=450 lbs
      L=6'-0": P_{MAX}=375 lbs
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NBC
   d. CORROSION RESISTANCE REQD.: HDG / EG
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER - SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

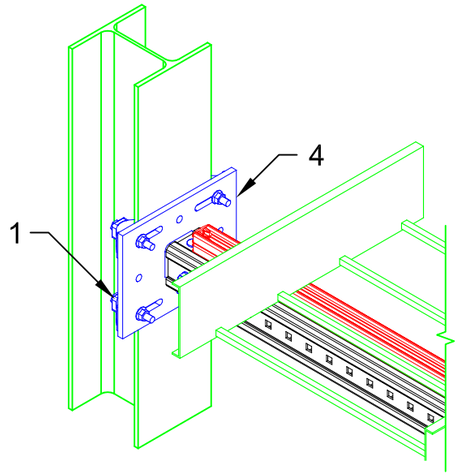
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

TYPICAL DETAIL NOMENCLATURE:

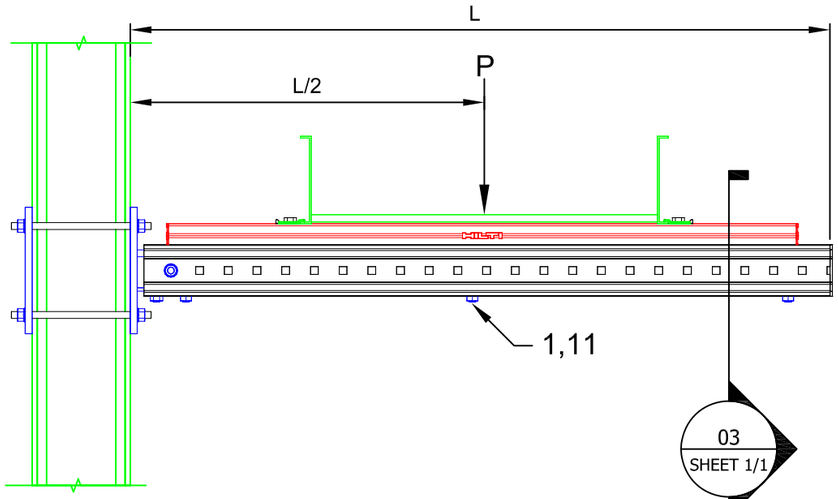
CT-C09-S

DRAWING NUMBER:	SHEET:
01	1/1



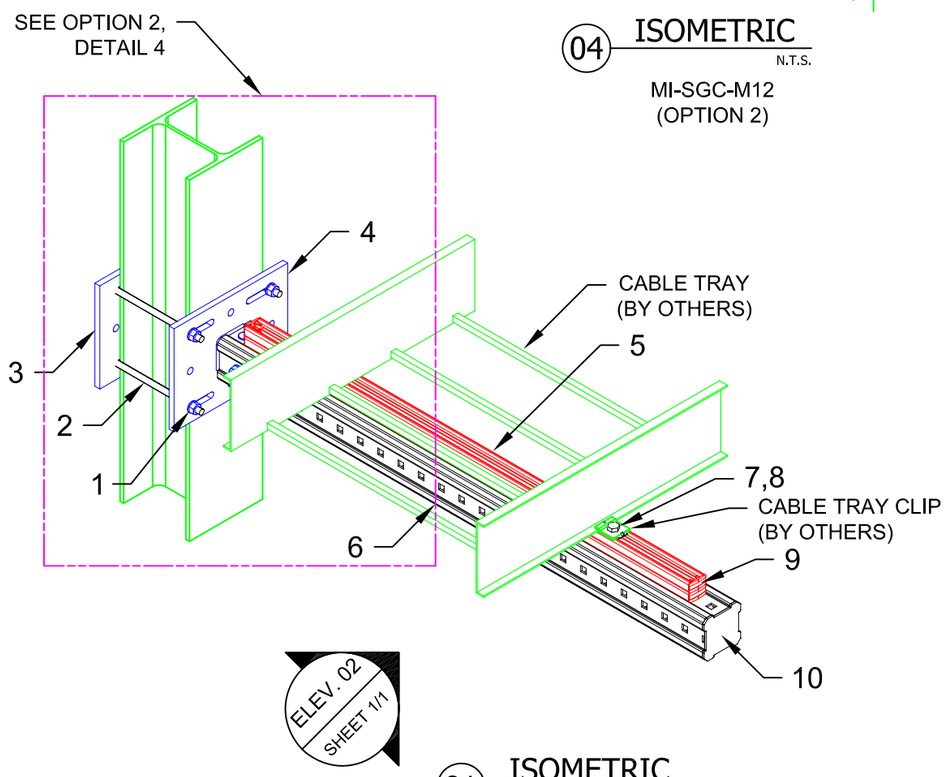
04 ISOMETRIC
N.T.S.

MI-SGC-M12
(OPTION 2)



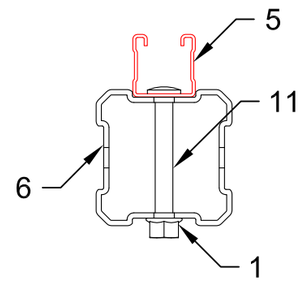
02 ELEVATION
N.T.S.

ROD CONNECTOR
(OPTION 1)



01 ISOMETRIC
N.T.S.

ROD CONNECTOR
(OPTION 1)



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	11	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
2	AS REQ'D	EA	THREADED STUD Grade 8.8 M12X1000-F (3.28 ft)	15	AS REQ'D	304774
3	1	EA	BASEPLATE MIB-SA STEEL	2	1	304821
4	1	EA	CONNECTOR MIC-S90-A STEEL	2	1	304812
5	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
6	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
7	2	EA	HEX HEAD BOLT 1/2"X1" HDG	VARIES	VARIES	SPECIAL
8	2	EA	WING NUT MQM-F1/2"-F	25	1	304137
9	4	EA	CHANNEL END CAP MEK RED	50	1	244886
10	1	EA	GIRDER END CAP MIA-EC90	25	1	432077
11	3	EA	ONEHAND SCREW MIA-OH90	10	1	304889
12	4	EA	BEAM CLAMP MI-SGC-M12 (MI-SGC OPTION 2)	16	1	233859

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL:
      L=4'-0": P_{MAX}=240 lbs
      L=5'-0": P_{MAX}=175 lbs
      L=6'-0": P_{MAX}=140 lbs
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NBC
   d. CORROSION RESISTANCE REQD.: HDG / EG
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER - SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

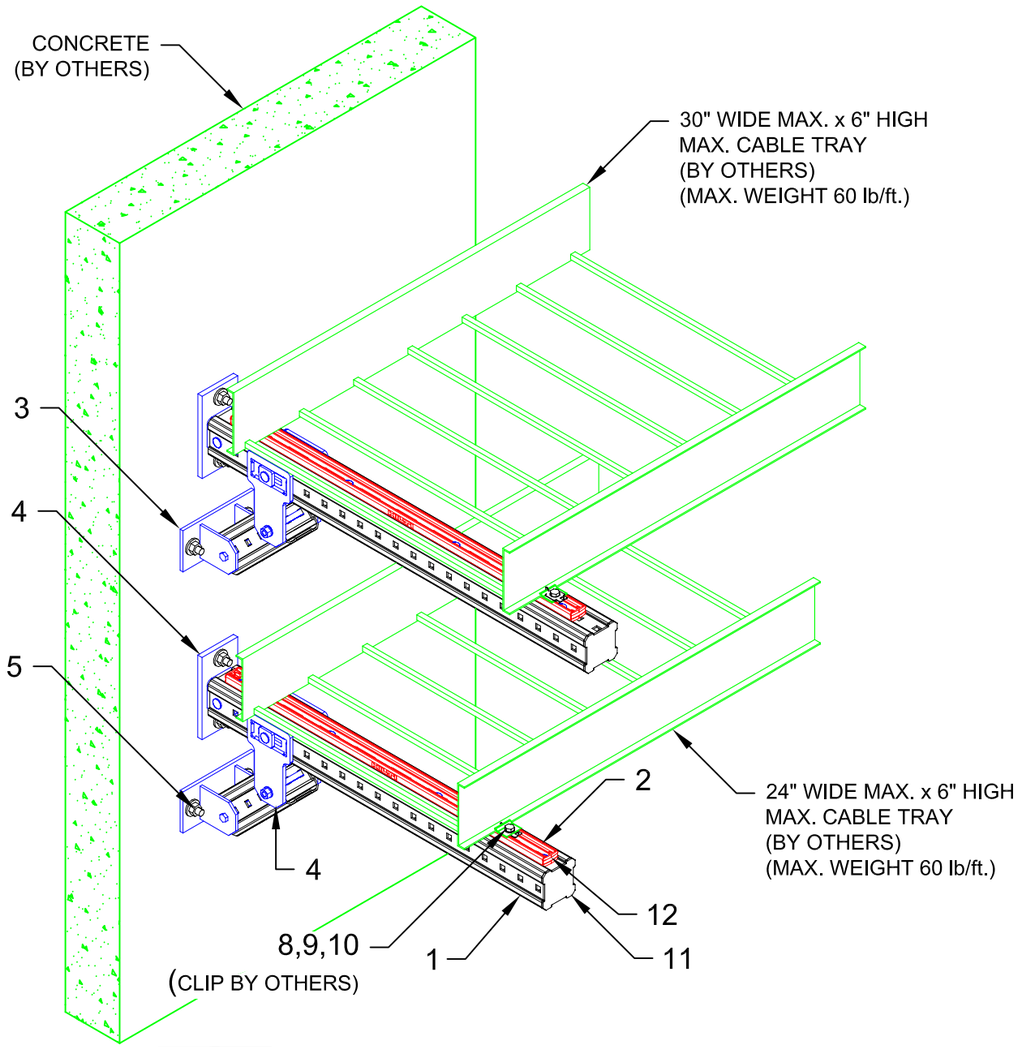
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

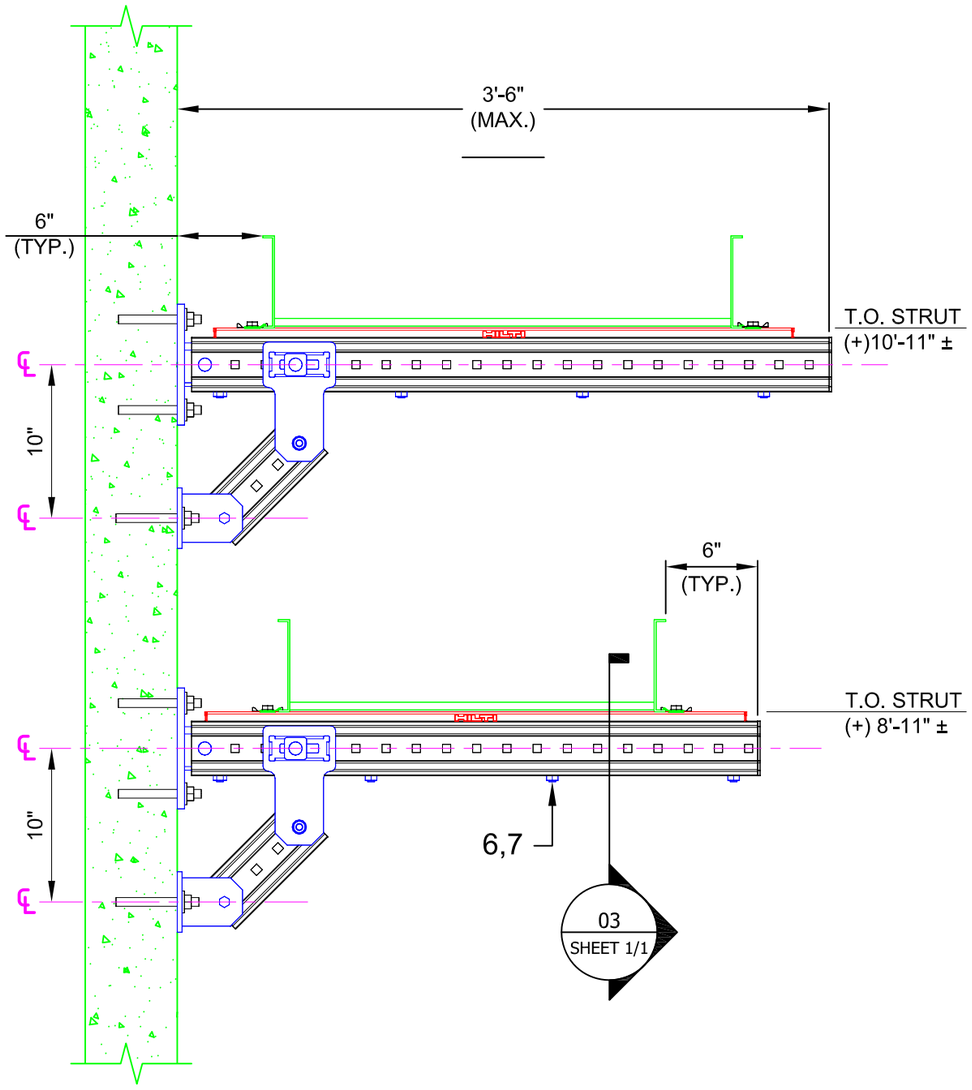
TYPICAL DETAIL NOMENCLATURE:

CT-C10-S

DRAWING NUMBER:	SHEET:
01	1/1

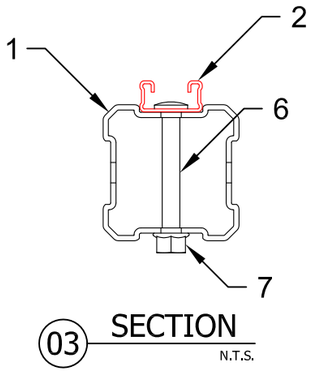


01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-1316-12/PG 10'	1	AS REQ'D	407543
3	2	EA	CONNECTOR MIC-CU-MA CONCRETE	4	1	304828
4	2	EA	CONNECTOR MIC-C90-AA CONCRETE	2	1	304825
5	8	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
6	6	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	6	EA	PREVAIL TORQUE HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	4	EA	WING NUT MQM-F3/8"	50	1	377882
9	4	EA	WASHER-USS 3/8"	200	1	411757
10	4	EA	HEX HEAD BOLT 3/8"-11/4" 100/BOX	100	1	411764
11	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
12	2	EA	CHANNEL END CAP MEK RED	50	1	244886



03 SECTION
N.T.S.

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN LOADS:
   DL: 60 lb./ft. PER CABLE TRAY
   WL: 8 psf. (INTERNAL WIND PRESSURE)
3. REFER TO APPROPRIATE IFUs FOR RECOMMENDED INSTALLATION INFO.
4. MAX. SUPPORT SPACING = 8'-10"
5. ADEQUACY OF CONCRETE BY OTHERS, NOT VERIFIED BY HILTI.
6. UNIT WEIGHT OF FRAMING AS FOLLOWS:
   a. MI-90: 6.34 lb/ft
   b. STRUT HS-1316-12/PG: 1.287 lb/ft

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

CANTILEVER - DOUBLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
HAM	12 DEC 14

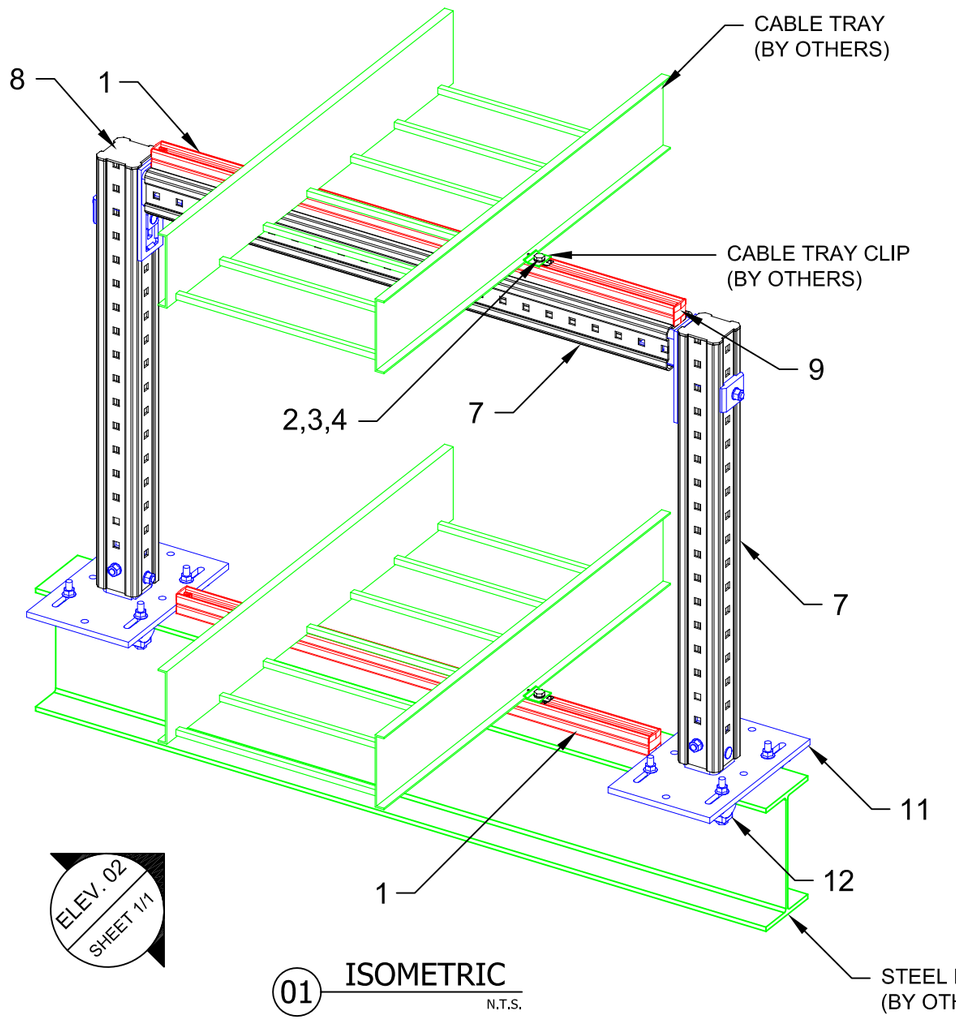
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	12 DEC 14

TYPICAL DETAIL NOMENCLATURE:

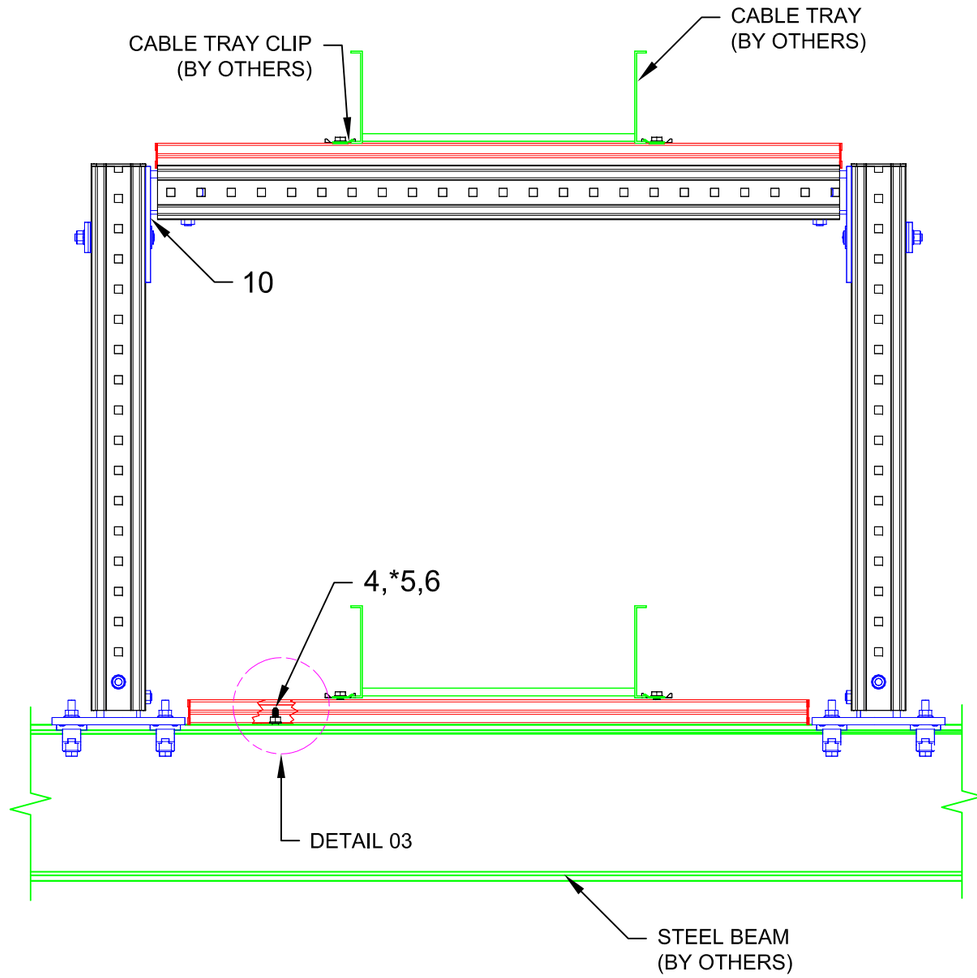
CT-C11-C

DRAWING NUMBER:	SHEET:
01	1/1



ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.



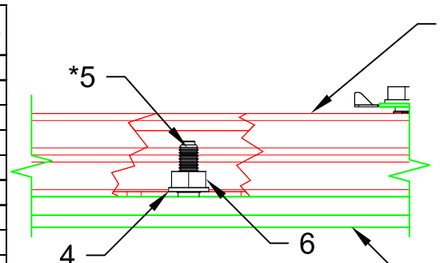
02 ELEVATION
N.T.S.

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
2	AS REQ'D	EA	WING NUT MQM-F3/8"	50	AS REQ'D	377882
3	AS REQ'D	EA	HEX HEAD BOLT 3/8" x 1-1/4"	100	AS REQ'D	411764
4	AS REQ'D	EA	WASHER 3/8"	200	AS REQ'D	411757
5	AS REQ'D	EA	X-BTW10-24-6 SN12-R	100	AS REQ'D	377076
6	AS REQ'D	EA	HEX NUT-HEAVY DUTY 3/8"	100	AS REQ'D	411752
7	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
8	AS REQ'D	EA	GIRDER END CAP MIA-EC90	25	AS REQ'D	432077
9	AS REQ'D	EA	CHANNEL END CAP MEK RED	50	AS REQ'D	244886
10	AS REQ'D	EA	CONNECTOR MIC-90-U	4	AS REQ'D	304803
11	AS REQ'D	EA	CONNECTOR MIC-S90-X STEEL (SEE TABLE)	VARIES	AS REQ'D	VARIES
12	AS REQ'D	EA	BEAM CLAMP MI-SGC-M12	16	AS REQ'D	233859



03 DETAIL
N.T.S.

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. NO LOADS CONSIDERED - CONCEPT ONLY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
3. *MATERIAL THICKNESS IN STEEL BASE ≥ 5/16". MINIMUM EDGE DISTANCE AND MINIMUM SPACING ARE 1/4" AND 5/8" RESPECTIVELY.

All loading and design criteria supplied by customer is assumed accurate. Only the stated Design Assumptions were considered, and must be verified by the responsible Engineer of Record (EOR). The basis of Hilti component and connection design is the published data in the current Hilti Technical Guide, including material and cross-section properties, allowable load values, factors of safety, methods of calculation, and limiting factors. The EOR must verify suitability for any specific application, and the capacity of the supportive structure to receive the shown configuration and associated reaction loads. Modification to components and/or design may alter performance and must be evaluated by the EOR.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - DIRECT W/X-BT

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	05 JAN 15

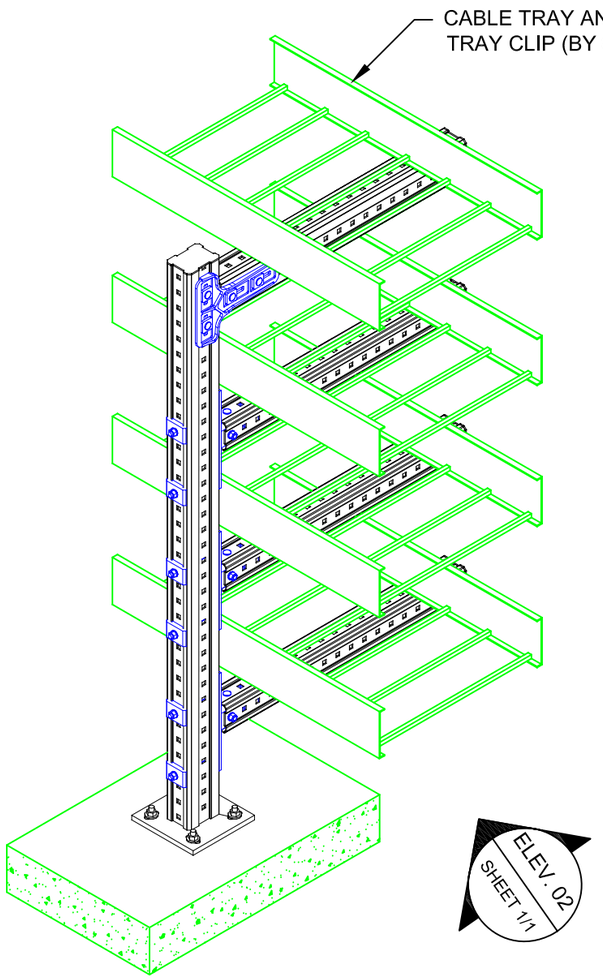
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	05 JAN 15

TYPICAL DETAIL NOMENCLATURE:

CT-D01-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
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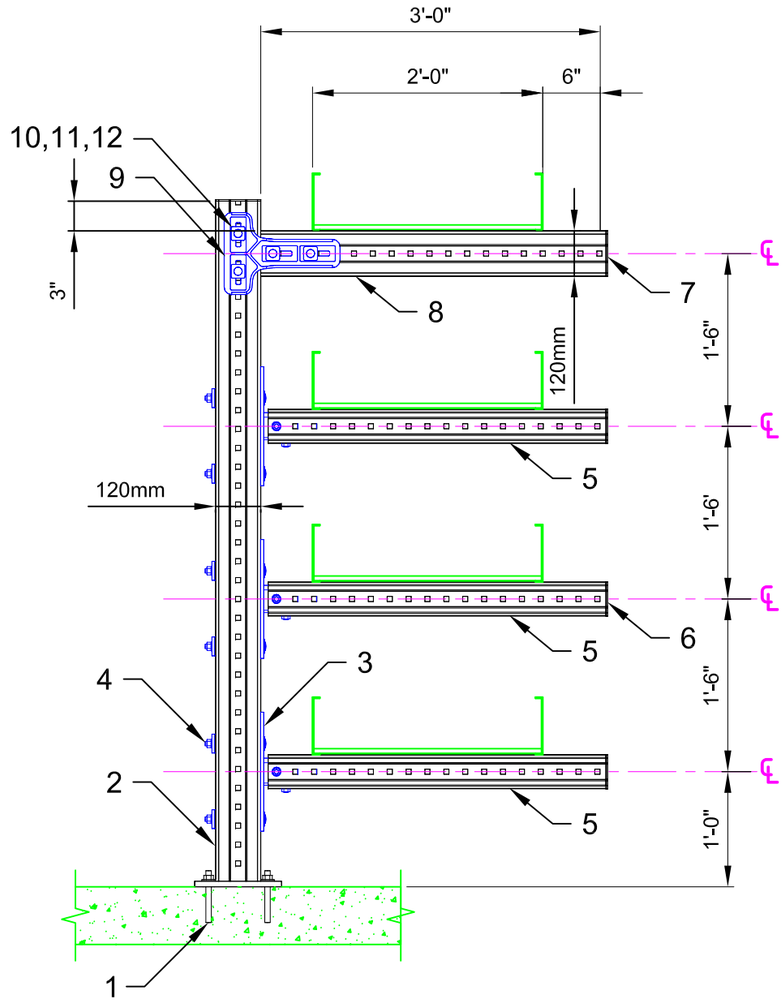


02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	4	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
2	1	EA	CONNECTOR MIC-C120-D-2000 WELDED BRACKET	1	1	270472
3	3	EA	CONNECTOR MIC-90-L	2	2	304805
4	6	EA	EASYHAND SCREW MIA-EH120	10	1	304888
5	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
6	3	EA	GIRDER END CAP MIA-EC90	25	1	432077
7	2	EA	GIRDER END CAP MIA-EC120	25	1	432078
8	AS REQ'D	EA	GIRDER MI-120 3M	1	AS REQ'D	304800
9	1	PR	CONNECTOR MIC-90-LH	3	1	2048107
10	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
11	4	EA	TOOTHED PLATE MIA-TP	20	1	305707
12	4	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION.
2. DESIGN LOADS:
   DL: 30 lb/ft.
   LL: N/A
   WL: 0.32kPa
   EL: S_{DS} = 0.156
   S_{D1} = 0.032
   SNOW LOAD NOT INCLUDED DUE TO LOCATION OF SUPPORTS UNDER BLDG.
3. REFER TO APPROPRIATE IFUs FOR RECOMMENDED INSTALLATION INFO.
4. MAX. SUPPORT SPACING = 8'-0"

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F-SHAPE - 4 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	17 NOV 14

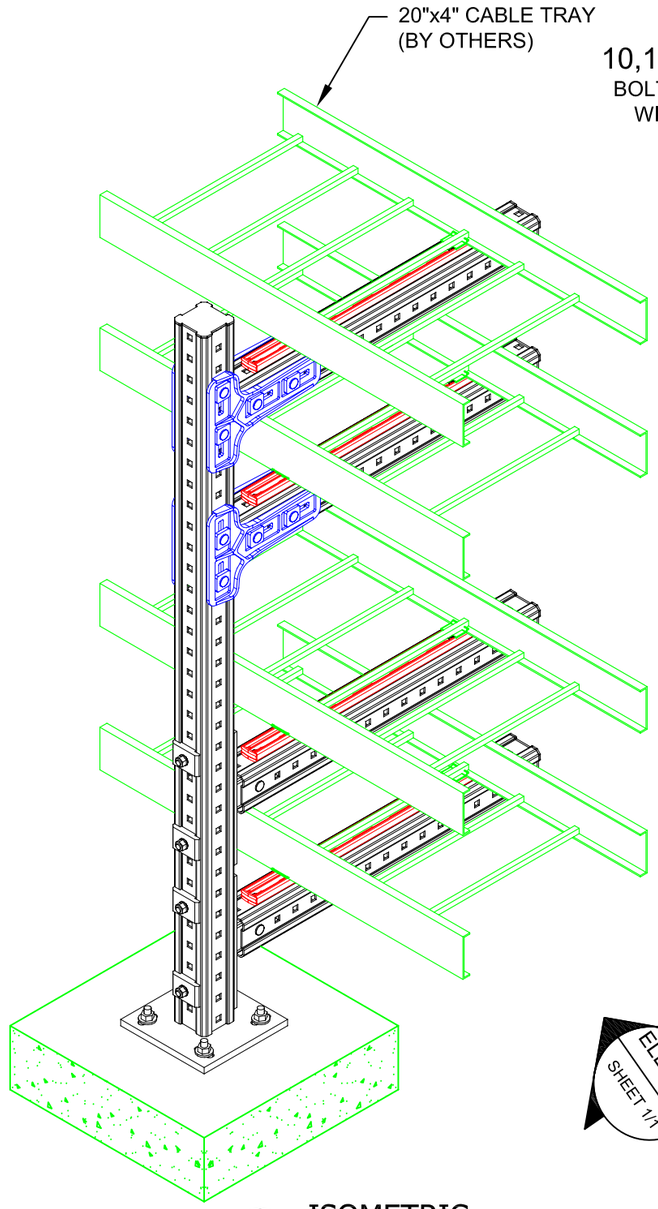
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	17 NOV 14

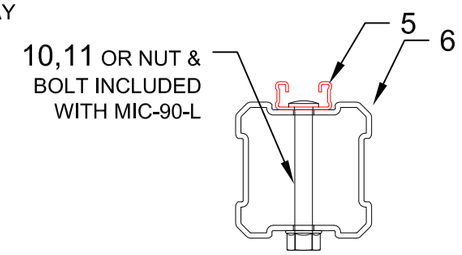
TYPICAL DETAIL NOMENCLATURE:

CT-F01-C

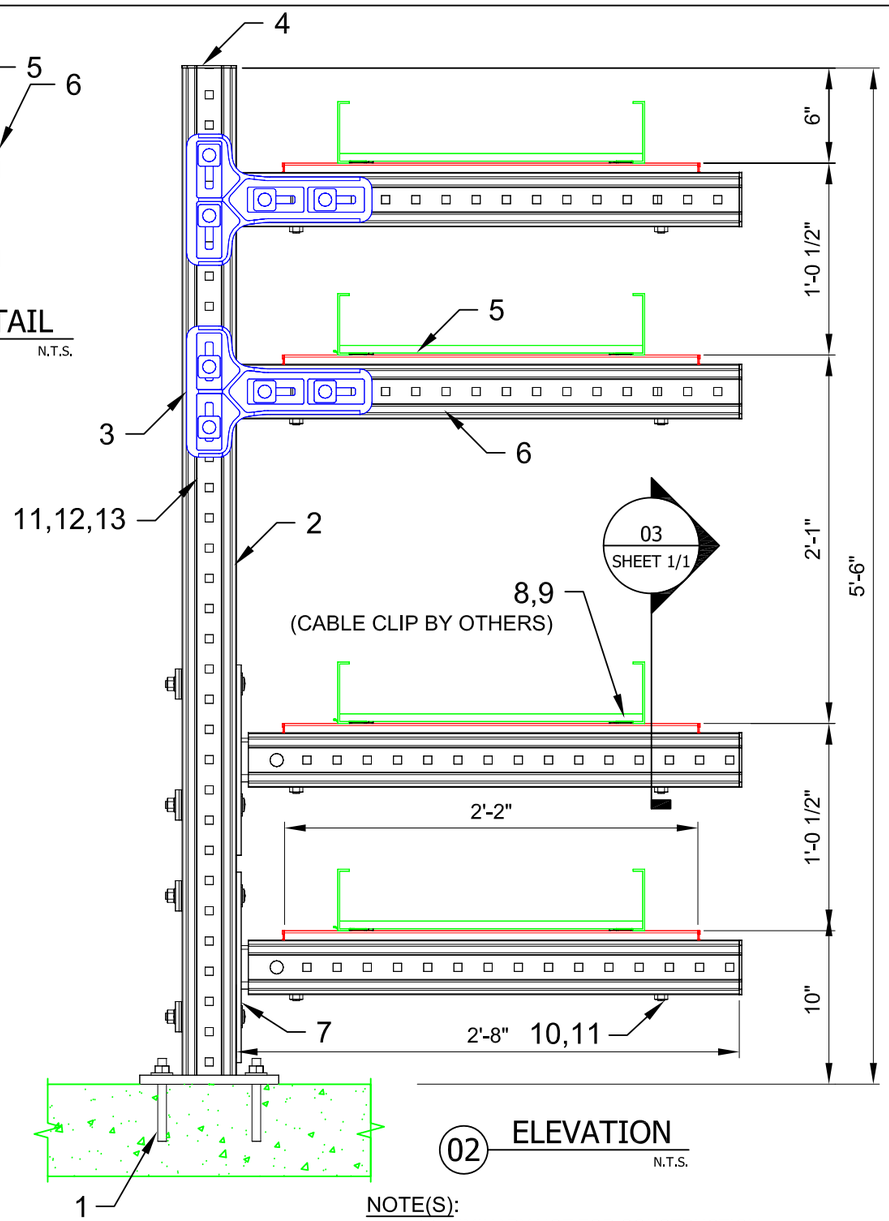
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



03 MQ TO MI DETAIL
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	4	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
2	1	EA	CONNECTOR MIC-C90-D-2000 WELDED BRACKET	1	1	267793
3	2	EA	CONNECTOR MIC-90-LH	-	-	SPECIAL
4	5	EA	GIRDER END CAP MIA-EC90	25	1	432077
5	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
6	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
7	2	EA	CONNECTOR MIC-90-L	2	1	304805
8	8	EA	WING NUT MQM-F3/8"-F	25	1	304136
9	8	EA	3/8"x1/2"LONG HDG HEX HEAD BOLT	-	-	SPECIAL
10	5	EA	ONEHAND SCREW MIA-OH90	10	1	304889
11	9	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
12	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
13	4	EA	TOOTHED PLATE MIA-TP	20	1	305707

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION.
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      20" TRAY LOAD = 26 lb/ft PER TRAY
      DESIGN LOADS PER ASCE 7-10 BASED ON SITE AT FRESNO, CA
      BASIC WIND LOAD = 115mph
      WIND EXPOSURE = C
      SEISMIC DESIGN VALUES
         IMPORTANCE FACTOR = 1.50
         Sds = 0.607 (SHORT PERIOD)
         Sd1 = 0.350 (LONG PERIOD)
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: IBC 2006 / 2009 / 2012
   d. CORROSION RESISTANCE REQD.: HDG / SS / EG
   e. MAX. SUPPORT SPACING = 6'-0"
2. FOR LOCATION WITH FEWER TRAYS, DELETE ARMS AND CONNECTORS AS REQ'D.
3. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
4. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F-SHAPE - 4 ARM

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	17 NOV 14

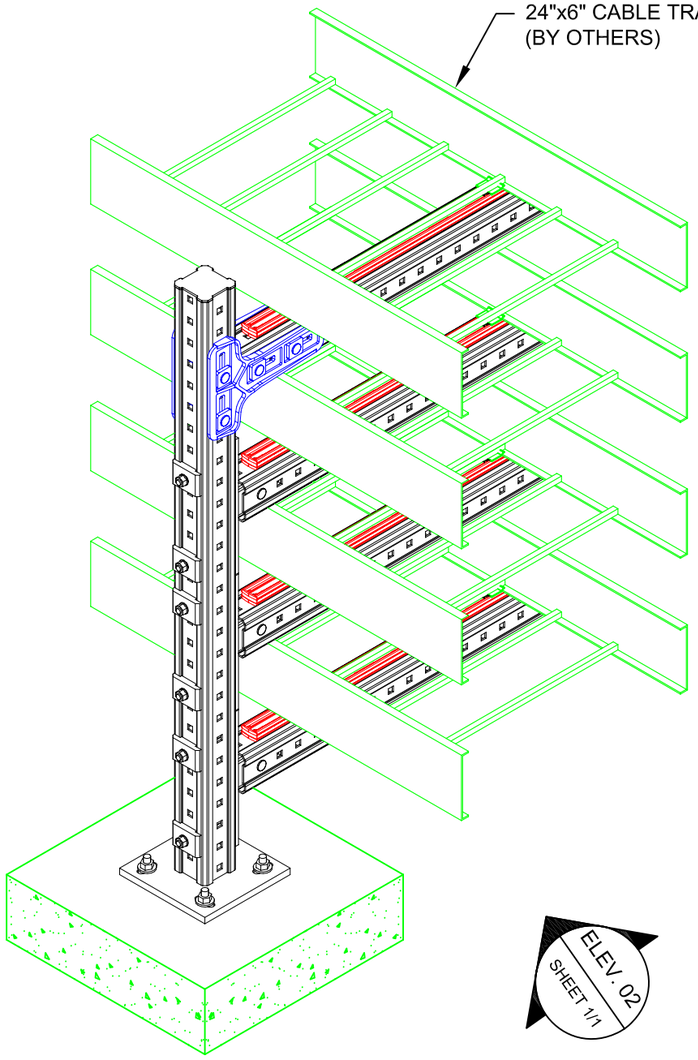
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	17 NOV 14

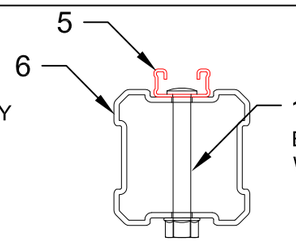
TYPICAL DETAIL NOMENCLATURE:

CT-F02-C

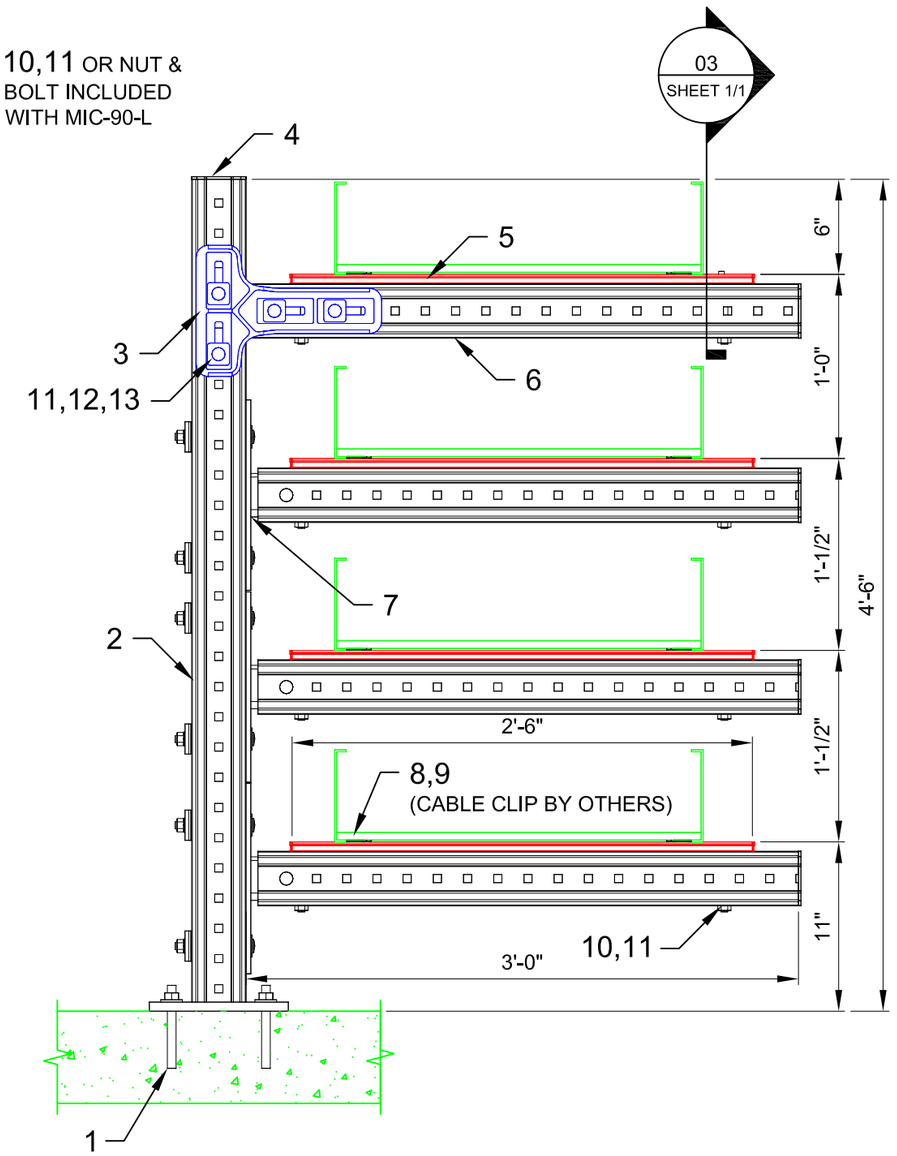
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	4	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
2	1	EA	CONNECTOR MIC-C90-D-2000 WELDED BRACKET	1	1	267793
3	1	EA	CONNECTOR MIC-90-LH	-	-	SPECIAL
4	5	EA	GIRDER END CAP MIA-EC90	25	1	432077
5	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
6	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
7	3	EA	CONNECTOR MIC-90-L	2	2	304805
8	8	EA	WING NUT MQM-F3/8"-F	25	1	304136
9	8	EA	3/8"x1/2"LONG HDG HEX HEAD BOLT	-	-	SPECIAL
10	5	EA	ONEHAND SCREW MIA-OH90	10	1	304889
11	9	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
12	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
13	4	EA	TOOTHED PLATE MIA-TP	20	1	305707

