

May 11, 2017

Mr. Andrew M. Hayes, AIA Leed AP
Hayes Cumming Architects
2210 Central Avenue, Suite 100
St. Petersburg, FL 33712

**Re: Frederick Douglas Gym
Structural Repairs
111 Olivia Street
Key West, FL
McCarthy Project No. M13178**

Dear Andrew,

At your request, I visited the site on April 26 and 27, 2017 to investigate and document various types of damage to the existing concrete tie beams, columns, window header beams and window sills. The damage can be classified into three categories:

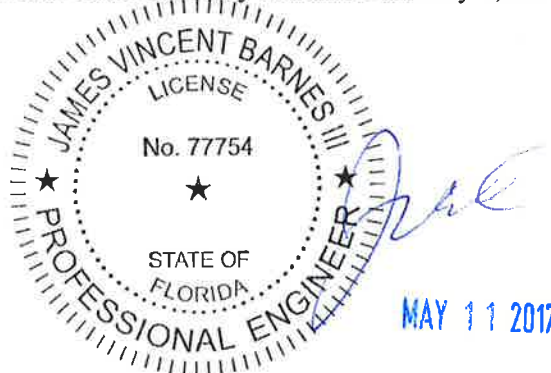
- 1) Previously unforeseen conditions that were discovered during construction. For example, some of the column corner reinforcing bars were found to be severely corroded.
- 2) Damage that occurred during normal demolition/ deconstruction that revealed previously unforeseen weakness in structural members. For example, concrete in the roof tie beams crumbled during demolition and removal of the existing roof.
- 3) There are numerous places throughout the building where small sections of concrete were recently removed by a subcontractor in order to look for hidden damage. These areas can easily be seen in the columns, window headers, and tie beams.

Repair details for these conditions are provided in pages SK1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 (attached). A Schedule of Values including estimated quantities and an estimate of probable construction costs are also attached. It is estimated that between 15% to 25% of the total costs can be attributed to the 3rd category of damage listed above.

This letter will supersede the previous letter issued by our office on May 8, 2017.

Sincerely,
McCarthy and Associates
A Division of Pennoni

James Vincent Barnes, III, PE
FL # 77754



Exhibits:

- Exhibit A - Detailed Schedule of Values (SOV) dated May 10, 2017
- Exhibit B - Repair Details SK 1-10
- Exhibit C - Field Notes from Site Visit on April 26-27, 2017

EXHIBIT "A"

Detailed Schedule of Values for Fredrick Douglas

<u>BASE BID</u>	<u>Detail</u>	<u>Est. Qty.</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total</u>
1 General Conditions:					
a. Mobilize		1	LS	LS	\$2,500.00
b. Permits		1	LS	LS	N/A
c. Equipment Supports Lift/Scaffolding		1	LS	LS	\$5,000.00
d. Supervision		1	LS	LS	\$1,500.00
e. Temporary Shoring (Shoring design to be by Florida Registered Engineer)		1	LS	LS	\$10,000.00
2 Demolition: (Concrete repair in each category below)					
3 Concrete Repair:					
a. Repair of Top of Wall Tie Beam West and East Elevations	SK-1	60	CF	\$275	\$16,500.00
a. Repair of Top of Wall Tie Beam North and South Elevations	SK-2	10	CF	\$275	\$2,750.00
c. Removal and Replacement of Window Sill w/New Rebar and 3000 psi Concrete	SK-3	20	CF	\$275	\$5,500.00
d. Infill of Cut Block Wall w/3000 psi Concrete	SK-9	10	CF	\$275	\$2,750.00
e. Concrete Repairs at Window Header Beam (BASF S440)	SK-4,5,6	50	CF	\$325	\$16,250.00
f. Concrete Repairs at Window Header Beam (BASF N425)	SK-4,5,6	10	CF	\$325	\$3,250.00
g. Concrete Repairs at Mid Wall Tie Beam (BASF S440)	SK-4,5,6	20	CF	\$325	\$6,500.00
h. Concrete Repairs at Mid Wall Tie Beam (BASF N425)	SK-4,5,6	10	CF	\$325	\$3,250.00
i. Concrete Repairs at Columns (BASF S440)	SK-4,5,6	110	CF	\$325	\$35,750.00
4 Miscellaneous:					
a. Epoxy Injection of Cracking a Columns and Tie Beams	SK-7	350	LF	\$50	\$17,500.00
b. Heli-Fix Anchors for Masonry Not Tied in to Wall	SK-8	50	LF	\$30	\$1,500.00
c. #3 Rebar for Concrete Repairs		150	LF	\$1.5	\$225.00
d. #4 Rebar for Concrete Repairs		150	LF	\$1.5	\$225.00
e. #5 Rebar for Concrete Repairs		150	LF	\$1.5	\$225.00
f. Rebar Splice		50	EA	\$10	\$500.00
g. Vector XP/XPT Anodes		50	EA	\$28	\$1,400.00
g. Joist Seat Repair	SK-10	5	EA	\$200	\$1,000.00
5 Cleanup and Demobilization		1	LS	LS	\$2,000.00
6 P&P Bond		1	LS	LS	
7 Owner Contingency (10%)		1	LS	LS	\$11,507.50
TOTAL					\$147,482.50

Notes:

- Lump Sum (LS) quantities are for information only. Contractor to verify all LS quantities.
- Unit price pay items will require owner approval of contractor.
- If hidden conditions are identified during the construction/ repair efforts McCarthy shall be notified via a written RFI.
- **All above estimated quantities listed in the Schedule of Values (SOV) were based on visual limited-intrusive inspections completed by McCarthy and Associates April 25-26, 2017. The inspections/survey were conducted through site access from ground level or readily accessible areas viewed from a provided onsite lift. The listed quantities shall not be considered an ultimate guarantee of all required repair work. The quantities required to repair actual damaged conditions will be determined after the completion of demolition by the contractor.**
- Refer to the primary report from Hayes Cummings Architects PA dated July 15, 2013 for additional information regarding the existing structure identified during our previous survey of the structure.
- Due extensive overlap of the new roofing material at the top perimeter wall and roof deck, there was limited visual access to survey the entire roof perimeter. Quantities of repair at the top of wall tie beam were based on onsite discussions with the contractor and a review of isolated areas open for review during our site visit.

EXHIBIT “B”

Repair Details SK 1 – 10

Frederick Douglas Gym

Structural Repairs

McCarthy Project No. M13178

PROJECT FREDERICK DOUGLASS
SUBJECT TOP OF WALL TIE BEAM REPAIR

NOTE:
TREAT TOP OF EXIST'G.
TIE B.M. WITH A CHEMICAL
BONDING AGENT PRIOR TO
RE-POURING WALL CAP.

POUR AREA SOLID W/
W/ 3000 PSI CONCRETE

CUT & REMOVE '8"
MIN. DEPTH OF
EXIST'G. CONC,
TIE B.M.

INSTALL #4 DNL'S. @ 24"
O.C. DRILL & EPOXY 5/2"
MIN. INTO EXIST'G. TIE B.M.

NEW MTL. ROOF
DECK & BRG. ANGLE
ALREADY INSTALLED,

(1) #5 CONT.
* EXISTING REBAR MAY
BE REUSED IF FOUND TO
BE UNDMAGED

EXIST'G. CONC.
TIE B.M. & MAS.
WALL BELOW.

EXIST'G. STEEL
JOIST.

REMOVE EXIST'G. 3/4" ϕ
EPOXY BOLTS & REPLACE
W/ 3/4" ϕ HOOKED ANCHOR
BOLTS @ 32" O.C.

NOTE:
1. BONDING AGENT TO BE BASF P124 CORROSION
INHIBITOR AND BONDING AGENT OR APPROVED EQUAL

TOP/WALL REPAIR DTL.
(EAST & WEST WALLS)

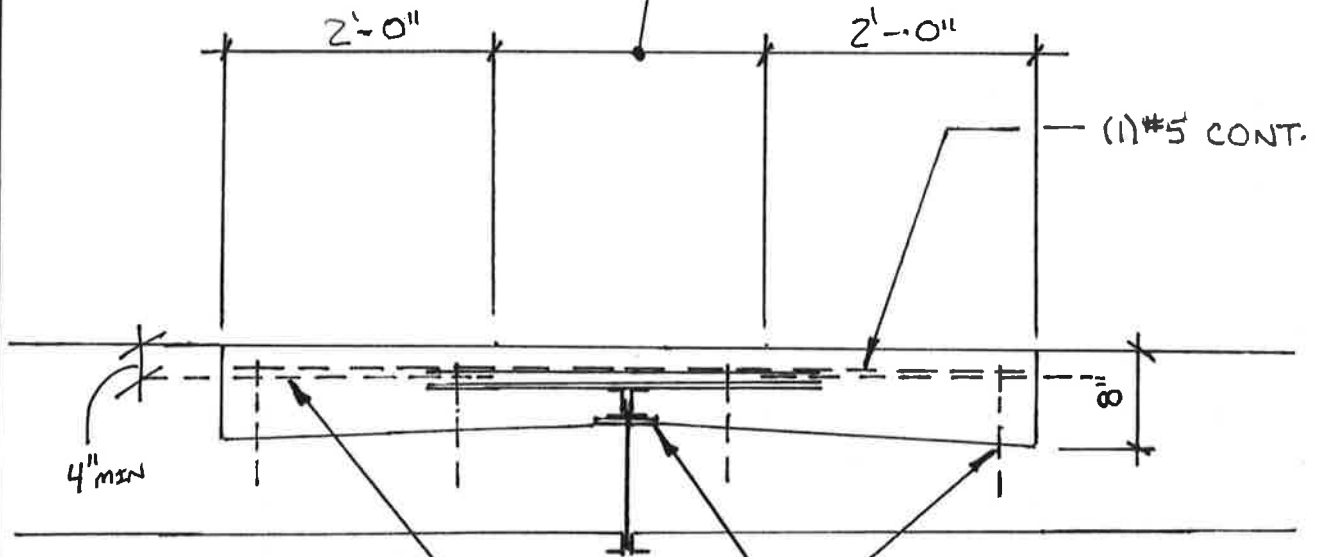
SK-1

NOTE:

TREAT ALL EXPOSED AREAS W/A CHEMICAL BONDING AGENT.

