



ADDENDUM TO THE CONTRACT

for the

GLACIER FIRE STATION M/E UPGRADES & JUNEAU FIRE STATION GENERATOR REPLACEMENT

Contract No. BE22-108

ADDENDUM NO.: FIVE

CURRENT DEADLINE FOR BIDS:
September 15, 2022

PREVIOUS ADDENDA: FOUR

ISSUED BY: City and Borough of Juneau
ENGINEERING DEPARTMENT
155 South Seward Street
Juneau, Alaska 99801

DATE ADDENDUM ISSUED: September 2, 2022

The following items of the contract are modified as herein indicated. All other items remain the same. This addendum has been issued and is posted online. Please refer to the CBJ Engineering Public Purchase webpage at: <https://www.publicpurchase.com/gems/juneau,ak/buyer/public/home>

CLARIFICATIONS:

Question: "Can you please confirm if all the pipe to be demolished shown on sheet MD121 is in utilidor or above ground?"

Response: All piping shown on MD111 and MD121 is above ground.

Question: "Can you please provide structural drawings for existing facility to confirm the floor framing type for areas where patching may be required?"

Response: See attached original structural drawings.

Question: "Please confirm if the existing first floor is slab on grade?"

Response: See attached original structural drawings.

Question: "Can you please confirm if the floor finish (Concrete) in room 108 is required to be patched after the equipment is removed?"

Response: Yes, concrete floor shall be patched where needed due to identified demolition work.

Question: "Please confirm if the wall penetration at location where ductwork is demolished above ceiling finish required patch and repair."

Response: Yes, the opening will require patch and repair above ceiling. If the finish is not visible, no painting shall be required.

- Question:** *“Please confirm if patch and repair scope is restricted to scope shown on Architectural drawings.”*
- Response:** The Architectural sheets call out major cut and patch work. Provide cut/patch work as needed to support other electrical and mechanical work. Coordinate with Mechanical and Electrical for further patching locations.
- Question:** *“Please provide specification for existing metal siding and roofing membrane.”*
- Response:** See attached Manufacturer’s cutsheets for metal siding and PVC roofing as installed on the Glacier Fire Station in 2018 and 2020 respectively.
- Question:** *“Sections 026100 – Contaminated Soil, paragraph 1.2 Summary, line E specifies contractors to include in Bid a unit price for 200 tons. The bid package does not show a separate break down for this unit price. Please clarify.”*
- Response:** See project Manual Items 2-4 in this Addendum.
- Question:** *“Section 026500 – Aboveground and Underground Fuel Tanks, paragraph 1.3, line B specifies that for bidding purposes, the removal and legal disposal of up to 10 cubic yards of contaminated soil will be included in Bid Item 026500. Can you please clarify if we must provide bid item breakdown as specified? If yes, where can we find the bid breakdown proposal?”*
- Response:** No breakdown is necessary for 026500, the cost for the first 10 CY of contaminated soil removal is included in the bid, there will not be separate payment for the first 10 CY of soil encountered. On many projects, we encounter less than 10 CY, and including the first 10 CY in the bid keeps everything simpler. See project Manual Items 2-4 in this Addendum.
- Question:** *“Please confirm if the scope of work shown on sheet C101 is only restricted to the work shown in dashed square. The contractor is not responsible for stairs, temporary fence, landscaping and parking lot or any other work related to the areas outside the dashed square.”*
- Response:** The intent of the dashed square illustrated on Sheet C101 was to identify the enlarged plan view area limits only. It was not presented to identify specific work limits or work that was responsible to be performed by the contractor.
- Question:** *“Please confirm all the painted traffic markings are existing or clarify.”*
- Response:** All painted traffic markings shown are existing at the time that the field survey was performed.
- Question:** *“At the site walkthrough I noticed that there are line voltage conductors within the existing mechanical control panel. I do not see demolition of this piece of equipment specifically noted in the electrical documents. Is the demolition of the wiring associated with the mechanical control cabinet to be performed by the controls contractor under division 23 or by the electricians under division 26? Are the conductors to be demolished to the source or to be retained for use by new equipment?”*
- Response:** Demolish circuit associated with mechanical control panel. Demolition of line voltage conductors is typically performed by the electrical contractor, unless otherwise negotiated with other trades bidding the project. Coordinate the full scope of

demolition with the mechanical drawings.

Question: *“Per sheet note 2 on E203, we are directed to install 2ea. addressable fire alarm relays for fan shutdown. Upon inspection, the Silent Knight SK-5208 FACP is a conventional panel and not capable of adding addressable relays. It appears that there are 2 programmable relays available on the existing panel, is it desired to use a single relay to shut down both fans or a relay per fan? Is there a different method that is preferred for fan shutdown?”*

Response: A single programmable relay is acceptable to shut down both fans.

Question: *“Per sheet Detail 2 on Sheet E301, we are to demolish the existing ATS inside the MSB and route around it with conductors from the new ATS. The MSB is shown as a 1600A rated piece of gear with a 700A and 900A breaker. The MSB is a 1600 amp but the ATS only supplies power to the 1000A piece of the switchgear per its nameplate. My question is, will it be acceptable for the 1200A generator feed from the generator to terminate onto the 1000A rated bus of the switchgear section that provides power to the breaker spaces or will routing these conductors differently be necessary? It looks like the trip unit on the breaker is to be electronic and potentially adjustable. Can it be confirmed that the trip setting can be adjusted within tolerance of the MSB? Also, can the desired setting be provided if we are to adjust the trip rating below the 1200A shown?”*

Response: The trip rating of the generator circuit breaker will be coordinated with the MSB bus rating. This issue will be handled by the Owner.

Question: *“Specification 260000 1.15(E), (F), & (G) call for temporary power connections to the Apparatus Bay Doors, Station Alerting System, & Radio Communication System. Can the power requirements for these systems be further clarified? Also, can it be confirmed that only these systems will require temporary power connections when the main switchboard is being replaced?”*

Response: Glacier Station
Structural Apparatus 129: (8) overhead doors, 120V, ¾ HP.
EMS Bay 132: (1) overhead door, 120V, ¾ HP.
Apparatus 143: (3) bi-fold doors, 208V, 3-phase, 1 HP.
Telephone 117: (2) 120V, 20A circuits for analog telephone system.
Day Room 119: (2) 120V, 20A circuits for station alerting system UPS's.
Dispatch 138: (1) 120V, 20A circuit for data equipment rack UPS.
Dispatch 138: (1) 120V, 20A circuit for radio equipment rack UPS.

Juneau Station

Apparatus 136: (9) overhead doors, 120V, ½ HP.
Storage 114: (1) 120V, 20A circuit for data equipment rack UPS.
Storage 114: (1) 120V, 20A circuit for analog telephone system.
Ambulance Storage 112: (2) 120V, 30A circuits for data rack UPS's.
Ambulance Storage 112: (1) 120V, 20A circuit for data system auxiliary equipment.
Watch 109: (2) 120V, 20A circuit for station alerting system UPS's.
Watch 109: (1) 120V, 20A circuit for intercom equipment rack UPS.

In addition to the specific loads listed above, comply with Specification Sections 11000, 1.9, C and 015000, 3.1.

Question: “Sheet MD301 shows demolition of boiler housekeeping pads. Will the Generator and pumps housekeeping pad needs to be demolished as well?”

Response: Sheet MD301 shows demolition of boiler housekeeping pads. Will the Generator and pumps housekeeping pad needs to be demolished as well?

Question: “Please confirm if we will required to demolish the housekeeping pad located at Juneau Fire Station Generator Room as well?”

Response: Generator sits on rail structure with vibration isolators anchored to concrete slab. Demolish support system for generator. Patch floor.

Question: “Can you please provide additional information or drawings for the new housekeeping pad shown in Mechanical room 108 on sheet M301.”

Response: Concrete housekeeping pad shall be 3-1/2 inches tall, extending 6-inches each side of equipment. Provide #3 rebar @ 10”oc each way with bent #4 bars @12”oc each way embedded 2-1/2” into the existing slab below (minimum of 4 embeds per pad). Use bonding compound between concrete surfaces. Provide 3/4” chamfer at edges. Coordinate with mechanical and electrical drawings and equipment supplier for size and location of pads.

Question: “When was the existing roof membrane installed? Note G on A001 states ‘MATCH EXISTING MEMBRANE AND PATCH SO AS TO NOT VOID THE WARRANTY OF THE MEMBRANE.’ If the roofing is still under warranty, can you please confirm who was the installer?”

Response: The roofing installer at the Glacier Fire Station was: Alaska Commercial Contractors, Juneau, Alaska. It was installed in 2018 and is under Manufacturer’s warranty.

Question: “Detail 4 on A801 says that the membrane is 80mil PVC, can you please provide the brand to match the existing?”

Response: The existing roofing at Glacier Fire Station is CARLISLE “Sure Flex”, 80mil PVC. Color: Gray.

PROJECT MANUAL:

Item No. 1. SECTION 00030 – NOTICE INVITING BIDS, Completion of Work.

Replace the Completion of Work table **with** the following:

<u>Work Description</u>	<u>Completion Date</u>
Downtown Fire Station – Substantial Completion	September 1, 2023
Downtown Fire Station – Final Completion	September 20, 2023
Glacier Fire Station – Substantial Completion	February 16, 2024
Glacier Fire Station – Final Completion	March 1, 2024

Item No. 2. SECTION 00310 – BID SCHEDULE.

Delete Section 00310 in its entirety and **replace** with the attached Section 00310, labeled ADDENDUM 5.

Unit price added for 200CY of contaminated soil removal and replacement.

Item No. 3. SECTION 026100 – CONTAMINATED SOIL, Article 1.2 SUMMARY, Paragraphs D and E.

Replace Paragraphs 1.2 D and 1.2 E **with** the following:

D. This Section addresses the removal and replacement of contaminated soil up to a project total of 210 cubic yards (CY), should it be encountered as part of this project. The first 10 CY are included in the bid for Item 026500 ABOVEGROUND AND UNDERGROUND STORAGE TANKS.

E. Bid Quantity for the Item covered in this Section is 200 CY. Unit price for material shall be included in the Contractor's Bid (total Item price divided by 200 CY). Contractor shall be paid for actual quantity on this Item based on this Unit Price for any quantity between 11 CY and 210 CY.

Item No. 4. SECTION 026500 – ABOVEGROUND AND UNDERGROUND FUEL TANKS, Article 1.3 SCOPE OF WORK, Paragraph B.

Replace Paragraph 1.3 B **with** the following:

B. It is assumed for bidding purposes that the removal and legal disposal of up to 10 cubic yards (CY) of contaminated soil will be included in Bid Item 026500 ABOVEGROUND AND UNDERGROUND FUEL TANKS. Up to 10 CY of contaminated soil removed as part of this Bid Item is to be moved from both sites and treated in compliance with applicable regulations.

Item No. 5. SECTION 211300 – FIRE SUPPRESSION SPRINKLERS, Article 1.2 SUMMARY OF WORK, Paragraph B.

Replace Paragraph B **with** the following:

B. It is acceptable to retain existing head location and utilize same escutcheon type when replacing the head and escutcheon with new.

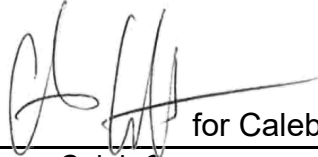
Item No. 6. SECTION 211300 – FIRE SUPPRESSION SPRINKLERS, Article 2.2 SPRINKLERS, Paragraph A.

Replace "Recessed pendant type with matching push on escutcheon plate" **with** "Pendant type with escutcheon matching existing type and length".

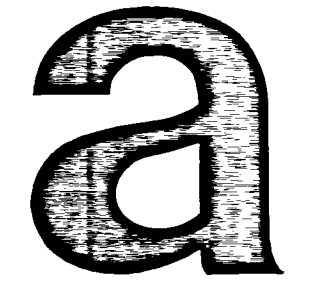
Item No. 7. SECTION 230923 – DIRECT DIGITAL CONTROL SYSTEM, Article 1.2 DESCRIPTION OF WORK & SYSTEM DESCRIPTION, Paragraph K.

Add the following sentences to the end of Paragraph K:

Where tubing is concealed within walls or above gyp ceiling, it is acceptable to abandon and cap the inaccessible tubing where that tubing cannot be removed without additional demolition of building walls/ceilings. All tubing located exposed or where located above accessible ceilings shall be removed.

By:  for Caleb Comas
Caleb Comas,
Contract Administrator

Total number of pages contained within this Addendum: 15



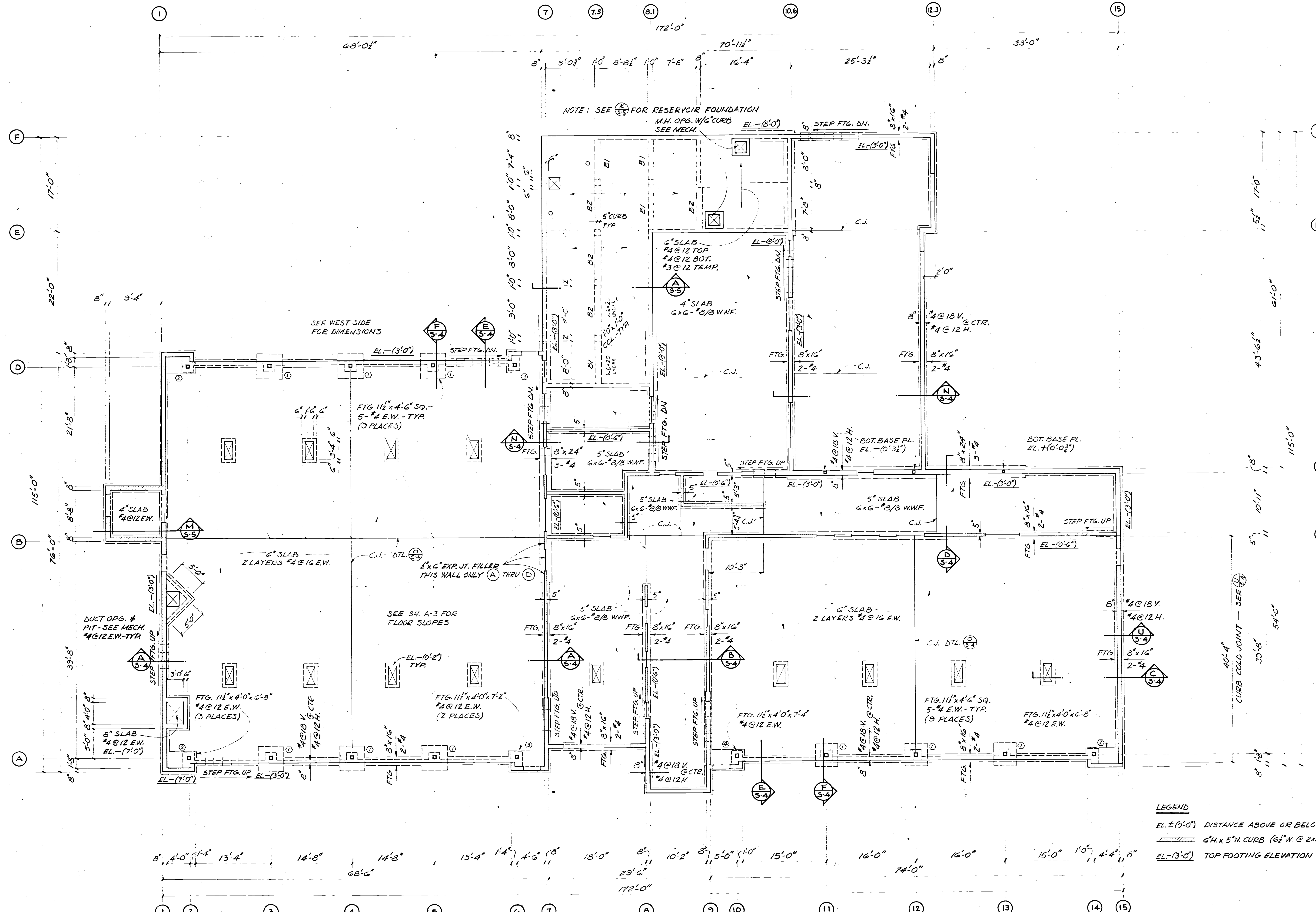
ACKLEY & ASSOCIATES INC. ARCHITECTS



GLACIER VOLUNTEER FIRE DEPARTMENT & AIRPORT CRASH-FIRE-RESCUE STATION

AS BUILT OCT. 80 KO
DRAWN R. ZAGARS
DATE NOV. 1978
STRUCTURAL FOUNDATION PLAN

LEGEND
EL. ± (0'-0") DISTANCE ABOVE OR BELOW DATUM.
6"H. x 5"W. CURB (6 1/2"W. @ 2x8 STUDS)
EL. (-3'-0") TOP FOOTING ELEVATION



FOUNDATION PLAN 1/8" = 1'-0" NORTH

FINISH FLOOR ELEV. = DATUM = 0.00' = 27.00' ABOVE M.L.L.W.

1557



ACKLEY & ASSOCIATES INC. ARCHITECTS



GLACIER VOLUNTEER FIRE DEPARTMENT & AIRPORT CRASH-FIRE-RESCUE STATION

CITY & BOROUGH OF JUNEAU, ALASKA FEDERAL AVIATION ADMINISTRATION

AS BUILT OCT. '80 KO

DRAWN R. ZAGARS

DATE NOV. 1978

STRUCTURAL

LOW ROOF & 2ND FL. FRAMING PLAN

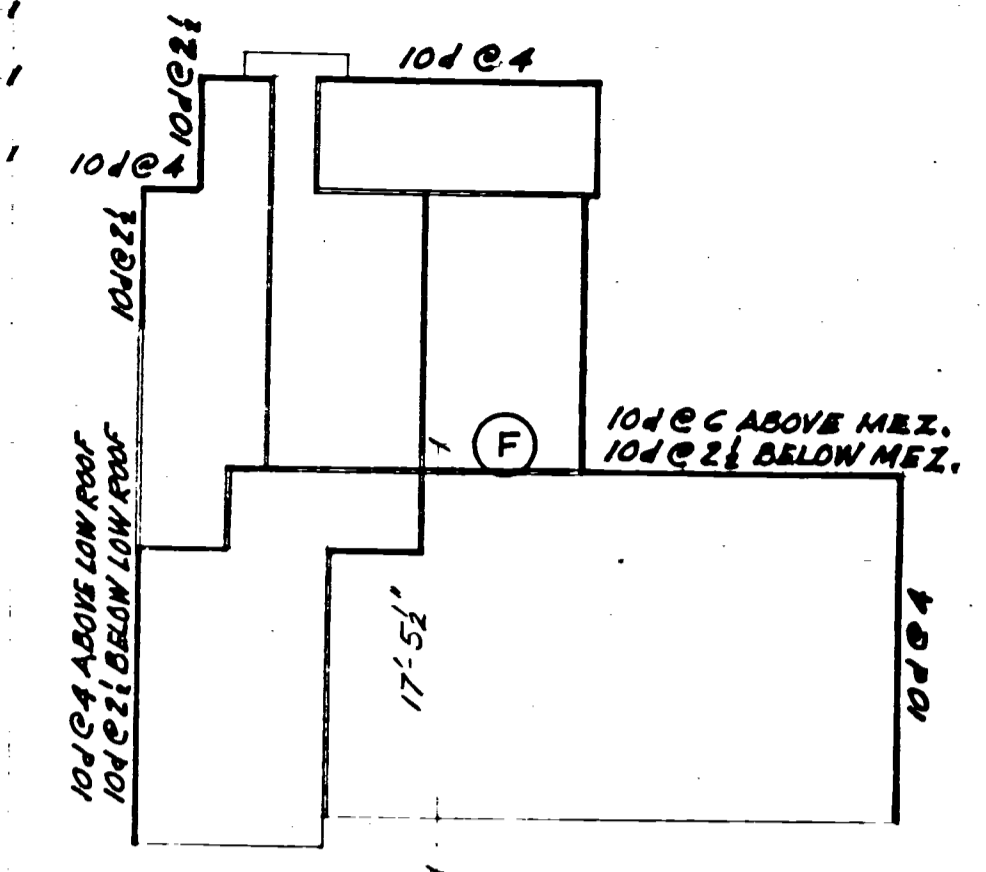
Signature of R. Zagars

SHEET S-2 OF 6

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REVISIONS TO STRUCTURAL HORIZONTAL DIAPHRAGMS AND VERTICAL SHEAR WALLS

Revise structural horizontal diaphragm and vertical shear wall nailing, as follows:



Flywood shear wall - edge nail spacing shown intermediate nails 10d @ 12\"/>

Roof and Floor Plywood Diaphragm Nailing

10d @ 4\"/>

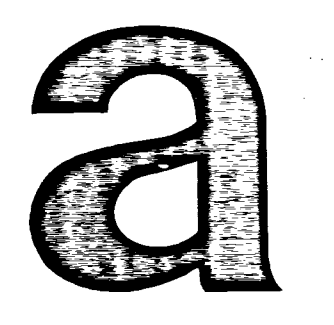
Exception: South 8' of Alternate Bay Crash Apparatus 139 Roof 10d @ 2 1/2\"/>



LOW ROOF & 2ND FLOOR FRAMING PLAN 1/8" = 1'-0"



FIN. FL. EL. = 0'-0" = DATUM (+12'-2") = DIST. ABOVE DATUM STUD WALLS ARE 2x6 @ 16\"/>



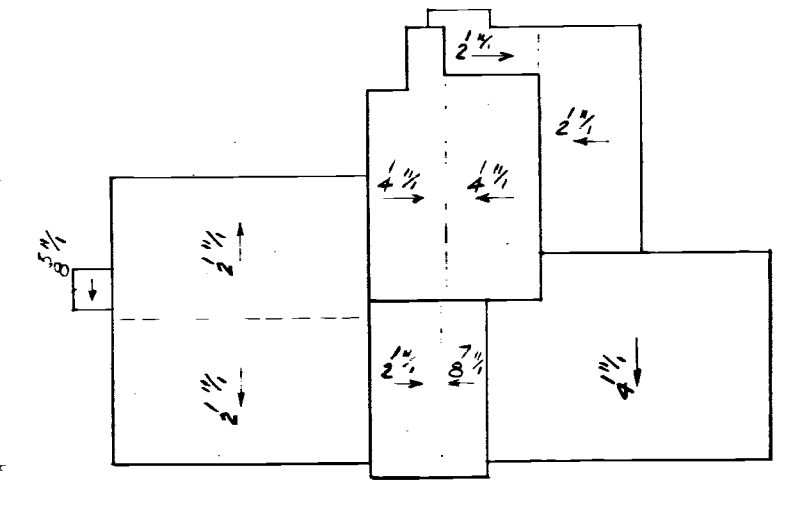
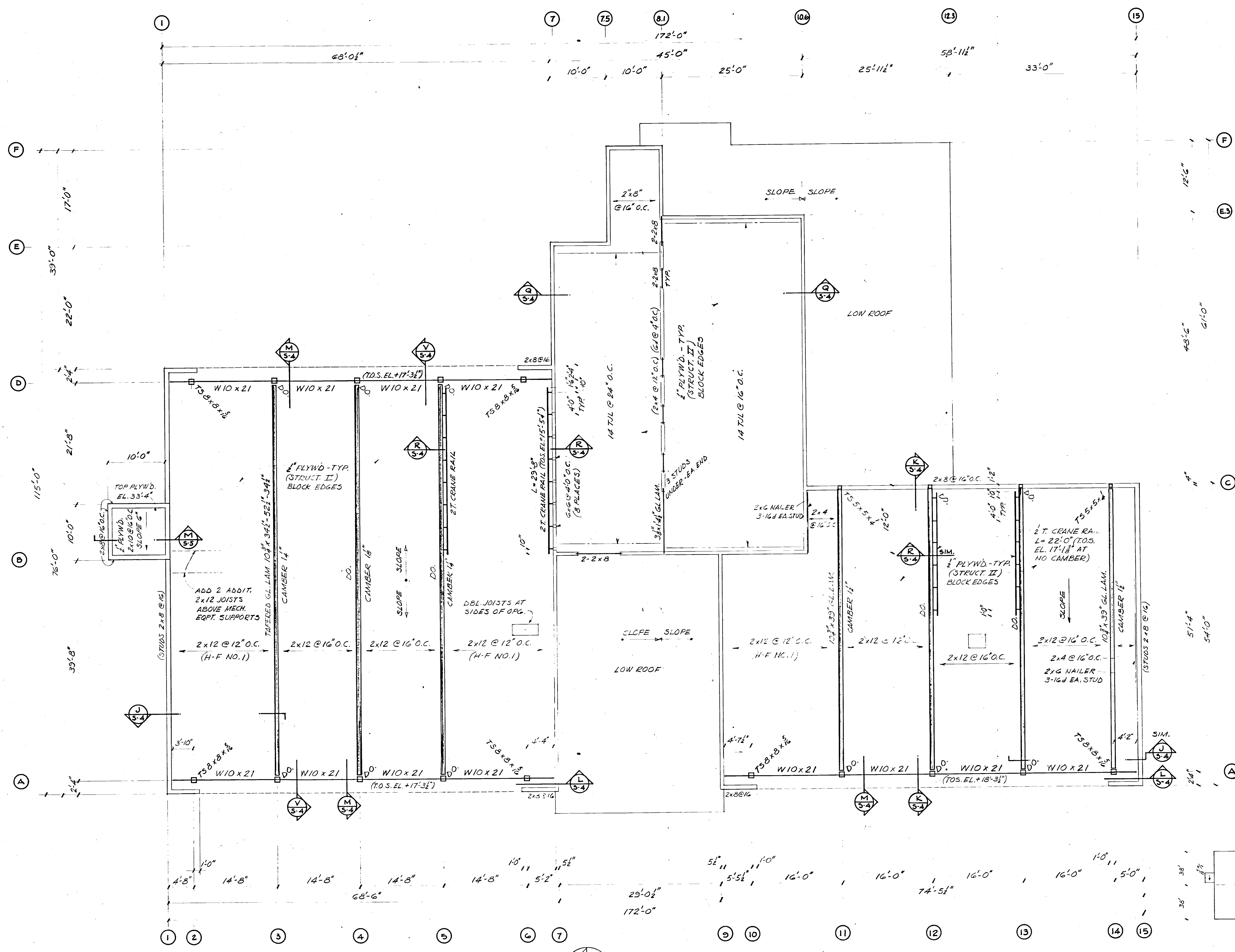
ACKLEY & ASSOCIATES INC. ARCHITECTS



GLACIER VOLUNTEER FIRE DEPARTMENT & AIRPORT CRASH-FIRE-RESCUE STATION
CITY & BOROUGH OF JUNEAU, ALASKA
FEDERAL AVIATION ADMINISTRATION ADAP 6-02-0133-06
E-78-28

AS BUILT OCT '80 K.O.
DRAWN R. ZAGARS
DATE NOV. 1978
STRUCTURAL
ROOF FRAMING PLAN

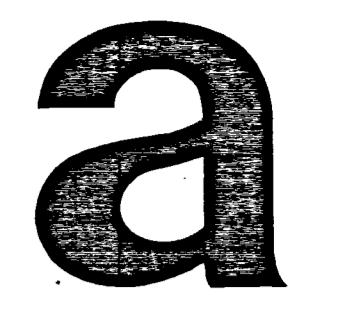
Richard H. Zagars
SHEET S-3 OF 5
1557



ROOF SLOPE PLAN
SCALE: 1"=50'

NOTE: STUD WALLS ARE 2x6 @ 16" O.C. EXCEPT WHERE NOTED OTHERWISE.

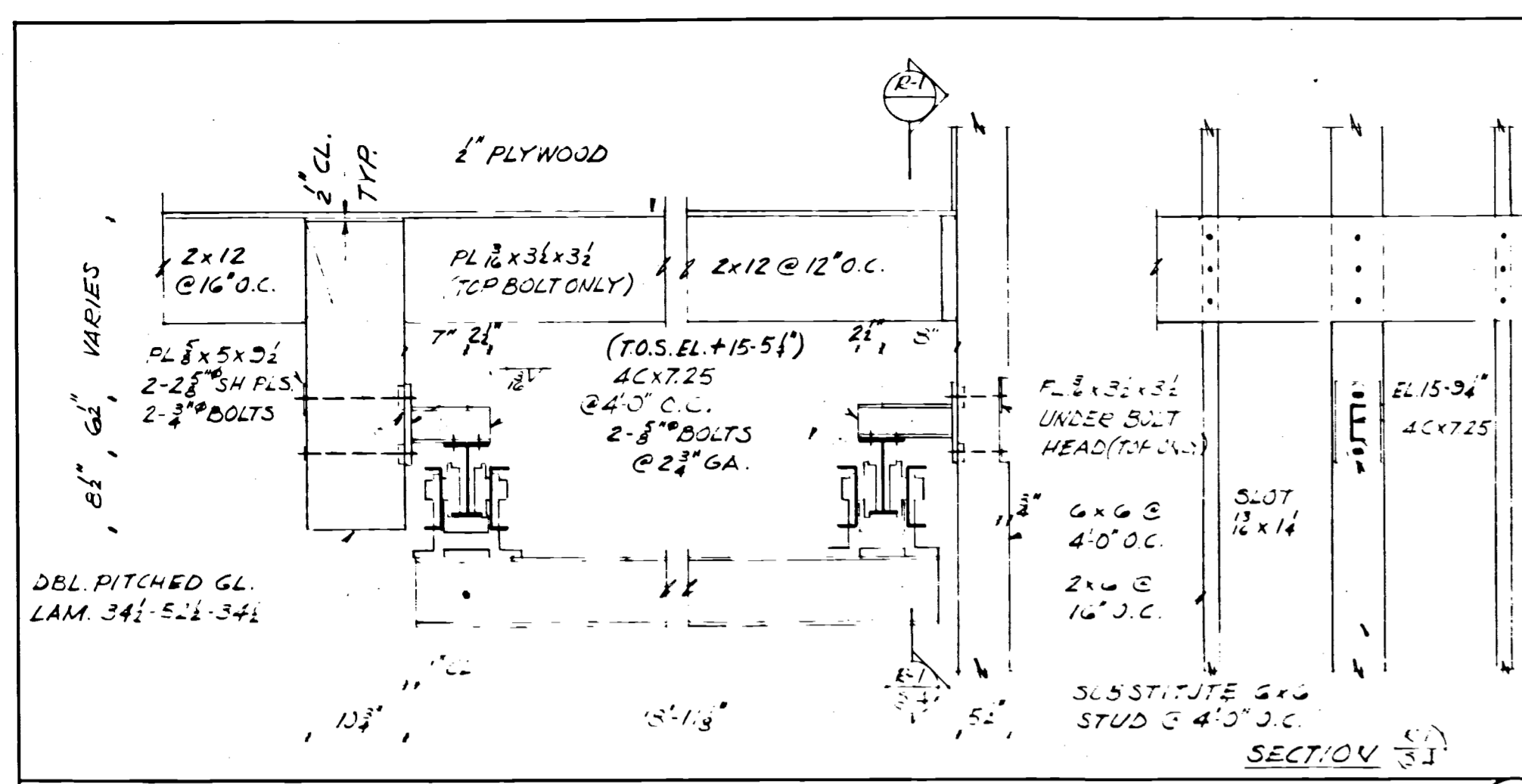
ROOF FRAMING PLAN 1/8" = 1'-0"



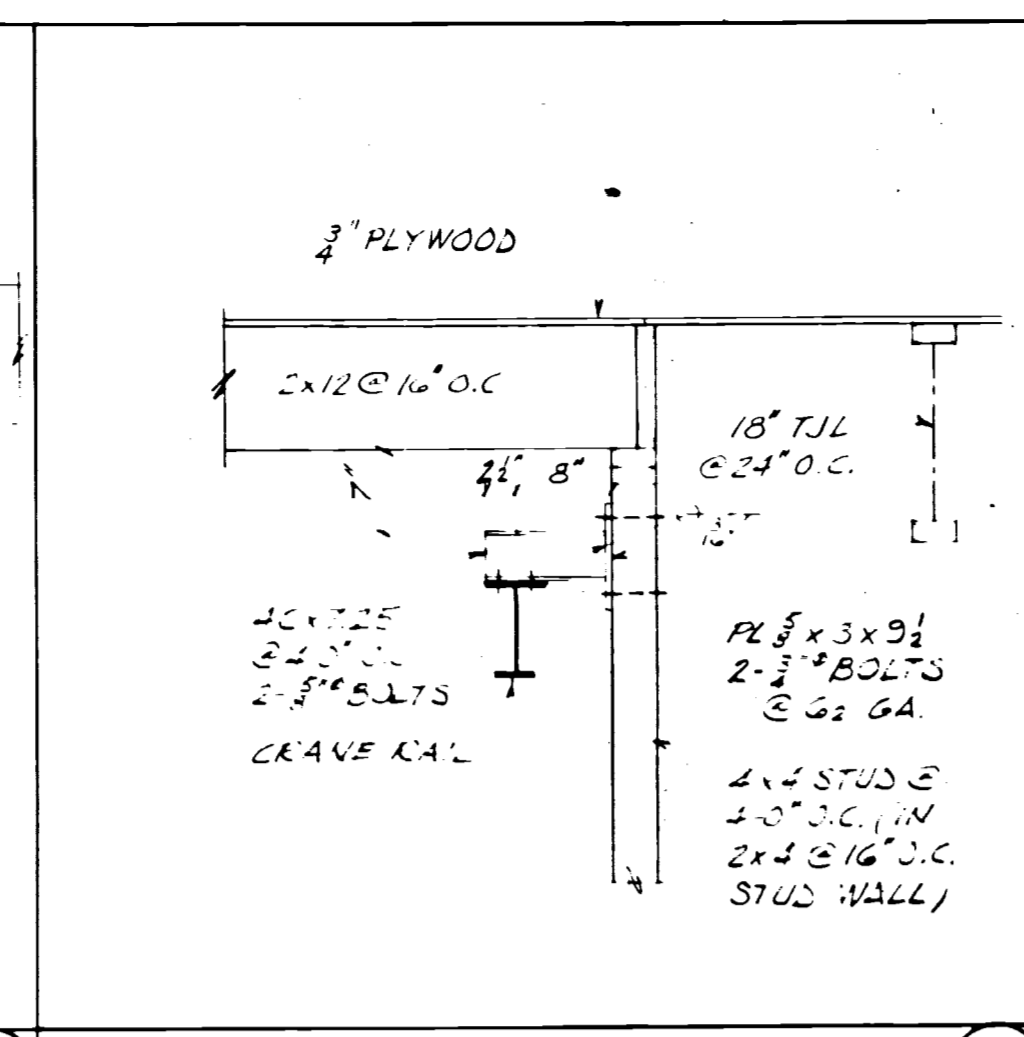
ACKLEY & ASSOCIATES INC. ARCHITECTS



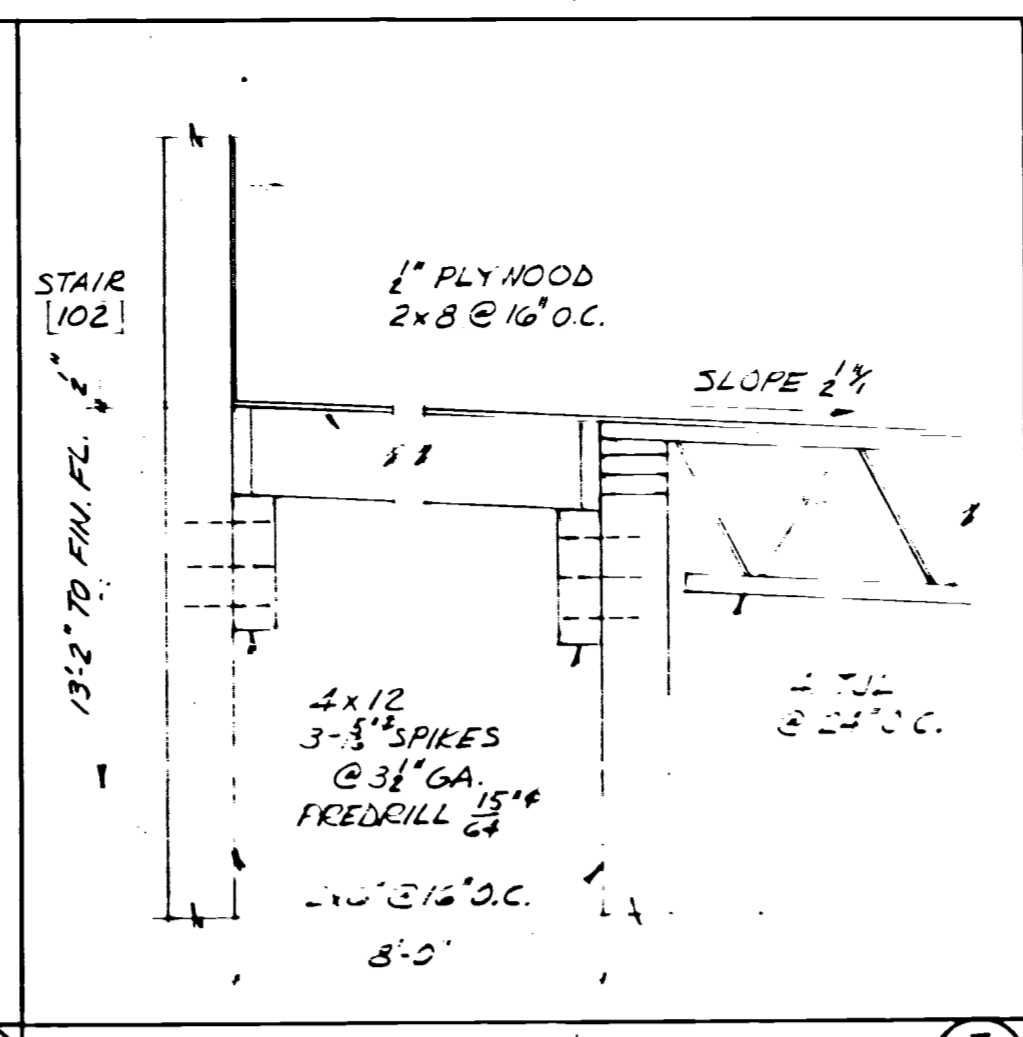
GLACIER VOLUNTEER FIRE DEPARTMENT & AIRPORT CRASH-FIRE-RESCUE STATION CITY & BOROUGH OF JUNEAU, ALASKA FEDERAL AVIATION ADMINISTRATION ADAP 6-02-0133-06 E-78-28



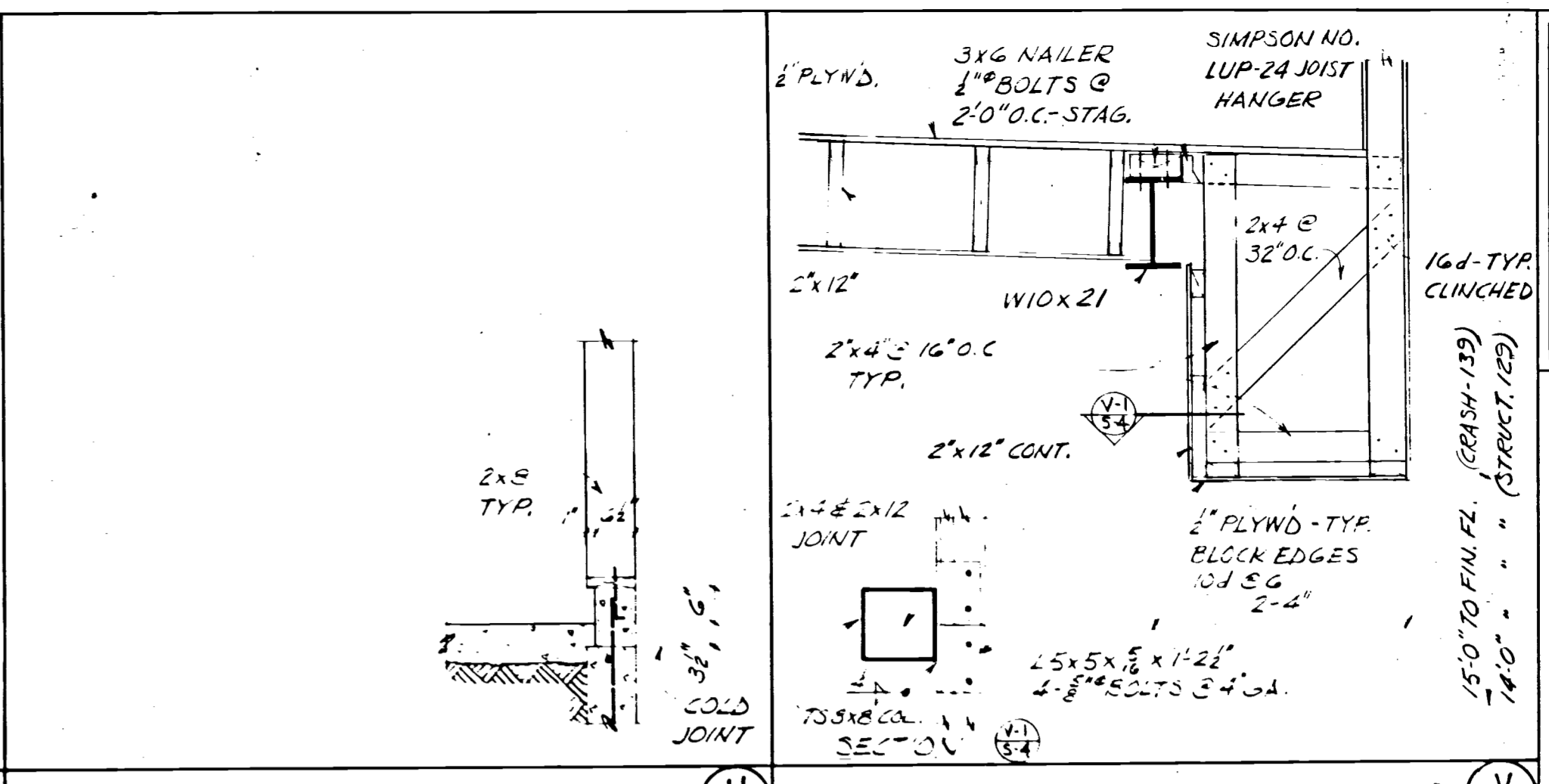
2000 LB. CAPACITY CRANE - SUPPORT BRACKETS



