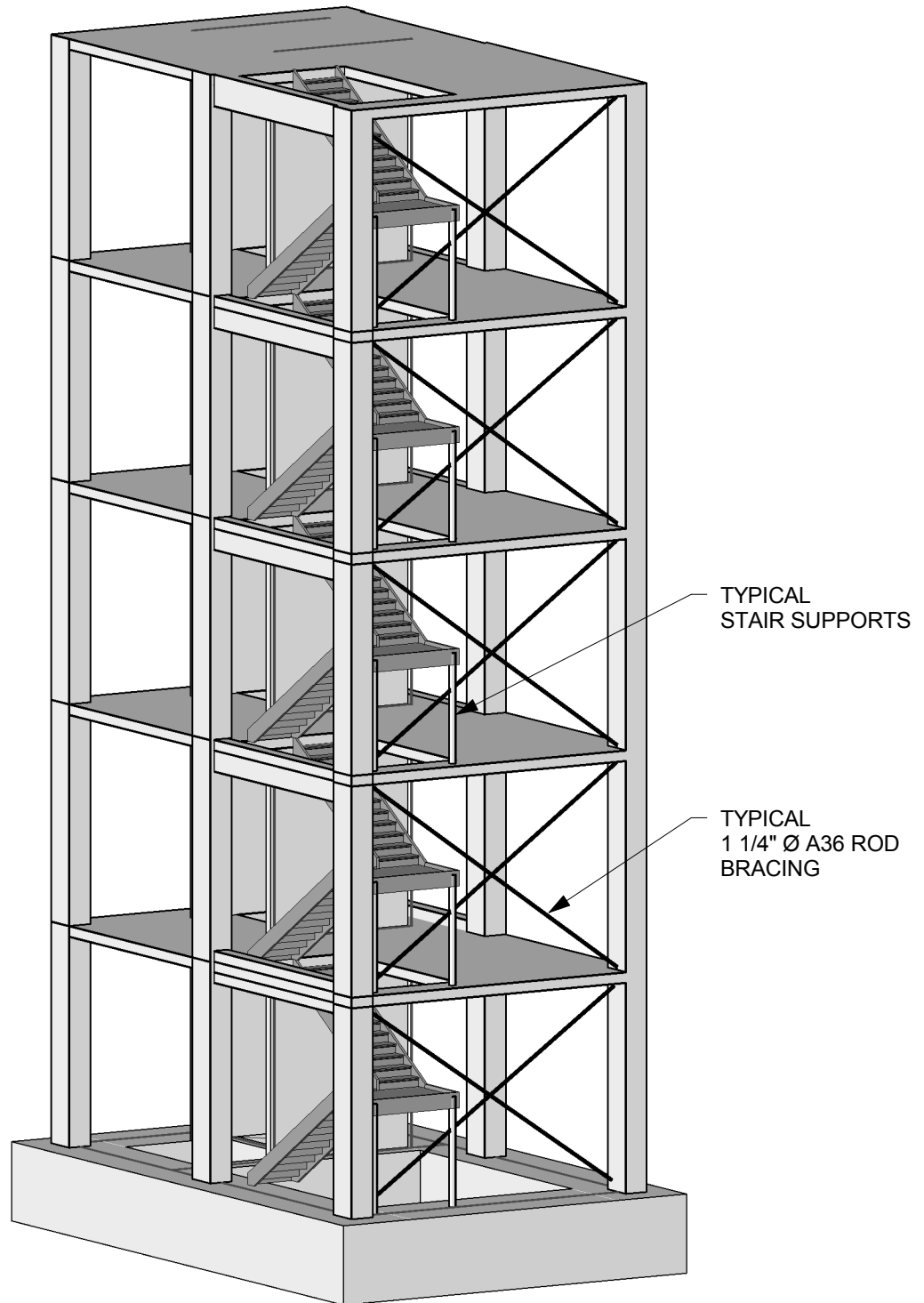




UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Robert Englekirk</i>

Structural Building Model

TEST SPECIMEN A

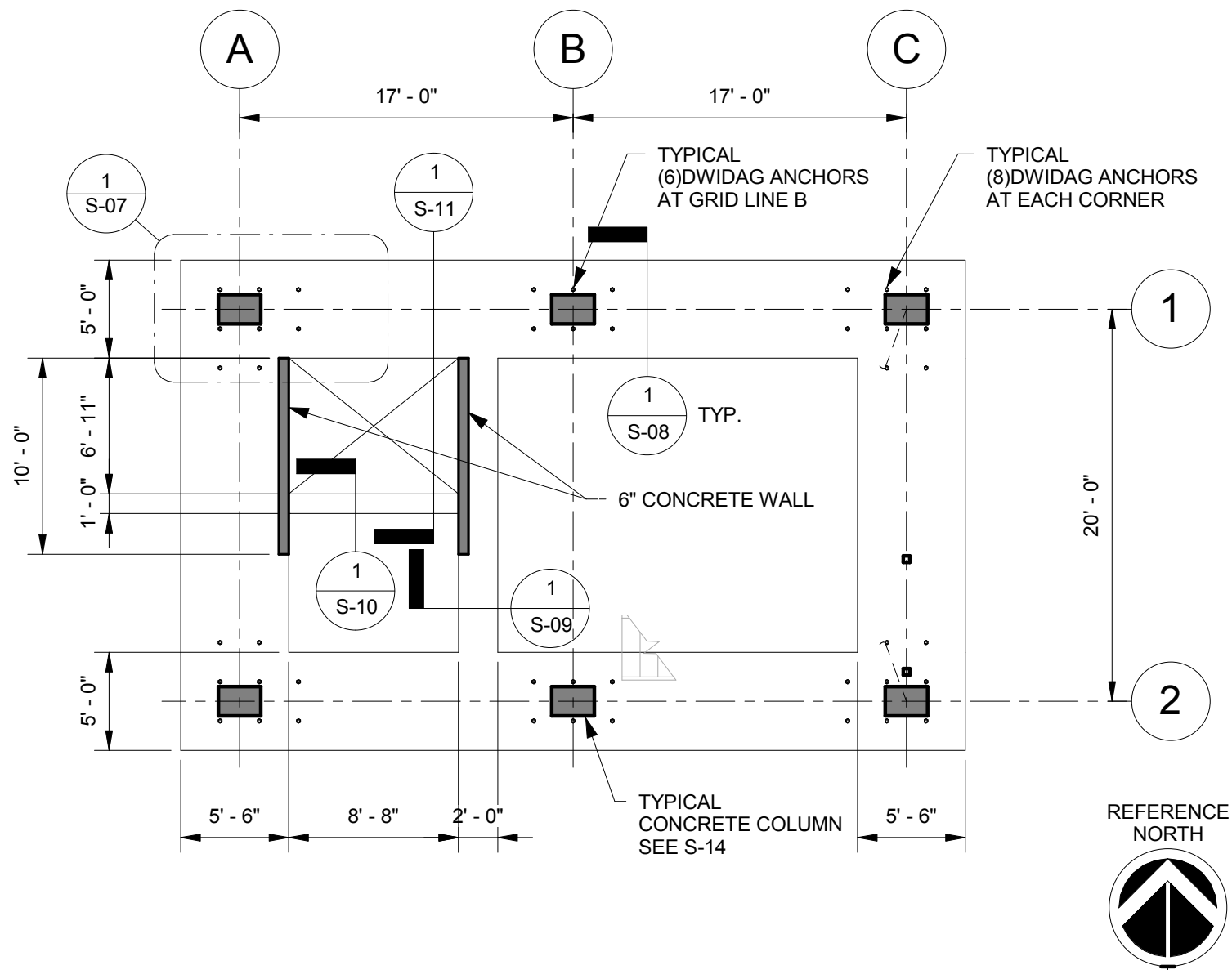
Project Number
604-92

Construction Documents

Figure

S-00

Date
03.16.2011



UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Level 1 and Foundation Plan