AREAS OF CRACKED OR SPALLED CONC. CUT & REMOVE AN ADDN'L. 2'-0" EA. SIDE.

— REPLACE DAMAGED ARE W/ 3000 PSI MINIMUM CONCRETE



DRILL & EPOXY #5 DNL. x 2'-6" INTO EXIST'G. TIE B.M. 6" EMBED.

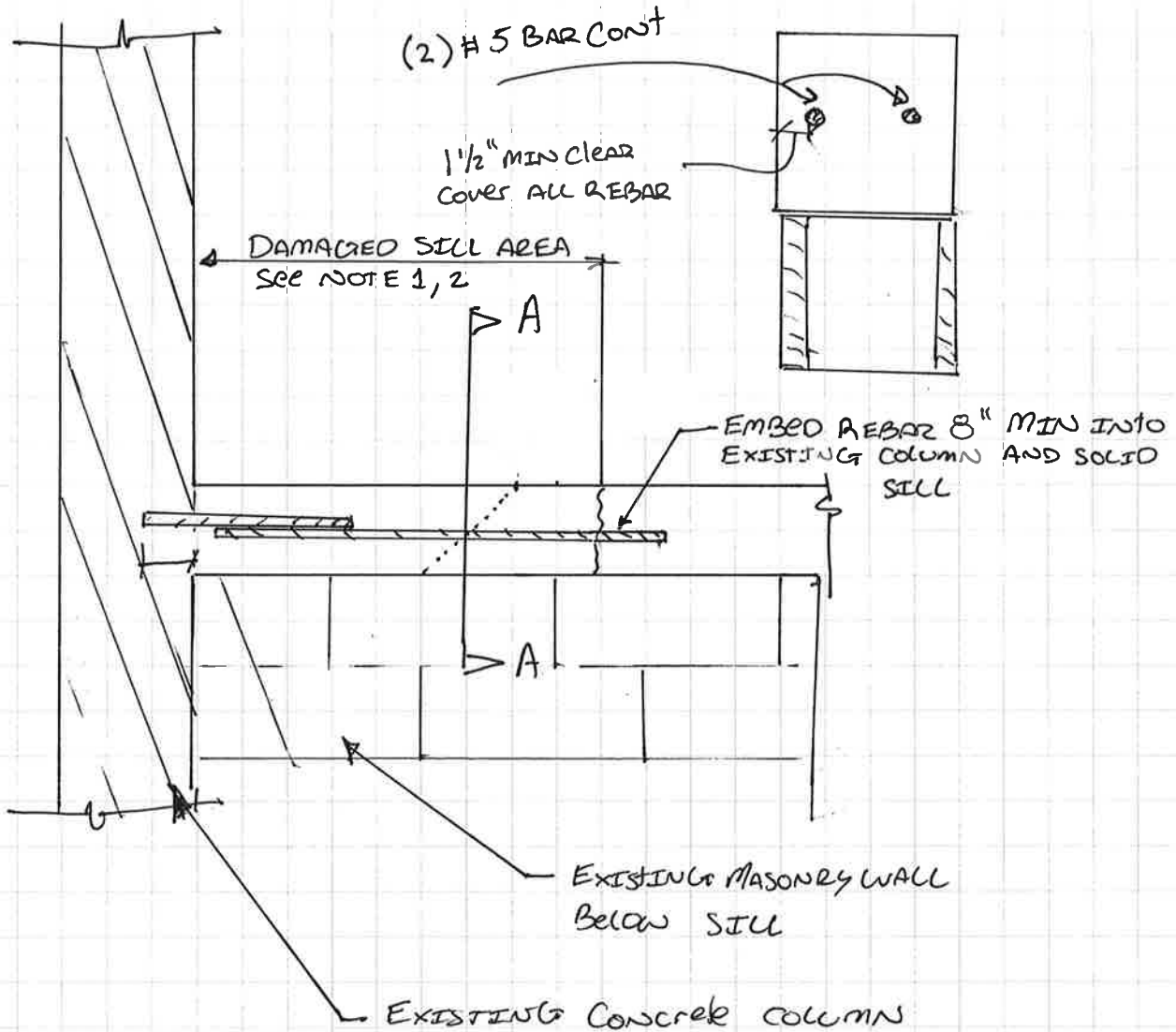
#4 HOOK DNLs @ 24" O.C. SEE SHEET 1.

GC NOTE:

DO NOT DISTURB CONC. BELOW EXIST'G. JST. BRG. LOCATIONS.

TIE BEAM REPAIR DTL.
(NORTH & SOUTH WALLS)

SK-2

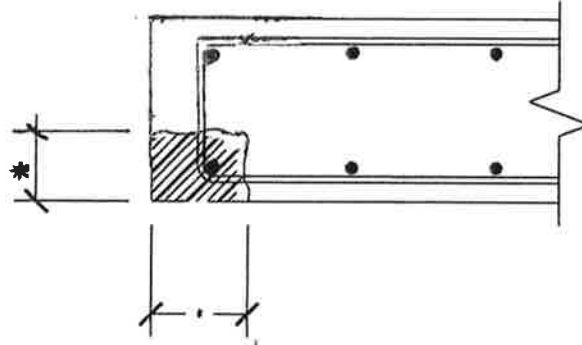


NOTE

1. REMOVE DAMAGED, LOOSE OR DELETERIOUS CONCRETE TO SOLID CONCRETE.
2. IF DAMAGED AREA EXTENDS GREATER THEN 75% SILL LENGTH REMOVE AND REPLACE ENTIRE SILL.
3. CLEAN AND PREPARE AREA FOR REPLACEMENT SIM SK-4

WINDOW SILL REPAIR DTL.

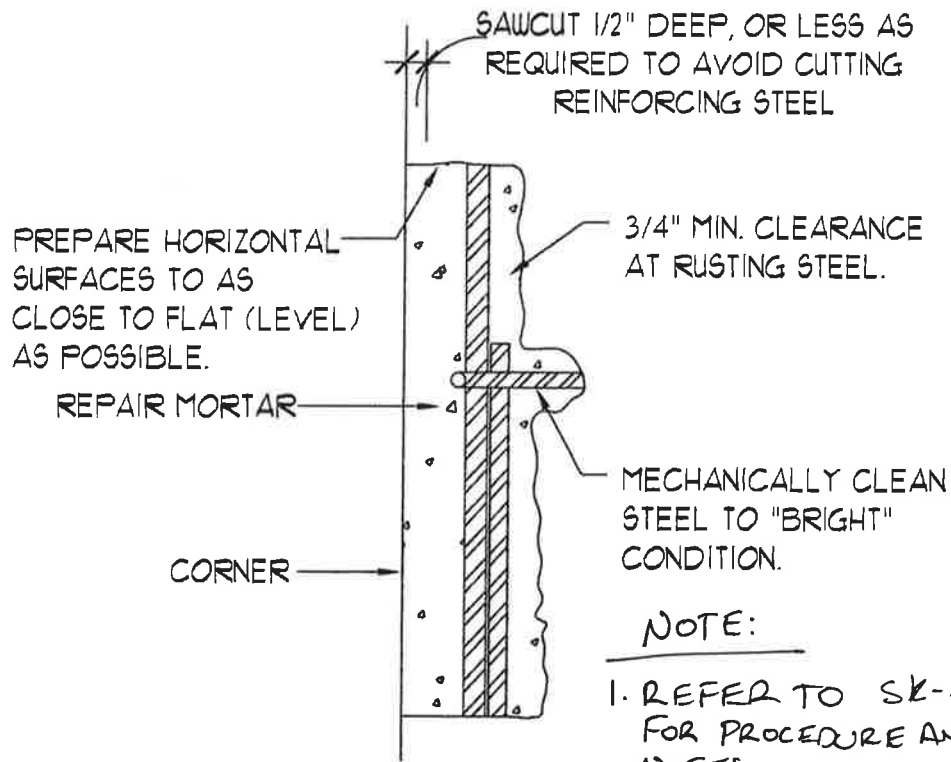
SK-3



COLUMN OR BEAM REPAIR

NOT TO SCALE

* UNLESS TEMPORARILY SHORED,
REPAIR AREA SHALL NOT
EXCEED 20% OF THE CROSS
SECTIONAL AREA OF THE COLUMN.



