

SOFT STORY SEISMIC RETROFIT
COMPLIANCE TO LOS ANGELES MUNICIPAL CODE
ORDINANCE No. 183893

SCOPE OF SEISMIC RETROFIT:

TO COMPLY WITH LOS ANGELES MUNICIPAL CODE DIVISION 93
ORDINANCE No. 183893, THE FOLLOWING WORK TO BE
PERFORMED AS OUTLINED IN THIS CONSTRUCTION DOCUMENT:
ELIMINATE THE SOFT/WEAK STORY CONDITION THAT EXIST
ALONG THE WEST END OF THE BUILDING BY INSTALLING AN
ORDINARY MOMENT FRAME AT OPEN WALL ALONG THE WEST
END OF BUILDING.

BUILDING INFORMATION:

TYPE OF CONSTRUCTION V-B
NUMBER OF STORIES 2
OCCUPANCY GROUP R2 & U
LOT DIMENSIONS 50' X 130'
ZONE RD1.5-1

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PROJECT LOCATION

PROPERTY ADDRESS:
6923 BEN AVE. LOS ANGELES ,CA 91605
APN 2321011009

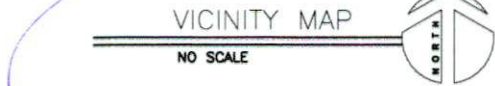
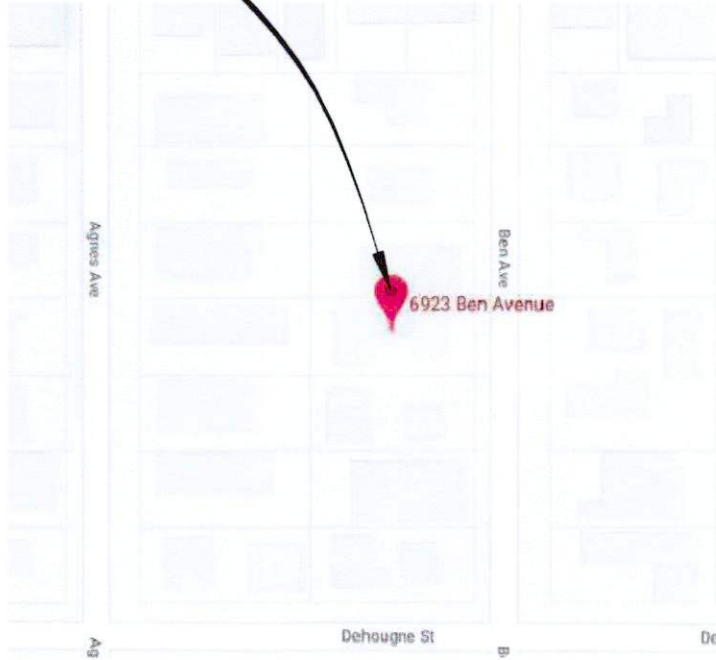
OWNER:

SIMON KAZANCHYAN
1745 NORTH ROSE ST., BURBANK, CA 91505

APPLICABLE CODES:
CBC 2016 & 2017 LABC
LAMC DIV.93 ORDINANCE 183893
LAMC DIV.93 P/BC 2014-136
LAMC DIV.93 P/BC 2017-136

ENGINEER'S STATEMENT:

I AM RESPONSIBLE FOR DESIGNING THIS BUILDING'S SEISMIC
STRENGTHENING IN COMPLIANCE WITH THE MINIMUM
STANDARDS OF THE MANDATORY EARTHQUAKE HAZARD
REDUCTION IN EXISTING WOOD-FRAME BUILDINGS WITH SOFT,
WEAK OR OPEN-FRONT WALLS (LAMC DIV. 93 ORDINANCE No.
183893).



| LEGAL DESCRIPTION | |
|-------------------|------------|
| TRACT | TR 6024 |
| BLOCK | NONE |
| LOT | 264 |
| APN | 2321011009 |

READY TO ISSUE
BY VARAND SARKISIAN
JUL 02 2018
Signature



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OWNER'S NAME
SIMON KAZANCHYAN

ADDRESS:
1745 NORTH ROSE ST., BURBANK,
CA 91505

PROJECT SCOPE:
SEISMIC RETROFIT
COMPLIANCE TO LOS ANGELES MUNICIPAL CODE
ORDINANCE No. 183893

PROJECT DESCRIPTION:
TWO STORY RESIDENTIAL BUILDING
6923 BEN AVE.
LOS ANGELES, CA 91605

LEGAL PROPERTY DESCRIPTION
APN 2321011009
LOT 264
TRACT TR 6024

REGISTERED PROFESSIONAL ENGINEER
HAMID SHEKARANIZ
C 82784
SHEKARANIZ
CIVIL
STATE OF CALIFORNIA

| | | | |
|--------------|-----|-------|----------------|
| DRAWN BY: | MF | DATE: | 03 / 10 / 2018 |
| DESIGN BY: | AL | | 03 / 10 / 2018 |
| APPROVED BY: | H2S | | 03 / 10 / 2018 |

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| 1 | 06 / 02 / 2018 | |
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COVER SHEET

SCALE: AS NOTED
DATE: 03 / 10 / 2018

00

EXTEND OF SEISMIC RETROFIT

THE SCOPE OF WORK IS A MANDATORY SEISMIC UPGRADE OF EXISTING BUILDING PER L.A. ORDINANCE NO. 183893- MANDATORY EARTHQUAKE HAZARD REDUCTION IN EXISTING WOOD-FRAME BUILDING WITH SOFT, WEAK, OR OPEN FRONT WALLS. THE RETROFIT ADDRESSES ONLY THE SOFT STORY CONDITION AND IS NOT INTENDED AS A FULL UPGRADE OF THE ENTIRE LATERAL SYSTEM OF THE BUILDING. ALL NEW CONSTRUCTION SHALL COMPLY WITH CONTRACT DOCUMENTS AND THE 2016 CALIFORNIA BUILDING CODE AND ALL LOCAL AMENDMENT (2017 LOS ANGELES BUILDING CODE) INCLUDING THE ORDINANCE MENTIONED ABOVE.

GENERAL NOTES

1. ALL CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO REQUIREMENTS OF THE 2016 EDITION OF THE CALIFORNIA BUILDING CODE, AND ALL REQUIREMENTS OF CITY OF LOS ANGELES ORDINANCE No. 183893.
2. FEATURES OF CONSTRUCTION SHOWN ARE TYPICAL AND SHALL APPLY GENERALLY THROUGHOUT SIMILAR CONDITIONS.
3. DETAILS SHOWN ON TYPICAL DETAIL SHEETS SHALL BE USED WHENEVER APPLICABLE, UNLESS OTHERWISE SHOWN. SPECIFIC DETAILS ON THE STRUCTURAL DRAWINGS TAKE PRECEDENCE OVER TYPICAL DETAILS. SPECIFIC NOTES SHOWN ON THE STRUCTURAL DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES.
4. WHERE DIMENSIONS ARE SHOWN ON THE PLANS, THEY SHALL GOVERN OVER SCALE. IN THE EVENT OF CONTRADICTION, USE THE MOST STRINGENT SPECIFICATION AND NOTIFY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL EXERCISE CARE TO PROTECT ADJACENT PROPERTIES DURING HIS OPERATIONS.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS DEPICTED IN THE PLANS PRIOR TO ORDERING ANY MATERIALS AND PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH WORK.
6. THE CONTRACTOR SHALL COMPARE ALL PAGES OF THE PLANS; ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO PROCEEDING WITH WORK.
7. ALL CONDITIONS SHOWN OR NOTED AS EXISTING ARE BASED ON BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE DRAWINGS, NO WARRANTY IS IMPLIED AS TO THEIR ACCURACY.
8. ALL BUILDING MATERIAL SHALL BE NEW MATERIAL, UNLESS OTHERWISE APPROVED OR SPECIFIED BY THE ENGINEER OF RECORD.
9. CONTRACTORS SHALL VERIFY EASEMENTS (PUBLIC OR PRIVATE) FOR SEWER, WATER, ELECTRICAL, TELEPHONE, CABLE T.V., AND GAS PRIOR TO STARTING CONSTRUCTION.
10. VERIFY ALL UTILITY DATA AND LOCATIONS PRIOR TO ANY WORK. ONSITE UTILITIES SHALL BE COORDINATED WITH THE APPROPRIATE AGENCY OR UTILITY COMPANY.
11. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR AND SUBCONTRACTORS SHALL REMOVE SURPLUS MATERIALS AND DEBRIS FROM THE SITE. CONTRACTOR SHALL REMOVE ALL DELETERIOUS MATERIAL FROM SITE INCLUDING BUT NOT LIMITED TO; BROKEN CONCRETE, STUMPS, ROCKS, DEBRIS, ASPHALT RUBBLE, GARBAGE, ETC. AND LEGALLY DISPOSE OF ABOVE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SAFETY REQUIREMENTS.
13. THE STAMPED SET OF PLANS AND SPECIFICATIONS SHALL BE KEPT ON THE JOB SITE AND SHALL BE AVAILABLE TO AUTHORIZED REPRESENTATIVES OF THE BUILDING DEPARTMENT.
14. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS.
15. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE NECESSARY BARRIERS, PROTECTION FENCES, AND/OR CANOPIES ALONG PUBLIC WAYS PRIOR TO START OF CONSTRUCTION.
16. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE FT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METER, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOKUP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FT OF ANY POWER LINES WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.
17. BUILDING SHALL BE EVACUATED DURING THE TIME ANY OF THE FOLLOWING CONDITIONS EXIST:

17.1. REQUIRED EGRESS ARE NOT AVAILABLE OR ARE OBSTRUCTED.

17.2. REQUIRED FIRE SAFETY DEVICES SUCH AS SPRINKLER, STANDPIPES AND ALARM SYSTEMS ARE NOT OPERATIONAL.

17.3. BUILDING STRENGTH IS SUBSTANTIALLY WEAKENED DURING CONSTRUCTION.
18. ALL NEW MATERIAL TO BE WEATHER PROTECTED / ANTI RUST.

STATEMENT OF RESPONSIBILITY

THE CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF THE SEISMIC-FORCE-RESISTING SYSTEM SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM PER THE REQUIREMENT OF THE CALIFORNIA BUILDING CODE SEC. 1704.4.

DESIGN LOAD PARAMETERS

| | |
|--|---|
| FLOOR LIVE LOAD: | 40 PSF |
| ROOF LIVE LOAD: | 20 PSF |
| DEAD LOADS: | |
| (1) INTERIOR WALLS 10 PSF | |
| (2) 15 PSF MINIMUM FOR ROOF AND FLOOR DEAD LOAD | |
| (3) 8 PSF FOR STUCCO COVER OF CEILING IN PARKING AREA | |
| (4) 15 PSF EXTERIOR WALL WEIGHT, PER SF OF WALL | |
| (5) 5 PSF FOR EXISTING OR POSSIBLE FUTURE INSTALLATION OF SOLAR PANELS ON THE ROOF | |
| THESE IS NO CONCRETE TOPPING ASSUMED IN DEAD LOAD CALCULATIONS. CONTRACTOR TO VERIFY IN FIELD. | |
| WIND LOAD: | |
| BASIC WIND SPEED: | SPECIAL WIND REGION =110 MPH |
| EXPOSURE CATEGORY: | B |
| OCCUPANCY CATEGORY: | II |
| SEISMIC LOAD: | |
| SITE LOCATION: | LATITUDE: 34.1964°N LONGITUDE: 118.394°W |
| SITE CLASS: | D |
| OCCUPANCY CATEGORY: | II |
| SEISMIC IMPORTANCE FACTOR: | 1.0 |
| MAPPED SPECTRAL RESPONSE ACCELERATIONS | S _s = 1.977 g S ₁ = 0.715 g |
| SHORT PERIOD SITE COEFFICIENT: | F _a = 1.0 |
| LONG PERIOD SITE COEFFICIENT: | F _v = 1.5 |
| DESIGN, 5% DAMPED, SPECTRAL RESPONSE ACCELERATION PARAMETER AT SHORT PERIOD: | S _{ss} = 1.318 |
| DESIGN, 5% DAMPED, SPECTRAL RESPONSE ACCELERATION PARAMETER AT 1 SECOND: | S _{ss} = 0.715 |
| LONG PERIOD TRANSITION PERIOD: | T ₁ = 8.0 SEC. |
| SEISMIC DESIGN CATEGORY: | D |
| RESPONSE MODIFICATION COEFFICIENT: | R= 3.5 (ORDINARY MOMENT FRAME) |
| OVERSTRENGTH FACTOR: | Ω= 3 (ORDINARY MOMENT FRAME) |
| DEFLECTION AMPLIFICATION FACTOR: | C _d = 3 (ORDINARY MOMENT FRAME) |
| REDUNDANCY FACTOR: | p= 1.3 |
| SEISMIC RESPONSE COEFFICIENT: | C _s = 0.377 |
| DESIGN BASE SHEAR: | V=0.282W (INCLUDING THE 0.75 REDUCTION FACTOR PER ORDINANCE 183893) EQUIVALENT LATERAL FORCE ANALYSIS |
| ANALYSIS PROCEDURE USED: | |
| SOIL BEARING: | |
| DESIGN SOIL BEARING CAPACITY: | 1,500 PSF |

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL CONFORM TO AISC 360 SPECIFICATION 2010, AND AISC 341 SPECIFICATION 2010.
2. ALL FABRICATED STEEL SHALL BE PROVIDED BY A CITY OF LOS ANGELES LICENSED FABRICATOR.
3. ALL ANGLES AND PLATES MUST BE ASTM A36.
4. ALL W-SECTIONS MUST BE ASTM A992 GR. 50.
5. ALL WELDS SHALL MEET REQUIREMENTS OF AWS D1.1 AND D1.8 STANDARDS.
6. BOLT HOLES MUST BE 1/16 LARGER THAN BOLT DIAMETER.
7. ALL STRUCTURAL STEEL WELDING SHALL BE PERFORMED BY A LADBS LICENSED FABRICATOR. CONTINUOUS INSPECTION IS REQUIRED FOR FIELD WELDING.
8. FIELD WELDING MUST BE DONE BY WELDERS CERTIFIED BY THE LA CITY BUILDING DEPARTMENT. CONTINUOUS INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED.
9. BOLTED CONNECTIONS USED SHALL CONSIST OF UNFINISHED BOLTS CONFORMING TO ASTM A325, UNLESS OTHERWISE NOTED. BOLTS SHALL BE 3/4" DIAMETER, UNLESS NOTED OTHERWISE.
10. ALL FABRICATION SHALL BE DONE IN THE SHOP OF A FABRICATOR LICENSED BY THE CITY OF LOS ANGELES OR UNDER CONTINUOUS INSPECTION.
11. SHOP DRAWINGS MUST BE SUBMITTED FOR REVIEW BY THE ENGINEER OF RECORD PRIOR TO FABRICATION.
12. WELDING SHALL BE DONE BY WELDERS CERTIFIED BY BUILDING DEPARTMENT, USING E-70XX ELECTRODES.
13. THE SEISMIC DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH PART I, PART III, AND SUPPLEMENT NO. 2 OF THE "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS", APRIL 15, 1997, PUBLISHED BY AISC. THESE PROVISIONS SHALL BE APPLIED IN CONJUNCTION WITH CHAPTER 22, DIVISION 11.2210
14. SPLICE MEMBERS ONLY WHERE INDICATED.
15. HEADED ANCHOR STUDS AND THREADED STUDS SHALL BE NELSON GRANULAR FLUX-FILLED, AND SHALL BE MADE FROM COLD FINISHED LOW CARBON STEEL, CONFORMING TO A-108, GRADES-1015-1020 WITH A MINIMUM TENSILE STRENGTH OF 60,000 PSI. (COLA RR 2729). STUD WELDING INSPECTION AND TESTING SHALL CONFORM TO AWS.

16. ALL COMPLETE JOINT PENETRATION GROOVE WELDS USED IN THE SEISMIC FORCE SYSTEM SHALL BE MADE WITH A FILLER METAL THAT HAS A MINIMUM CHARPY V-NORCH TOUGHNESS OF 20 FT-LBS AT MINUS 200 F. - MSC 1-7.3b
17. DISCONTINUITIES IN WELD CREATED BY ERRORS OR BY FABRICATION OR ERECTION OPERATION, SUCH AS TACK WELDS, ERECTION AIDS, AIR-ARC GAUGING AND FLAME CUTTING, SHALL BE REPAIRED AS REQUIRED BY THE ENGINEER OF RECORD.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES WITH RELATION TO TEMPERATURE DIFFERENTIALS AND ASSEMBLIES SHALL BE MAINTAINED.