Figure

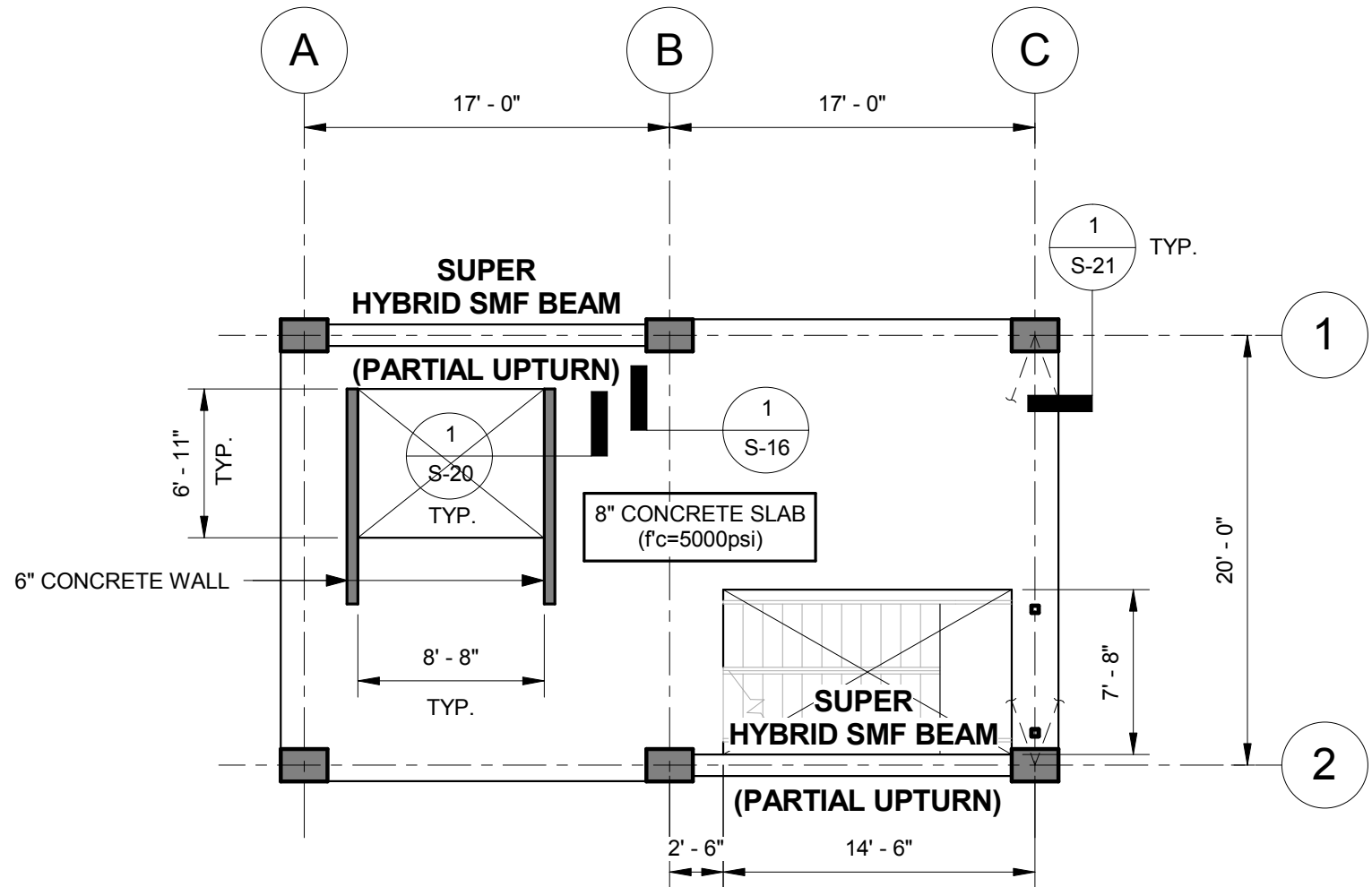
TEST SPECIMEN A

S-01

Project Number
604-92

Date
03.16.2011

Construction Documents



UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Level 2 Framing Plan

Figure

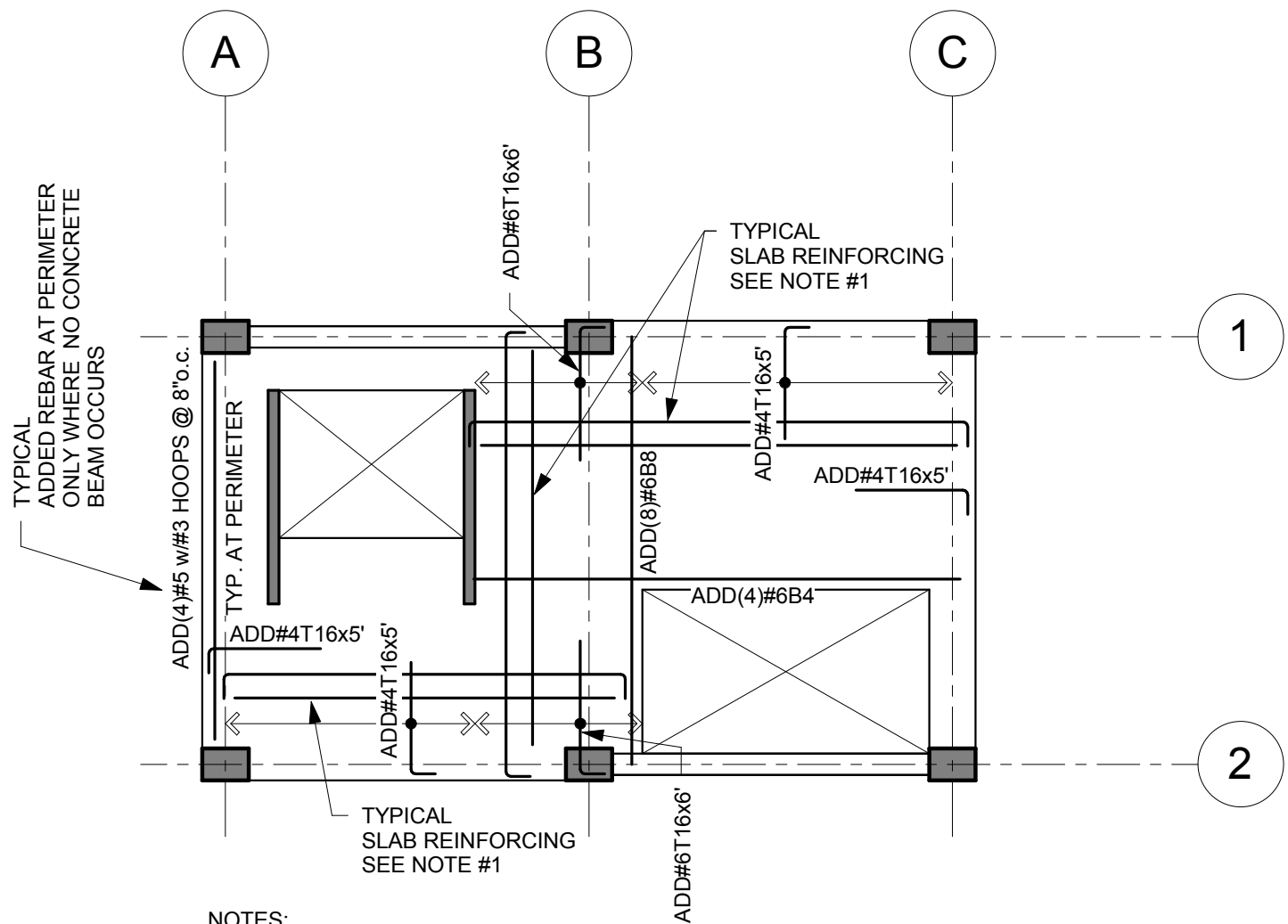
TEST SPECIMEN A

S-02

Project Number
604-92

Date
03.16.2011

Construction Documents



NOTES:

1. TYPICAL SLAB REINFORCING SHALL BE #5@8 BOTTOM EA. WAY AND #4@16 TOP EA. WAY ($f_y=60\text{ksi}$).
2. ALL REINFORCING NOTED ON PLAN IS ADDED REINFORCING.
3. ALL REINFORCING SHALL BE PLACED AS FOLLOWS:
 - A. NORTH-SOUTH DIRECTION OUTSIDE LAYER.
 - B. EAST-WEST DIRECTION INSIDE LAYER.

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Typical Slab Reinforcing
Plan