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      24" TRAY LOAD = 30 lb/ft.
      WIND = 0.32 kPa
      SEISMIC S_{DS} = 0.156
      S_{D1} = 0.032
      SNOW LOAD NOT INCLUDED DUE TO LOCATION OF SUPPORTS UNDER BLDG.
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: IBC 2006 / 2009 / 2012
   d. CORROSION RESISTANCE REQD.: HDG / SS / EG
   e. MAX. SUPPORT SPACING = 8'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F-SHAPE - 4 ARM

DESIGNED BY:	REVIEWED BY:
AJV	KL
DRAWN BY:	ISSUE DATE:
BAP	18 NOV 14

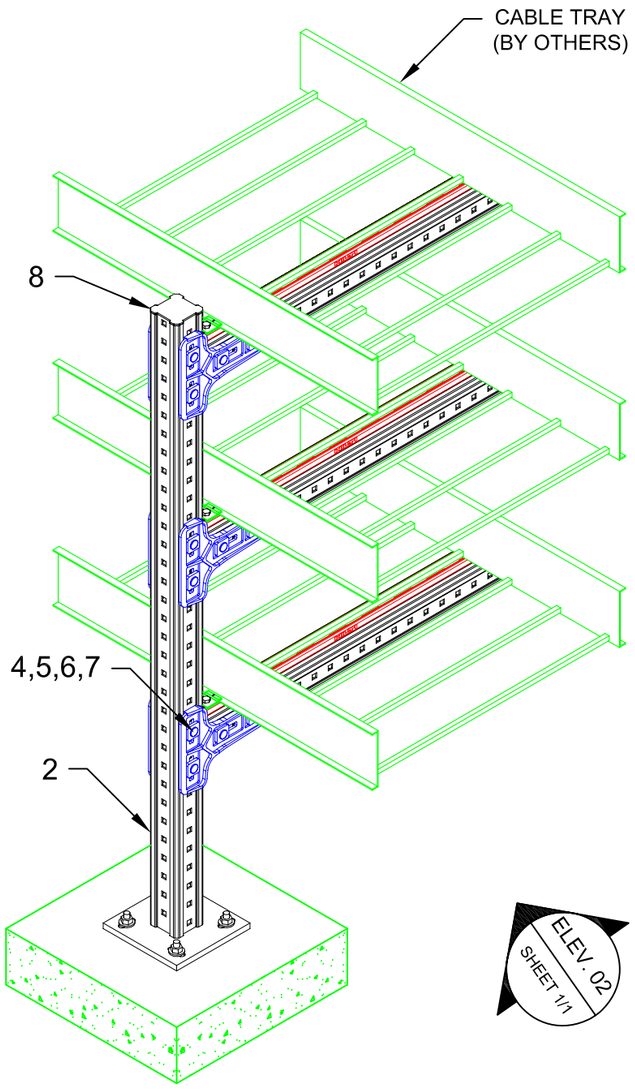
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	18 NOV 14

TYPICAL DETAIL NOMENCLATURE:

CT-F03-C

DRAWING NUMBER:	SHEET:
01	1/1



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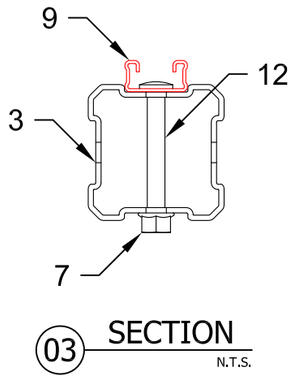
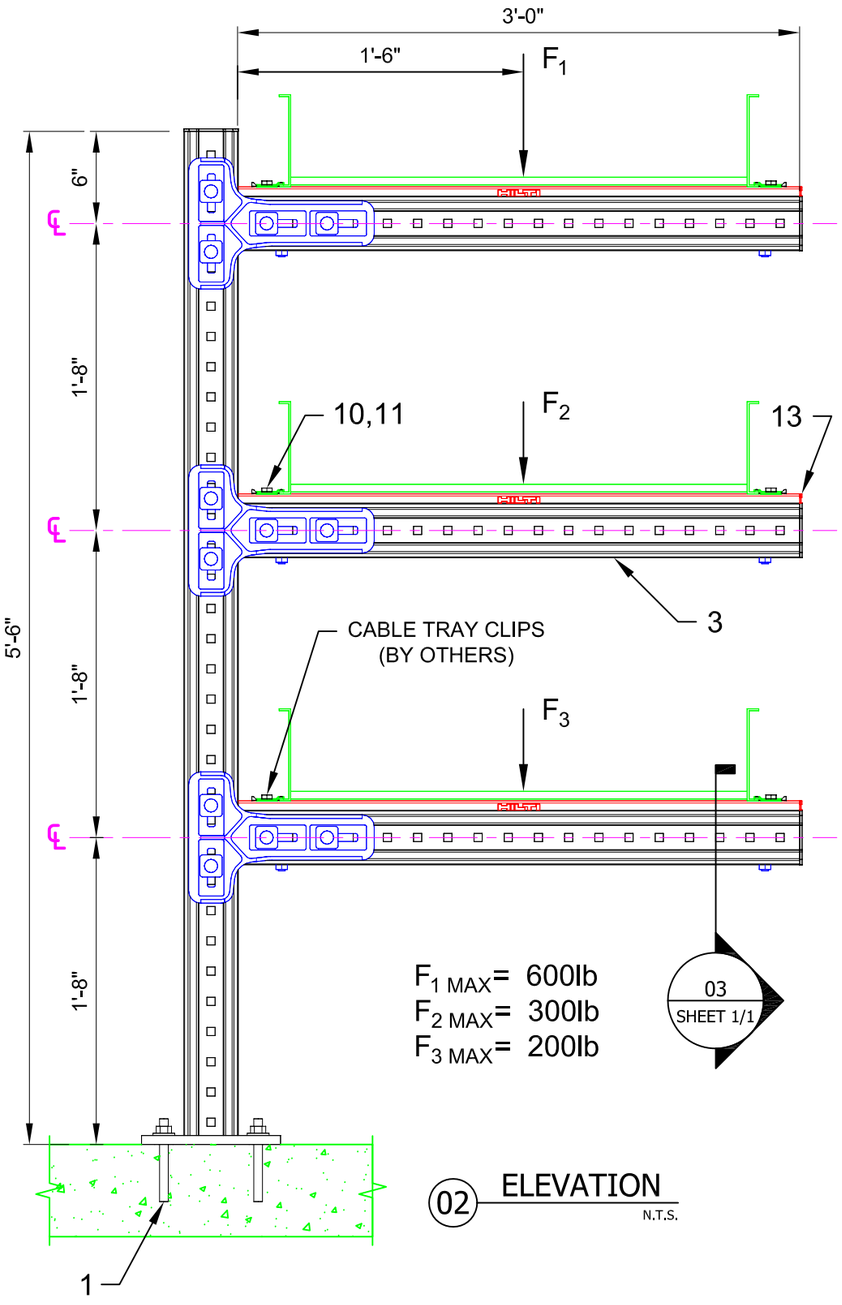
N.T.S.



03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	4	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
2	1	EA	CONNECTOR MIC-C90-D-2000 WELDED BRACKET	1	1	267793
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	3	PR	CONNECTOR MIC-90-LH (2048107)	3	1	SPECIAL
5	12	EA	EASYHAND SCREW MIA-EH90	10	2	304887
6	12	EA	TOOTHED PLATE MIA-TP	20	1	305707
7	18	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
9	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
10	6	EA	WING NUT MQM-F3/8"-F	25	1	304136
11	6	EA	3/8" x 1/2" LONG HDG HEX HEAD BOLT	VARIES	VARIES	SPECAIL
12	6	EA	ONEHAND SCREW MIA-OH90	10	1	304889
13	3	EA	CHANNEL END CAP MEK RED	50	1	244886

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION.
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: AS SHOWN ON SUPPORT
      LOADS ARE ULTIMATES.
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: IBC 2006 / 2009 / 2012
   d. CORROSION RESISTANCE REQD.: HDG / SS / EG
   e. MAX. SUPPORT SPACING = TBD
2. ALL LOADS ASSUMED TO ACT AT CENTER OF PIPE(S), U.N.O.
3. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
4. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F-FRAME - 3 TIER

DESIGNED BY:	REVIEWED BY:
AJV	KL
DRAWN BY:	ISSUE DATE:
BAP	18 NOV 14

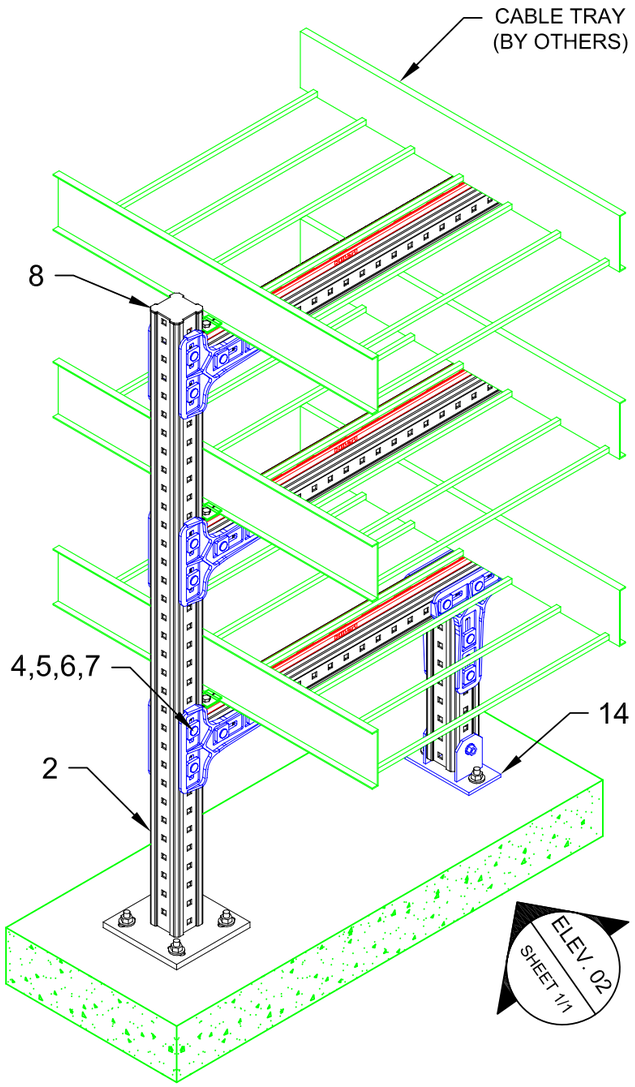
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	18 NOV 14

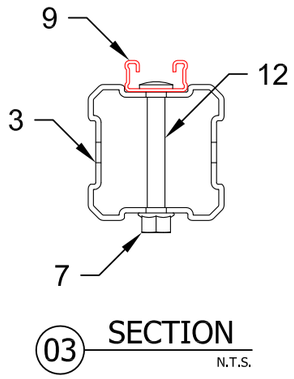
TYPICAL DETAIL NOMENCLATURE:

CT-F04-C

DRAWING NUMBER:	SHEET:
01	1/1

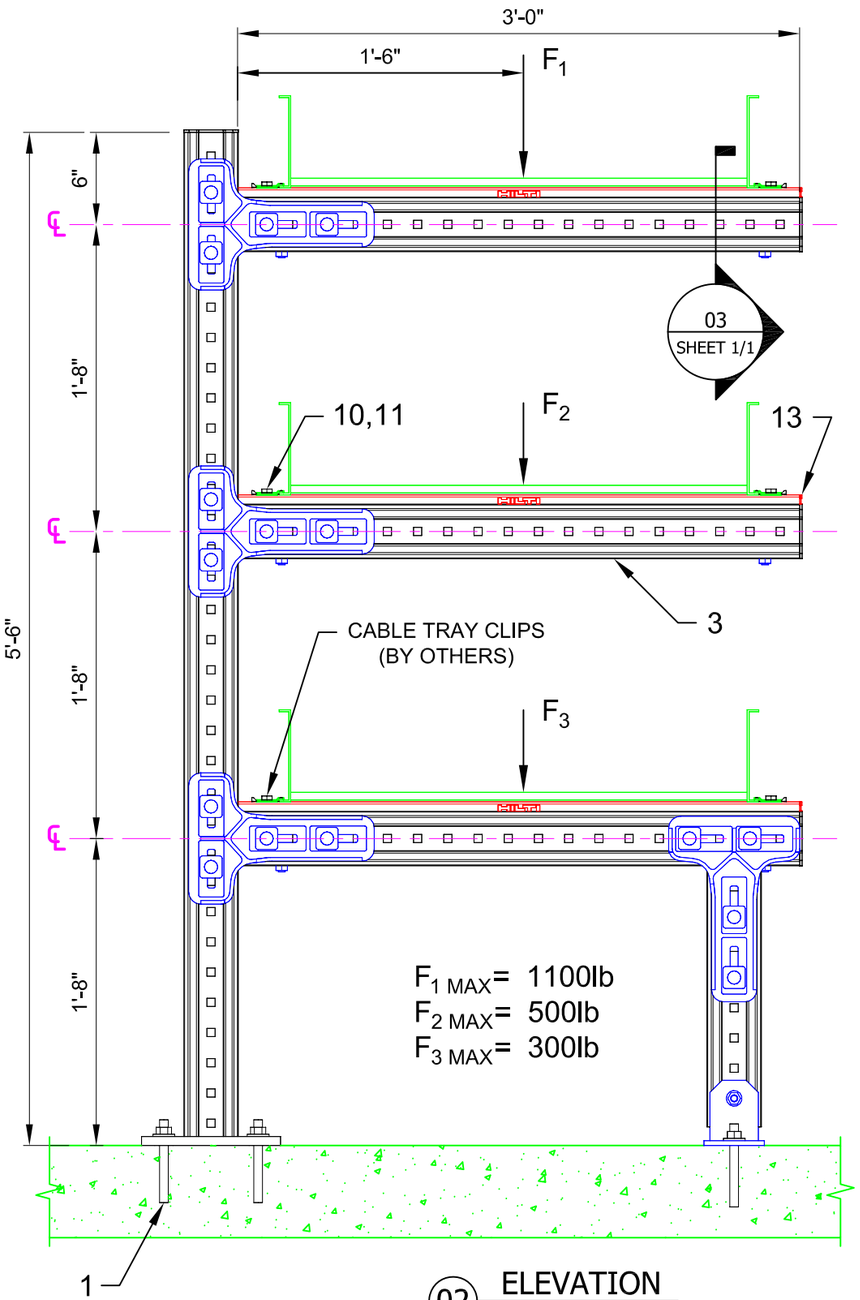


01 ISOMETRIC
N.T.S.



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	6	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
2	1	EA	CONNECTOR MIC-C90-D-2000 WELDED BRACKET	1	1	267793
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	4	PR	CONNECTOR MIC-90-LH (2048107)	3	2	SPECIAL
5	16	EA	EASYHAND SCREW MIA-EH90	10	2	304887
6	16	EA	TOOTHED PLATE MIA-TP	20	1	305707
7	22	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
9	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
10	6	EA	WING NUT MQM-F3/8"-F	25	1	304136
11	6	EA	3/8" x 1/2" LONG HDG HEX HEAD BOLT	VARIES	VARIES	SPECAIL
12	6	EA	ONEHAND SCREW MIA-OH90	10	1	304889
13	3	EA	CHANNEL END CAP MEK RED	50	1	244886
14	1	EA	CONNECTOR MIC-CU-MA CONCRETE	4	1	304828



02 ELEVATION
N.T.S.

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION.
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: AS SHOWN ON SUPPORT
      LOADS ARE ULTIMATES.
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: IBC 2006 / 2009 / 2012
   d. CORROSION RESISTANCE REQD.: HDG / SS / EG
   e. MAX. SUPPORT SPACING = TBD
2. ALL LOADS ASSUMED TO ACT AT CENTER OF PIPE(S), U.N.O.
3. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
4. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F-FRAME - 3 TIER

DESIGNED BY:	REVIEWED BY:
AJV	KL
DRAWN BY:	ISSUE DATE:
BAP	18 NOV 14

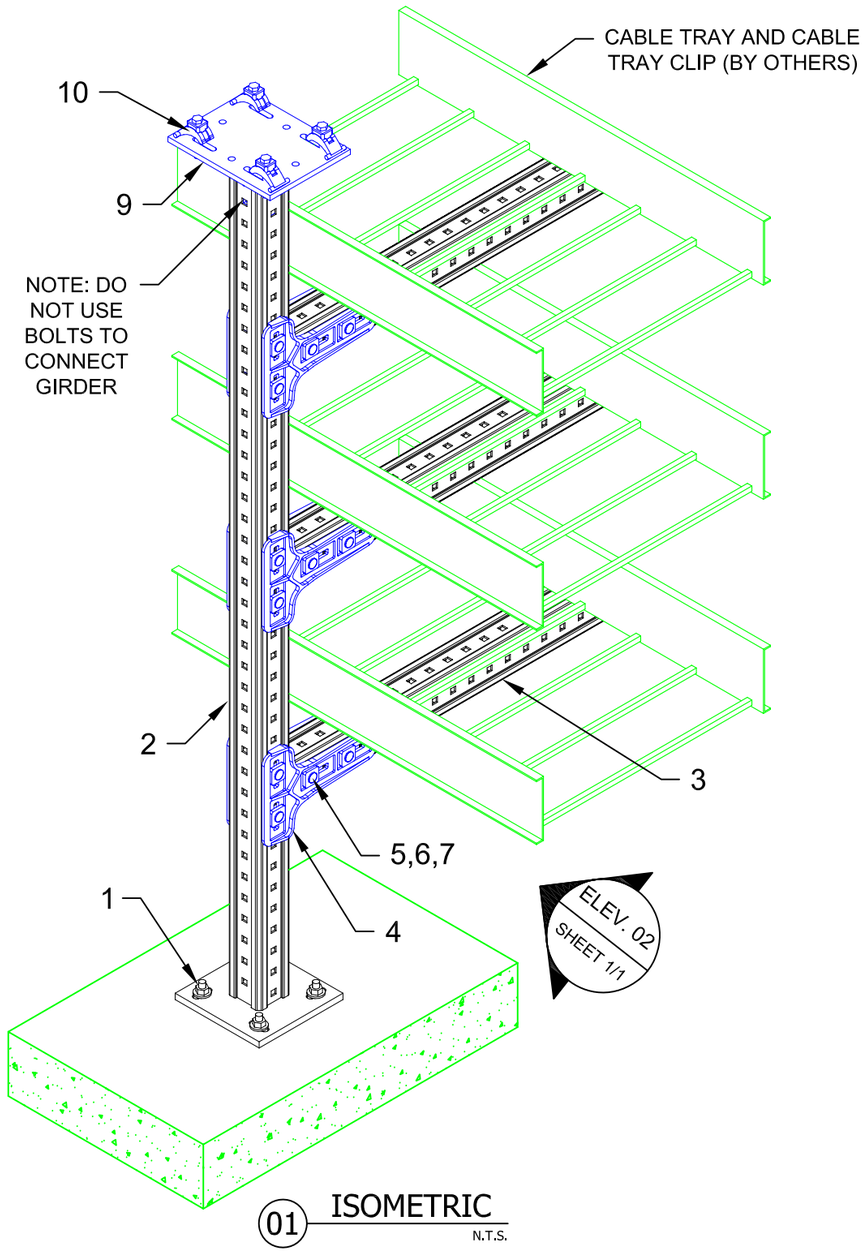
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	18 NOV 14

TYPICAL DETAIL NOMENCLATURE:

CT-F05-C

DRAWING NUMBER:	SHEET:
01	1/1



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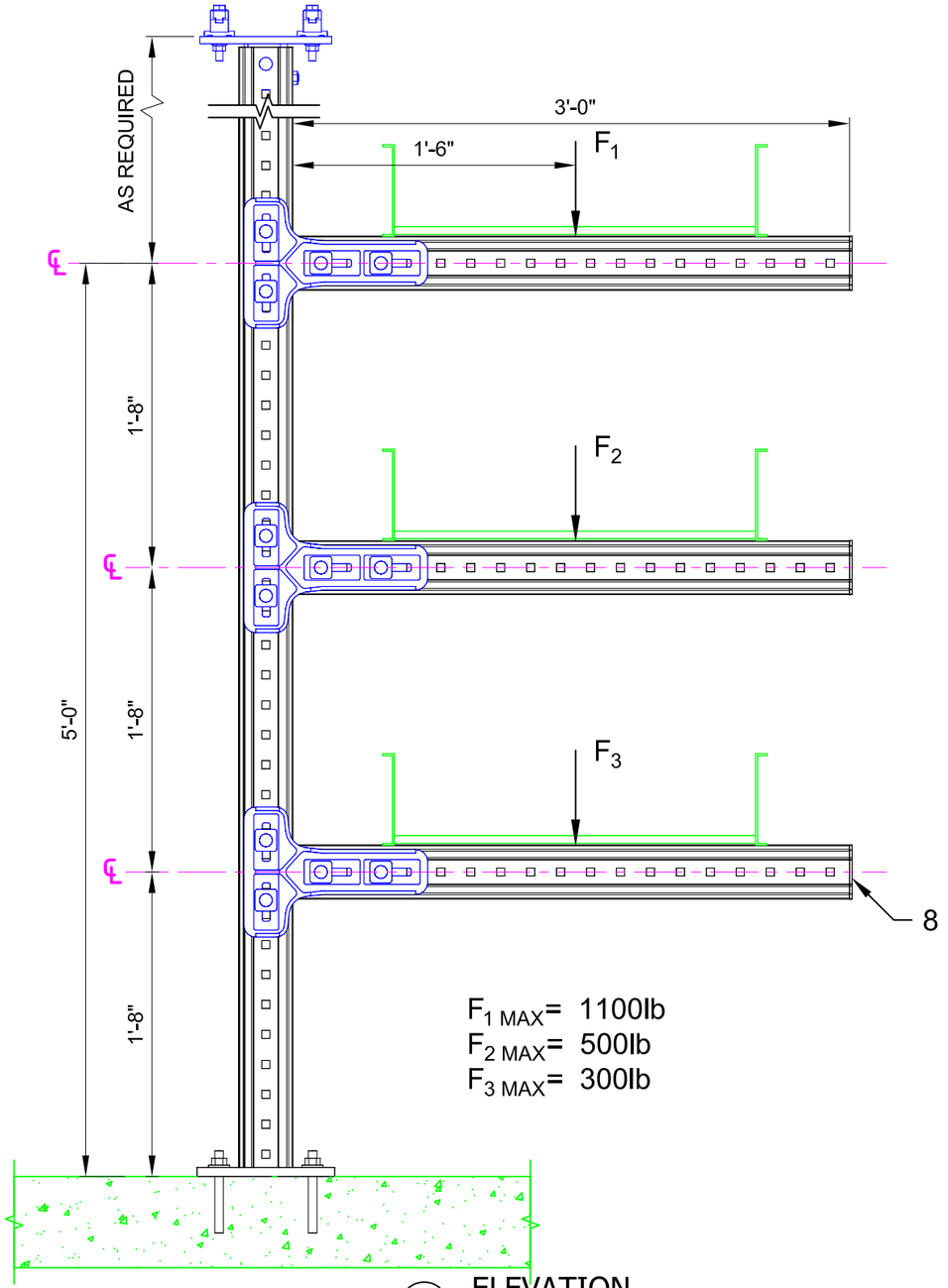


02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	4	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
2	1	EA	CONNECTOR MIC-C90-D-2000 WELDED BRACKET	1	1	267793
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	3	PR	CONNECTOR MIC-90-LH	3	1	2048107
5	12	EA	EASYHAND SCREW MIA-EH90	10	2	304887
6	12	EA	TOOTHED PLATE MIA-TP	20	1	305707
7	12	EA	PREVAIL TORQUE HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	3	EA	GIRDER END CAP MIA-EC90	25	1	432077
9	1	EA	CONNECTOR MIC-S90-X (SEE TABLE)	VARIES	VARIES	VARIES
10	4	EA	BEAM CLAMP MI-SGC-M12	16	1	233859

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN LOADS
   DL: AS SHOWN ON SUPPORT
   LOADS ARE ULTIMATES.
3. NO LATERAL LOADS CONSIDERED.
4. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
5. MAX. SUPPORT SPACING: TBD.
6. CABLE TRAY ATTACHMENT BY OTHERS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F - SHAPE - 3 TIER - FIXED

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	08 DEC 14

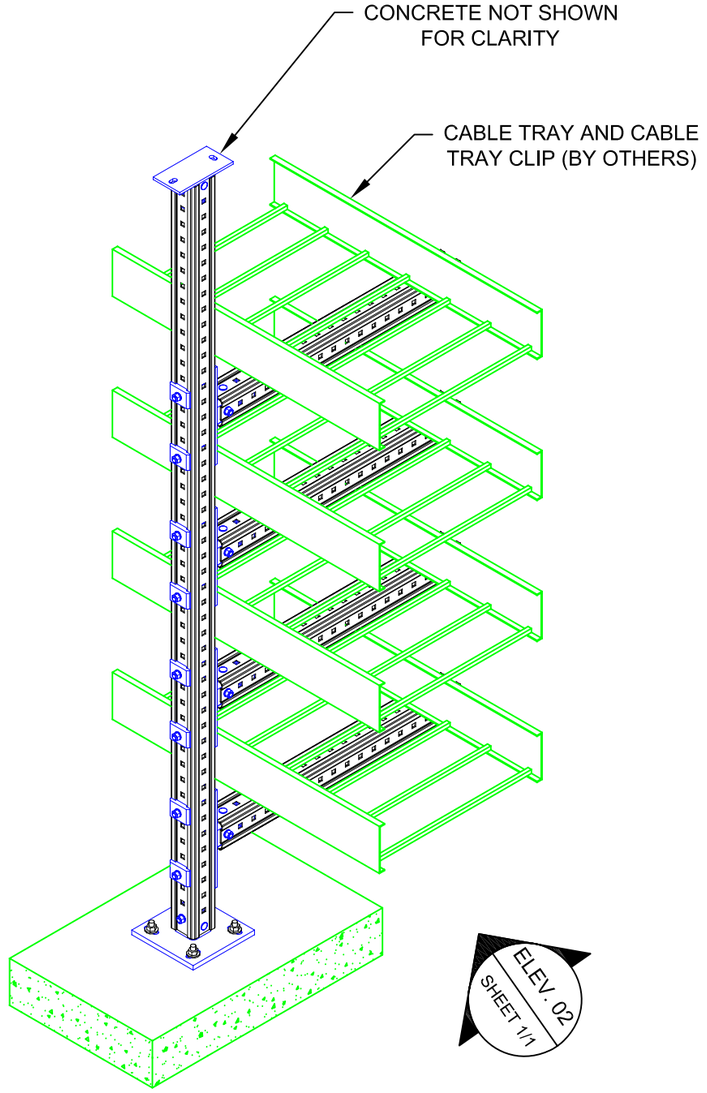
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	08 DEC 14

TYPICAL DETAIL NOMENCLATURE:

CT-F06-C_S

DRAWING NUMBER:	SHEET:
01	1/1



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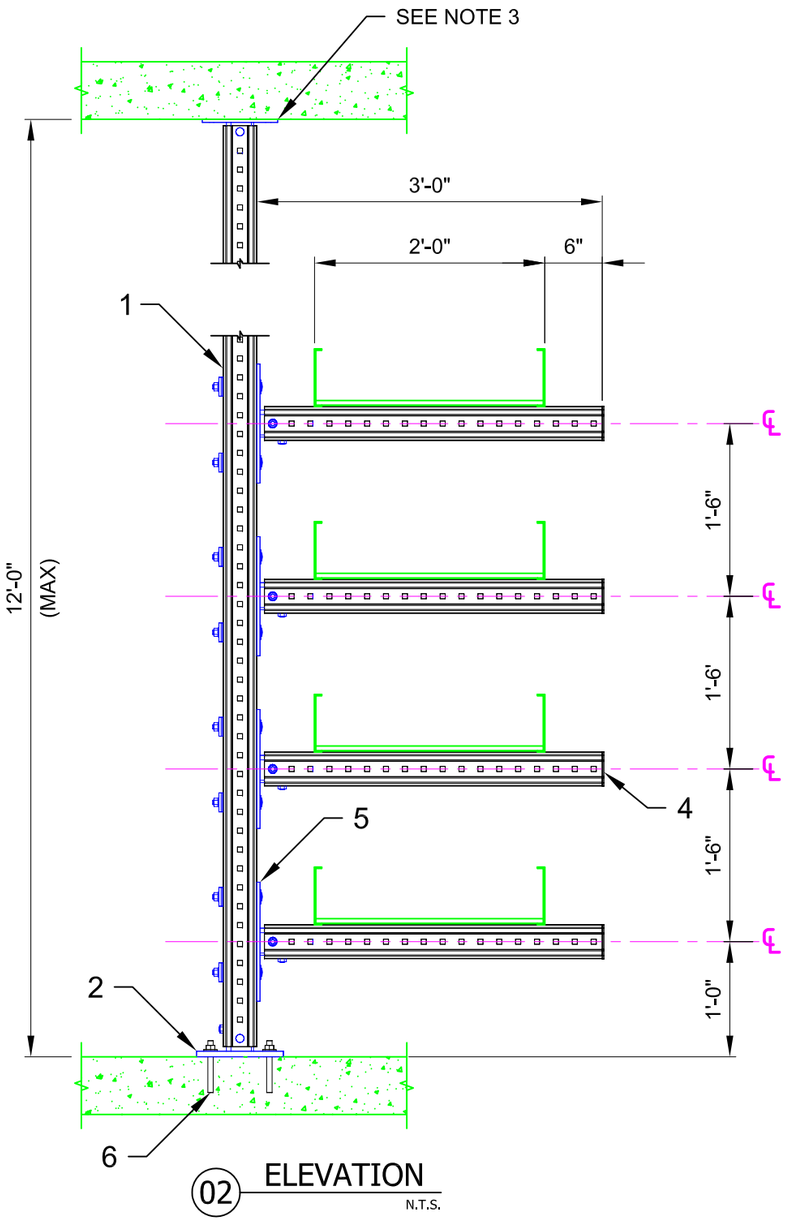


02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	1	EA	CONNECTOR MIC-C90-D CONCRETE	2	1	304827
3	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CONNECTOR MIC-90-L	2	2	304805
5	6	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN LOADS:
   DL: 30 lb/ft.
   LL: N/A
   WL: 0.32kPa
   EL: S_{DS} = 0.156
   S_{D1} = 0.032
   SNOW LOAD NOT INCLUDED DUE TO LOCATION OF SUPPORTS UNDER BLDG.
3. REFER TO APPROPRIATE IFUs FOR RECOMMENDED INSTALLATION INFO.
4. MAX. SUPPORT SPACING = 8'-0"
5. DESIGN BASED ON CONNECTION BETWEEN TOP OF MIC-C90-D AND BUILDING SUPPORT STRUCTURE. DESIGN BASED ON CONNECTION NO MORE THAN 12'-0" ABOVE BASE. DESIGN OF CONNECTION AND CAPACITY OF BLDG. SUPPORT STRUCTURE BY ENGINEER OF RECORD.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F - SHAPE - 4 TIER - 24" TRAY

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	09 DEC 14

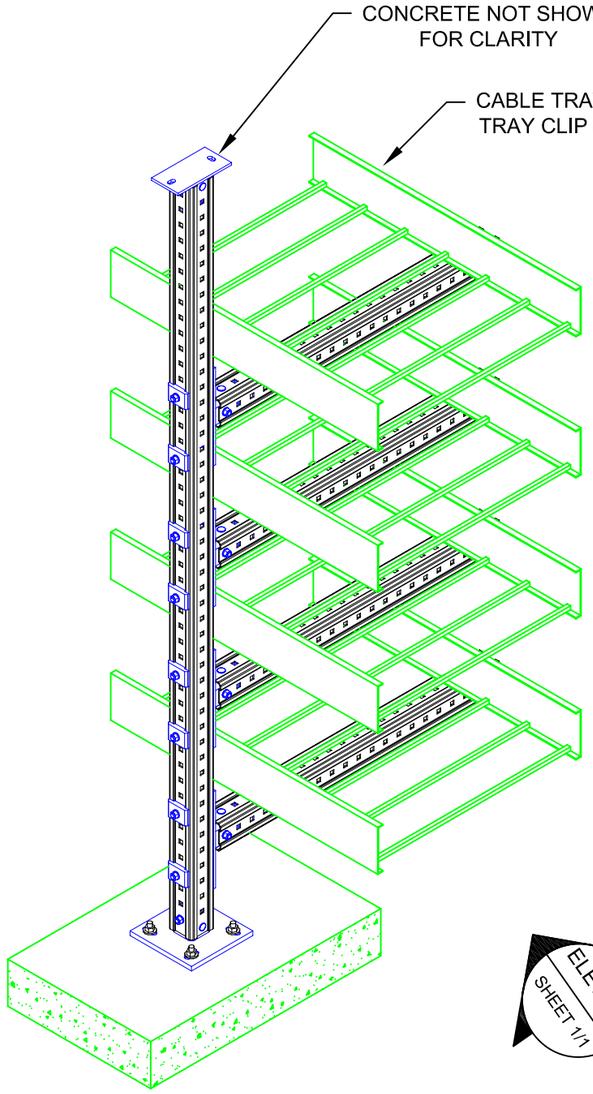
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	09 DEC 14

TYPICAL DETAIL NOMENCLATURE:

CT-F07-C

DRAWING NUMBER:	SHEET:
01	1/1



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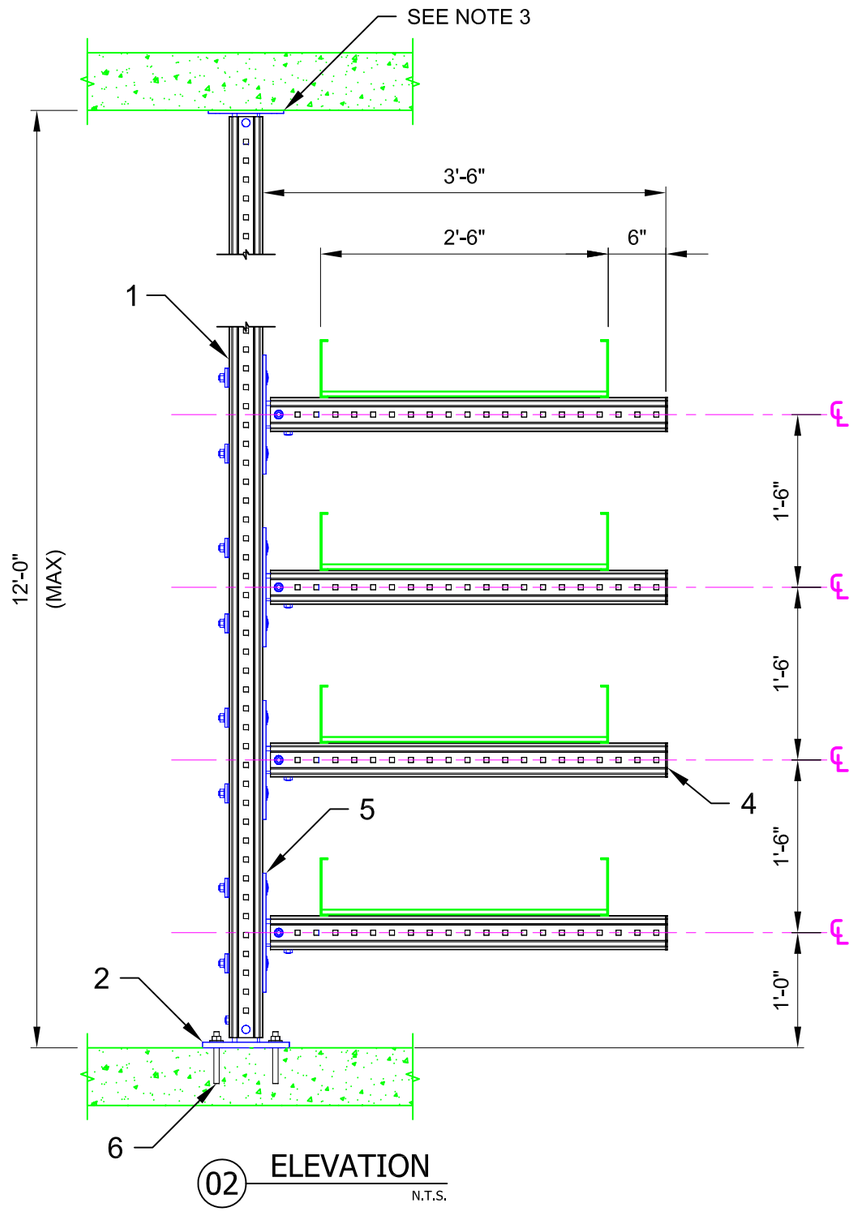


02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	1	EA	CONNECTOR MIC-C90-D CONCRETE	2	1	304827
3	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CONNECTOR MIC-90-L	2	2	304805
5	6	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN LOADS:
   - DL: 30 lb/ft.
   - LL: N/A
   - WL: 0.32kPa
   - EL: S_{DS} = 0.156
     S_{D1} = 0.032
   - SNOW LOAD NOT INCLUDED DUE TO LOCATION OF SUPPORTS UNDER BLDG.
3. REFER TO APPROPRIATE IFUs FOR RECOMMENDED INSTALLATION INFO.
4. MAX. SUPPORT SPACING = 8'-0"
5. DESIGN BASED ON CONNECTION BETWEEN TOP OF MIC-C90-D AND BUILDING SUPPORT STRUCTURE. DESIGN BASED ON CONNECTION NO MORE THAN 12'-0" ABOVE BASE. DESIGN OF CONNECTION AND CAPACITY OF BLDG. SUPPORT STRUCTURE BY ENGINEER OF RECORD.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F - SHAPE - 4 TIER - 30" TRAY

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	09 DEC 14

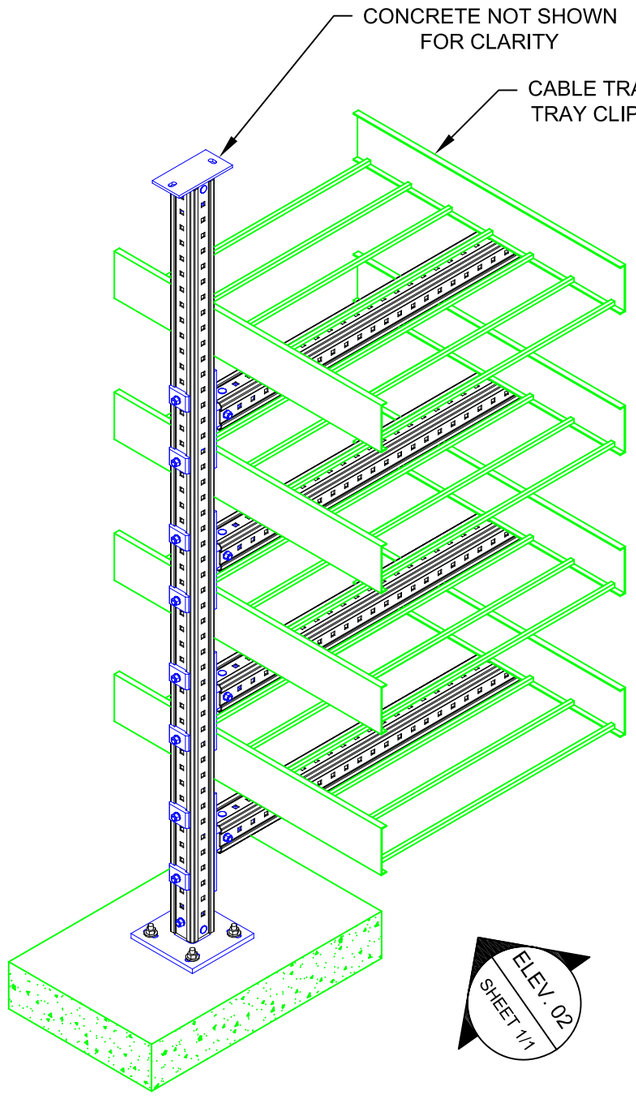
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	09 DEC 14

TYPICAL DETAIL NOMENCLATURE:

CT-F08-C

DRAWING NUMBER:	SHEET:
01	1/1



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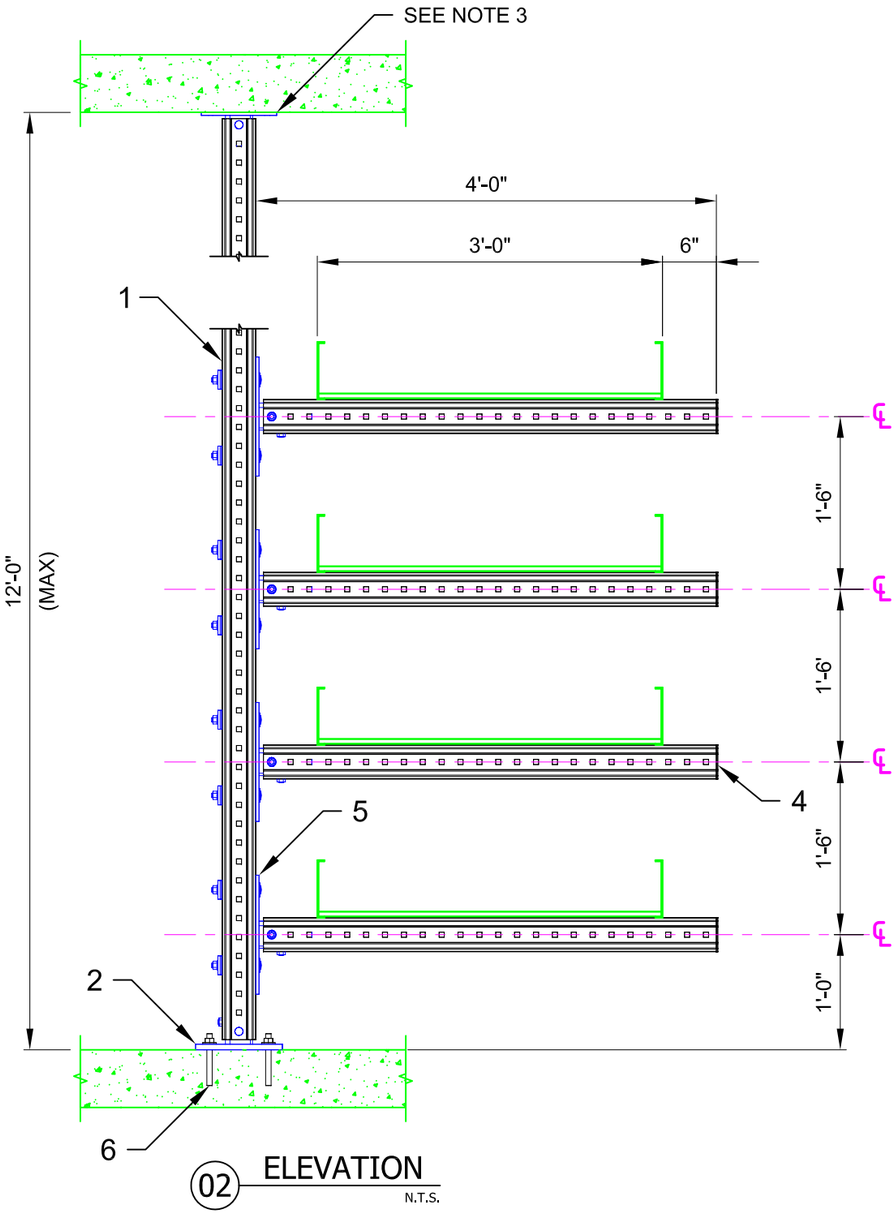


02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	1	EA	CONNECTOR MIC-C90-D CONCRETE	2	1	304827
3	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CONNECTOR MIC-90-L	2	2	304805
5	6	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN LOADS:
   DL: 30 lb/ft.
   LL: N/A
   WL: 0.32kPa
   EL: S_{DS} = 0.156
   S_{D1} = 0.032
   SNOW LOAD NOT INCLUDED DUE TO LOCATION OF SUPPORTS UNDER BLDG.
3. REFER TO APPROPRIATE IFUs FOR RECOMMENDED INSTALLATION INFO.
4. MAX. SUPPORT SPACING = 8'-0"
5. DESIGN BASED ON CONNECTION BETWEEN TOP OF MIC-C90-D AND BUILDING SUPPORT STRUCTURE. DESIGN BASED ON CONNECTION NO MORE THAN 12'-0" ABOVE BASE. DESIGN OF CONNECTION AND CAPACITY OF BLDG. SUPPORT STRUCTURE BY ENGINEER OF RECORD.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F - SHAPE - 4 TIER - 36" TRAY

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	09 DEC 14

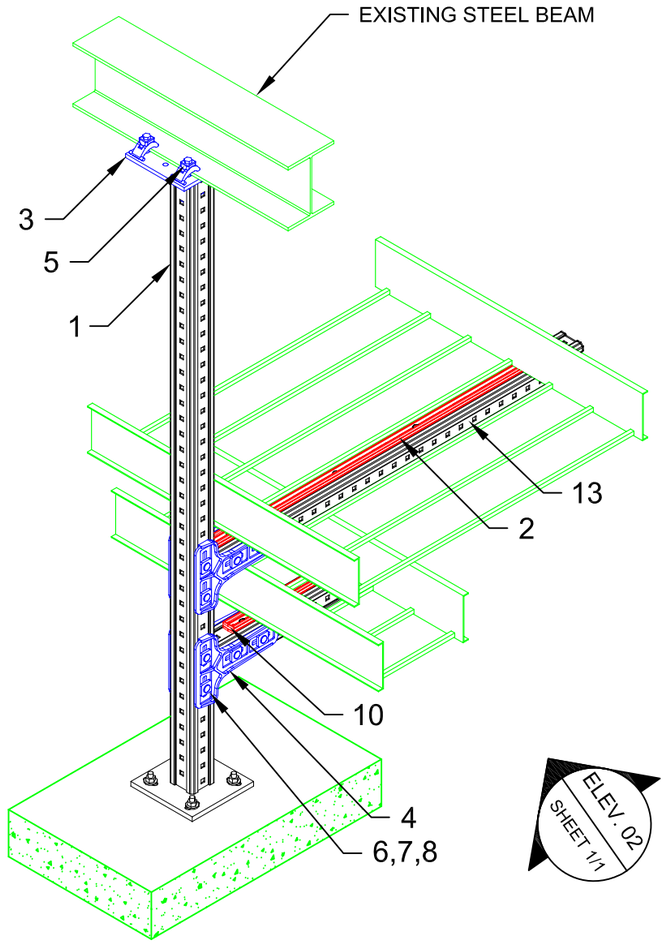
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	09 DEC 14

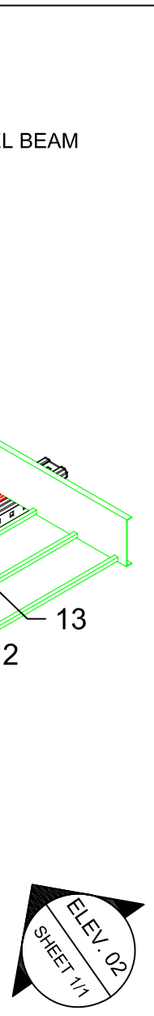
TYPICAL DETAIL NOMENCLATURE:

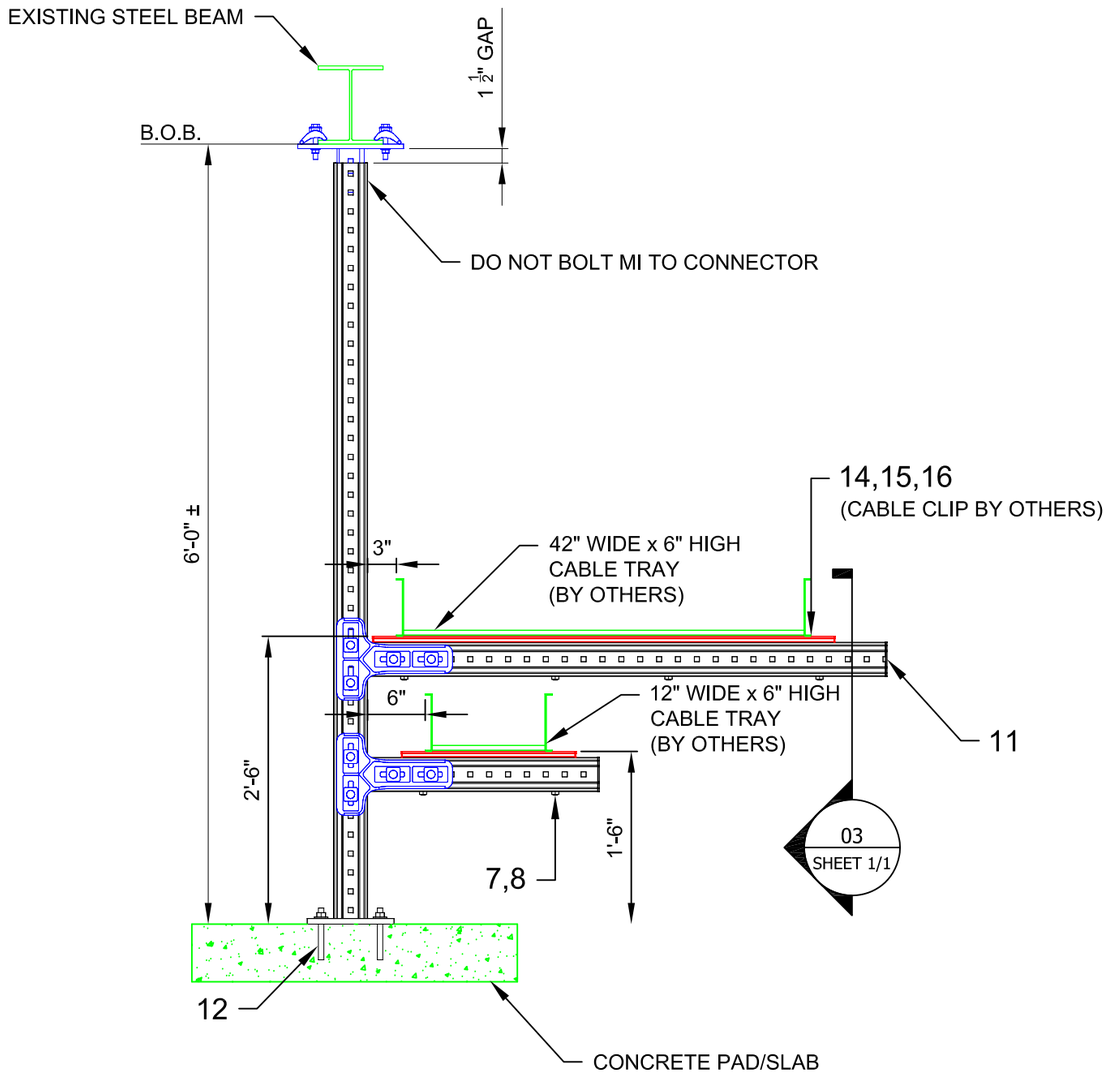
CT-F09-C

DRAWING NUMBER:	SHEET:
01	1/1



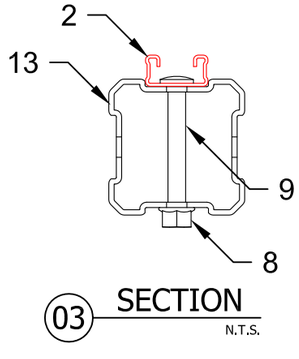
01 ISOMETRIC
N.T.S.





02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	1	EA	CONNECTOR MIC-C90-D-2000 WELDED BRACKET	1	1	267793
2	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
3	1	EA	CONNECTOR MIC-S90-A STEEL	2	1	304812
4	2	PR	CONNECTOR MIC-90-LH (#2048107)	3	1	SPECIAL
5	4	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
6	8	EA	TOOTHED PLATE MIA-TP	20	1	305707
7	8	EA	EASYHAND SCREW MIA-EH90	10	1	304887
8	14	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
9	6	EA	ONEHAND SCREW MIA-OH90	10	1	304889
10	4	EA	CHANNEL END CAP MEK RED	50	1	244886
11	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
12	4	EA	USE 1/2" Ø KB3 (HDG) AS APPROPRIATE	VARIES	VARIES	VARIES
13	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
14	4	EA	WING NUT MQM-F1/2"-F	25	1	304137
15	4	EA	1/2"x1" HEX HEAD BOLT (HDG)	VARIES	-	SPECIAL
16	4	EA	1/2" WASHER (HDG)	VARIES	-	SPECIAL



03 SECTION
N.T.S.

DESIGN LOADING CRITERIA
WEIGHT OF EACH CABLE TRAY = 64 lb/ft MAX.
*WIND PRESSURE = 72 psf (PER ASCE 7-10).

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. MAX. SUPPORT SPACING = 13'-0".
*3. WIND CONSIDERED ONLY TRANSVERSELY TO CABLE TRAY (NO DIAGONAL WIND CONSIDERED).

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F - SHAPE - FIXED

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	15 DEC 14

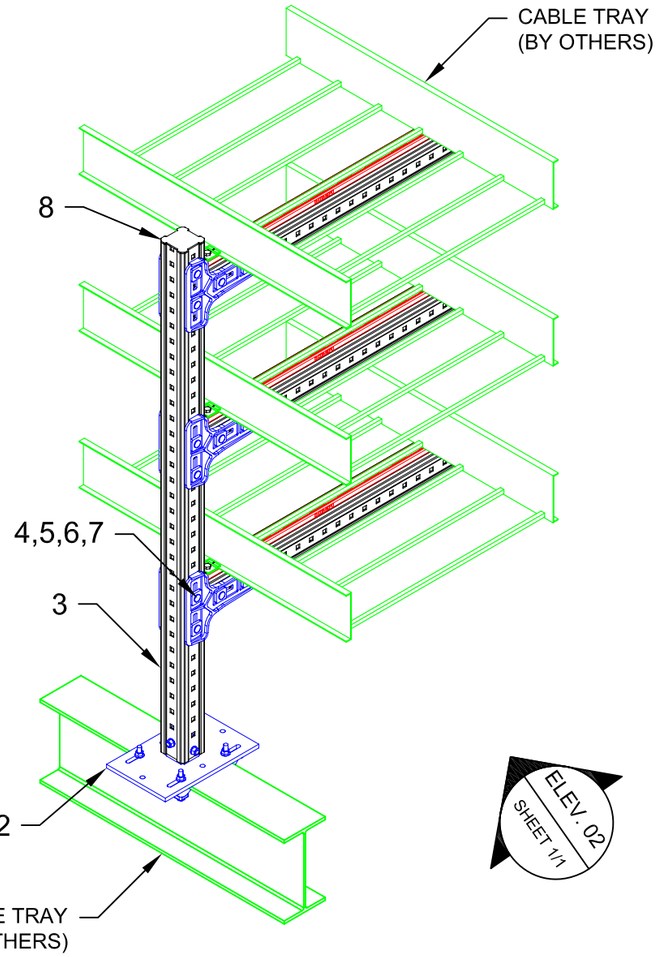
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	15 DEC 14

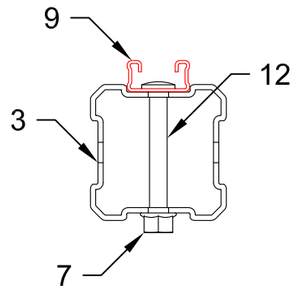
TYPICAL DETAIL NOMENCLATURE:

CT-F10-C_S

DRAWING NUMBER:	SHEET:
01	1/1

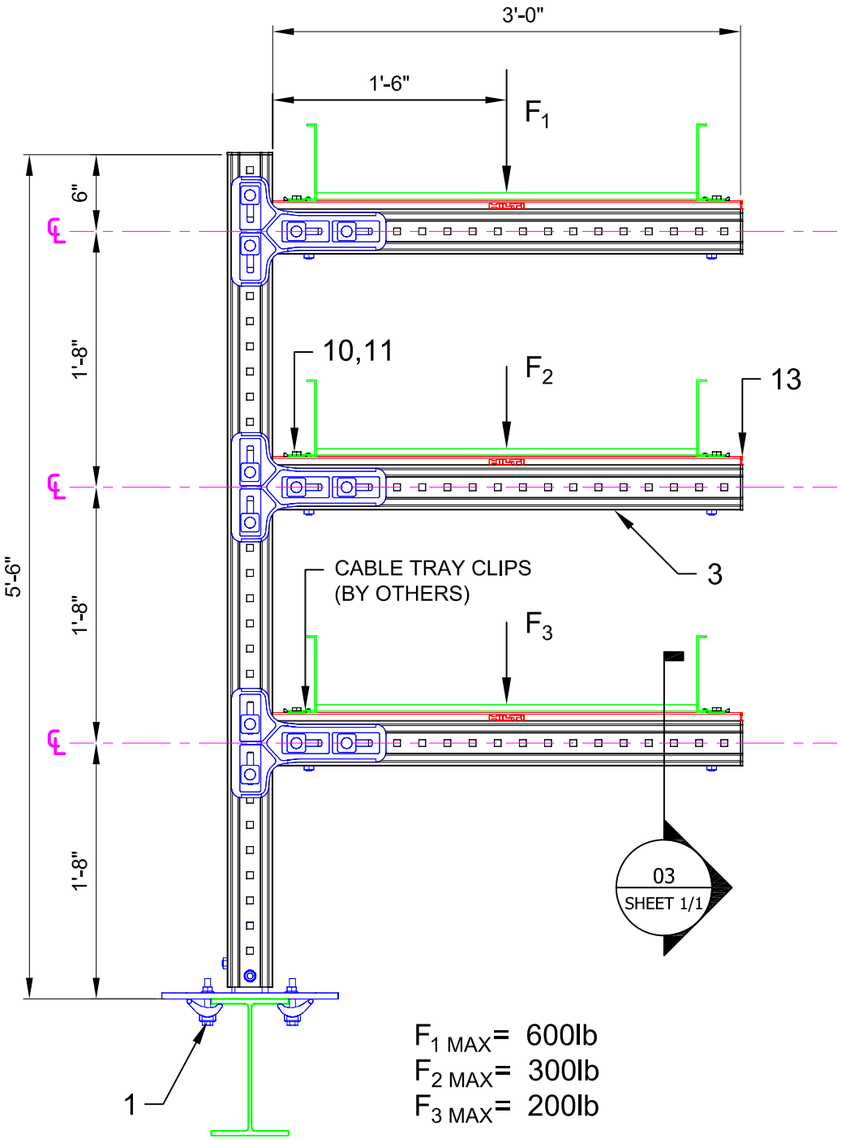


01 ISOMETRIC
N.T.S.



03 SECTION
N.T.S.

ELEV. 02
SHEET 1/1



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	4	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
2	1	EA	CONNECTOR MIC-S90-X STEEL	2	1	SEE TABLE
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	3	PR	CONNECTOR MIC-90-LH (2048107)	3	1	SPECIAL
5	12	EA	EASYHAND SCREW MIA-EH90	10	2	304887
6	12	EA	TOOTHED PLATE MIA-TP	20	1	305707
7	18	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
9	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
10	6	EA	WING NUT MQM-F3/8"-F	25	1	304136
11	6	EA	3/8" x 1/2" LONG HDG HEX HEAD BOLT	VARIES	VARIES	SPECAIL
12	6	EA	ONEHAND SCREW MIA-OH90	10	1	304889
13	3	EA	CHANNEL END CAP MEK RED	50	1	244886

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION.
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: AS SHOWN ON SUPPORT
      LOADS ARE ULTIMATES.
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
3. ALL LOADS ASSUMED TO ACT AT CENTER OF PIPE(S), U.N.O.
4. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
5. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

F-FRAME - 3 TIER

DESIGNED BY:	REVIEWED BY:
AJV	KL
DRAWN BY:	ISSUE DATE:
HAM	12 DEC 14

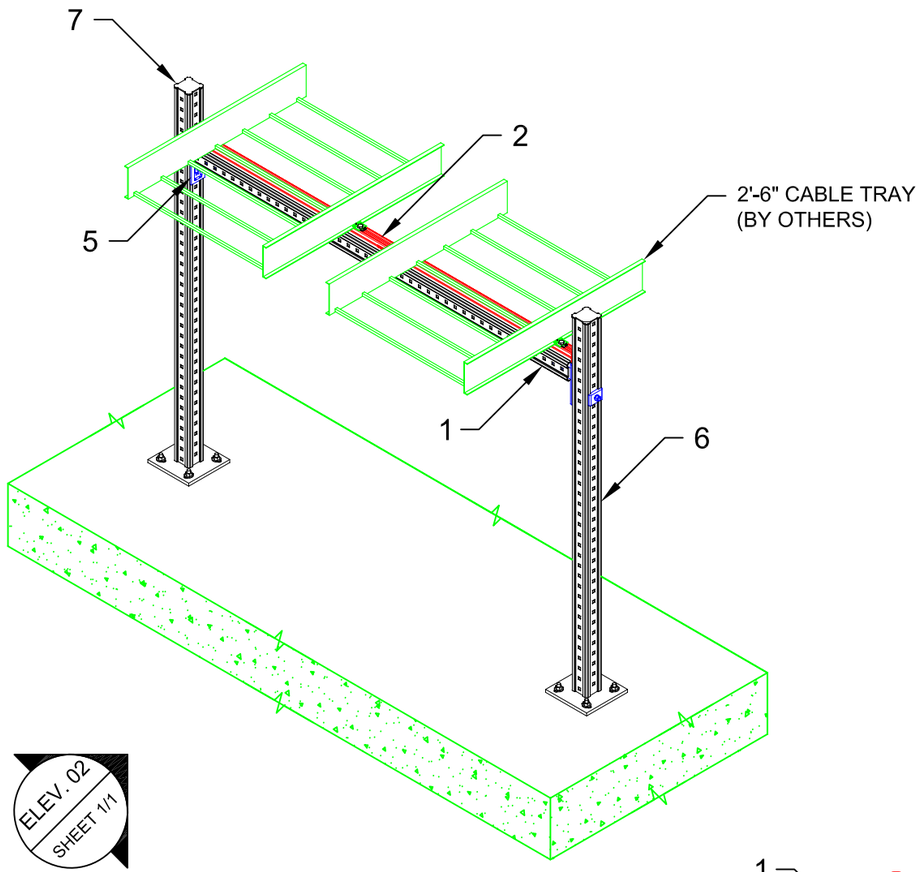
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	12 DEC 14

TYPICAL DETAIL NOMENCLATURE:

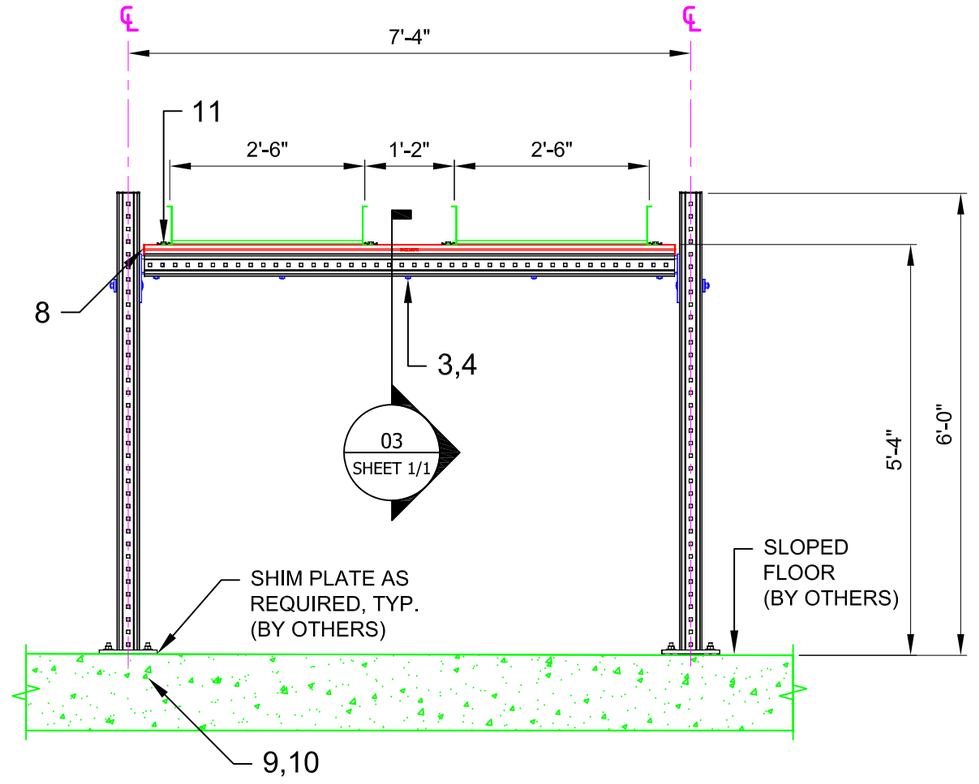
CT-F11-S

DRAWING NUMBER:	SHEET:
01	1/1

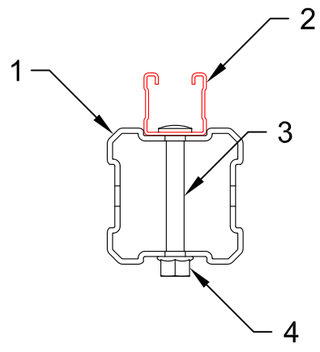


ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	1	EA	GIRDER MI-90 3M	1	1	304798
2	1	EA	STRUT HS-158-12/PG 10'	1	1	407555
3	3	EA	ONEHAND SCREW MIA-OH90	10	1	304889
4	3	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
5	2	EA	CONNECTOR MIC-90-U	4	1	304803
6	2	EA	CONNECTOR MIC-C90-D-2000 WELDED BRACKET	1	2	267793
7	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
8	4	EA	CHANNEL END CAP MEK RED	50	1	244886
9	8	EA	HAS 5.8 5/8" X 8"	20	1	385428
10	1	EA	HILTI HIT-HY 200	1	1	2022793
11	4	EA	LEGRAND'S 1893-0 CLAMP	-	-	BY OTHERS

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.)
      DL: 187.5 lbs/ft WIDTH OF CABLE TRAY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
   e. MAX. SUPPORT SPACING = 5'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - DOUBLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	03 DEC 14

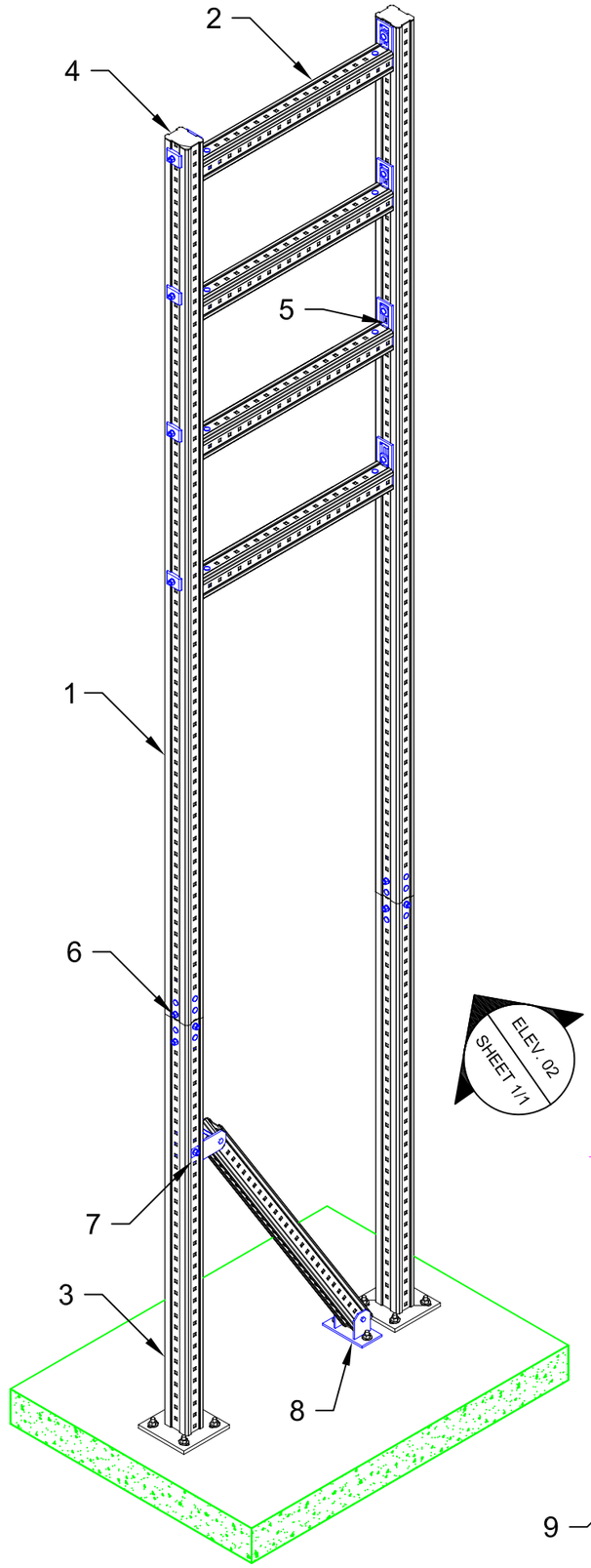
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	03 DEC 14

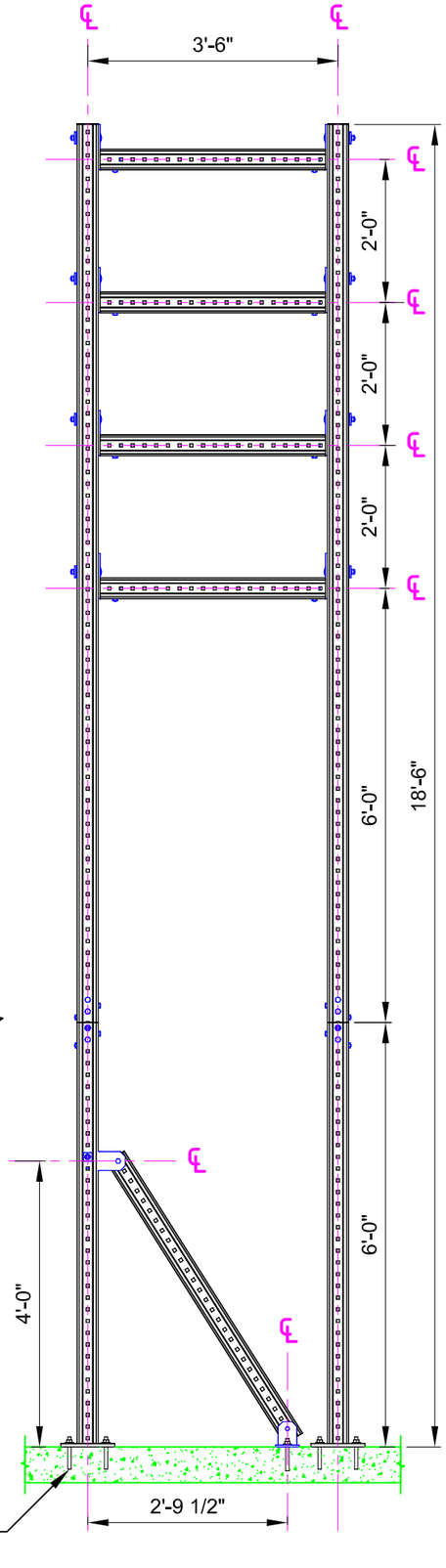
TYPICAL DETAIL NOMENCLATURE:

CT-GP01-C

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 900 lbs ON EACH LEVEL
      WL: 20 lbs/ft
   b. LATERAL LOADS NOT CONSIDERED
   c. CORROSION RESISTANCE REQD.: HDG / SS / EG
   d. DESIGNED AT 8'-0" SPACING.
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-120 6M	1	AS REQ'D	304801
2	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
3	2	EA	CONNECTOR MIC-C120-D-2000 WELDED BRACKET	1	2	270472
4	2	EA	GIRDER END CAP MIA-EC120	25	1	432078
5	8	EA	CONNECTOR MIC-90-U	4	2	304803
6	2	EA	CONNECTOR MIC-120-E	2	1	304810
7	1	PR	CONNECTOR MIC-U-MA	2	1	304806
8	1	EA	CONNECTOR MIC-CU-MA CONCRETE	4	1	304828
9	10	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - BRIDGE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	03 DEC 14

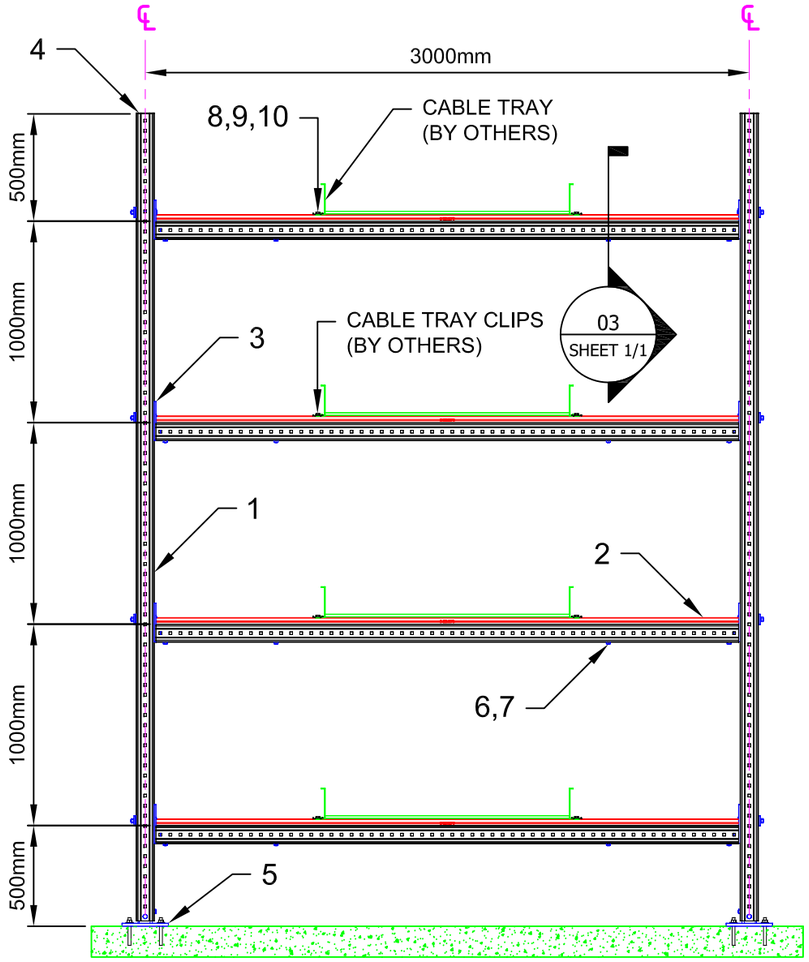
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	03 DEC 14

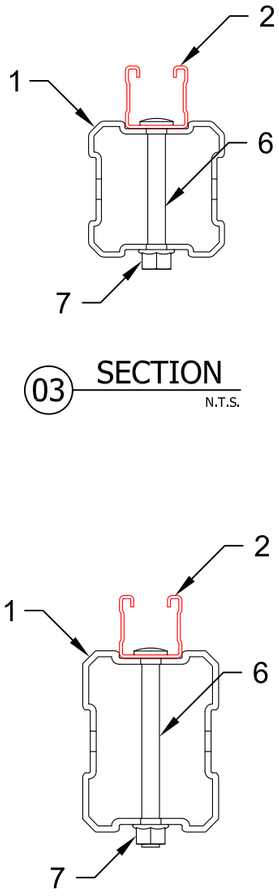
TYPICAL DETAIL NOMENCLATURE:

CT-GP02-C

DRAWING NUMBER:	SHEET:
01	1/1

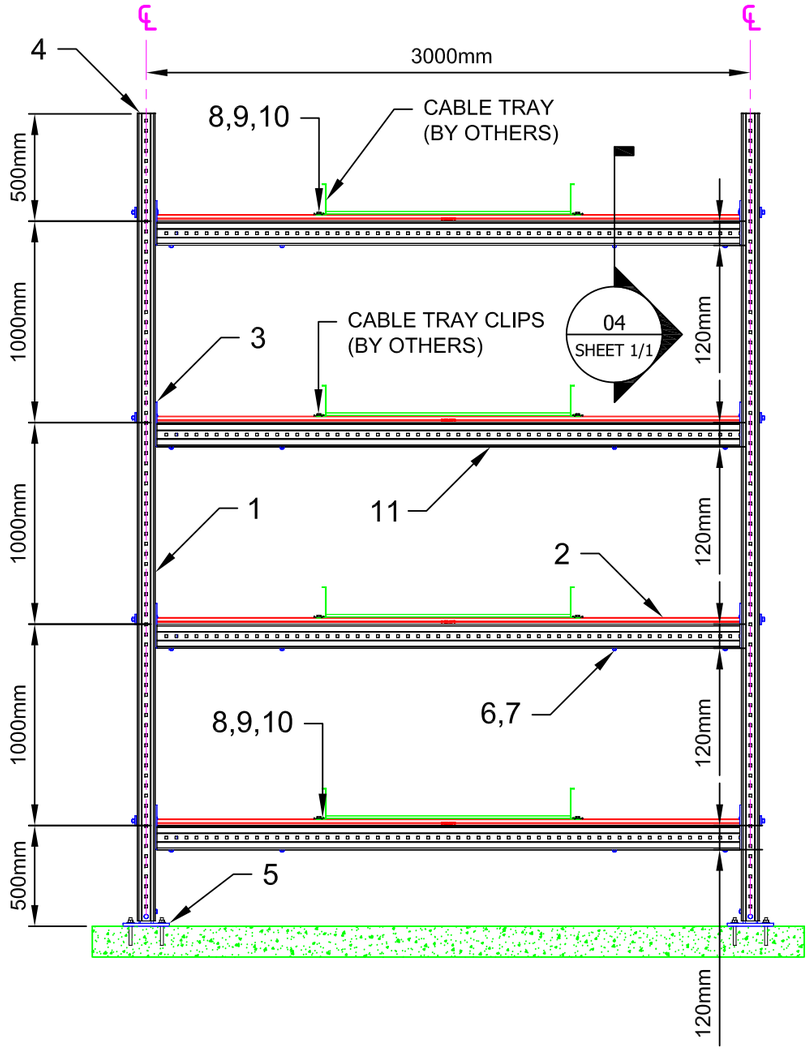


01 ELEVATION (MI-90 OPTION)
N.T.S.



03 SECTION
N.T.S.

04 SECTION
N.T.S.



02 ELEVATION (MI-120 OPTION)
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
MI-90 OPTION						
1	AS REQ'D	EA	GIRDER MI-90 6M	1	AS REQ'D	304799
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	8	EA	CONNECTOR MIC-90-U	4	2	304803
4	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
5	2	EA	CONNECTOR MIC-C90-D CONCRETE	2	1	304827
6	8	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	8	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	8	EA	WING NUT MQM-F1/2"	50	1	377883
9	8	EA	WASHER 1/2"	100	1	411758
10	8	EA	HEX HEAD BOLT 1/2" x 1"	250	1	311953
MI-120 OPTION						
1	AS REQ'D	EA	GIRDER MI-90 6M	1	AS REQ'D	304799
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	8	EA	CONNECTOR MIC-120-U	4	2	304804
4	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
5	2	EA	CONNECTOR MIC-C90-D CONCRETE	2	1	304827
6	8	EA	ONEHAND SCREW MIA-OH120	10	1	304890
7	8	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
8	8	EA	WING NUT MQM-F1/2"	50	1	377883
9	8	EA	WASHER 1/2"	100	1	411758
10	8	EA	HEX HEAD BOLT 1/2" x 1"	250	1	311953
11	AS REQ'D	EA	GIRDER MI-120 3M	1	AS REQ'D	304800

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. ALLOWABLE LOAD
      MI-90 OPTION = 2.04 kN/M
      MI-120 OPTION = 4.58 kN/M
      • DISTRIBUTED LOAD APPLICABLE TO EACH BEAM, CENTERED OVER THE MIDDLE 2500mm ONLY.
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NBC
   d. CORROSION RESISTANCE REQD.: HDG
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - 4 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	03 DEC 14

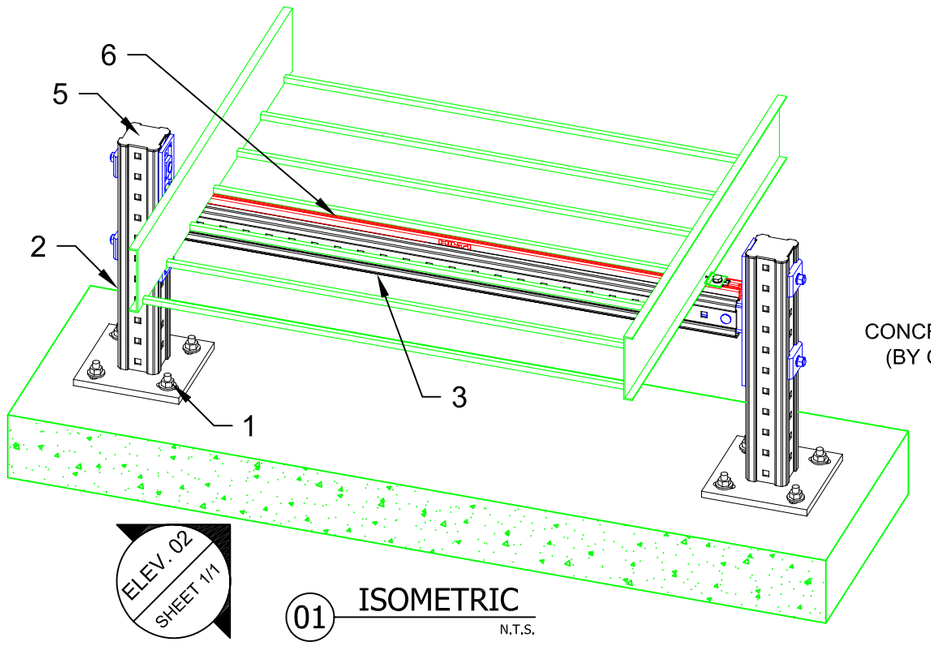
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	03 DEC 14

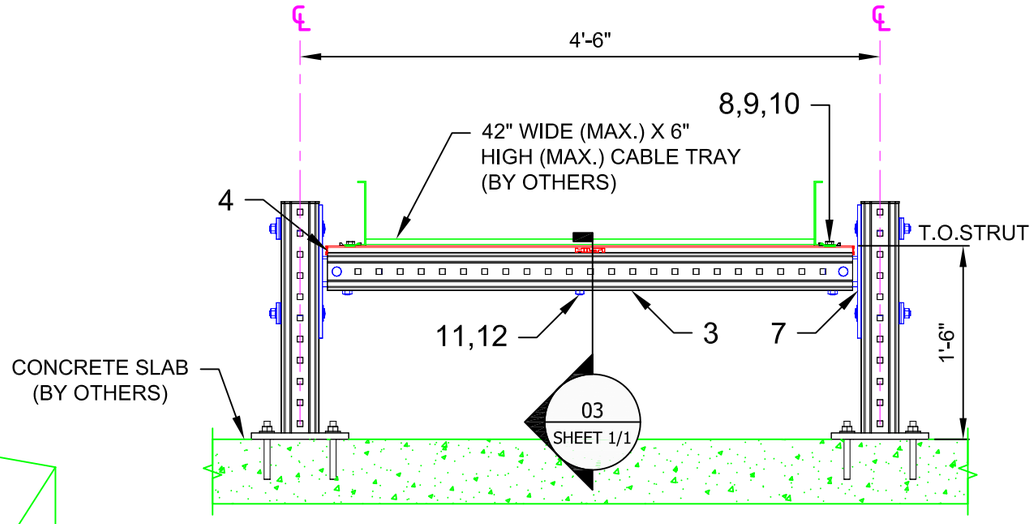
TYPICAL DETAIL NOMENCLATURE:

CT-GP03-C

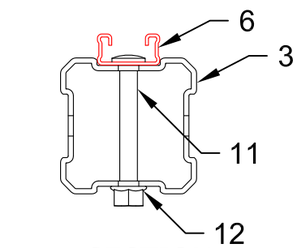
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	8	EA	USE 5/8" Ø KB3 (HDG) AS APPROPRIATE	VARIES	VARIES	VARIES
2	2	EA	CONNECTOR MIC-C90-D2000 WELDED BRACKET	1	2	267793
3	AS REQ'D	EA	GIRDER MI-90 6M	1	AS REQ'D	304799
4	2	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
6	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
7	2	EA	CONNECTOR MIC-90-L	2	1	304805
8	2	EA	WING NUT MQM-F1/2"-F	25	1	304137
9	2	EA	1/2"x1" HEX HEAD BOLT (HDG)	VARIES	-	SPECIAL
10	2	EA	1/2" WASHER (HDG)	VARIES	-	SPECIAL
11	AS REQ'D	EA	ONEHAND SCREW MIA-OH90	10	AS REQ'D	304889
12	AS REQ'D	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	AS REQ'D	382897