PLYWOOD SHEATHING

1. WHERE NOTED ON STRUCTURAL DRAWINGS, NEW EXTERIOR AND INTERIOR DIAPHRAGMS SHALL BE SHEATHED WITH DOUGLAS FIR C-D PLYWOOD OR BETTER, WITH EXTERIOR GLUE. EDGES OF ALL PLYWOOD SHEAR WALLS SHALL BE BLOCKED.
2. ALL PLYWOOD SHEATHING USED STRUCTURALLY SHALL EXTEND CONTINUOUSLY BEHIND ALL FINISHES.
3. IN GENERAL, PLYWOOD SHEETS SHALL BE 4' x 8'. ALL HAVE FACE PLIES ACROSS JOISTS OR FRAMING MEMBERS WITH THE END JOINTS STAGGERED 4'-0". ALL PLYWOOD JOINTS SHALL BE ACCURATELY CENTERED ON SUPPORTING ELEMENTS INCLUDING BLOCKING.
4. FACE GRAIN OF PLYWOOD SHALL BE PERPENDICULAR TO SUPPORTS. FLOOR SHALL HAVE TONGUE AND GROOVE OR BLOCKED PANEL EDGES. PLYWOOD SPANS SHALL CONFORM WITH TABLE 2304.7
5. FASTENERS IN PRESERVATIVE TREATED WOOD OR FIRE RETARDANT TREATED WOOD SHALL BE OF HOT DIPPED ZINC COATED GALVANIZED STEEL OR STAINLESS STEEL.
6. ALL DIAPHRAGM NAILING SHALL BE COMMON NAILS OR GALVANIZED BOX.

CARPENTRY

1. CARPENTRY SHALL CONFORM TO THE PREVISIONS OF THE 2016 CALIFORNIA BUILDING CODE AND THE REQUIREMENTS OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION 2015 EDITION.
2. ALL NEW WOOD POST, STUD, PLATES, BOARDS, AND BLOCKING SHALL BE DOUGLAS FIR No. 2 W/ MOISTURE CONTENT ≤ 19%. ALL LUMBER SHALL BE STRESS GRADE DOUGLAS FIR NO 2 OR 3.
3. SILL PLATES BEARING ON CONCRETE OR MASONRY SHALL BE PRESSURE TREATED DOUGLAS FIR No. 2.
4. BOLTS IN WOOD SHALL BE MACHINE BOLTS UNLESS OTHERWISE NOTED.
5. BOLT HOLES IN WOOD AND STEEL SHALL BE THE DIAMETER OF THE BOLT PLUS 1/16".
6. ALL BOLTS SHALL HAVE STANDARD CUT WASHERS AT WOOD FACES, UNLESS NOTED OTHERWISE.
7. PRE-DRILLING FOR SCREWS SHALL NOT BE LARGER THAN THE ROOT DIAMETER OF THE THREADS FOR THE DEPTH OF THE THREADED PORTIONS.
8. LEAD HOLES FOR LAG BOLTS SHALL BE BORED CONFORMING TO STANDARDS SET BY NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION MANUAL.
9. LAG BOLTS SHALL BE A MINIMUM OF 4 INCHES FROM ENDS OF WOOD MEMBERS.
10. ALL NAILS SHALL BE COMMON WIRE NAILS IN ACCORDANCE WITH THE LATEST EDITION OF THE "NATION DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" (NDS), NAILING TO BE IN ACCORDANCE WITH CBC 2016 NAILING SCHEDULE UNLESS OTHERWISE NOTED.

10.1. THE MINIMUM PENETRATION OF NAILS SHALL BE 10 TIMES THE NAIL SHANK DIAMETER OR 1-1/2" WHICHEVER IS GREATER. PENETRATION IS MEASURED INTO THE PIECE RECEIVING THE NAIL POINT.

10.2. ALL NAILS SHALL BE GALVANIZED WHEN EXPOSED TO WEATHER.

CITY OF L.A APPROVAL NUMBER:

SIMPSON SET-XP # 25744
A35 # 25814
CMST # 25713
W55 WOOD SCREWS # 25850

FOUNDATION

1. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY FORMWORK SHORING/ RE-SHORING, EXCAVATION SHORING, DEMOLITION SHORING, BRACING, GUYS, HOIST BEAMS, ETC. REQUIRED TO SUPPORT ALL LOADS THE BUILDING STRUCTURE AND COMPONENTS, EARTHWORK, OTHER STRUCTURES, AND UTILITIES SUBJECTED TO DURING CONSTRUCTION. CONCRETE FORMWORK/ CONCRETE RE-SHORONG, DEMOLITION, AND EXCAVATION SHORING SYSTEMS MUST BE DESIGNED AND STAMPED BY A CIVIL OR STRUCTURAL ENGINEER LICENSED BY THE LOCAL JURISDICTION AND RETAINED BY THE CONTRACTOR.
2. IF ADVERSE SOIL CONDITION ARE ENCOUNTERED, A SOIL INVESTIGATION REPORT IS REQUIRED.
3. ALL BACK FILL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM RELATIVE DENSITY.
4. ALL FOOTINGS EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE INSPECTOR PRIOR TO PLACING FORM WORK AND REINFORCEMENT STEEL.
5. PROVIDE RAIN GUTTERS AND CONVEY RAIN WATER TO THE STREET.
6. THE BOTTOM OF THE FOOTING SHALL BE AT LEAST 24" BELOW THE LOWEST ADJACENT GRADE AND A MINIMUM OF 12" INTO NATIVE SOIL WHICHEVER GOVERNS UNLESS NOTED OTHERWISE. CONTRACTOR SHALL CONTACT ENGINEER IF EXCAVATIONS REVEL UNFAVORABLE CONDITIONS. THE SERVICE OF A SOILS ENGINEER AND/OR GEOLOGIST MAY BE ENQUIRED.
4. NO IMPACT TOOLS SHALL BE PERMITTED WHEN REMOVING EXISTING FOOTING. SAW CUTTING THE EXISTING FOOTING ONLY IS ALLOWED.



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ENGINEERING FIRM:

HZS ENGINEERING
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TEL. 9494630164

OWNER'S NAME
SIMON KAZANCHYAN

ADDRESS:
1745 NORTH ROSE ST.,BURBANK,
CA 91505

PROJECT SCOPE:
SEISMIC RETROFIT
COMPLIANCE TO LOS ANGELES MUNICIPAL CODE
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PROJECT DESCRIPTION:
TWO STORY RESIDENTIAL BUILDING
6923 BEN AVE.
LOS ANGELES, CA 91605

LEGAL PROPERTY DESCRIPTION
APN 2321011009
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| 1 | 06 / 02 / 2018 | |
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| 3 | | |

SHEET TITLE:
STRUCTURAL
NOTES

SCALE: AS NOTED
DATE: 03 / 10 / 2018

S-1

READY TO ISSUE
BY VARAND SARKISIAN
DATE: 03-28-2018
Signature

CONCRETE

- CONCRETE SHALL CONFORM TO THE APPLICABLE PROVISION OF CHAPTER 19 OF THE CALIFORNIA BUILDING CODE - 2016 EDITION.
- ALL CONCRETE CONSTRUCTION WORK SHALL CONFORM TO THE LATEST EDITION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND THE LATEST EDITION OF ACI 117 "SPECIFICATIONS OF TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS".
- INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED FOR ALL CONCRETE WITH $f_c > 2500$ PSI.
- CONCRETE MIX DESIGN SHALL BE SUBMITTED TO THE OWNER ARCHITECT, ENGINEER, AND BUILDING DEPARTMENT FOR APPROVAL BEFORE USE.

5. MATERIAL -

5.1. CONCRETE -
CONCRETE SHALL BE READY-MIXED AND SHALL CONFORM TO ASTM C94.
THE MAXIMUM CEMENT RATIO FOR STRUCTURAL CONCRETE SHALL BE 0.45.
MAXIMUM AGGREGATE SIZE - 1 1/2 INCHES.
SLUMP - 4 INCHES PLUS OR MINUS 1 INCH.
28 DAY COMPRESSIVE STRENGTH - 4,000 P.S.I.
CEMENT - PORTLAND CEMENT CONFORMING TO ASTM C150, TYPE II OR III.
AGGREGATE - SHALL CONFORM TO ASTM C33 AND THE CALIFORNIA BUILDING CODE 2016 EDITION.

ADDMIXTURES - WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER OF RECORD.

5.2. REINFORCEMENT -
REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 GRADE 60 WITH BAR MARKS LEGIBLY ROLLED INTO THE SURFACE INDICATING THE SIZE, TYPE OF STEEL AND YIELD STRENGTH. ALL WELDED REINFORCEMENT BARS SHALL MEET THE REQUIREMENTS OF ASTM A706.
CONCRETE COVERAGE TO FACE OF REINFORCEMENT BARS, UNLESS OTHERWISE NOTED ON PLANS, SHALL BE:

- 3 INCHES WHERE CONCRETE IS CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.
- 1 1/2 INCHES FOR #5 OR SMALLER WHERE CONCRETE IS EXPOSED TO EARTH OR WEATHER AFTER REMOVAL OF FORMS.

- ALL BENDS TO BE MADE COLD.
- DO NOT WELD REINFORCING UNLESS SPECIAL APPROVAL IS OBTAINED FROM THE STRUCTURAL ENGINEER.
- #5 AND LARGER REINFORCING BARS SHALL NOT BE SPLICES EXCEPT AS LOCATED AND DETAILED ON THE DRAWINGS.
- #4 AND SMALLER BARS WITH LENGTHS NOT SHOWN SHALL BE CONTINUOUS. PROVIDE CLASS B SPLICE UNLESS NOTED OTHERWISE.
- ALL LONGITUDINAL REBAR SHALL TERMINATE WITH A STANDARD HOOK.

5.1. FORMS -
FORMS SHALL CONFORM TO THE SHAPE, LINES AND DIMENSIONS SHOWN ON THE PLANS AND SHALL BE SUFFICIENTLY TIGHT TO PREVENT LEAKAGE OF MORTAR ABOVE FINISHED GRADE. FORMS SHALL BE SECURELY BRACED AND HELD IN PLACE. CONCRETE FOOTINGS BELOW THE FINISHED GRADE MAY BE FORMED. FORMS (AND SOIL THAT CONCRETE WILL BE PLACED AGAINST) SHALL BE WETTED DOWN JUST PRIOR TO PLACING CONCRETE. ALL FORMS SHALL BE REMOVED AFTER THE CONCRETE HAS SET.

5.2. WORKMANSHIP -

- REINFORCING - REINFORCING BARS SHALL BE ACCURATELY PLACED AND SECURED AND SHALL BE SUPPORTED BY CHAIRS, SPACERS OR HANGERS. ALL BAR SPLICES SHALL BE LAPPED A MINIMUM OF 45 BAR DIAMETERS UNLESS OTHERWISE NOTED. STAGGER SPLICES WHEN POSSIBLE. REINFORCEMENT SHALL BE FREE OF ALL LOOSE RUST OR SCALE. CLEAR SPACING BETWEEN REINFORCEMENT BARS SHALL BE 1 1/2 BAR DIAMETER OR 1 1/2" MIN.
- PLACING - THE CONCRETE SHALL BE PLACED IN A MANNER O AS TO PREVENT SEPARATION OF THE AGGREGATE AND SHALL BE WELL CONSOLIDATED TO PREVENT THE FORMING OF VOIDS.
- FINISHING - THE TOP OF THE SLAB/FOOTING SHALL BE GIVEN A LIGHT BROOM FINISH. FORMED SURFACES SHALL BE GIVEN A SACK FINISH. ALL VOIDS AND HOLES SHALL BE REPAIRED PRIOR TO FINISHING.
- CURING - CONCRETE MUST BE WET CURED CONTINUOUSLY AND UNINTERRUPTED FOR A MINIMUM OF 7 DAYS SUBSEQUENT TO INITIAL SETUP. BEFORE BEING LOADED WITH BUILDING LOADS (EQUIPMENT, MAT'L, ETC...) CONTRACTOR IS RESPONSIBLE TO ENSURE THAT CONCRETE IS SUFFICIENTLY CURED BEFORE SERVICE LOADS ARE APPLIED TO CONCRETE.

6. FORMS ANCHORS AND DOWELS DRILLED INTO CONCRETE:

- "SET-XP" BY SIMPSON STRONG TIE (COLA RP #25744, ESR#2508)
- "HIT-HY 200" BY HILTI, INC. (COLA RP#25964, ESR#31187)
- "HIT-RE 500 V3" BY HILTI, INC. (COLA RP#26028, ESR#3814)
- ANCHORS: ASTM F1554 GR. 55 UNLESS OTHERWISE NOTED.
- ALL ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ICC-ES REPORT AND COLA REPORT AND MANUFACTURERS RECOMMENDATIONS.
- PRIOR TO DRILLING OR CORING, THE CONTRACTOR SHALL VERIFY THE EXISTING CONCRETE THICKNESS TO PREVENT DAMAGE TO THE OPPOSITE FACE AND SHALL IDENTIFY EXISTING REINFORCING LOCATIONS BY NONDESTRUCTIVE TECHNIQUES TO AVOID DAMAGE EXISTING REINFORCING.
- FOR EXTERIOR AND FOR EXPOSED APPLICATIONS ANCHORS MUST BE HOT DIP GALVANIZED OR STAINLESS STEEL.

LADBS CHECKLIST

- CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SHORING DESIGN BY REGISTERED DESIGN ENGINEER.
- TEMPORARY SHORING NOT TO BE REMOVED UNTIL NEW FOUNDATION IS CAPABLE OF TAKE GRAVITY LOADS.
- GAS PIPES NOT ALLOWED IN GRADE BEAM UNLESS APPROVAL IS OBTAINED FROM GAS COMPANY.
- PROVIDE DETAILS FOR POSSIBLE PIPE INTRUSION.
- ADD NOTE UNDER THE FLOOR AND ROOF DEAD LOAD ON PLANS THAT THERE IS NO CONCRETE TOPPING ASSUMED IN DEAD LOAD CALCULATIONS. CONTRACTOR TO VERIFY IN FIELD.
- THE CONSTRUCTION SHALL NOT RESTRICT A FIVE- FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF HOOKUP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES- WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND / OR ADDITIONAL EXPENSES.

PRE-CONSTRUCTION MEETING:

THE OWNER OR THE OWNER'S REPRESENTATIVE MUST COORDINATE WITH BUILDING OFFICIAL FOR CONDUCTING A PRE-CONSTRUCTION MEETING. THE MEETING MUST TAKE PLACE AFTER EXCAVATION AND EXPOSURE OF EXISTING STRUCTURAL ELEMENTS AND CONNECTIONS AND PRIOR TO INSTALLATION OF ANY NEW STRUCTURAL ELEMENTS. THE MEETING TO BE ATTENDED BY THE ENGINEER, CONTRACTOR, AND THE BUILDING INSPECTOR.
THE PURPOSE OF THE MEETING SHALL BE TO IDENTIFY THE MAJOR STRUCTURAL ELEMENTS, CONNECTIONS AND EXISTING CONDITIONS THAT AFFECT THE VERTICAL AND LATERAL LOAD SYSTEMS OF THE STRUCTURE AND TO REVIEW SCHEDULING OF THE REQUIRED OBSERVATIONS.

INSPECTIONS

THE OWNER OR THE OWNER'S REPRESENTATIVE MUST COORDINATE WITH BUILDING OFFICIAL FOR CONDUCTING ALL REQUIRED INSPECTIONS INCLUDING BUT NOT LIMITED TO INSPECTIONS FOR FOLLOWING ACTIVITIES:

- FOUNDATION- PRIOR TO POURING CONCRETE
 - FORMWORK PLACEMENT, DIMENSIONS, AND ELEVATIONS
 - REINFORCEMENT BARS PLACEMENT
 - CAST-IN PLACE ANCHOR BOLTS
 - EPOXY ANCHOR/DOWEL INTO EXIST. CONCRETE (CONTINUOUS)

2. FRAMING- PRIOR TO CLOSING WALLS

- EDGE NAILING
- HOLD-DOWNS

HOLD-DOWNS MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.

PERIODIC INSPECTION IS REQUIRED FOR WOOD SHEAR WALLS INCLUDING NAILING, ANCHORING, AND OTHER FASTENING TO COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM.