TEST SPECIMEN A

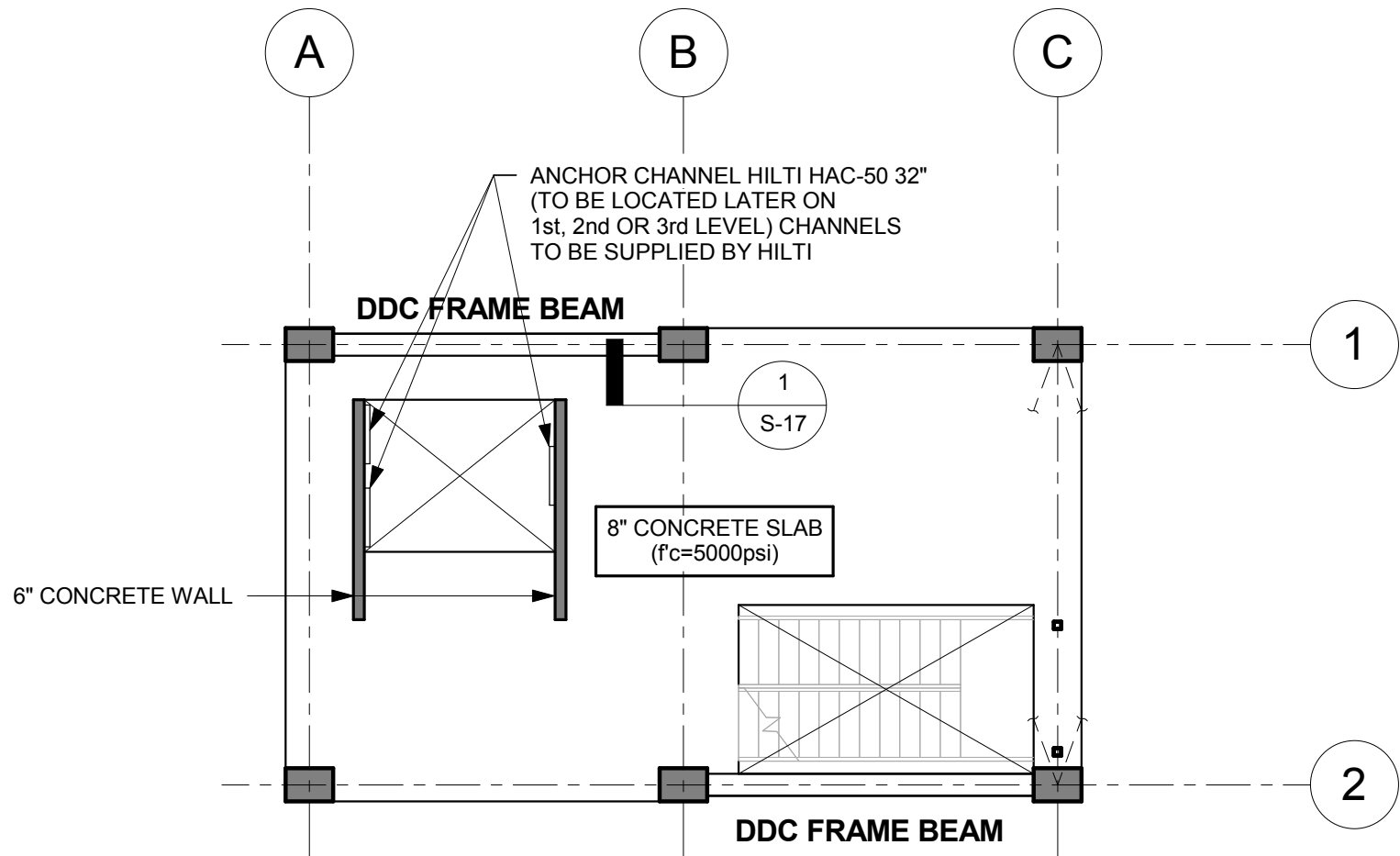
Project Number
604-92

Construction Documents

Figure

S-02A

Date
03.16.2011



UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Level 3 Framing Plan

Figure

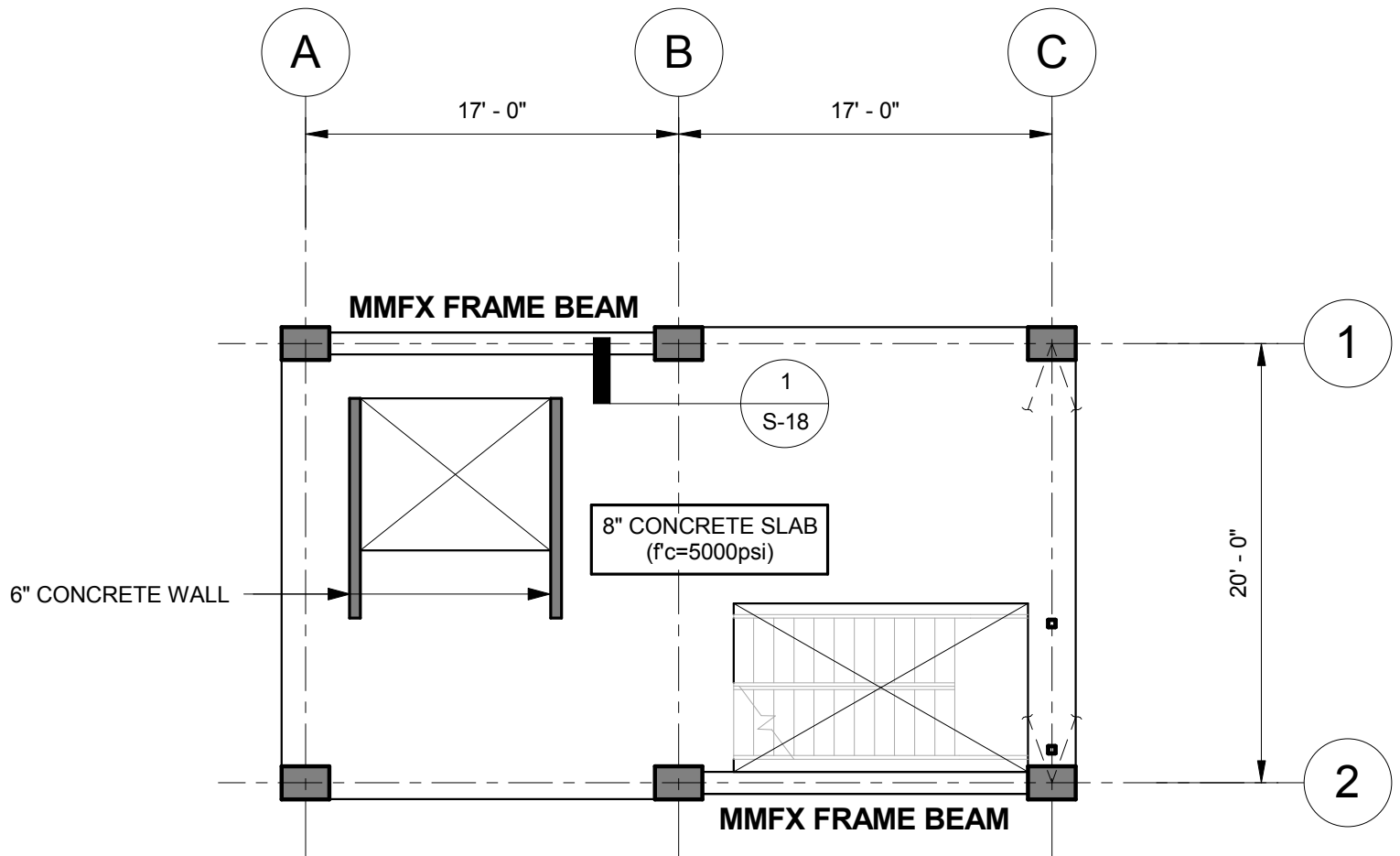
TEST SPECIMEN A

S-03

Project Number
604-92

Date
03.16.2011

Construction Documents



UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Level 4 Framing Plan

TEST SPECIMEN A

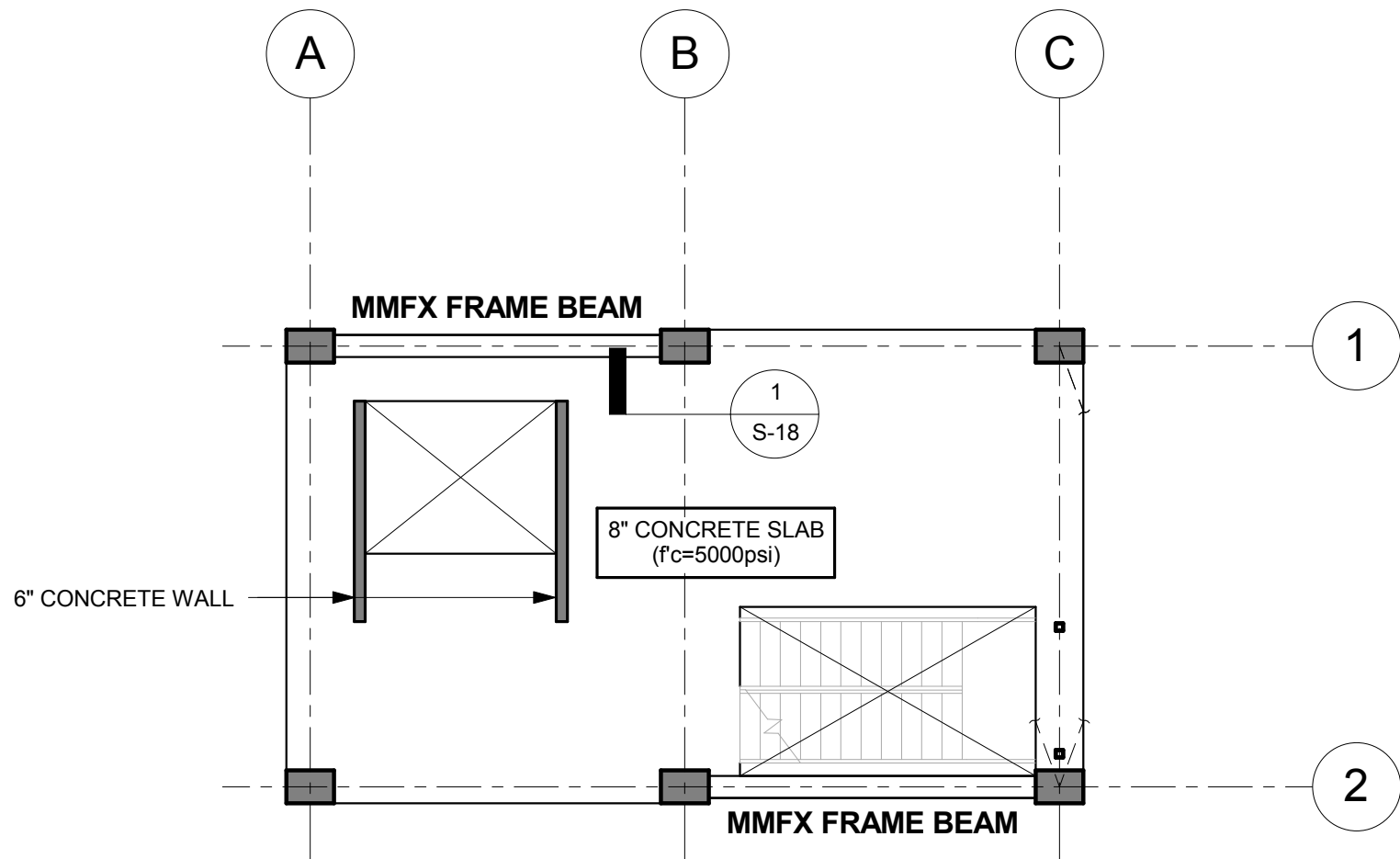
Project Number
604-92

Construction Documents

Figure

S-04

Date
03.16.2011



UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Level 5 Framing Plan

Figure

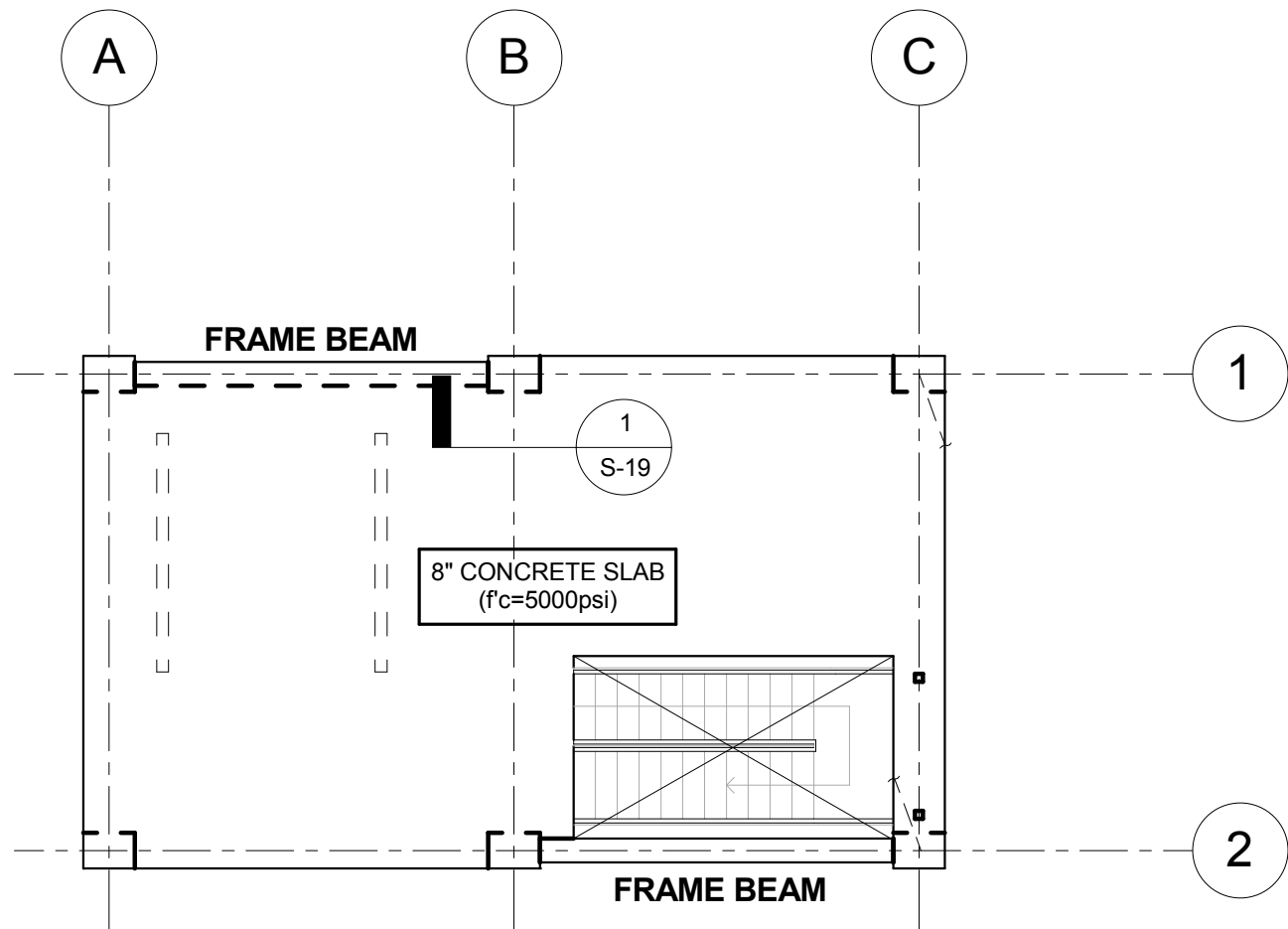
TEST SPECIMEN A

S-05

Project Number
604-92

Date
03.16.2011

Construction Documents



UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Roof Framing Plan

Figure

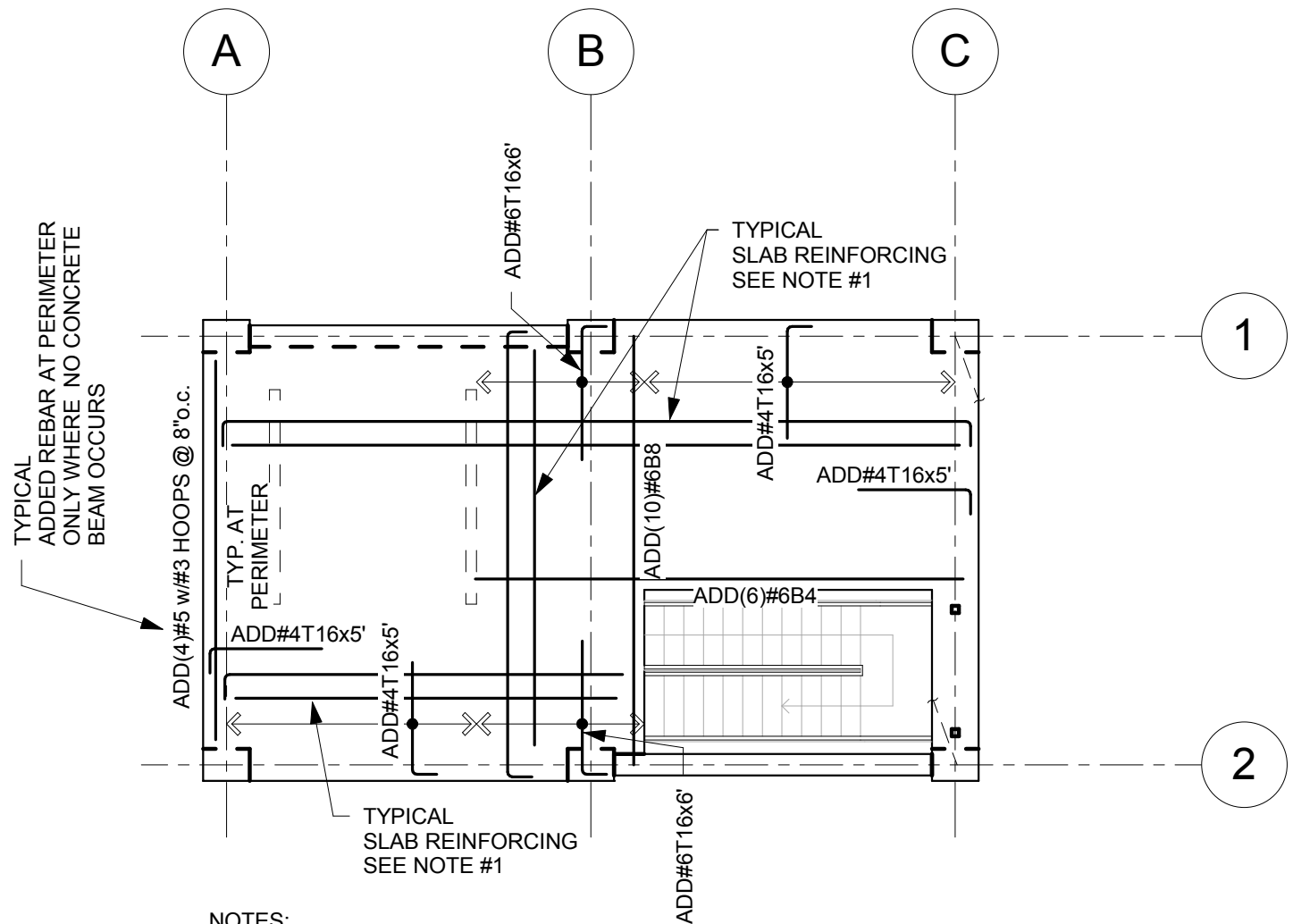
TEST SPECIMEN A

S-06

Project Number
604-92

Date
03.16.2011

Construction Documents



NOTES:

1. TYPICAL SLAB REINFORCING SHALL BE #5@8 BOTTOM EA. WAY AND #4@16 TOP EA. WAY ($f_y=60\text{ksi}$).
2. ALL REINFORCING NOTED ON PLAN IS ADDED REINFORCING.
3. ALL REINFORCING SHALL BE PLACED AS FOLLOWS:
 - A. NORTH-SOUTH DIRECTION OUTSIDE LAYER.
 - B. EAST-WEST DIRECTION INSIDE LAYER.