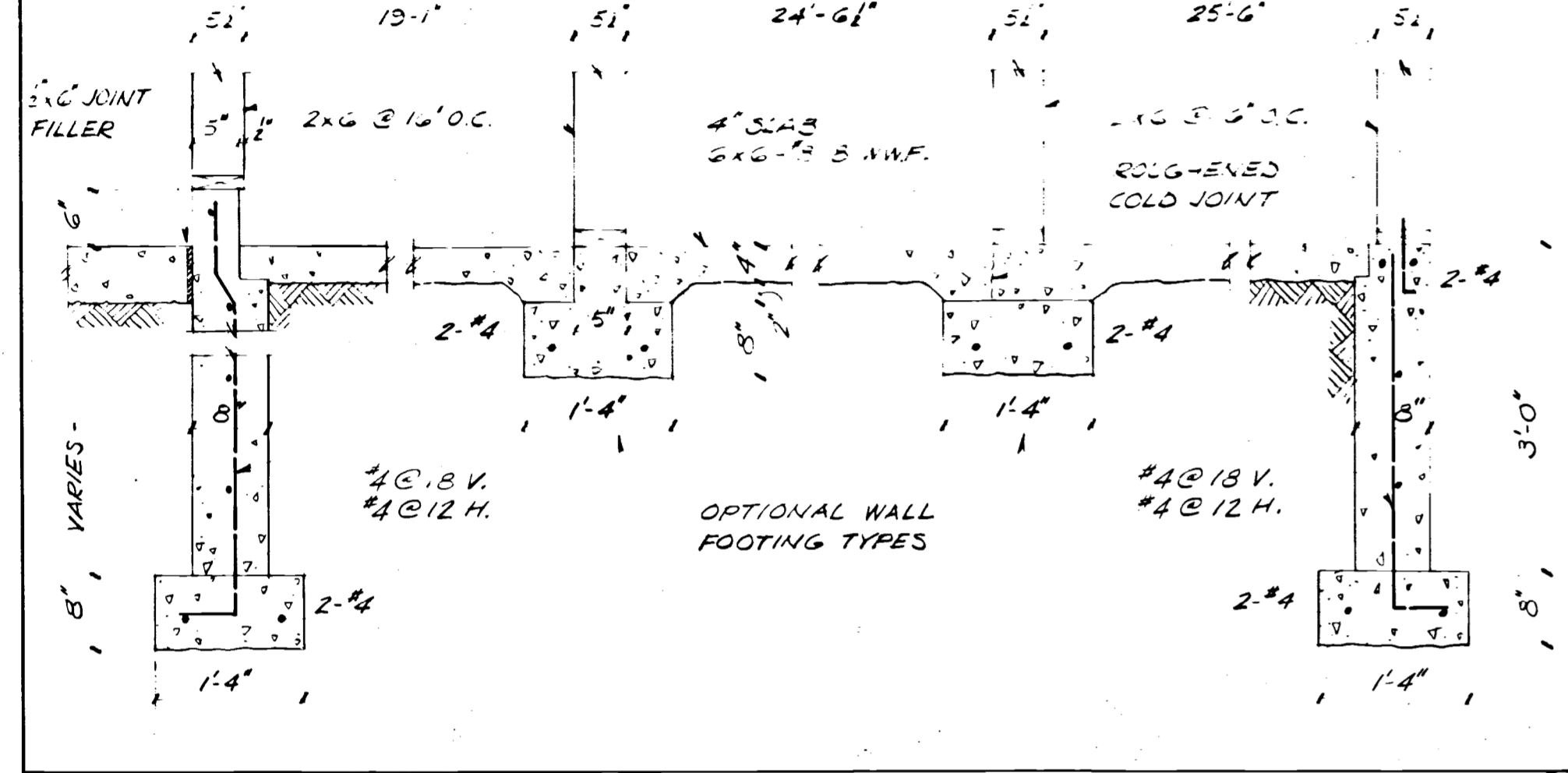
2000 LB. CRANE BRACKET



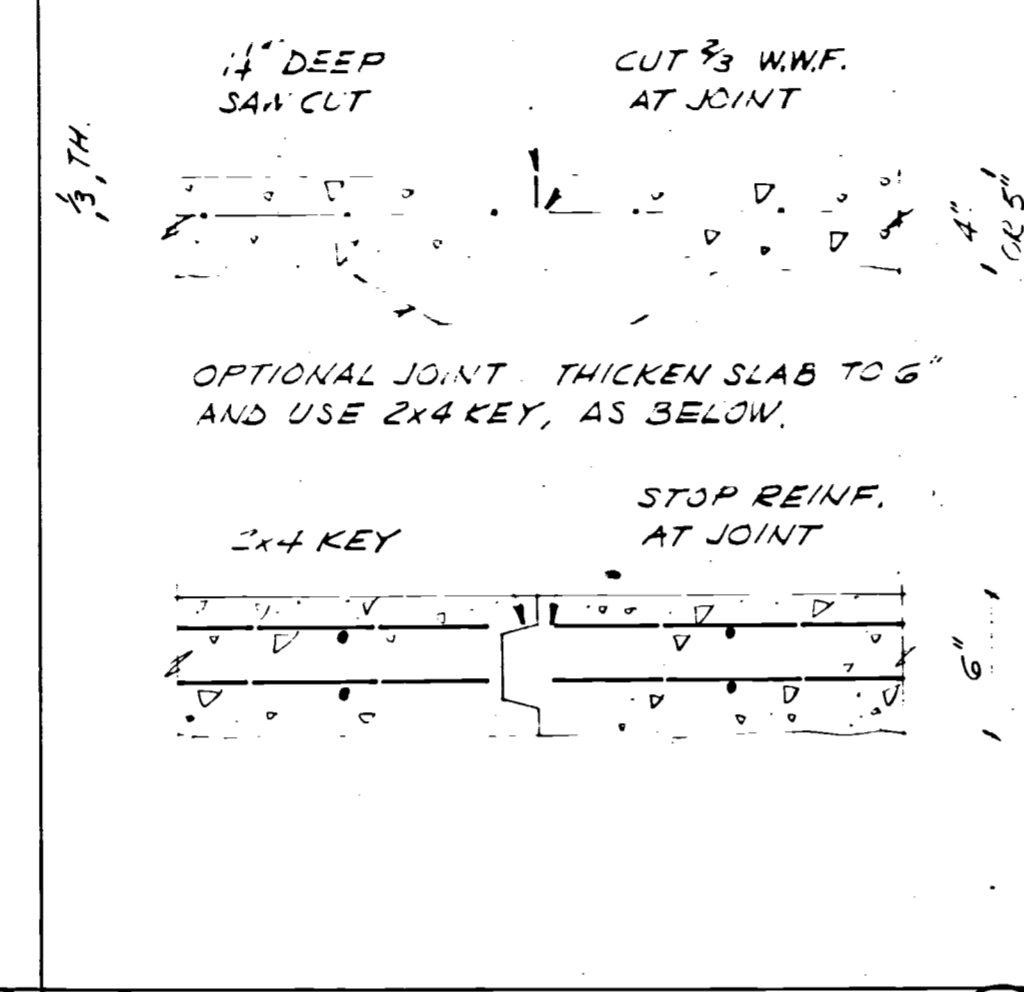
LOW ROOF SECTION



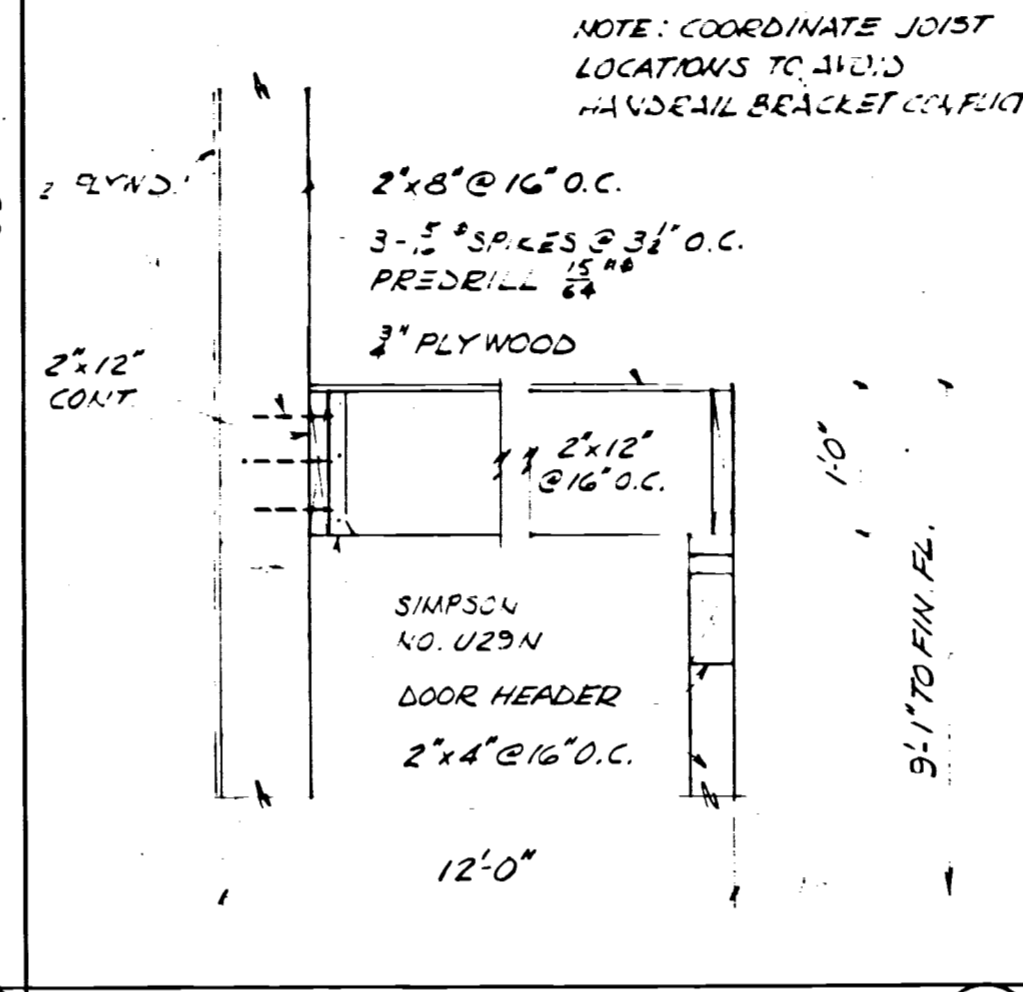
SOUTH WALL CURB



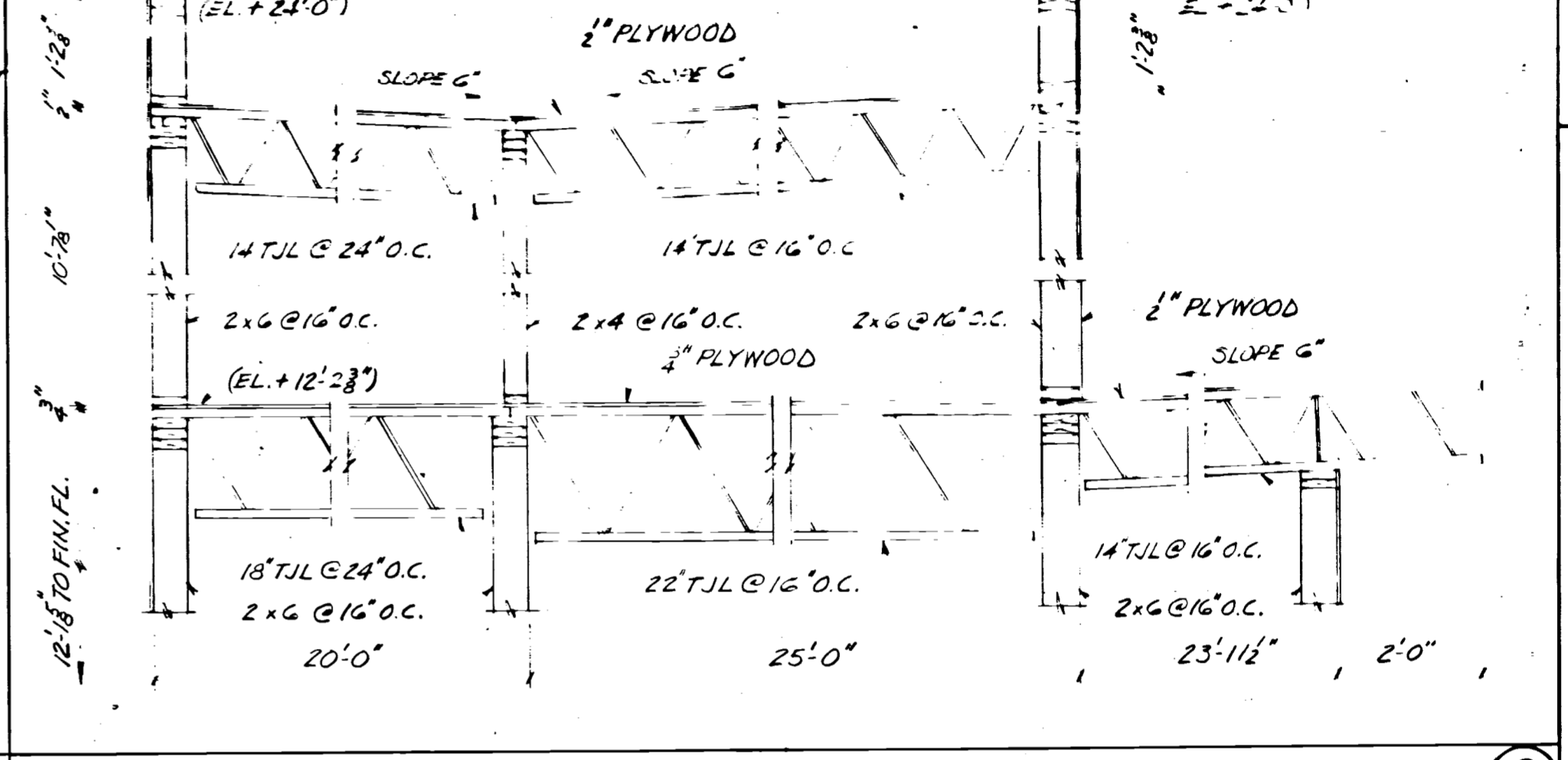
EAST WING FOUNDATION SECTION



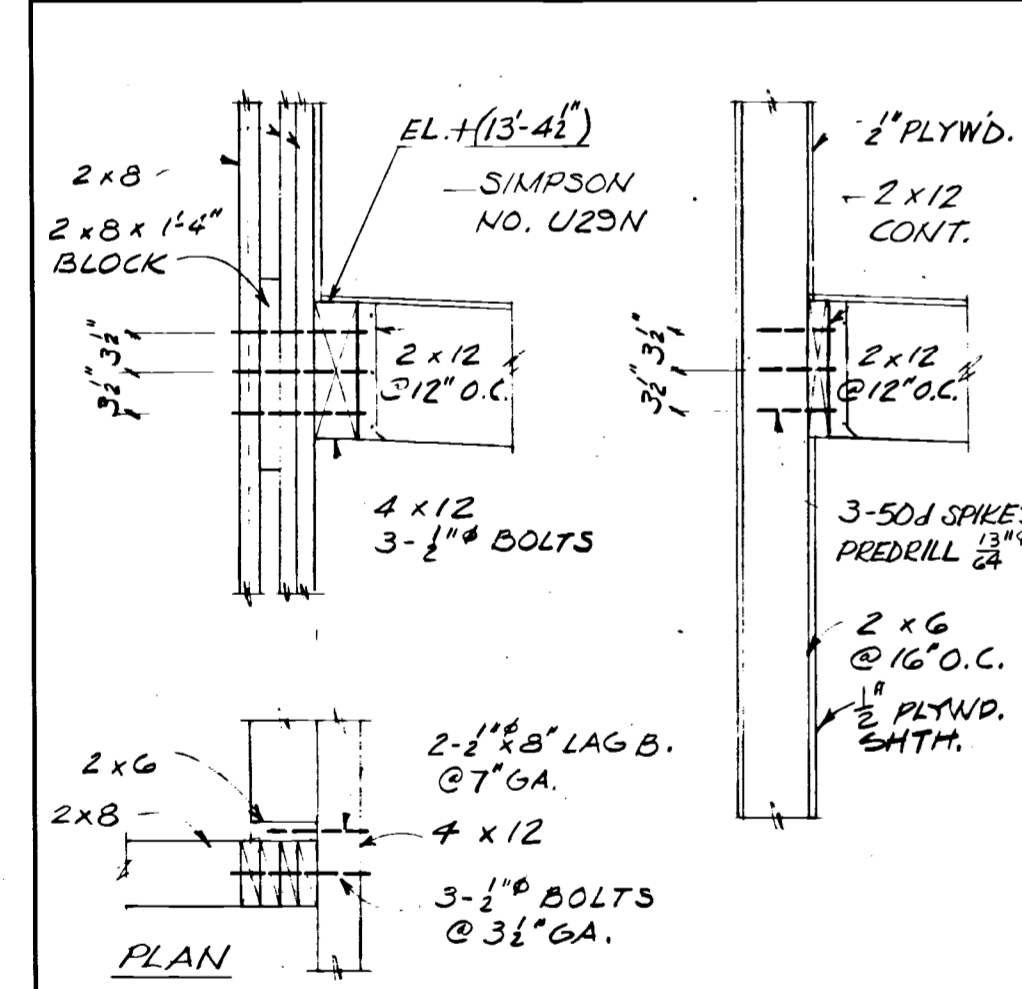
CONTRACTION JOINTS



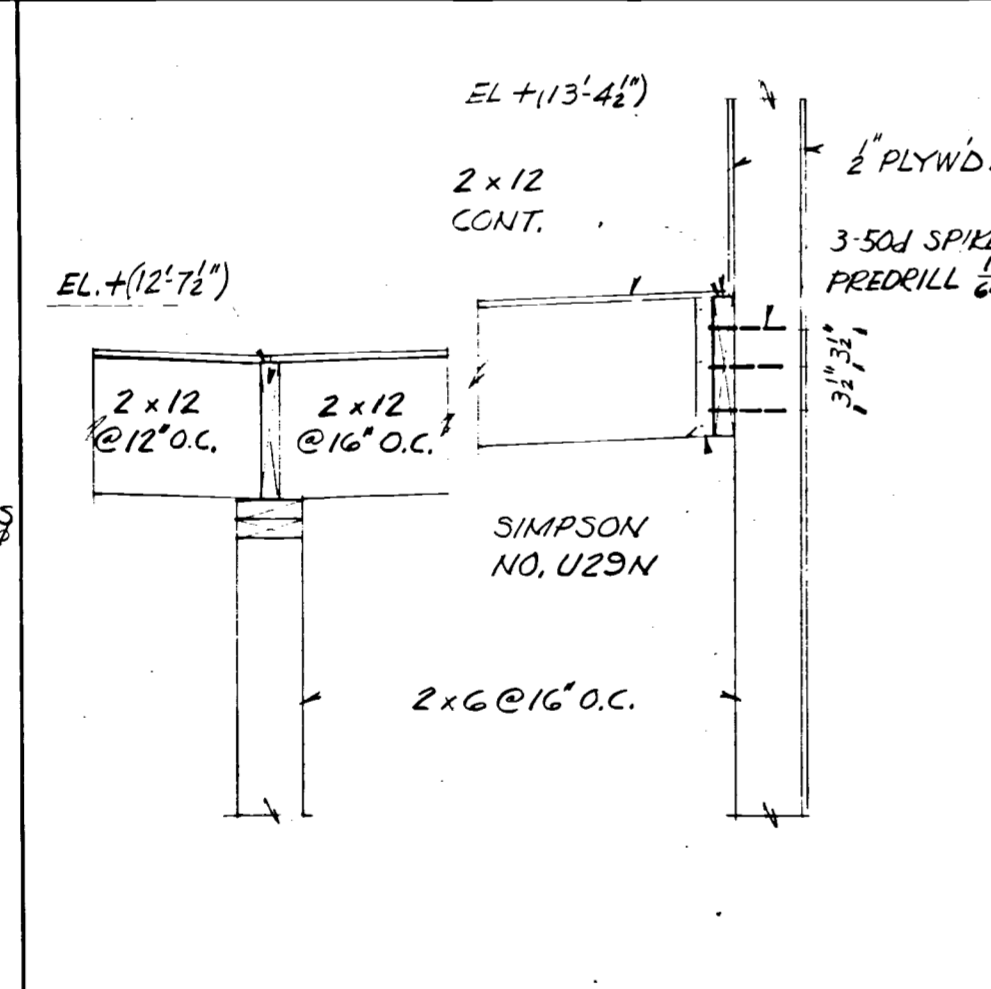
STORAGE MEZ. SECT.