CONTINUOUS INSPECTION IS REQUIRED FOR POST INSTALLED EPOXY ANCHOR/DOWEL INSTALLATION.

SPECIAL INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED WHERE THE FASTENER SPACING IS 4 INCHES ON CENTER OR LESS.



Los Angeles Regional Uniform
Code Program
Committee 1-3: Structural Observation

STRUCTURAL OBSERVATION PROGRAM AND DESIGNATION OF THE STRUCTURAL OBSERVER

PROJECT ADDRESS: 6923 Ben Ave, North Hollywood, CA 91605 PERMIT APPL. NO.:

Description of Work: SOFT STORY RETROFIT

Owner: Architect: Engineer: HAMID SHEKARAMIZ

| STRUCTURAL OBSERVATION (only checked items are required) | | | |
|---|-----------------------------------|--|-------------------------------------|
| Firm or Individual to be responsible for the Structural Observation: Name: HAMID SHEKARAMIZ Phone: (949) 463-0164 Calif. Registration: 82784 | | | |
| FOUNDATION | WALL | FRAME | DIAPHRAGM |
| <input checked="" type="checkbox"/> Footing, Stem Walls, Piers | <input type="checkbox"/> Concrete | <input checked="" type="checkbox"/> Steel Moment Frame | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Mat Foundation | <input type="checkbox"/> Masonry | <input type="checkbox"/> Steel Braced Frame | <input type="checkbox"/> Steel Deck |
| <input checked="" type="checkbox"/> Caisson, Piles, Grade Beams | <input type="checkbox"/> Wood | <input type="checkbox"/> Concrete Moment Frame | <input type="checkbox"/> Wood |
| <input type="checkbox"/> Sleepers/Retaining Foundation, Hillside Special Anchors | <input type="checkbox"/> Others: | <input type="checkbox"/> Others: | <input type="checkbox"/> Others: |
| <input type="checkbox"/> Others: | | | |

DECLARATION BY OWNER

I, the Owner of the project, declare that the above listed firm or individual is hired by me to be the Structural Observer.

Signature: Date:

DECLARATION BY ARCHITECT OR ENGINEER OF RECORD (required if the Structural Observer is different from the Architect or Engineer of Record)

I, the Architect or Engineer of record for the project, declare that the above listed firm or individual is designated by me to be responsible for the Structural Observation.

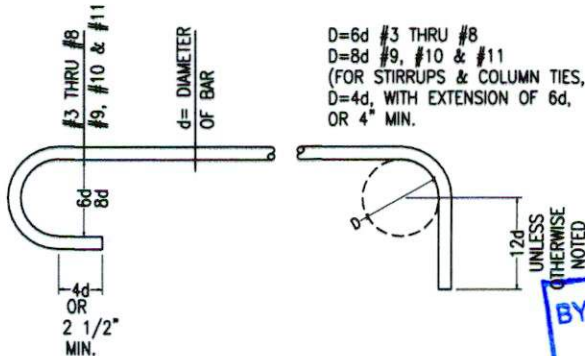
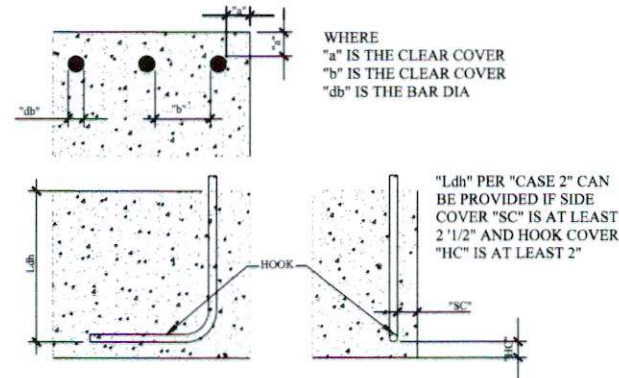
Signature: HAMID SHEKARAMIZ License No. 82784 Date: 06/29/18

LA DBS (Rev. 12/15) (Rev. 06/10/17)

| conc f' c | TENSION LAP SPLICE LENGTH (IN) (CLASS B) | | | | | | DEVELOPMENT LENGTH "Ld" (IN) (CLASS A) | | | | | | DEVELOPMENT LENGTH "Ldh" (IN) STANDARD HOOK | | | | | |
|--------------|---|------------------|------------------|------------------|------------------|------------------|---|------------------|------------------|------------------|------------------|------------------|--|------------------|------------------|------------------|------------------|------------------|
| | N.W. 3000 PSI | N.W. 4000 PSI | N.W. 5000 PSI | N.W. 3000 PSI | N.W. 4000 PSI | N.W. 5000 PSI | N.W. 3000 PSI | N.W. 4000 PSI | N.W. 5000 PSI | N.W. 3000 PSI | N.W. 4000 PSI | N.W. 5000 PSI | N.W. 3000 PSI | N.W. 4000 PSI | N.W. 5000 PSI | N.W. 3000 PSI | N.W. 4000 PSI | N.W. 5000 PSI |
| BAR SIZE | TOP | OTHER | TOP | OTHER | TOP | OTHER | TOP | OTHER | TOP | OTHER | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 | CASE 1 | CASE 2 |
| #3 | 29 | 22 | 28 | 20 | 28 | 20 | 23 | 17 | 21 | 15 | 21 | 15 | 9 | 6 | 8 | 6 | 7 | 6 |
| #4 | 39 | 29 | 34 | 25 | 30 | 23 | 30 | 22 | 26 | 19 | 23 | 17 | 11 | 8 | 10 | 7 | 9 | 6 |
| #5 | 48 | 36 | 42 | 31 | 38 | 28 | 37 | 28 | 32 | 24 | 29 | 22 | 14 | 10 | 12 | 9 | 11 | 8 |
| #6 | 58 | 43 | 50 | 37 | 45 | 34 | 45 | 33 | 39 | 29 | 35 | 26 | 17 | 12 | 15 | 10 | 13 | 9 |
| #7 | 81 | 63 | 71 | 54 | 63 | 49 | 63 | 48 | 54 | 42 | 49 | 38 | 20 | 14 | 17 | 12 | 15 | 11 |
| #8 | 93 | 72 | 81 | 62 | 72 | 56 | 72 | 55 | 62 | 48 | 56 | 43 | 22 | 16 | 19 | 14 | 17 | 12 |
| #9 | 105 | 81 | 91 | 70 | 81 | 63 | 81 | 62 | 70 | 54 | 63 | 48 | 81 | 18 | 22 | 15 | 20 | 14 |
| #10 | 118 | 91 | 102 | 79 | 92 | 70 | 91 | 70 | 79 | 61 | 70 | 54 | 91 | 20 | 24 | 17 | 22 | 15 |
| #11 | 131 | 101 | 113 | 87 | 102 | 78 | 101 | 78 | 87 | 67 | 78 | 60 | 101 | 22 | 27 | 19 | 24 | 17 |

NOTES:

- AU. SPLICES SHALL BE TENSION LAP SPLICES U.N.O.
- ALL DEVELOPMENT LENGTH WITH STANDARD HOOKS "Ldh" SHALL BE TYPE 1 UNLESS TYPE 2 CAN BE USED AS SHOWN IN ILLUSTRATION BELOW
- LENGTHS SHOWN ARE FOR GRADE 60 UNCOATED BARS.
- LENGTHS SHOWN ARE FOR NORMAL WEIGHT CONCRETE (N.W.). INCREASE LENGTHS 30% FOR LIGHT WEIGHT CONCRETE AND AT FOUR BAR BUNDLES (WHERE 2 BARS LAP WITH 2 OTHER BARS) INDIVIDUAL BARS WITHIN A BUNDLE SHALL NOT OVERLAP
- TOP BARS - HORIZONTAL BARS PLACED WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM
- INCREASE LENGTHS 50% WHERE $a < db$ OR WHERE $b < db$ FOR BEAMS AND COLUMNS OR WHERE $b < 2db$ FOR OTHER ELEMENTS
- FOR #14 AND #18 BARS, USE MECHANICAL SPLICE IN ACCORDANCE WITH IBC REQUIREMENTS.



TYPICAL BAR &
ANCHOR BOLT HOOKS



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TEL. 9494630164

OWNER'S NAME
SIMON KAZANCHYAN

ADDRESS:
1745 NORTH ROSE ST., BURBANK,
CA 91505

SEISMIC RETROFIT
COMPLIANCE TO LOS ANGELES MUNICIPAL CODE
ORDINANCE No. 183893

TWO STORY RESIDENTIAL BUILDING
6923 BEN AVE.
LOS ANGELES, CA 91605

PROJECT SCOPE:

PROJECT DESCRIPTION:

LEGAL PROPERTY DESCRIPTION
APN 2321011009
LOT 264
TRACT TR 6024



| | | | |
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| DRAWN BY: | MF | DATE: | 03 / 10 / 2018 |
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SHEET TITLE:

STRUCTURAL
NOTES

SCALE: AS NOTED
DATE: 03 / 10 / 2018

S-1.1

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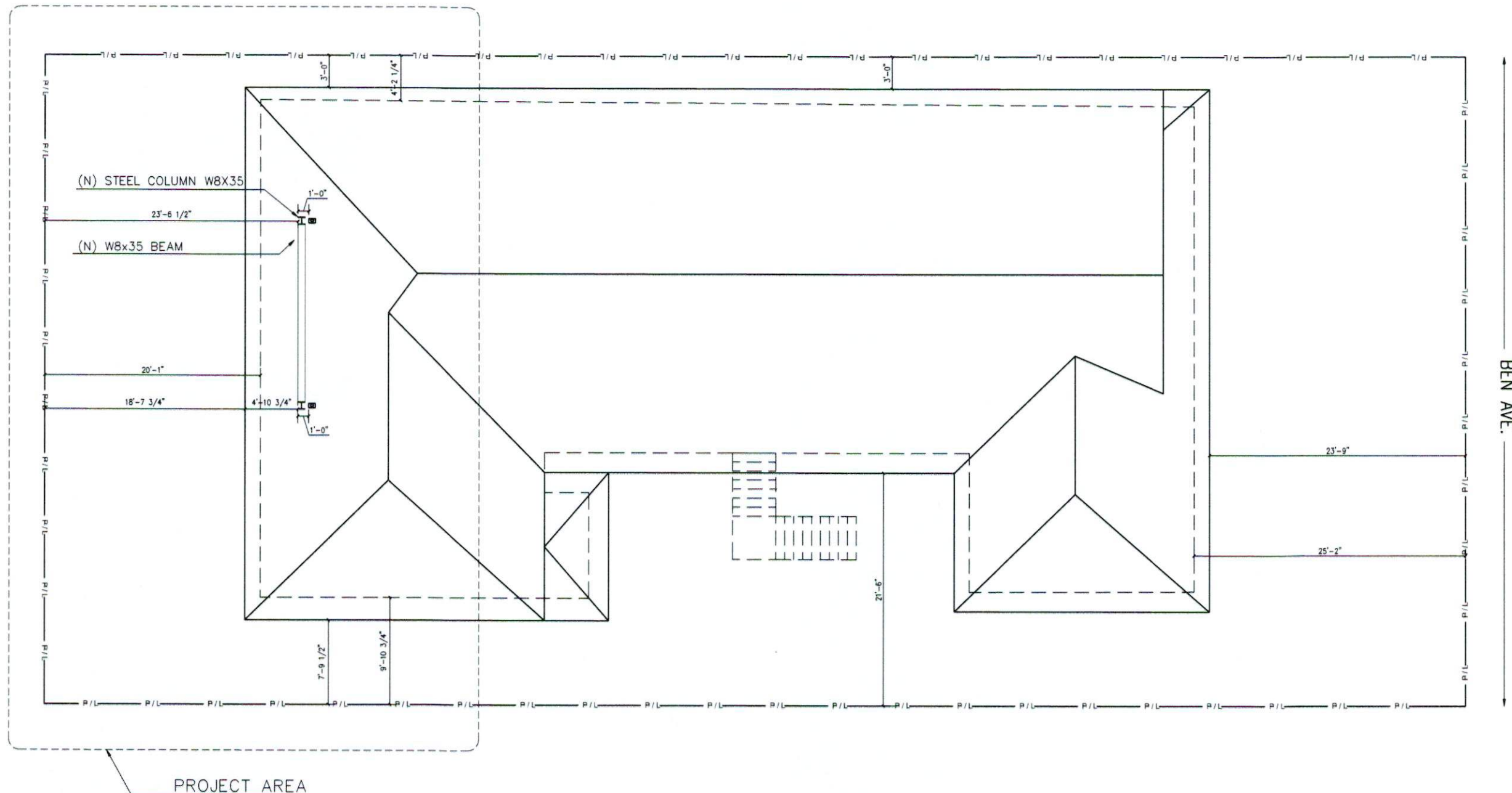


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SHEET TITLE:
SITE PLAN

SCALE: AS NOTED
DATE: 03 / 10 / 2018
S-2



SITE PLAN
SCALE: 3/32" = 1'-0"

ALL NEW MATERIAL TO BE WEATHER PROTECTED / ANT - RUST
CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ORDERING MATERIAL.

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TRACT: TR 6024



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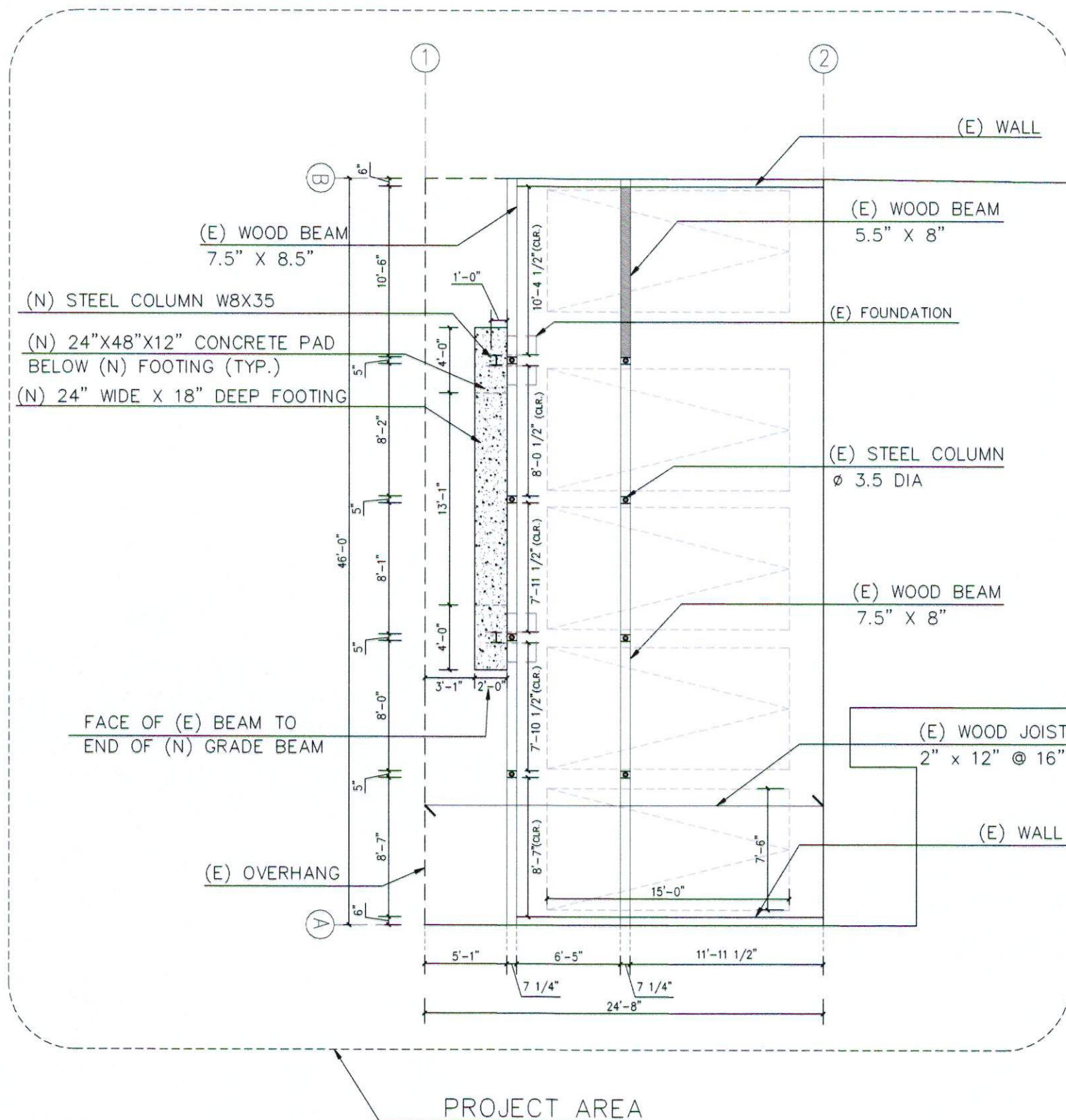
SHEET TITLE:

**FIRST FLOOR
PLAN**

SCALE: AS NOTED
DATE: 03 / 10 / 2018

S-3

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(E) WOOD BEAM
7.5" x 9"

(E) STEEL COLUMN
3.5" Ø DIA

(E) WOOD JOIST
2" x 9" @ 16"

(E) WOOD BEAM
7" x 10"

(E) STEEL COLUMN
Ø 3.5 DIA

(E) WOOD BEAM
7.5" x 8"

(E) WOOD JOIST
2" x 12" @ 16"

(E) WALL

FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"



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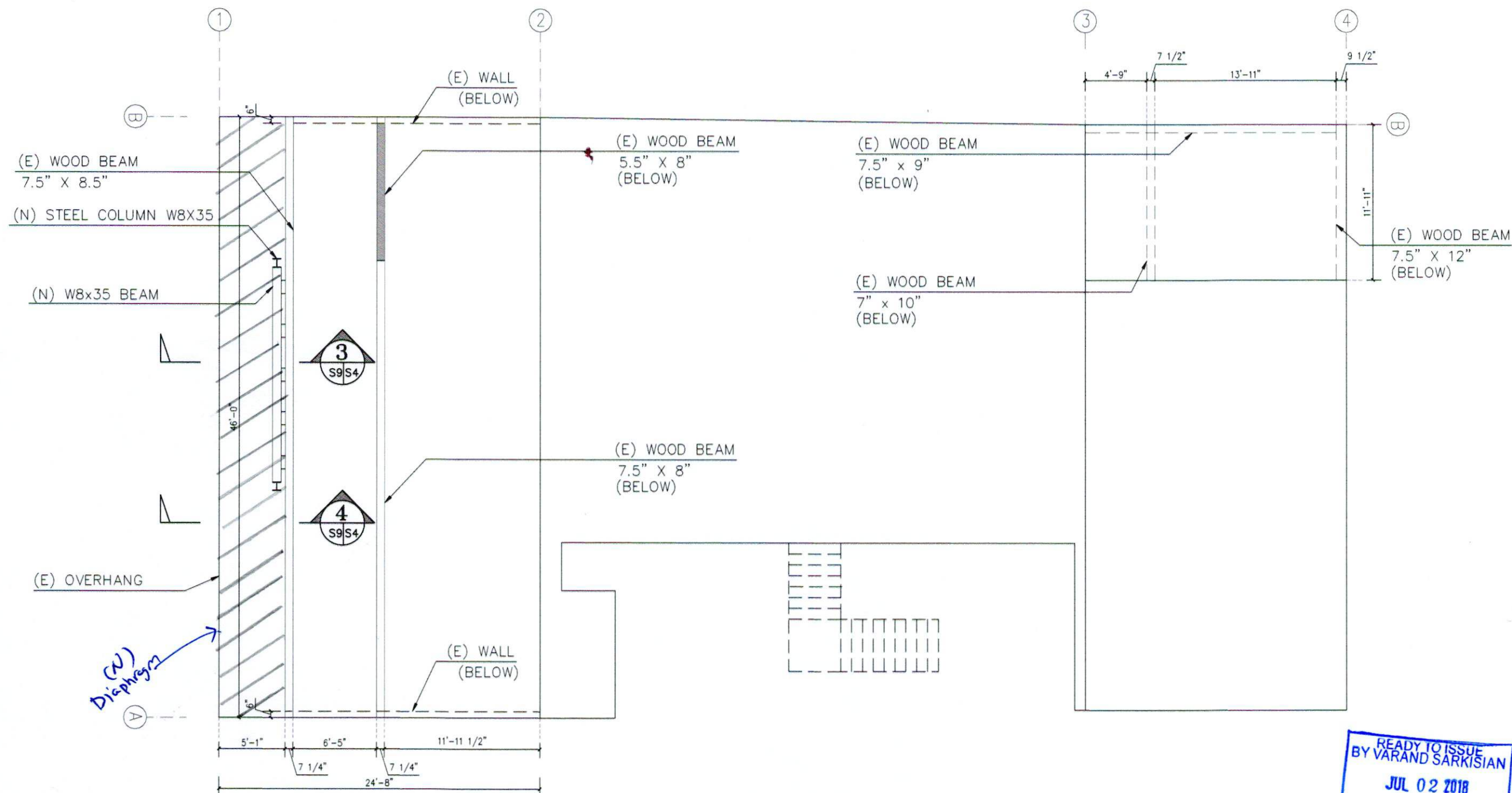


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SHEET TITLE:
SECOND FLOOR PLAN

| | | |
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| SCALE: | AS NOTED | S-4 |
| DATE: | 03 / 10 / 2018 | |



SECOND FLOOR PLAN

SCALE: 1/8" = 1'-0"



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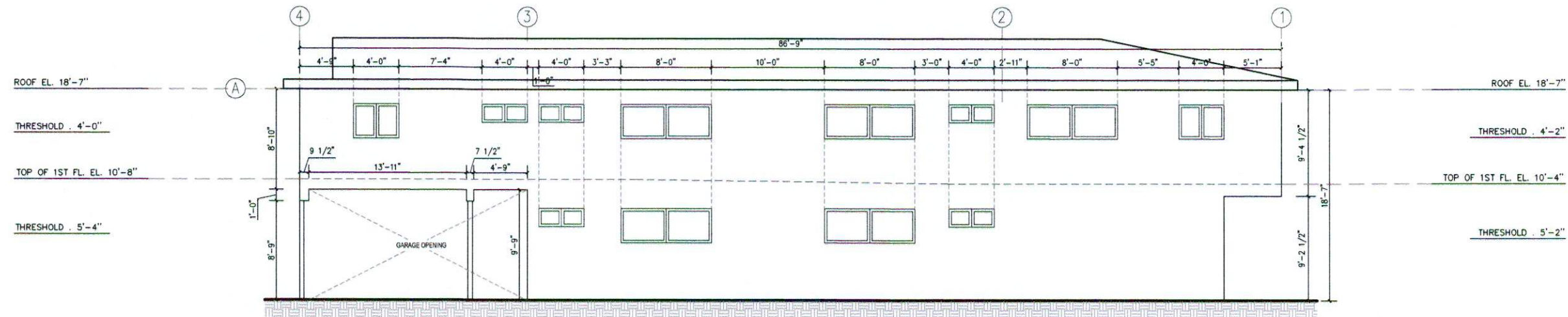


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SHEET TITLE:
NORTH & SOUTH ELEVATIONS

| | | |
|--------|----------------|------------|
| SCALE: | AS NOTED | S-5 |
| DATE: | 03 / 10 / 2018 | |



$$\begin{aligned}\sum L2 &= 4' - 9'' + 7' - 4'' + 10' - 0'' + 5' - 5'' + 5' - 1'' = 32' - 7'' \\ \sum L1 &= 10' - 0'' + 20' - 4'' = 30' - 4'' \\ \frac{\sum L1}{\sum L2} &= 0.93 > 0.8 \quad (\text{NO RETROFIT REQUIRED})\end{aligned}$$

NORTH ELEVATION VIEW

SCALE: 1/8" = 1'-0"



$$\begin{aligned}\sum L2 &= 5' - 1'' + 7' - 0'' + 4' - 2'' = 16' - 3'' \\ \sum L1 &= 25' - 8'' = 25' - 8'' \\ \frac{\sum L1}{\sum L2} &= 1.58 > 0.8 \quad (\text{NO RETROFIT REQUIRED})\end{aligned}$$

$$\begin{aligned}\sum L2 &= 0 \quad \text{SINCE NO PARKING OR OTHER SIMILAR OPEN} \\ \sum L1 &= 0 \quad \text{FLOOR PLAN SPACE EXIST ALONG THIS WALL} \\ \sum L1 &= \sum L2 \quad \text{LINE, NO EVALUATION REQUIRED PER} \\ &\quad \text{ORDINANCE 183893 SEC.91.9302(2)}\end{aligned}$$

$$\begin{aligned}\sum L2 &= 7' - 1'' = 7' - 1'' \\ \sum L1 &= 7' - 1'' = 7' - 1'' \\ \frac{\sum L1}{\sum L2} &= 1 > 0.8 \quad (\text{NO RETROFIT REQUIRED})\end{aligned}$$

SOUTH ELEVATION VIEW

SCALE: 1/8" = 1'-0"

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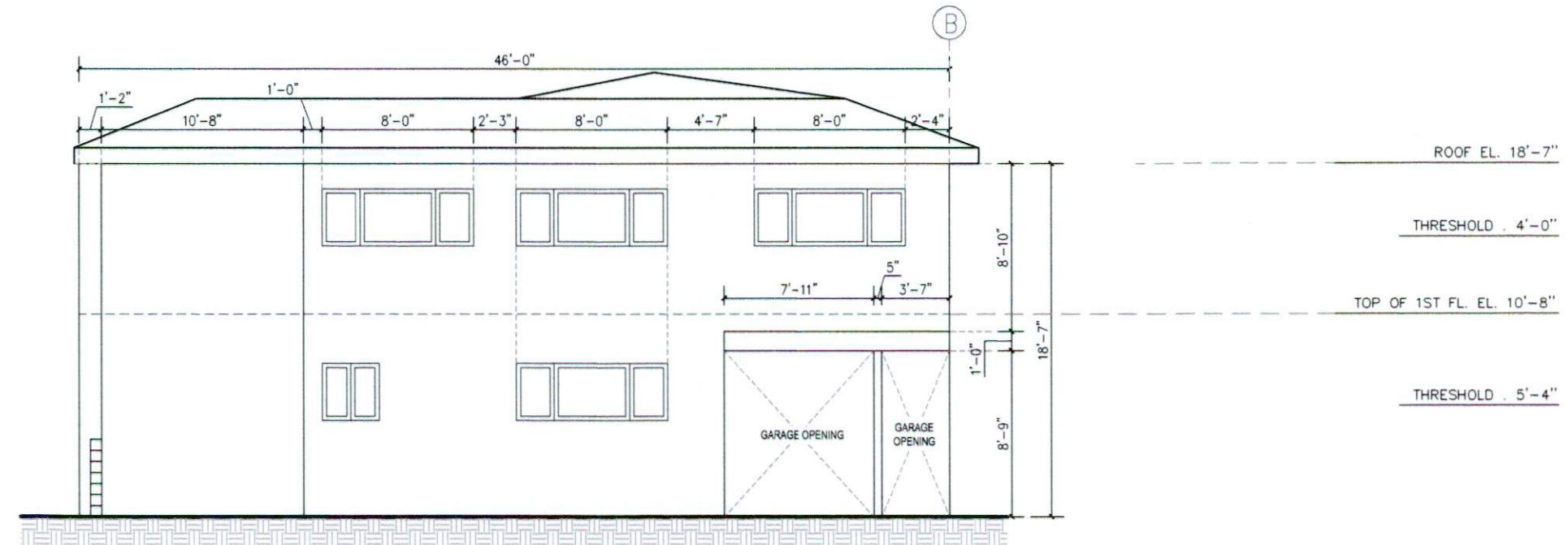
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SHEET TITLE:
EAST & WEST ELEVATIONS

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DATE: 03/10/2018

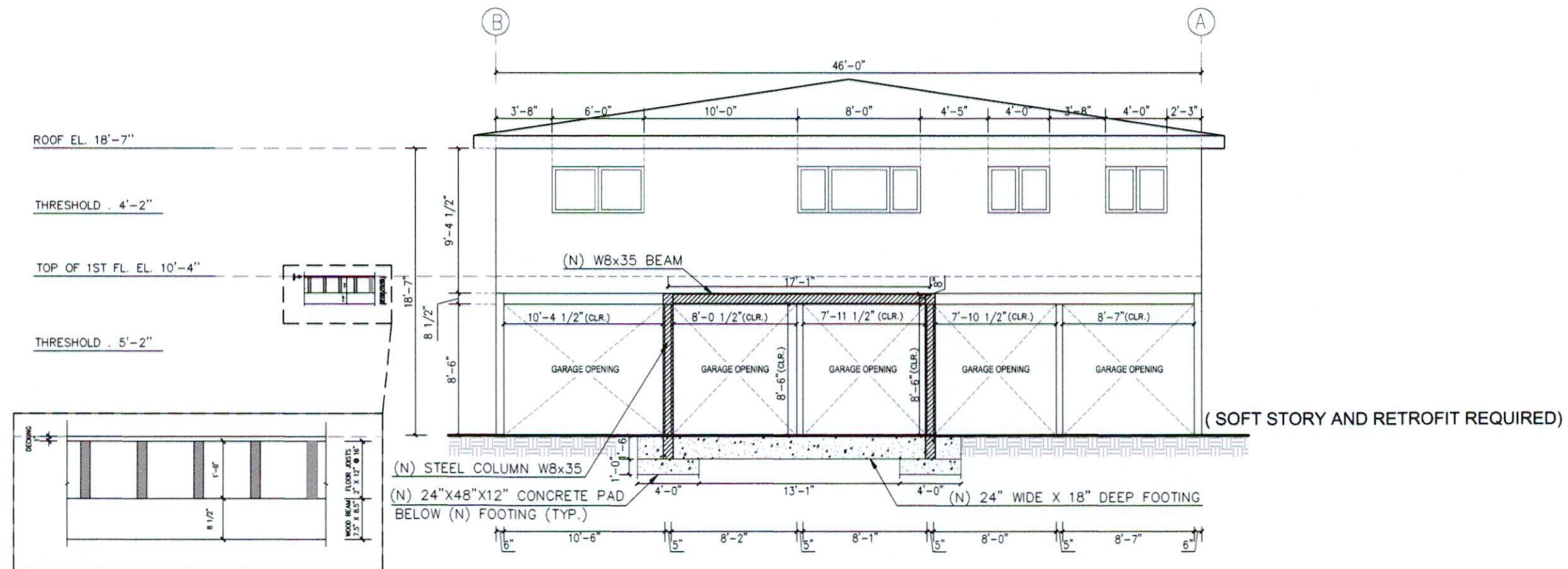
S-6



$$\begin{aligned}\sum L2 &= 11' - 8" + 4' - 7" = 16' - 3" \\ \sum L1 &= 11' - 8" + 7' - 3" = 18' - 11" \\ \frac{\sum L1}{\sum L2} &= 1.16 > 0.8\end{aligned}$$

EAST ELEVATION VIEW

SCALE: 3/16" = 1'-0"