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Roof Slab Reinforcing Plan

Figure

TEST SPECIMEN A

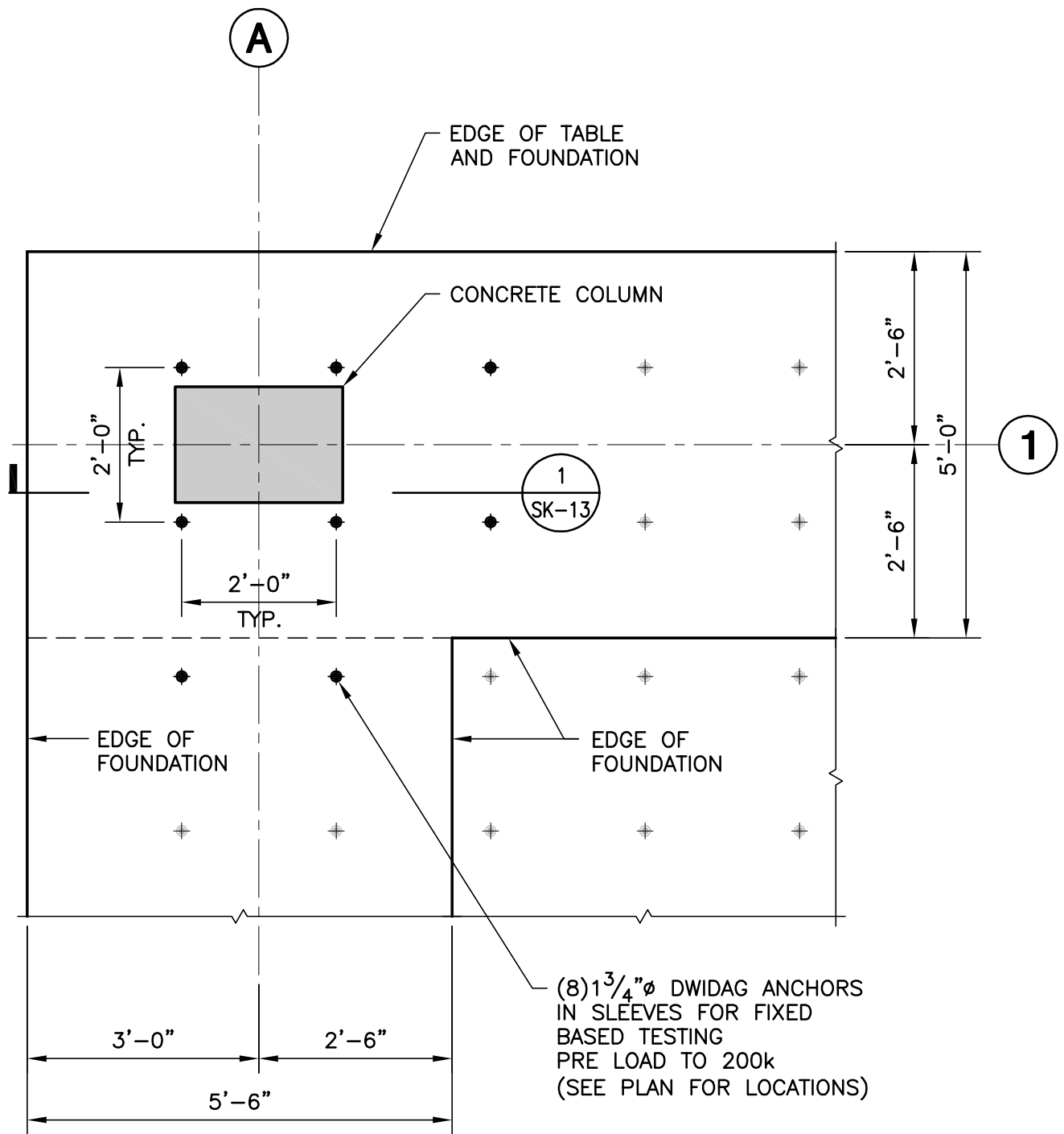
S-06A

Project Number
604-92

Date
03.16.2011

Construction Documents

Z:\Projects\604-92\S-07.dwg, 3/16/2011 2:07:01 PM, Bluebeam PDF8 Printer HighRes.pc3



FOUNDATION DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Foundation Detail

FIGURE

S-07

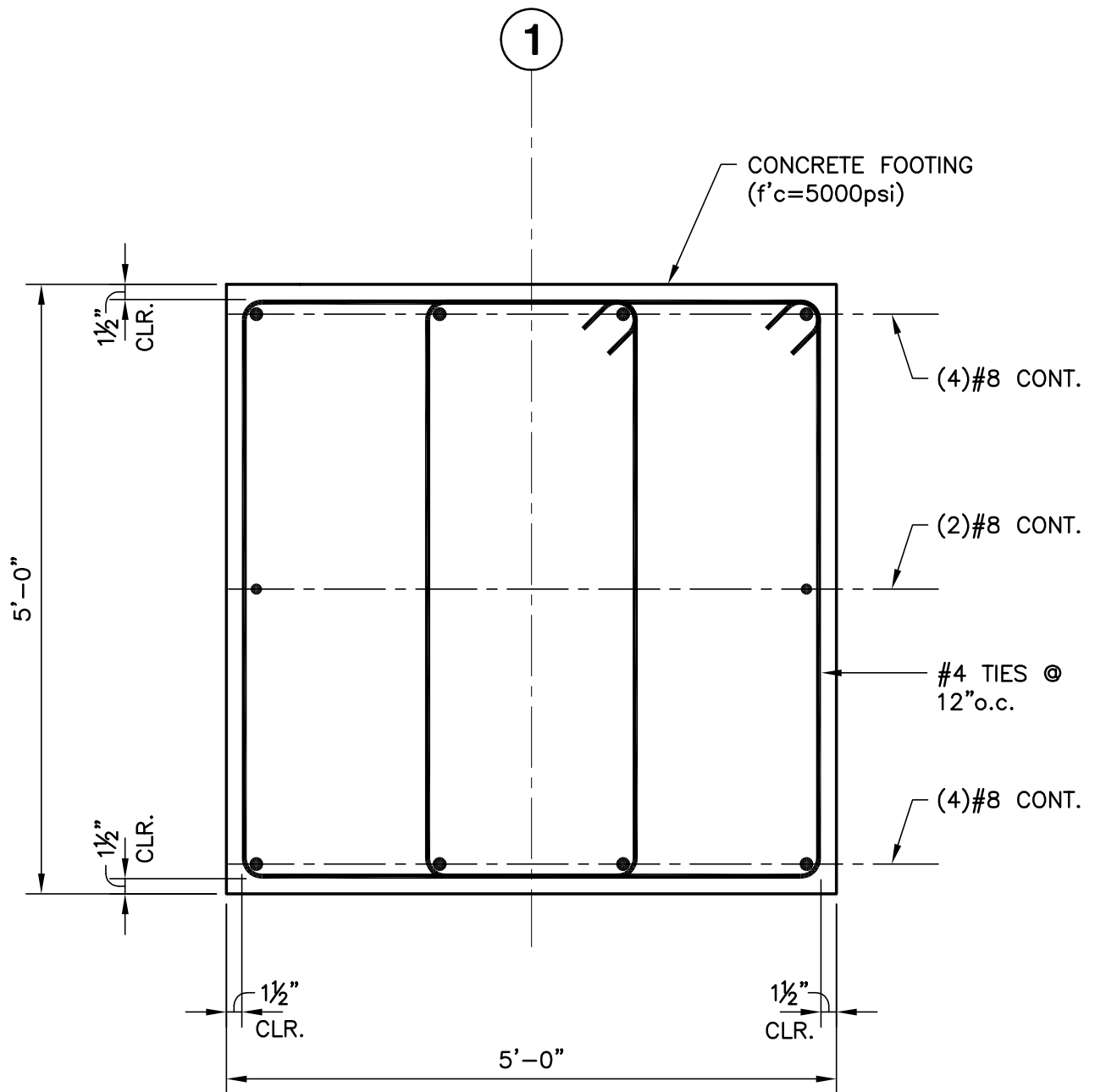
TEST SPECIMEN A

JOB NUMBER
604-92

DATE
03.16.2011

Construction Documents

Z:\Projects\604-92\S-08.dwg, 3/16/2011 2:07:08 PM, Bluebeam PDF8 Printer HighRes.pc3



FOOTING DETAL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Robert Englekirk</i>

Footing Detail

TEST SPECIMEN A

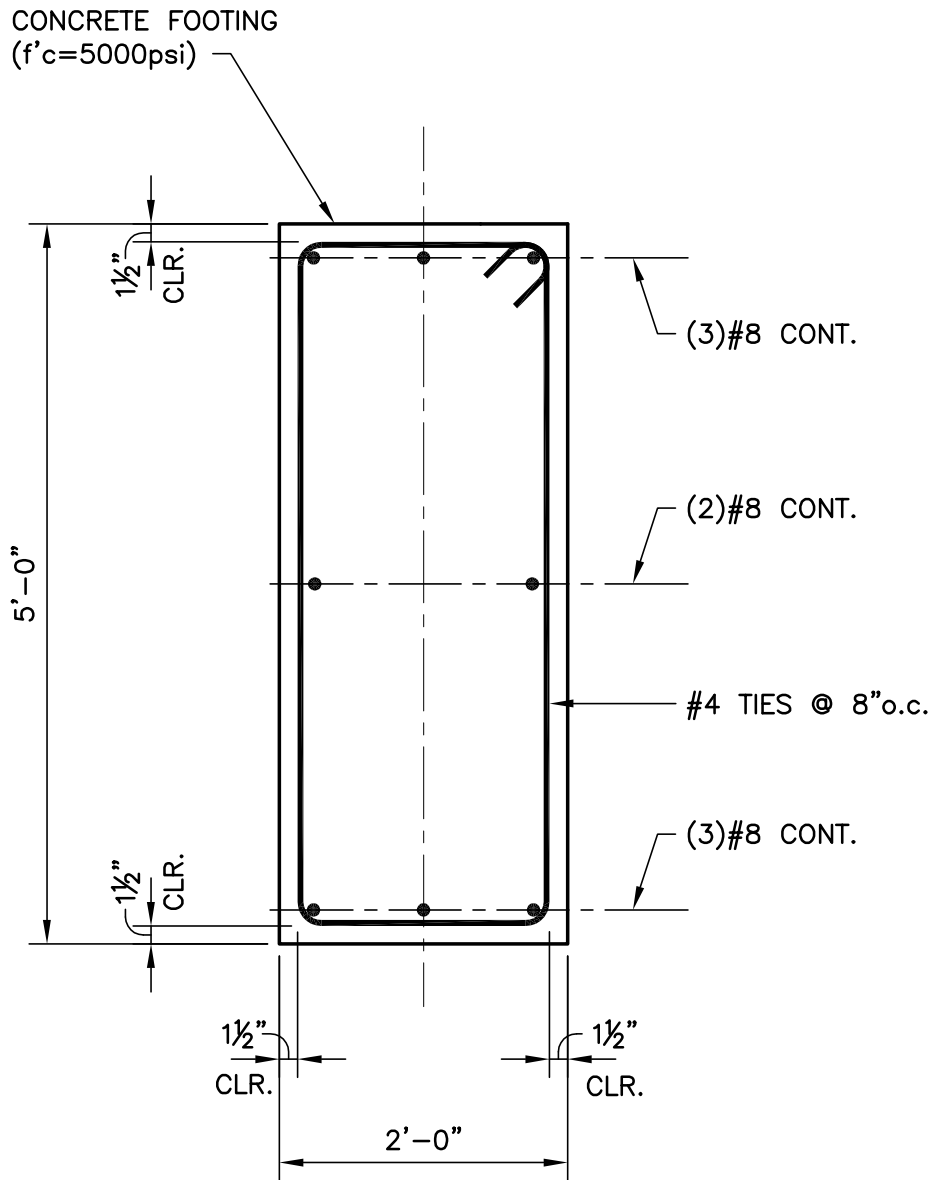
JOB NUMBER
604-92

DATE
03.16.2011

Construction Documents

FIGURE
S-08

Z:\Projects\604-92\S-09.dwg, 3/16/2011 2:07:13 PM, Bluebeam PDF8 Printer HighRes.pc3