NOTE:
1. REFER TO SK-5 & SK-6
FOR PROCEDURE AND ADDITIONAL
NOTES

SK-4

PROJECT FREDERICK DOUGLASS
SUBJECT

JOB NO.	1A13178
SHEET 4 OF 6	DATE
BY:	4-6-2017
CHK'D	

DEMOLITION PROCEDURE:

1. CONTRACTOR TO READ, UNDERSTAND AND FOLLOW ALL OF THE MANUFACTURERS RECOMMENDATIONS FOR THE INSTALLATION OF REPAIR MATERIALS LISTED HEREIN.
2. INSTALL ANY REQUIRED SHORING PRIOR TO THE START OF ANY DEMOLITION. SHORING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER.
3. CONTRACTOR TO INSPECT/ SOUND THE SUSPECTED DAMAGED CONCRETE AND REVIEW THE POTENTIAL REPAIRS LOCATIONS PRIOR TO DEMO.
4. PREPARE REPAIR AREA PER ICRI GUIDELINES # 310R. SAWCUT THE PERIMETER OF THE PROPOSED REPAIR AREA TO A MINIMUM DEPTH OF 3/4" WITHOUT DAMAGING THE REINFORCEMENT. THE SAWCUT AREA SHOULD BE GEOMETRICALLY EQUAL, IE. SQUARE.
5. REMOVE ALL LOOSE AND DELETERIOUS CONCRETE MATERIAL THAT ENCOMPASSES THE DAMAGED AREA WITHIN THE CONCRETE BEAM/COLUMN.
6. THE CONCRETE WITHIN THE REPAIR AREA SHALL BE PREPARED TO A MINIMUM OF C SP-6 SURFACE ROUGHNESS OR GREATER THAN THE REPAIR MORTAR SPECIFICATIONS.

REPAIR PROCEDURE:

1. IF NECESSARY, THE CONTRACTOR SHALL CHIP UNDER THE EXISTING REINFORCEMENT AND POSITIVELY HOLD DOWN THROUGH MECHANICAL MEANS TO ACHIEVE MINIMUM 1-1/2" COVER.
2. PRESSURE WASH REPAIR AREA (1500PSI MINIMUM) TO REMOVE ALL DUST OR LOOSE MATERIAL AND ALLOW TO DRY. OIL FREE COMPRESSED AIR MAY BE USED TO ACCELERATE THE DRYING PROCESS.
3. REPAIR SURFACE SHALL BE PREPARED TO BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.
4. AT MINOR LOCATIONS INSTALL BASF N425 (GEL PATCH) OR APPROVED EQUAL AT REPAIR AREA PER MANUFACTURER SPECIFICATIONS. REPAIR MATERIAL SHALL BE INSTALLED IN MAXIMUM LIFTS OF 2 INCHES.
5. AT FULL DEPTH REPAIR LOCATIONS COAT REPAIR AREA AND ALL EXPOSED STEEL REINFORCEMENT WITH BASF P-124 CORROSION INHIBITOR AND BONDING AGENT. FORM AND POUR REPAIR AREA WITH BASF S 440 MC POURABLE AND PUMPABLE PRE-EXTENDED SELF-CONSOLIDATING REPAIR MORTAR OR APPROVED EQUAL.
6. ALL REPAIR WORK SHALL BE FINISHED TO MATCH THE SURFACE LEVEL OF EXISTING CONDITIONS.

Sk-5

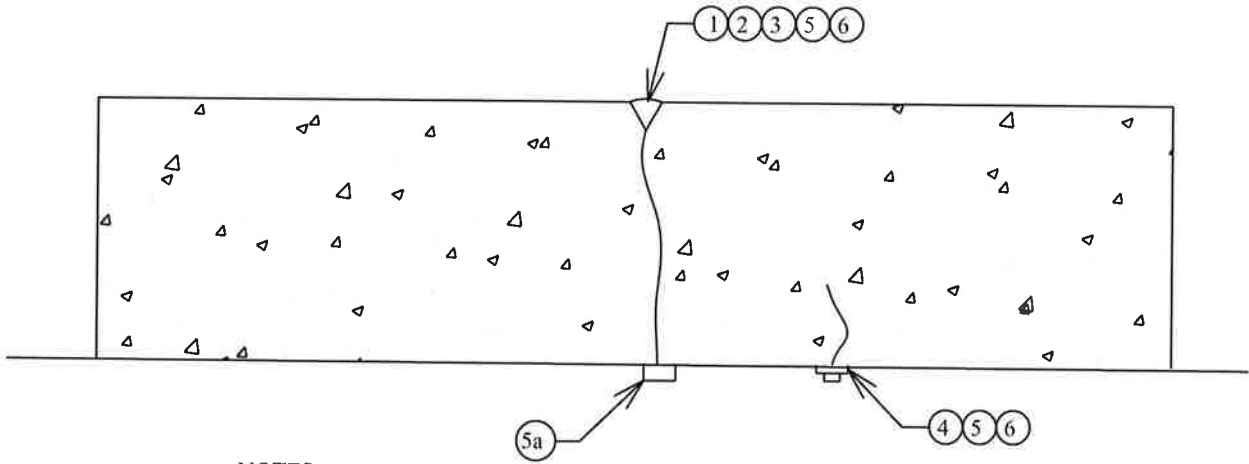
PROJECT FREDERICK DOUGLASS
SUBJECT

JOB NO.	1113178
SHEET 6 OF 6	DATE
BY:	4-6-2017
CHK'D	

CONSTRUCTION NOTES:

1. REMOVE ALL LOOSE CONCRETE FROM EXISTING BEAM OR COLUMN LEAVING A ROUGHENED SURFACE.
2. CLEAN ALL EXISTING COLUMN STEEL TO A RUST FREE CONDITION.
3. APPLY BONDING AGENT/ANTI-CORROSION COATING TO ALL SURFACES OF EXISTING STEEL.
4. APPLY REPAIR MORTAR PER MANUFACTURE'S INSTRUCTIONS.

SK-6

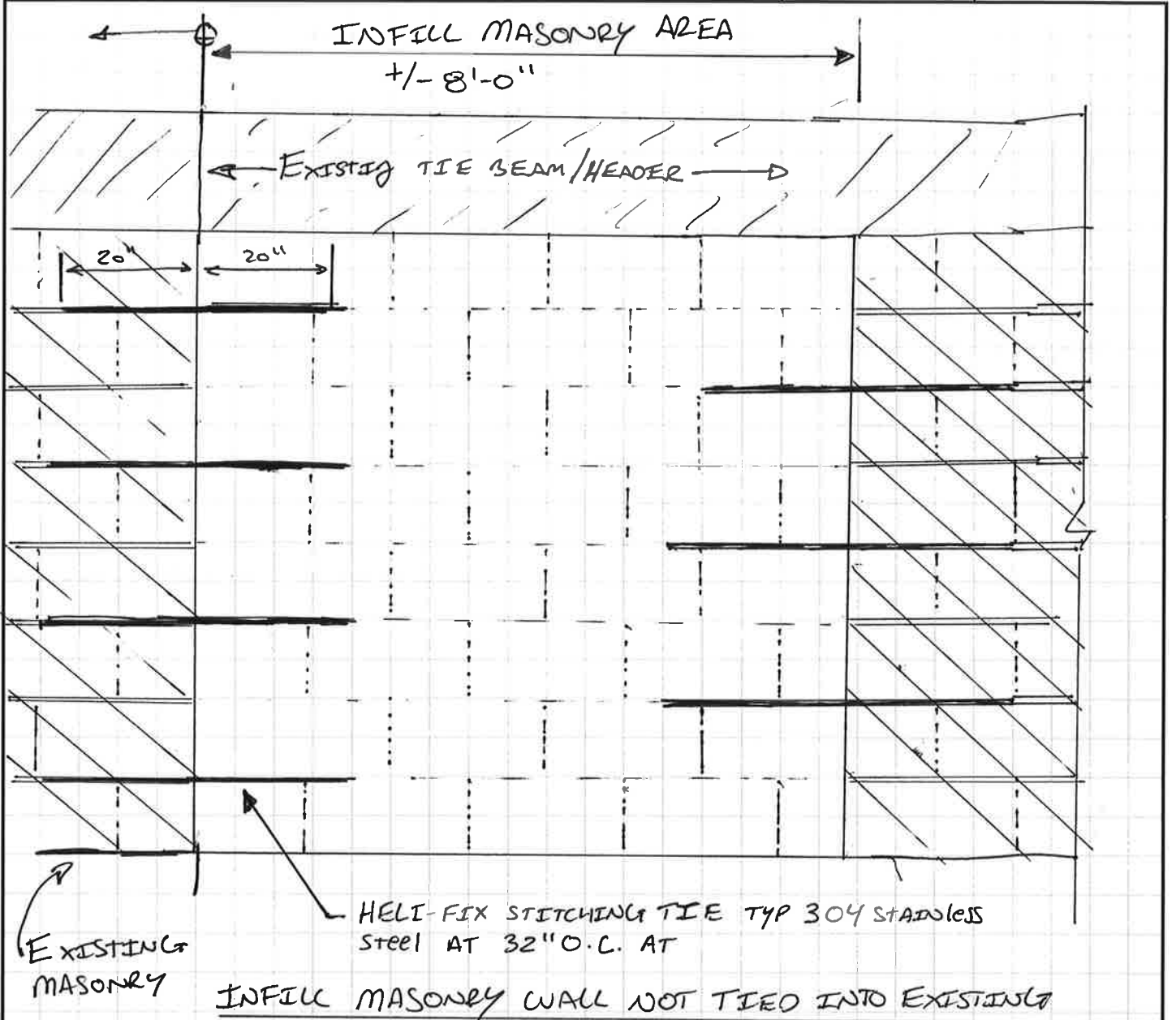


NOTES:

- 1: FOR HORIZONTAL CRACKS, ROUT CRACK TO MINIMUM OF 1/4" X 1/4".
- 2: REMOVE ANY DELETERIOUS MATERIAL.
- 3: CLEAN CRACK SURFACES W/ OIL FREE COMPRESSED AIR.
- 4: FILL CRACKS W/ BASF MASTERINJECT 1500 EPOXY SYSTEM OR APPROVED EQUAL, PER MANUFACTURE SPECIFICATIONS.
- 5: FOR OVERHEAD / VERTICAL CRACKS INSTALL INJECTION PORT CAP SEAL ALONG CRACK LENGTH. EPOXY SYSTEM AND BASF MASTERINJECT 1500.
- 5a: CHEMCO SYSTEMS CC GROUT; STRAP SEAL MAY BE USED AS AN ALTERNATIVE PRODUCT TO CAP SEAL.
- 6: EPOXY INJECT MECHANICALLY, FINISH TO MATCH EXISTING SURFACE PROFILE AND REMOVE EXCESS EPOXY.