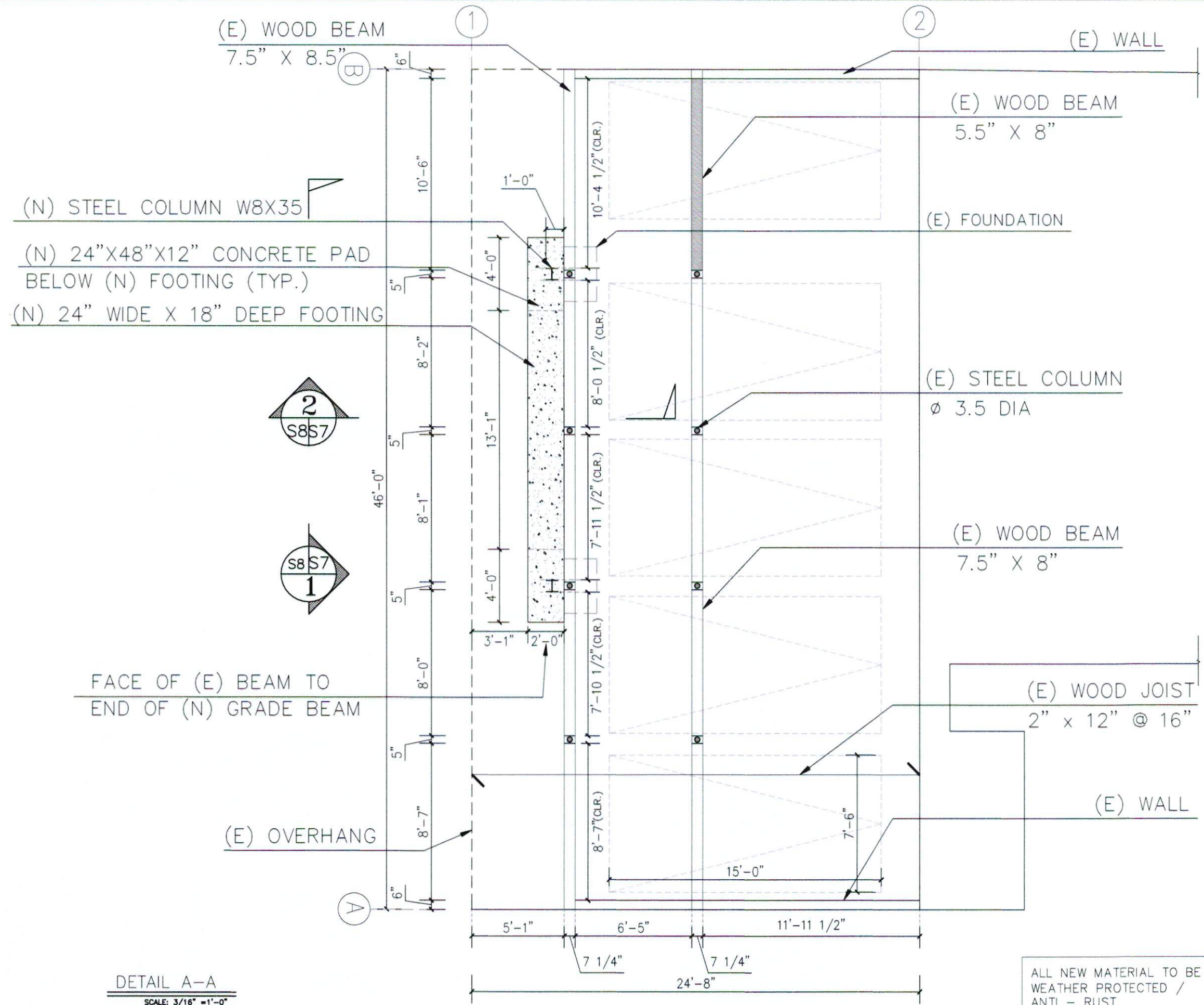


WEST ELEVATION VIEW

SCALE: 3/16" = 1'-0"

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DETAIL A-A
SCALE: 3/16" = 1'-0"

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LEGAL PROPERTY DESCRIPTION
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LOT: 264
TRACT: TR 6024

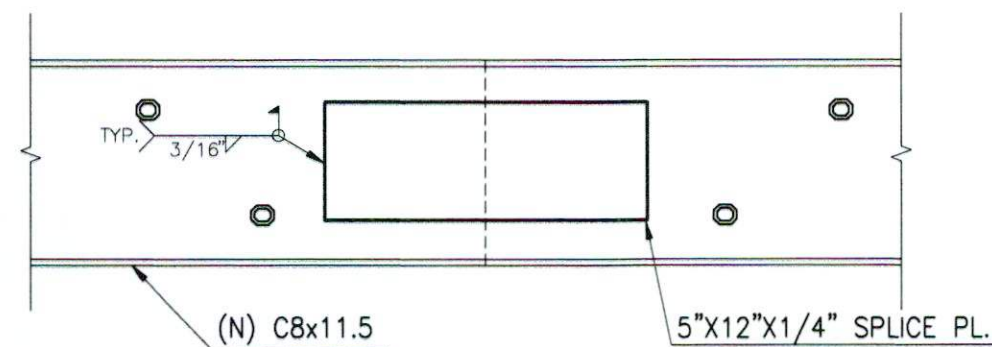
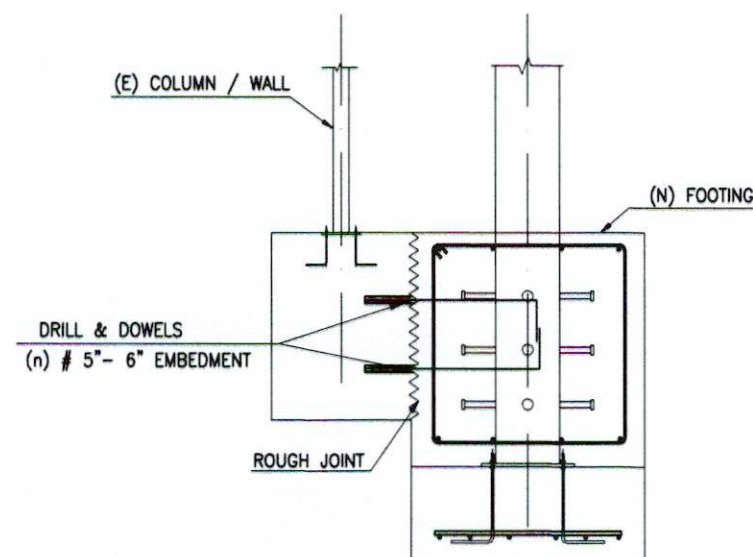
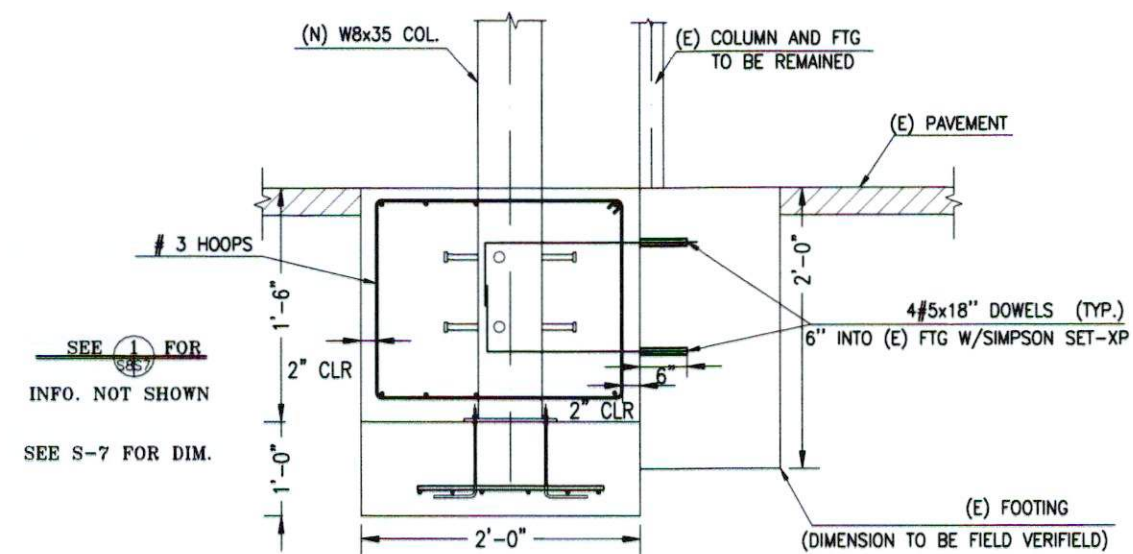
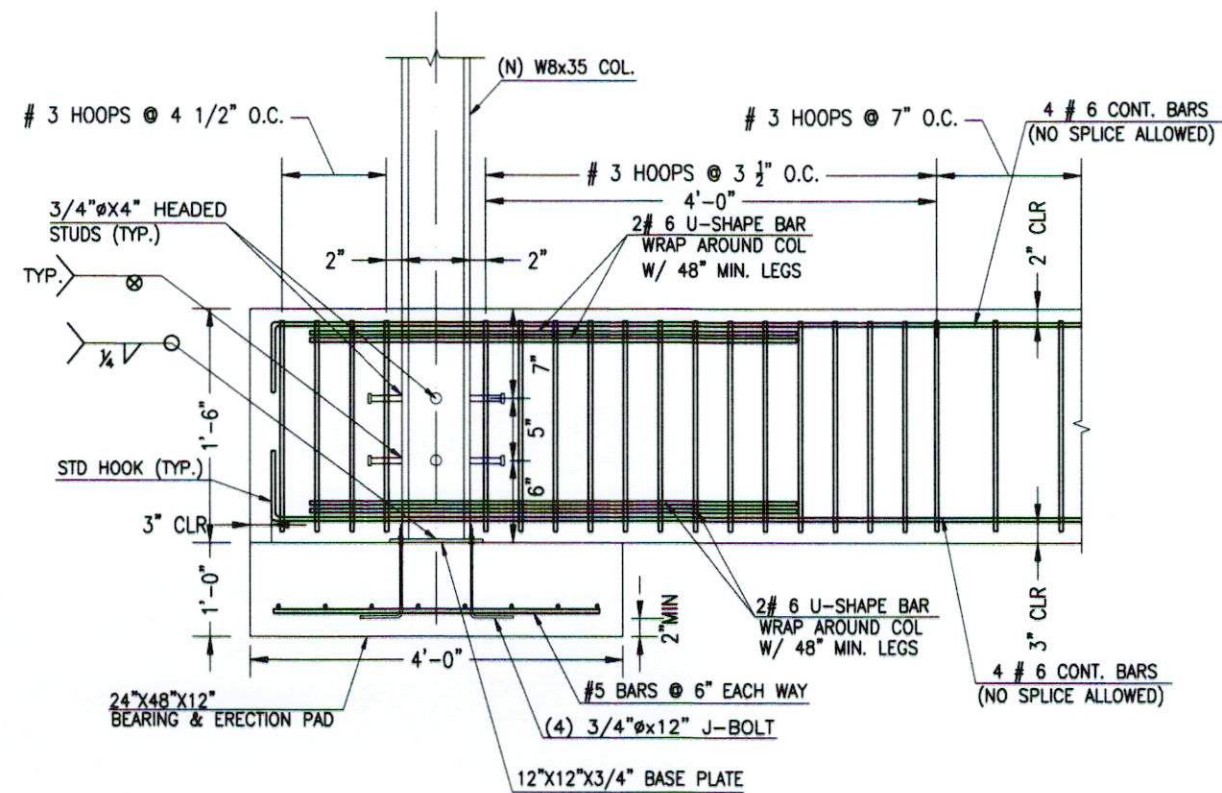


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| DESIGN BY: | AL | DATE: | 03 / 10 / 2018 |
| APPROVED BY: | HZS | DATE: | 03 / 10 / 2018 |

| REV. # | DATE/ISSUE | NOTE |
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| 1 | 06 / 02 / 2018 | |
| 2 | 06 / 27 / 2018 | |
| 3 | | |

SHEET TITLE:
DETAIL A-A

SCALE: AS NOTED
DATE: 03 / 10 / 2018
S-7



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OWNER'S NAME
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CA 91505

SEISMIC RETROFIT
COMPLIANCE TO LOS ANGELES MUNICIPAL CODE
ORDINANCE No. 183893

**TORY RESIDENTIAL BUILDING
6923 BEN AVE.
LOS ANGELES, CA 91605**

LEGAL PROPERTY DESCRIPTION
APN 2321011009
LOT 264
TRACT TR 6024



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|--------------|-----|----------------|
| | | DATE: |
| DRAWN BY: | MF | 03 / 10 / 2018 |
| DESIGN BY: | AL | 03 / 10 / 2018 |
| APPROVED BY: | HZS | 03 / 10 / 2018 |

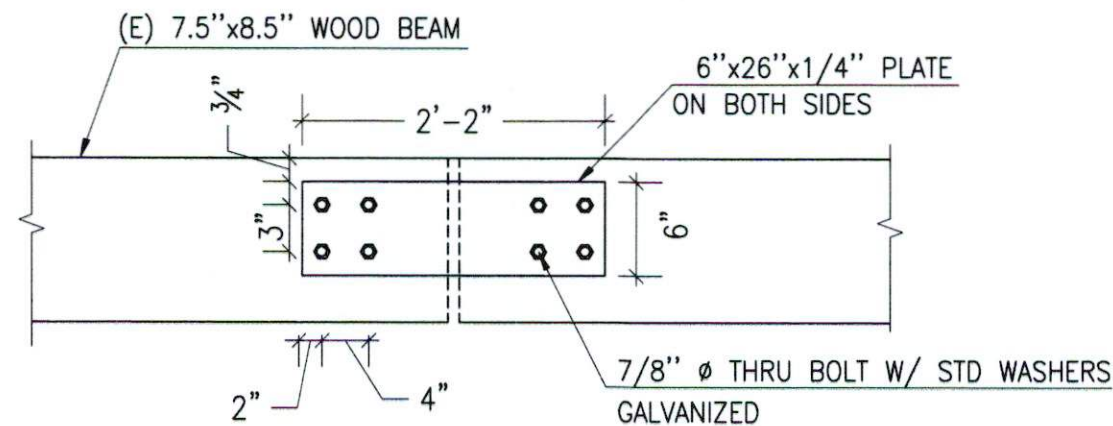
| REV. # | DATE/ISSUE | NOTE |
|--------|------------|------|
| 1 | 06/02/2018 | |
| 2 | 06/27/2018 | |
| 3 | | |

SHEET TITLE:

WEST SIDE
DETAILS

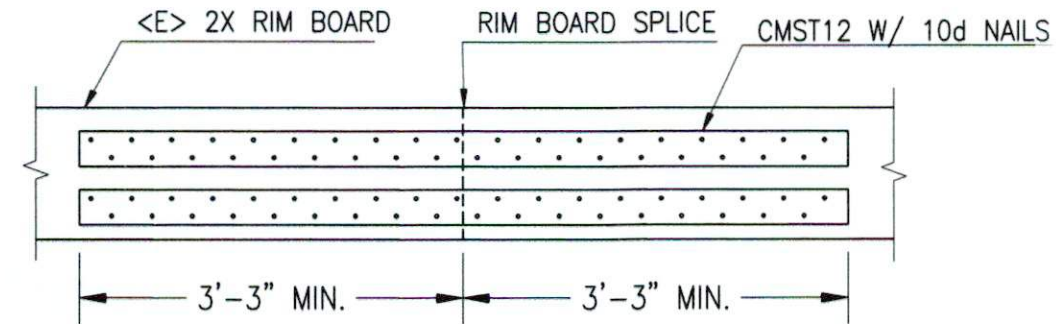
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S-8



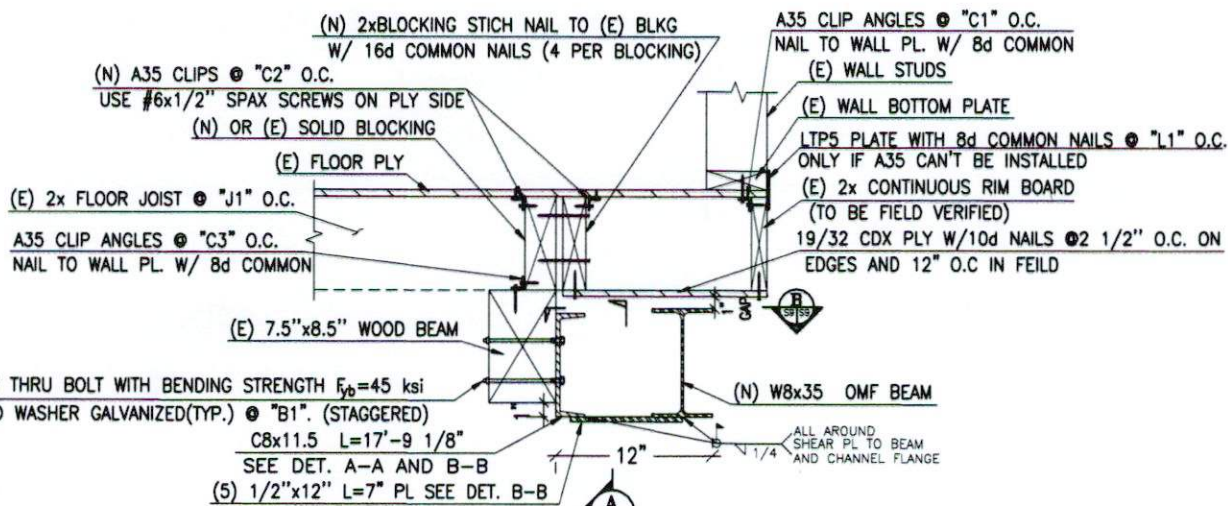
(E) WOOD BEAM SPIICE DETAIL FOR WEST SIDE

SCALE : N.T.S.