$\frac{3}{4}"=1'-0"$

FOOTING DETAL

1



UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	

Footing Detail

FIGURE

S-09

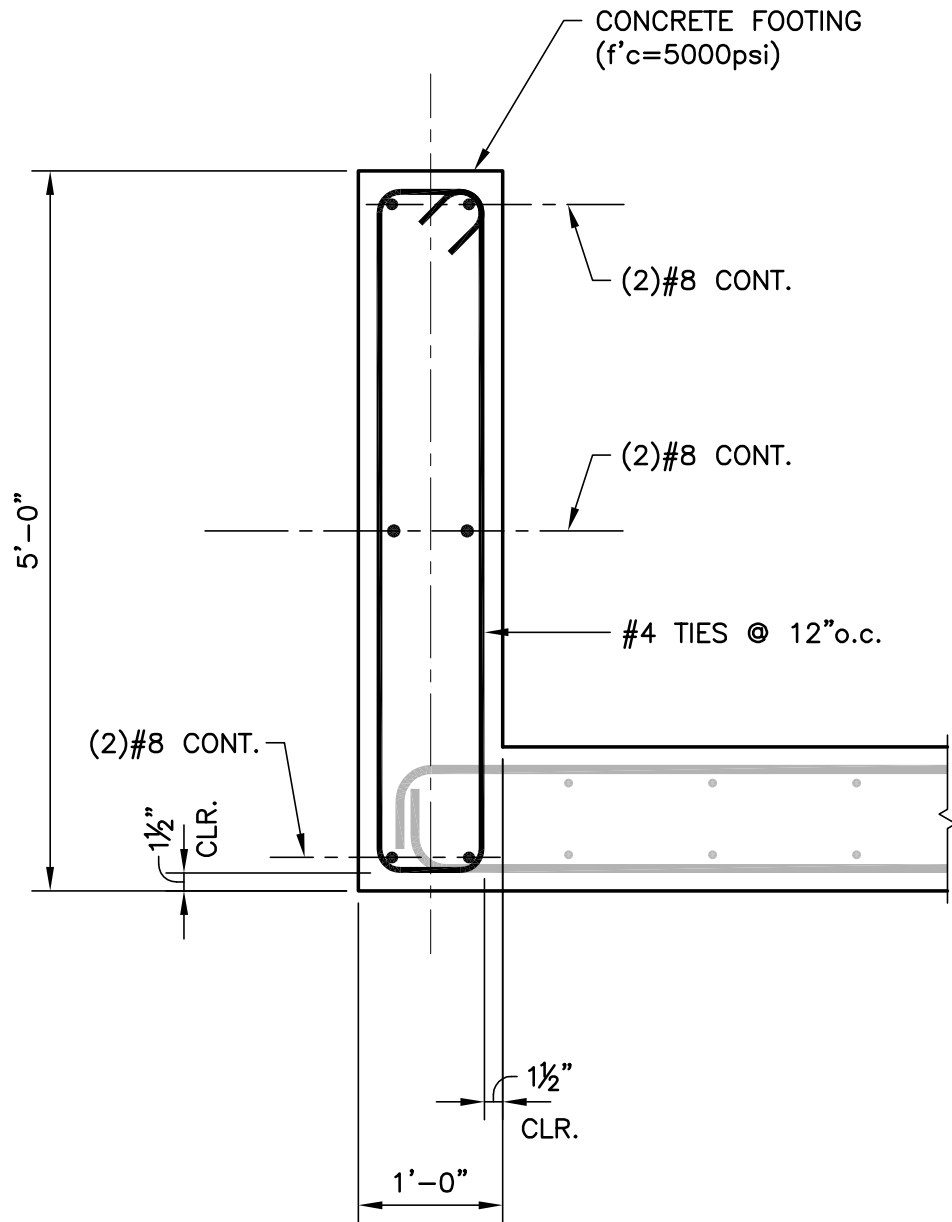
TEST SPECIMEN A

JOB NUMBER
604-92

DATE
03.16.2011

Construction Documents

Z:\Projects\604-92\S-10.dwg, 3/16/2011 2:07:18 PM, Bluebeam PDF8 Printer HighRes.pc3



3/4"=1'-0"

FOOTING DETAL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	

Footing Detail

TEST SPECIMEN A

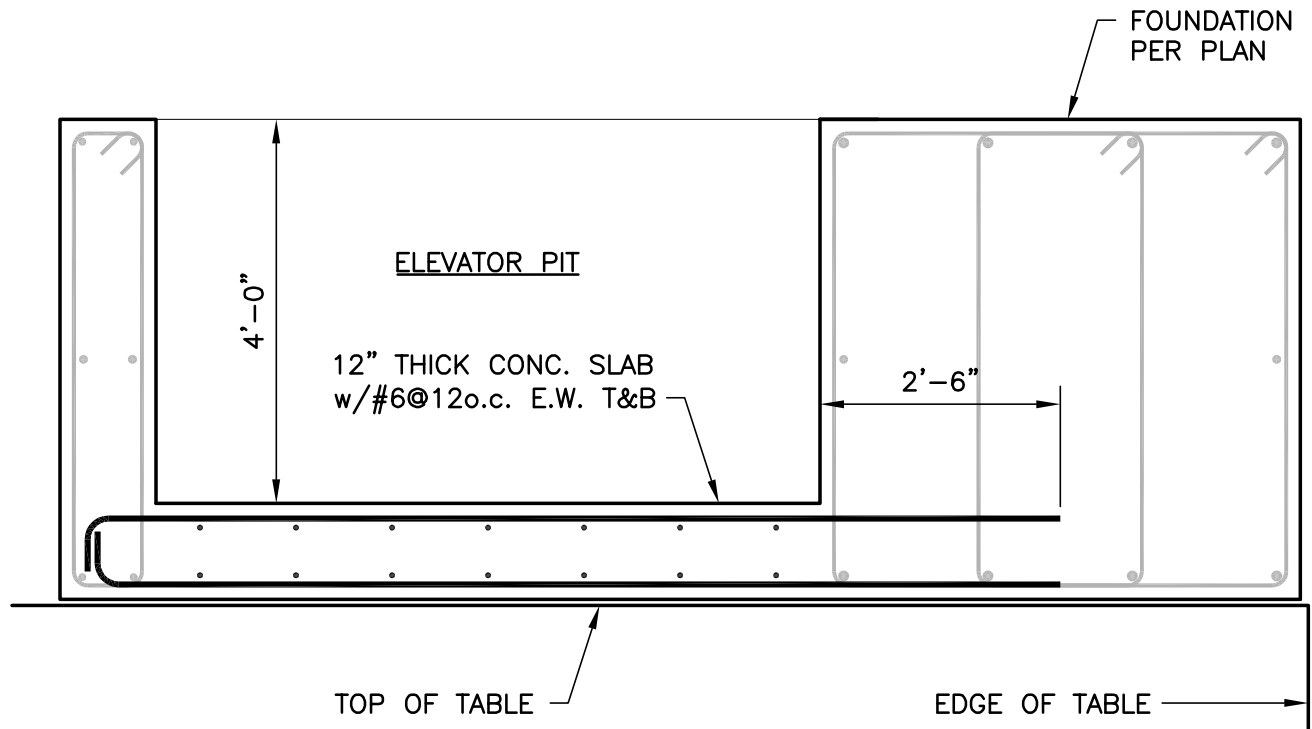
JOB NUMBER
604-92

FIGURE
S-10

DATE
03.16.2011

Construction Documents

Z:\Projects\604-92\S-11.dwg, 3/16/2011 2:07:24 PM, Bluebeam PDF8 Printer HighRes.pc3



NOTE:

PROVIDE $\text{R } 1\frac{1}{2} \times 8 \times 0'-8$ WITH (4) $1\frac{1}{2}'' \varnothing$ NELSON STUDS (8" EMBED.) AT ELEVATOR RAILS. PLATES AND HARDWARE TO BE PROVIDED BY ELEVATOR SUBCONTRACTOR.

$1\frac{1}{2}'' = 1'-0''$

ELEVATOR PIT SECTION

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

Elevator Pit Section

FIGURE

S-11

APPROVED FOR CONSTRUCTION

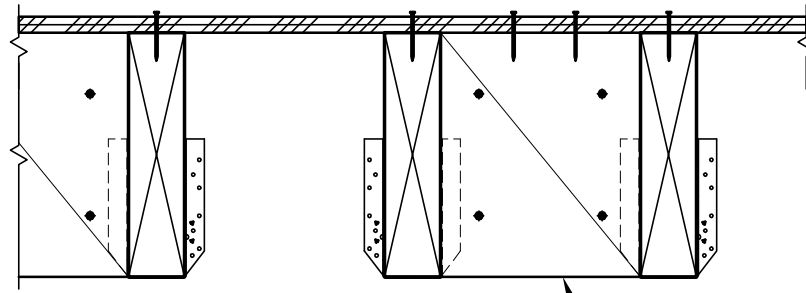
TEST SPECIMEN A

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

JOB NUMBER
604-92

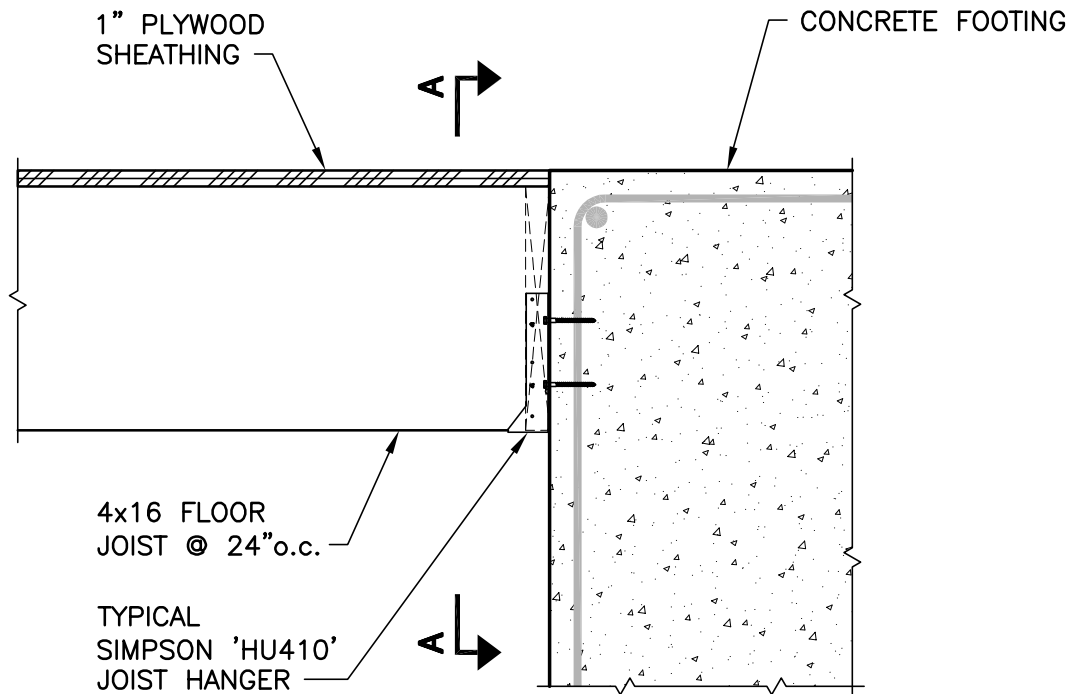
DATE
03.16.2011

Construction Documents



TYPICAL
2x BLOCKING @ 48"o.c.
w/(4)HILTI KH-EZ 1/4"x2 5/8"
AT EACH BLOCK

SECTION A-A



1"=1'-0"