STRUCTURAL CONCRETE CRACK REPAIR 1/32nd OR GREATER
 NOT TO SCALE

SK-7

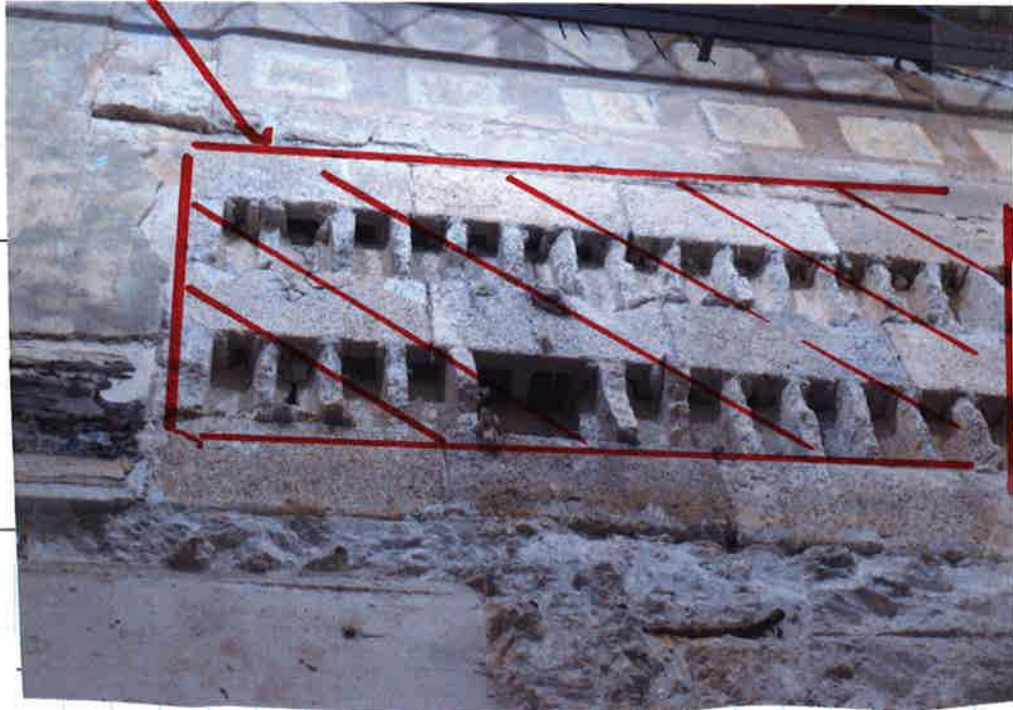


NOTE:

THIS WALL IS LOCATED BETWEEN COLUMNS 8B & 8C,
SEE PLAN S-101 DATED 6/29/16 FOR REFERENCE

SK-8

FILL WALL SOLID W/ 3000 PSI CONCRETE.

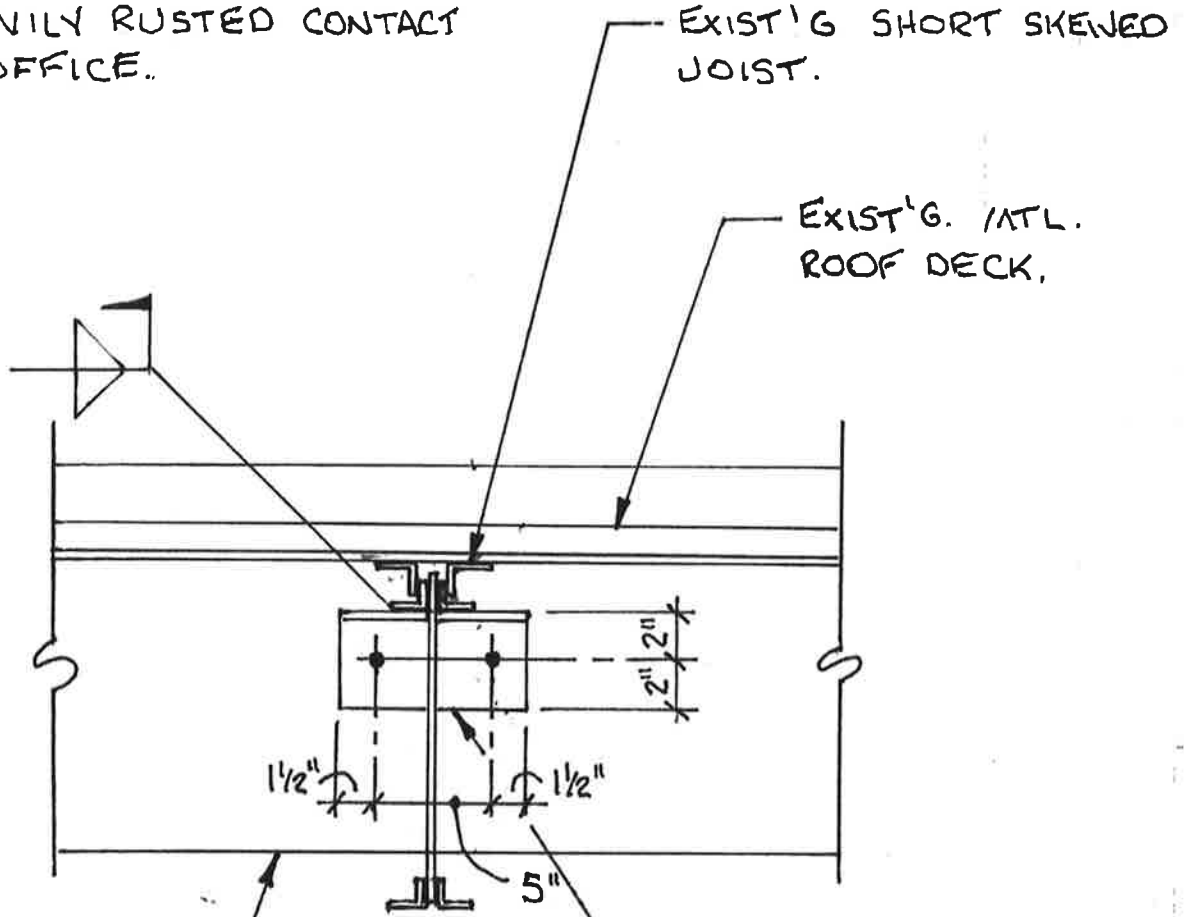


* MASONRY WALL BETWEEN COLUMNS 4A & 5A
SEE ORIG STRUCTURAL PLANS FOR COLUMN LAYOUT.

INFILL OF CUT MASONRY BLOCKS

SK-9

GC NOTE:
 FIELD VERIFY CONDITION
 OF EXIST'G. JOIST SEAT.
 IF HEAVILY RUSTED CONTACT
 THIS OFFICE..



EXIST'G. CONC.
 TIE BIA.

INSTALL L4x4x3/8x0'-8"
 W/ (2) 3/4" Ø EPOXY BOLTS.
 (5 1/2" EMBED)

JOIST SEAT REPAIR

SK-10

EXHIBIT “C”

Field Notes from Site Visits

April 26 & 27, 2017

Frederick Douglas Gym

Structural Repairs

McCarthy Project No. M13178

FREDRICK DOUGLASS SITE VISIT
ON APRIL 26/27 2017
DAMAGE LEGEND

MARK	DESCRIPTION	REPAIR DETAIL
CS	CONCRETE SPALL AT COLUMN OR MISCELLANEOUS LOCATION INCLUDING CEILINGS	SK: 4-6
DH	DAMAGED WINDOW HEADER	SK: 4-6
DS	DAMAGED WINDOW SILL	SK-3
MC	MASONRY CRACK	N/A
DJ	DAMAGED JOIST SEAT	SK-2 & 10
DT	DAMAGED TOP OF WALL TIE BEAM	SK-1
DM	DAMAGED MID WALL TIE BEAM	SK: 4-6
MH	MISSING HEADER	N/A
MD + SD	MISCELLANEOUS COSMETIC DAMAGE TO STUCCO NOT INCLUDED IN SURVEY	N/A
MI	MASONRY INFILL WALL NOT TIED IN TO SURROUNDING WALL	SK-9
CC	CONCRETE CRACK	SK-7
MH + MS	MISSING HEADER & SILL AT OPENING TO BE INFILLED	*SEE ORG PLANS DETAIL 2/S302