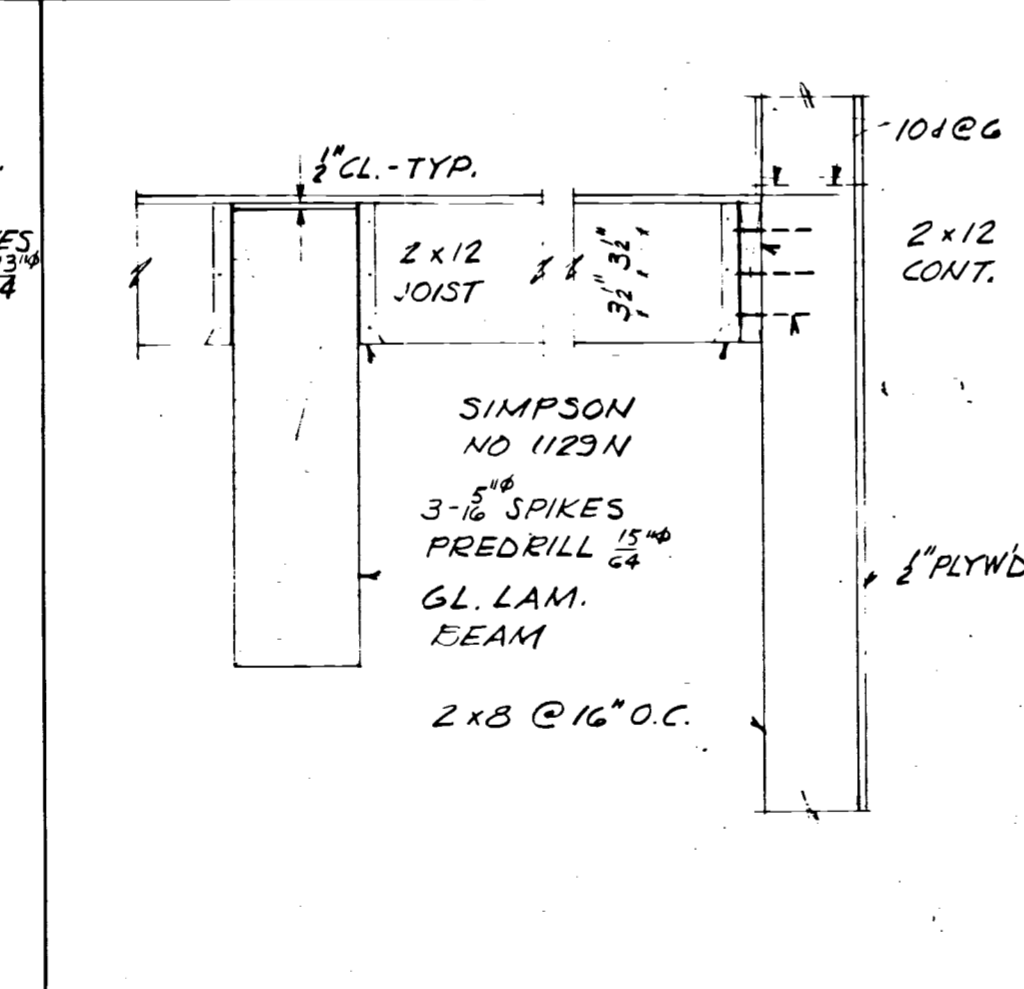
SECOND FLOOR & LOW ROOF SECTION



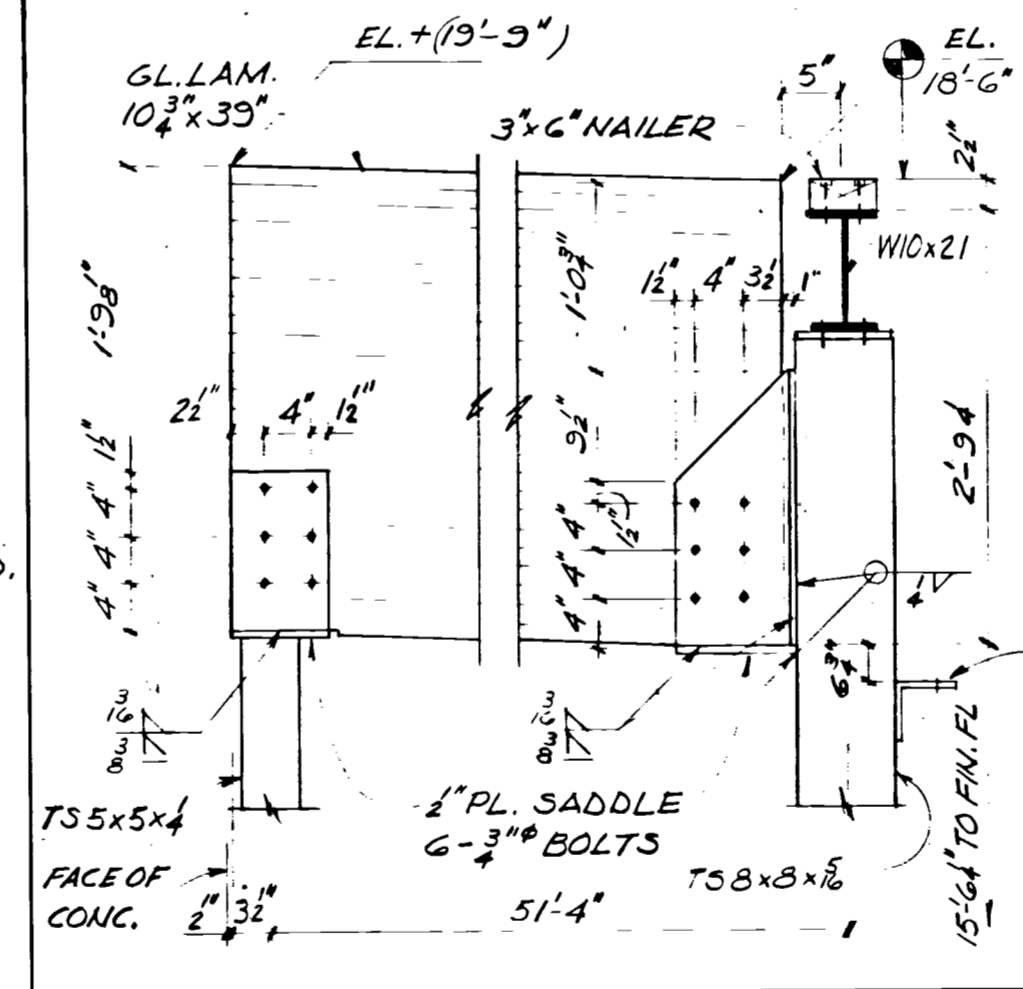
AMBULANCE - ROOF FRAMING



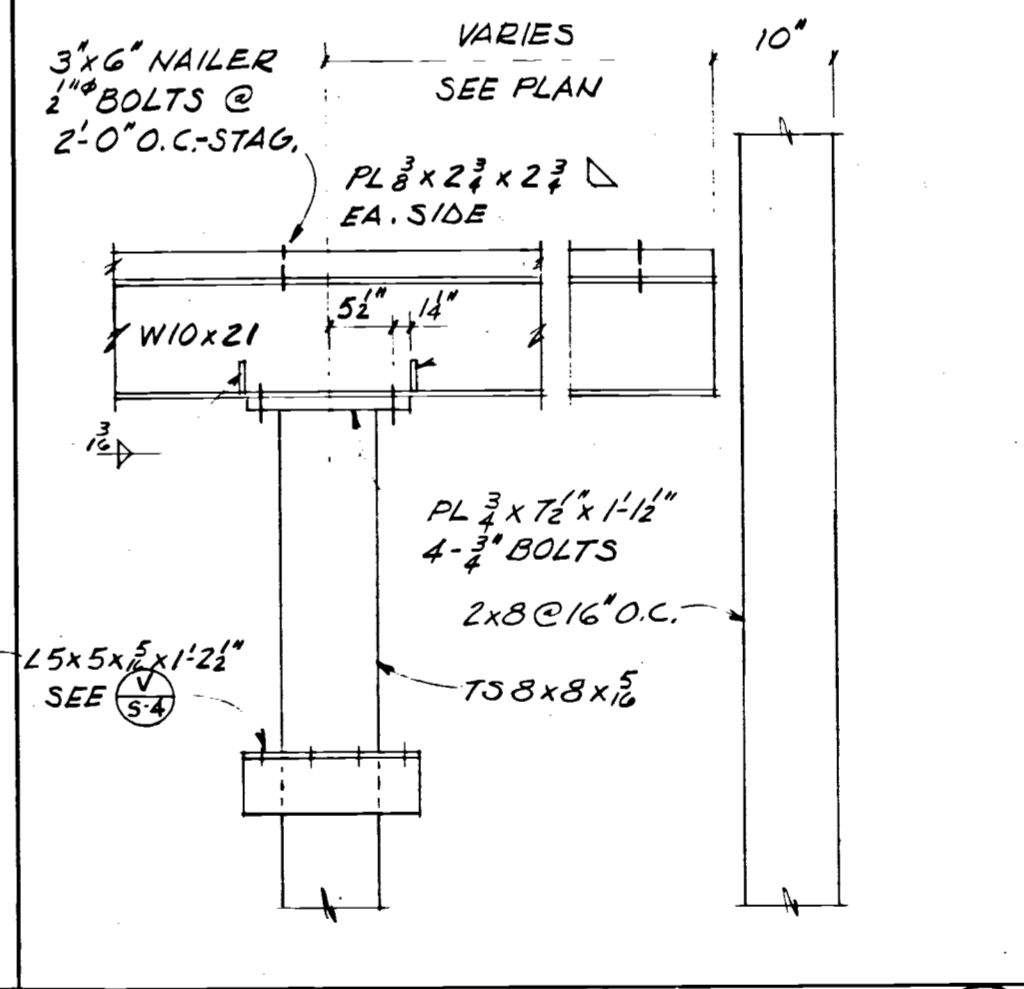
DISPATCH - ROOF FRAMING



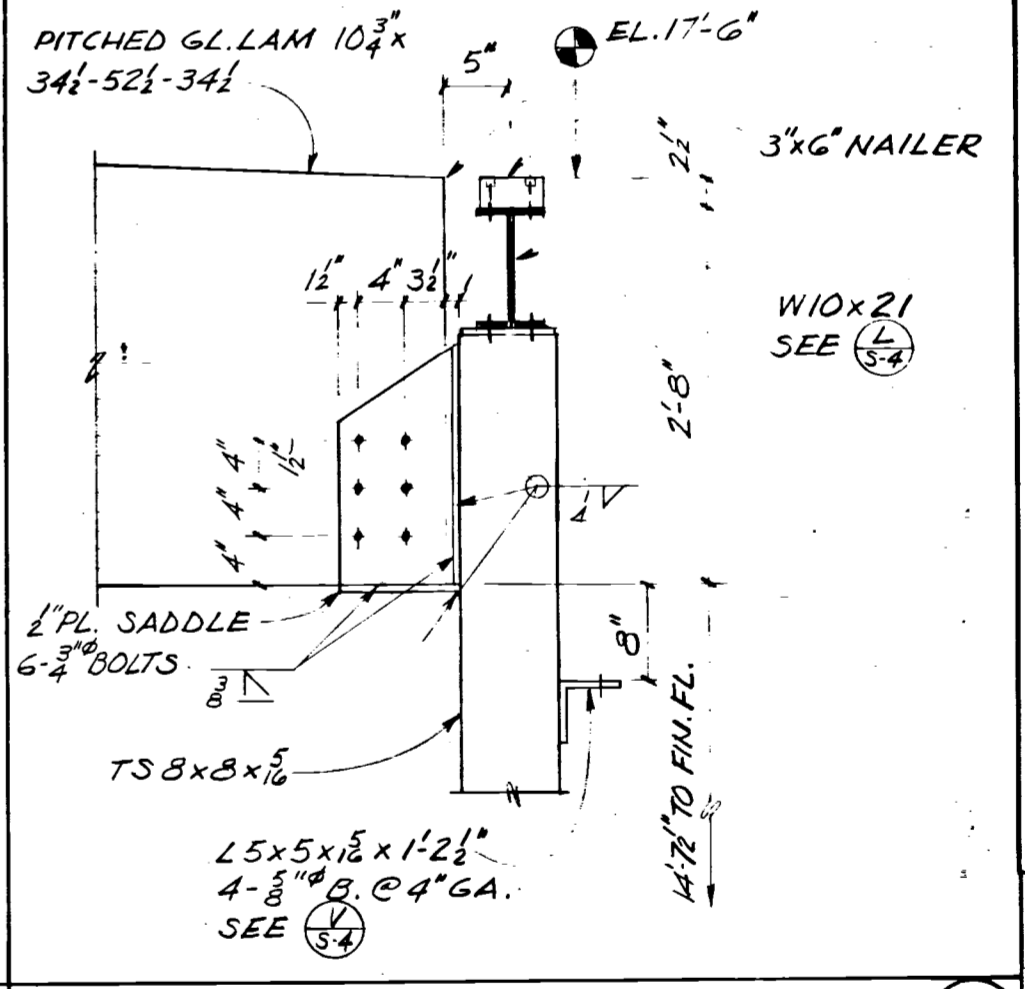
APPARATUS ROOF SECT.