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 33 lb/ft (36" CABLE TRAY), 41 lb/ft (42" CABLE TRAY)
      WL: 73 psf
   b. BUILDING CODE: IBC 2012
   c. CORROSION RESISTANCE REQD.: HDG
   d. MAX. SUPPORT SPACING = 20'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. VERIFY FIELD CONDITIONS PRIOR TO ORDERING & INSTALLATION.
4. ADEQUACY OF CABLE TRAYS MAX. SPAN NOT CONSIDERED BY HILTI.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	31 DEC 14

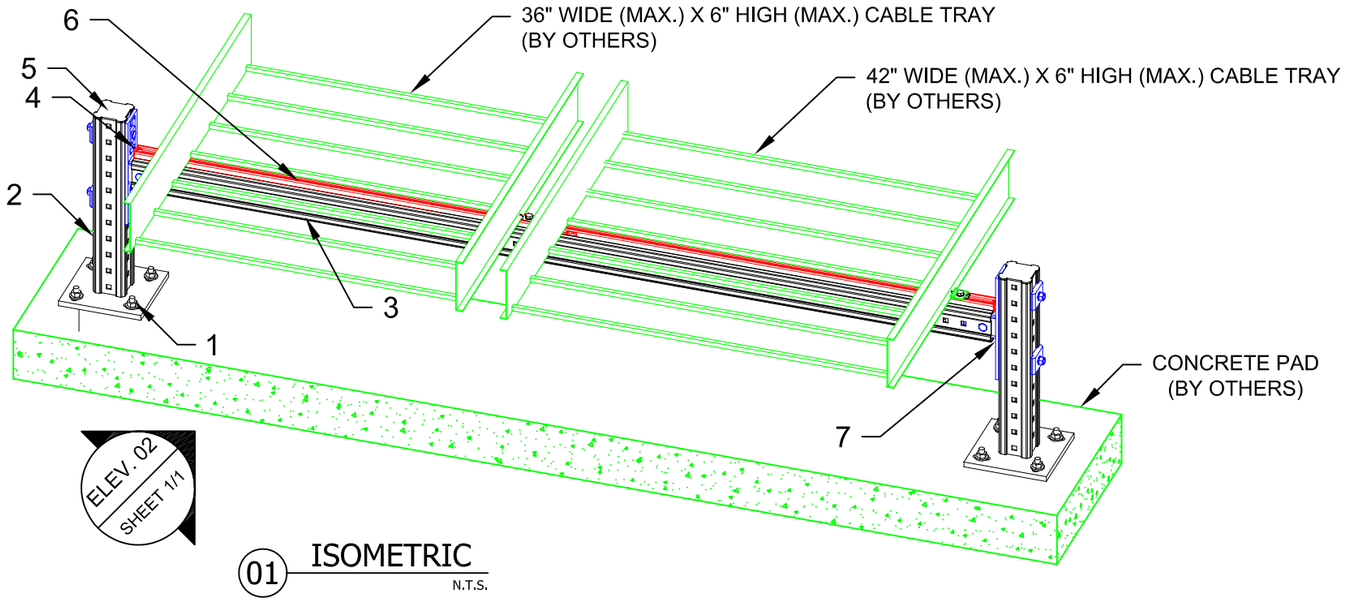
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	31 DEC 14

TYPICAL DETAIL NOMENCLATURE:

CT-GP04-C

DRAWING NUMBER:	SHEET:
01	1/1



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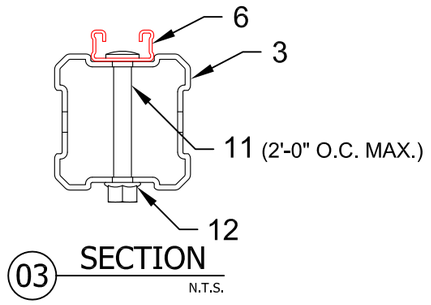

03 SECTION
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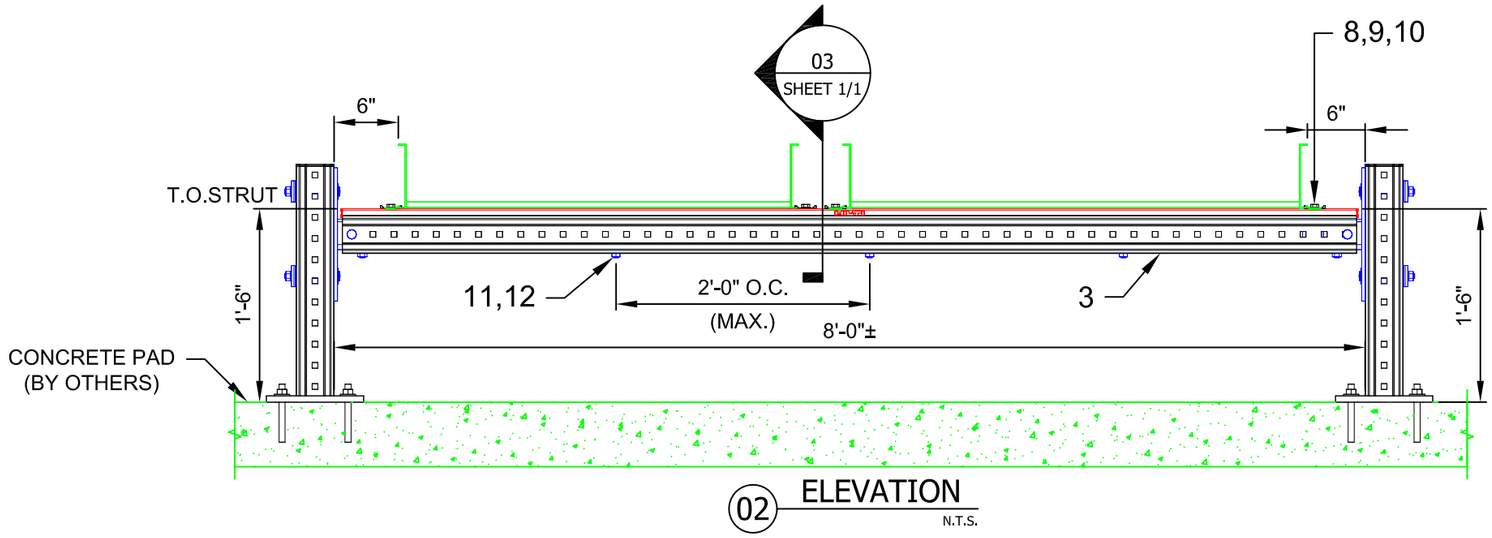


02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	8	EA	USE 5/8" Ø (HDG) AS APPROPRIATE	VARIES	VARIES	VARIES
2	2	EA	CONNECTOR MIC-C90-D2000 WELDED BRACKET	1	2	267793
3	AS REQ'D	EA	GIRDER MI-90 6M	1	AS REQ'D	304799
4	2	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
6	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
7	2	EA	CONNECTOR MIC-90-L	2	1	304805
8	4	EA	WING NUT MQM-F1/2"-F	25	1	304137
9	4	EA	1/2"x1" HEX HEAD BOLT (HDG)	VARIES	-	SPECIAL
10	4	EA	1/2" WASHER (HDG)	VARIES	-	SPECIAL
11	AS REQ'D	EA	ONEHAND SCREW MIA-OH90	10	AS REQ'D	304889
12	AS REQ'D	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	AS REQ'D	382897

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 33 lb/ft (36" CABLE TRAY), 41 lb/ft (42" CABLE TRAY)
      WL: 73 psf
   b. BUILDING CODE: IBC 2012
   c. CORROSION RESISTANCE REQD.: HDG
   d. MAX. SUPPORT SPACING = 20'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. VERIFY FIELD CONDITIONS PRIOR TO ORDERING & INSTALLATION.
4. ADEQUACY OF CABLE TRAY MAX. SPAN NOT CONSIDERED BY HILTI.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - SINGLE WIDE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	31 DEC 14

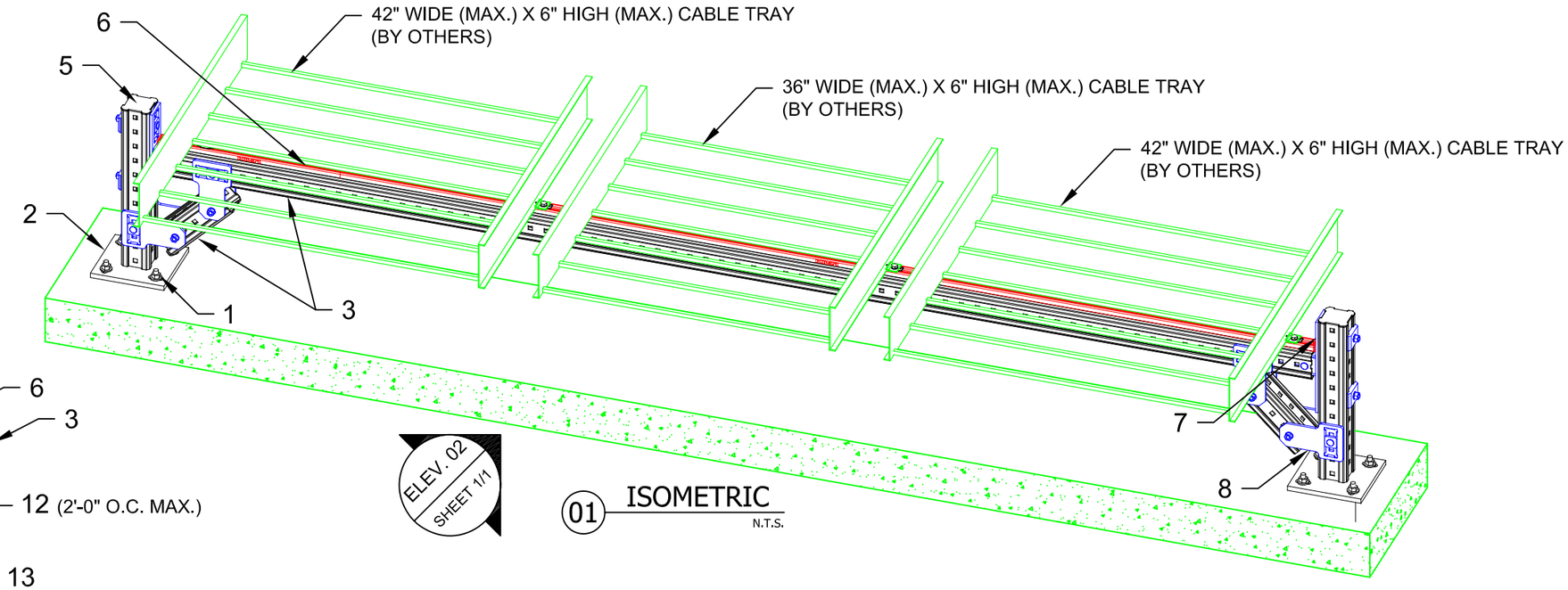
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	31 DEC 14

TYPICAL DETAIL NOMENCLATURE:

CT-GP05-C

DRAWING NUMBER:	SHEET:
01	1/1



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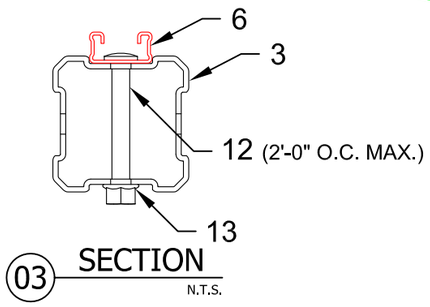

03 SECTION
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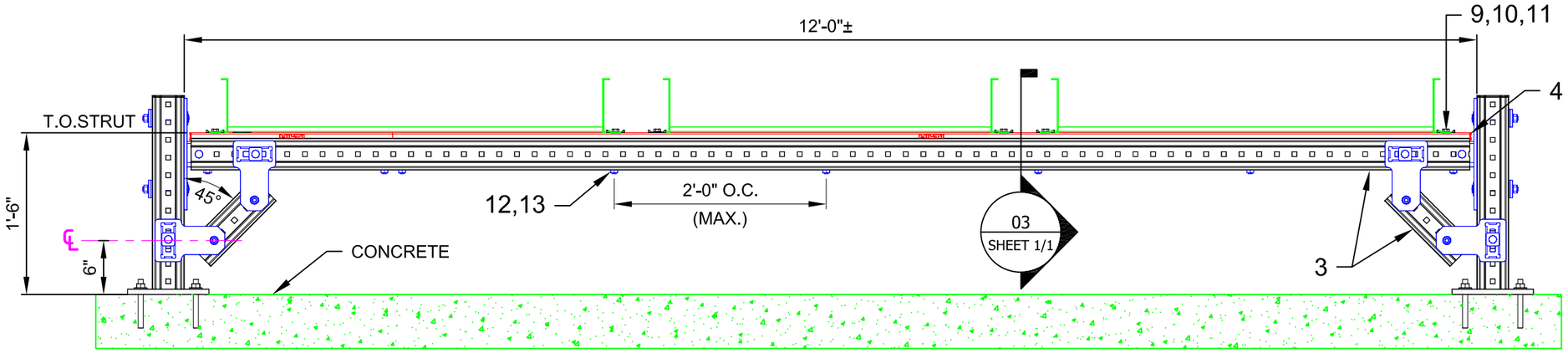


02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	8	EA	USE 5/8" Ø KB3 (HDG) AS APPROPRIATE	VARIES	VARIES	VARIES
2	2	EA	CONNECTOR MIC-C90-D2000 WELDED BRACKET	1	2	267793
3	AS REQ'D	EA	GIRDER MI-90 6M	1	AS REQ'D	304799
4	2	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
6	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
7	2	EA	CONNECTOR MIC-90-L	2	1	304805
8	4	PR	CONNECTOR MIC-U-MA	2	2	304806
9	6	EA	WING NUT MQM-F1/2"-F	25	1	304137
10	6	EA	1/2"x1" HEX HEAD BOLT (HDG)	VARIES	-	SPECIAL
11	6	EA	1/2" WASHER (HDG)	VARIES	-	SPECIAL
12	AS REQ'D	EA	ONEHAND SCREW MIA-OH90	10	AS REQ'D	304889
13	AS REQ'D	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	AS REQ'D	382897

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 33 lb/ft (36" CABLE TRAY), 41 lb/ft (42" CABLE TRAY)
      WL: 73 psf
   b. BUILDING CODE: IBC 2012
   c. CORROSION RESISTANCE REQD.: HDG
   d. MAX. SUPPORT SPACING = 10'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. VERIFY FIELD CONDITIONS PRIOR TO ORDERING & INSTALLATION.
4. ADEQUACY OF CABLE TRAY MAX. SPAN NOT CONSIDERED BY HILTI.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - MULTI TRAY

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	31 DEC 14

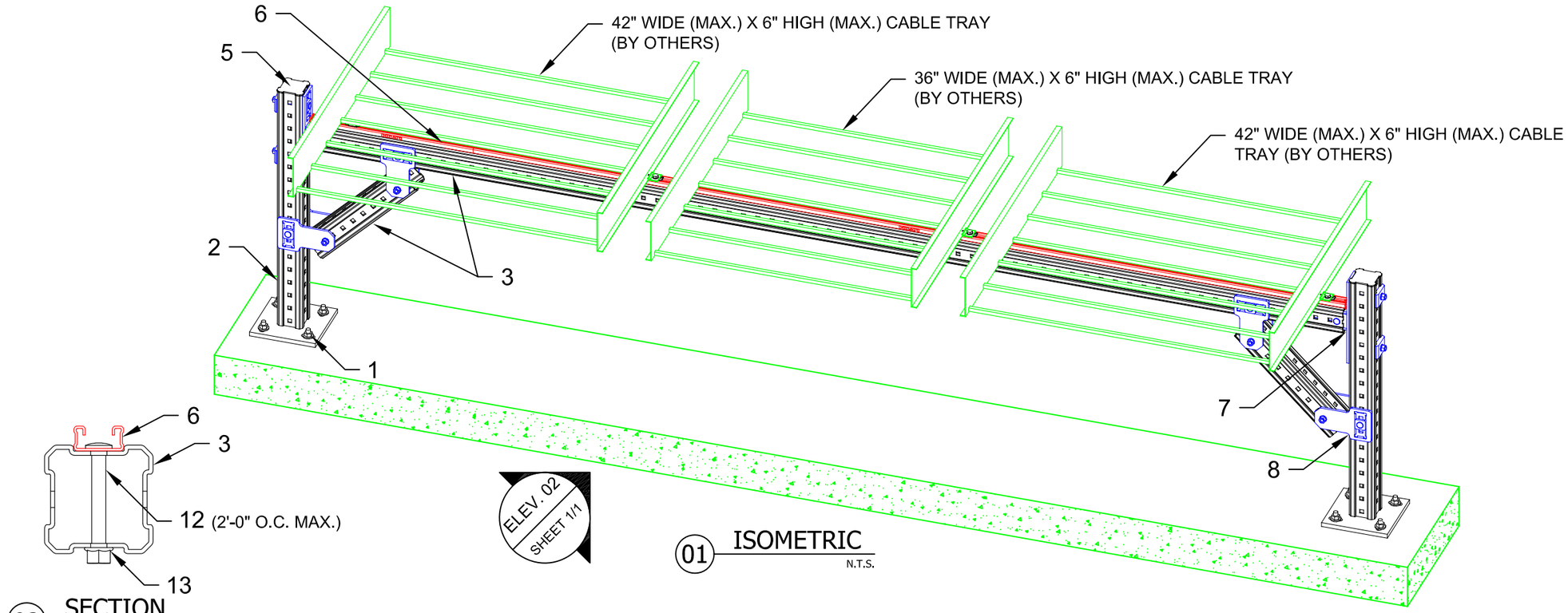
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	31 DEC 14

TYPICAL DETAIL NOMENCLATURE:

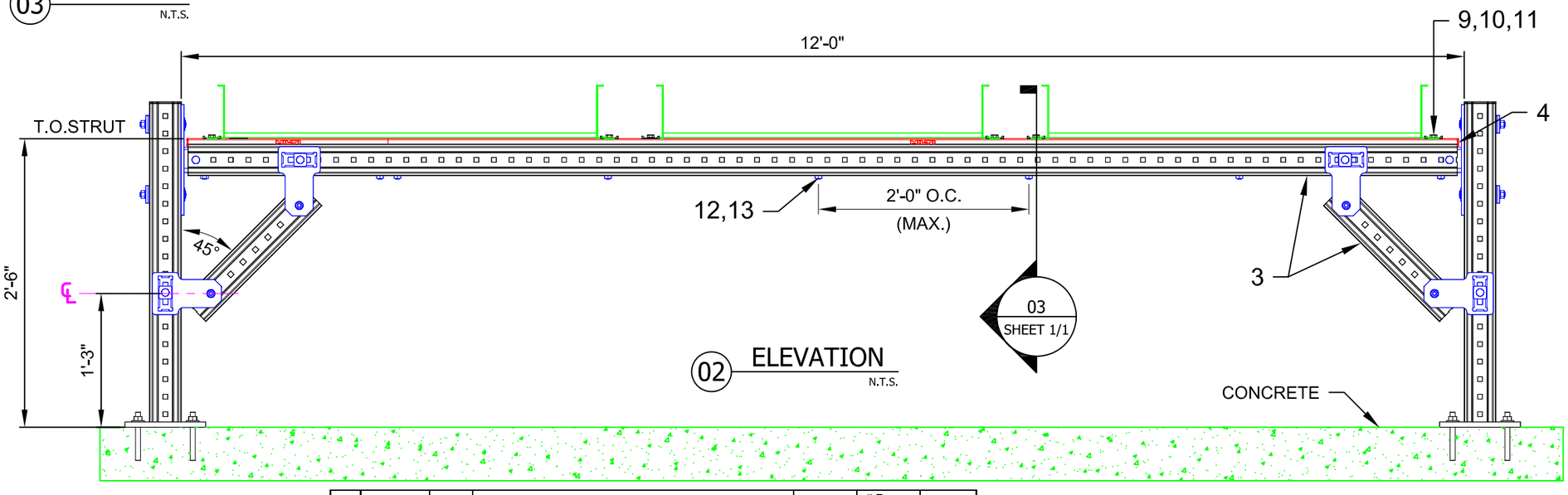
CT-GP06-C

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.

03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	8	EA	USE 5/8" Ø KB3 (HDG) AS APPROPRIATE	VARIES	VARIES	VARIES
2	2	EA	CONNECTOR MIC-C90-D2000 WELDED BRACKET	1	2	267793
3	AS REQ'D	EA	GIRDER MI-90 6M	1	AS REQ'D	304799
4	2	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
6	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
7	2	EA	CONNECTOR MIC-90-L	2	1	304805
8	4	PR	CONNECTOR MIC-U-MA	2	2	304806
9	6	EA	WING NUT MQM-F1/2"-F	25	1	304137
10	6	EA	1/2"x1" HEX HEAD BOLT (HDG)	VARIES	-	SPECIAL
11	6	EA	1/2" WASHER (HDG)	VARIES	-	SPECIAL
12	AS REQ'D	EA	ONEHAND SCREW MIA-OH90	10	AS REQ'D	304889
13	AS REQ'D	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	AS REQ'D	382897

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 33 lb/ft (36" CABLE TRAY), 41 lb/ft (42" CABLE TRAY)
      WL: 73 psf
   b. BUILDING CODE: IBC 2012
   c. CORROSION RESISTANCE REQD.: HDG
   d. MAX. SUPPORT SPACING = 10'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. VERIFY FIELD CONDITIONS PRIOR TO ORDERING & INSTALLATION.
4. ADEQUACY OF CABLE TRAY MAX. SPAN NOT CONSIDERED BY HILTI.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - MULTI TRAY

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	31 DEC 14

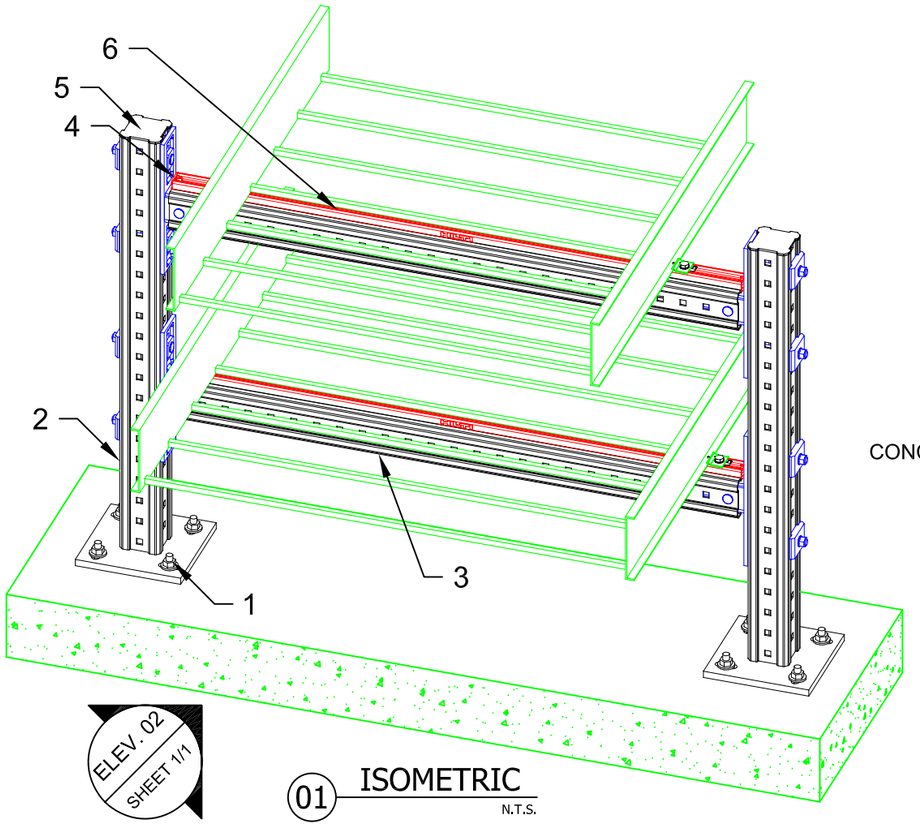
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	31 DEC 14

TYPICAL DETAIL NOMENCLATURE:

CT-GP07-C

DRAWING NUMBER:	SHEET:
01	1/1



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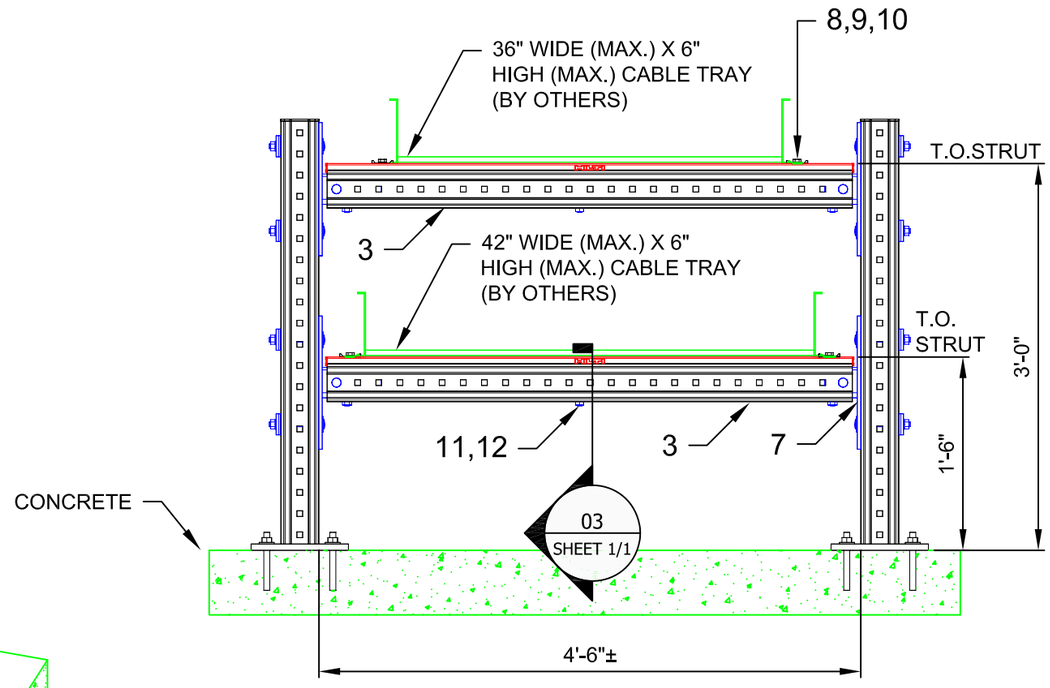
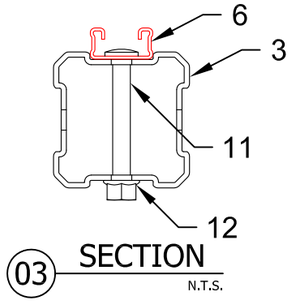
N.T.S.



01 ELEVATION
N.T.S.



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	8	EA	USE 5/8" Ø KB3 (HDG) AS APPROPRIATE	VARIES	VARIES	VARIES
2	2	EA	CONNECTOR MIC-C90-D2000 WELDED BRACKET	1	2	267793
3	AS REQ'D	EA	GIRDER MI-90 6M	1	AS REQ'D	304799
4	2	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
6	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
7	4	EA	CONNECTOR MIC-90-L	2	2	304805
8	4	EA	WING NUT MQM-F1/2"-F	25	1	304137
9	4	EA	1/2"x1" HEX HEAD BOLT (HDG)	VARIES	-	SPECIAL
10	4	EA	1/2" WASHER (HDG)	VARIES	-	SPECIAL
11	AS REQ'D	EA	ONEHAND SCREW MIA-OH90	10	AS REQ'D	304889
12	AS REQ'D	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	AS REQ'D	382897

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 33 lb/ft (36" CABLE TRAY), 41 lb/ft (42" CABLE TRAY)
      WL: 73 psf
   b. BUILDING CODE: IBC 2012
   c. CORROSION RESISTANCE REQD.: HDG
   d. MAX. SUPPORT SPACING = 20'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. VERIFY FIELD CONDITIONS PRIOR TO ORDERING & INSTALLATION.
4. ADEQUACY OF CABLE TRAY MAX. SPAN NOT CONSIDERED BY HILTI.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - DOUBLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	31 DEC 14

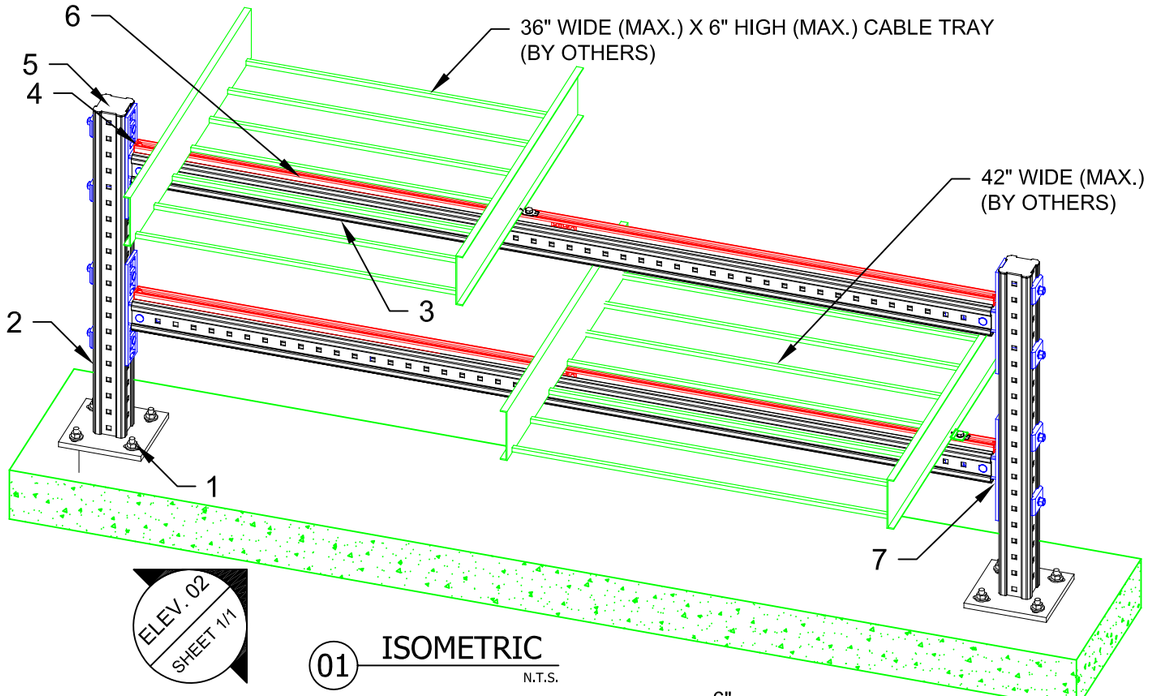
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	31 DEC 14

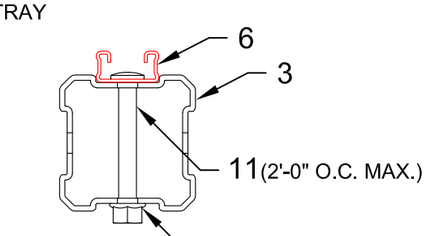
TYPICAL DETAIL NOMENCLATURE:

CT-GP08-C

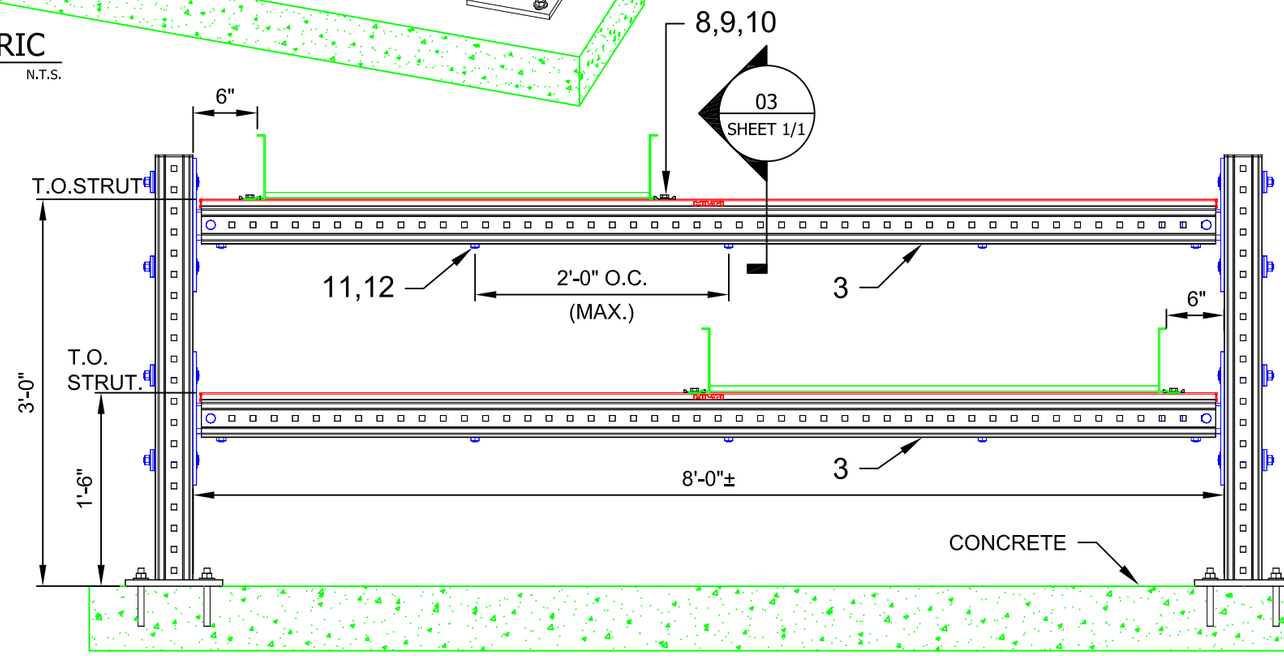
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	8	EA	USE 5/8" Ø KB3 (HDG) AS APPROPRIATE	VARIES	VARIES	VARIES
2	2	EA	CONNECTOR MIC-C90-D2000 WELDED BRACKET	1	2	267793
3	AS REQ'D	EA	GIRDER MI-90 6M	1	AS REQ'D	304799
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
6	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
7	4	EA	CONNECTOR MIC-90-L	2	2	304805
8	4	EA	WING NUT MQM-F1/2"-F	25	1	304137
9	4	EA	1/2"x1" HEX HEAD BOLT (HDG)	VARIES	-	SPECIAL
10	4	EA	1/2" WASHER (HDG)	VARIES	-	SPECIAL
11	AS REQ'D	EA	ONEHAND SCREW MIA-OH90	10	AS REQ'D	304889
12	AS REQ'D	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	AS REQ'D	382897

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 33 lb/ft (36" CABLE TRAY), 41 lb/ft (42" CABLE TRAY)
      WL: 73 psf
   b. BUILDING CODE: IBC 2012
   c. CORROSION RESISTANCE REQD.: HDG
   d. MAX. SUPPORT SPACING = 20'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. VERIFY FIELD CONDITIONS PRIOR TO ORDERING & INSTALLATION.
4. ADEQUACY OF CABLE TRAY MAX. SPAN NOT CONSIDERED BY HILTI.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - DOUBLE WIDE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	31 DEC 14

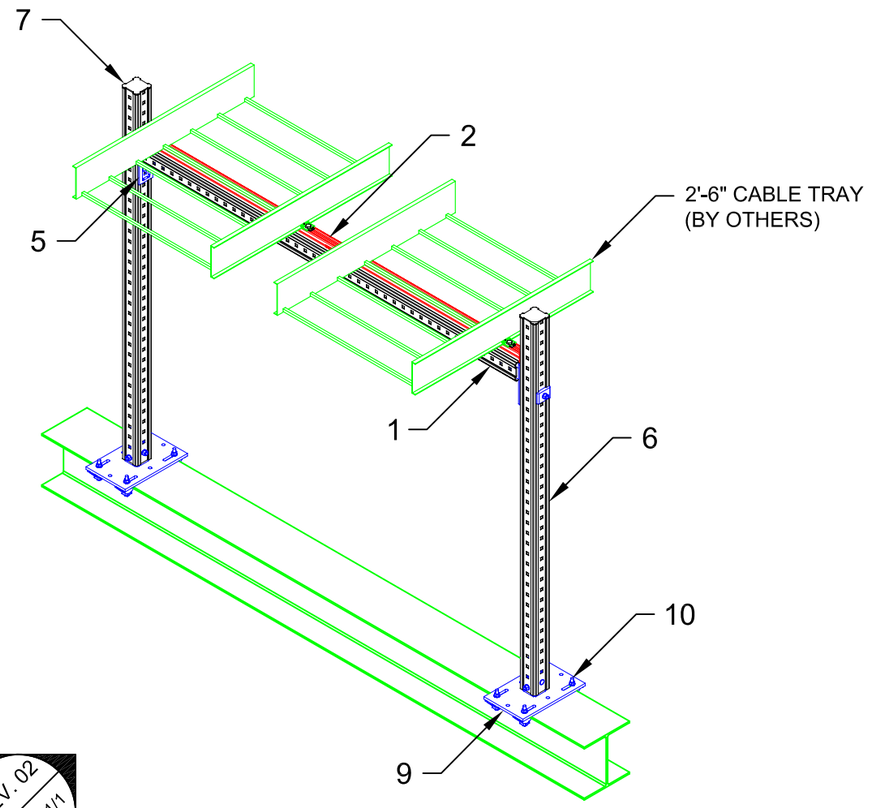
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	31 DEC 14

TYPICAL DETAIL NOMENCLATURE:

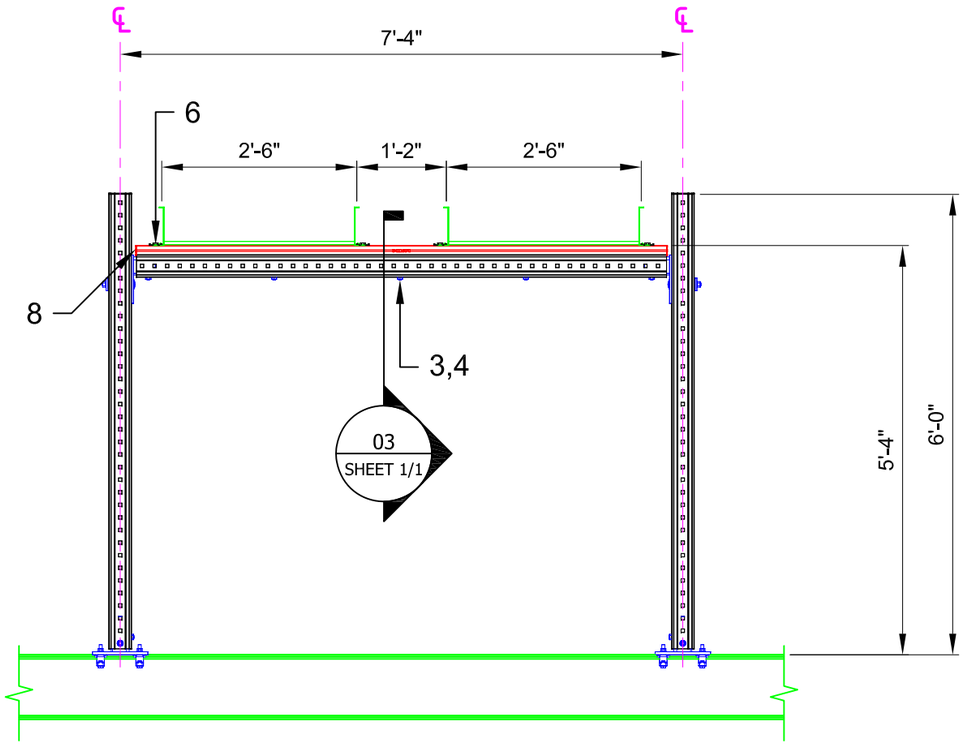
CT-GP09-C

DRAWING NUMBER:	SHEET:
01	1/1

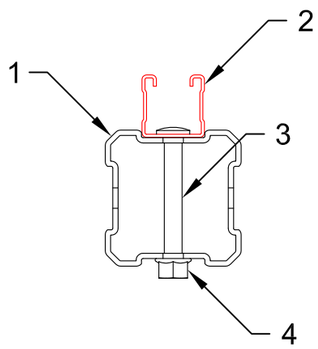


ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	1	EA	GIRDER MI-90 3M	1	1	304798
2	1	EA	STRUT HS-158-12/PG 10'	1	1	407555
3	3	EA	ONEHAND SCREW MIA-OH90	10	1	304889
4	3	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
5	2	EA	CONNECTOR MIC-90-U	4	1	304803
6	4	EA	LEGRAND'S 1893-0 CLAMP	-	-	BY OTHERS
7	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
8	4	EA	CHANNEL END CAP MEK RED	50	1	244886
9	2	EA	CONNECTOR MIC-S90-X STEEL	2	1	SEE TABLE
10	8	EA	BEAM CLAMP MI-SGC-M12	16	1	233859

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.)
      DL: 187.5 lbs/ft WIDTH OF CABLE TRAY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
   e. MAX. SUPPORT SPACING = 5'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - DOUBLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
HAM	16 DEC 14

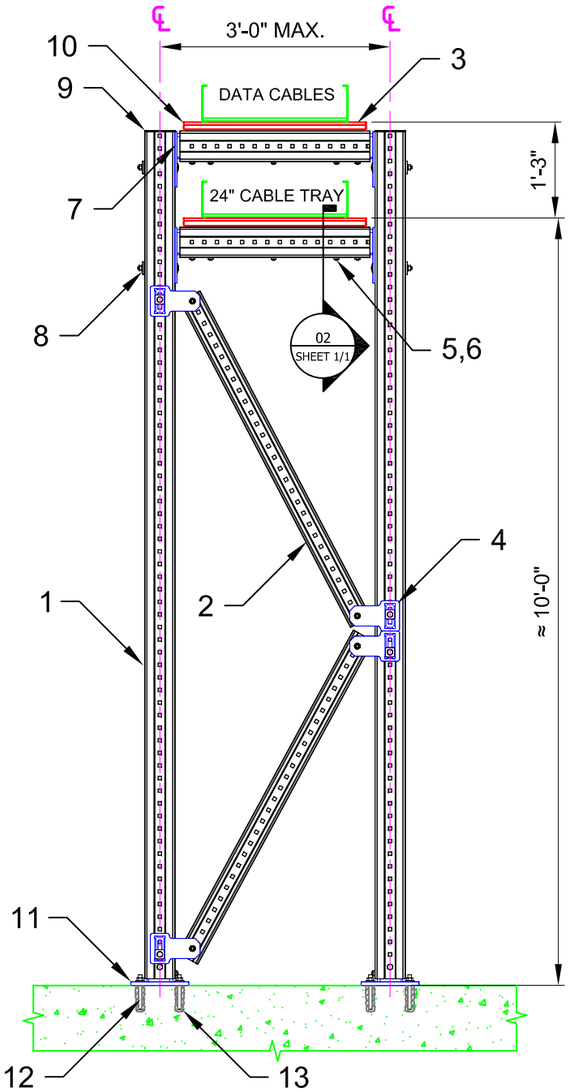
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	16 DEC 14

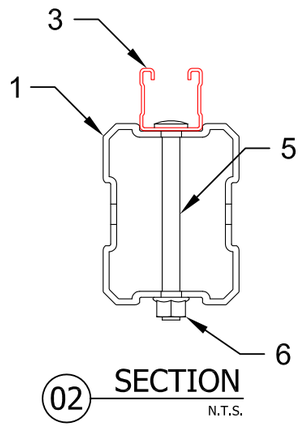
TYPICAL DETAIL NOMENCLATURE:

CT-GP10-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ELEVATION
N.T.S.