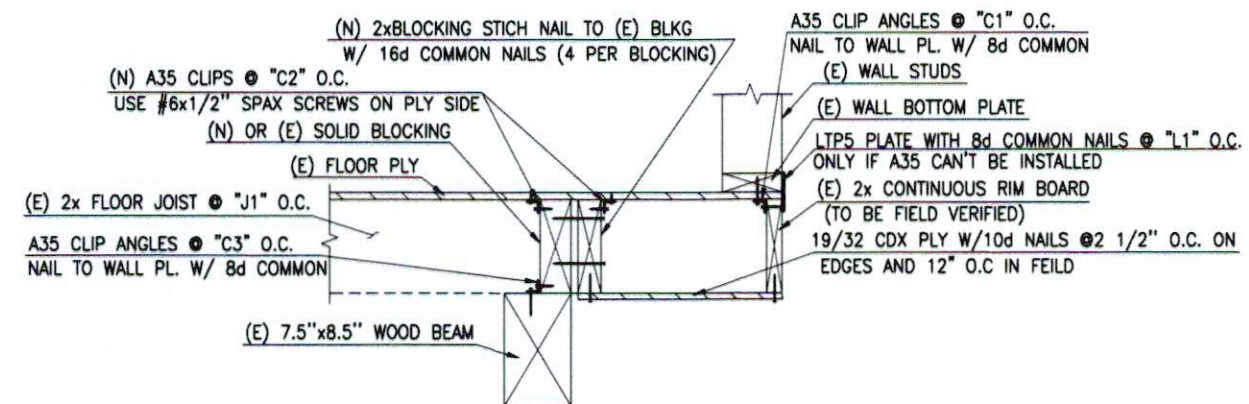
TYP. RIM BOARD SPLICE

SCALE : N.T.S.



3 OMF BEAM TO (E) WOOD BEAM CONNECTION DETAILS FOR WEST SIDE

SCALE : N.T.S.



4 TYP. ALONG WEST WIDTH OF BLDG

SCALE : N.T.S.

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JUL 02 2018

Signature



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SEISMIC RETROFIT
COMPLIANCE TO LOS ANGELES MUNICIPAL CODE
ORDINANCE No. 183893

TWO STORY RESIDENTIAL BUILDING
6923 BEN AVE.
LOS ANGELES, CA 91605

LEGAL PROPERTY DESCRIPTION
APN: 2321011009
LOT: 264
TRACT: TR 6024



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SHEET TITLE:
WEST SIDE DETAILS

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S-9



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OWNER'S NAME
SIMON KAZANCHYAN
ADDRESS:
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CA 91505

PROJECT SCOPE:
SEISMIC RETROFIT
COMPLIANCE TO LOS ANGELES MUNICIPAL CODE
ORDINANCE No. 183893
PROJECT DESCRIPTION:
TWO STORY RESIDENTIAL BUILDING
6923 BEN AVE.
LOS ANGELES, CA 91605

LEGAL PROPERTY DESCRIPTION
APN 2521011009
LOT 264
TRACT TR 6024

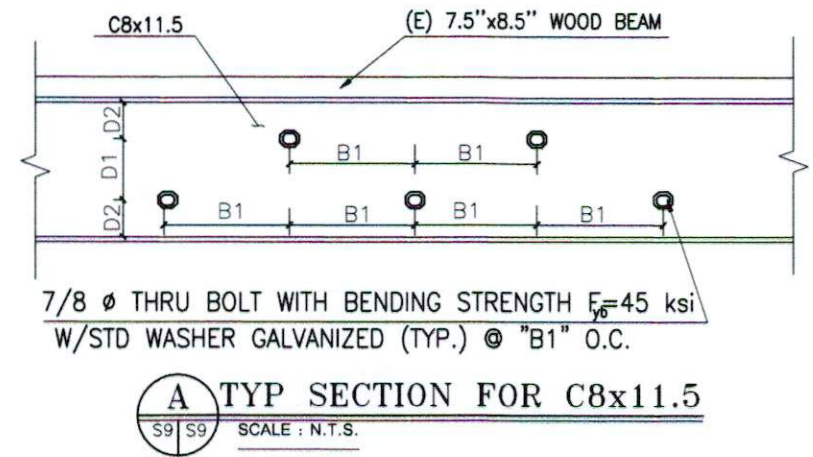


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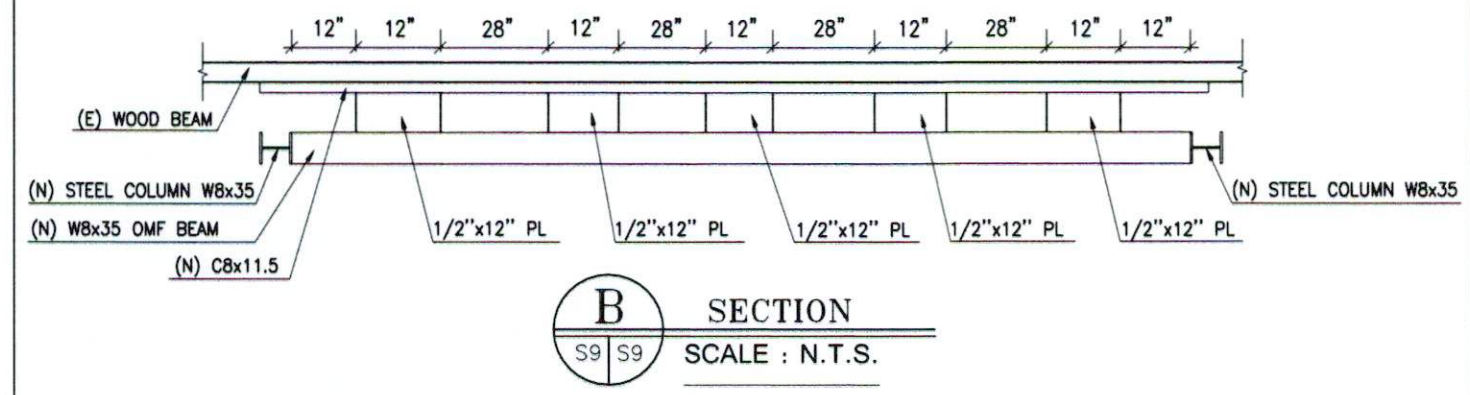
SHEET TITLE:
WEST SIDE DETAILS

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| SCALE: | AS NOTED | S-10 |
| DATE: | 03 / 10 / 2018 | |

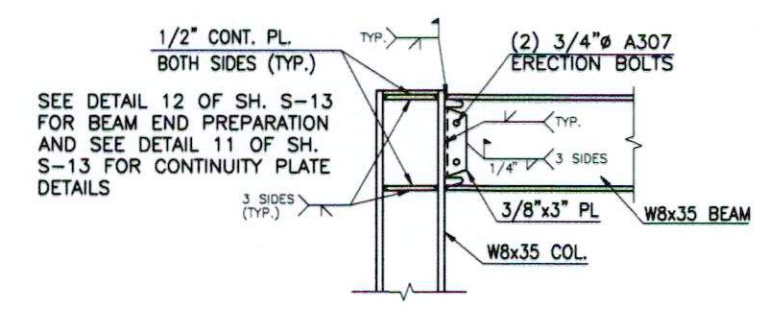


7/8 Ø THRU BOLT WITH BENDING STRENGTH $F_u=45$ ksi
W/STD WASHER GALVANIZED (TYP.) @ "B1" O.C.

A TYP SECTION FOR C8x11.5
SCALE : N.T.S.



B SECTION
SCALE : N.T.S.



TYP. MOMENT FRAME CONN. FOR WEST SIDE OMF.
SCALE : N.T.S.

| WEST SIDE TABLE | |
|-----------------|----------------|
| NOTATION | DISTANCE (in.) |
| L1 | 12 |
| L2 | - |
| L3 | - |
| C1 | 12 |
| C2 | 12 |
| C3 | 12 |
| S1 | - |
| S2 | - |
| B1 | 12 |
| B2 | - |
| D1 | 3 |
| D2 | 2 |
| J1 | 16 |

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JUL 02 2018
Signature *[Signature]*

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STANDARD QUALITY ASSURANCE PLAN

I. PURPOSE

The Standard Quality Assurance Plan (hereinafter referred to as "Standard QA Plan") for steel moment frames provides specifications, procedures, and illustrative details to comply with the requirements of the 2002 Los Angeles Building Code. The quality assurance requirements described in this Standard QA Plan are intended to promote public safety and welfare by standardizing inspections, tests, and all other applicable measures that ensure substantial compliance with the code performance objectives of steel moment frame connections.

II. HOW TO USE THIS STANDARD QA PLAN

To use the Standard QA Plan, follow the steps outlined below:

- Standard QA Plan shall be attached to or incorporated in the structural plan.
- Where the Standard QA Plan is attached to the structural plan, the Engineer of Record shall:
 - Identify the type of steel moment frame to be used in the building or structure by placing an "X" mark in the box below:

- ☐ SPECIAL MOMENT FRAME (SMF)
☐ INTERMEDIATE MOMENT FRAME (IMF)
☒ ORDINARY MOMENT FRAME (OMF)

- Place a NOTE on the structural plan stating "All specifications, tables, and notes in the City of Los Angeles Standard Quality Assurance Plan for Steel Moment Frames shall be part of this approved structural plan."
 - Sign and stamp the Standard QA Plan in the box provided at the lower right corner of each sheet.
- Where the Standard QA Plan is incorporated directly in the structural plan, the Engineer of Record shall place a NOTE on the structural plan to clearly indicate the type of steel moment frame to be used in the building or structure.
 - All of the quality assurance requirements listed in the Standard QA Plan shall be applied to special moment frames, intermediate moment frames, and ordinary moment frames, unless noted otherwise herein.
 - Organize and submit all reports required in Table 1 on Sheet 2 to the City Building Inspector in a timely manner for review and approval.
 - The procedures, specifications and illustrative details as described in the Standard QA Plan shall not exempt the Engineer of Record from using engineering judgment in determining the suitability of applying the Standard QA Plan to any welded connections. Any deviations in the quality assurance requirements as specified in the Standard QA Plan shall comply with Part III Item 5 of the Standard QA Plan.

III. GENERAL REQUIREMENTS

1. Referenced Documents

- The design and construction of steel moment frames shall be in compliance with the following:
- City of Los Angeles Building Code, 2002 Edition (hereinafter referred to as "LABC")
 - AISC Seismic Provisions for Structural Steel Buildings, Part I and Part III, dated May 21, 2002 (hereinafter referred to as "AISC Seismic")
 - AWS D1.1/D1.1M:2002 Structural Welding Code - Steel (hereinafter referred to as "AWS")

2. Material Specifications

- Structural steel shall comply with UBC Standard 22-1 and the following ASTM standard specifications:
 - Wide flange shapes.....ASTM A572 (50), A913 (50), A992
 - Continuity doubler and column base plates, shear tabs.....ASTM A36
 - Anchor bolts at column base plates.....ASTM F1554
 - Fabricate and erect structural steel in compliance with either the 2001 Edition of AISC "Load and Resistance Factor Design Specification for Structural Steel Buildings" (hereinafter referred to as "AISC LRFD Specification") or 1989 Edition of the AISC "Allowable Stress Design Specification for Structural Steel Buildings" (hereinafter referred to as "AISC ASD Specification")
 - Steel having dual ASTM designation shall be clearly identified on each specific plan detail.
- High strength bolts shall comply with the following requirements and ASTM standard specifications:
 - High strength bolts, nuts, and washers.....ASTM A325, A490
 - Installed bolts in accordance with the "Specifications for Structural Joints using ASTM A325 or A490 Bolts."
 - Tighten bolts to a snug tight condition that is at least the minimum proper tension and verify using a calibrated tension measuring device.
- Slip critical high strength bolts are required.
- All faying surfaces of connections with high strength fasteners shall be prepared as required for Class A per the AISC Seismic Section 7.2.
- Filler metal properties and specifications shall be as follows:
 - Electrodes shall be of a low-hydrogen type conforming to AWS specifications as referenced in Table 7 on Sheet 2.
 - Filler metals shall be classified for nominal 70 ksi tensile strength.
 - The maximum permitted electrode diameter shall be in accordance with Table 5 on Sheet 2.
 - Filler metals shall have a minimum Charpy V-Notch (CVN) toughness of 20 ft-lbf at -20°F using AWS A5 classification test methods.
 - The use of intermitted welds shall not occur unless it can be demonstrated by testing in accordance with AWS Section 4.
 - The parameters established by the electrode manufacturer shall be reflected in the approved WPS.
- Other materials not listed in UBC Standard 22-1 or LABC Chapter 35 are not permitted without specific approval from the Department.

3. Welding Processes

Structural welding shall be limited to the Shielded Metal Arc Welding or Flux Cored Arc Welding processes.

4. Base Metal Repairs or Restorations

- Any repair or restoration of base metal shall comply with all of the following:
- Engineer of Record shall review and approve the WPS for repair procedures prior to welding.
 - Ensure that repair procedures meet the requirements outlined in AWS Section 5.26 and ASTM A6A6M-02 Section 9.2, 9.3, 9.4 and 9.5.
 - All welding shall be performed using low-hydrogen process or with SMAW using low-hydrogen electrodes.
 - Provide continuous visual inspection by the Deputy Inspector.
 - Provide non-destructive testing upon completion of the repair work.

5. Deviations From the Standard Quality Assurance Plan

- Deviations from any part of the Standard QA Plan may be made provided the procedures outlined below are followed:
- Deviations from the Standard QA Plan must be reviewed and approved by the Engineer of Record.
 - Engineer of Record shall provide alternate procedures, specifications, and/or details to justify the deviations.
 - Submit the proposed deviations from the Standard QA Plan to the Department for review and approval prior to commencement of work.
 - Supplemental testing and additional specifications may be required to justify the deviation.
 - Conformance with all applicable provisions of the LABC, AISC, and AWS is required.

IV. QUALITY ASSURANCE

1. Certification

- Inspectors shall be LADBS Certified Deputy Inspectors per LABC Section 1701.2 and Information Bulletin P/B/C 2002-035 "Regulations Regarding Registration for Deputy and Controlled Activities Inspection." Employment shall be in accordance with Information Bulletin P/B/C 2002-034 "Employment and Duties of a Registered Deputy Inspector."
- Welders shall be LADBS Certified Welders for the Structural Steel classification per LABC Section 1701.18.1, 2205.10, and Information Bulletin P/B/C 2002-045 "Welder Certification Rules and Regulations."
- Shop welds shall be performed in an LADBS Certified Fabricator's Shop per LABC Section 96.204(g) and Information Bulletin P/B/C 2002-042 "Application for Approval as Fabricator."
- Technicians performing Non-Destructive Testing (NDT) shall be certified for Level II in accordance with ASNT SNT-TC-1A:2002 Edition by a Testing Agency approved per LABC Section 96.0503 and Information Bulletin P/B/C 2002-056 "Guidelines for Recognition of Testing Agencies."

2. Pre-Construction Meeting

- The Owner (or owner's representative) shall arrange a pre-construction meeting(s) with the Engineer of Record (or Structural Observer designated by the Engineer of Record), the Contractor (or affected Sub-Contractor), and the Deputy Inspector to discuss and review welding procedures, bolting procedures, and inspection requirements for all welding and bolting operations.
- The City Building Inspector shall be notified of such meeting(s) and may participate at his/her discretion.
- Meeting record(s) shall be included in the first report submitted to the City Building Inspector.

3. Structural Observation

- Structural observation shall be performed in accordance with Information Bulletin P/B/C 2002-024. The Structural Observer shall:
- Perform structural observation listed in Table 6 on Sheet 2.
 - Perform structural observation prior to placement of decking, covering by fireproofing, encasement, in concrete or placement of other finishes.
 - Submit observation report(s) to the City Building Inspector at each stage observed and upon completion of the structural system.
 - State in the report that the steel moment frame system substantially conforms with the approved structural plans and specifications.
 - Use the Department's Structural Observation Report Form to obtain all observations. Structural Observation Report Form can be obtained at www.ladbs.org, keyword: "Information Bulletin P/B/C 2002-024".

4. Deputy Inspection

- The following are the basic Quality Assurance responsibilities of the Deputy Inspectors:
- Arrive on the job in sufficient time to verify the permit information, check for prior inspections and/or approvals by the City Building Inspector or previous Deputy Inspectors, check the quality of all materials and become familiar with the approved structural plans and specifications.
 - Verify that structural steel delivered is from a fabricator currently licensed by the Department.
 - Identify material from an offsite fabricator in accordance with LABC Section 2203 and compare to the approved plans and specifications.
 - Verify that each steel piece is labeled with the approved fabricator's shop name and license number.
 - Visual check shop welds, joint preparation, faying surfaces, indentation stamps and color codes of high strength steel, excessive mill scale or laminations, and dimensional conformity with the approved plans.
 - Before any welding begins, inspect joint preparation, fit-up, condition of surfaces to be welded, storage and use of electrodes, current license of all welders, and voltage/amperage of welding machines.
 - Ensure that all welding and inspection activities comply with AWS.
 - Measure voltage/amperage near the arc with a hand held calibrated averaging type meter. The meter shall be calibrated not less than once a year. This equipment shall be used by the Fabricator, Erector, and Deputy Inspector.
 - During welding operation, provide continuous inspection particularly on multiple pass welds to assure that each pass has been prepared correctly, preheat and interpass temperatures are maintained and that finished welds shall be the correct size and without rejectable discontinuities.
 - Mark steel near the weldment to indicate that inspection was made.