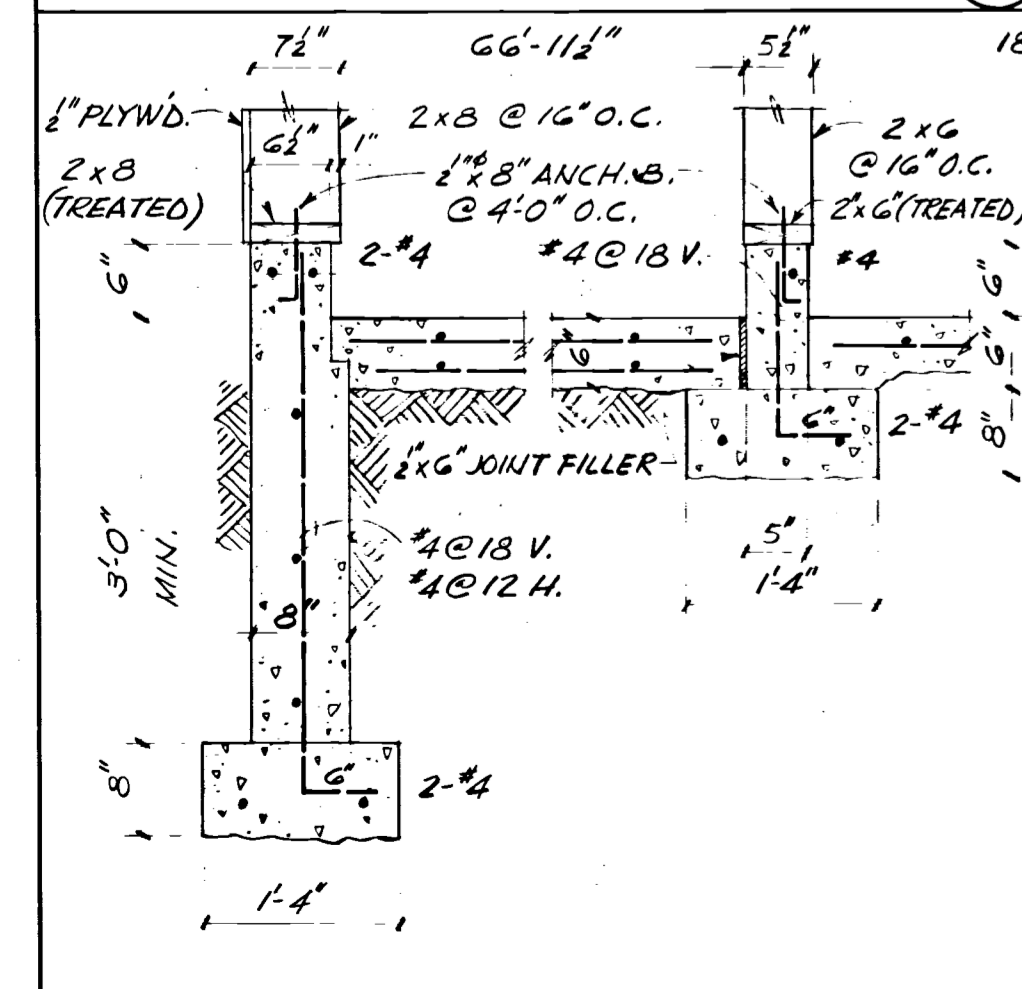
ROOF BEAM SEAT



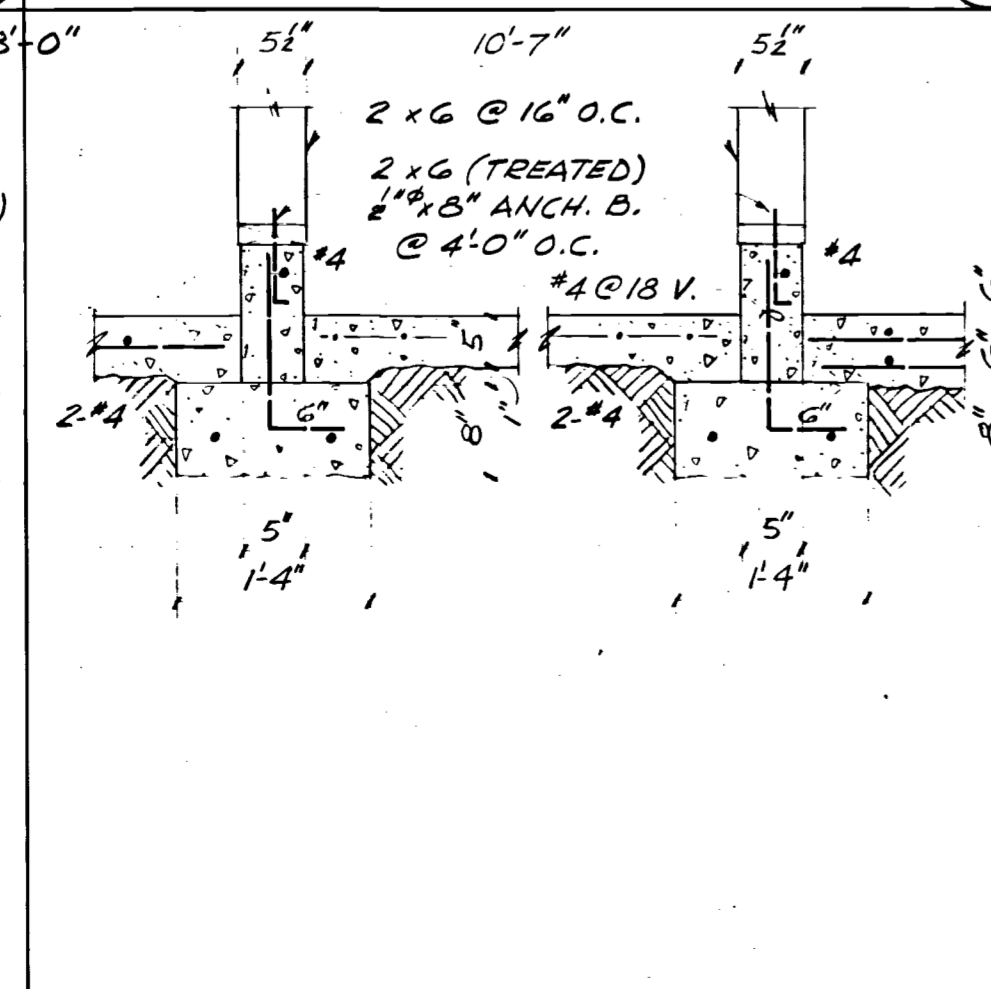
O.H. DOOR RIGID FRAME



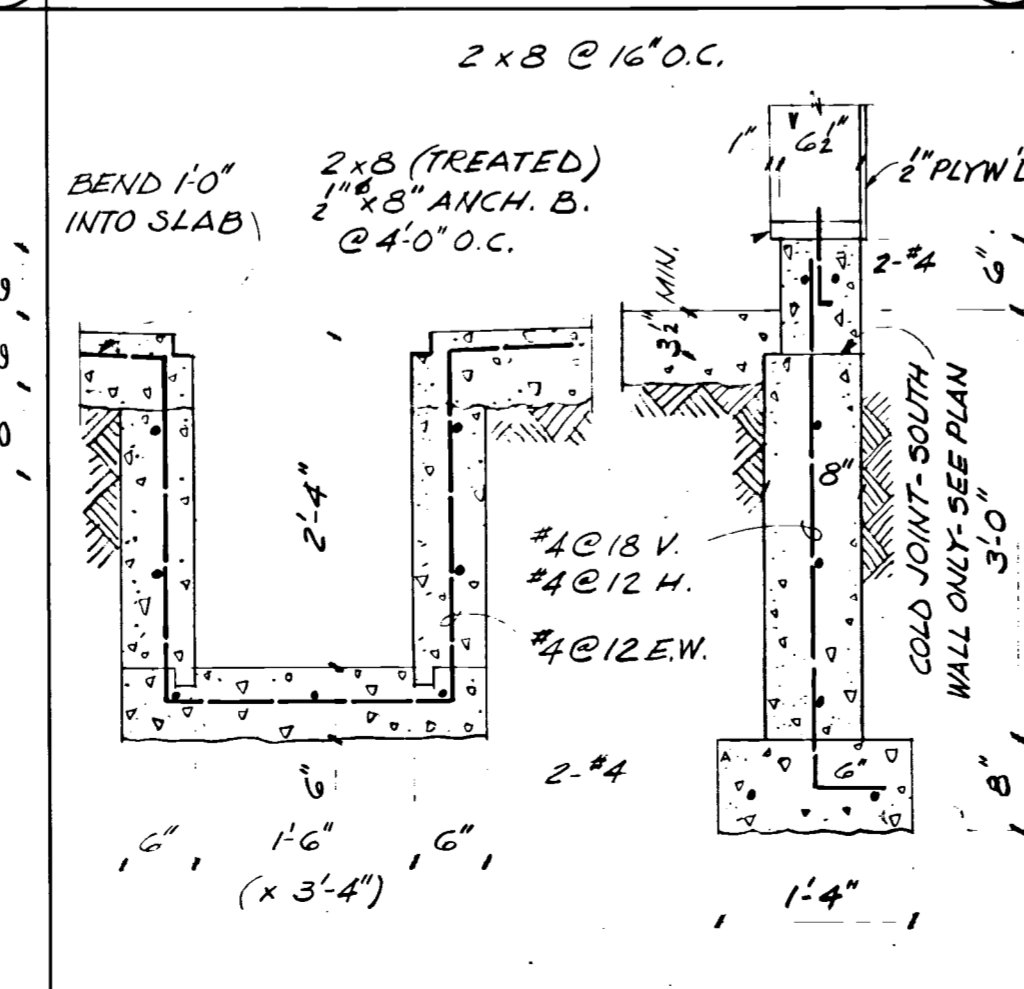
ROOF BEAM SEAT



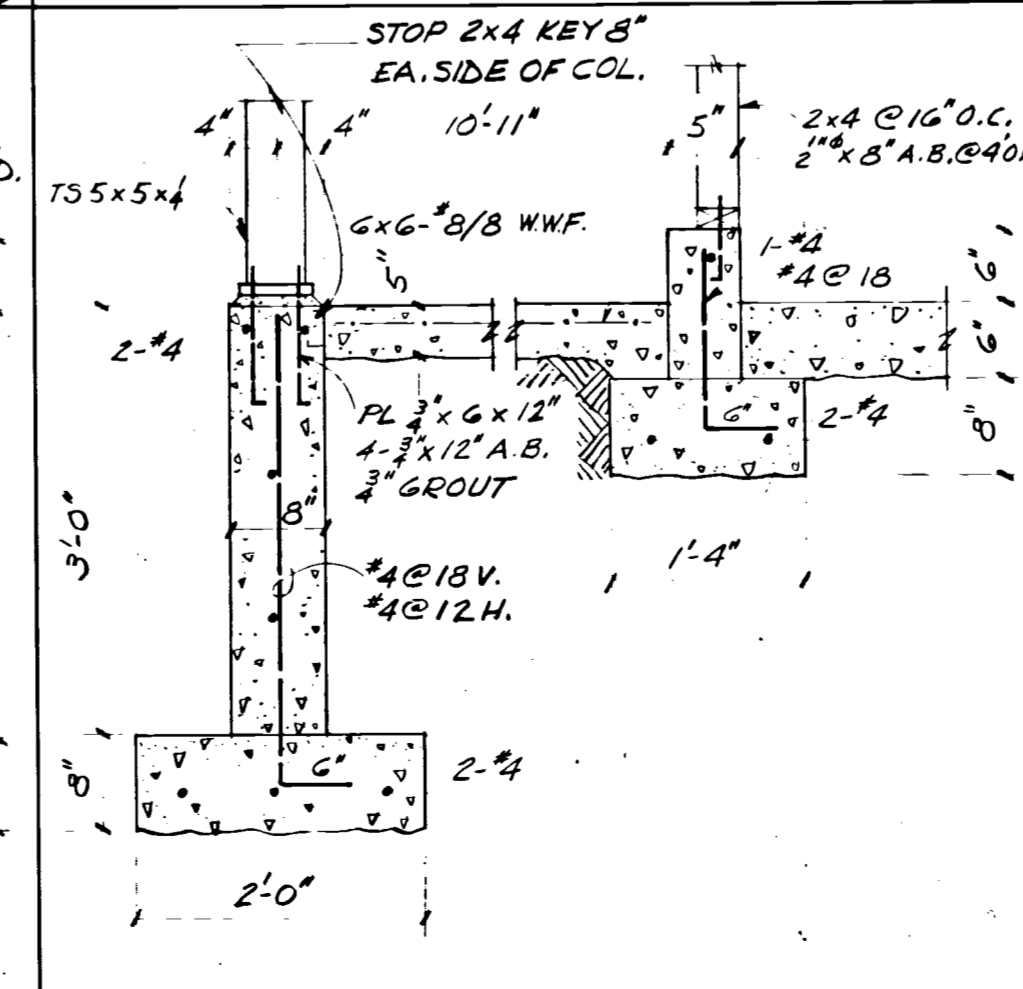
APPARATUS - FDN. SECT.



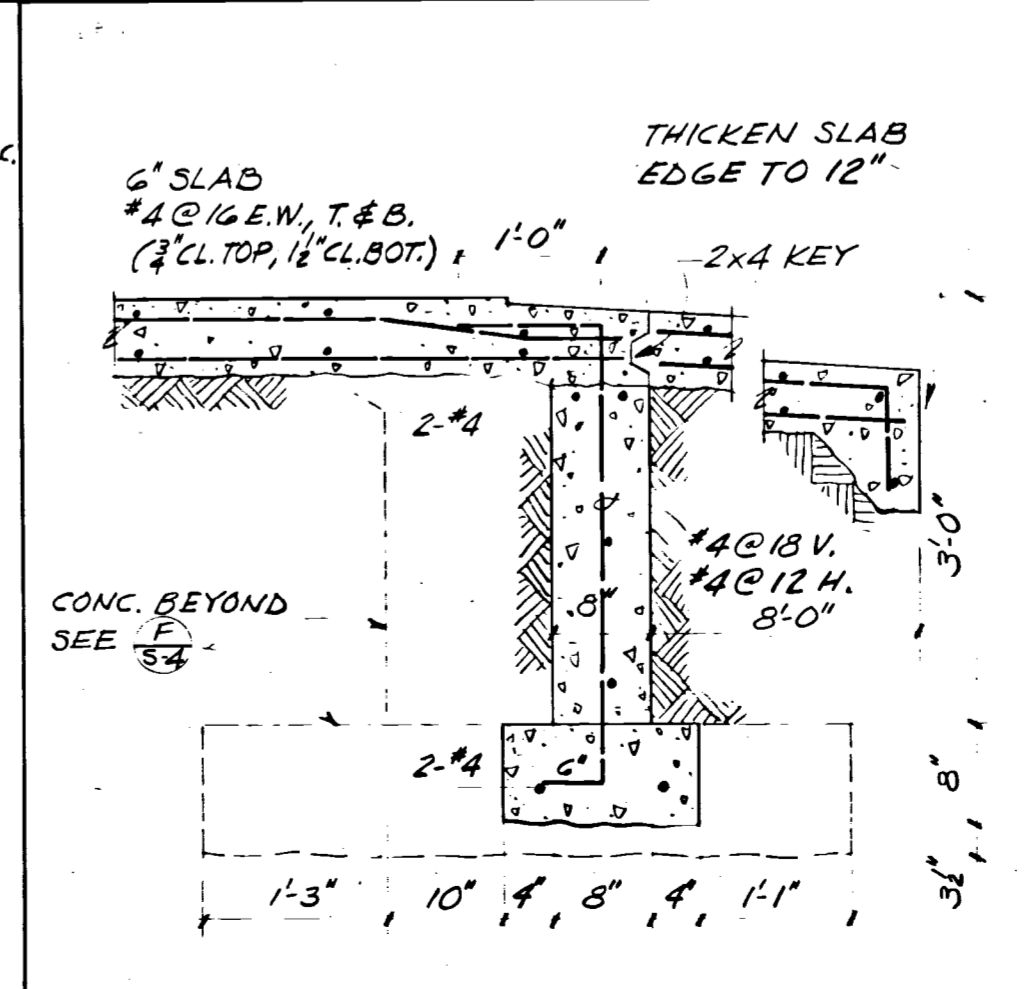
DISPATCH - FDN. SECT.



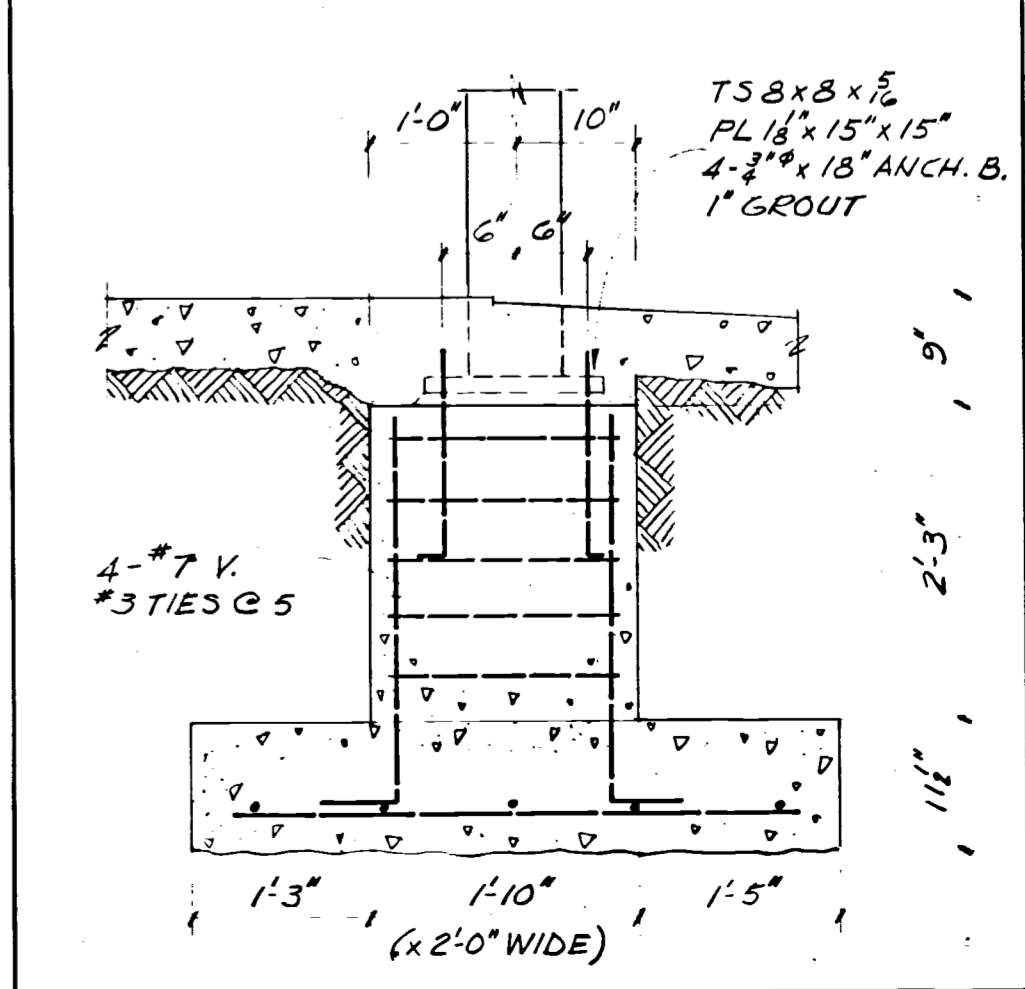
FLOOR DRAIN - FDN. SECT.



STORAGE MEZ. - FDN.

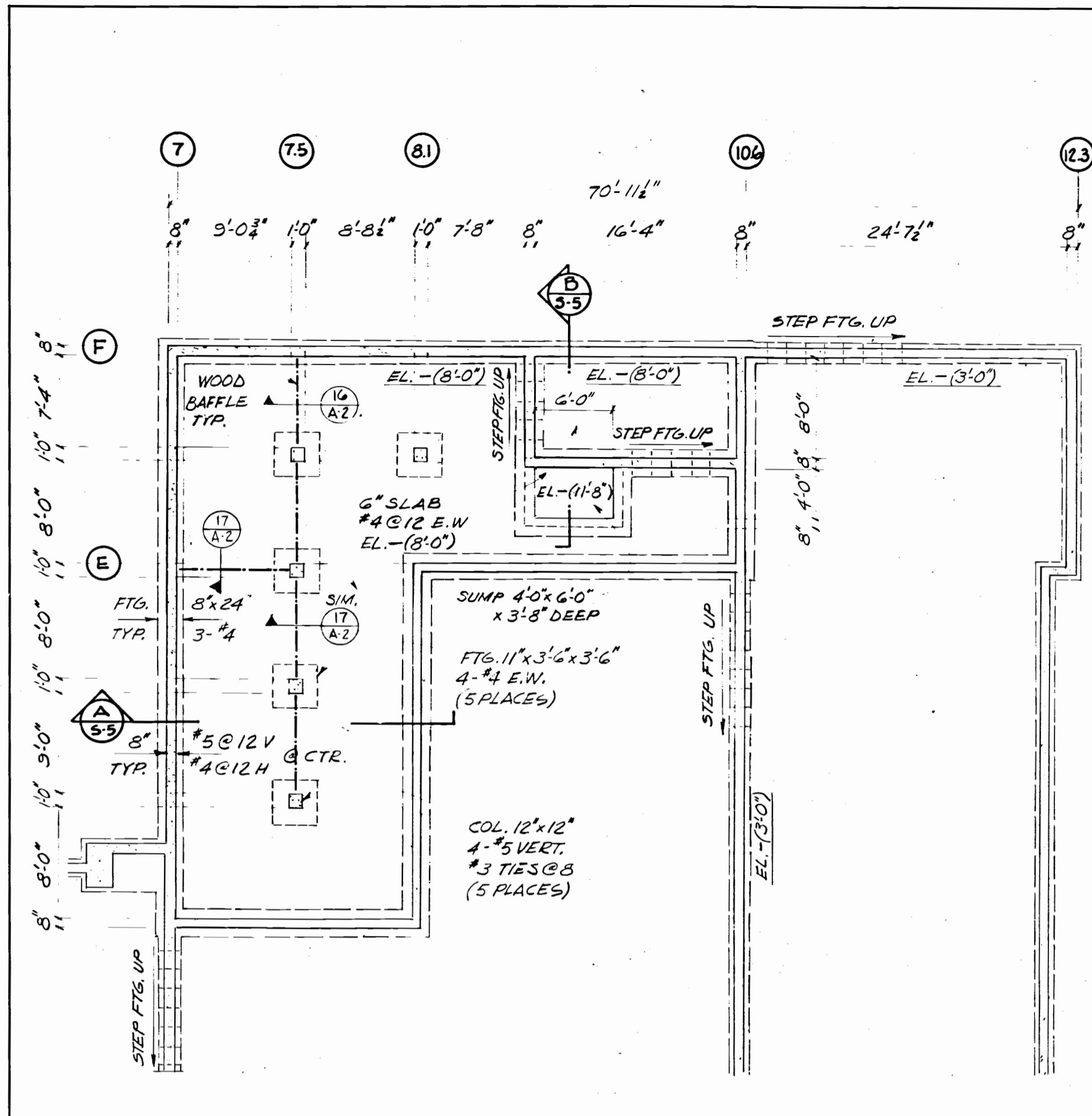


O.H. DOOR FDN. SECT.

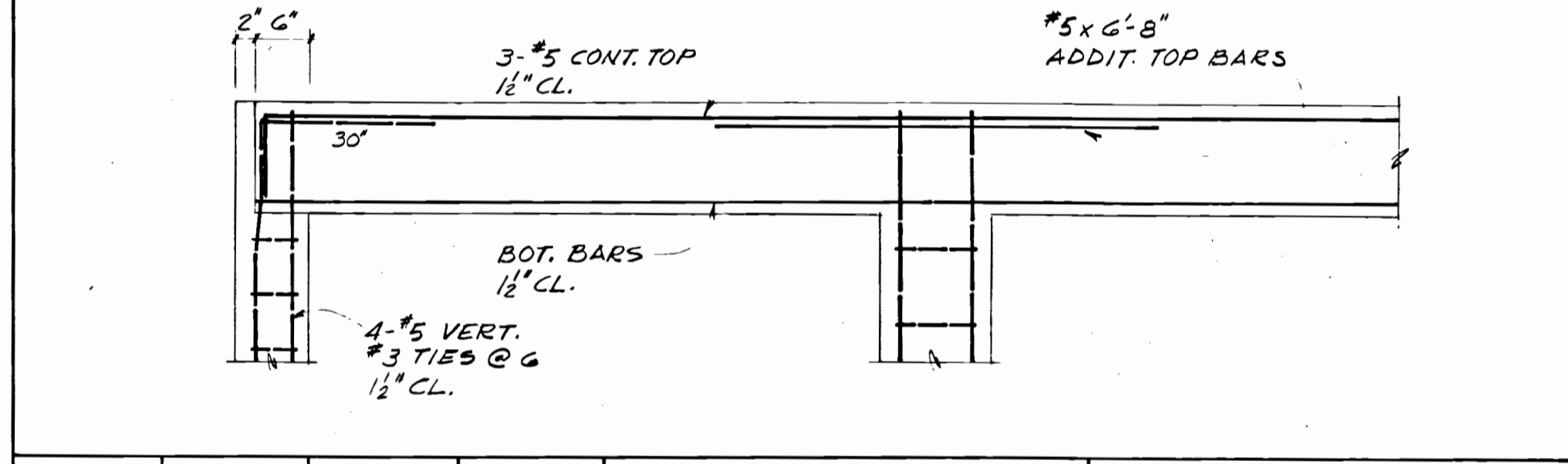


RIGID FRAME FDN.