02 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-120 6M	1	AS REQ'D	304801
2	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
3	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
4	4	PR	CONNECTOR MIC-U-MA	2	2	304806
5	6	EA	ONEHAND SCREW MIA-OH120	10	1	304890
6	6	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	4	EA	CONNECTOR MIC-120-U	4	1	304804
8	4	EA	EASYHAND SCREW MIA-EH120	10	1	304888
9	2	EA	GIRDER END CAP MIA-EC120	25	1	432078
10	8	EA	CHANNEL END CAP MEK RED	50	1	244886
11	2	EA	CONNECTOR MIC-C120-D CONCRETE	2	1	304829
12	8	EA	HAS - SUPER 5/8" x 7 5/8"	20	1	2045020
13	1	EA	HIT-HY-200-R	1	1	2022793

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. SUPPORT SPACING 16 ft. MAX.
3. TOTAL CABLE LOAD 8 lb./ft. MAX.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - 2 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV

DRAWN BY:	ISSUE DATE:
GAB	31 DEC 14

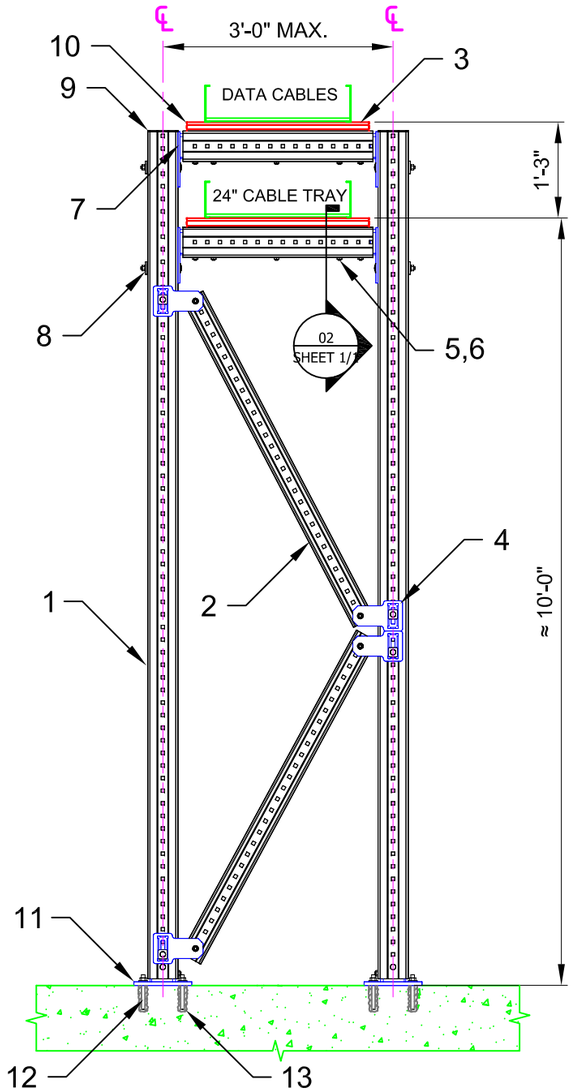
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	31 DEC 14

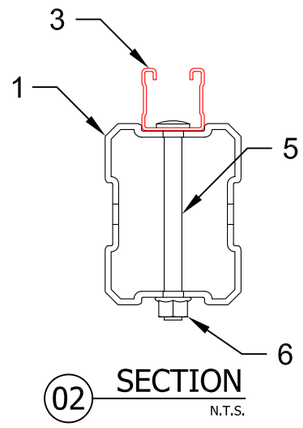
TYPICAL DETAIL NOMENCLATURE:

CT-GP11-C

DRAWING NUMBER:	SHEET:
01	1/1



01 ELEVATION
N.T.S.



02 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-120 6M	1	AS REQ'D	304801
2	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
3	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
4	4	PR	CONNECTOR MIC-U-MA	2	2	304806
5	6	EA	ONEHAND SCREW MIA-OH120	10	1	304890
6	6	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	4	EA	CONNECTOR MIC-120-U	4	1	304804
8	4	EA	EASYHAND SCREW MIA-EH120	10	1	304888
9	2	EA	GIRDER END CAP MIA-EC120	25	1	432078
10	8	EA	CHANNEL END CAP MEK RED	50	1	244886
11	2	EA	CONNECTOR MIC-C120-D CONCRETE	2	1	304829
12	8	EA	HAS - SUPER 5/8" x 7 5/8"	20	1	2045020
13	1	EA	HIT-HY-200-R	1	1	2022793

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. SUPPORT SPACING 16 ft. MAX.
3. TOTAL CABLE LOAD 8 lb./ft. MAX.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

GOALPOST - 2 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV

DRAWN BY:	ISSUE DATE:
GAB	31 DEC 14

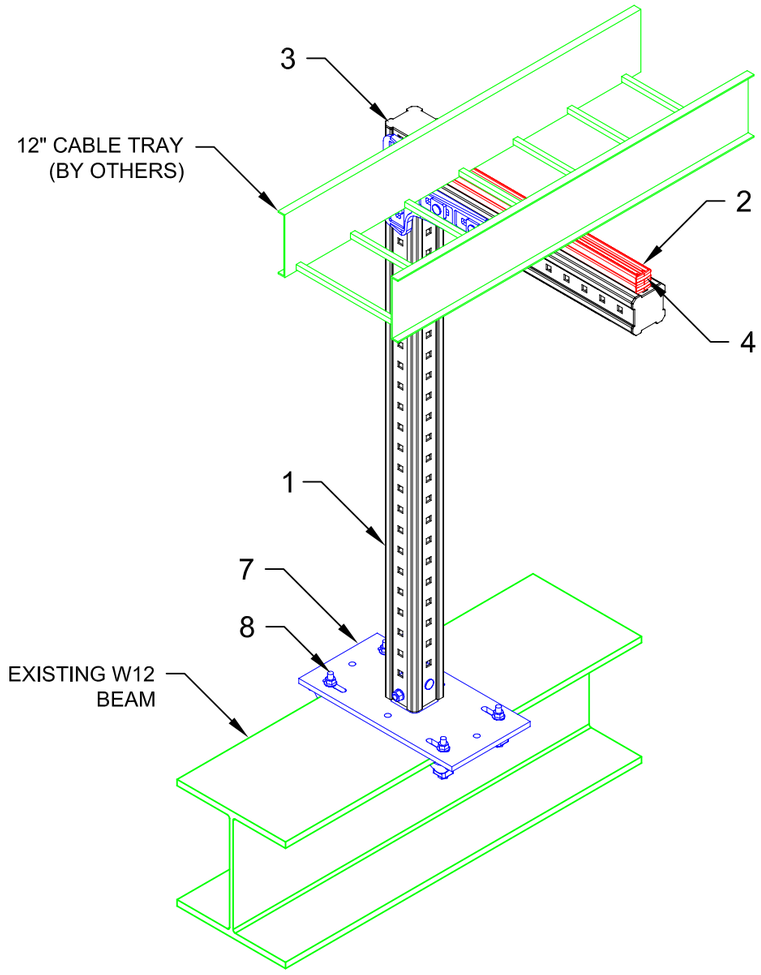
REVISIONS:

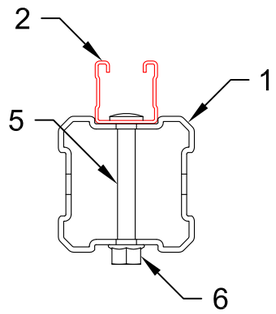
NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	31 DEC 14

TYPICAL DETAIL NOMENCLATURE:

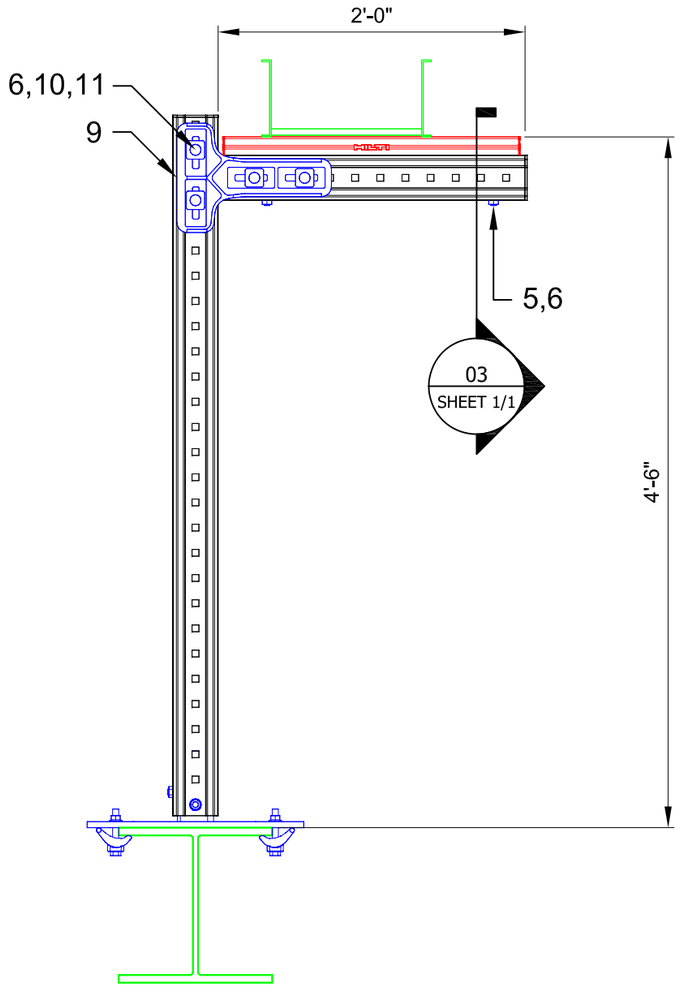
CT-GP11-C

DRAWING NUMBER:	SHEET:
01	1/1





03 SECTION
N.T.S.



ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.

02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	6	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	1	EA	CONNECTOR MIC-S90-C STEEL	2	1	304814
8	4	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
9	1	PR	CONNECTOR MIC-90-LH	3	1	2048107
10	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
11	4	EA	TOOTHED PLATE MIA-TP	20	1	305707

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 200 lbs.
      EL: MAX. 28 lbs.
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS.
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. FIELD TO VERIFY ALL DIMENSIONS AND EXISTING BEAM SIZES AND ELEVATIONS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

L - SHAPE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	04 DEC 14

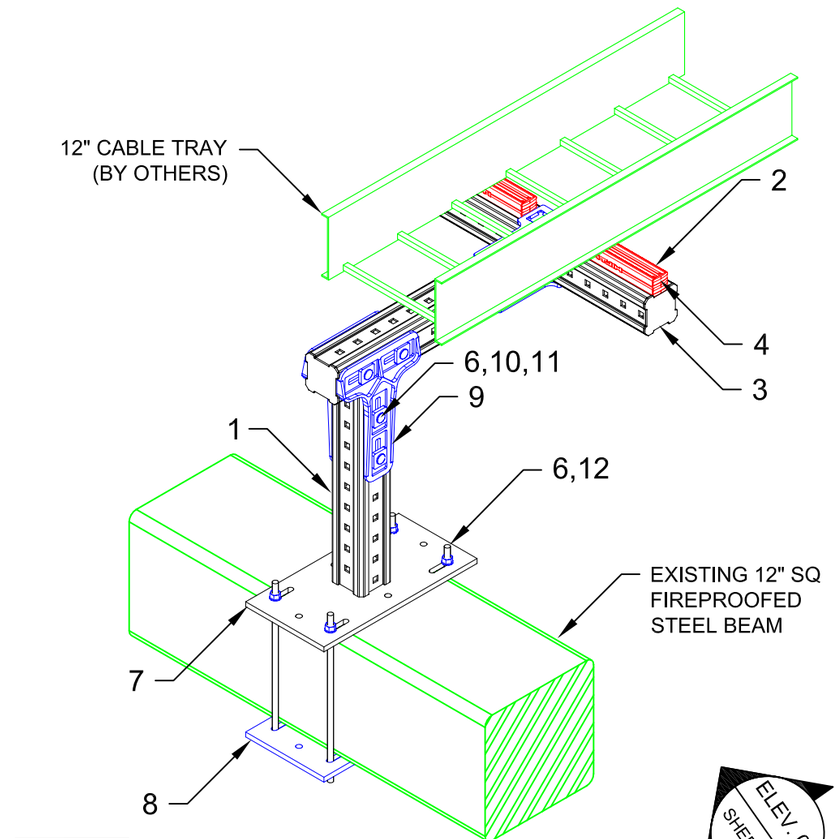
REVISIONS:

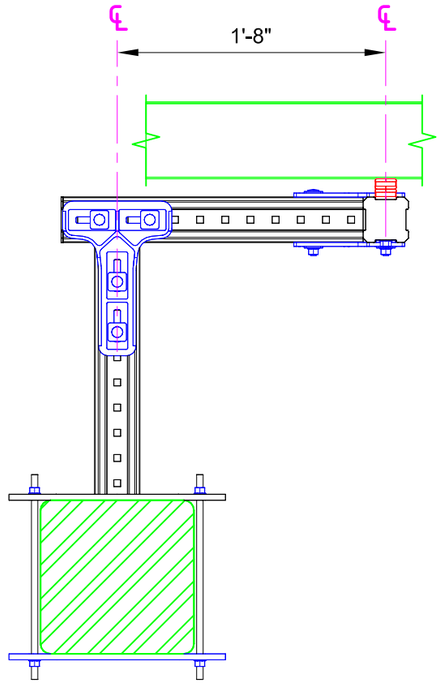
NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	04 DEC 14

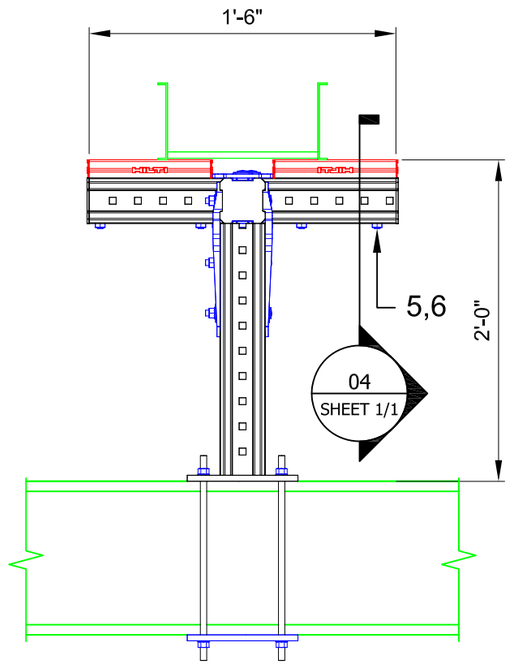
TYPICAL DETAIL NOMENCLATURE:

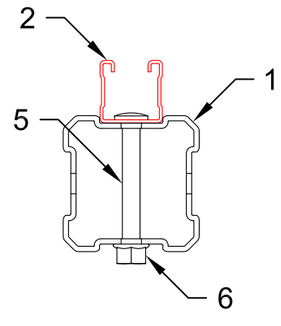
CT-L01-S

DRAWING NUMBER:	SHEET:
01	1/1









No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	3	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	8	EA	CHANNEL END CAP MEK RED	50	1	244886
5	4	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	16	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	1	EA	CONNECTOR MIC-S90-C-1000 STEEL	1	1	267786
8	1	EA	BASEPLATE MIB-SC STEEL	2	1	304823
9	1	PR	CONNECTOR MIC-90-LH	3	1	2048107
10	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
11	4	EA	TOOTHED PLATE MIA-TP	20	1	305707
12	2	EA	THREADED STUD Grade 8.8 M12X1000-F (3.28 ft)	15	1	304774
13	1	PR	CONNECTOR MIC-T	2	1	304807

01 ISOMETRIC N.T.S.

02 ELEVATION N.T.S.

03 ELEVATION N.T.S.

04 SECTION N.T.S.

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 500 lbs.
      EL: MAX. 60 lbs.
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS.
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. FIELD TO VERIFY ALL DIMENSIONS AND EXISTING BEAM SIZES AND ELEVATIONS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

L - SHAPE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	04 DEC 14

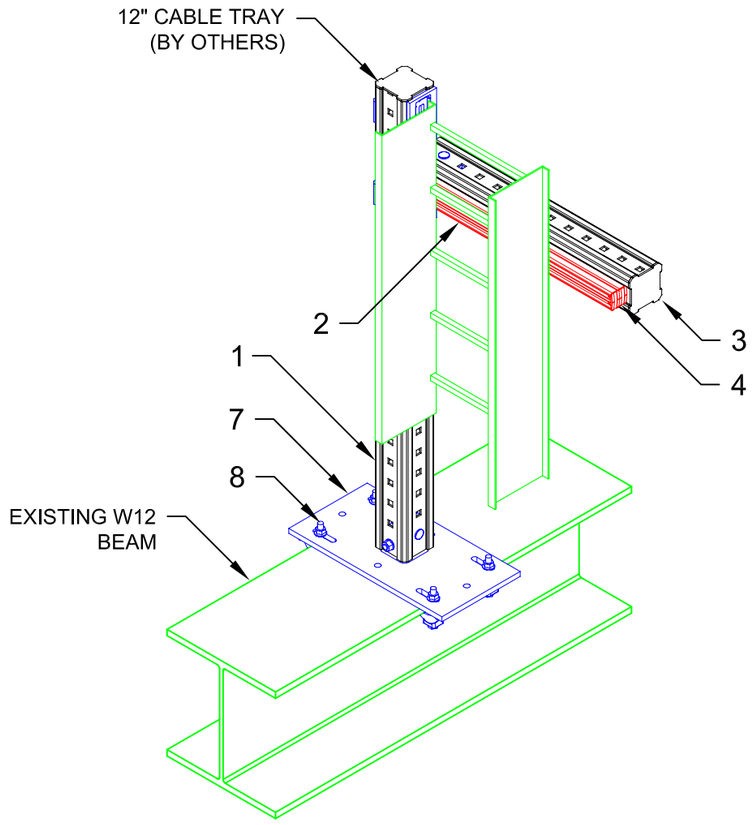
REVISIONS:

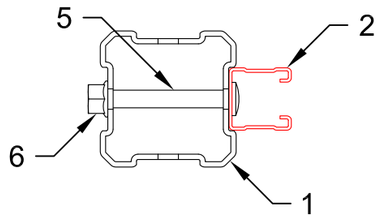
NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	04 DEC 14

TYPICAL DETAIL NOMENCLATURE:

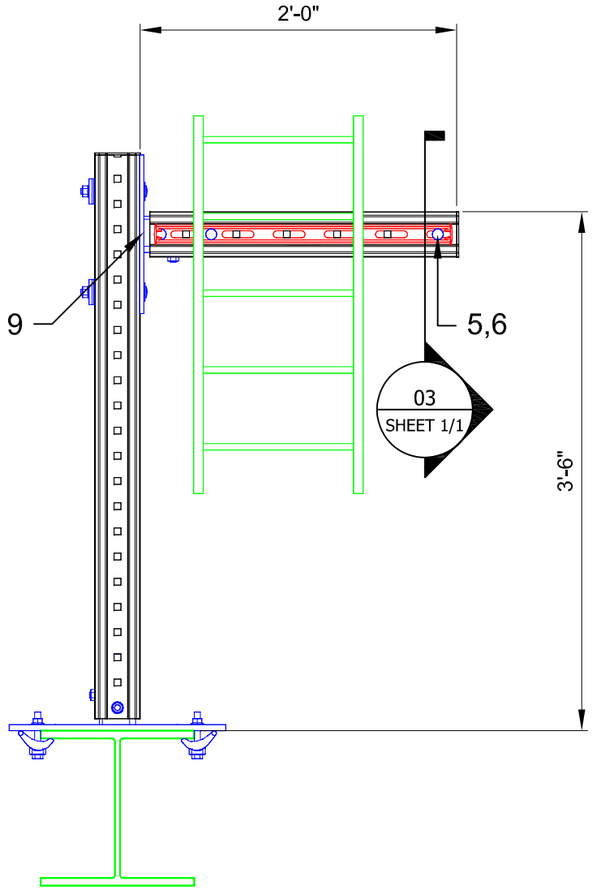
CT-L02-S

DRAWING NUMBER:	SHEET:
01	1/1





03 SECTION
N.T.S.



ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.

02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	6	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	1	EA	CONNECTOR MIC-S90-C STEEL	2	1	304814
8	4	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
9	1	EA	CONNECTOR MIC-90-L	2	1	304805

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 200 lbs.
      EL: MAX. 28 lbs.
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS.
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. FIELD TO VERIFY ALL DIMENSIONS AND EXISTING BEAM SIZES AND ELEVATIONS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

L - SHAPE
SINGLE - VERTICAL

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	09 JAN 15

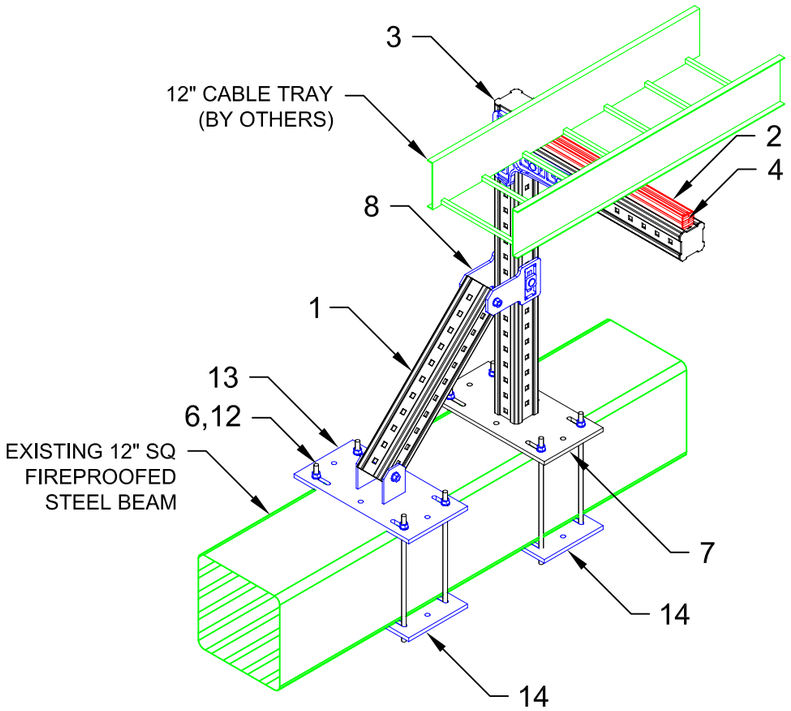
REVISIONS:

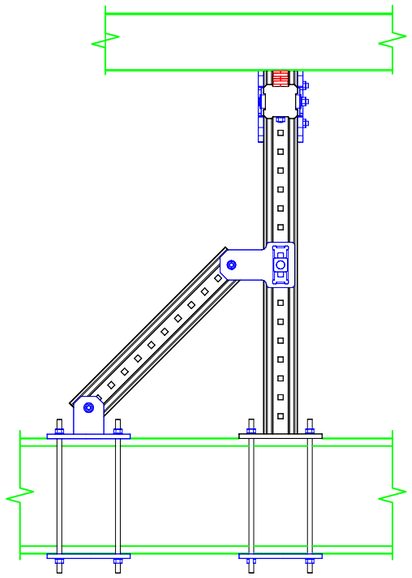
NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	09 JAN 15

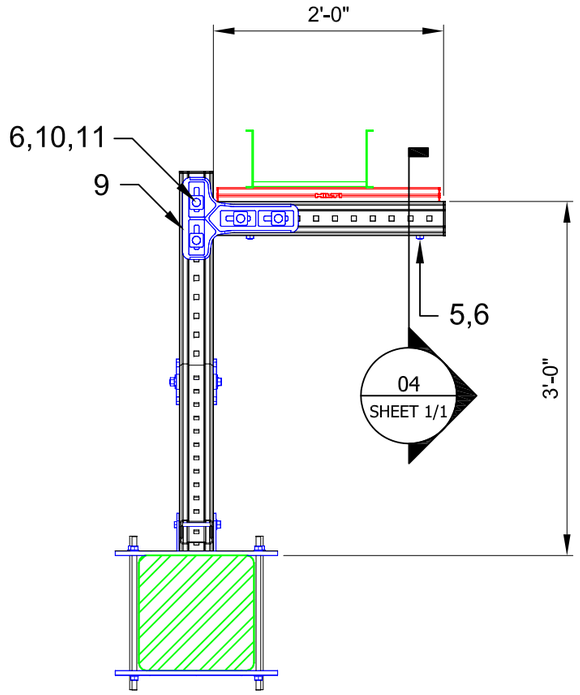
TYPICAL DETAIL NOMENCLATURE:

CT-LO3-S

DRAWING NUMBER:	SHEET:
01	1/1







ELEV. 03 / SHEET 1/1

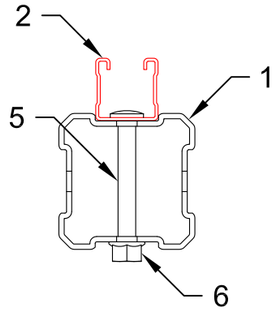
ELEV. 02 / SHEET 1/1

01 ISOMETRIC
N.T.S.

02 ELEVATION
N.T.S.

03 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	3	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	23	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	1	EA	CONNECTOR MIC-S90-C-1000 STEEL	1	1	267786
8	1	PR	CONNECTOR MIC-U-MA	2	1	304806
9	1	PR	CONNECTOR MIC-90-LH	3	1	2048107
10	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
11	4	EA	TOOTHED PLATE MIA-TP	20	1	305707
12	4	EA	THREADED STUD Grade 8.8 M12X1000-F (3.28 ft)	15	1	304774
13	1	EA	CONNECTOR MIC-SC-MA STEEL	2	1	304817
14	2	EA	BASEPLATE MIB-SC STEEL	2	1	304823



04 SECTION
N.T.S.

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 600 lbs.
      EL: MAX. 140 lbs.
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS.
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. FIELD TO VERIFY ALL DIMENSIONS AND EXISTING BEAM SIZES AND ELEVATIONS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

BRACED L - SHAPE
SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	09 JAN 15

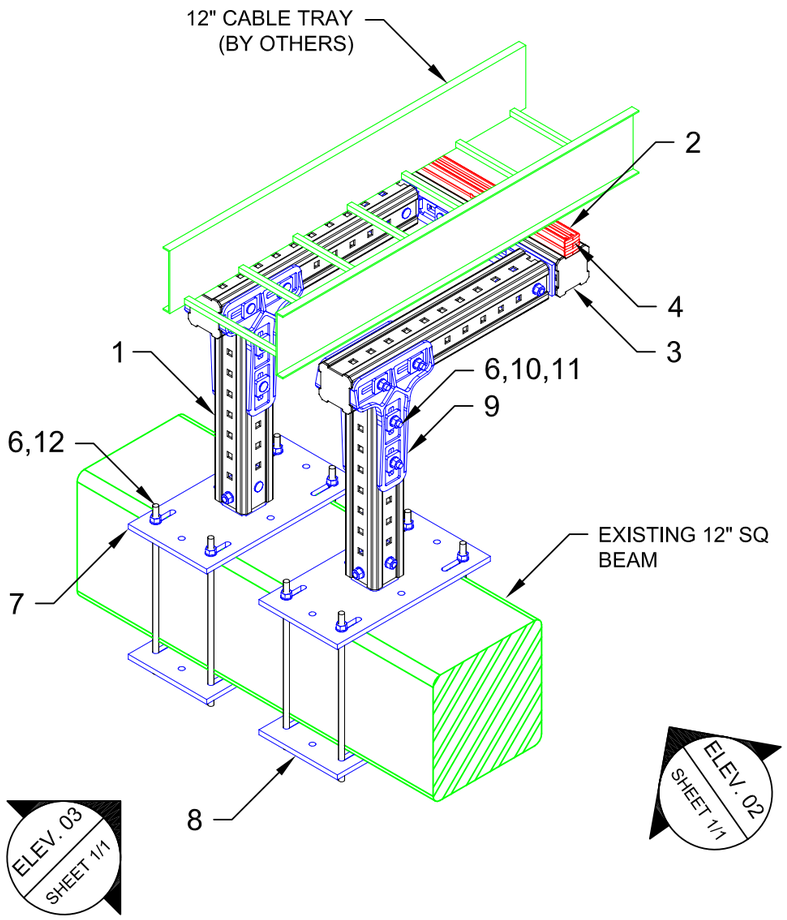
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	09 JAN 15

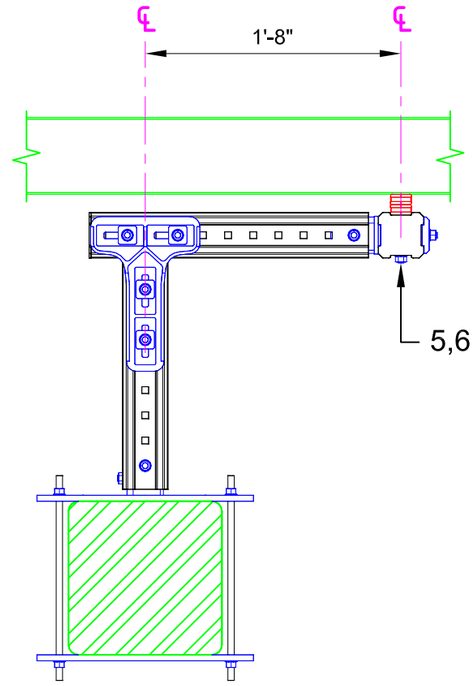
TYPICAL DETAIL NOMENCLATURE:

CT-L04-S

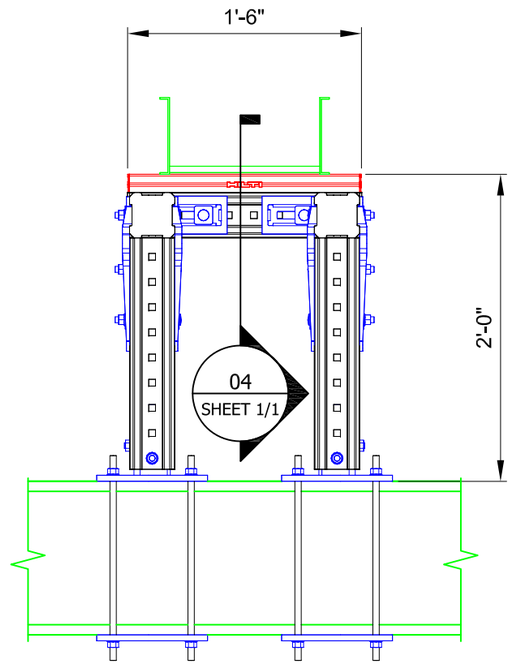
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.

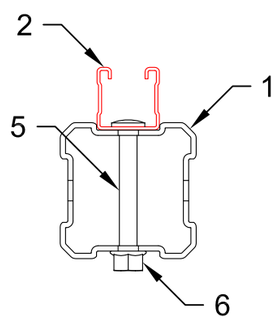


02 ELEVATION
N.T.S.



03 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	4	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	26	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	2	EA	CONNECTOR MIC-S90-C STEEL	2	1	304814
8	2	EA	BASEPLATE MIB-SC STEEL	2	1	304823
9	2	PR	CONNECTOR MIC-90-LH	3	1	2048107
10	8	EA	EASYHAND SCREW MIA-EH90	10	1	304887
11	8	EA	TOOTHED PLATE MIA-TP	20	1	305707
12	3	EA	THREADED STUD Grade 8.8 M12X1000-F (3.28 ft)	15	1	304774
13	2	EA	CONNECTOR MIC-90-U	4	1	304803



04 SECTION
N.T.S.

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 1000 lbs.
      EL: MAX. 140 lbs.
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS.
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. FEILD TO VERIFY ALL DIMENSIONS AND EXISTING BEAM SIZES AND ELEVATIONS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

L - SHAPE - SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	09 JAN 15

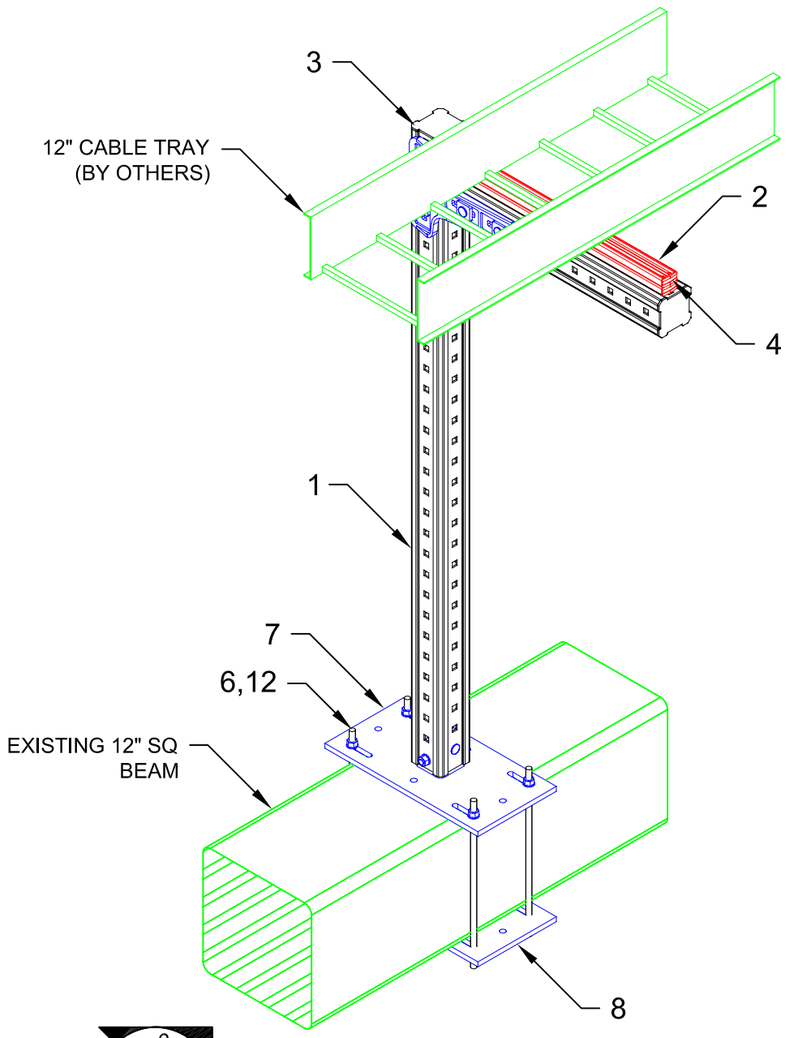
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	09 JAN 15

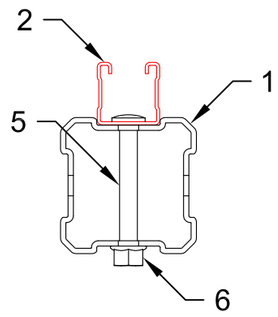
TYPICAL DETAIL NOMENCLATURE:

CT-L05-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



03 SECTION
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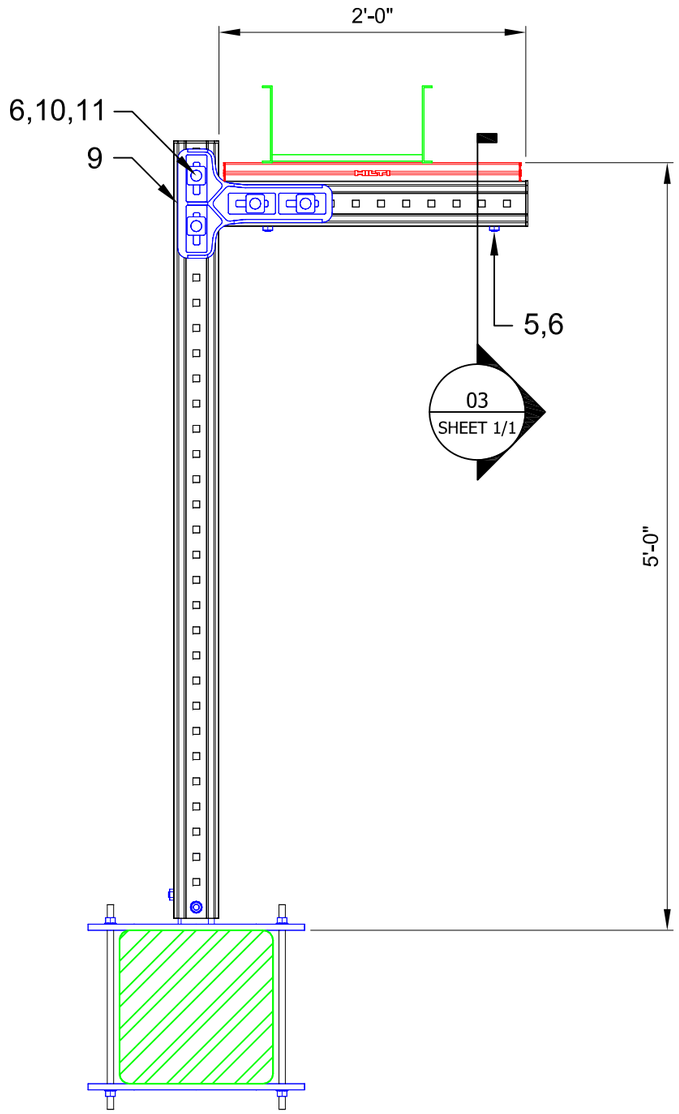


02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	14	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	1	EA	CONNECTOR MIC-S90-C STEEL	2	1	304814
8	1	EA	BASEPLATE MIB-SC STEEL	2	1	304823
9	1	PR	CONNECTOR MIC-90-LH	3	1	2048107
10	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
11	4	EA	TOOTHED PLATE MIA-TP	20	1	305707
12	1	EA	THREADED STUD Grade 8.8 M12X1000-F (3.28 ft)	15	1	304774

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 350 lbs.
      EL: MAX. 50 lbs.
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS.
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. FEILD TO VERIFY ALL DIMENSIONS AND EXISTING BEAM SIZES AND ELEVATIONS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

L - SHAPE - SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	09 JAN 15

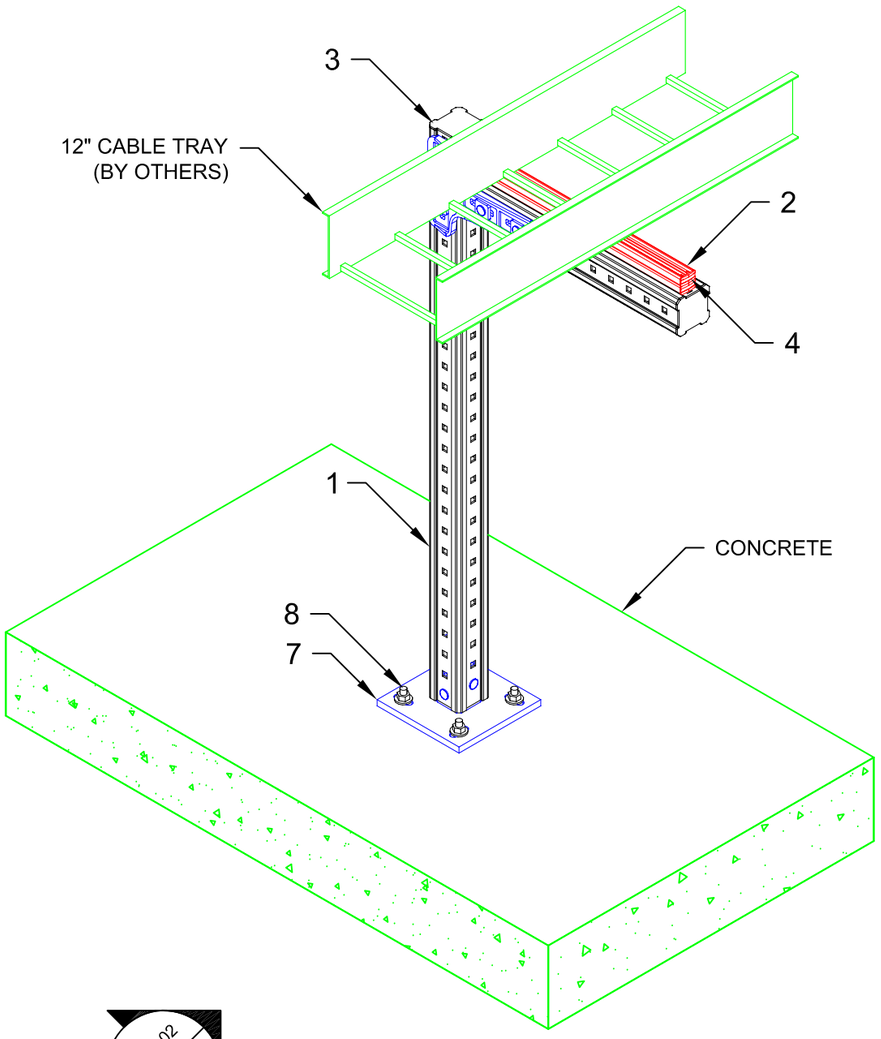
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	09 JAN 15

TYPICAL DETAIL NOMENCLATURE:

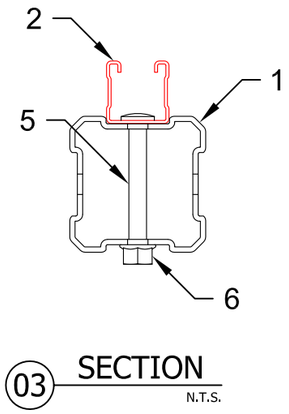
CT-L06-S

DRAWING NUMBER:	SHEET:
01	1/1



ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.