PI/5



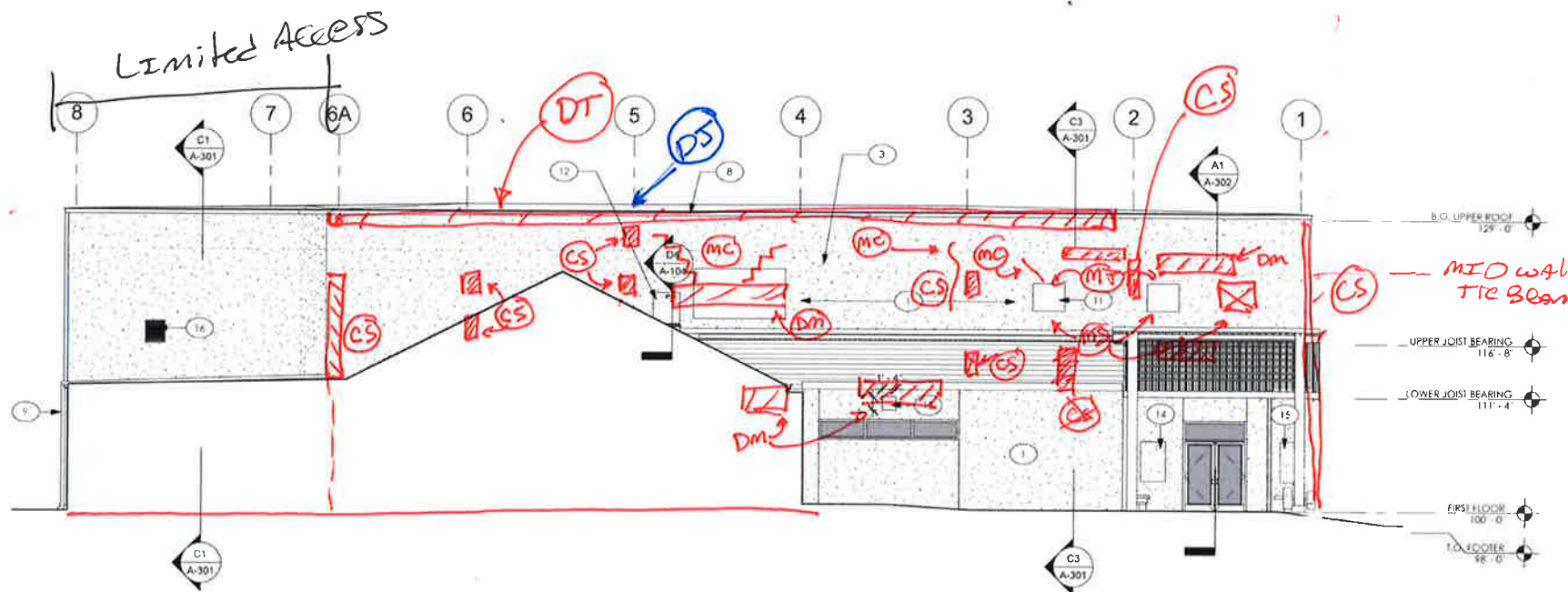
SITE VISIT
April 26-27, 2017
FIELD NOTES
P2/5

SHEET KEYNOTES

- 1 PAINT OVER EXISTING STUCCO PLASTER
- 2 TRANSLUCENT GLAZING SYSTEM
- 3 DECORATIVE COLOR BAND SEE B4/A-202
- 4 VAILED PLASTER
- 5 MURAL PANEL SEE A4/A-201
- 6 NEW CONTROL JOINT
- 7 ONE COAT CEMENT PLASTER OVER CMU SMOOTH FINISH
- 8 GALVANIZED ALUMINUM GUTTER
- 9 GALVANIZED ALUMINUM DOWNSPOUT
- 10 CONCRETE SPLASH BLOCK
- 11 RELOCATED EXISTING RTU
- 12 ROOF ACCESS HATCH
- 13 DECORATIVE MEDALLION SEE DETAIL A5/A-202
- 14 INSTALL EXISTING HISTORICAL PLAQUE
- 15 INSTALL NEW PLAQUE SEE DETAIL A4/A-202
- 16 MECHANICAL LOUVER

EXTERIOR FINISH MATERIALS LEGEND

- PAINTED COMPONENTS ARE TO BE DETERMINED WITH 4'-0" X 4'-0" TEST SWATCHES IN THE FIELD FROM THE FOLLOWING OPTIONS:
- STUCCO PLASTER:
BUILDING FIELD COLOR OPTIONS: SW6154 NACRE
SW6168 MODERNE WHITE
SW6161 NONCHALANT WHITE
- RAISED PILASTER: SW7052 GRAY AREA
- RAISED CORNICE BAND
TOP AND BOTTOM BAND: SW7562 ROMAN COLUMN
- ACCENT STRIP OPTIONS: SW6176 LIVABLE GREEN
SW6177 SOFTENED GREEN
SW6192 COSTAL PLAIN
SW6179 ARTICHOKE
- METAL SIDING: CENTRIA 9962 XL SILVER GRAY
- HOLLOW METAL DOORS: SW7052 GRAY AREA



C1 WEST ELEVATION
1/8" = 1'-0"

CS = concrete scull
DH = Damaged Header
DS = Damaged Sill
MC = masonry crack

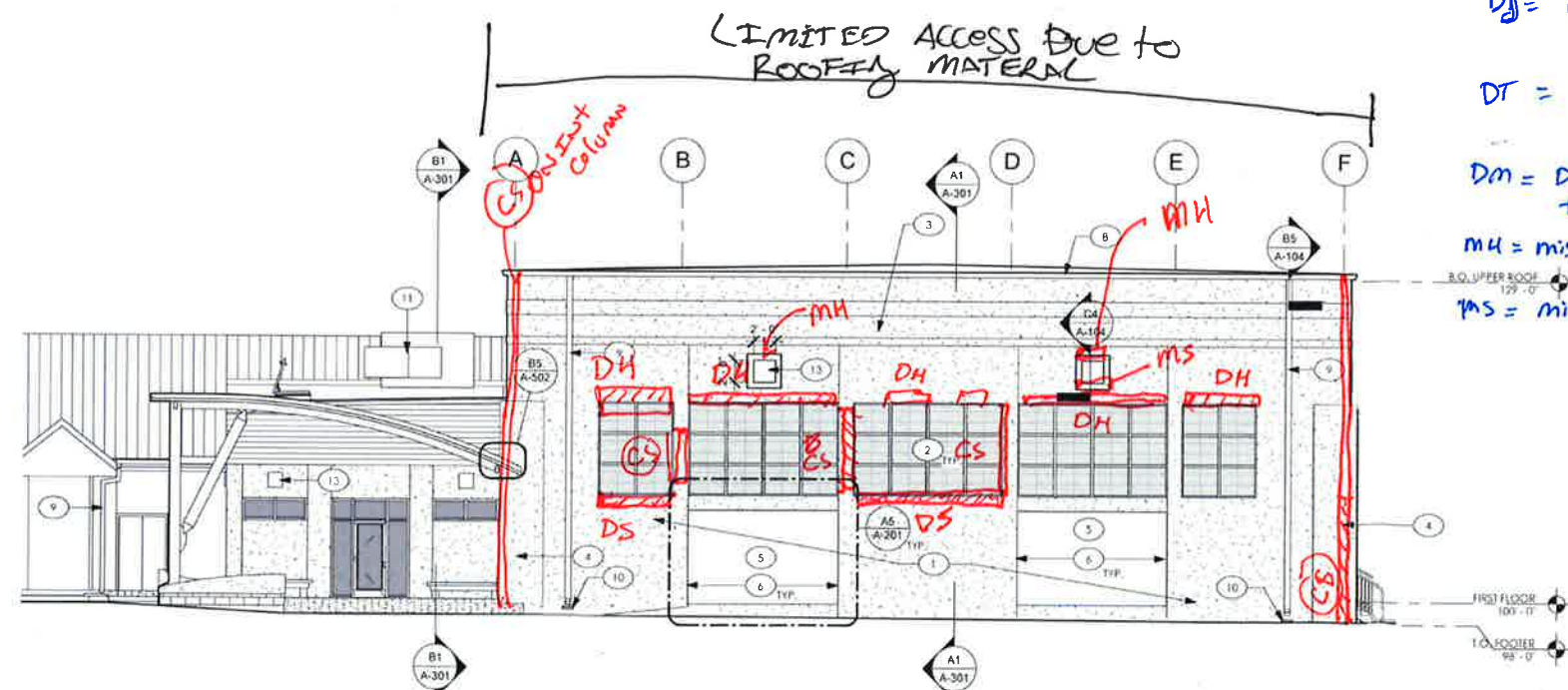
DJ = Damaged wall at TRUSS JOIST SEAT

DT = Damage High ROOF TIE BEAM

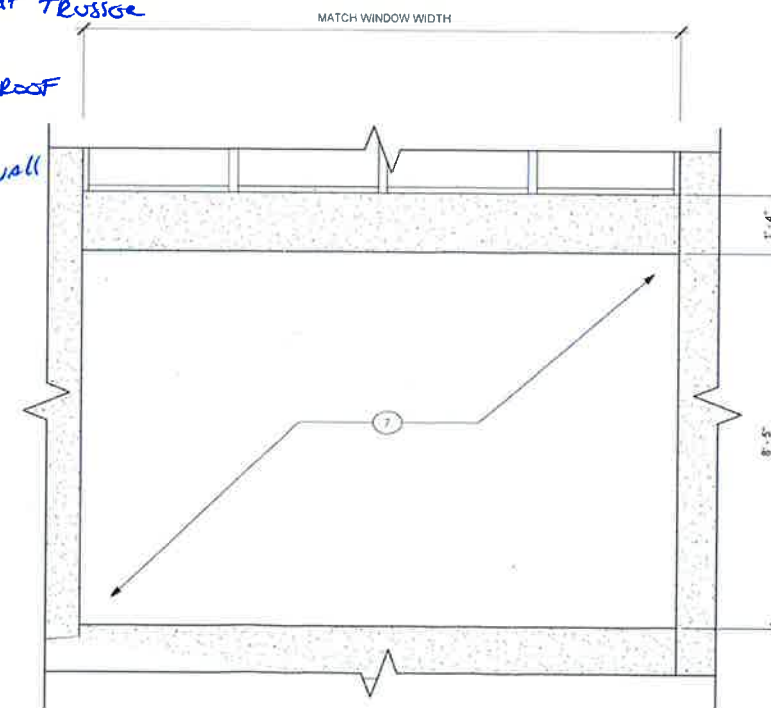
DM = Damaged MID WALL tie beam

MH = missing Header

MS = missing Sill



A1 SOUTH ELEVATION
1/8" = 1'-0"