AS BUILT OCT. 80 L.O. DRAWN R. ZAGARS DATE NOV. 1978 STRUCTURAL SECTIONS AND DETAILS SHEET S-4 OF 10

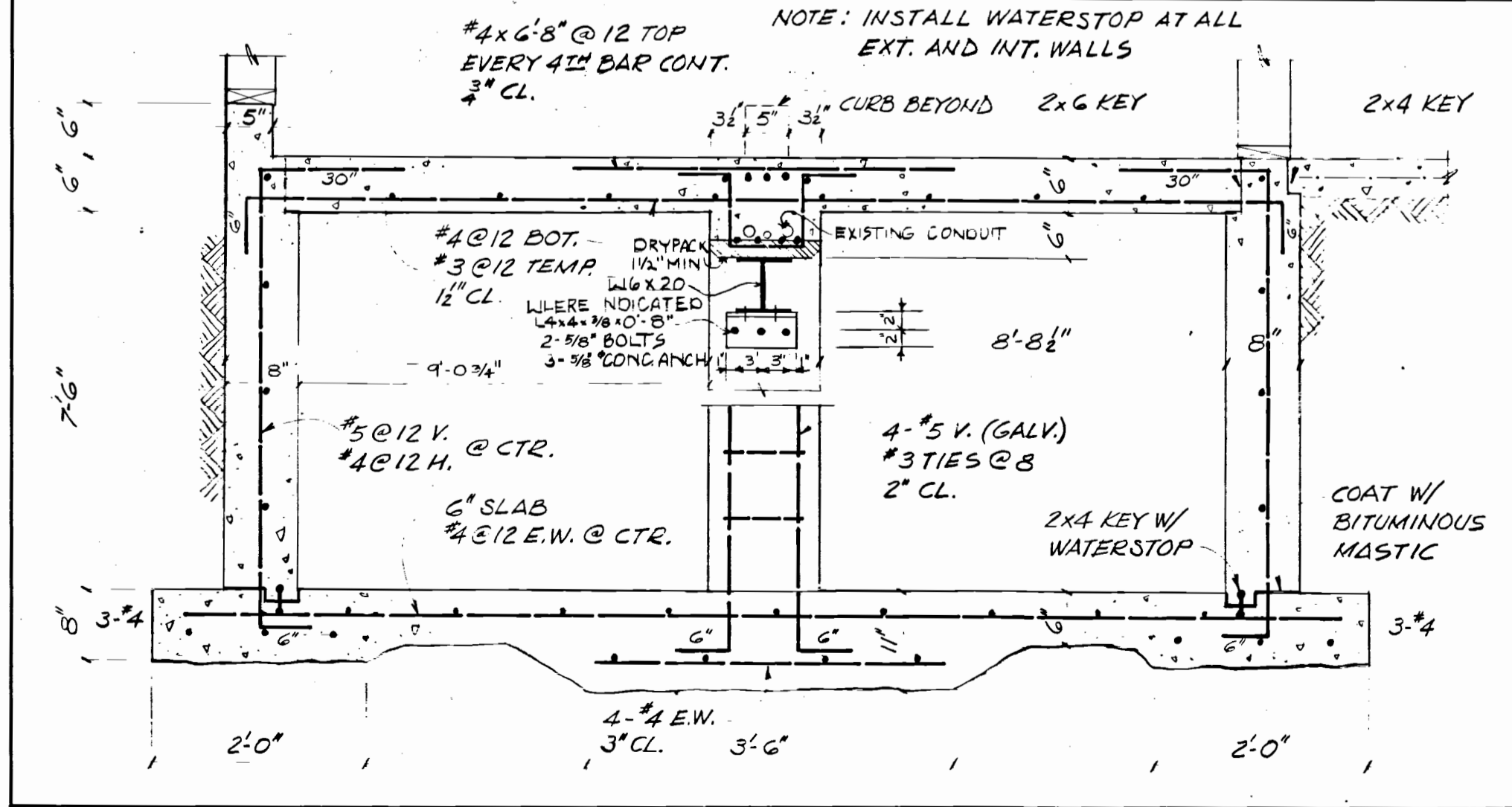


RESERVOIR FOUNDATION PLAN 1/8" = 1'-0" (K 5/5)

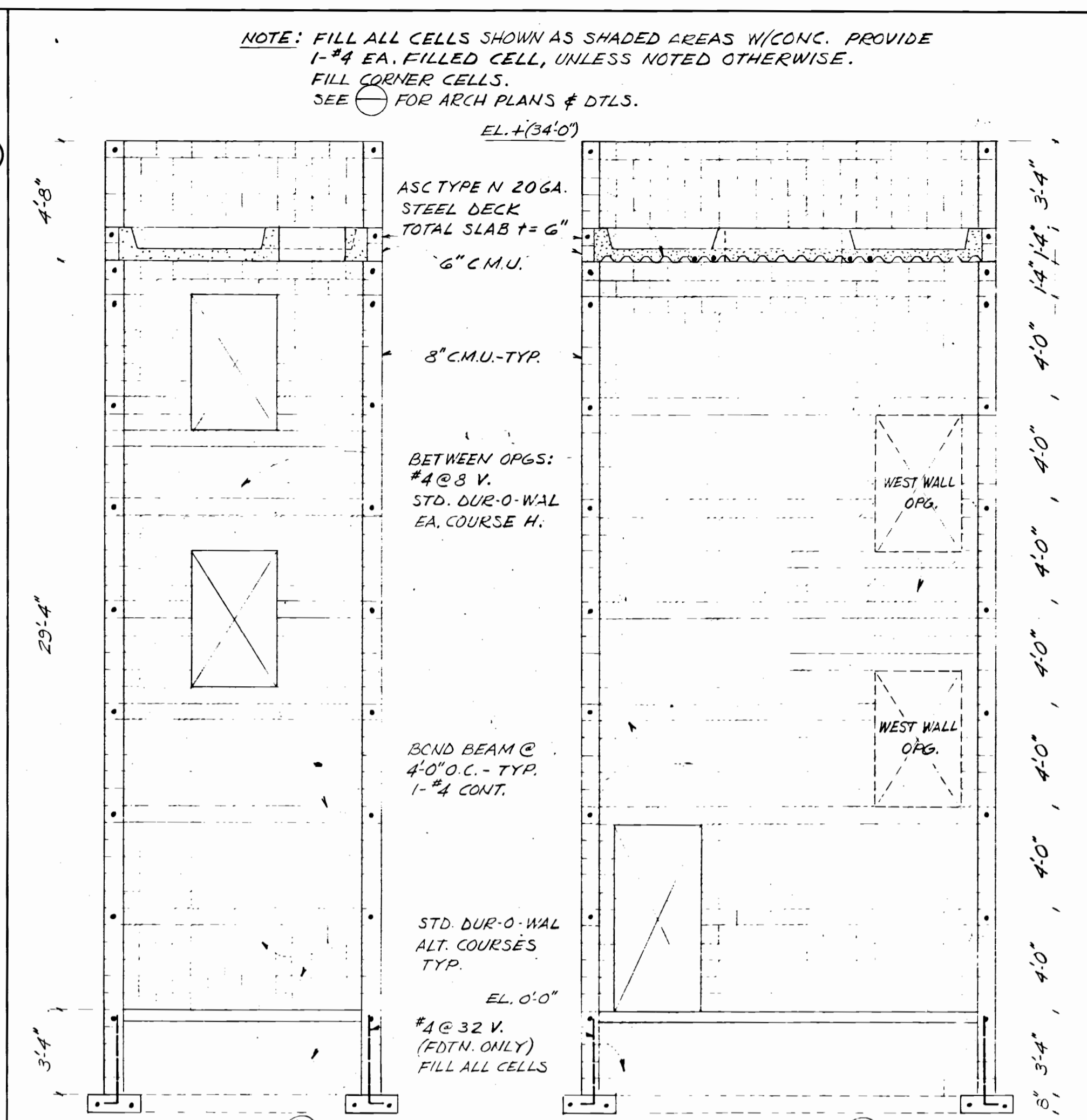


MARK	SIZE	BOT. BARS	TOP BARS	STIRRUPS EACH END	REMARKS
B1	12" x 12"	4 - #5	5 - #5	#3 1" @ 2', 3" @ 4', REM. @ 12"	
B2	12" x 12"	2 - #5	3 - #5	" 1" @ 2', 10" @ 5', " "	SPLICE TOP BARS MID. 1/2 SPAN

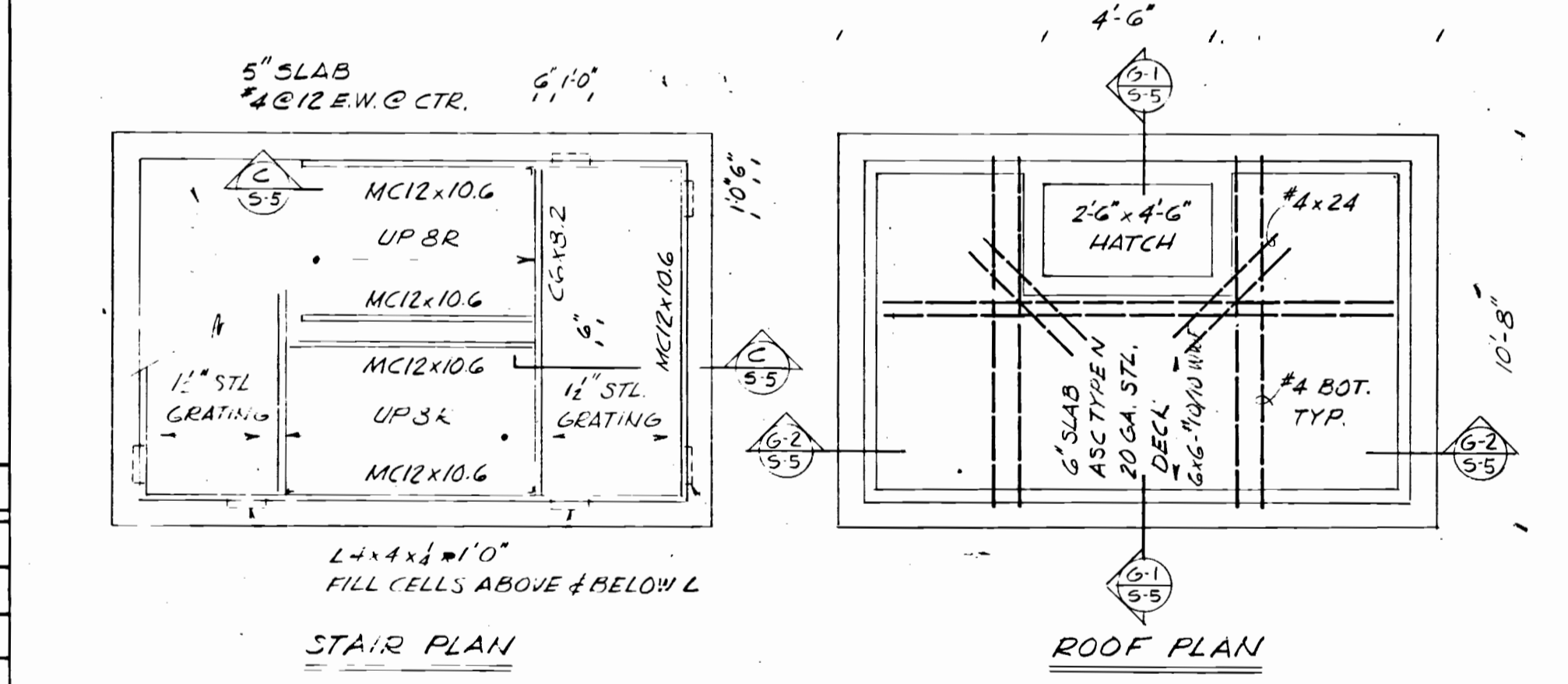
CONCRETE BEAM SCHEDULE 3/8" = 1'-0" (F 5/5)



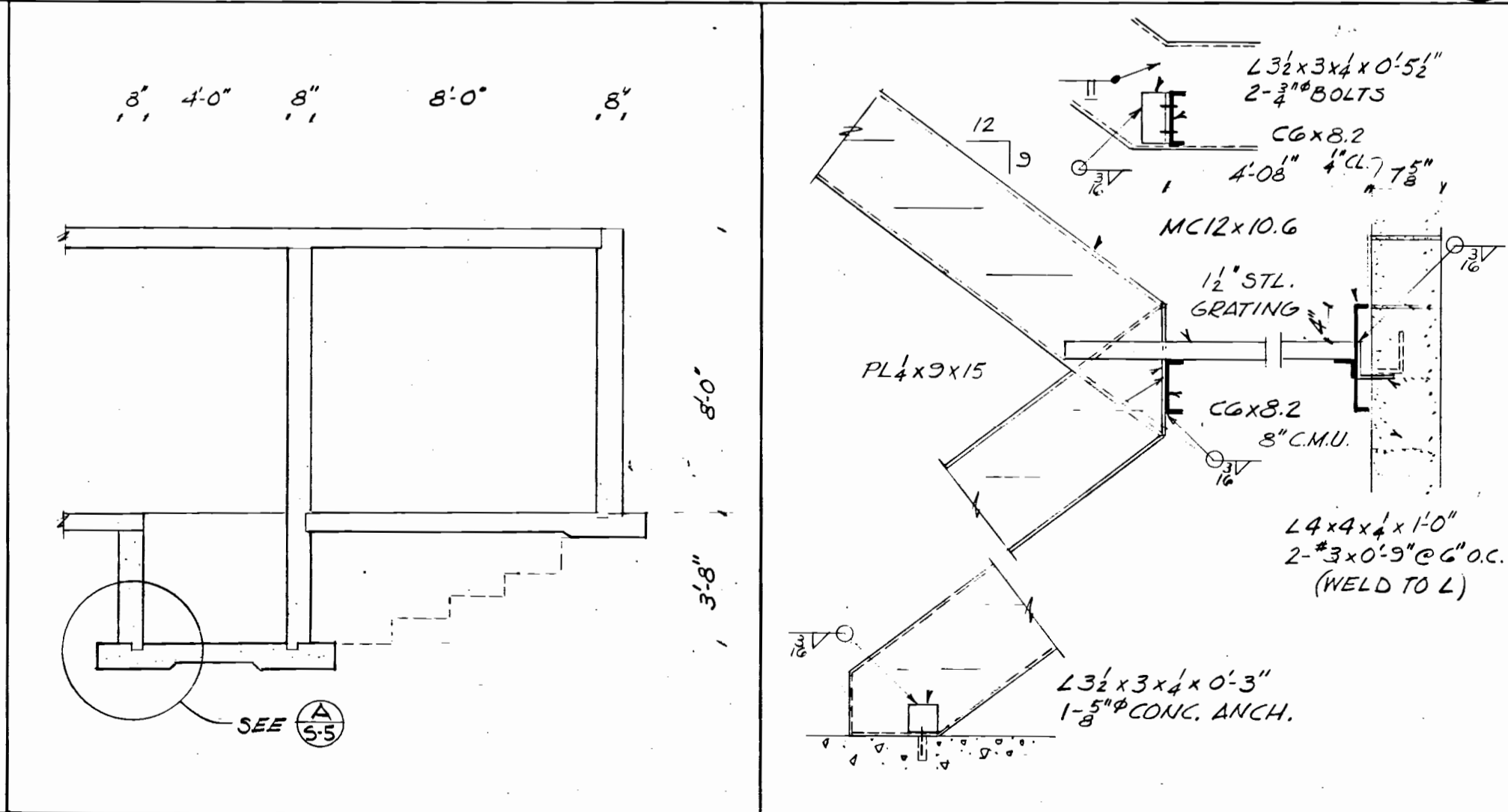
WATER RESERVOIR SECTION 3/8" = 1'-0" (A 5/5)



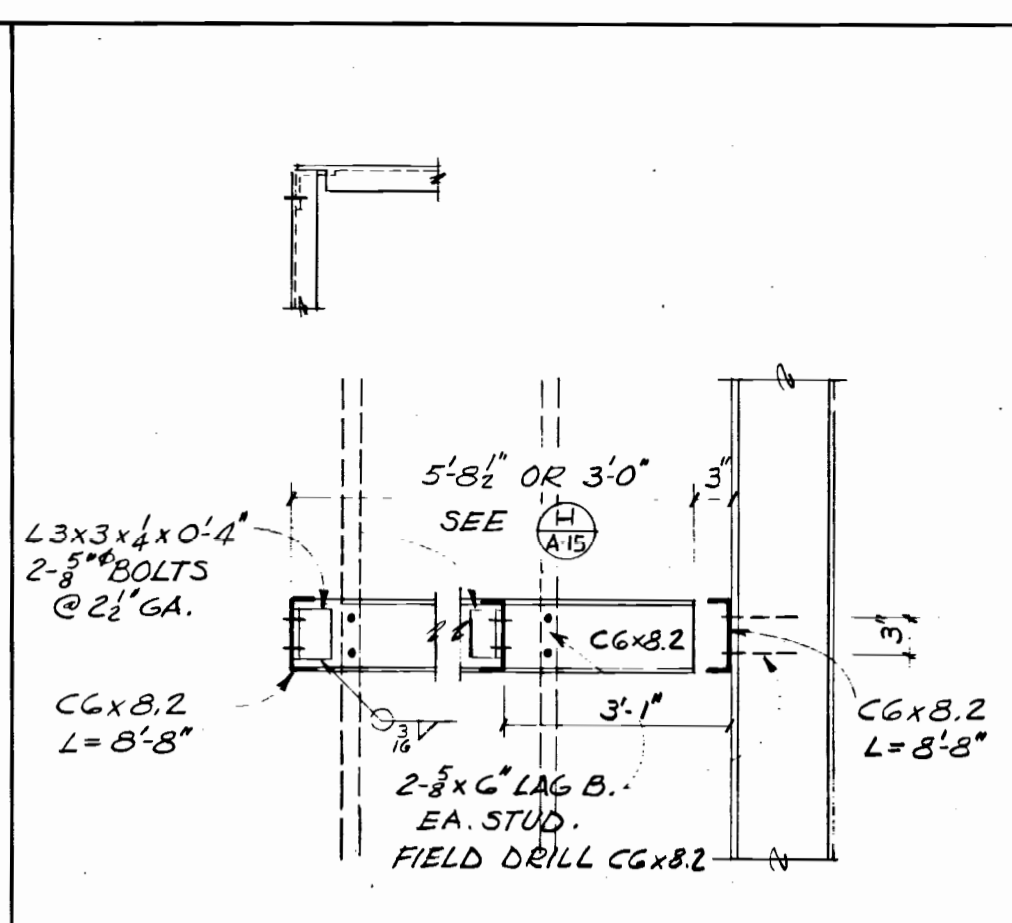
TRAINING TOWER - PLANS & SECTIONS 1/8" = 1'-0" (G 5/5)



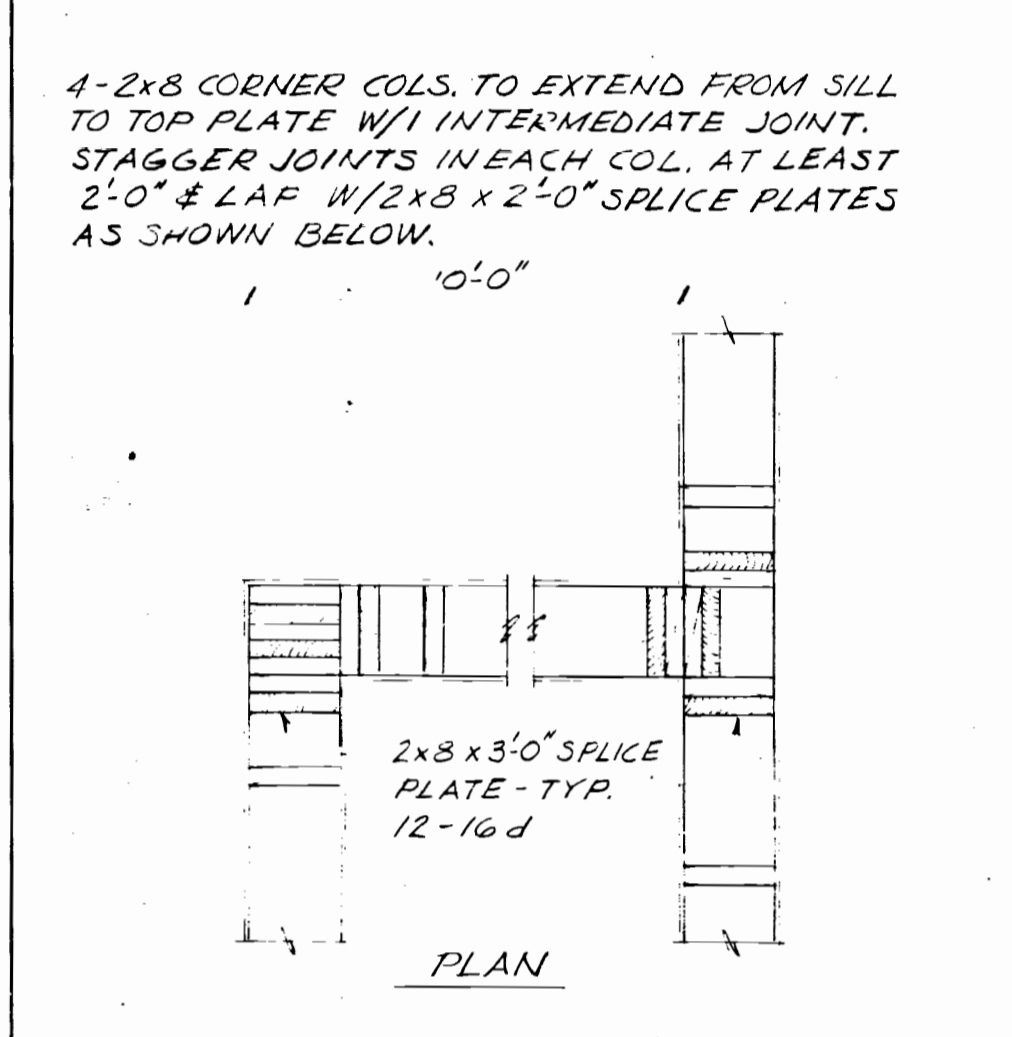
RESERVOIR & SUMP SECTION 1/8" = 1'-0" (B 5/5)