03 SECTION
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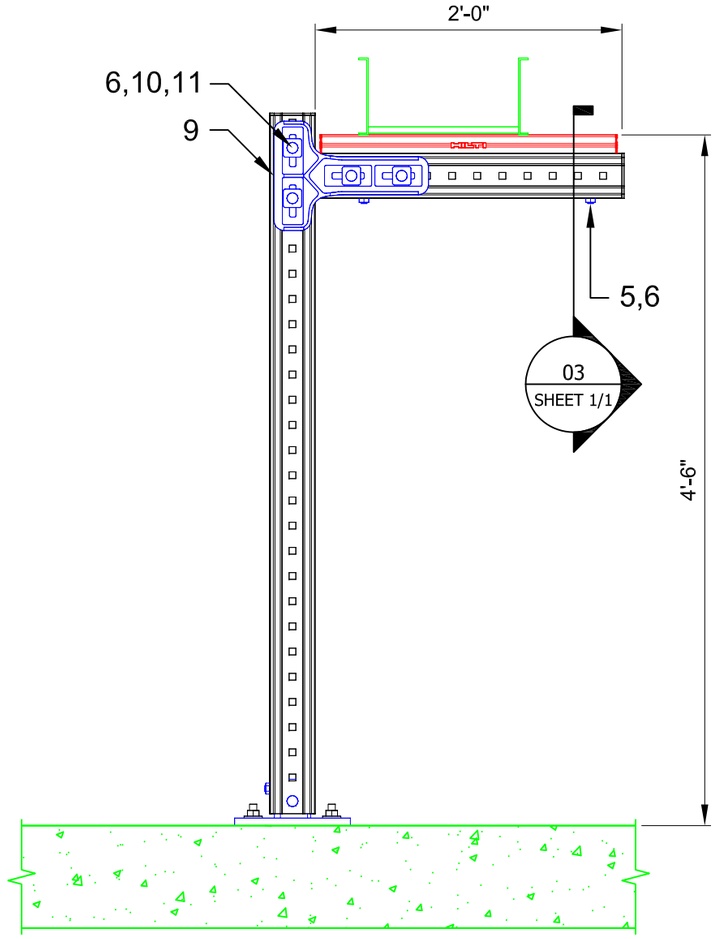


02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	6	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	1	EA	CONNECTOR MIC-C90-D CONCRETE	2	1	304827
8	4	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES
9	1	PR	CONNECTOR MIC-90-LH	3	1	2048107
10	4	EA	EASYHAND SCREW MIA-EH90	10	1	304887
11	4	EA	TOOTHED PLATE MIA-TP	20	1	305707

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 200 lbs.
      EL: MAX. 28 lbs.
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS.
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. FIELD TO VERIFY ALL DIMENSIONS AND EXISTING BEAM SIZES AND ELEVATIONS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

L - SHAPE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
HAM	16 DEC 14

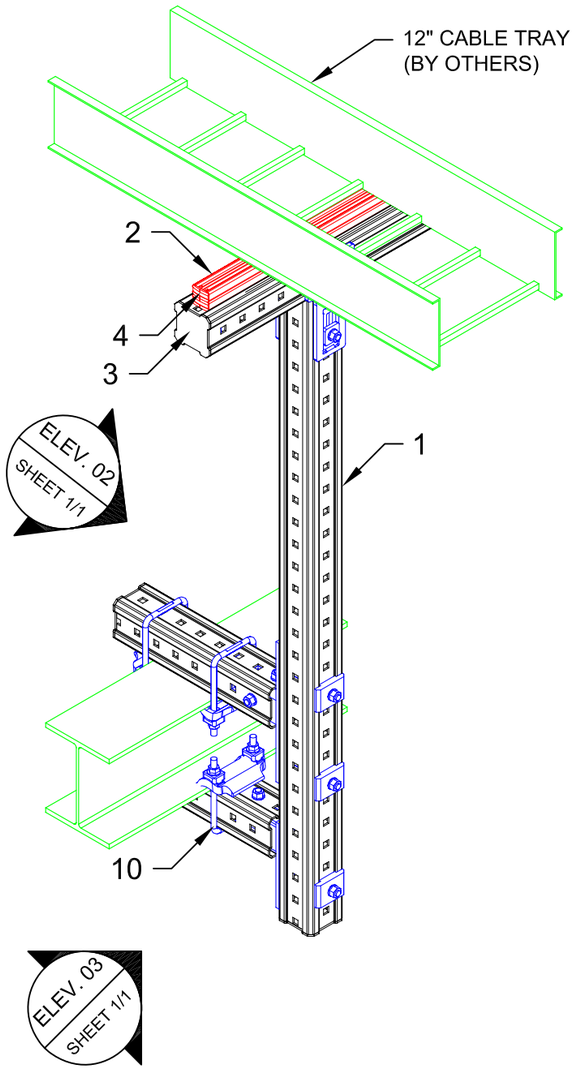
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	16 DEC 14

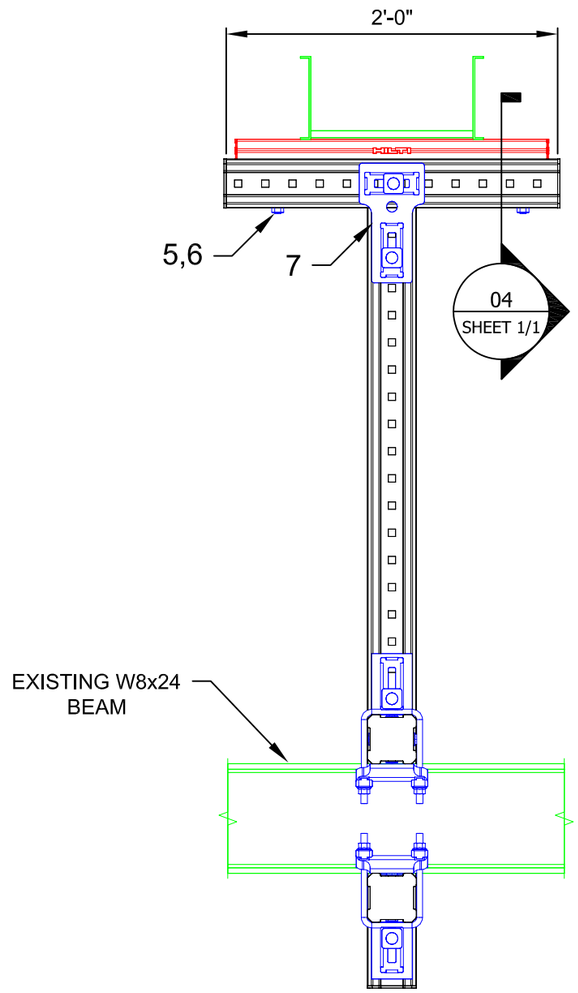
TYPICAL DETAIL NOMENCLATURE:

CT-L07-C

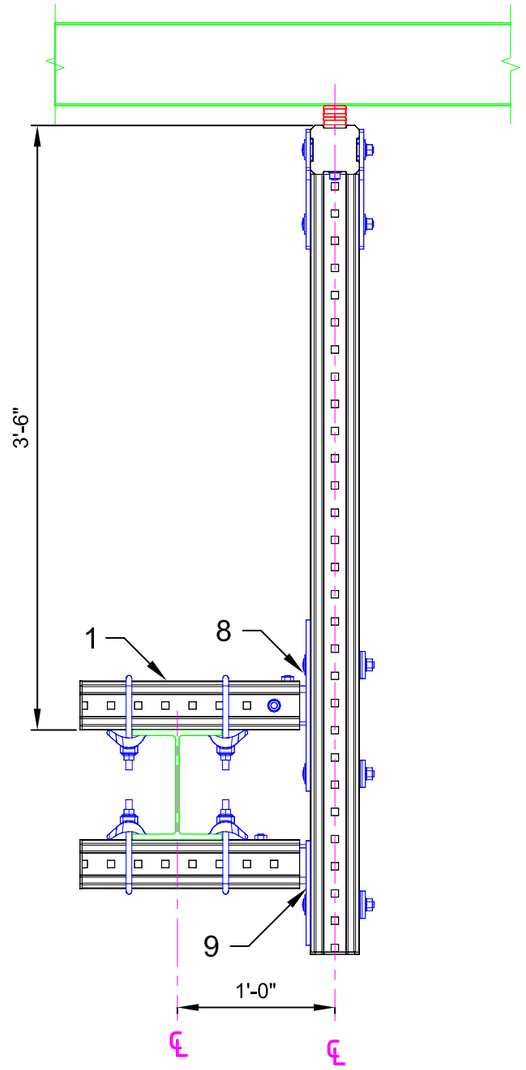
DRAWING NUMBER:	SHEET:
01	1/1



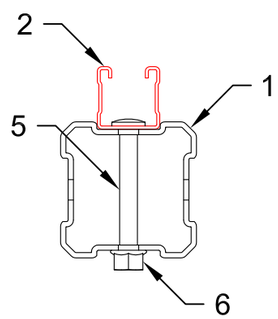
01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.



03 ELEVATION
N.T.S.



04 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	5	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	2	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	1	PR	CONNECTOR MIC-T	2	1	304807
8	1	EA	CONNECTOR MIC-90-L	2	1	304805
9	1	EA	CONNECTOR MIC-90-U	4	1	304803
10	4	EA	BEAM CLAMP MI-DGC 90	4	1	233860

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 500 lbs.
      WL: MAX. 150 lbs. (LONGITUDINAL)
      EQ: MAX. 125 lbs. (TRANSVERSE)
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

T - POST

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	04 DEC 14

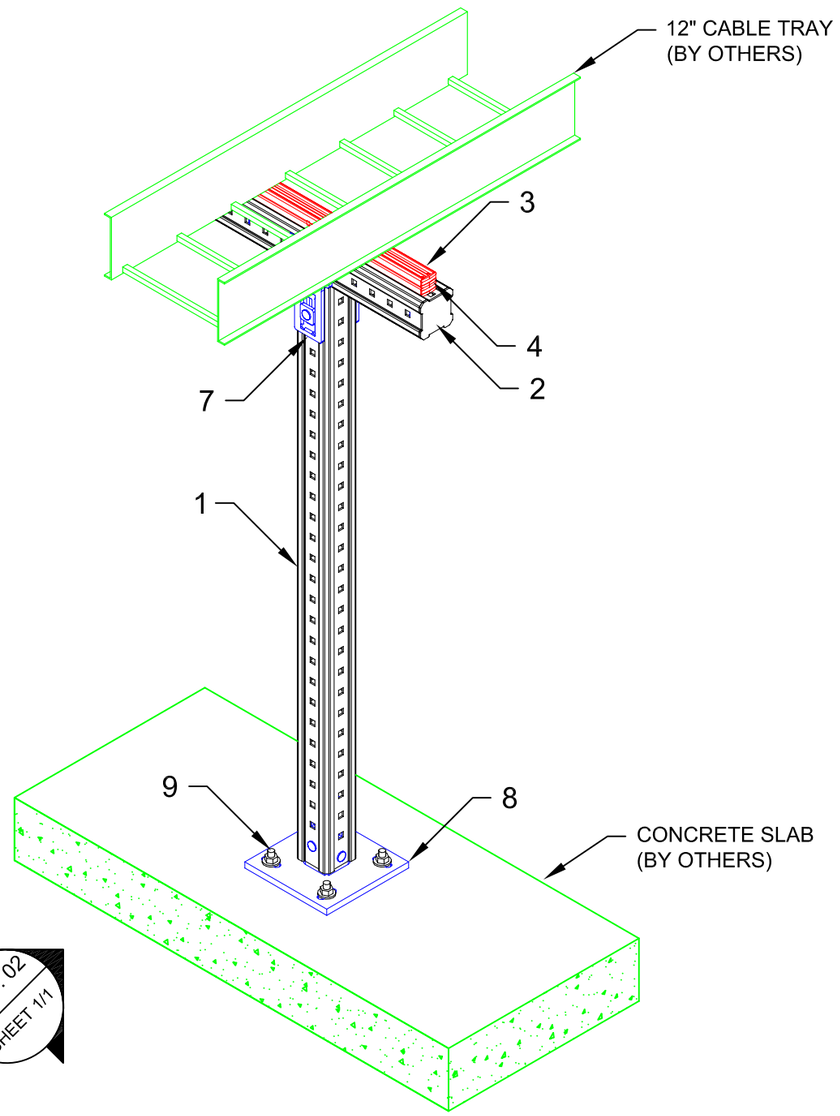
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	04 DEC 14

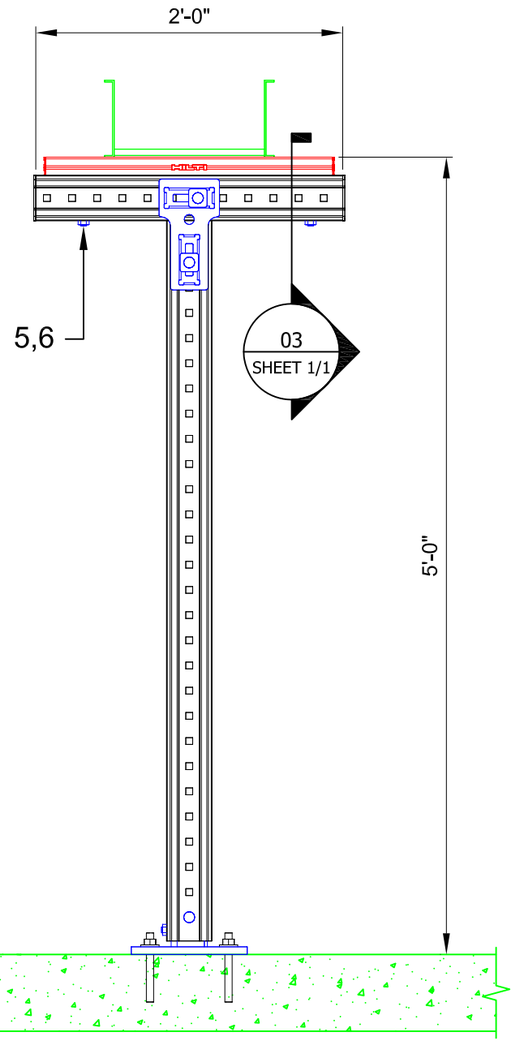
TYPICAL DETAIL NOMENCLATURE:

CT-TP01-S

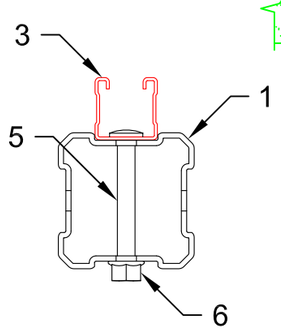
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
3	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	2	EA	PREVAIL TORQUE HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	1	PR	CONNECTOR MIC-T	2	1	304807
8	1	EA	CONNECTOR MIC-C90-D CONCRETE	2	1	304827
9	4	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	VARIES	VARIES

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. NO LOADS CONSIDERED - CONCEPT ONLY
   b. LATERAL LOADS NOT CONSIDERED
   c. CORROSION RESISTANCE REQD.: HDG / SS / EG
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

T - POST

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
HAM	18 DEC 14

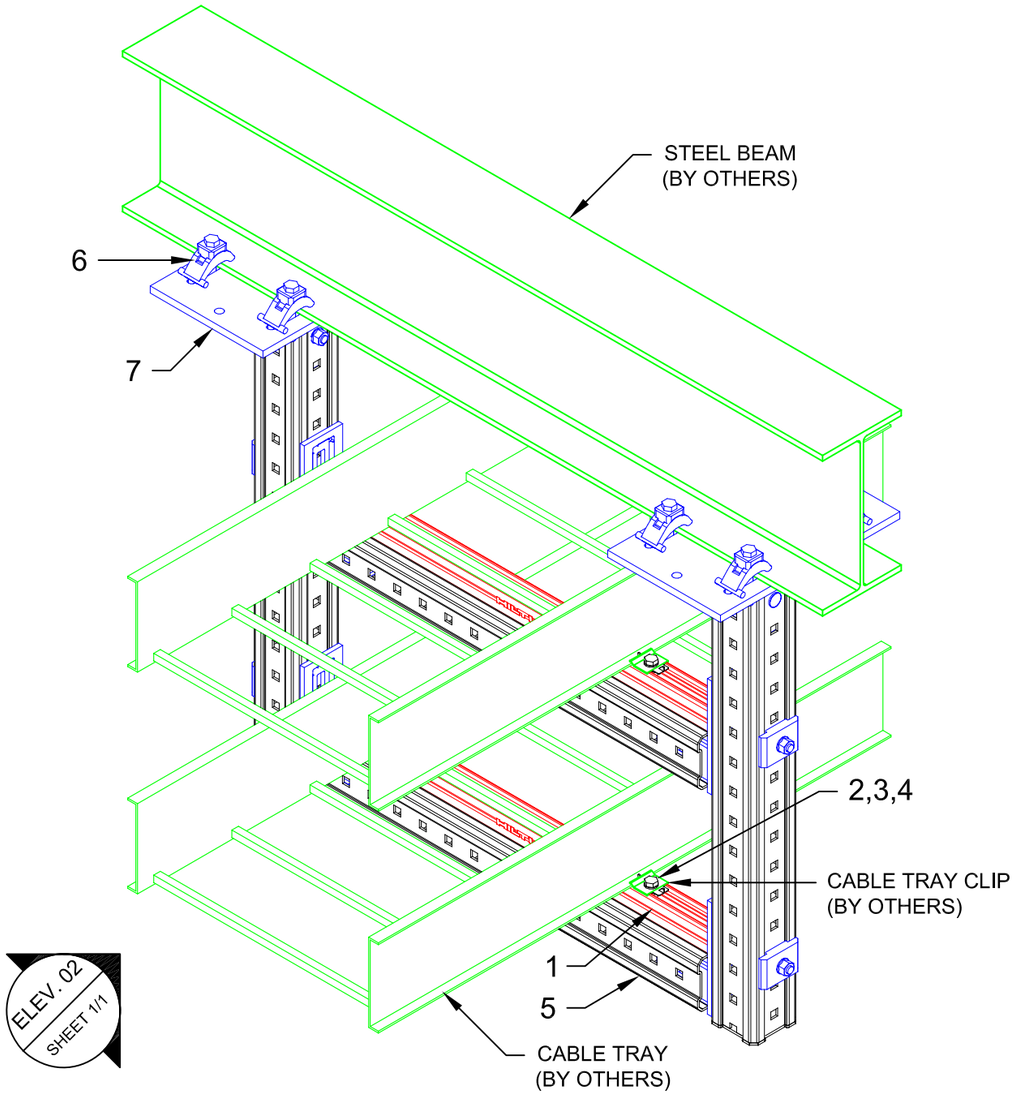
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	18 DEC 14

TYPICAL DETAIL NOMENCLATURE:

CT-TP02-C

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
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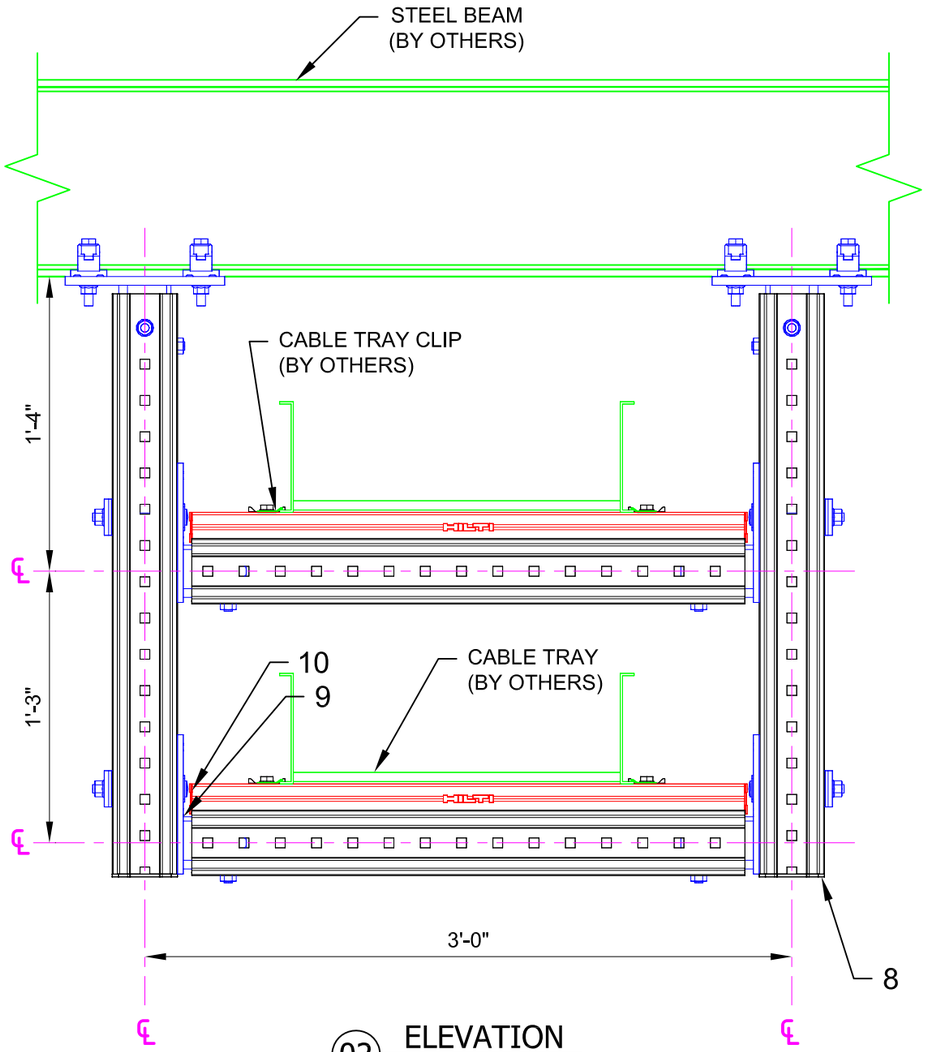


02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
2	AS REQ'D	EA	WING NUT MQM-F1/2"	50	AS REQ'D	377883
3	AS REQ'D	EA	HEX HEAD BOLT 1/2" x 1-1/4"	50	AS REQ'D	411767
4	AS REQ'D	EA	WASHER 1/2"	100	AS REQ'D	411758
5	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
6	AS REQ'D	EA	BEAM CLAMP MI-SGC-M12	16	AS REQ'D	233859
7	AS REQ'D	EA	CONNECTOR MIC-S90-X (SEE TABLE)	VARIES	AS REQ'D	VARIES
8	AS REQ'D	EA	GIRDER END CAP MIA-EC90	25	AS REQ'D	432077
9	AS REQ'D	EA	CONNECTOR MIC-90-U	4	AS REQ'D	304803
10	AS REQ'D	EA	CHANNEL END CAP MEK RED	50	AS REQ'D	244886

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. NO LOADS CONSIDERED - CONCEPT ONLY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 2 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	03 DEC 14

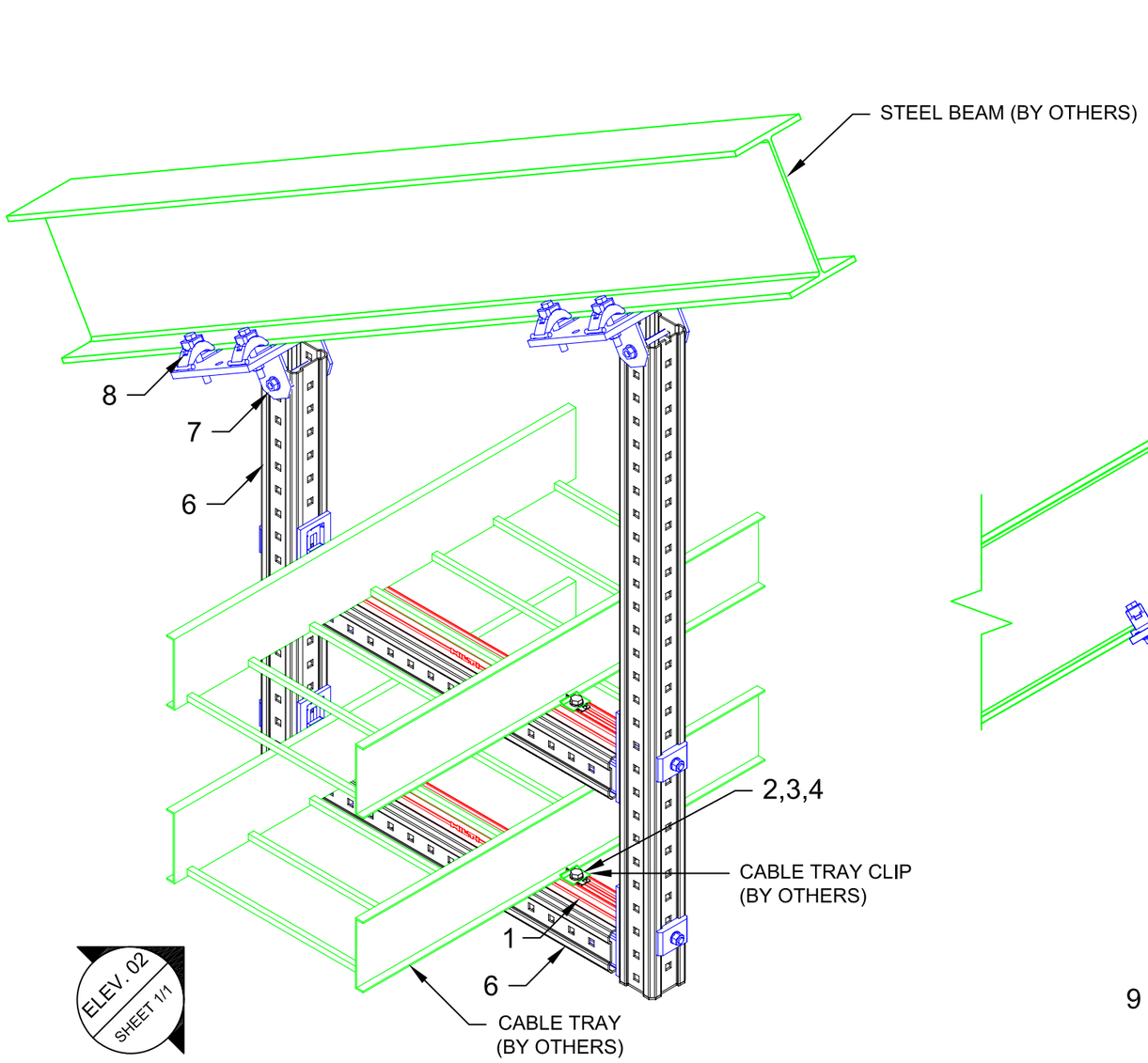
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	03 DEC 14

TYPICAL DETAIL NOMENCLATURE:

CT-TR01-S

DRAWING NUMBER:	SHEET:
01	1/1

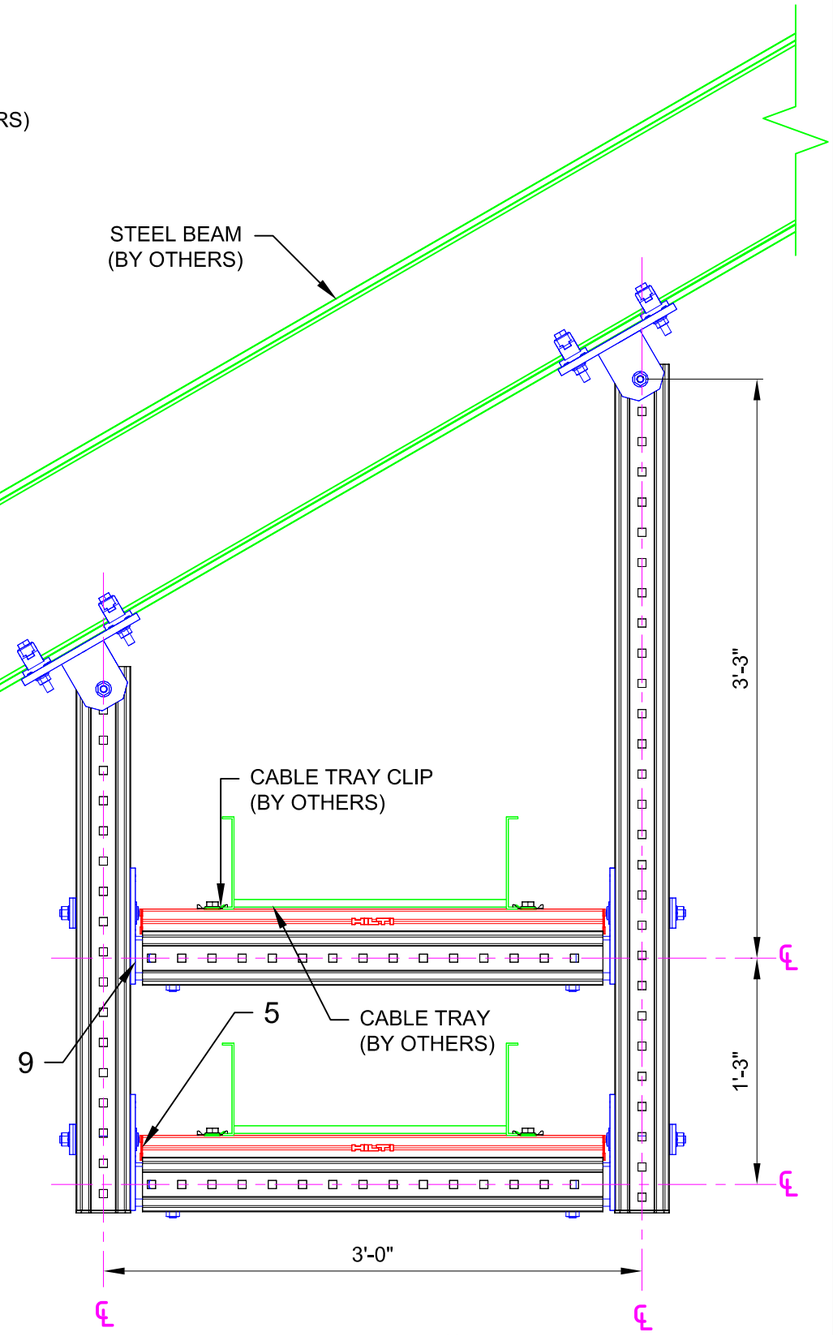


01 ISOMETRIC
N.T.S.

MIC-SX-MA

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304815
B	6.5 to 9.2	304816
C	9.2 to 11.8	304817



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
2	AS REQ'D	EA	WING NUT MQM-F1/2"	50	AS REQ'D	377883
3	AS REQ'D	EA	HEX HEAD BOLT 1/2" x 1-1/4"	50	AS REQ'D	411767
4	AS REQ'D	EA	WASHER 1/2"	100	AS REQ'D	411758
5	AS REQ'D	EA	CHANNEL END CAP MEK RED	50	AS REQ'D	244886
6	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
7	AS REQ'D	EA	CONNECTOR MIC-SX-MA STEEL (SEE TABLE)	VARIES	AS REQ'D	VARIES
8	AS REQ'D	EA	BEAM CLAMP MI-SGC-M12	16	AS REQ'D	233859
9	AS REQ'D	EA	CONNECTOR MIC-90-U	4	AS REQ'D	304803

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. NO LOADS CONSIDERED - CONCEPT ONLY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 2 TIER
ANGLE BEAM

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	03 DEC 14

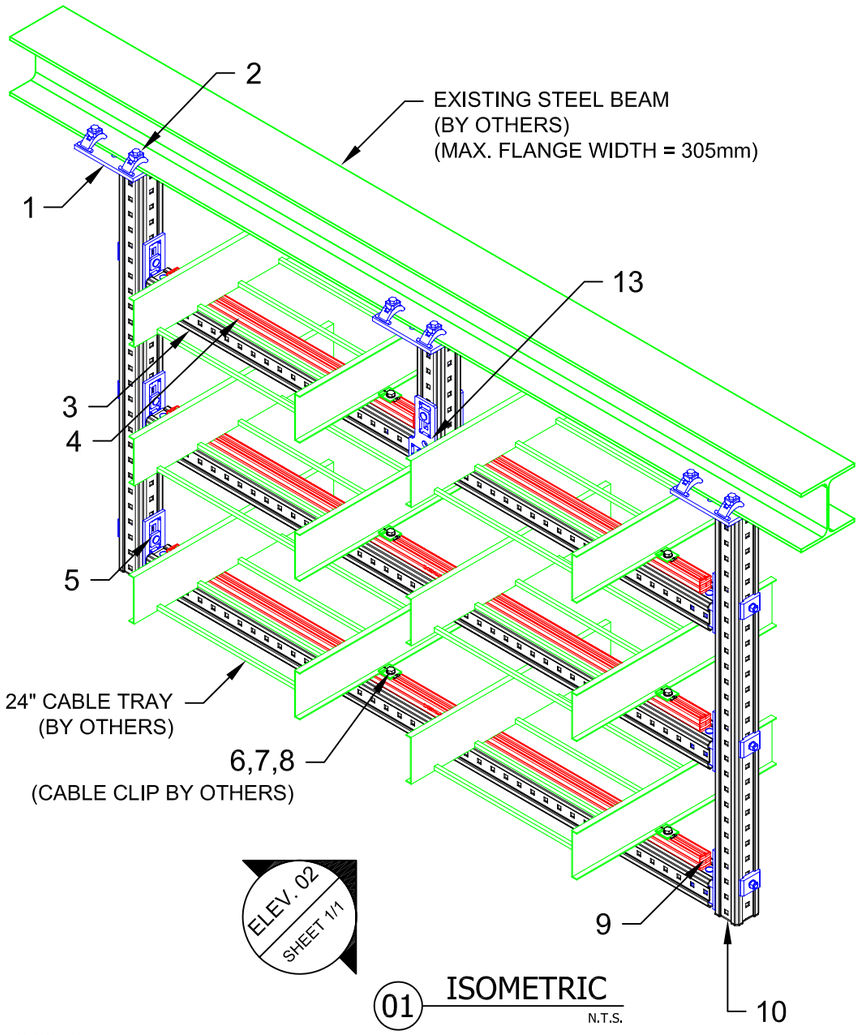
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	03 DEC 14

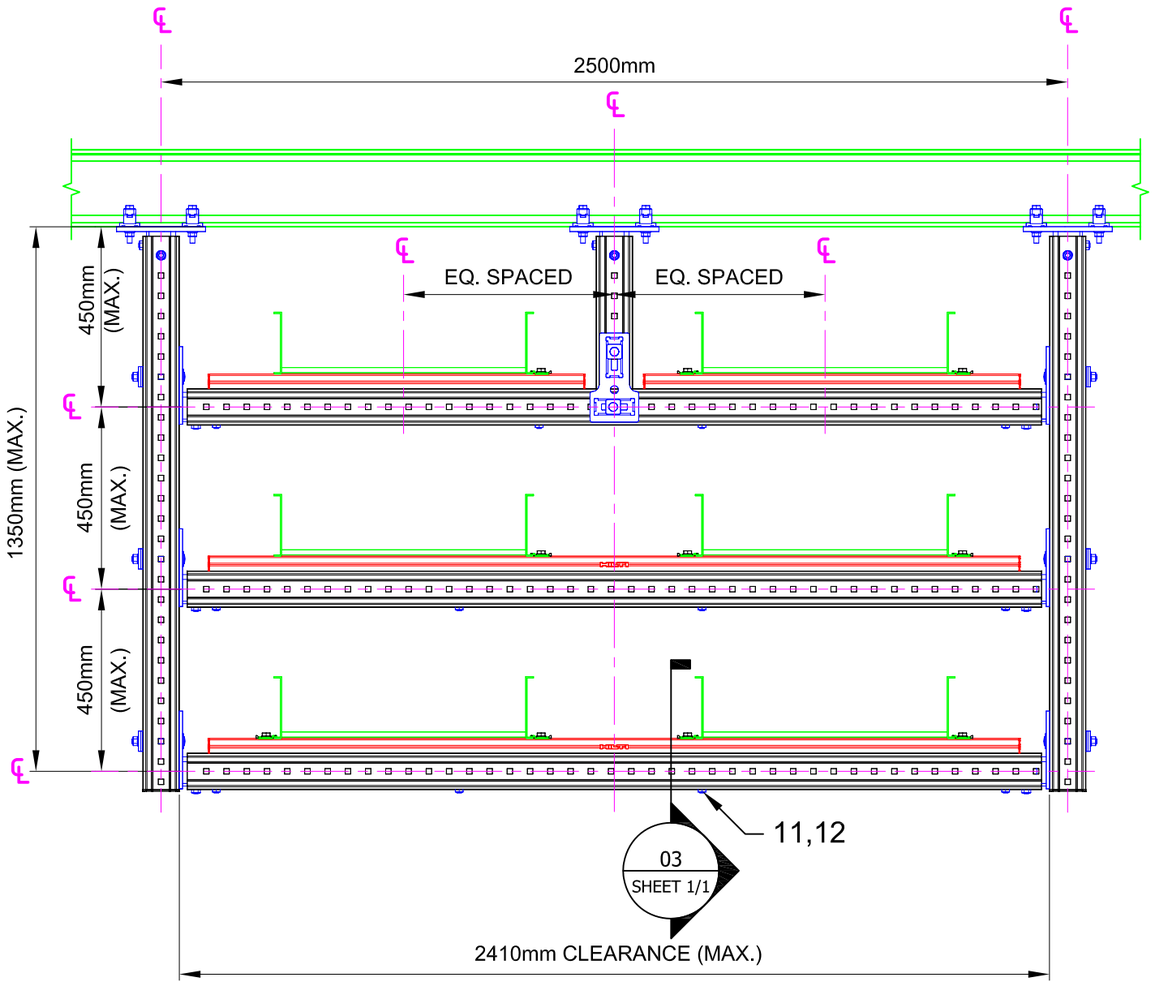
TYPICAL DETAIL NOMENCLATURE:

CT-TR02-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



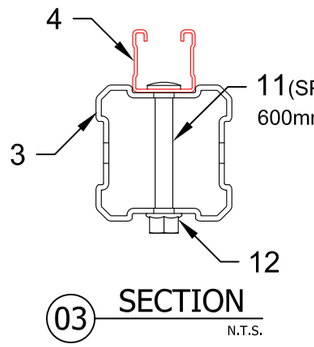
02 ELEVATION
N.T.S.

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	3	EA	CONNECTOR MIC-S90-X STEEL (SEE TABLE)	VARIES	VARIES	VARIES
2	12	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
5	6	EA	CONNECTOR MIC-90-U	4	2	304803
6	12	EA	HEX HEAD BOLT 1/2"X1-1/2" HDG	VARIES	VARIES	SPECIAL
7	12	EA	WASHER 1/2" HDG	VARIES	VARIES	SPECIAL
8	12	EA	WING NUT MQM-F1/2"-F	25	1	304137
9	12	EA	CHANNEL END CAP MEK RED	50	1	244886
10	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
11	12	EA	ONEHAND SCREW MIA-OH90	10	2	304889
12	12	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
13	1	PR	CONNECTOR MIC-T	2	1	304807



03 SECTION
N.T.S.

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: 675 lb = 450 lb x 1.5 PER CABLE TRAY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: HDG
   e. MAX. SUPPORT SPACING = NOT SPECIFIED
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 3 TIER
"DOUBLE"

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
BAP	03 DEC 14

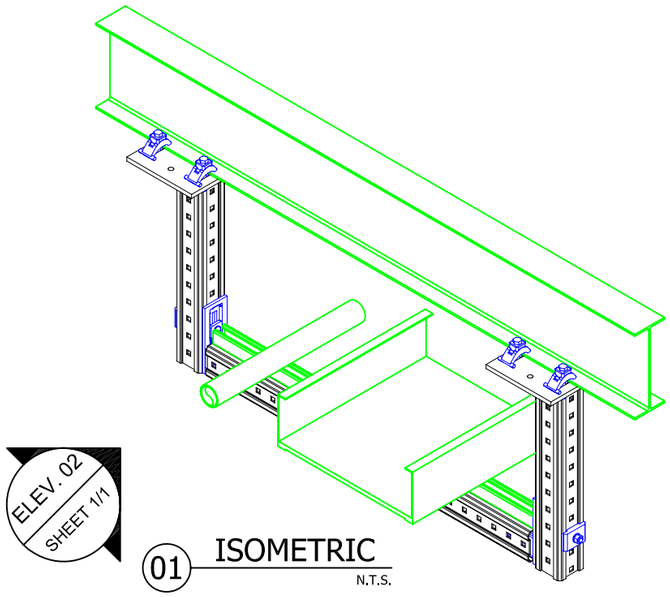
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	03 DEC 14

TYPICAL DETAIL NOMENCLATURE:

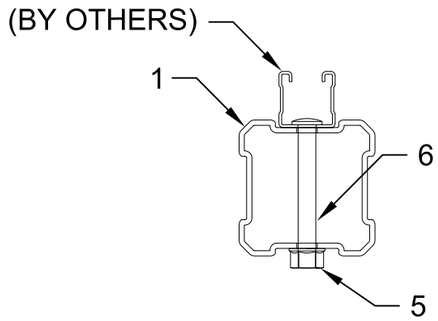
CT-TR03-S

DRAWING NUMBER:	SHEET:
01	1/1

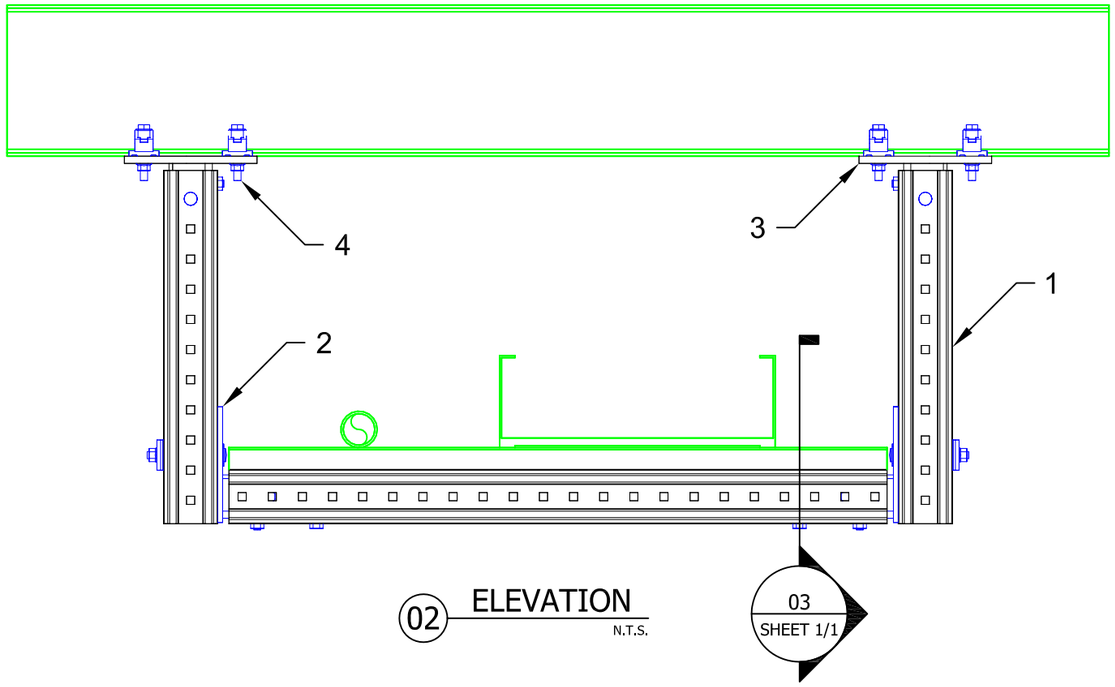


ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.