- Verify type and size of bolts and washers, check mill certificates, and verify faying surfaces are free of burrs, scale, rust, grease or anything that may inhibit full contact.

- Verify connections involving high strength bolts and welds are fabricated per Part III Item 2(b) and 2(c) and erected in a sequence per Part V Item 2, unless specified otherwise by the Engineer of Record.
- Verify high strength bolts are not welded or damaged by preheating.
- Verify washers are always installed with all bolts, except A-490 bolts which require washers under both elements.
- Verify that any deficiency noted in the Structural Observation Report Form has been corrected.
- Verify that the Engineer of Record has approved the written Welding Procedure Specification (WPS) prepared by the Fabricator or Erector. The WPS shall include the following:
 - All applicable requirements from the codes, the Standard QA Plan, and any other information necessary to produce the welds.
 - List the applicable base metal types and thicknesses.
 - List the welding joint detail, including joint type, weld type, joint geometry, and applicable dimensions. Individual weld passes shall be identified in sketches and numbered to identify the sequence of their deposition (see Detail 15 on Sheet 3 for example). The sketches shall identify the maximum layer thicknesses and bead widths. In no case shall layer thicknesses exceed 1/4 inch nor shall the maximum bead widths exceed 5/8 inch.
 - List the welding processes.
 - Specify the required welding positions.
 - List the filler metal per AWS for electrode specification and classification (see Table 7 on Sheet 2), as well as information regarding shielding material to be used.
 - Indicate the minimum preheat and interpass temperatures (see Table 4 on Sheet 2) and post weld heat treatment per Part V Item 5.
 - List all applicable electrical characteristics for the welding process employed. WPS shall clearly indicate the specific values required for each welding pass. These electrical characteristics shall include at minimum the following:
 - Electrode diameter (see Table 5 on Sheet 2).
 - Type of current, and acceptable ranges of current measured in amperage.
 - Voltage.
 - Travel speed (range), and
 - Amperage, voltage and electrode extension (as applicable) shall be within the filler metal manufacturer's recommendations.
 - A copy of the electrode manufacturer's technical information with ID # listed shall be attached to the WPS.
- Weld joints not conforming to AWS Chapter 3 must be tested by an approved testing agency, accepted by the Engineer of Record, and approved by the Department's Material Control Section before the weld is performed. Material Control Section can be contacted at:

LADBS Material Control Section
221 N. Figueroa St., Suite 1540
Los Angeles, CA 90012
(213) 482-0380 or 1-888-LA-4BUILD

- Notify the Contractor, Engineer of Record, and City Building Inspector of any deviations or non-compliance with the approved WPS, plans or specifications.
- "Deputy Inspection Report Form B-94" shall be submitted on a weekly basis to the City Building Inspector and Engineer of Record, unless determined otherwise by the City Building Inspector.
- During the execution of the work, the Deputy Inspector shall not undertake or engage in any other task or occupation which will interfere with the proper performance of the duties of such inspection.

5. Electrode Storage and Atmospheric Exposure

- Electrodes are considered to be exposed to the atmosphere if:
 - the manufacturer's sealed electrode containers or packages are opened or damaged, or
 - outside of baking or storage ovens.
- Modification or lubrication of electrodes are not permitted.
- Drying of electrodes in baking or storage ovens are permitted as recommended by the manufacturer.
- Electrodes shall be identified to facilitate monitoring of total atmospheric exposure time.
- Storage and atmospheric exposure of AWS A5.1-91 and A5.5-96 low-hydrogen SMAW electrodes shall be in accordance with AWS Section 5.3.2.
- FCAW electrodes not consumed within 24 hrs of accumulated atmospheric exposure time shall not be used. Manufacturer's recommendations that show that drying effectively removes moisture and restores electrodes to their designated diffusible hydrogen levels are permitted.
- FCAW electrode welding suspended more than 8 hrs shall be removed from the machines and stored in an electrode wire baking or storage oven maintained at a temperature between 250° and 550°F, or as recommended by the electrode manufacturer.

6. Plastic Hinging Zone Protection

- The plastic hinging zone shall be identified diagrammatically, as illustrated in Detail 15 on Sheet 3, on the structural plans by the Engineer of Record.
- The Engineer of Record and Contractor shall be responsible for reviewing shop drawings of ALL relevant trades to ensure compliance. This shall be discussed and documented in pre-construction meetings.
- The Contractor shall be responsible for developing a program to ensure that all workers on the project, including their subcontractors, are aware of and understand this requirement. Failure to comply with these requirements may cause the replacement of steel.
- Plastic hinging zones shall be defined by permanent markings such as paint or ink.
- A note, as illustrated in Detail 15 on Sheet 3, shall be prominently placed on the structural plans (general note sheet and adjacent to moment frame detail) and the construction documents of ALL trades.
- Welded, bolted, screwed, or shot-in (powder driven) attachments for perimeter edge angles, shear studs, exterior facades, partitions, duct work, piping, or other connections shall not be permitted within the plastic hinging zones.

- Any penetrations or damage from temporary welded attachments within the plastic hinging zones shall be repaired as required by the Engineer of Record and comply with Part III Item 4.
- Initially, the plastic hinging zone "Warning Sign", as illustrated in Detail 15 on Sheet 3, may be temporary. However, the temporary "Warning Sign" shall be replaced by a permanent "Warning Sign" before project completion. This sign and identification of the plastic hinging zone shall be maintained during construction; and may require repair after operations such as fireproofing.
- Signs shall be affixed to the beam and located within the plastic hinging zone. The City Building Inspector may accept alternate methods of attaching the "Warning Sign" to the plastic hinging zones.

7. Additional Charpy V-Notch Toughness (not required for OMF)

- Welds at the locations indicated below shall be made with filler metal having a CVN toughness of 20 ft-lbf at -20°F AND 40 ft-lbf at 70°F as determined by test procedure prescribed in the AISC Seismic Appendix X "Weld Metal / Welding Procedure Specification Toughness Verification Test."
- Beam flanges to columns.
 - Single plate shear connections to columns.
 - Beam webs to columns, and
 - Column splices.

8. Non-Destructive Testing (NDT) Requirements

- A minimum non-destructive testing at each weld joint or parts shall be conducted at the locations and frequencies as specified in Table 2 and Table 3 on Sheet 2 respectively.
- A copy of each NDT report shall be provided to the Contractor, Engineer of Record, Deputy Inspector, and City Building Inspector with the following information:
 - Document the accepted and rejected welds, parts, or joints.
 - Identify the tested weld by piece mark and location in the piece.
 - Identify the tested weld location in the structure.
- NDT Technician shall perform the following tasks:
 - Coordinate the NDT scope and schedule with the Deputy Inspector.
 - Perform NDT in a timely manner (so as not to hinder construction work) and to detect welding problems soon after occurrence so that corrective measures can be taken by the Contractor.
 - Mark the inspected and accepted welds, parts, and joints with a distinguishing mark or dye stamp.
- Reduction Rate for NDT:
 - The rate of UT testing on CJP groove welds may be reduced if approved by the Engineer of Record and the Department. The NDT rate for an individual welder or welding operator may be reduced to 25%, provided the reject rate is demonstrated to be 5 % or less of the welds tested for the welder or welding operator. A sampling of at least 40 completed welds for a job shall be made for such reduction evaluation.
 - The rate of MT testing on CJP groove welds may be reduced if approved by the Engineer of Record and the Department. The MT rate for an individual welder or welding operator may be reduced to 10%, provided the reject rate is demonstrated to be 5 % or less of the welds tested for the welder or welding operator. A sampling of at least 20 completed welds for a job shall be made for such a reduction evaluation. This reduction is not permitted on welds in the k-area, at repair sites, weld tab and backing removal sites and access holes.
 - Reject rate shall mean the number of welds containing rejectable defects divided by the number of welds completed.

9. Documentations

The reports listed in Table 1 on Sheet 2 shall be submitted to the City Building Inspector in a timely manner.

V. WELDING PROCEDURES

1. Bottom Beam Flange Moment Connection Welding

Where welding of the bottom beam flange to the column flange is in the flat welding position, welding shall be completed with the following sequence:

- Start welding from Side A (one side of the beam) with a maximum 1/4 inch thick root pass beyond the center of the joint on Side B (other side of the beam), reaching past the beam web toward the weld access hole.
- After the arc is initiated, electrode travel shall progress toward the edge of the Side A beam flange, terminating on the Side A weld tab.
- The Side A root pass, and the root pass deposit on Side B, shall be thoroughly cleaned to allow the Deputy Inspector to verify that the resulting bead profile is suitable for obtaining good fusion by the subsequent root pass to be initiated from Side B. If the profile is not conducive to good fusion, the start of the first root pass shall be ground, gouged, chipped, or otherwise prepared to ensure adequate profile to achieve fusion.
- Complete the root pass on Side B before any other weld passes are performed.
- The arc shall be initiated at the start of the first Side A root pass, and electrode travel shall progress toward the edge of the Side B beam flange, terminating on the Side B weld tab.
- The above sequence shall be repeated for subsequent weld layers, and each weld layer shall be completed on both sides of the joint before a new layer is deposited. The order of operations (Side A, then Side B, or vice versa) is not restricted and may vary for each weld layer. Weld passes shall be placed in horizontal layers. Each pass shall be thoroughly cleaned of slag and wire brush. Each pass shall be visually inspected by the Deputy Inspector, as described above in Step (c).

An alternate welding sequence may be made provided the Welder or Contractor submits in writing an alternate sequence that is approved by the Engineer of Record and complies with the requirements of Part III Item 5 of the Standard QA Plan.

2. Sequence for Welding at Multiple Locations

- When welding occurs at multiple locations of welded steel moment frame connections, the following sequence shall be followed:
- Weld both top and bottom beam flanges prior to any supplemental welding to the beam web or shear tab.

- Engineer of Record shall review and approve all field welding sequences prior to the start of work.
- Field welding of web shear plates with bolts shall occur after field welding of beam flanges to column flange.
- High strength bolts shall be in the snug tight condition prior to welding.
- Notwithstanding AISC LRFD Specification Section J1.9 to the contrary, high strength bolts shall be fully tensioned upon completion of all welding activities.

3. Welding Technique

- Stringer beads shall be used during all welding operations. Maximum bead width, bead thickness, and layer thickness shall be considered. Weaving is not permitted, except when the WPS approved by the Engineer of Record limits electrode oscillation transverse to the weld axis to a maximum of:
 - 3d for 1G/1F, 2G/2F, and 4G/4F weld positions, or
 - 5d for the 3G/3F position, where d = electrode diameter.
- Welding layers should progress from the face of the column flange outward toward the groove face of the beam flange as illustrated in Detail 13 on Sheet 3.

4. Preheat and Interpass Temperature

- The minimum preheat and interpass temperature requirements in Table 4 of Sheet 2 shall be observed. Special attention shall be given to AWS Section 3.5.1 and Section 5.6 for the thickness of the base metal to be welded.
- Preheat and all subsequent interpass temperatures shall be maintained during the welding operation for a distance at least equal to the thickness of the thicker welded part, but not less than 3', in all directions from the point of welding.
- Where base metals are of different thickness, the higher minimum preheat and interpass temperature requirements of the thicker plate shall govern.
- Maximum preheat and interpass temperature shall not exceed the lesser of:
 - 550°F, or
 - The maximum temperature recommended by the manufacturer.

5. Post Weld Heat Treatment

- Unless specified otherwise in an approved WPS, the minimum post weld heat treatment shall be provided as follows:
- Apply temperature in the 400°F to 600°F range immediately after completion of welding to prevent the weld metal from cooling below the minimum preheat and interpass temperature.
 - Maintain temperature for approximately 1 hour per inch of thickness of weld metal or 2 hours, whichever is less.
 - Conditions specified in AWS Section 3.14 and Section 5.6 should carefully be considered when applying post weld heat treatment. Alternatively, the use of insulating blankets after the completion of welding in lieu of post weld heat treatment may be permitted to control the cooling of the welded connection to ambient temperature if recommended by the Engineer of Record and approved by the City Building Inspector, unless required otherwise by an approved WPS.

VI. WELDING AND FABRICATION DETAILS

1. Base Metal Joint Preparation

- Base metal preparation shall be in compliance with AWS Section 5.15.
- All beam flange to column flange welds are to be made with an AWS prequalified CJP groove welded joint detail.
- Bevel, fit-up and detail tolerances shall be as required by the selected prequalified welded joint detail.
- Whenever possible, use the AWS prequalified CJP groove welded joint detail as illustrated in Detail 14 on Sheet 3 and the following:
 - Use single bevel CJP groove welds made with a 30° groove angle or double bevel CJP groove welds when flange thickness exceed 1-1/2 inch.
 - "As Fit-Up" and "As Detailed" shall be the maximum tolerances.
 - Meet all qualified WPS variables in Table 5 on Sheet 2.

2. Weld Access Hole

- Where weld access holes are provided, they shall be detailed as illustrated in Detail 12 on Sheet 3.
- Notches and gouges shall be repaired following a WPS approved by the Engineer of Record.
- Weld access holes shall be prepared by grinding to a suitable finish in accordance with AISC LRFD Specification Section J1.6 and provided with a minimum radius of 3/8 inch as illustrated in Detail 12 on Sheet 3.

3. Backing Bar

- Backing bar used in connections with a CJP groove weld of beam flange to column flange shall be removed except that top flange backing bar attached to the column by a continuous fillet weld on the edge below the CJP groove weld need not be removed.
- Following removal of backing bar, the root pass shall be backgouged to sound weld metal, and back welded. A reinforcing fillet weld with a minimum leg size of 5/16 inch or the root opening plus 1/16 inch, whichever is larger, shall be provided. The reinforcing fillet weld need not be ground.
- When backing bar is other than AWS Table 3.1 and Section 5.2.2 approved base metal is used, the following shall apply:
 - Ceramic, flux or glass tape may be used provided the manufacturer's recommendations are followed.
 - When a non-metallic backing bar is used, the WPS and the Welder shall be qualified using the type of backing bar intended for welding.
 - Nonferrous metallic (e.g. copper) backing materials are not permitted.

4. Weld Tab

- Weld tabs shall be aligned parallel to the joint preparation.
- No weld dams are allowed.
- Weld tabs shall extend beyond the edge of the joint a minimum distance equal to the part thickness, but not less than one inch.
- Weld tab shall be removed upon completion of the welded joint as follows:
 - No more than 1/8 inch beyond the edge of the joint shall remain, except at continuity plate where up to 1/4 inch is acceptable.
 - Edges of the weld tab shall be finished to a surface roughness value of 500 micro inch or better. Grinding to a flush condition is not required.

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STANDARD QUALITY ASSURANCE PLAN For Steel Moment Frames



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PROJECT SCOPE:
SEISMIC RETROFIT
COMPLIANCE TO LOS ANGELES MUNICIPAL CODE
ORDINANCE No. 183893

LEGAL PROPERTY DESCRIPTION
APN 2321011009
LOT 264
TRACT TR 6024



| DRAWN BY: | MF | DATE: | 03 / 10 / 2018 |
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| DESIGN BY: | AL | | 03 / 10 / 2018 |
| APPROVED BY: | H2S | | 03 / 10 / 2018 |

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SHEET 1 OF 3

SCALE: AS NOTED

DATE: 03 / 10 / 2018

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CONTINUED FROM SHEET 1

- a. Gouges and notches are not permitted. The transitional slope of any area where gouges and notches have been removed shall not exceed 1:5.
f. Material removed by grinding that extends more than 1/16 inch below the surface of the base metal shall be filled with weld metal. The contour of the weld at the ends shall provide a smooth transition, free of notches and sharp corners.