TYPICAL WOOD FLOOR DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Typical Level 1
Wood Floor Framing Detail

TEST SPECIMEN A

JOB NUMBER
604-92

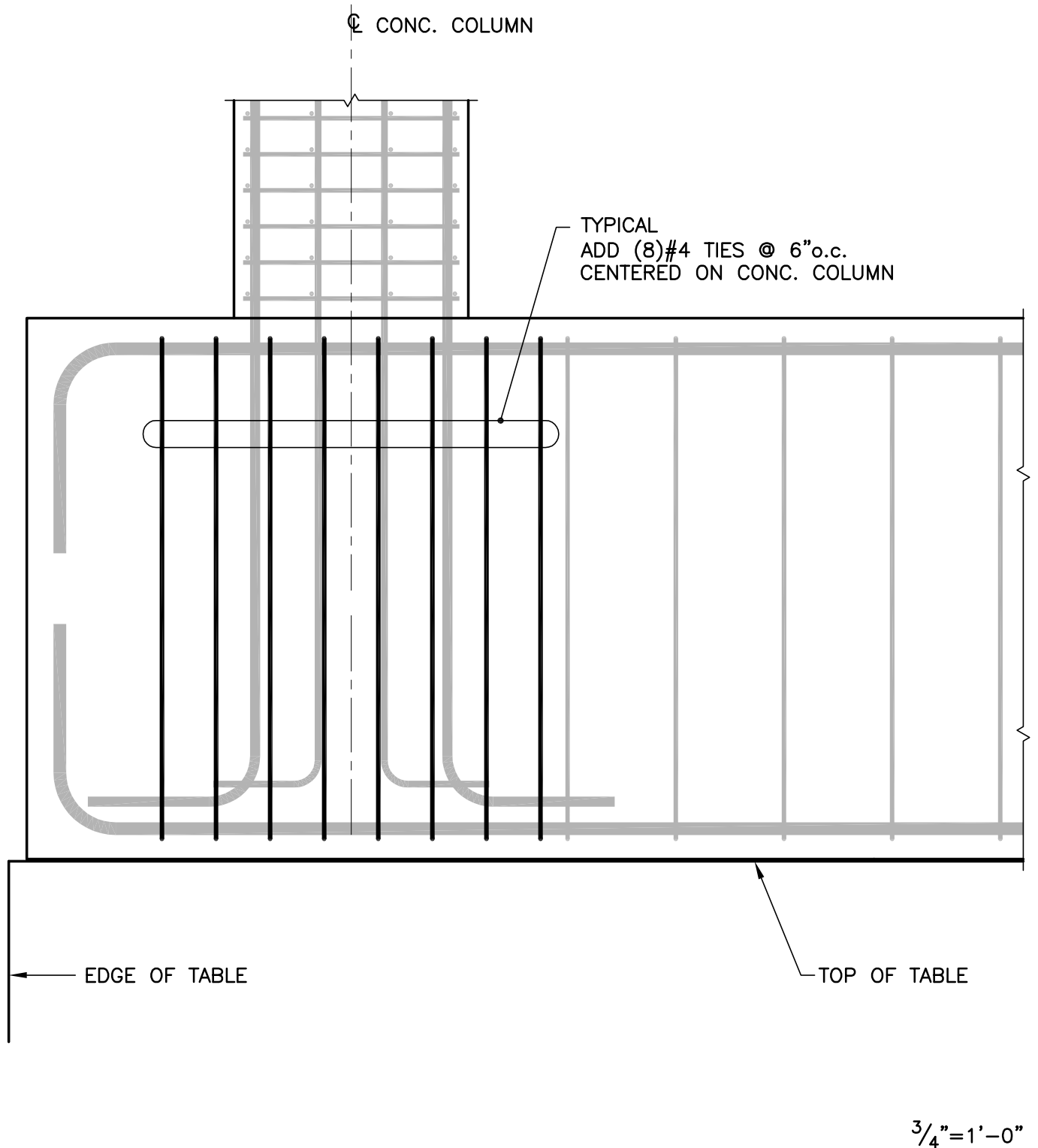
Construction Documents

FIGURE

S-12

DATE
03.16.2011

Z:\Projects\604-92\S-13.dwg, 3/16/2011 2:07:35 PM, Bluebeam PDF8 Printer HighRes.pc3



FOUNDATION DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Typical Concrete Column
at Foundation Detail

TEST SPECIMEN A

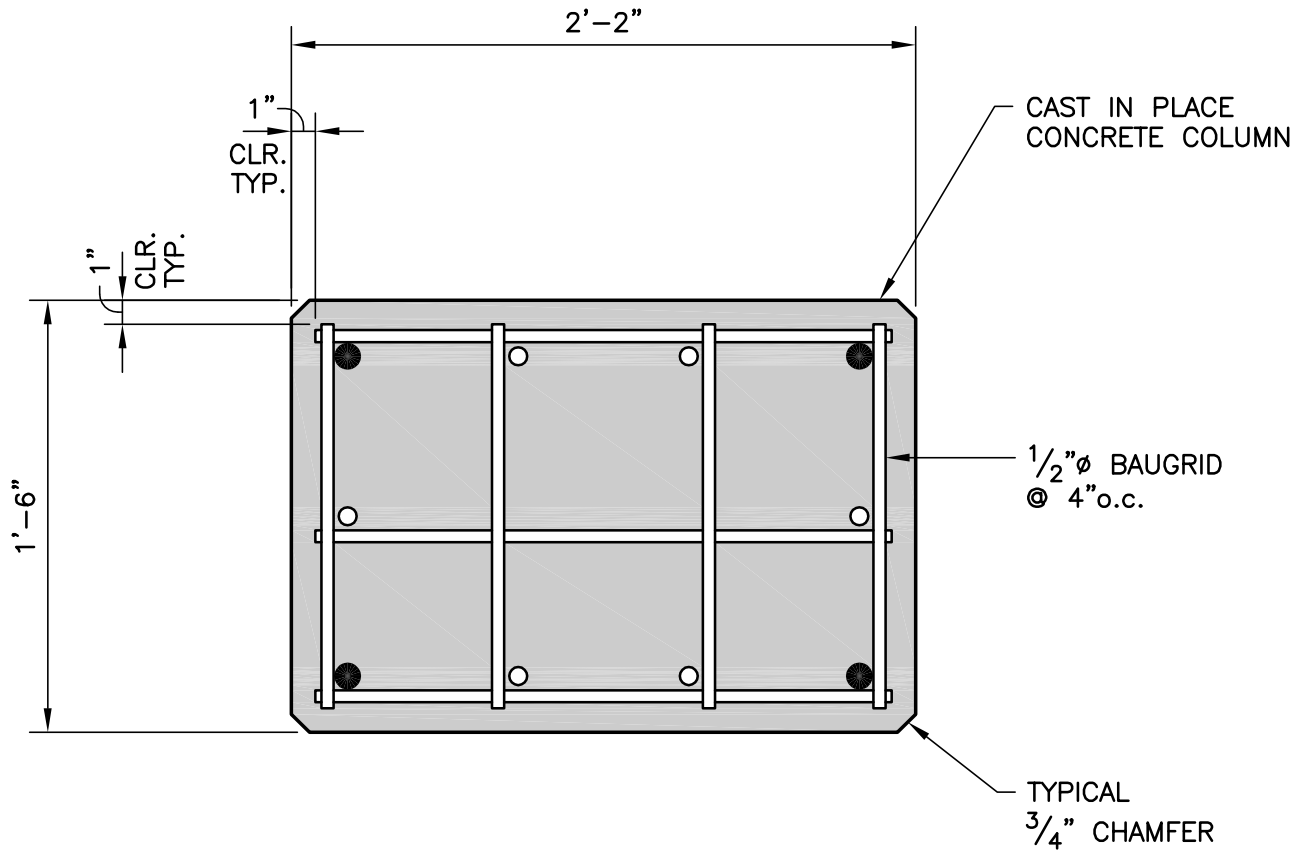
JOB NUMBER
604-92

Construction Documents

FIGURE

S-13

DATE
03.16.2011



CONCRETE COLUMN 18"x26" ($f'_c=5000\text{psi}$)

- INDICATES (4)#9 VERTICAL BARS
- INDICATES (6)#6 VERTICAL BARS

1 1/2" = 1'-0"

TYPICAL COLUMN DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Typical Concrete Column
Reinforcing Detail

TEST SPECIMEN A

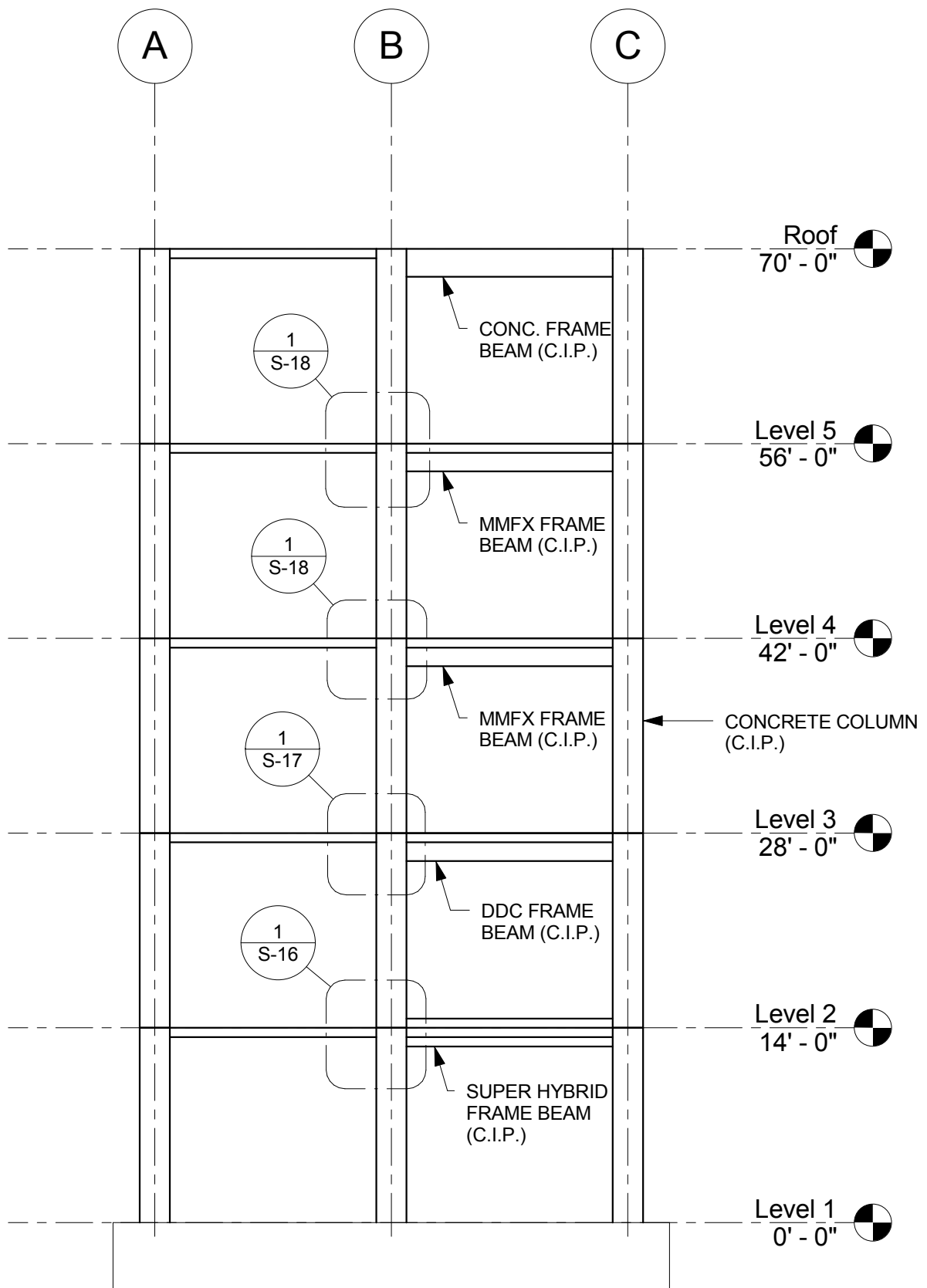
JOB NUMBER
604-92

FIGURE

S-014

DATE
03.16.2011

Construction Documents



UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Typical Concrete Frame
Elevation

TEST SPECIMEN A

Project Number
604-92

Construction Documents

Figure

S-15

Date
03.16.2011

CAST-IN-PLACE
CONCRETE COLUMN

UPTURNED CONC.
HYBRID SMF BEAM

(4) 1/2" ϕ PT

CL BEAM

SECTION A-A

PROVIDE (2) CROSS TIES
TOP AT FIRST (6) TIES
FROM COLUMN FACE

C.I.P. CONC.
COL. PER PLAN

CONC. SLAB
PER PLAN

TYPICAL
DUCTILE ROD
SEE S-16A

SECTION B-B

UPTURNED CONC. HYBRID
SMF BEAM ($f'_c=5000\text{psi}$)
w/(2)#7T&B

(15)#4 TIES @ 4" o.c. AT
COL. FACE REMAINING
TIES @ 6" o.c.