A5 MURAL PANEL
1/2" = 1'-0"



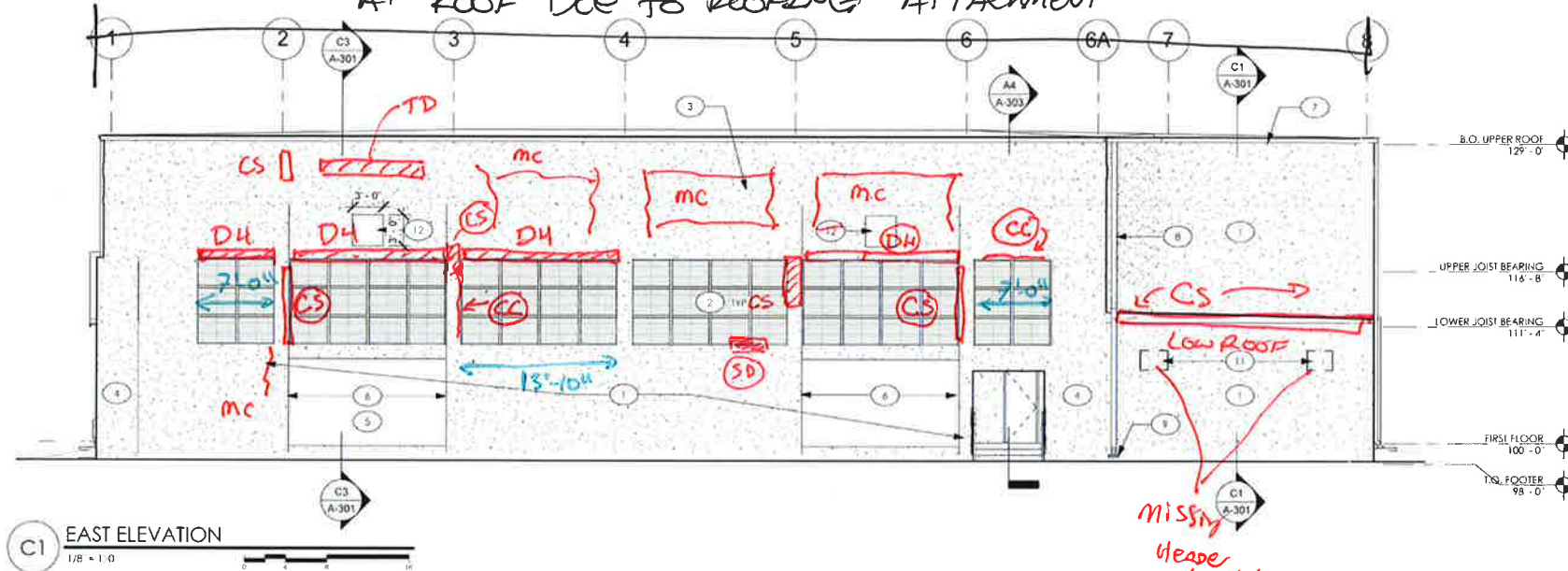
SHEET KEYNOTES

- 1 PAINT OVER EXISTING STUCCO PLASTER
- 2 TRANSLUCENT GLAZING SYSTEM
- 3 RAISED CORNICE BAND
- 4 RAISED PLASTER
- 5 MURAL PANEL. SEE A4/A-201
- 6 NEW CONTROL JOINT
- 7 GALVANIZED ALUMINUM GUTTER
- 8 GALVANIZED ALUMINUM DOWNSPOUT
- 9 CONCRETE SPLASH BLOCK
- 10 RELOCATED EXISTING RTU
- 11 REMOVE EXISTING A/C UNIT
- 12 DECORATIVE MEDALLION. SEE DETAIL A5/A-202

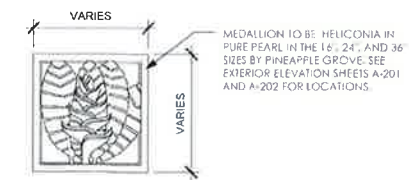
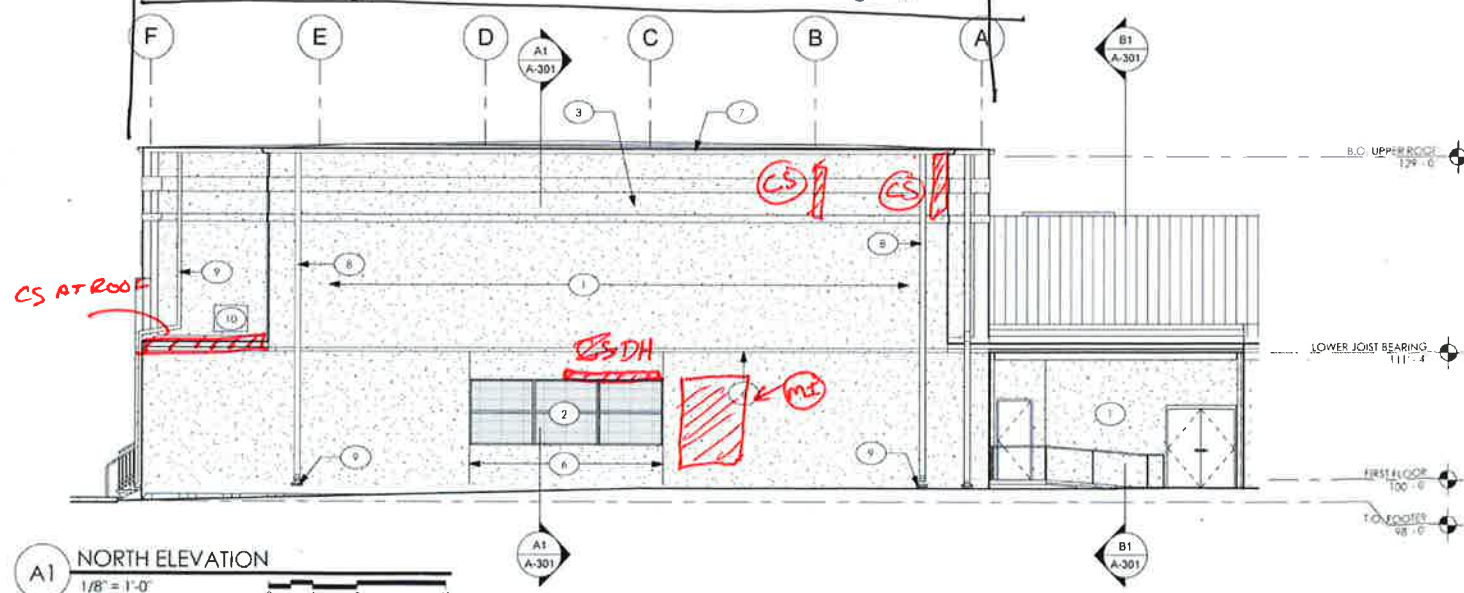
EXTERIOR FINISH MATERIALS LEGEND

1. PAINTED COMPONENTS ARE TO BE DETERMINED WITH 4'-0" X 4'-0" TEST SWATCHES IN THE FIELD FROM THE FOLLOWING OPTIONS:
- STUCCO PLASTER:
- BUILDING FIELD COLOR OPTIONS: SW6154 NACRE
SW6168 MODERNE WHITE
SW6161 NONCHALANT WHITE
- RAISED PLASTER: SW7052 GRAY AREA
- RAISED CORNICE BAND
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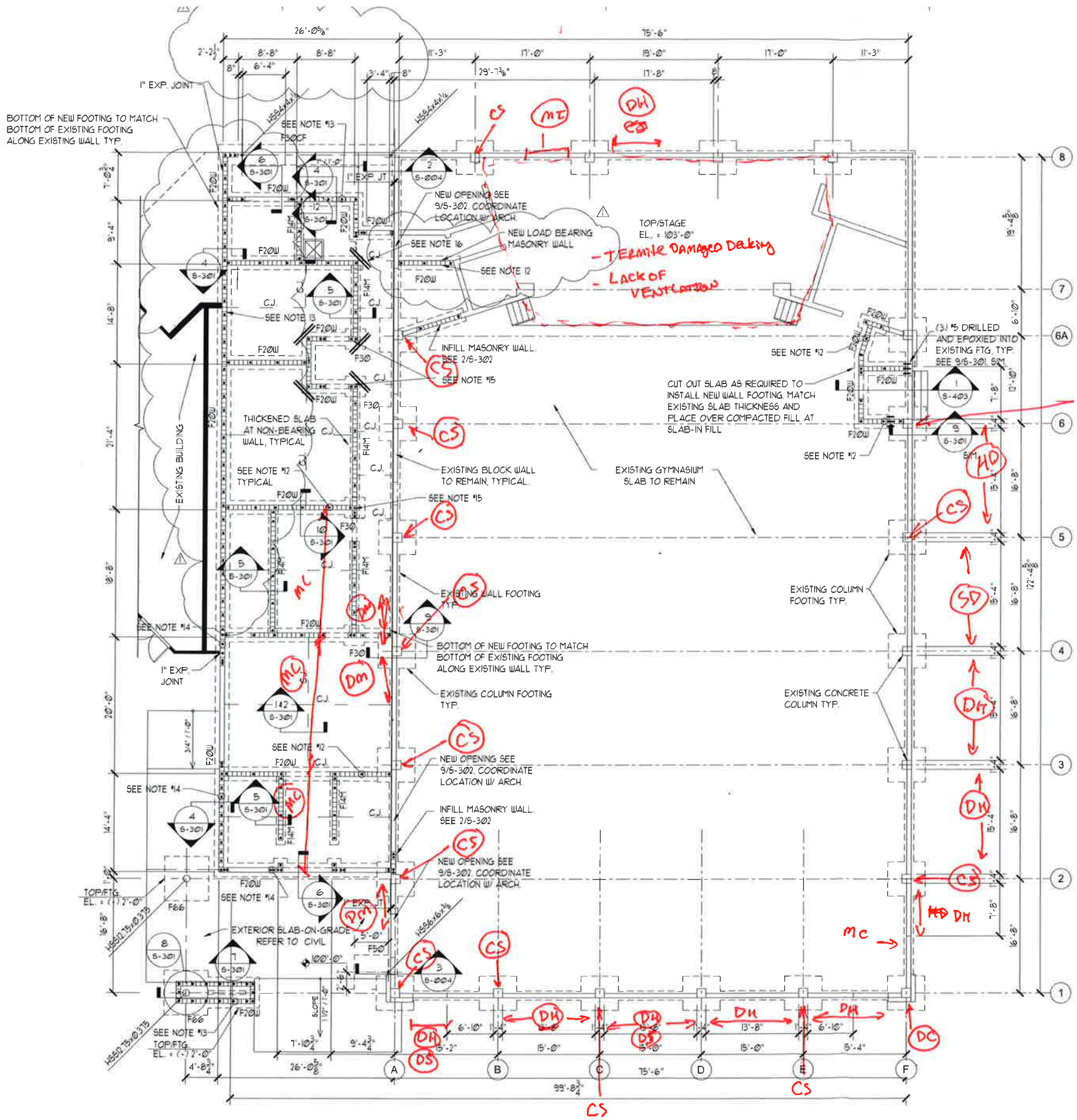
LIMITED ACCESS TO TOP OF WALL
AT ROOF DUE TO ROOFING ATTACHMENT