5. Continuity Plate

- a. Continuity plates shall be detailed as illustrated in Detail 11 on Sheet 3.
b. The weld attaching the continuity plate to the column flange shall be as follows:
i. Use a CJP groove weld for the full length of the groove preparation.
ii. When backing bars are omitted, the root shall be backgouged and back welded.
iii. When backing bars are used and remain in place, backing bars shall be attached to the column flanges with a reinforcing fillet weld.
iv. Fillet weld shall not be used to connect backing bars to continuity plates.
v. The fillet weld size need not exceed the minimum size requirements of AWS Table 5.8.
c. Weld terminations near the end of the column flange tips may be completed using weld tabs as follows:
i. Weld tabs may be steel or nonfusible material.
ii. Weld terminations near the radius of the column need not be made using weld tabs. The use of small nonfusible weld tabs to assist in weld terminations is permitted.
iii. Weld tabs shall be removed following completion of welding.
d. Continuity plates may be welded to the column web with groove welds, fillet welds, or a combination of the two. Fillet welds shall terminate a minimum distance of 1/4 inch from each end of the joint.

6. Doubler Plate

Web doubler plates, as illustrated in Detail 2, 3, or 4 on Sheet 3, shall be welded using either Detail 5, 6, or 7 on Sheet 3.

7. Requirements for "K" Area

Welds shall terminate short of the "K" area for continuity plates as illustrated in Detail 11 on Sheet 3.

VII. EXEMPTIONS

1. Reduction from certain quality assurance components of this Standard QA Plan, as listed in Part VII Item 2, are permitted for the following buildings or structures:
a. One or two family dwellings not more than 1 story in height and 2,500 sq ft of floor area.
b. Buildings or structures accessory to residential uses (such as carport, storage, garage) and
c. Miscellaneous structures (such as walkway, canopy, patio cover, gazebo, storage rack).
2. Buildings or structures, as listed in Part VII Item 1, are exempt from providing the following quality assurance components:
a. Electrode Storage and Atmospheric Exposure, Part IV Item 5(f) and 5(g).
b. Plastic Hinging Zone Protection, Part IV Item 6.
c. Additional CVN Notch Toughness Testing, Part IV Item 7.
d. Non-Destructive Testing, Part IV Item 8.
e. Preheat and Interpass Temperature, Part V Item 4.
f. Post Weld Heat Treatment, Part V Item 5.

Table 7. PREQUALIFIED BASE METAL - FILLER METAL COMBINATIONS FOR MATCHING STRENGTH (1,2,3,4)

| BASE METAL | | FILLER METAL | | |
|----------------|---|---|-----------------------------|----------------------------|
| Group | Steel Specification | Welding Process | AWS Electrode Specification | Electrode Classification |
| I | ASTM A36 < 3/4 in. | SMAW | A5.1 | E70XX |
| | | | A5.5 (a) | E70XX-X |
| | | FCAW | A5.20 (a) | E70XT-X, E7XT-XM |
| | | | A5.29 (a) | E70XT-X-X, E7XTX-XM |
| II | ASTM A36 > 3/4 in. ASTM A572 Grade 50 ASTM A913 Grade 50 ASTM A992 | SMAW | A5.1 | E7015, E7016, E7018, E7028 |
| | | | A5.5 (a) | E70XX-X |
| | | FCAW | A5.20 (a) | E70XT-X, E7XT-XM |
| | | | A5.29 (a) | E70XT-X-X, E7XTX-XM |
| RELATIONSHIP | BASE METAL(S) | FILLER METAL STRENGTH RELATIONSHIP REQUIRED | | |
| Matching | Any steel to itself or any steel to another in the same group | Any filler metal listed in the same group | | |
| | Any steel in one group to any steel in another | Any filler metal listed for a lower strength group [SMAW electrodes shall be the low-hydrogen classification] | | |
| Under-Matching | Any steel to any steel to any group | | | |

NOTES:

1. The base metal/filler metal strength relationships above shall be used to determine whether matching or under-matching filler metals are required. Refer to AWS D1.1/D1.1M:2002, Section 3.3.
2. Preheating of joints involving base metals of different groups shall be in conformance with the requirements applicable to the higher strength group.
3. When welds are to be stress-relieved, the deposited weld metal shall not exceed 0.05 percent vanadium.
4. Adapted with permission from the AWS D1.1 Committee on Structural Welding, Structural Welding Code - Steel, AWS D1.1/D1.1M:2002, Miami: American Welding Society, Table 3.1.
5. FCAW electrodes with the -2, -2M, -3, -4, -7, -10, -11, -13, -14, G, -GS suffix shall be excluded and electrodes with the -11 suffix shall be excluded for thicknesses greater than 1/2 in.
6. Filler metals of alloy group B3, B3L, B4, B4L, B5, B5L, B6, B6L, B7, B7L, B8, B8L, B9, or any BXH grade in AWS A5.5 or A5.29 are not prequalified for use in the as-weld condition.

Table 5. PREQUALIFIED WPS REQUIREMENTS (1,2,3)

| VARIABLE | POSITION OF WELD | WELD TYPE | SMAW | FCAW |
|--------------------------------------|------------------|---------------------------------------|--|--|
| Maximum Electrode Diameter | Flat (F) | Fillet (a) | 5/16 in. | 1/8 in. |
| | | Groove (a) | 1/4 in. | |
| | | Root Pass | 3/16 in. | |
| | Horizontal (H) | Fillet | 1/4 in. | 1/8 in. |
| | | Groove | 3/16 in. | |
| | Vertical (V) | All | 3/16 in. | 3/32 in. |
| Overhead (OH) | All | 3/16 in. | 5/64 in. | |
| Maximum Current | All | Fillet | Within the range of recommended operation by the filler metal manufacturer and a WPS approved by engineer of record. | Within the range of recommended operation by the filler metal manufacturer and a WPS approved by engineer of record. |
| | All | Groove weld root pass with opening | | |
| | | Groove weld root pass without opening | | |
| | | Groove weld fill passes | | |
| | | Groove weld cap pass | | |
| Maximum Root Pass Thickness (a) | Flat (F) | All | 3/8 in. | 3/8 in. |
| | Horizontal (H) | | 5/16 in. | 5/16 in. |
| | Vertical (V) | | 1/2 in. | 1/2 in. |
| | Overhead (OH) | | 5/16 in. | 5/16 in. |
| Maximum Fill Pass Thickness | All | All | 3/16 in. | 1/4 in. |
| Maximum Single Pass Fillet Weld Size | Flat (F) | Fillet | 3/8 in. | 1/2 in. |
| | Horizontal (H) | | 5/16 in. | 3/8 in. |
| | Vertical (V) | | 1/2 in. | 1/2 in. |
| | Overhead (OH) | | 5/16 in. | 5/16 in. |
| Maximum Single Pass Layer Width | All | Root opening >1/2 in. | Not applicable. | Split layers |
| | | Any layer of width w | | (a) |

NOTES:

1. Applicable provisions of AWS D1.1/D1.1M:2002 Section 3 "Prequalification of WPSs" must be maintained for prequalified status of SMAW and FCAW WPSs.
2. Refer to Detail 13 on Sheet 3 for diagram of weld pass sequence.
3. Adapted with permission from the AWS D1.1 Committee on Structural Welding, Structural Welding Code - Steel, AWS D1.1/D1.1M:2002, Miami: American Welding Society, Table 3.7.
4. Except root passes.
5. See AWS D1.1/D1.1M:2002, Section 3.7.2, for width-to-depth limitations.
6. In the F, H, or OH positions for nonbutt joints, split layers when the layer width w > 5/8 in.; in the V position for nonbutt joints or the 5G or 6G for butt joints, split layers when the width w > 1 in.

Table 6. STRUCTURAL OBSERVATION CHECKLIST

| STRUCTURAL OBSERVATION PROGRAM (Steel Moment-Resisting Frame for Seismic Application) | |
|--|--|
| <input type="checkbox"/> | Orientation and placement of connected components. |
| <input type="checkbox"/> | Removal of backing bars, as required on the plans. |
| <input type="checkbox"/> | Removal of runoff tabs, as required on the plans. |
| <input type="checkbox"/> | Presence of continuity plates, as required on the plans. |
| <input type="checkbox"/> | Presence of doubler plates, as required on the plans. |
| <input type="checkbox"/> | Configuration and finish of weld access holes, if applicable. |
| <input type="checkbox"/> | Contour of RBS profile, if applicable. |
| <input type="checkbox"/> | Verify that no welded attachments occur in the plastic hinging region. |
| <input type="checkbox"/> | Review NDT and deputy inspection reports for general compliance. |

NOTES:

1. Weld qualities shall be verified by the Deputy Inspector.
2. The structural observations listed in this Table are in addition to the structural observations that may be required on the structural plans.

Table 1. REPORTS TO BE SUBMITTED TO THE CITY BUILDING INSPECTOR

| PREPARED BY | TYPE OF REPORT |
|---------------------------|---------------------------------|
| 1. Structural Observer(s) | Structural Observation Reports |
| 2. Deputy Inspector(s) | Deputy Inspection Reports |
| 3. NDT Technician(s) | Non-Destructive Testing Reports |

Table 2. NON-DESTRUCTIVE TEST LOCATIONS

| REQUIRED LOCATIONS | OMF | JMF | SMP |
|--|-----|-----|-----|
| 1. CJP Groove Weld Ultrasonic test shall be performed on all CJP groove welds in materials 5/16 inch (8 mm) thick or greater. In addition, magnetic particle test shall be performed on all beam-to-column CJP groove welds. | B | A | A |
| 2. "K" Area When welding of double plates, continuity plates, or stiffeners has been performed in the k-area, the web shall be tested for cracks using magnetic particle testing. The magnetic particle test area shall include the k-area base metal within 3 in. (75 mm) of the weld. | C | B | B |
| 3. Beam Cope and Access Hole At welded splices and connections, thermally cut surfaces of beam copes and access holes shall be tested using magnetic particle testing, when the flange thickness exceeds 1-1/2 in. (38 mm) for rolled shapes. | C | B | B |
| 4. Reduced Beam Section Repair Magnetic particle testing shall be performed on any weld and adjacent area of the RBS plastic hinge region that has been repaired by welding, or on the base metal of the RBS plastic hinge region if a sharp notch has been removed by grinding. | B | B | A |
| 5. Base Metal Lamellar Tearing and Laminations at CJP Groove Weld Base metal thicker than 1-1/2 in. (38 mm) shall be ultrasonically tested for discontinuities behind and adjacent to the fusion line when the base metal is loaded in tension in the through thickness direction in toe and corner joints and the connected material is greater than 3/4 in. (19 mm). Any base metal discontinuities found within 1/4 of the steel surface shall be accepted or rejected on the basis of criteria of AWS D1.1 Table 6.2, where t is the thickness of the part subjected to the through thickness strain. | B | B | A |
| 6. End of Weld at Weld Tab Removal Site Magnetic particle testing shall be performed on the end of welds from which the weld tabs have been removed, except for continuity plate weld tabs. | C | B | B |
| 7. PJP Groove Weld Ultrasonic testing shall be performed on PJP groove welds used in column splices with an effective throat of 3/4 in. (19.1 mm) thick or greater. | C | B | A |

NOTE: A, B, and C are the frequencies of non-destructive tests listed in Table 3.

Table 3. NON-DESTRUCTIVE TEST FREQUENCY

| | Frequency Designation | | |
|--------------------------------|-----------------------|---------------|---------------|
| | A | B | C |
| Ultrasonic Testing (UT) | 100% of joints | 50% of joints | 25% of joints |
| Magnetic Particle Testing (MT) | 50% of joints | 25% of joints | Not Required |

NOTES:

1. Refer to Table 2 for locations of non-destructive testing.
2. Rate of non-destructive testing may be reduced as permitted in Sheet 1, Part IV, Item 3(d).

Table 4. PREQUALIFIED MINIMUM PREHEAT AND INTERPASS TEMPERATURE

| STEEL SPECIFICATION | WELDING PROCESS | THICKNESS OF THICKEST PART AT POINT OF WELDING (in.) | MINIMUM PREHEAT AND INTERPASS TEMPERATURE (°F) |
|---------------------|---|--|--|
| ASTM A36 | SMAW with low-hydrogen electrodes, FCAW | 1/8 to 3/4 in. | 32 |
| ASTM A572 Grade 50 | | Over 3/4 to 1-1/2 in. | 50 |
| ASTM A913 Grade 50 | | Over 1-1/2 to 2-1/2 in. | 150 |
| ASTM A992 | | Over 2-1/2 | 225 |

NOTES:

1. Surfaces to be welded and surfaces adjacent to welds shall be free of moisture. Use a higher preheat temperature to remove moisture.
2. Adapted with permission from the AWS D1.1 Committee on Structural Welding, Structural Welding Code - Steel, AWS D1.1/D1.1M:2002, Miami: American Welding Society, Table 3.2.

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PROJECT SCOPE:
SEISMIC RETROFIT
COMPLIANCE TO LOS ANGELES MUNICIPAL CODE
ORDINANCE No. 183893

PROJECT DESCRIPTION:
TWO STORY RESIDENTIAL BUILDING
6923 BEN AVE.,
LOS ANGELES, CA 91605

LEGAL PROPERTY DESCRIPTION
APN 2321011009
LOT 264
TRACT TR 6024



DRAWN BY: MF 03/10/2018
DESIGN BY: AL 03/10/2018
APPROVED BY: HZS 03/10/2018

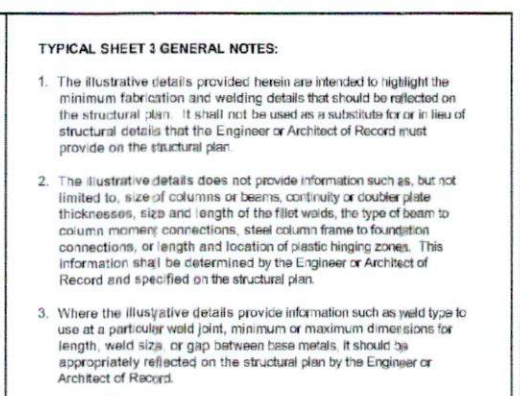
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**LADBS QAP
SHEET2 OF 3**

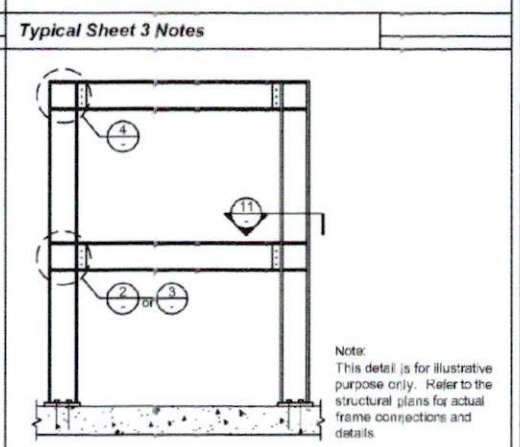
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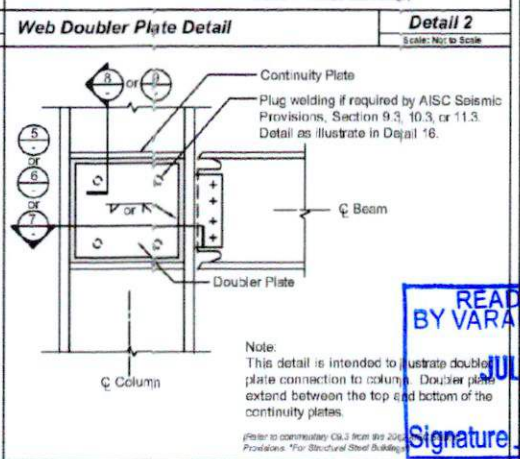


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Notes:

1. Groove welds in corner and T-joints of cyclically loaded structures shall be reinforced with fillet welds equal to $T_1/4$, but need not exceed 3/8 in.
2. For corner joints, the outside groove preparation may be in either or both members, provided the basic groove configuration is not changed and adequate edge distance is maintained to support the welding operations without excessive edge melting.
3. Adapted with permission from the AWS D1.1 Committee on Structural Welding, Structural Welding Code - Steel, AWS D1.1/D1.1M: 2002. Miami: American Welding Society, Figure 3.4 pg. 92 (top left).



| | |
|--|--|
| <p>PROJECT CODE:</p> <p>SEISMIC RETROFIT</p> <p>COMPLIANCE TO LOS ANGELES MUNICIPAL CODE ORDINANCE No. 183893</p> | <p>PROJECT DESCRIPTION:</p> <p>TWO STORY RESIDENTIAL BUILDING</p> <p>6923 BEN AVE.</p> <p>LOS ANGELES, CA 91605</p> |
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