03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	2	EA	CONNECTOR MIC-90-U	4	1	304803
3	2	EA	STEEL CONNECTION AS REQUIRED	2	1	SEE TABLE
4	8	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
5	2	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
6	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. NO LOADS CONSIDERED.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

COMBO SUPPORT

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	31 DEC 14

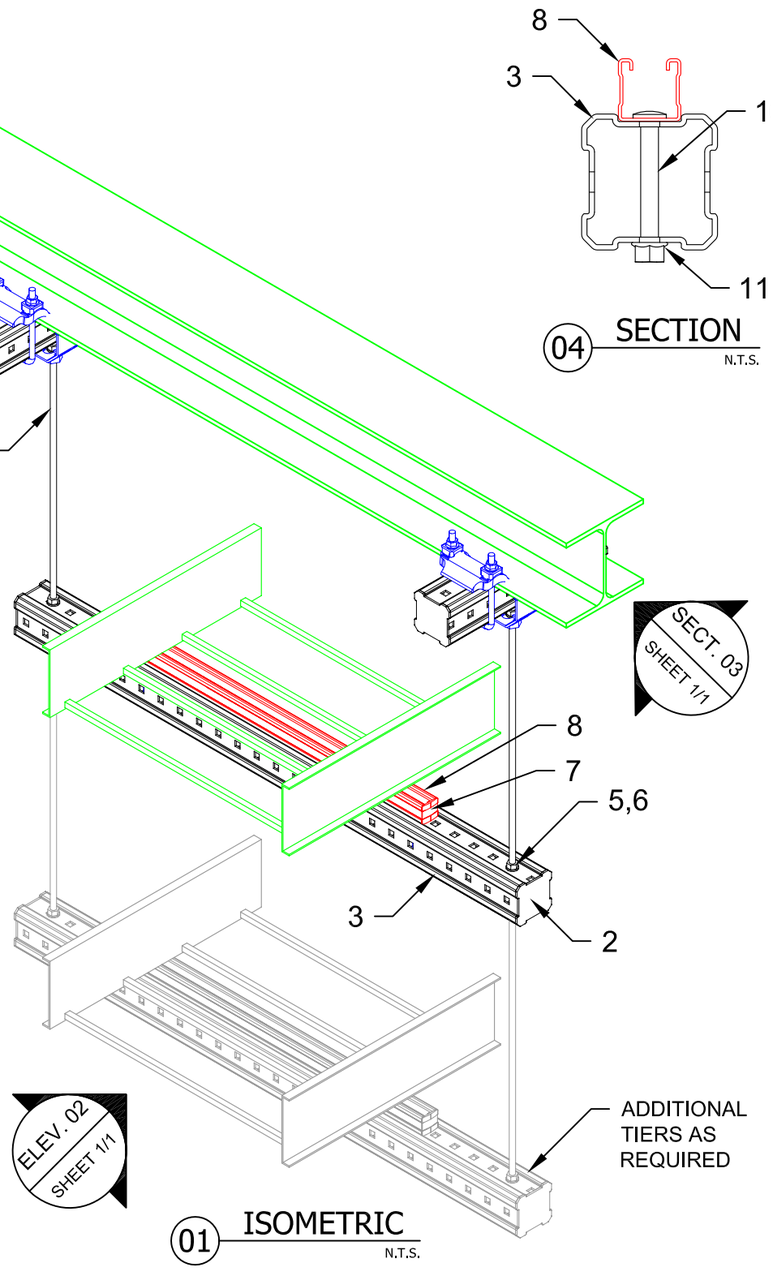
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	31 DEC 14

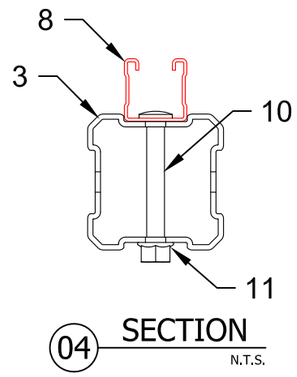
TYPICAL DETAIL NOMENCLATURE:

CT-TR04-S

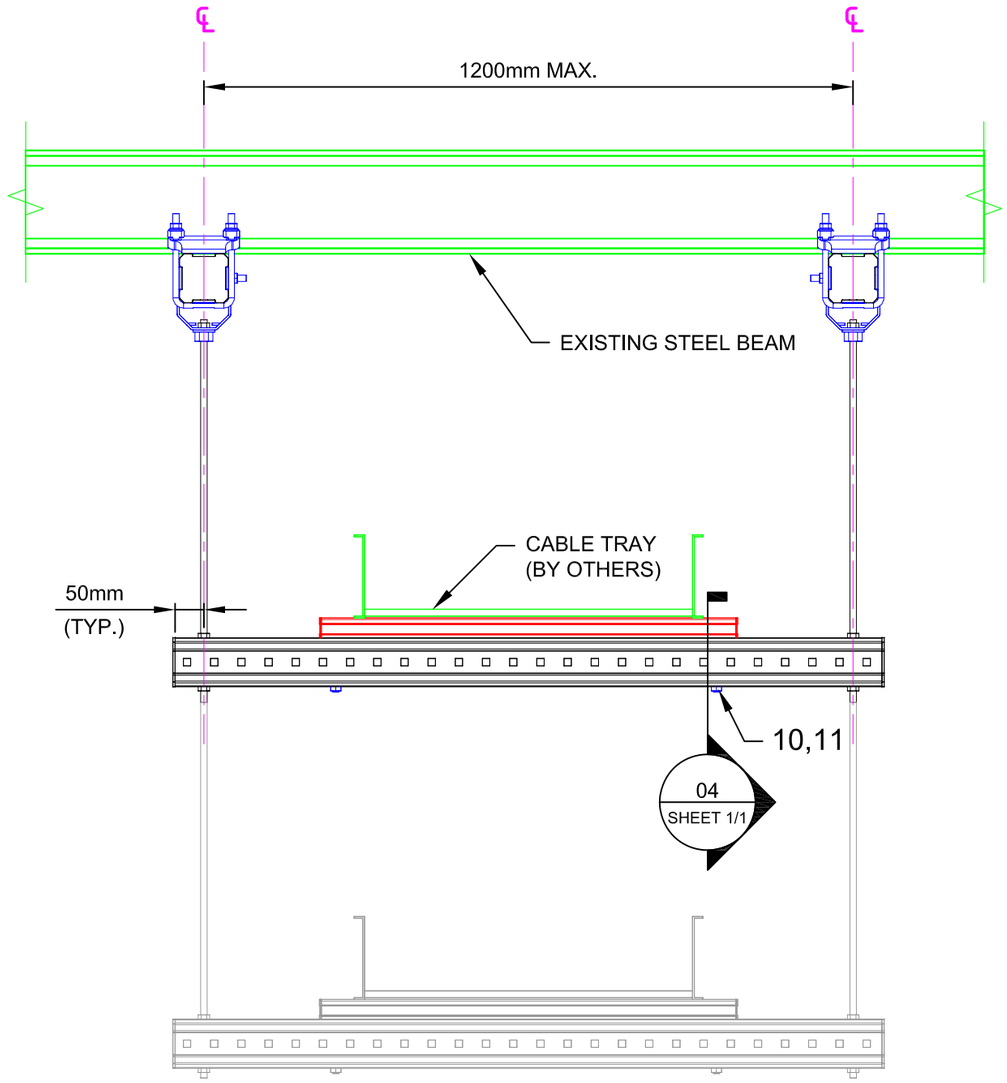
DRAWING NUMBER:	SHEET:
01	1/1



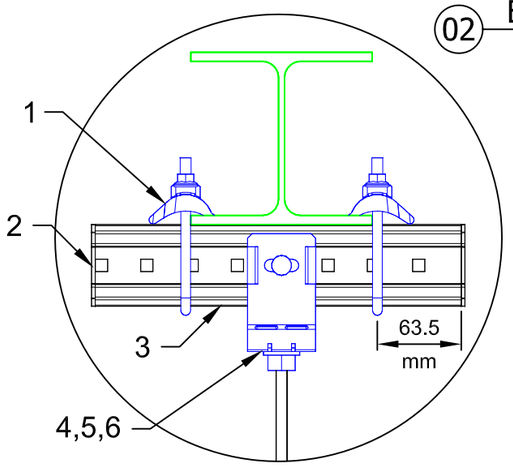
01 ISOMETRIC
N.T.S.



04 SECTION
N.T.S.



02 ELEVATION
N.T.S.



03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	4	EA	BEAM CLAMP MI-DGC 90	4	1	233860
2	6	EA	GIRDER END CAP MIA-EC90	25	1	432077
3	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
4	2	EA	THREADED ROD CONNECTOR MIC-TRC M12-1/2"	2	1	233856
5	6	EA	LOCK WASHER 1/2" HDG	VARIES	VARIES	SPECIAL
6	6	EA	HEX NUT 1/2" HDG	VARIES	VARIES	SPECIAL
7	4	EA	CHANNEL END CAP MEK RED	50	1	244886
8	AS REQ'D	EA	STRUT HS-158-12/HDG 10'	1	AS REQ'D	407570
9	AS REQ'D	EA	1/2" THREADED ROD HDG	VARIES	AS REQ'D	SPECIAL
10	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
11	2	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. PARTS SHOWN FOR (1) TIER.
3. TOTAL SUPPORT LOAD MAX. 2700lb.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	31 DEC 14

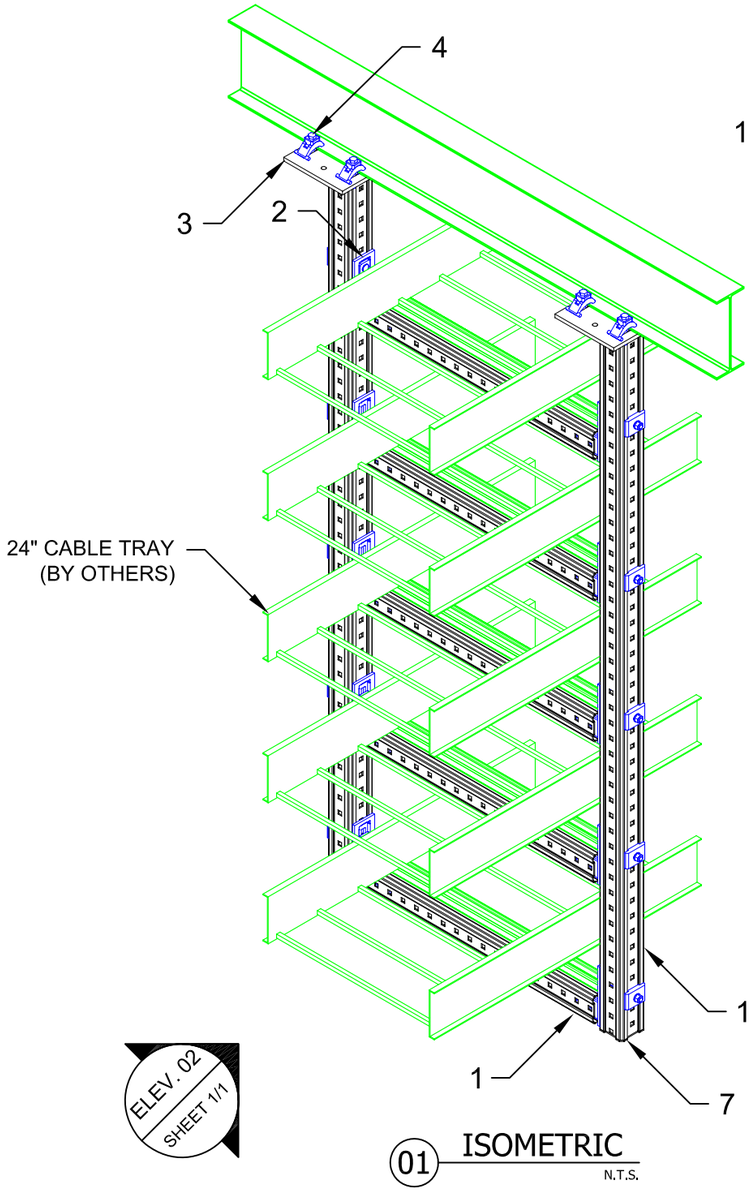
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	31 DEC 14

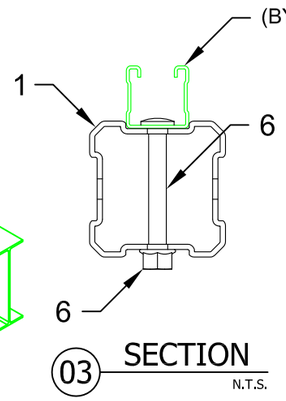
TYPICAL DETAIL NOMENCLATURE:

CT-TR05-S

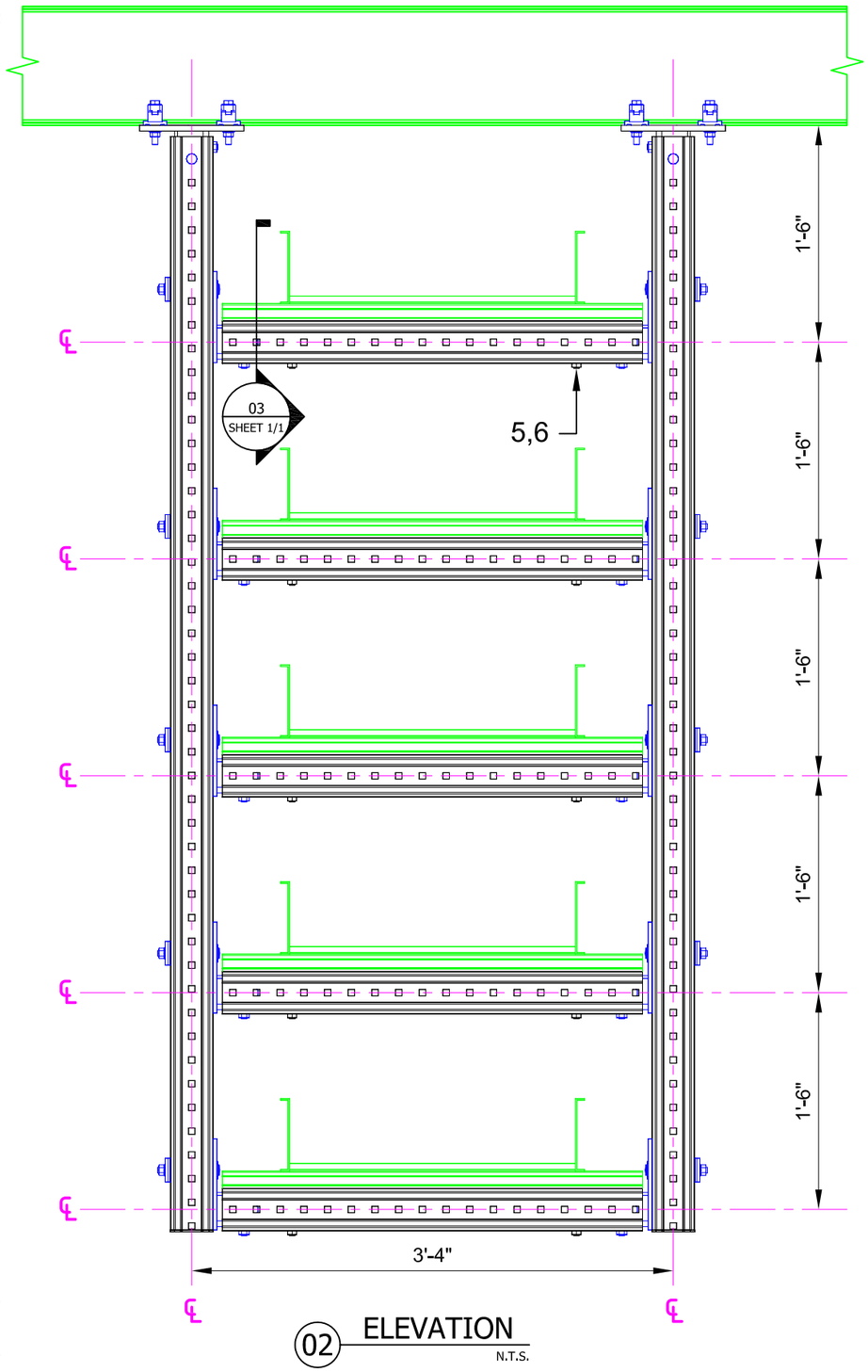
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	10	EA	CONNECTOR MIC-90-U	4	3	304803
3	2	EA	MIC-S90-X (STEEL CONNECTION AS REQUIRED)	2	1	SEE TABLE
4	8	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
5	10	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
6	10	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	2	EA	GIRDER END CAP MIA-EC90	25	1	432077

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. NO LATERAL LOADS CONSIDERED.
3. MAX. LOAD PER TIER = 200 lbs.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 5 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

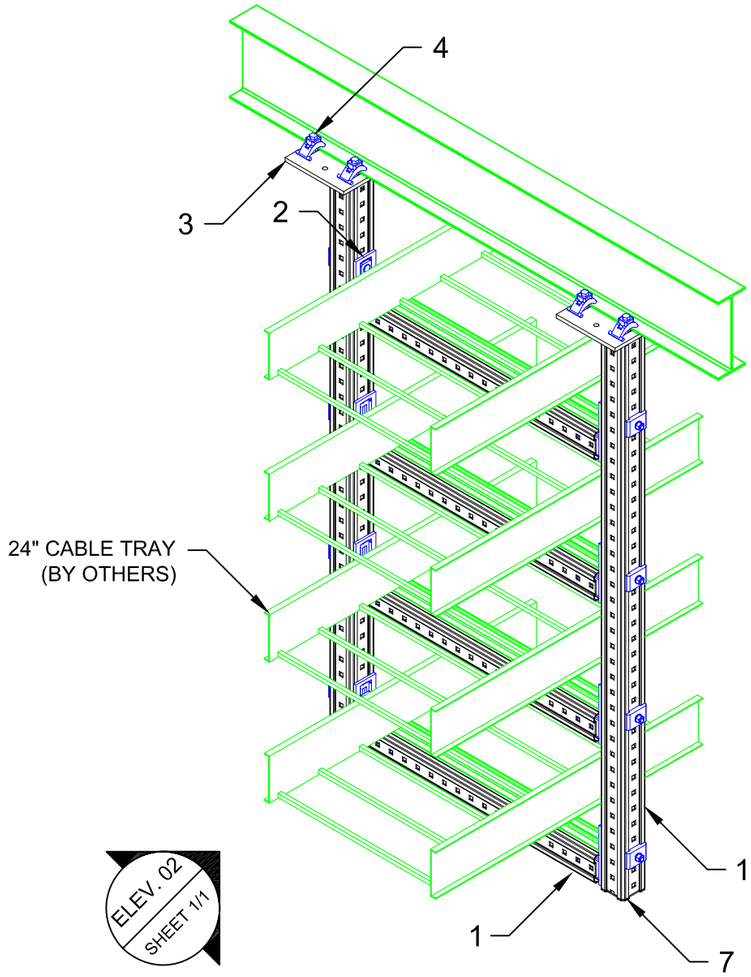
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

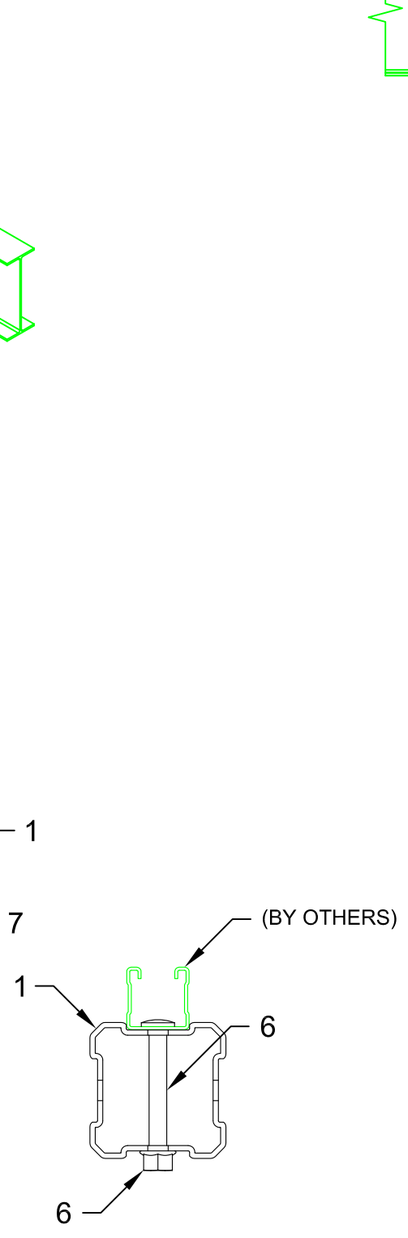
TYPICAL DETAIL NOMENCLATURE:

CT-TR06-S

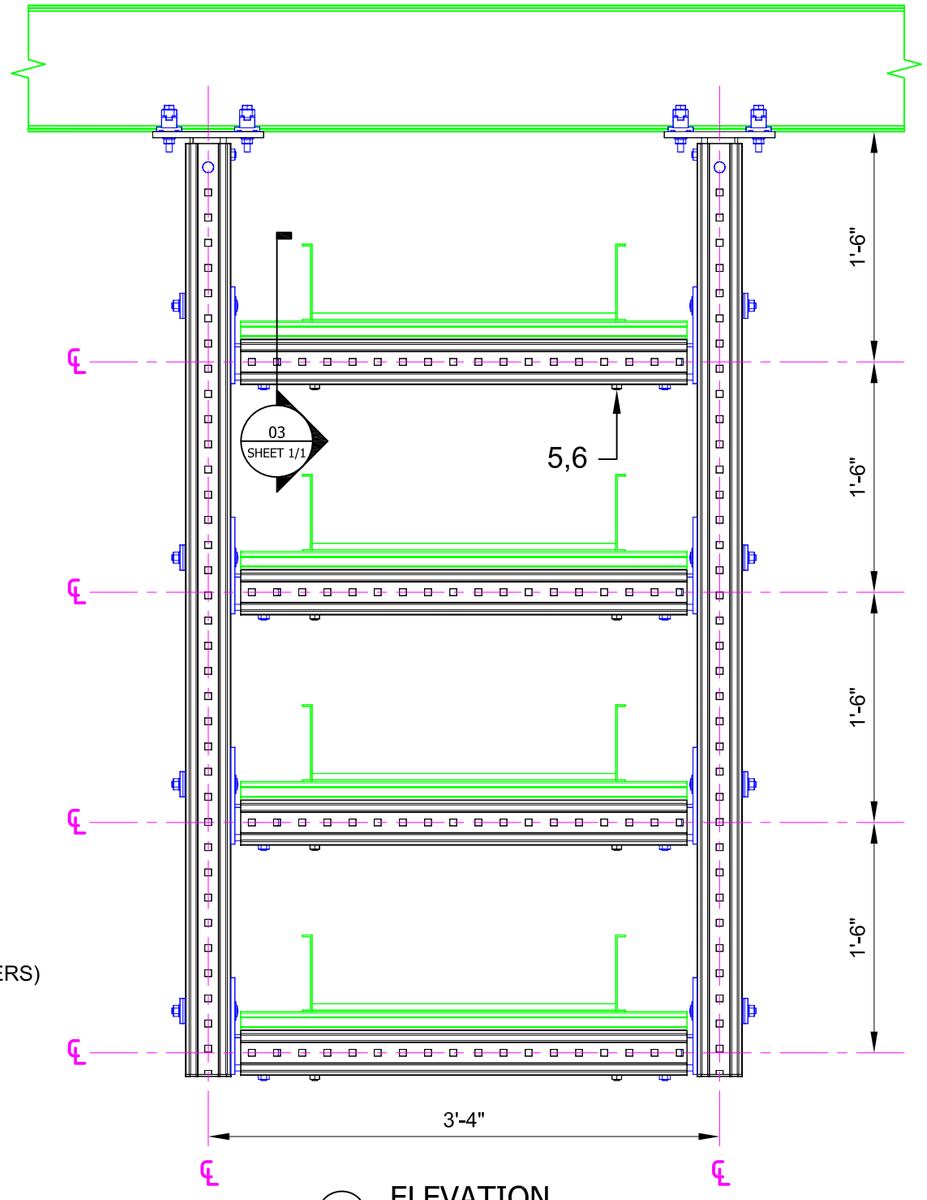
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	8	EA	CONNECTOR MIC-90-U	4	2	304803
3	2	EA	MIC-S90-X (STEEL CONNECTION AS REQUIRED)	2	1	SEE TABLE
4	8	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
5	8	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
6	8	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	2	EA	GIRDER END CAP MIA-EC90	25	1	432077

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. NO LATERAL LOADS CONSIDERED.
3. MAX. LOAD PER TIER = 200 lbs.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 4 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

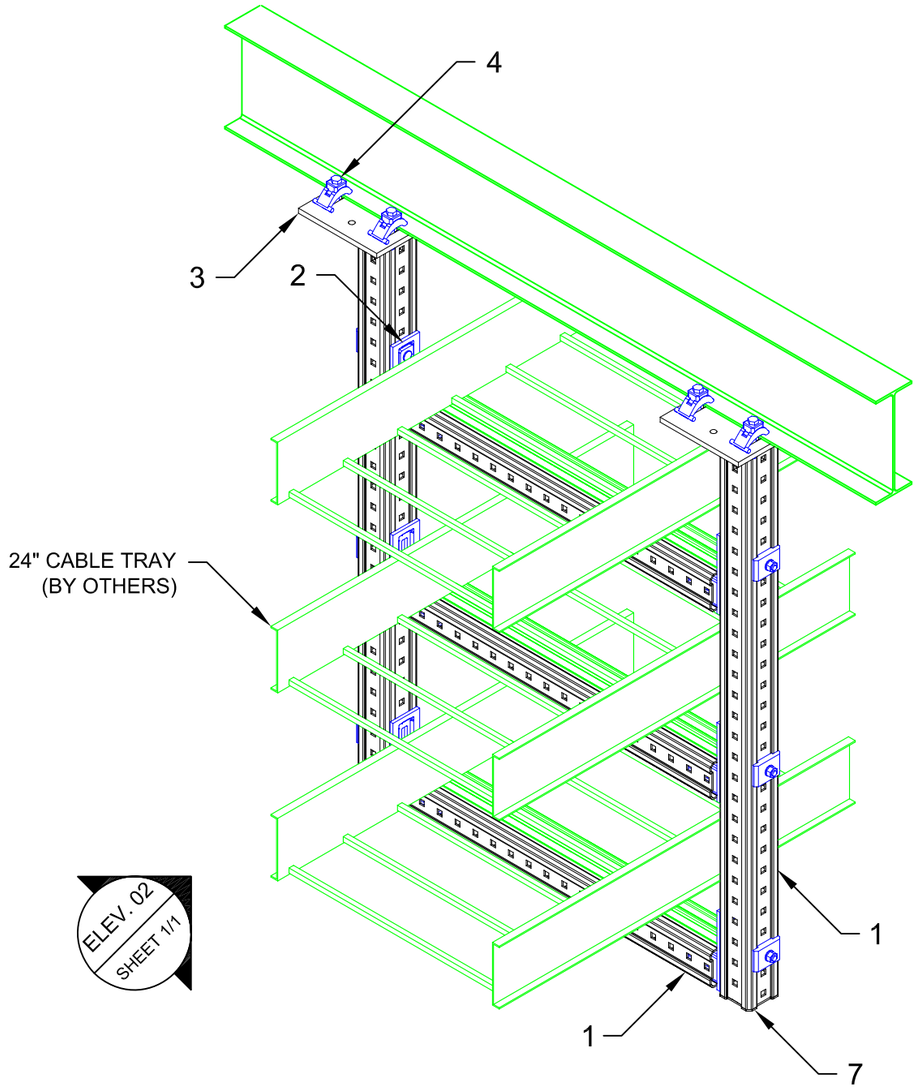
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

TYPICAL DETAIL NOMENCLATURE:

CT-TR07-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
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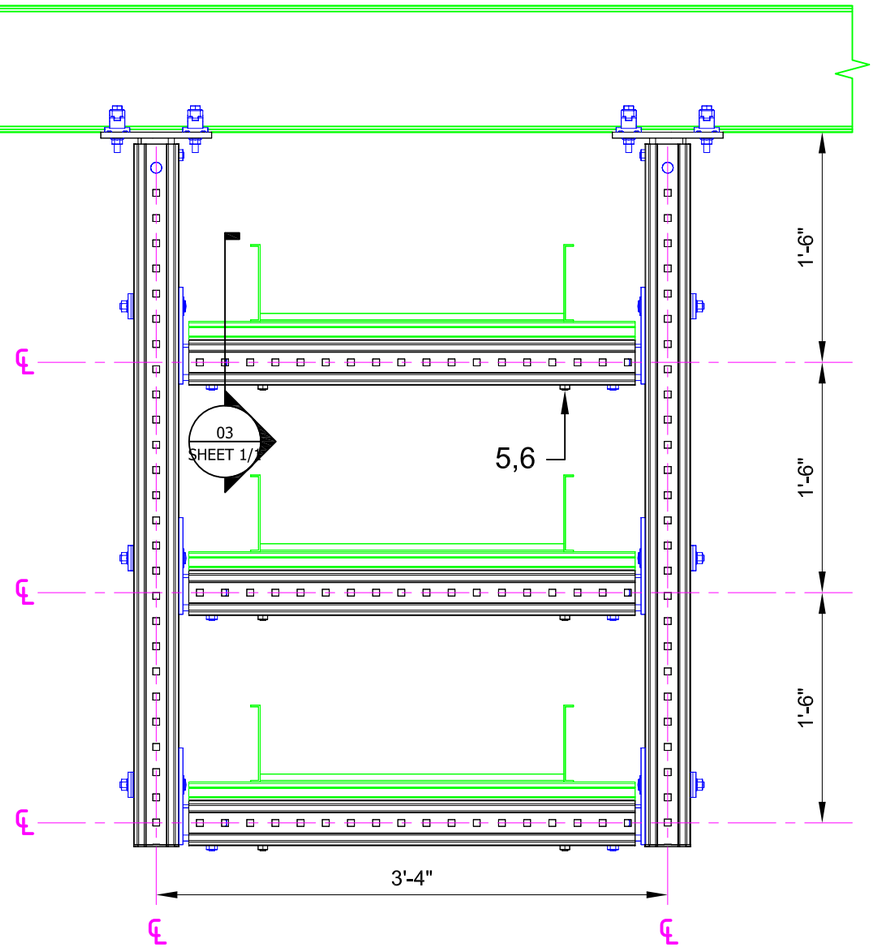
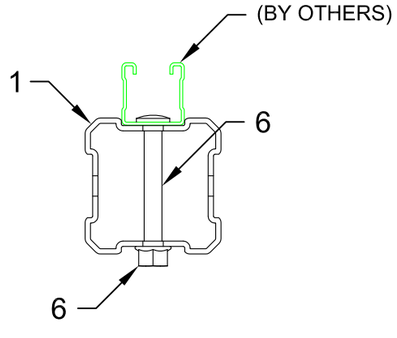


02 ELEVATION
N.T.S.



03 SECTION
N.T.S.

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	6	EA	CONNECTOR MIC-90-U	4	2	304803
3	2	EA	MIC-S90-X (STEEL CONNECTION AS REQUIRED)	2	1	SEE TABLE
4	8	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
5	6	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
6	6	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	2	EA	GIRDER END CAP MIA-EC90	25	1	432077

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. NO LATERAL LOADS CONSIDERED.
3. MAX. LOAD PER TIER = 200 lbs.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 3 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

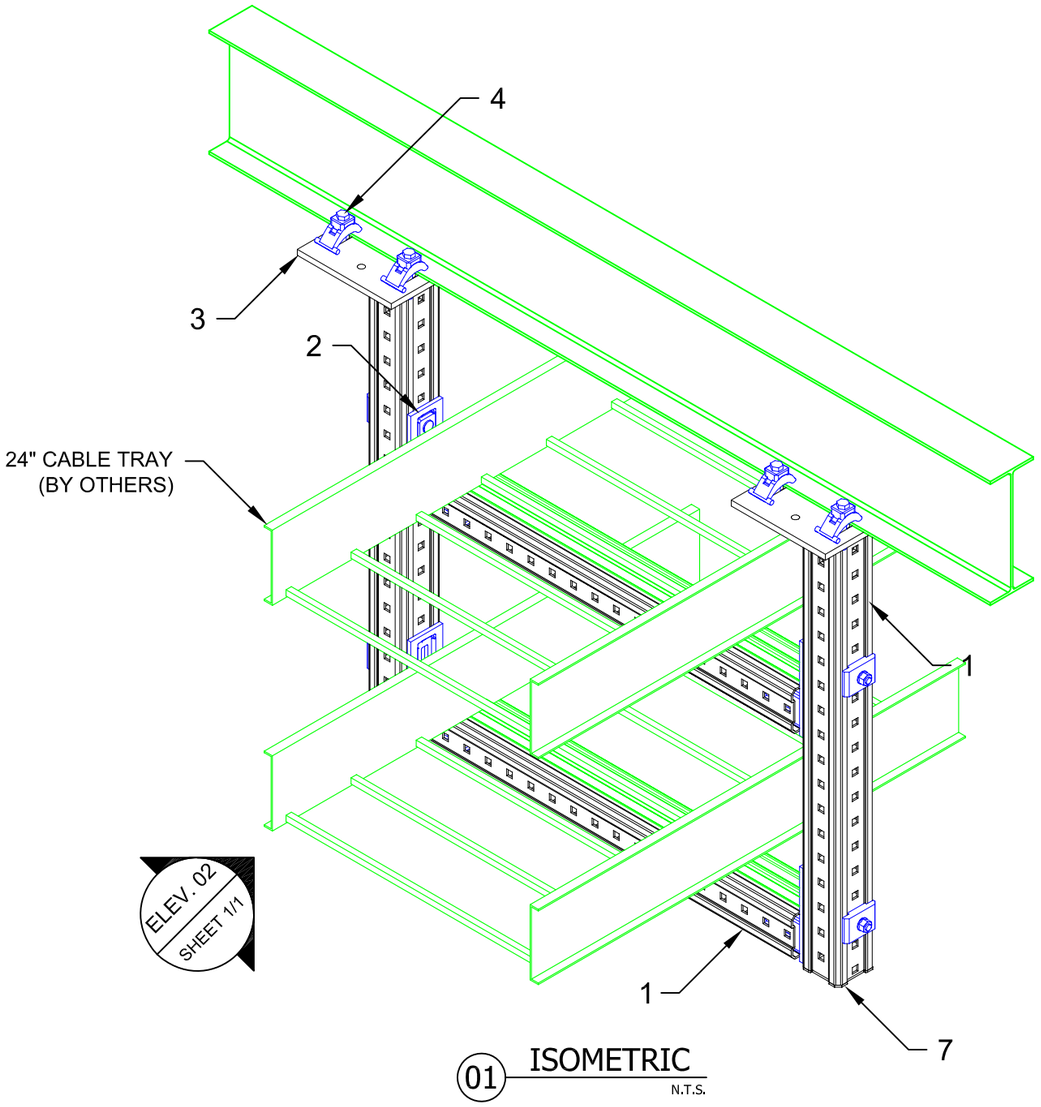
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

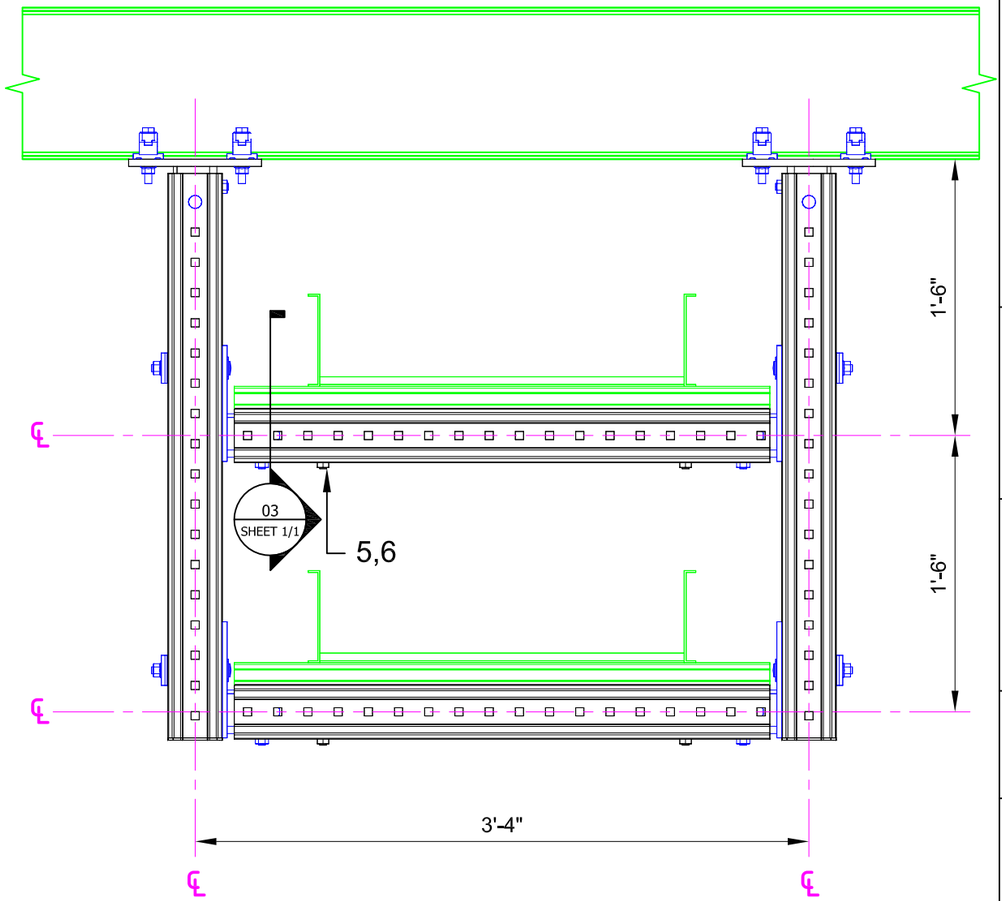
TYPICAL DETAIL NOMENCLATURE:

CT-TR08-S

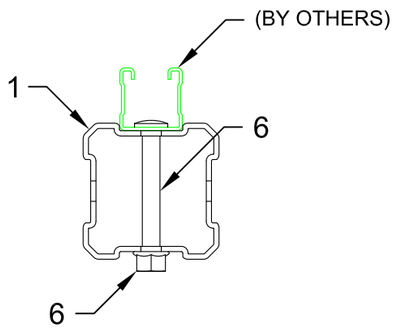
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.



03 SECTION
N.T.S.

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	4	EA	CONNECTOR MIC-90-U	4	1	304803
3	2	EA	MIC-S90-X (STEEL CONNECTION AS REQUIRED)	2	1	SEE TABLE
4	8	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
5	4	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
6	4	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	2	EA	GIRDER END CAP MIA-EC90	25	1	432077

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. NO LATERAL LOADS CONSIDERED.
3. MAX. LOAD PER TIER = 200 lbs.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 2 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

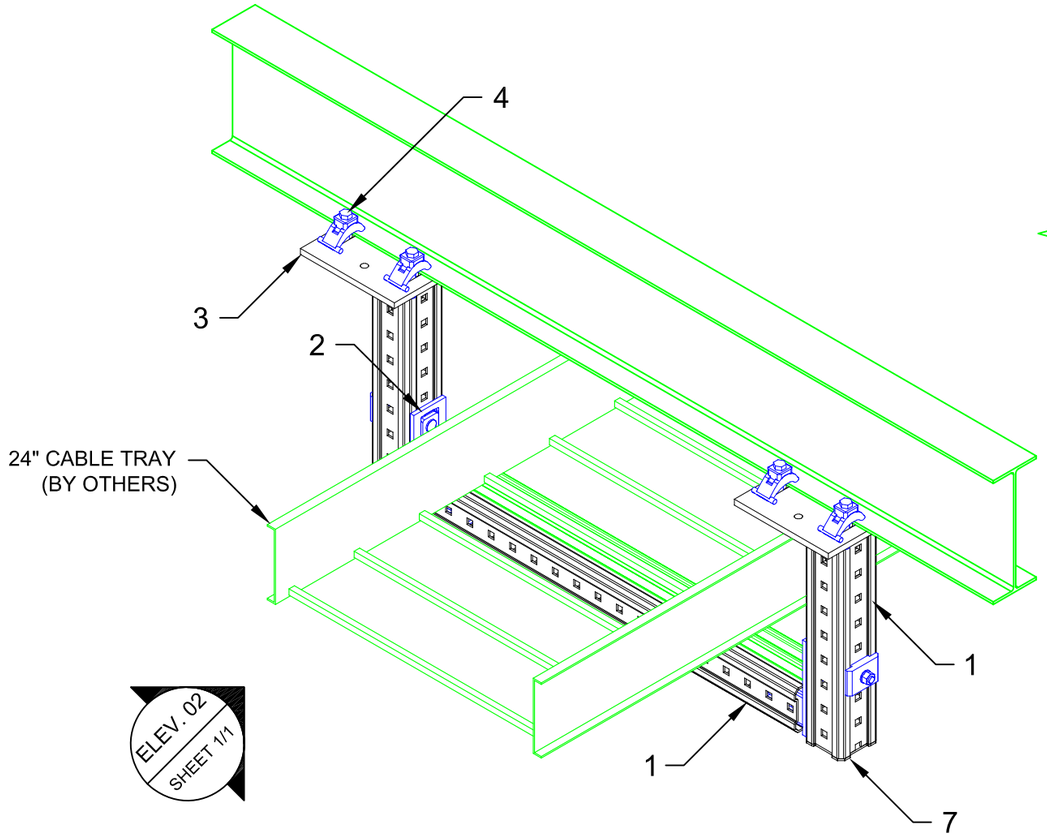
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

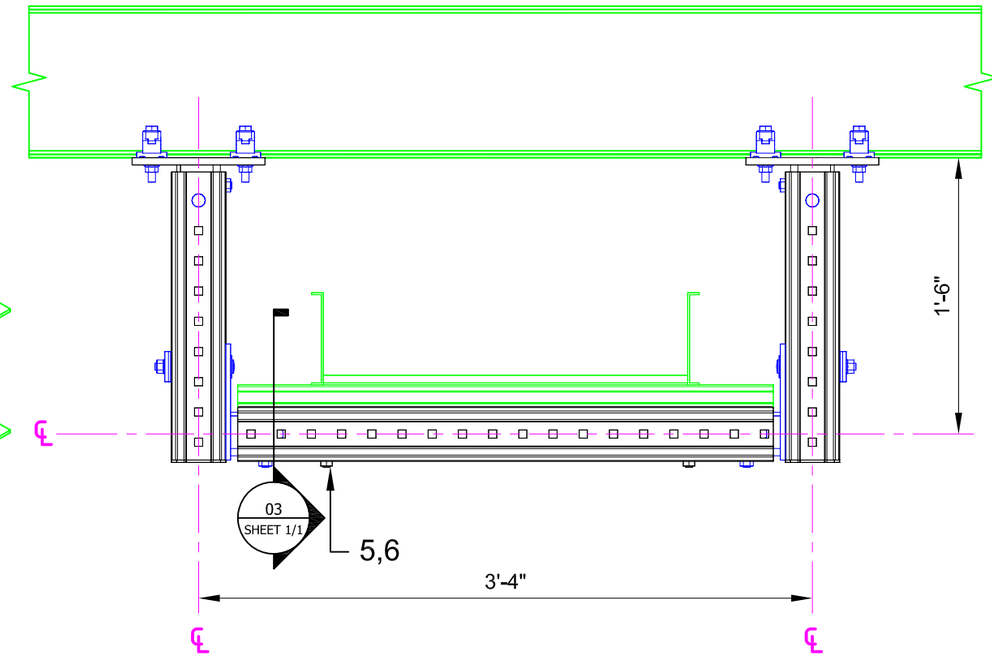
TYPICAL DETAIL NOMENCLATURE:

CT-TR09-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



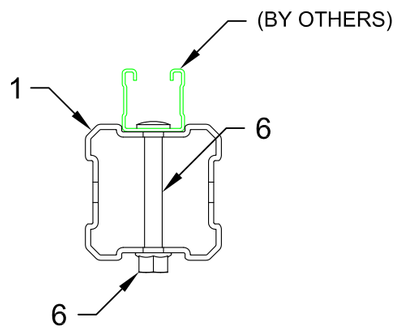
02 ELEVATION
N.T.S.