LIMITED ACCESS OF TOP
OF WALL DUE TO ROOFING SYSTEM



9/15/2015 5:13:05 PM



FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

SEE S-004 FOR PLAN NOTES

Cosmetic Damages
 * MD = MISCELLANEOUS DAMAGE TO INFILL MASONRY & STUCCO DAMAGE IS NOT SHOWN FOR CLARITY
 * MC = FOUND TO BE AN ISOLATED LOCATION AND APPEARS TO BE REFLECTED THROUGH STUCCO CRACKS. THIS DAMAGE IS COSMETIC

FOOTING SCHEDULE					
MARK	SIZE	DEPTH	REINF. EA. WAY	REMARKS	DWL/A.B. EMBEDMENT
F14M	1'-4"	10"	(2) #5 CONT.	MONO FTG. SEE S/5-301	7"
F20W	2'-0"	1'-0"	(3) #5 CONT. #4@24" TRANSV.	WALL FTG.	9"
*F30CF	3'-0"	1'-2"	(4) #6 TAB LONG #6@12" SHORT	COMBINED FOOTING	11"
F30	3'-0"x3'-0"	1'-0"	(3) #5 CONT.		9"
F50	5'-0"x5'-0"	MATCH EXISTING	(5) #5	TOP & BOT.	9"
F66	6'-6"x6'-6"	1'-4"	(8) #5	TOP & BOT.	1'-1"

*FIELD VERIFY ACTUAL LENGTH OF FOOTING WITH FIELD CONDITIONS. PROVIDE 1/2" ISOLATION JOINT BETWEEN NEW FOOTING AND EXISTING FOOTING.

MASONRY REINF. LAP SCHEDULE

BAR SIZE	LAP LENGTH
#3 BAR	18"
#4 BAR	24"
#5 BAR	30"
#6 BAR	36"
#1 BAR	42"

hayes | cumming
architects

2210 central ave, suite 100
st. petersburg, fl 33712
ph 727.321.0900
fx 727.321.0903
AA26001260
hc-arc.com

andrew m. hayes, aia, lead bd+c
paul v. cumming, aia, lead bd+c
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members of



American Institute of Architects

CONSULTANT:

McCarthy and Associates

A DIVISION OF PENNONI ASSOCIATES, INC.
 2555 Nursery Road, Suite 101
 Clearwater, FL 33764-3080
 (727) 536-8772
 Florida Cpa 7819
 Justin W. Duncan, P.E.
 Florida P.E. 78524
 Pennoni Project No. 13178

CLIENT / PROJECT NAME:
CITY OF KEY WEST
ALTERATIONS TO:

FREDERICK DOUGLASS RECREATION CENTER

KEY WEST, FLORIDA

SHEET TITLE:
FOUNDATION PLAN

REVISIONS:
CONTRACT DOCUMENTS 06.29.16

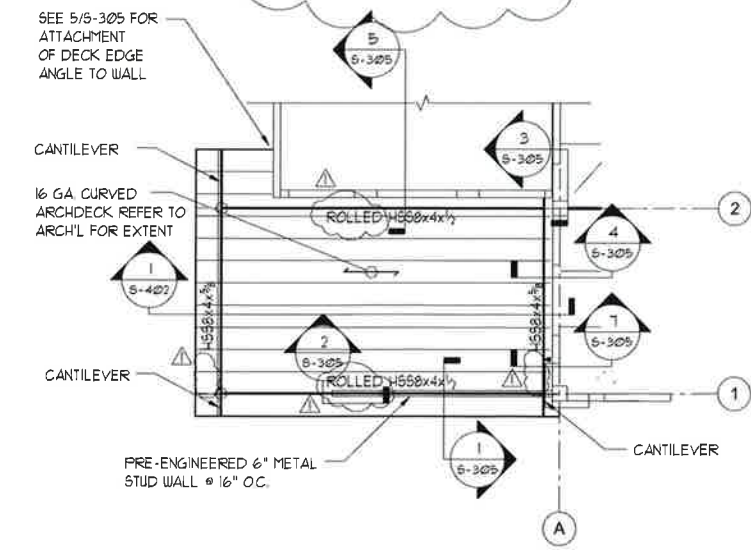
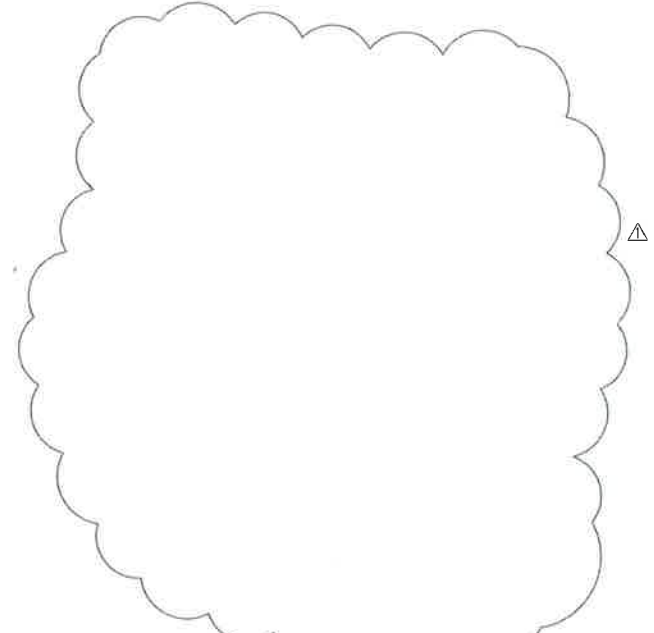
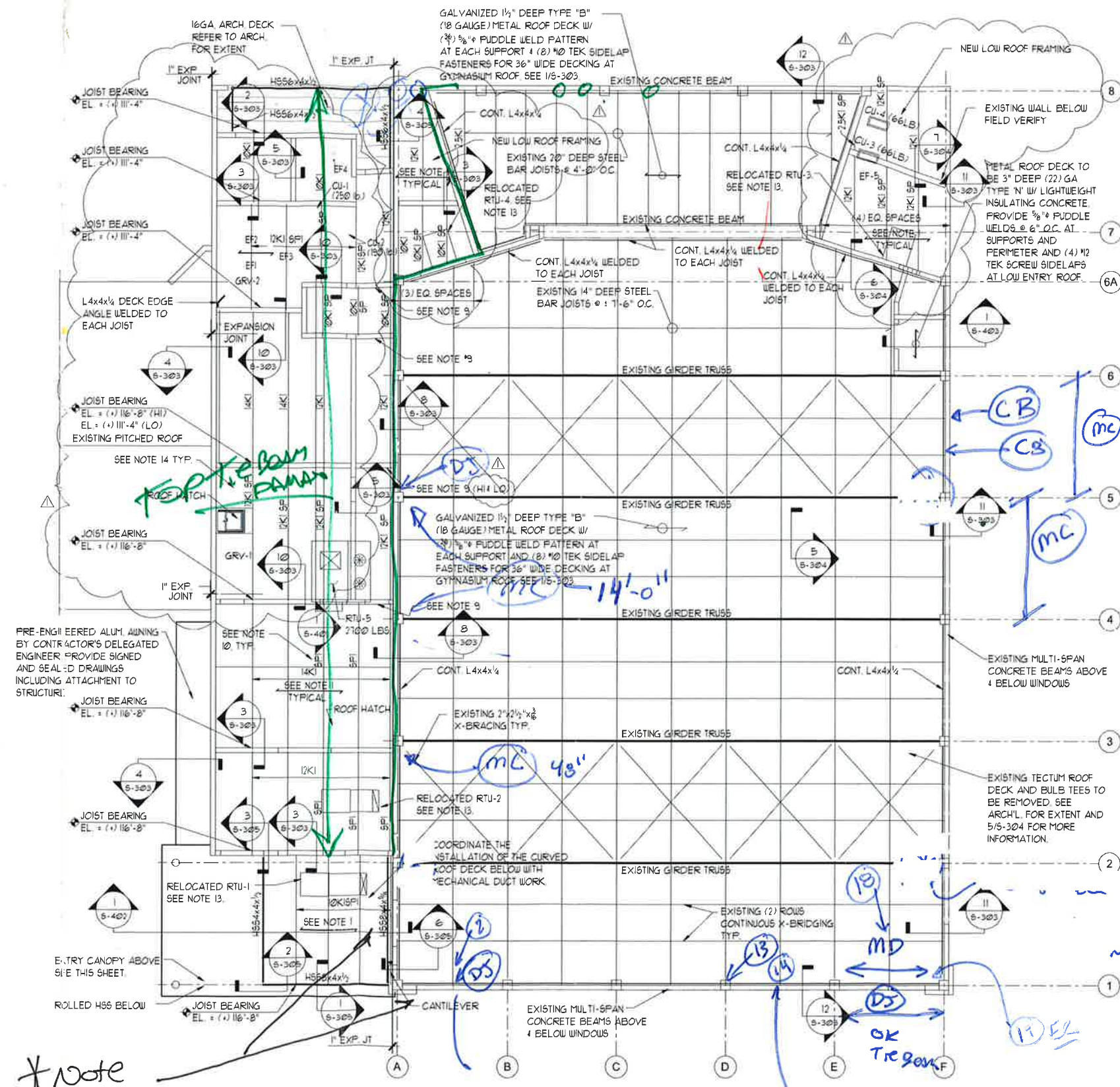
OWNERS CHANGES/ UNIFORMSHEET COND. 10.07.16