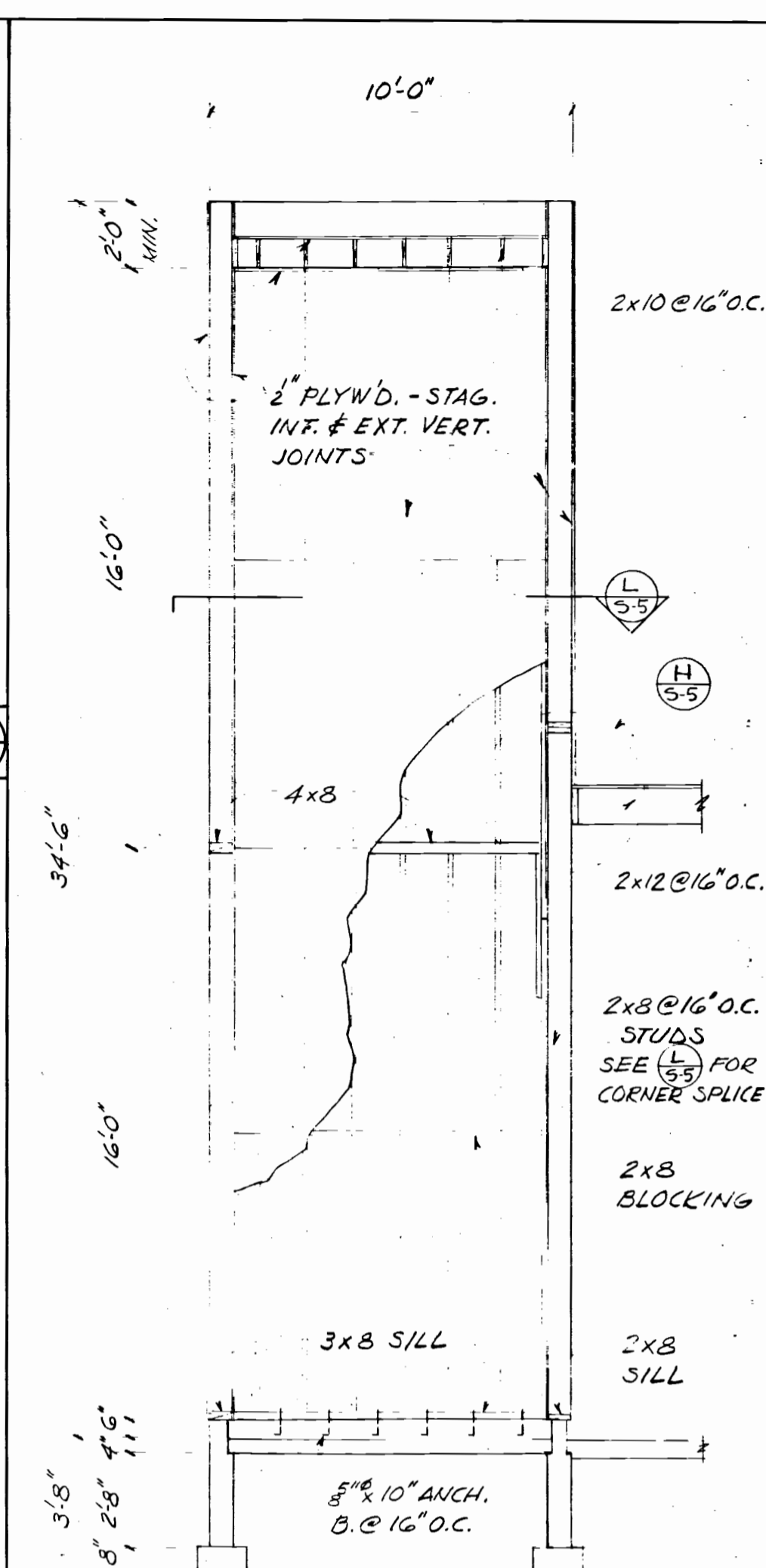
TRAINING TOWER - STAIR DTLS. 3/8" = 1'-0" (C 5/5)



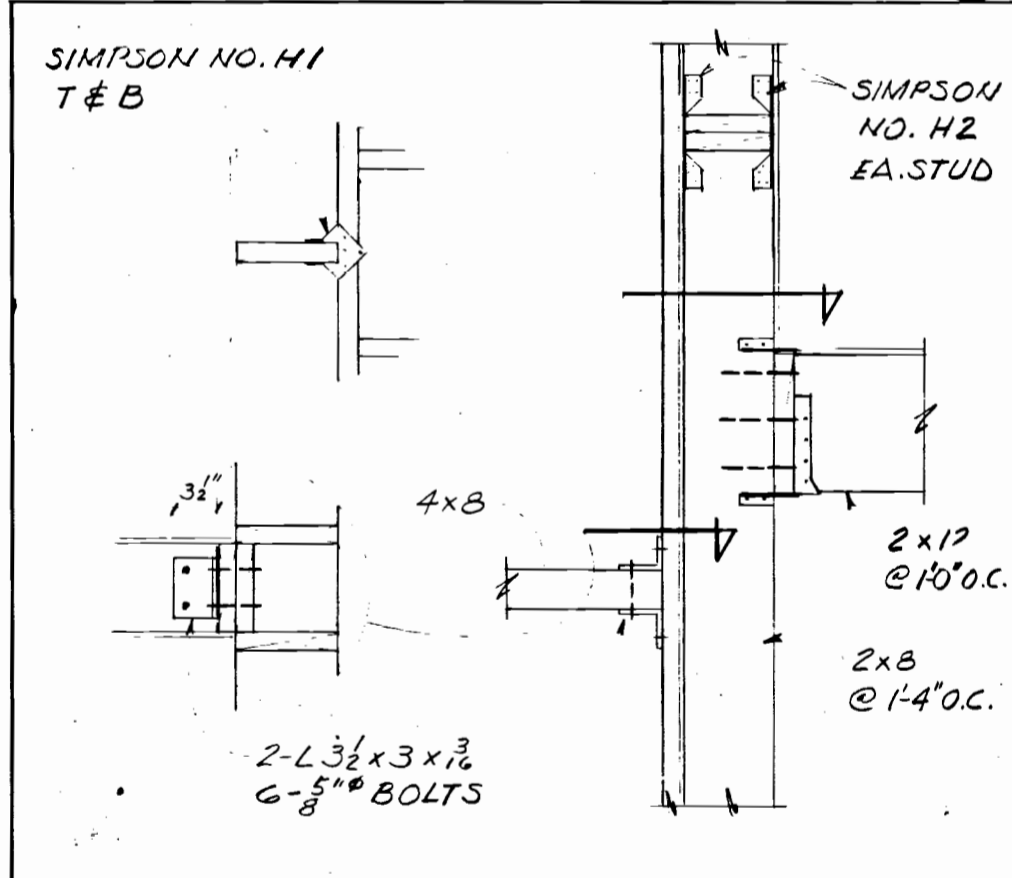
HOSE TOWER GRATING FRAME 3/8" = 1'-0" (N 5/5)



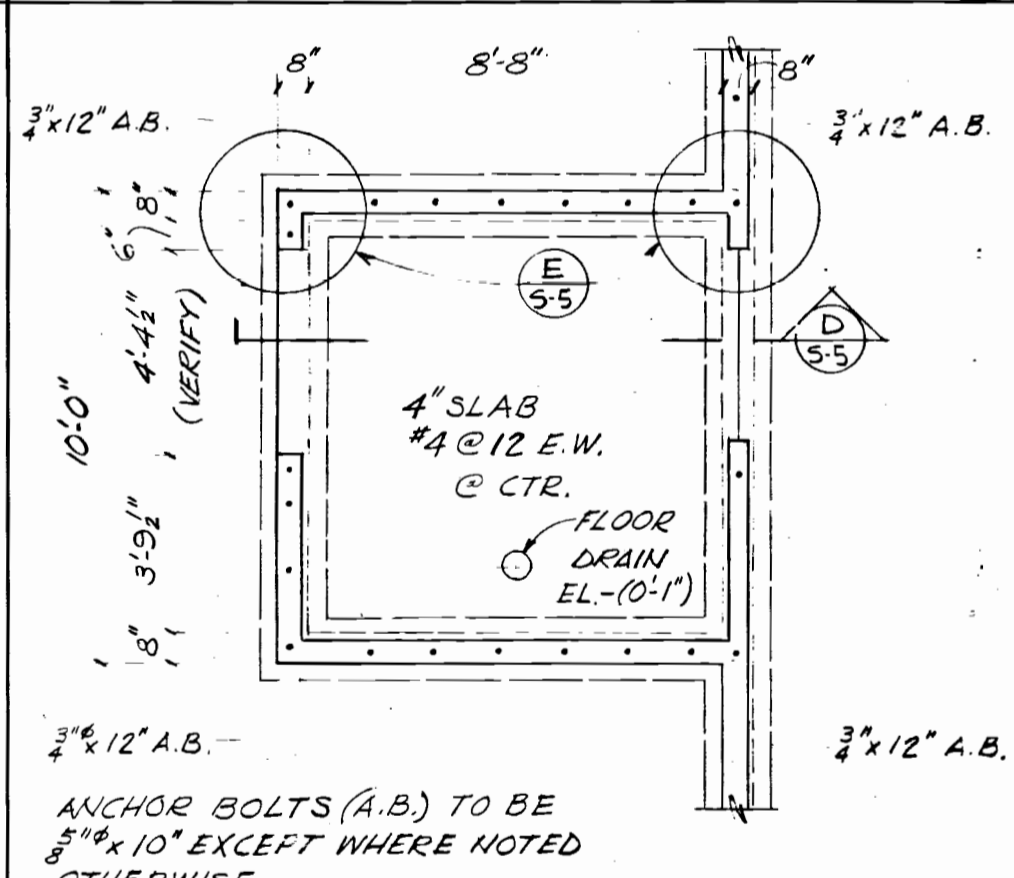
HOSE TOWER COL. SPLICE 3/8" = 1'-0" (L 5/5)



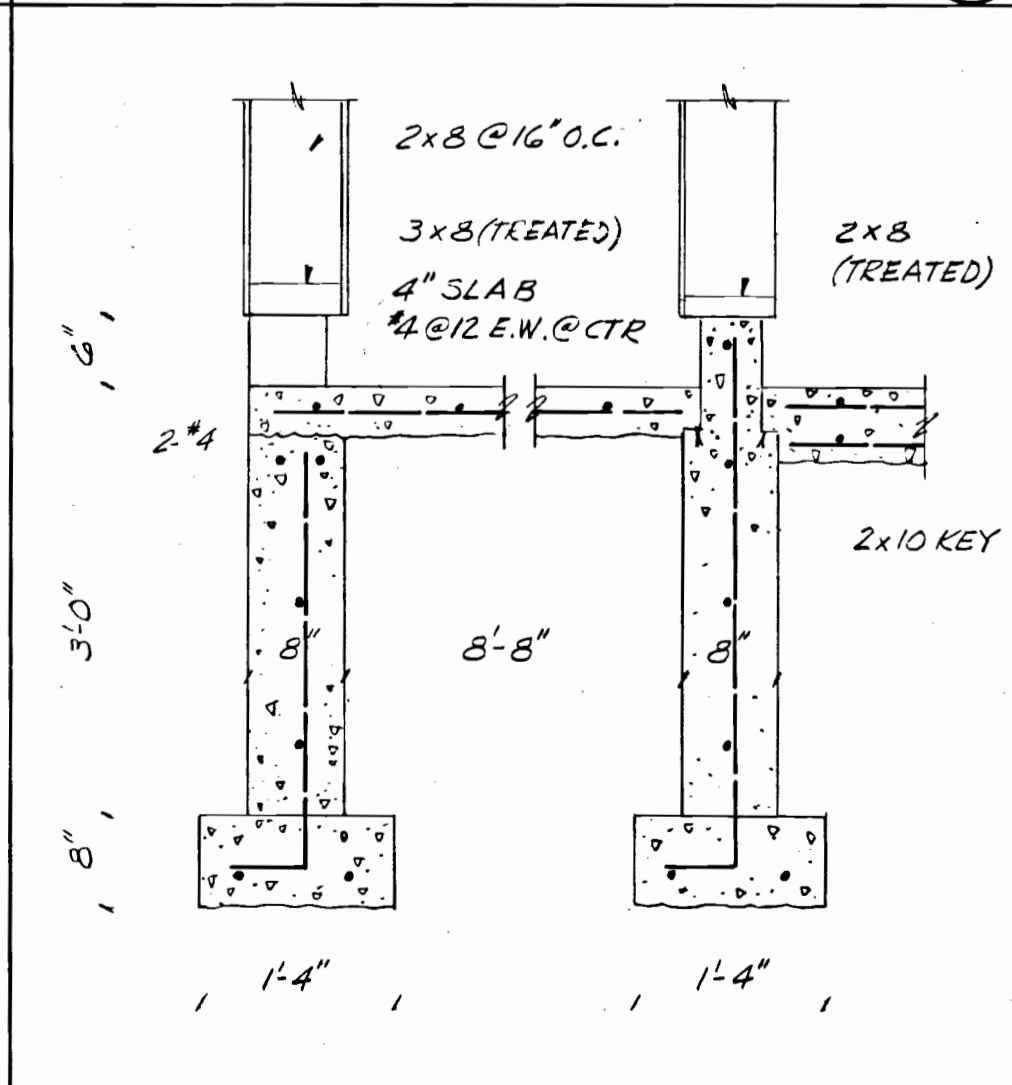
HOSE TOWER SECTION 1/8" = 1'-0" (M 5/5)



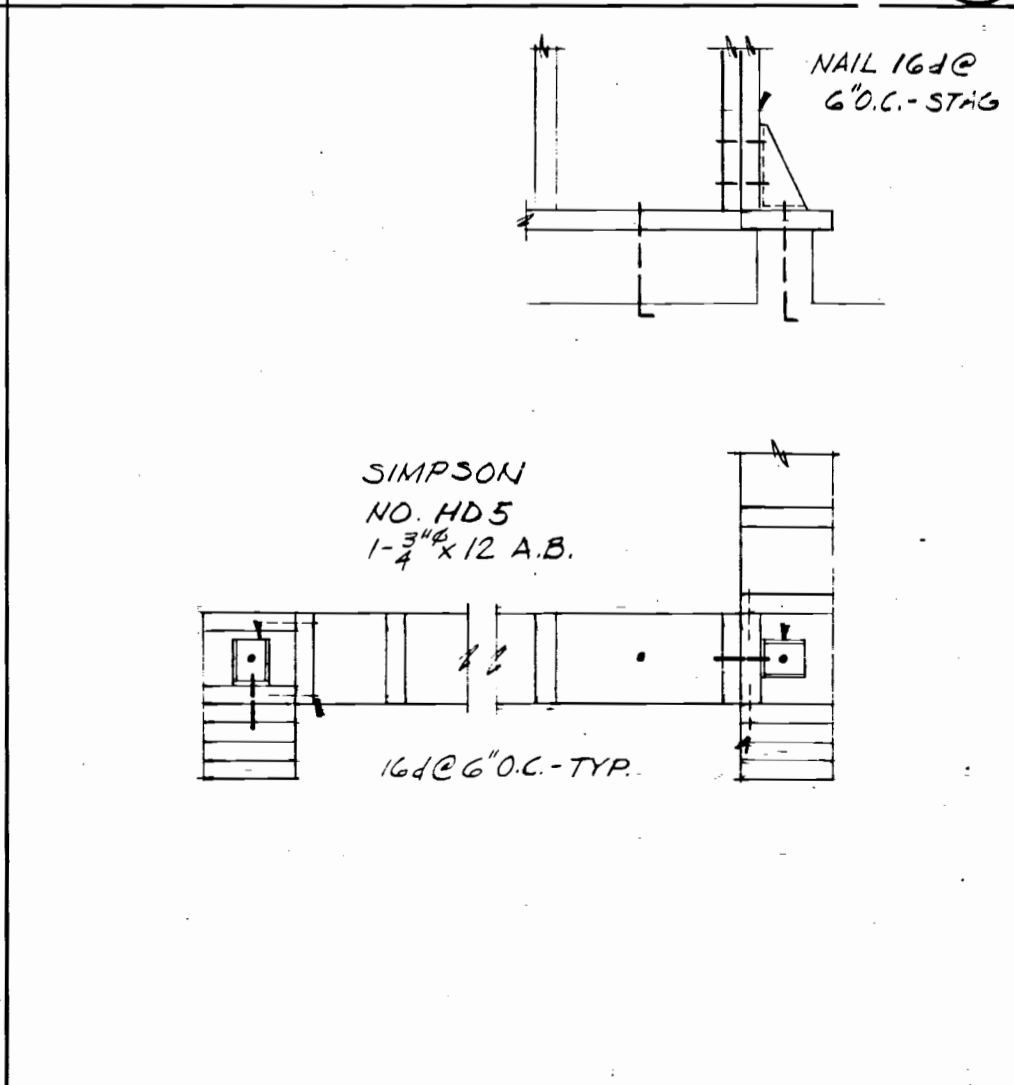
HOSE TOWER - WALL CONN. 3/8" = 1'-0" (H 5/5)



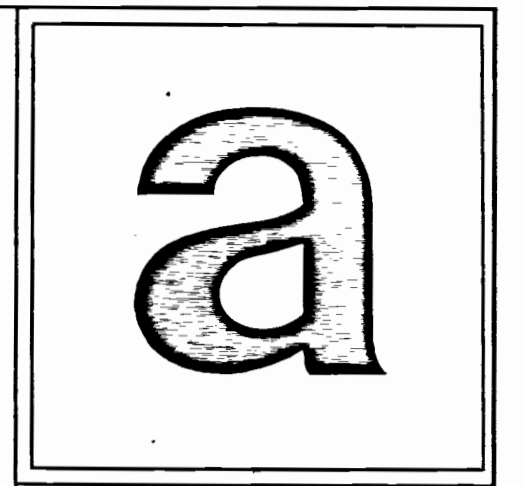
HOSE TOWER - FDN. PLAN 1/8" = 1'-0" (J 5/5)



HOSE TOWER - FDN. SECT. 3/8" = 1'-0" (D 5/5)



HOSE TOWER - WALL TIEDOWN 3/8" = 1'-0" (E 5/5)



ACKLEY & ASSOCIATES INC. ARCHITECTS



GLACIER VOLUNTEER FIRE DEPARTMENT & AIRPORT CRASH-FIRE-RESCUE STATION

CITY & BOROUGH OF JUNEAU, ALASKA
FEDERAL AVIATION ADMINISTRATION ADAP 6-02-0133-06

AS BUILT OCT 20 KO

DRAWN C. ZAGARS

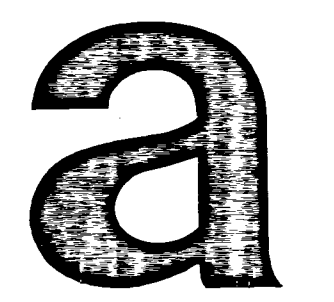
DATE NOV. 1978

STRUCTURAL

TRAINING & HOSE TOWERS

SHEET S-5 OF 60

1557



ACKLEY & ASSOCIATES INC. ARCHITECTS



GLACIER VOLUNTEER FIRE DEPARTMENT & AIRPORT CRASH-FIRE-RESCUE STATION
CITY & BOROUGH OF JUNEAU, ALASKA
FEDERAL AVIATION ADMINISTRATION ADAP 6-02-0133-06
E-78-28

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DRAWN
R. ZAGARS
DATE
NOV. 1978
STRUCTURAL
ALTERNATE
BAY

Richard A. Zagars

SHEET S-6 OF 6

GENERAL NOTES

LIVE LOADS

Roof	40 psf Snow
Low Roof	60 psf "
Second Floor: Stairs & Corridors	100 psf
Mezzanine	125 psf
Other	50 psf
First Floor: Apparatus	300 psf
Other	100 psf
Wind	30 psf
Earthquake	UBC Zone 3 (Importance Factor I = 1.5)

FOUNDATION

Existing Gravelly Sand 3000 psf
Excavate as required to the bottom of footings. Compact existing material to 95% of relative dry density prior to formwork.

Compacted Granular Fill 3000 psf
Fill with approved non-frost susceptible granular material in 12-inch horizontal lifts, loose measurement, and compact to a minimum of 95% of relative dry density.