MIC-S90-X

Beam Width Table

X	'B' Width	Item No.
A	2.9 to 6.5	304812
B	6.5 to 9.2	304813
C	9.2 to 11.8	304814

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	2	EA	CONNECTOR MIC-90-U	4	1	304803
3	2	EA	MIC-S90-X (STEEL CONNECTION AS REQUIRED)	2	1	SEE TABLE
4	8	EA	BEAM CLAMP MI-SGC-M12	16	1	233859
5	2	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
6	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
7	2	EA	GIRDER END CAP MIA-EC90	25	1	432077



03 SECTION
N.T.S.

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. NO LATERAL LOADS CONSIDERED.
3. MAX. LOAD PER TIER = 200 lbs.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
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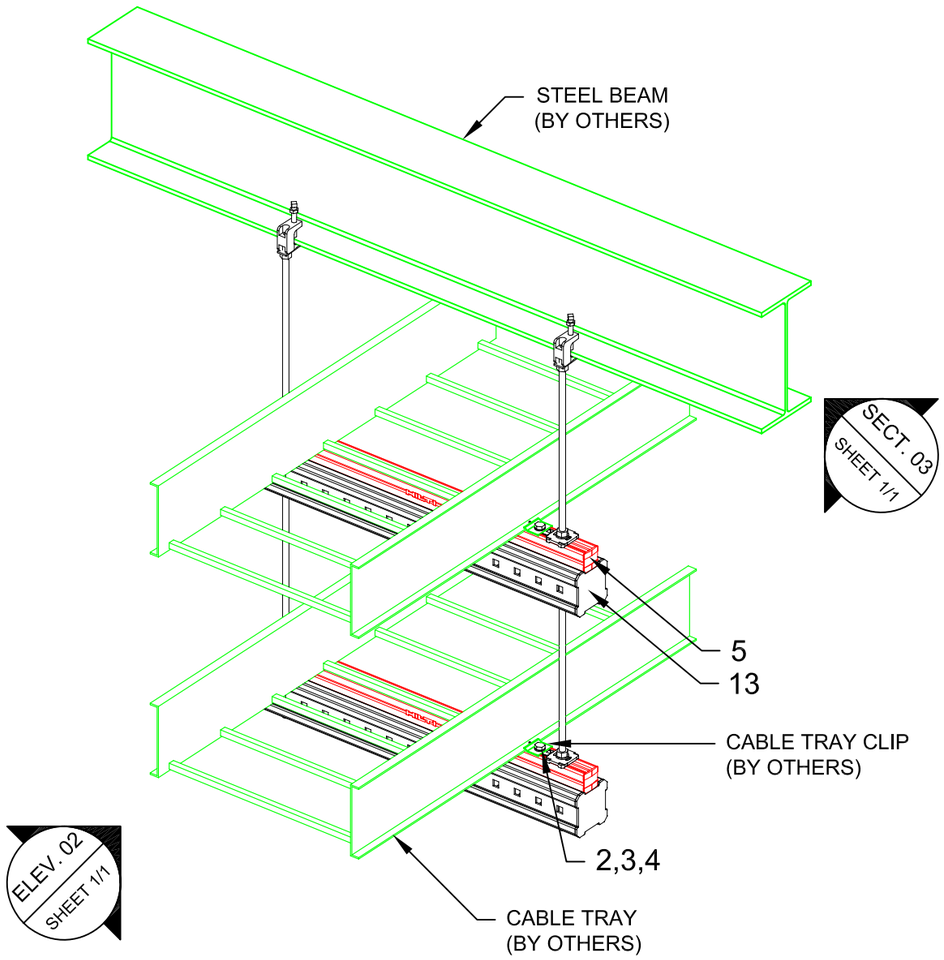
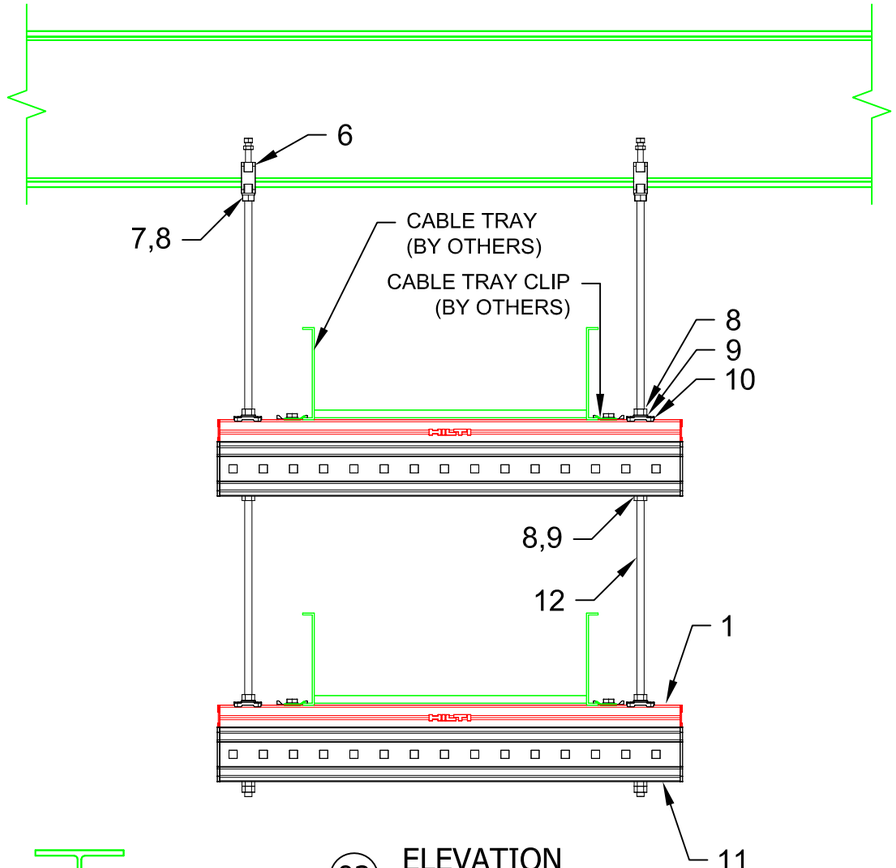
TYPICAL DETAIL NOMENCLATURE:

CT-TR10-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 ELEVATION
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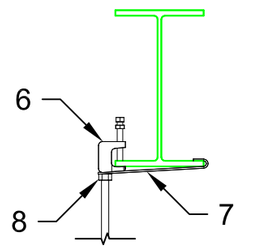

03 SECTION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
2	AS REQ'D	EA	WING NUT MQM-F3/8"	50	AS REQ'D	377882
3	AS REQ'D	EA	HEX HEAD BOLT 3/8" x 1-1/4"	100	AS REQ'D	411764
4	AS REQ'D	EA	WASHER 3/8"	200	AS REQ'D	411757
5	AS REQ'D	EA	CHANNEL END CAP MEK RED	50	AS REQ'D	244886
6	AS REQ'D	EA	BC 1/2" 50/BOX	50	AS REQ'D	257367
7	AS REQ'D	EA	RETAINER STRAP BC-RS 3/8" X 12"	1	AS REQ'D	424238
8	AS REQ'D	EA	HEX NUT-HEAVY DUTY 1/2"	100	AS REQ'D	411753
9	AS REQ'D	EA	WASHER 1/2"	100	AS REQ'D	411758
10	AS REQ'D	EA	BASE PLATE MQZ-L1/2"	20	AS REQ'D	370633
11	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
12	AS REQ'D	EA	THREADED ROD 1/2"-6' ZINC	12	AS REQ'D	257965
13	AS REQ'D	EA	GIRDER END CAP MIA-EC90	25	AS REQ'D	432077

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. NO LOADS CONSIDERED - CONCEPT ONLY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 2 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

REVISIONS:

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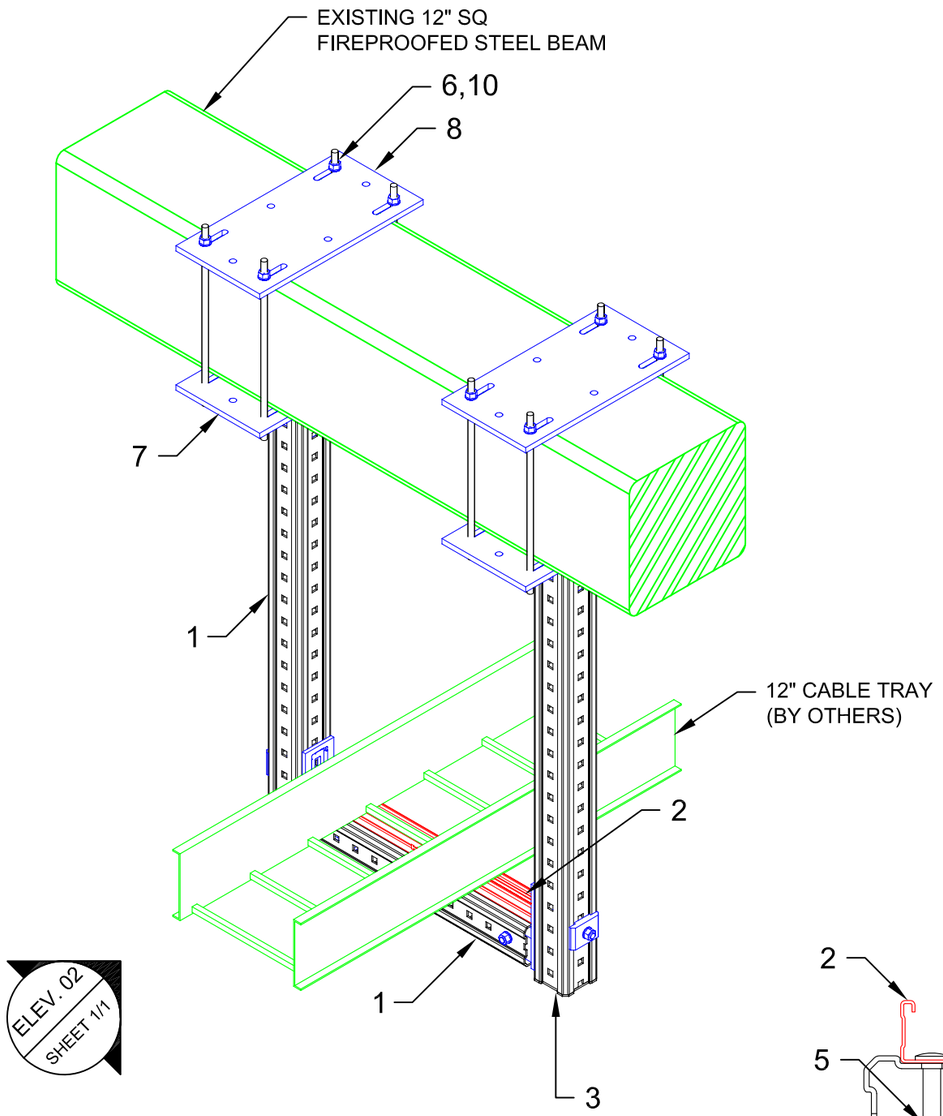
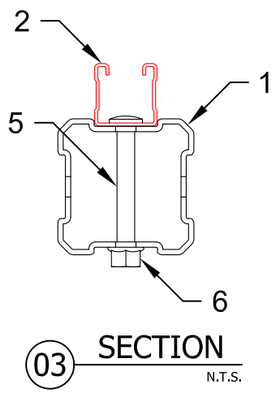
TYPICAL DETAIL NOMENCLATURE:

CT-TR11-S

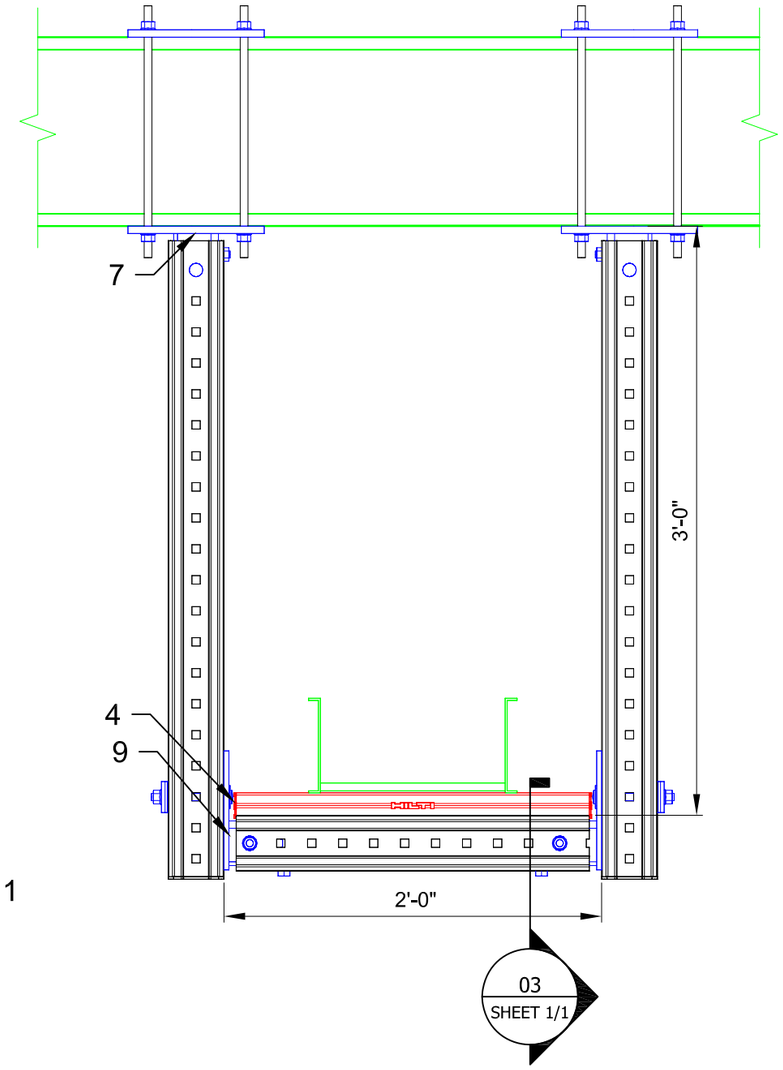
DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



03 SECTION
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
2	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
3	2	EA	GIRDER END CAP MIA-EC90	25	1	432077
4	4	EA	CHANNEL END CAP MEK RED	50	1	244886
5	2	EA	ONEHAND SCREW MIA-OH90	10	1	304889
6	18	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
7	2	EA	CONNECTOR MIC-S90-C STEEL	2	1	304814
8	2	EA	BASEPLATE MIB-SC STEEL	2	1	304823
9	2	EA	CONNECTOR MIC-90-U	4	1	304803
10	4	EA	THREADED STUD Grade 8.8 M12X1000-F (3.28 ft)	15	1	304774

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL: MAX. 1,350 lbs.
      WL: MAX. 350 lbs. (LONGITUDINAL)
      EQ: MAX. 270 lbs. (TRANSVERSE)
   b. BUILDING CODE: NOT SPECIFIED
   c. CORROSION RESISTANCE REQD.: HDG / EG
   d. MAX. SUPPORT SPACING = REFER TO CONSTRUCTION PLANS
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. FIELD TO VERIFY ALL DIMENSIONS AND EXISTING BEAM SIZES AND ELEVATIOS.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - SINGLE

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

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NO:	DESCRIPTION:	DATE:
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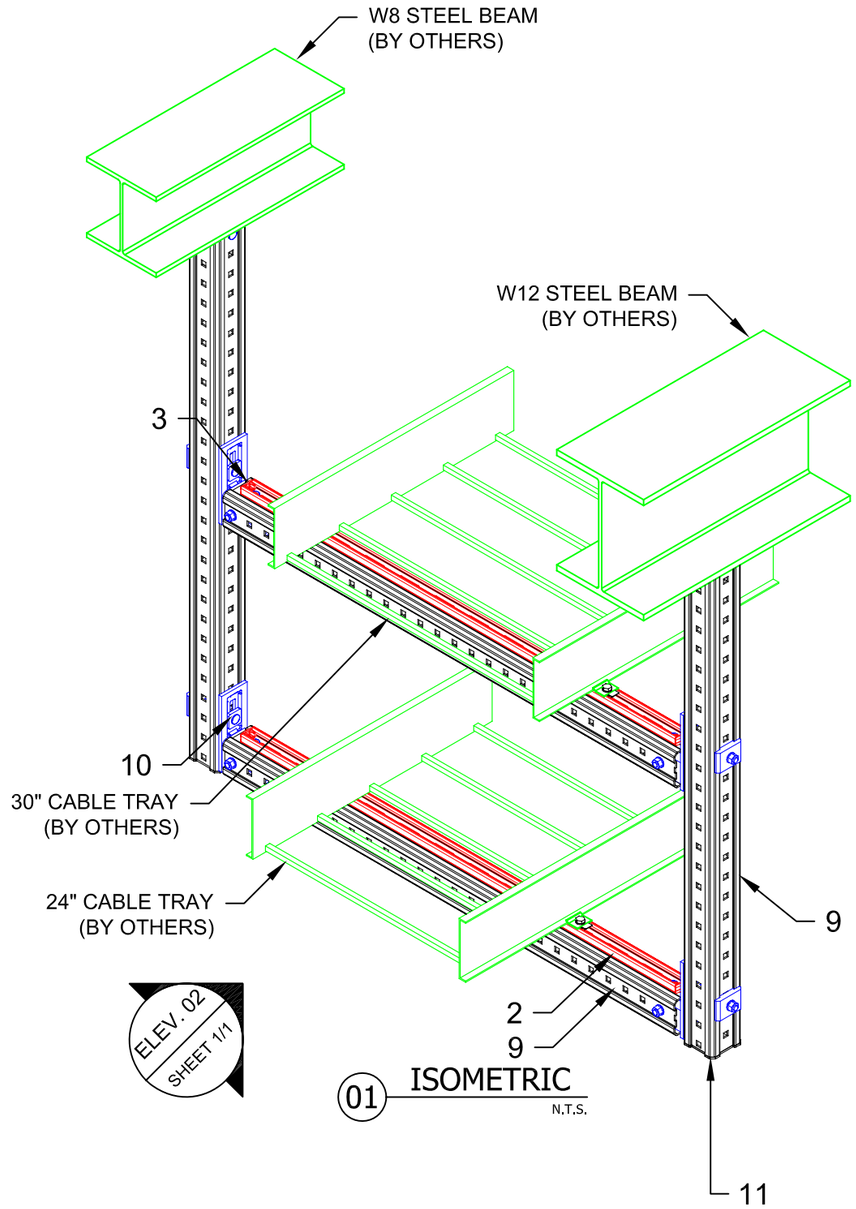
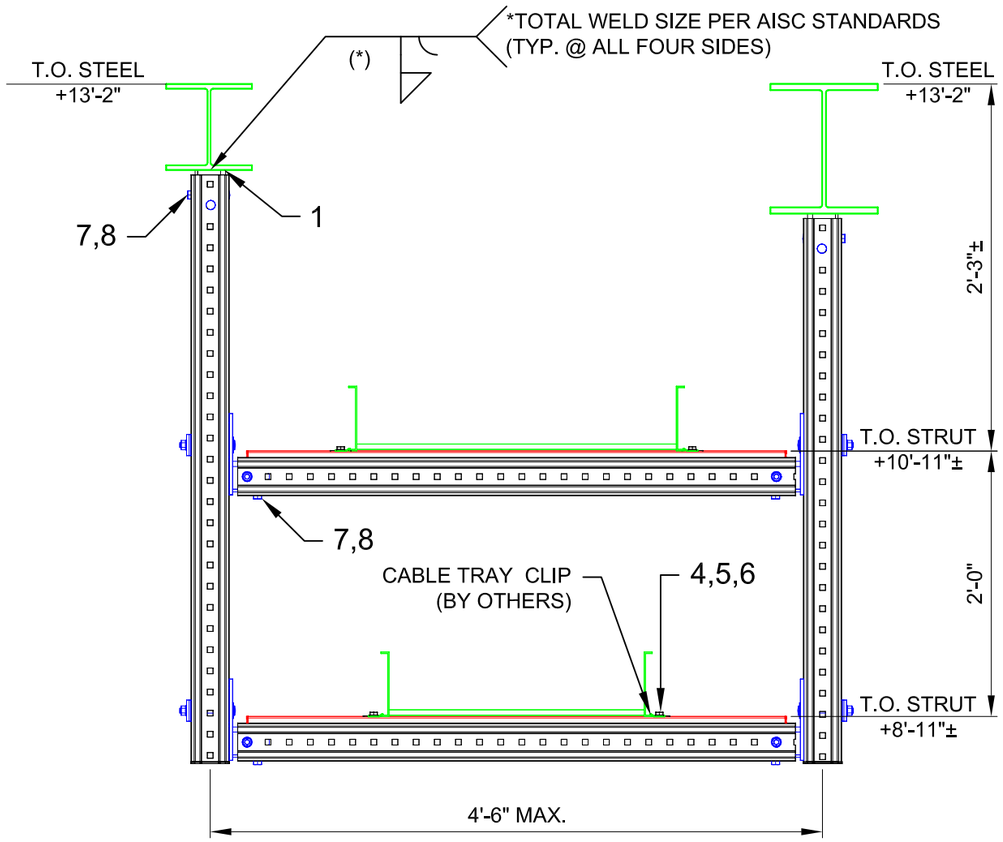
TYPICAL DETAIL NOMENCLATURE:

CT-TR12-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	2	EA	CONNECTOR MIC-SC90	2	1	304824
2	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
3	4	EA	CHANNEL END CAP MEK RED	50	1	244886
4	4	EA	HEX HEAD BOLT 3/8" x 3/4" HDG	VARIES	VARIES	SPECIAL
5	4	EA	WASHER 3/8" HDG	VARIES	VARIES	SPECIAL
6	4	EA	WING NUT MQM-F3/8"-F	25	1	304136
7	8	EA	ONEHAND SCREW MIA-OH90	10	1	304889
8	8	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
9	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
10	4	EA	CONNECTOR MIC-90-U	4	1	304803
11	2	EA	GIRDER END CAP MIA-EC90	25	1	432077

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL:60 lb/ft PER CABLE TRAY
   b. LATERAL LOADS= 8.5 lb/ft (TRANSVERSELY & LONGITUDINAL)
   c. CORROSION RESISTANCE REQD.:HDG
   d. MAX. SUPPORT SPACING =6'-0"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. ADEQUACY OF CABLE TRAY MAX. SPAN NOT VERIFIED BY HILTI.
5. UNIT WEIGHT OF FRAMING AS FOLLOWS:
   a. STRUT MS-1316-12/HDG: 1.287 lb/ft.
   b. MI-90: 6.3 lb/ft.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 2 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

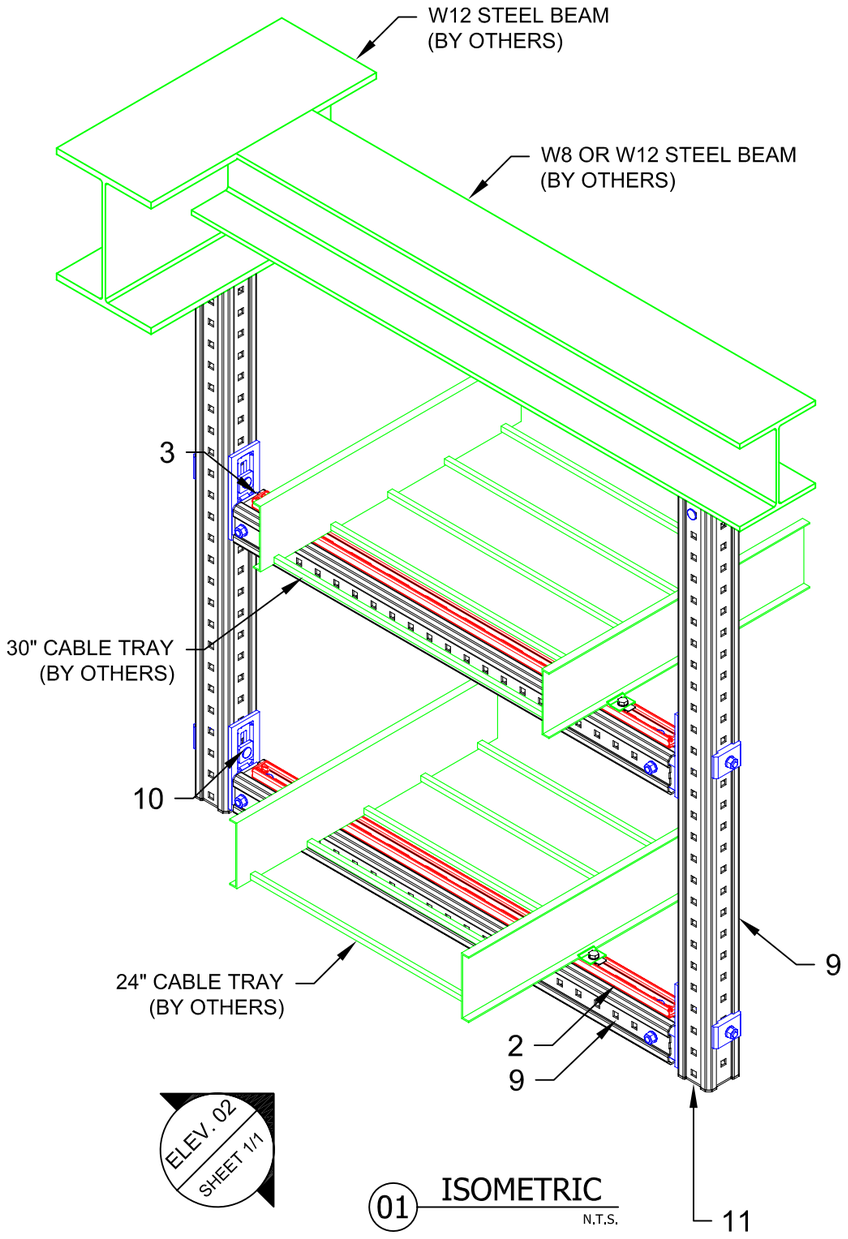
REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	02 JAN 15

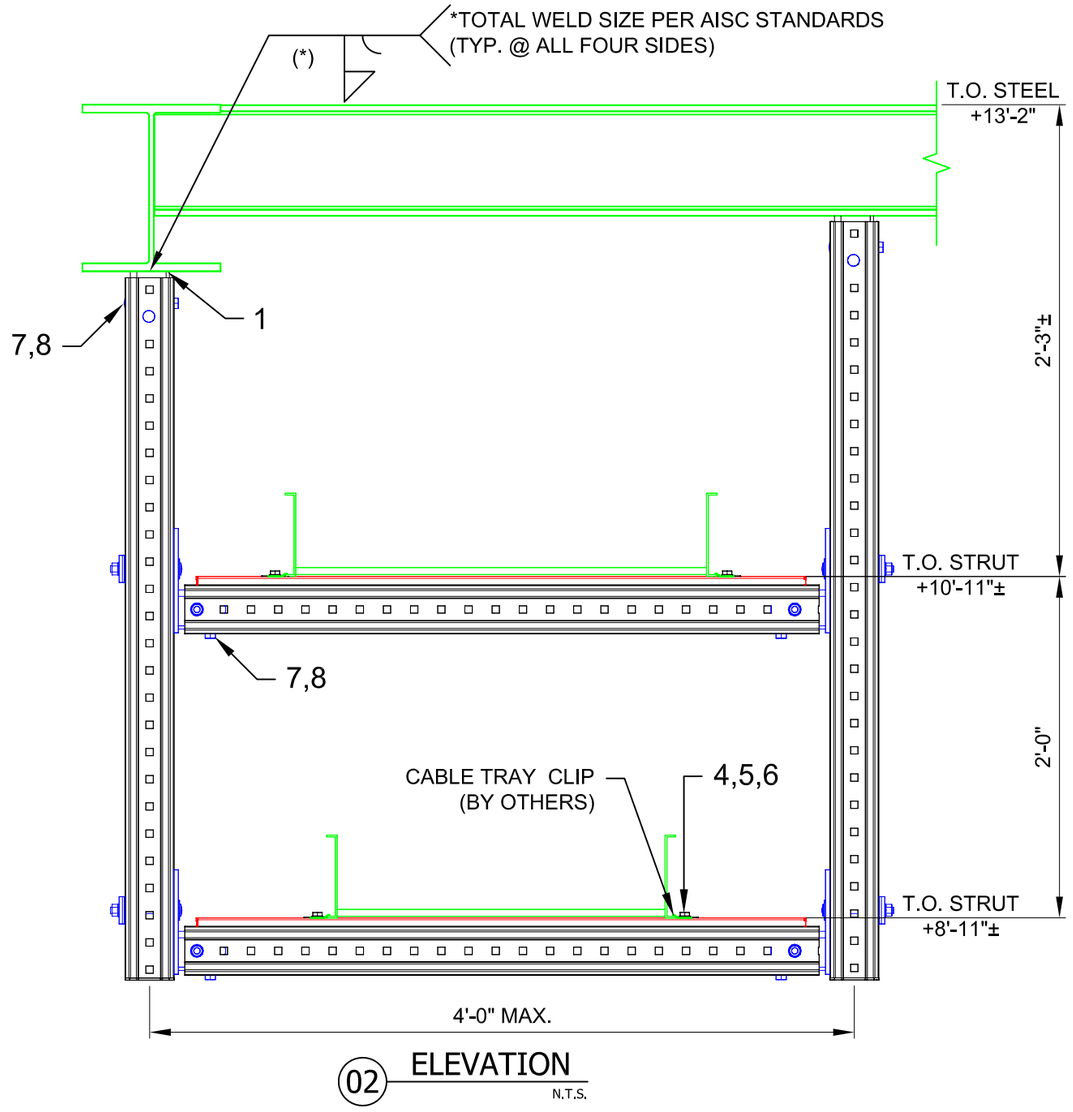
TYPICAL DETAIL NOMENCLATURE:

CT-TR13-S

DRAWING NUMBER:	SHEET:
01	1/1



01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	2	EA	CONNECTOR MIC-SC90	2	1	304824
2	AS REQ'D	EA	STRUT MS-1316-12/HDG 9'-10" (3M)	1	AS REQ'D	407569
3	4	EA	CHANNEL END CAP MEK RED	50	1	244886
4	4	EA	HEX HEAD BOLT 3/8" x 3/4" HDG	VARIES	VARIES	SPECIAL
5	4	EA	WASHER 3/8" HDG	VARIES	VARIES	SPECIAL
6	4	EA	WING NUT MQM-F3/8"-F	25	1	304136
7	8	EA	ONEHAND SCREW MIA-OH90	10	1	304889
8	8	EA	MI HEX NUT M12-F-SL-WS 3/4"	100	1	382897
9	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
10	4	EA	CONNECTOR MIC-90-U	4	1	304803
11	2	EA	GIRDER END CAP MIA-EC90	25	1	432077

NOTE(S):

1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. DESIGN LOADS (STATIC, U.N.O.):
      DL:60 lb/ft PER CABLE TRAY
   b. LATERAL LOADS= 8.5 lb/ft (TRANSVERSELY & LONGITUDINAL)
   c. CORROSION RESISTANCE REQD.:HDG
   d. MAX. SUPPORT SPACING = 8'-10"
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.
4. ADEQUACY OF CABLE TRAY MAX. SPAN NOT VERIFIED BY HILTI.
5. UNIT WEIGHT OF FRAMING AS FOLLOWS:
   a. STRUT MS-1316-12/HDG: 1.287 lb/ft.
   b. MI-90: 6.3 lb/ft.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 2 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
GAB	02 JAN 15

REVISIONS:

NO:	DESCRIPTION:	DATE:
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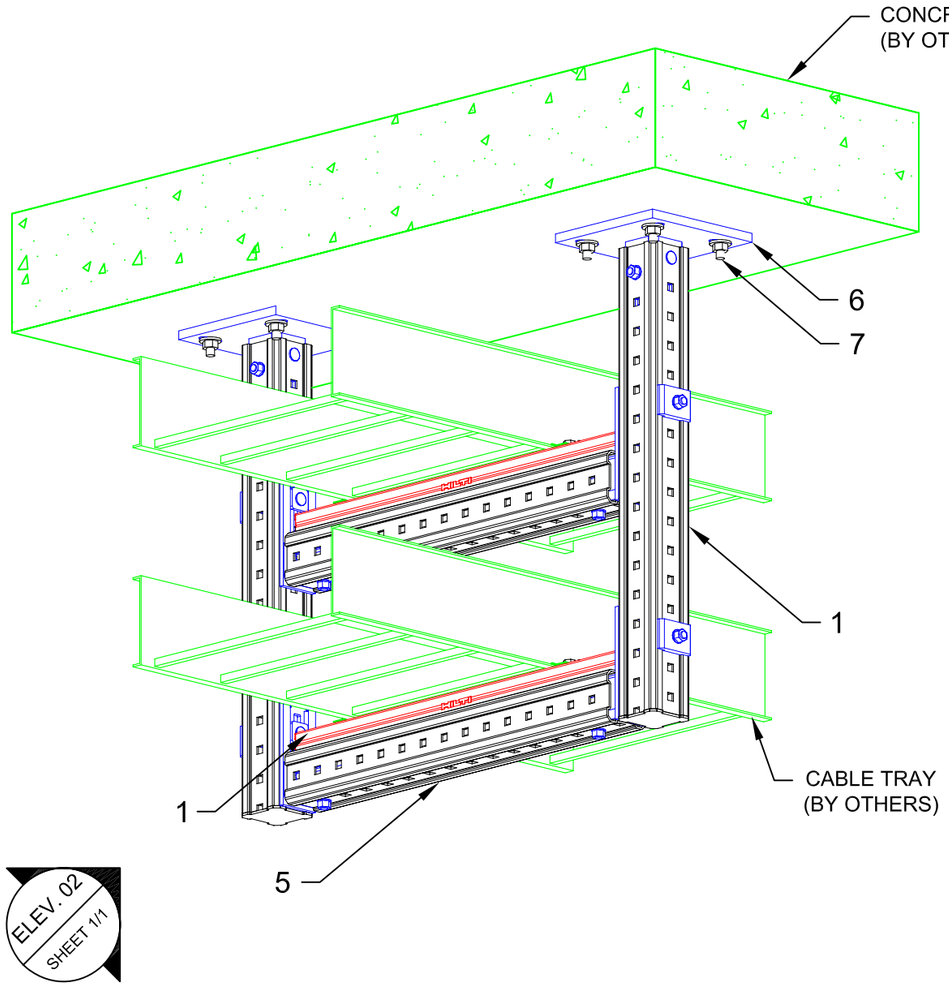
TYPICAL DETAIL NOMENCLATURE:

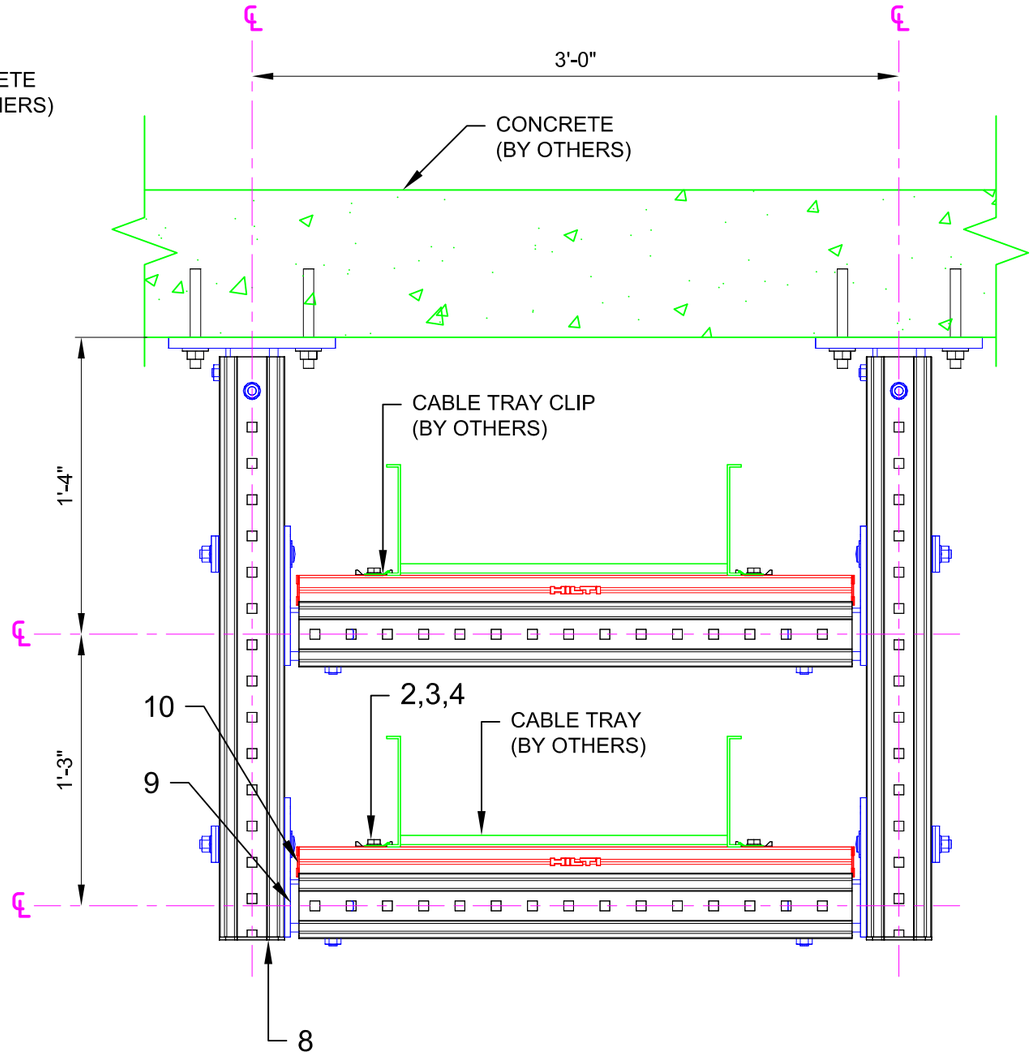
CT-TR14-S

DRAWING NUMBER:	SHEET:
01	1/1



ELEV. 02
SHEET 1/1

01 ISOMETRIC
N.T.S.



02 ELEVATION
N.T.S.

No.	Unit Qty	Unit	Description	Box Qty	# Boxes Needed	Item No.
1	AS REQ'D	EA	STRUT HS-158-12/PG 10'	1	AS REQ'D	407555
2	AS REQ'D	EA	WING NUT MQM-F1/2"	50	AS REQ'D	377883
3	AS REQ'D	EA	HEX HEAD BOLT 1/2" x 1-1/4"	50	AS REQ'D	411767
4	AS REQ'D	EA	WASHER 1/2"	100	AS REQ'D	411758
5	AS REQ'D	EA	GIRDER MI-90 3M	1	AS REQ'D	304798
6	AS REQ'D	EA	CONNECTOR MIC-C90-D CONCRETE	2	AS REQ'D	304827
7	AS REQ'D	EA	USE KB3 OR KB-TZ AS APPROPRIATE	VARIES	AS REQ'D	VARIES
8	AS REQ'D	EA	GIRDER END CAP MIA-EC90	25	AS REQ'D	432077
9	AS REQ'D	EA	CONNECTOR MIC-90-U	4	AS REQ'D	304803
10	AS REQ'D	EA	CHANNEL END CAP MEK RED	50	AS REQ'D	244886

NOTE(S):
1. PRELIMINARY NOT FOR CONSTRUCTION
2. DESIGN ASSUMPTIONS:
   a. NO LOADS CONSIDERED - CONCEPT ONLY
   b. LATERAL LOADS NOT CONSIDERED
   c. BUILDING CODE: NOT SPECIFIED
   d. CORROSION RESISTANCE REQD.: NOT SPECIFIED
2. REFER TO COMPONENT MANUFACTURER'S IFUs FOR REQUIRED INSTALLATION INFO.
3. E.O.R. MUST BE NOTIFIED OF ANY DEVIATIONS FROM EXISTING/ NEW SUBSTRATE CONDITIONS SHOWN HEREIN TO VALIDATE ACCEPTANCE OF THIS HILTI DESIGN PRIOR TO INSTALLATION.

TYPICAL DETAIL TYPE:

CABLE TRAY SUPPORT

TYPICAL DETAIL DESCRIPTION:

TRAPEZE - 2 TIER

DESIGNED BY:	REVIEWED BY:
KL	AJV
DRAWN BY:	ISSUE DATE:
HAM	11 DEC 14

REVISIONS:

NO:	DESCRIPTION:	DATE:
A	ORIGINAL ISSUE	11 DEC 14

TYPICAL DETAIL NOMENCLATURE:

CT-TR15-C

DRAWING NUMBER:	SHEET:
01	1/1