SITE VISIT
 April 26-27, 2017
FIELD NOTES
 P 4/5

DATE ISSUED: 7-31-2016
PROJECT NO.: 120001

DRAWING NUMBER:

S-101 SHEET: 5 OF 14



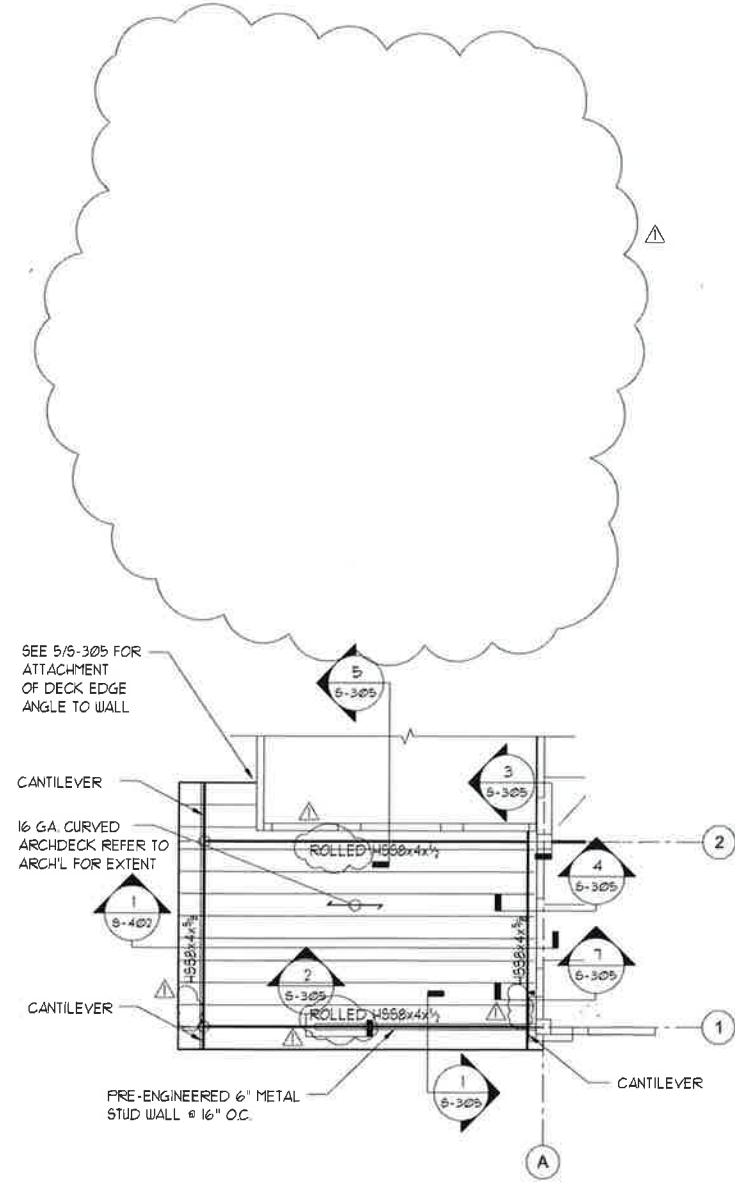
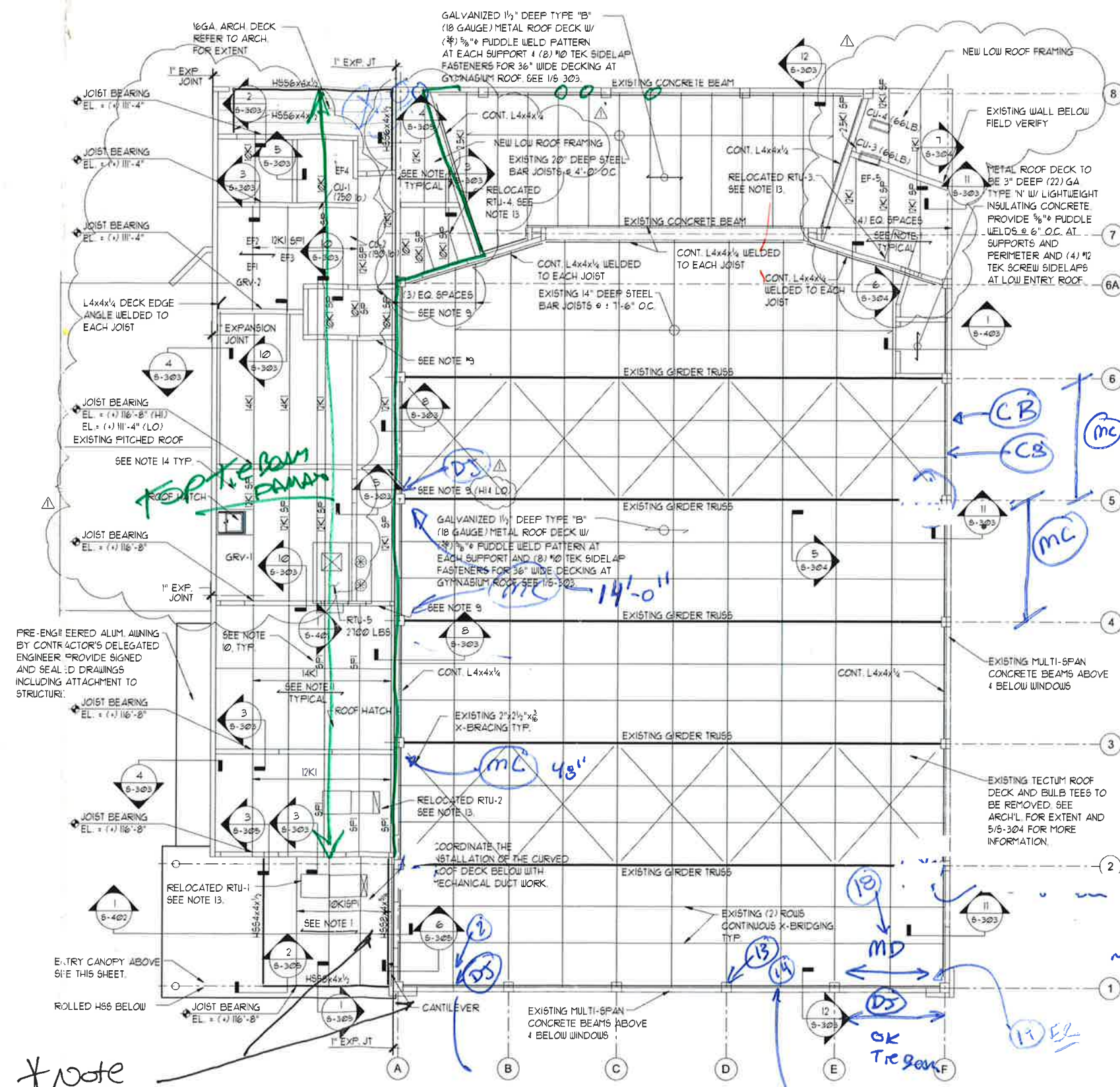
ENTRY CANOPY ROOF FRAMING PLAN
SCALE 1/4" = 1'-0"

SEE S-004 FOR PLAN NOTES

***note**
Due to the installation of the new roof system, there was LIMITED VISUAL ACCESS to the top perimeter wall AT the North, South & East Elevations

ROOF FRAMING PLAN
SCALE 1/4" = 1'-0"

SEE S-004 FOR PLAN NOTES



ENTRY CANOPY ROOF FRAMING PLAN
SCALE 1/4" = 1'-0"

SEE S-004 FOR PLAN NOTES

*note
Due to the installation of the new roof system, there was LIMITED VISUAL ACCESS to the top perimeter wall AT the North, South & East Elevations

ROOF FRAMING PLAN
SCALE 1/4" = 1'-0"

SEE S-004 FOR PLAN NOTES