CONCRETE

Concrete Stress $f'_c = 3000$ psi in 28 days.
Reinforcing Steel ASTM A615, Grade 60.
Welded Wire Fabric ASTM A185, 6x6-#8/8 and 6x6-#10/10.

Reinforcing steel shall have clear embedment in concrete as follows, unless noted otherwise:

Footings	3"
Wall (against earth)	2"
Wall (exposed to weather)	1 1/2"
Wall (inside face)	1"
Beam	1 1/2"
Structural Slab (top)	3/4"
Structural Slab (bot)	1 1/2"

Maximum aggregate size shall be 3/4" for slabs and walls under 8" thick, and 1 1/2" for footings and walls 8" thick and thicker.

Lap all reinforcing 1'-6" minimum, unless detailed otherwise.

CONCRETE MASONRY UNITS

Grade A Concrete Masonry Units (C.M.U.)
Type M Mortar

Fill corner cells and those adjacent to door and window openings with concrete and 1 - #4 rebar. Provide Standard Dur-O-Wal reinforcement at alternate courses. Add additional reinforcing as shown on Sheet S-5.

STEEL

All structural steel shapes shall be ASTM A36 and tubing ASTM A501. Bolts shall be ASTM A325, friction-type connections. Welding electrodes shall comply with ASTM E70. Paint all steelwork after fabrication with one coat of shop paint (red oxide) unless noted otherwise. After erection, touch-up abraided areas and paint all field welds and bolts with paint similar to shop paint. Match shop color where exposed to view.

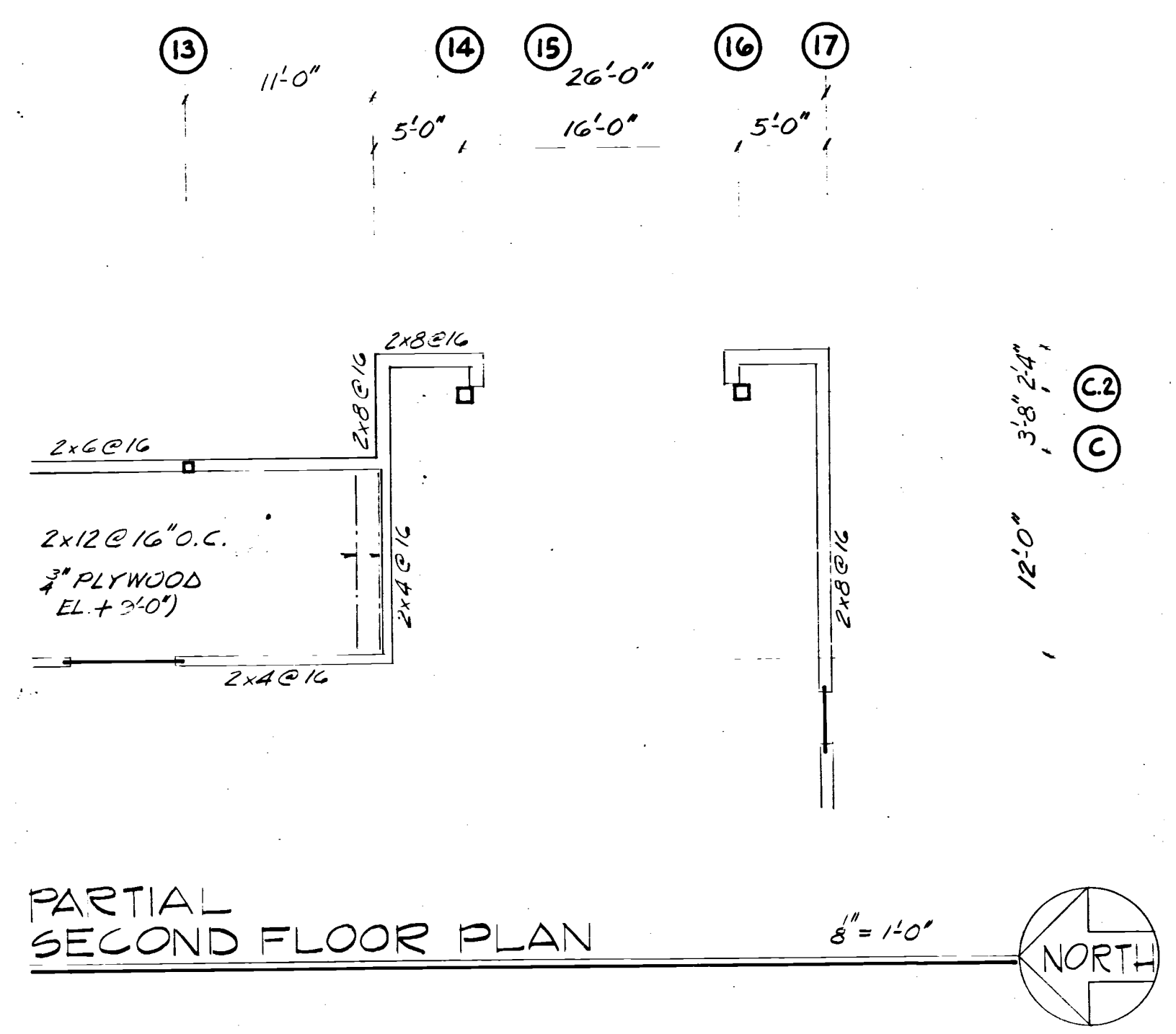
WOOD

Glued-laminated members shall be Douglas Fir, Combination Symbol 22F, Wet-Use adhesives. Manufacture of the structural glued laminated timber shall conform to the manufacturing requirements of the American Institute of Timber Construction Standards AITC 100, and Standard Specifications for Structural Glued Laminated Timber, AITC 117-71.

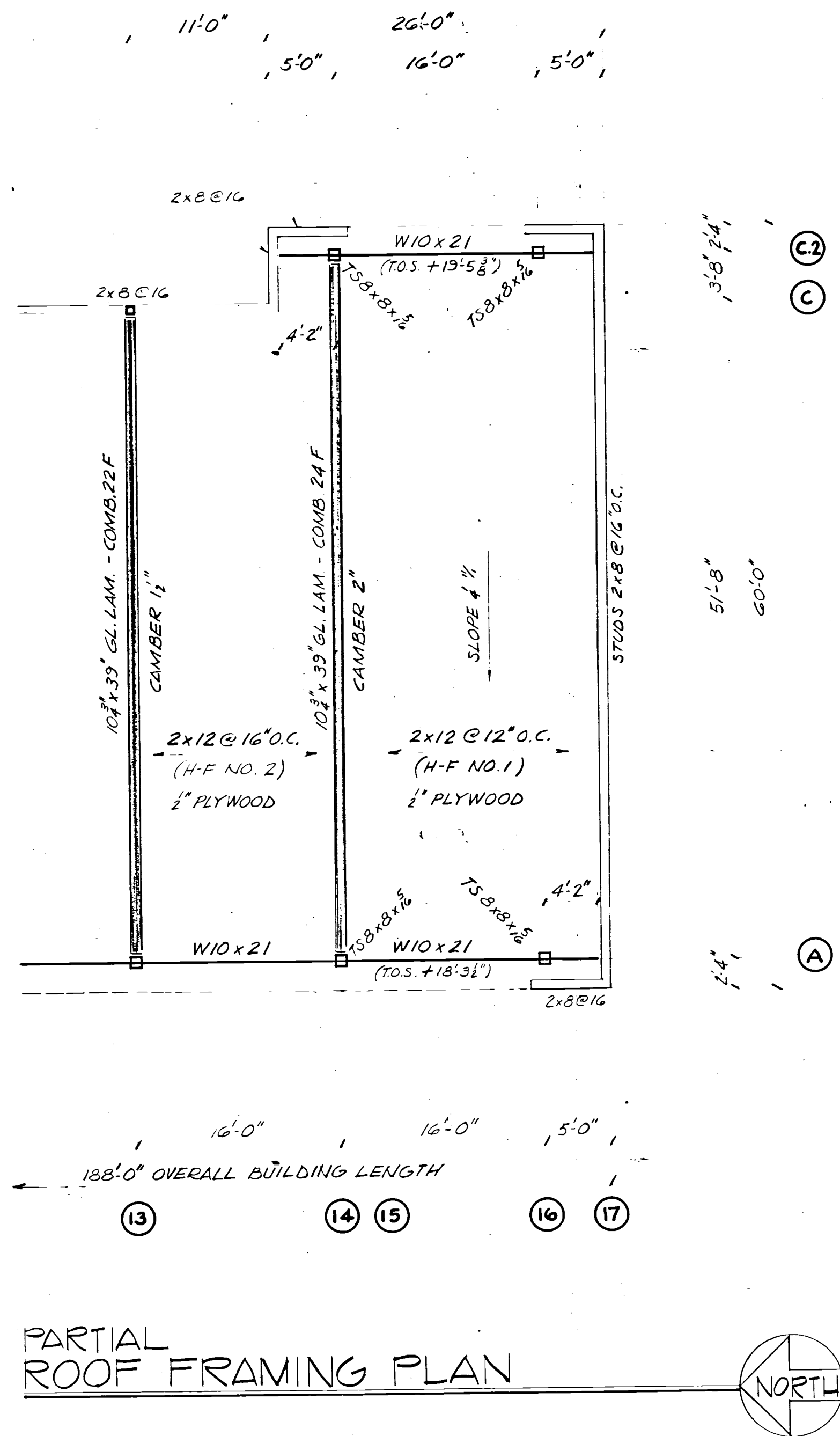
Wood framing shall be Hem-Fir No. 2, except where noted to be Hem-Fir No. 1.

TJL Trus-Joists and accessories shall be the standard product of the Trus-Joist Corporation.

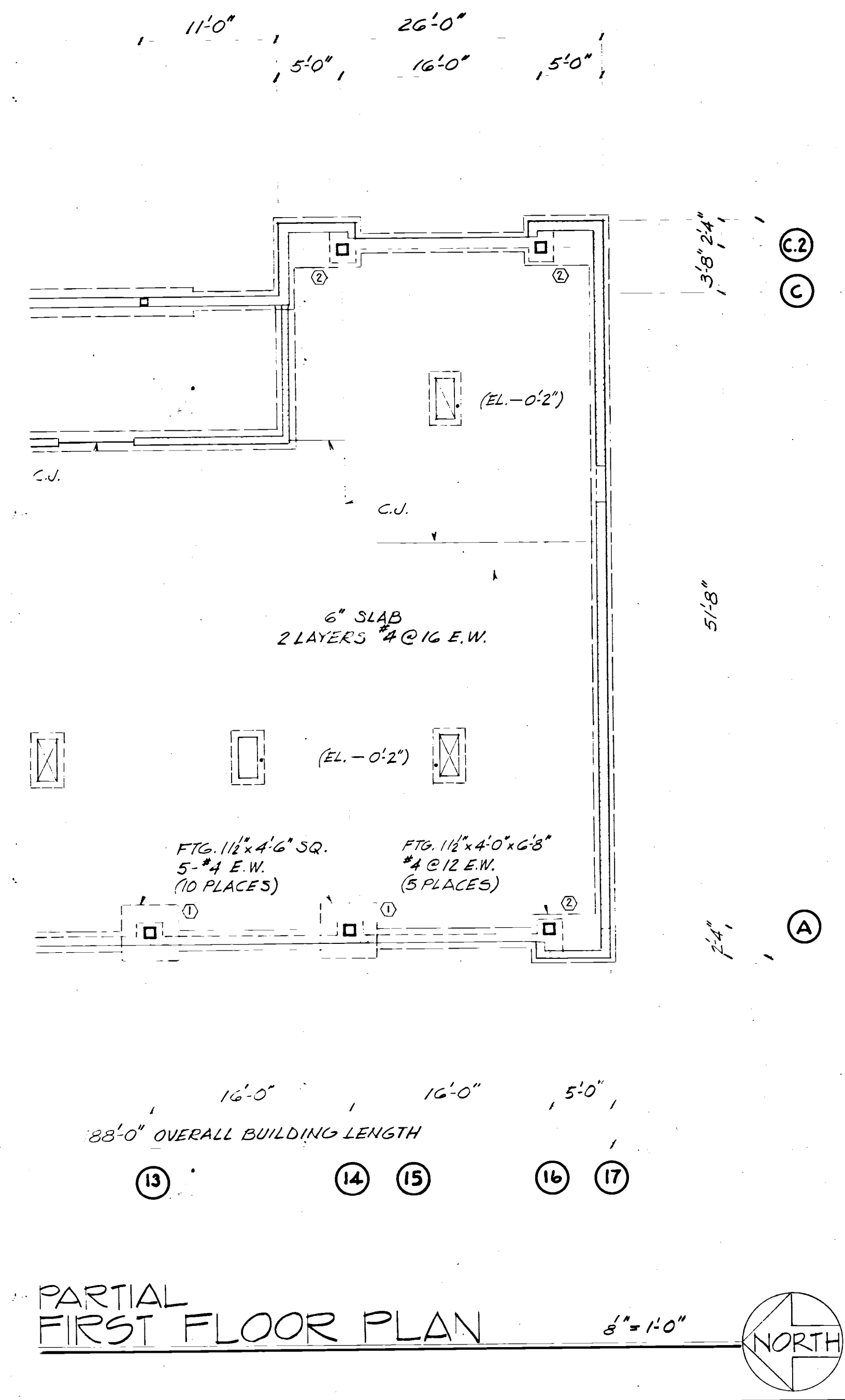
Roof, floor and exterior wall sheathing plywood shall be Structural II C-D Int-APA. Nail roof and floor sheathing with 8d @ 6" o.c. edges, 12" o.c. intermediate, with ring-shank nails. Install with face grain perpendicular to supports, unblocked edges unless noted otherwise. Nail wall sheathing with 10d @ 6" o.c. edges, 12" o.c. intermediate, with ring-shank nails. Install panels vertically or horizontally, all edges blocked.



PARTIAL SECOND FLOOR PLAN 8" = 1'-0" NORTH



PARTIAL ROOF FRAMING PLAN NORTH



PARTIAL FIRST FLOOR PLAN 8" = 1'-0" NORTH

Contractor Project No.: 1050015
Glacier Fire Station Siding Replacement
Owner Contract No.: BE20-182

O & M DATA SHEET

Specification Section / Drawing Number /Detail Number: 074213.13

Name of Item / Drawing Equipment Number: Metal Wall Panels

Manufacturer / Model Number: Metal Sales/ T13, TLC-1 & 7/8" Corrugated

Use and Location: Refer to plans

Size / Capacity: All panels are 24ga. T13: 24" wide, TLC-1: 12" wide, & 7/8" Corrugated: 34.67" wide

Supplier: Pac-Rim Building Supply 3901 Raymond Ave SW, Renton, WA 98057, United States
Phone: 425-251-3700

Source of Spare Parts: Pac-Rim Building Supply 3901 Raymond Ave SW, Renton, WA 98057, United States
Phone: 425-251-3700

Provider(s) of Warranty Service: See Metal Sales warranty **Subcontractor:**

Other Contractor Comments: For Maintenance - refer to Metal Sales's

Maintenance & Valspar's - Cleaning and Maintenance Guide

CONTRACTOR REVIEW: Carver Construction LLC **Reviewed By:** James Malapanis

Signature:

Title: Project Manager

Date: 05-06-2021





Sure-Flex PVC Membrane

Typical Properties and Characteristics

Physical Property	ASTM D4434 Requirement	50-mil	60-mil	80-mil
Thickness over scrim, in. (mm) ASTM D4434 optical method average of 3 areas	0.016 min (0.40)	0.022 (0.559)	0.027 (0.686)	0.037 (0.940)
Weight, lbs/ft ² (kg/m ²)	No requirement	0.33 (1.61)	0.40 (1.95)	0.55 (2.68)
Breaking strength (MD x CD), lbf/in (kN/m) ASTM D751 grab method	275 min (48)	320 x 300 (56 x 53)	330 x 300 (58 x 55)	360 x 330 (63 x 58)
Elongation break of reinforcement (MD x CD), % ASTM D751 grab method	25 min	30 x 30	30 x 30	30 x 30
Tearing strength (MD x CD), lbf (N) ASTM D751 proc. B, 8 in. x 8 in.	90 min (400)	100 x 120 (445 x 534)	100 x 130 (445 x 578)	100 x 132 (445 x 587)
Low temperature bend, ASTM D2135, no cracks 5x at -40°C	PASS	PASS (-40°C)	PASS (-40°C)	PASS (-40°C)
Linear dimensional change, % ASTM D1204, 6 hours at 176°F	±0.5 max	0.4	0.4	0.4
Ozone resistance, no cracks 7x ASTM D1149, 100pphm, 168 hrs	PASS	PASS	PASS	PASS
Water absorption resistance, mass % ASTM D570, 166 hours at 158°F water	±3.0 max	2.0	2.0	2.0
Field seam strength, lbf/in. (kN/m) ASTM D1876 tested in peel	No requirement	25 (4.4) min 60 (10.5) typ.	25 (4.4) min 60 (10.5) typ.	25 (4.4) min 60 (10.5) typ.
Water vapor permeance, Perms, ASTM E96 proc. B	No requirement	0.10 max 0.05 typ	0.10 max 0.05 typ	0.10 max 0.05 typ
Puncture resistance - Federal, lbf (kN) FTM 101C, method 2031	No requirement	280	320	380
Puncture resistance - Dynamic, J (ft-lbf) ASTM D5635	20 (14.7)	PASS	PASS	PASS
Puncture resistance - Static, lbf (N) ASTM D5602	33 (145)	PASS	PASS	PASS
Xenon-Arc resistance, no cracks/ crazing 10x, ASTM G155 0.35 W/m ² at 340-nm, 63°C B.P.T. 12,600 kJ/m ² total radiant exposure 10,000 hours	PASS	PASS	PASS	PASS
Properties after heat aging ASTM D3045, 56 days at 176°F	90 min	90 min	90 min	90 min
Breaking strength, % retained	90 min	90 min	90 min	90 min
Elongation reinf., % retained				

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

Radiative Properties for ENERGY STAR®, Cool Roof Rating Council (CRRC), and LEED®

Physical Property	Test Method	White PVC	Tan PVC	Gray PVC
ENERGY STAR - E-903 Initial Solar Reflectance	Solar Spectrum Reflectometer	0.86	0.73	0.59
ENERGY STAR - E-903 Solar Reflectance after 3 years	Solar Spectrum Reflectometer (Uncleaned)	0.63	Pending	Pending
CRRC - Initial Solar Reflectance	ASTM C1549	0.86	0.73	0.59
CRRC - Solar Reflectance after 3 years	ASTM C1549 (uncleaned)	0.63	0.60*	0.48*
CRRC - Initial Thermal Emittance	ASTM C1371	0.89	0.86	0.85
CRRC - Thermal Emittance after 3 years	ASTM C1371 (uncleaned)	0.87	0.82*	0.81*
Solar Reflective Index (SRI)	ASTM E1980	108	89	69
Solar Reflective Index (SRI) SRI after 3 years	ASTM E1980	75	70*	53*

* Rapid Ratings

LEED Information

Pre-consumer Recycled Content	10%
Post-consumer Recycled Content	0%
Manufacturing Location	Greenville, IL
Solar Reflectance Index (SRI), Initial	White: 108, Tan: 89, Gray: 69

Supplemental Approvals, Statements and Characteristics

- » Sure-Flex PVC meets or exceeds the requirements of ASTM D4434 Standard Specification for Poly (Vinyl Chloride) Sheet Roofing. Sure-Flex PVC is classified as Type III and/or Type IV as defined by ASTM D4434.
- » Sure-Flex reinforced PVC was tested for dynamic puncture resistance per ASTM D5635-04 using the most recently modified impact head. 50-mil thick membrane was watertight after an impact energy of 22.5 J (16.6 ft-lbf), which passes the ASTM D4434 requirement.
- » Sure-Flex reinforced PVC was tested for static puncture resistance per ASTM D5602-98 and exceeded 33 lbf (145 N), which passes the ASTM D4434 requirement.

SECTION 00310 - BID SCHEDULE

Bid Schedule for construction of **BE22-108- Glacier Fire Station M/E Upgrades & Juneau Fire Station Generator Replacement**, in accordance with the Contract Documents.

Item 1 – Renovation to the existing Glacier Fire Station to replace existing mechanical and electrical equipment that is past its useful life, and perform all WORK as described in these Contract Documents. Associated Work includes the installation by the Contractor of Owner Furnished generators for both the Glacier Fire Station and the Juneau Fire Station.

\$ _____
(Price in Figures)

Item 2 – 200 CY of contaminated soil removal and replacement per Section 026100.

Item	Pay Unit	Quantity	Unit Price	Total
Contaminated Soil Removal and Replacement	CY	200		

TOTAL BID \$ _____
(Price in Figures)

Date: _____ Bidder: _____
(Company Name)

END OF SECTION