3/4" = 1'-0"

SUPER HYBRID MOMENT FRAME DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Super Hybrid Moment Frame
Detail

TEST SPECIMEN A

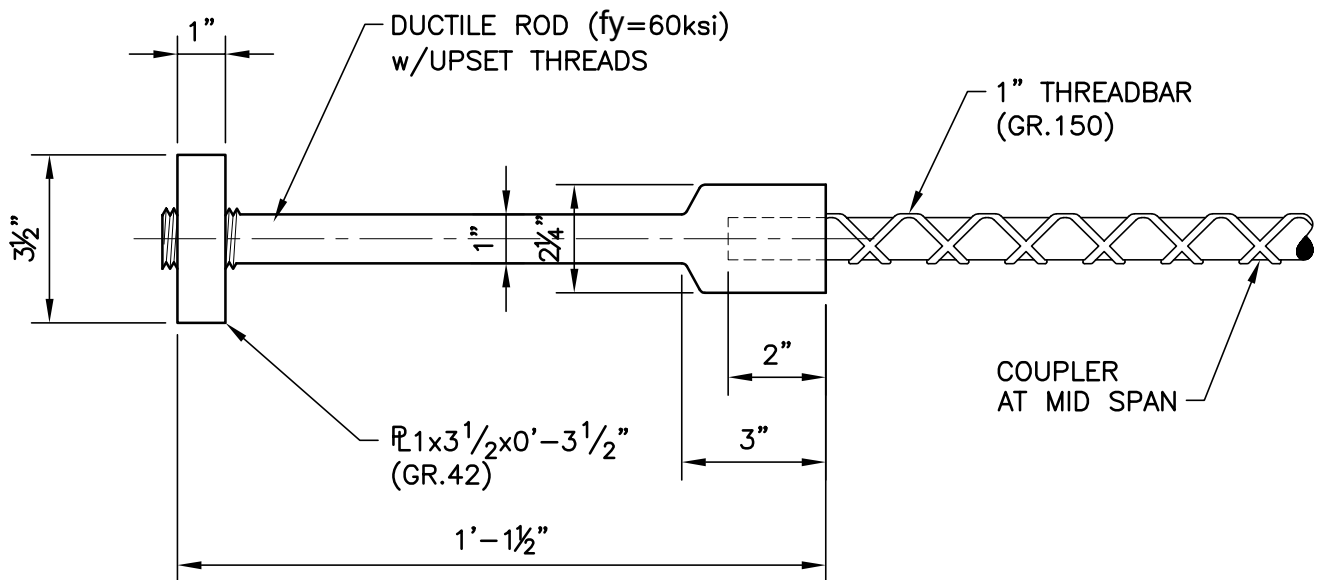
JOB NUMBER
604-92

Construction Documents

FIGURE

S-16

DATE
03.16.2011



NOTE:

DUCTILE ROD ASSEMBLY SHALL BE TESTED TO T_{max}.

3"=1'-0"

HYBRID SMF DUCTILE ROD DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Super Hybrid Moment Frame
Ductile Rod Detail

TEST SPECIMEN A

JOB NUMBER
604-92

Construction Documents

FIGURE

S-16A

DATE
03.16.2011

CAST-IN-PLACE
CONCRETE COLUMN

DDC FRAME BEAM

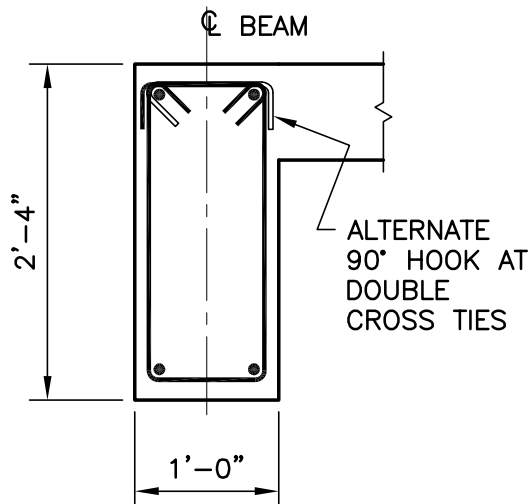
SECTION A-A

PROVIDE (2) CROSS TIES
TOP AT FIRST (6) TIES
FROM COLUMN FACE

CONC. SLAB
PER PLAN

C.I.P. CONC.
COL. PER PLAN

DUCTILE ROD
CONNECTOR
SEE S-17A



SECTION B-B

A
B

A
B

DDC FRAME BEAM
($f'_c=5000\text{psi}$)
w/(2)#8T&B
(15)#4 TIES @ 4"o.c. AT
COL. FACE REMAINING
TIES @ 6"o.c.

$\frac{3}{4}"=1'-0"$

DDC MOMENT FRAME DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

DDC Moment Frame Detail

FIGURE

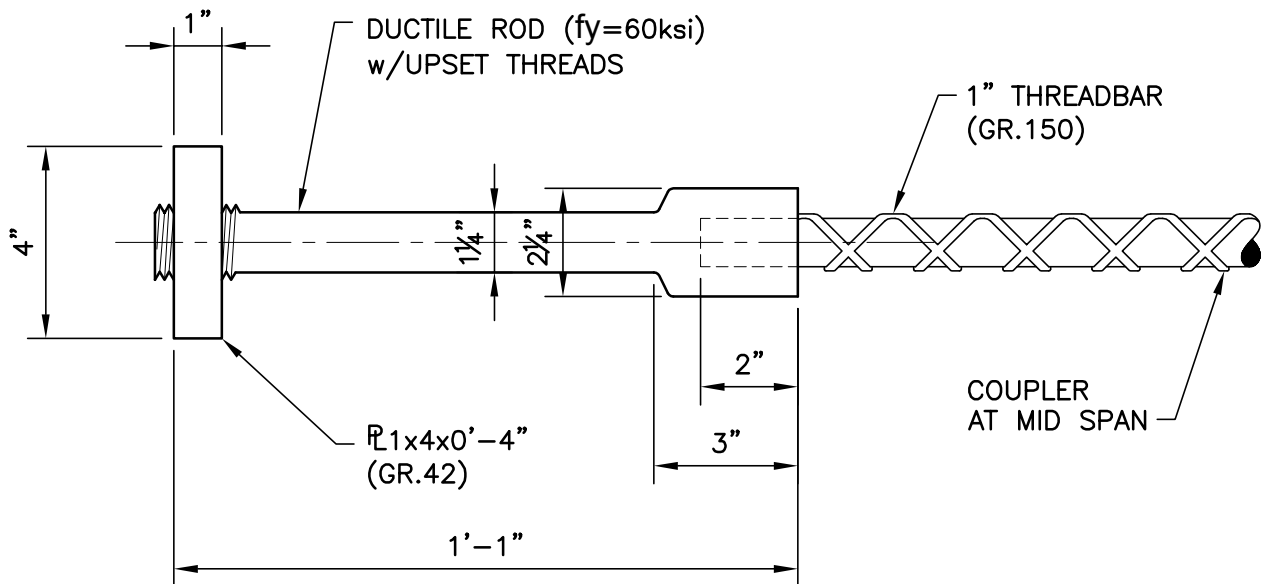
S-17

TEST SPECIMEN A

JOB NUMBER
604-92

DATE
03.16.2011

Construction Documents



NOTE:

DUCTILE ROD ASSEMBLY SHALL BE TESTED TO T_{max}.

3"=1'-0"

DDC FRAME DUCTILE ROD DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

DDC Moment Frame Ductile Rod Detail

TEST SPECIMEN A

JOB NUMBER
604-92

Construction Documents

FIGURE

S-17A

DATE
03.16.2011

CAST-IN-PLACE
CONCRETE COLUMN

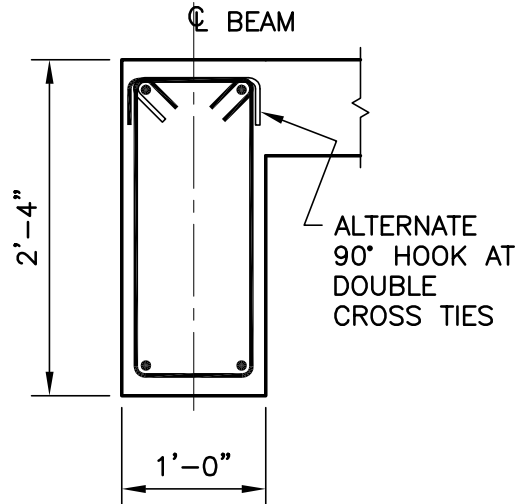
MMFX CONC. FRAME
BEAM

SECTION A-A

PROVIDE (2) CROSS TIES
TOP AT FIRST (5) TIES
FROM COLUMN FACE

CONC. SLAB
PER PLAN

C.I.P. CONC.
COL. PER PLAN



SECTION B-B

MMFX CONC. FRAME BEAM
w/(2)#7T&B ($f_y = 120\text{ksi}$)
(15)#4 TIES @ 4"o.c. AT
COL. FACE REMAINING
TIES @ 6"o.c.

$\frac{3}{4}" = 1'-0"$

CONVENTIONAL REINFORCED MMFX MOMENT FRAME DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

Conventional Reinforced MMFX
Moment Frame Detail

FIGURE

S-18

TEST SPECIMEN A

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

JOB NUMBER

604-92

DATE

03.16.2011

Construction Documents

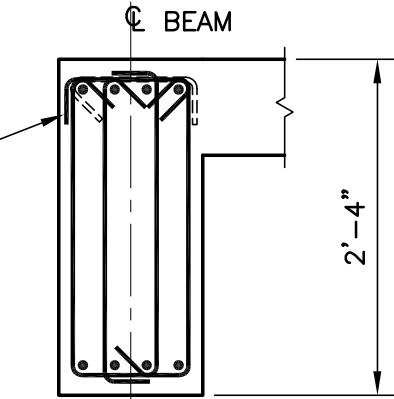
CAST-IN-PLACE
CONCRETE COLUMN

CONC. FRAME BEAM

NOTE:
PROVIDE FORM SAVER
ANCHORS FOR SLAB BARS

SECTION A-A

ALTERNATE
90° HOOK



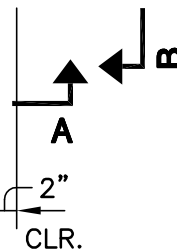
SECTION B-B

PROVIDE 90° HOOK

CONC. SLAB
PER PLAN

C.I.P. CONC.
COL. PER PLAN

4'-0"



CONC. FRAME BEAM
w/(4)#7T&B
(15)#4 TIES @ 4"o.c. AT
COL. FACE REMAINING
TIES @ 6"o.c.

$\frac{3}{4}" = 1'-0"$

CONVENTIONAL REINFORCED MOMENT FRAME DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Robert Englekirk</i>

Conventional Reinforced Moment
Frame Detail

TEST SPECIMEN A

JOB NUMBER
604-92

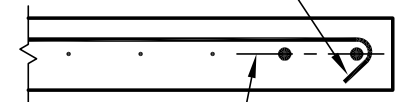
FIGURE

S-19

DATE
03.16.2011

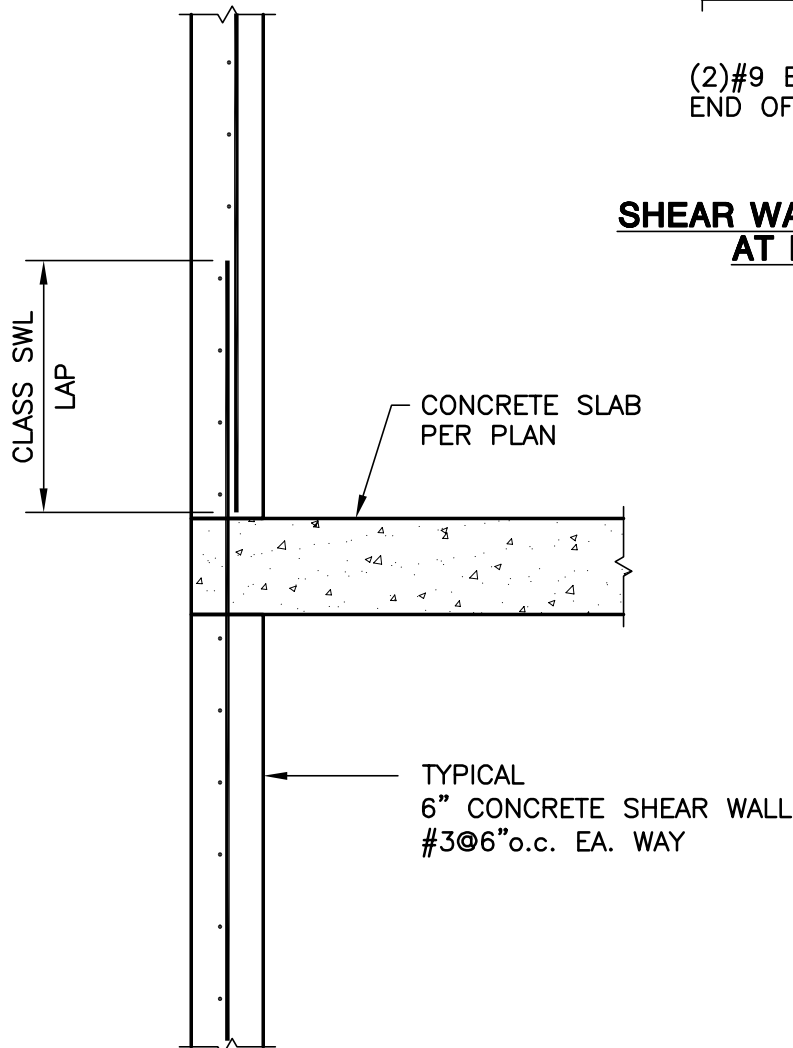
Construction Documents

TYPICAL
90° STANDARD
HOOK AT ENDS



(2)#9 EA.
END OF WALL

SHEAR WALL REINFORCING AT BOUNDARY



$\frac{3}{4}" = 1'-0"$

TYPICAL SHEAR WALL DETAIL

1

UCSD

UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

Typical Shear Wall Detail

FIGURE

S-20

APPROVED FOR CONSTRUCTION

TEST SPECIMEN A

JOB NUMBER
604-92

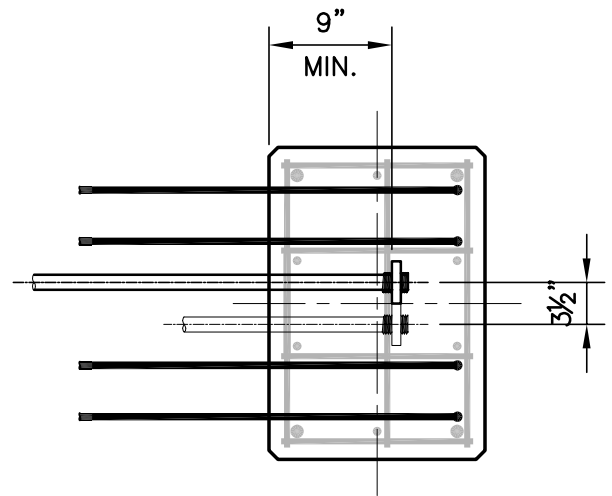
DATE
03.16.2011

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	

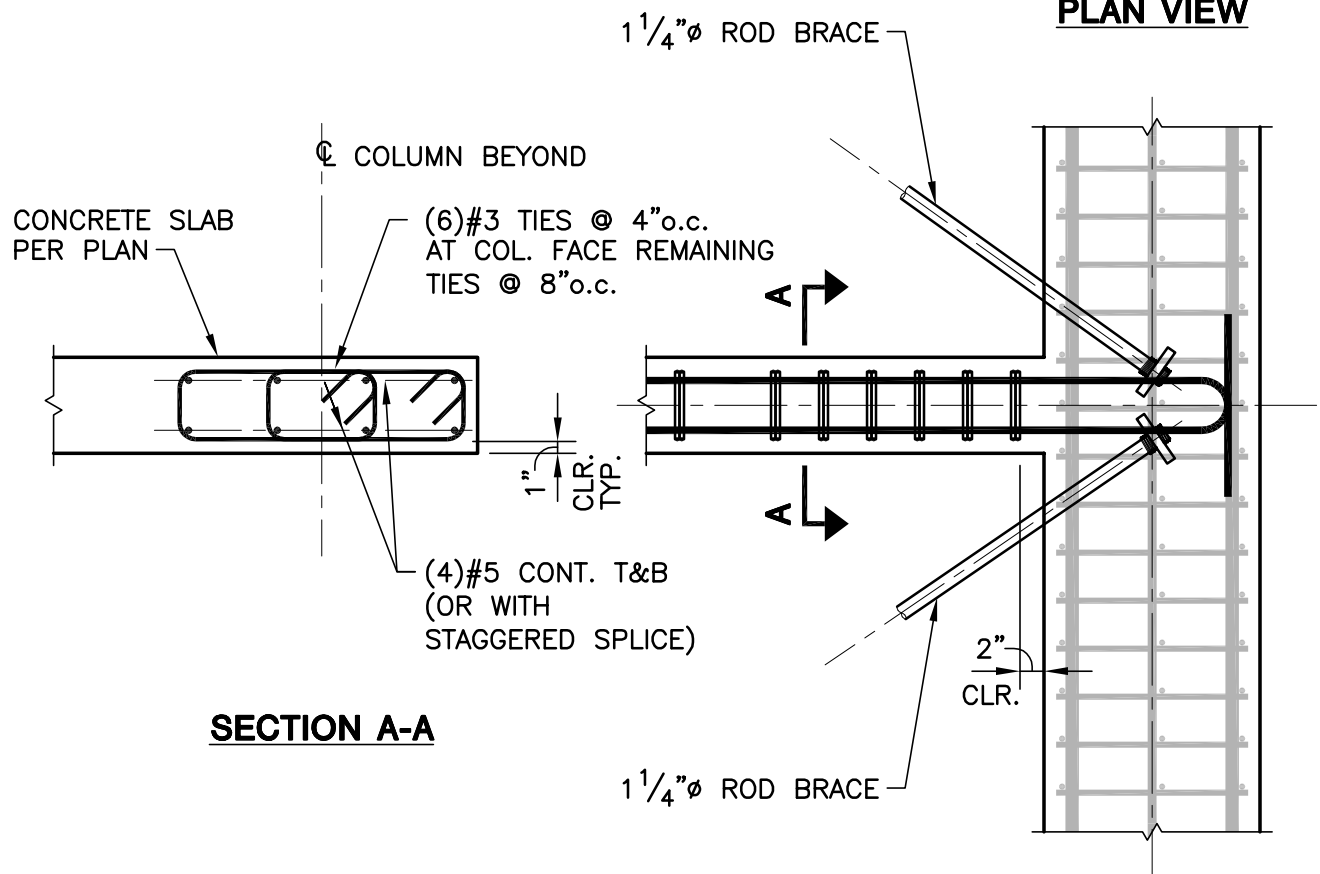
Construction Documents

Z:\Projects\604-92\S-21.dwg, 3/16/2011 2:08:28 PM, Bluebeam PDF8 Printer HighRes.pc3

NOTE:
REMOVE CROSS TIES ON COLUMN
BAUGRID WHERE IN CONFLICT
WITH ROD BRACE.



PLAN VIEW



SECTION A-A

$\frac{3}{4}" = 1'-0"$

TYPICAL ROD BRACING DETAIL

1



UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCS Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Typical Rod Bracing Detail

FIGURE

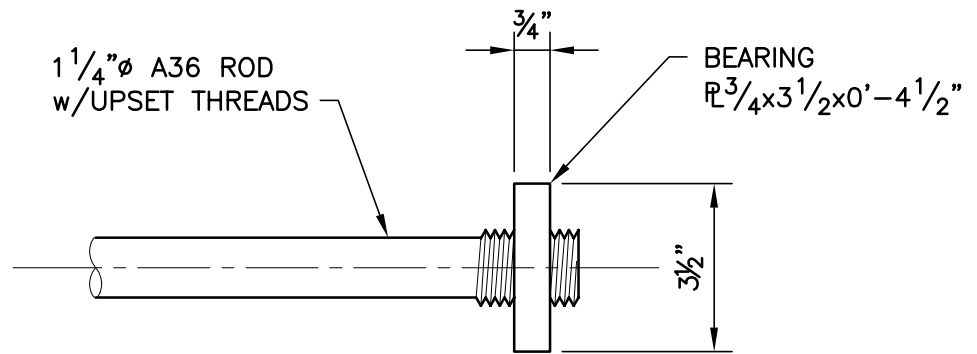
S-21

TEST SPECIMEN A

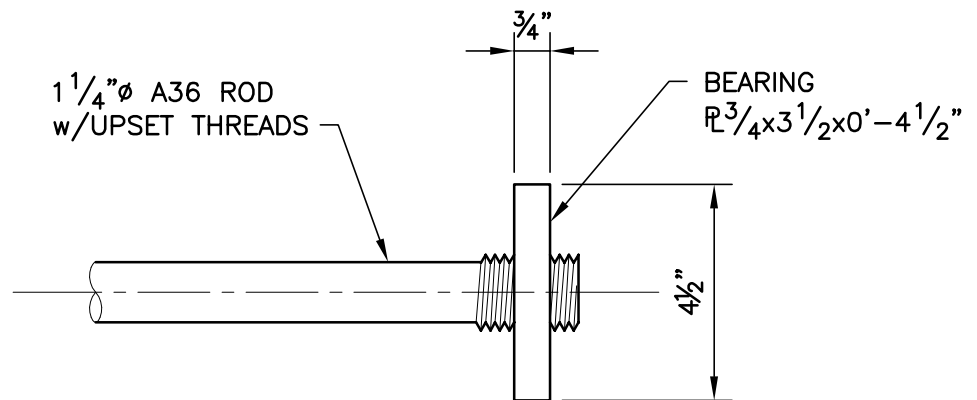
JOB NUMBER
604-92

DATE
03.16.2011

Construction Documents



PLAN VIEW



ELEVATION

3"=1'-0"

ROD BRACE DETAIL

1



UNIVERSITY OF CALIFORNIA, SAN DIEGO
DEPARTMENT OF STRUCTURAL ENGINEERING
LA JOLLA - CALIFORNIA 92093-0085 - (858) 822-5935

APPROVED FOR CONSTRUCTION

	Date	Authorized By	Signature
BNCs Directors			
Construction Funding (EAB)	03.16.2011	Bob Englekirk	<i>Bob Englekirk</i>

Rod Brace Detail

FIGURE

S-21A

TEST SPECIMEN A

JOB NUMBER
604-92

DATE
03.16.2011

Construction Documents