T C A

architecture • planning

# ADDENDUM NO. 1

| | | | |
|---|---|---|---|
| **Owner:** | **City of Pasco**<br>**525 North 3rd Ave**<br>**Pasco, Wa 99301** | **Date:** | **September 21, 2022** |
| | | **Project:** | **Pasco Fire Station 85** |

## NOTICE TO BIDDERS

To the Prime Bidders and all "Plan Holders of Record":
You are hereby notified of the following additions, deletions, modifications or clarifications to the drawings and specifications for the above referenced project. This Addendum forms a part of the Contract Documents and shall be bound inside the front cover of the Project Manual.

**BE SURE TO ACKNOWLEDGE THIS ADDENDUM ON YOUR BID / PROPOSAL FORM**

The following information is to be issued to all plan holders of record. However, prior to the bid opening it is the specific responsibility of each general and separate contractor to notify his subcontractors, suppliers, etc., and to verify with all items covered by the Contract Documents, including addenda, as relating to their bids.

## GENERAL:

1. Refer to Spec Section 00 1100 Invitation to Bid
   a. Remove Title reference "Tri-City Animal Control Facility" and replace with Pasco Fire Station 85

2. Refer to Spec Section 00 2400 Bid Form – Stipulated Sum
   a. Replace Section 00 2400 Bid Form Stipulated sum with attached 00 2400 Bid Form – Stipulated Sum Dated ADD:1 September 20,2022.

3. Refer to Spec Section 01 7700 Close Out Procedures
   a. Replace 1.6 (F.) Record Survey with the following Paragraph
      F. Record Survey: Provide final "Certified Survey" documentation per Section 01 7300 and verify the actual property corners, Building corner locations and elevations, slope of handicap stalls and location of other major site elements. Provide any required legal descriptions and exhibits that are needed for utility easements. Provide information on survey plan dated by surveyor including one scanned electronic copy submitted on a CD. Provide survey information in accordance with the requirements of the City of Pasco Record Drawing Requirements & Procedure.

## CIVIL DRAWINGS:



6211 Roosevelt Way Northeast • Seattle, WA • 98115
Voice: (206) 522-3830 • Fax: (206) 522-2456 • E-mail: office@tca-inc.com • Web: www.tca-inc.com

1. Refer to Sheet C1.0 Cover Sheet / Overall Site Plan
   a. Replace Sheet C1.0 Cover Sheet / Overall Site Plan with attached C1.0 Cover sheet / Overall Site Plan dated Add 1 09/21/22
2. Refer to Sheet C2.0 Site Plan
   a. Replace Sheet C2.0 Site plan with attached Sheet C2.0 Site Plan dated ADD1 09/21/22
3. Refer to Sheet C2.1 Concrete Joint Layout Plan and Details
   a. Replace Sheet C2.1 Concrete Joint Layout Plan and Details with attached Sheet C2.1 Concrete Joint Layout Plan and Details dated ADD 1 09/21/22
4. Refer to Sheet C3.0 Site Utility Plan
   a. Replace Sheet C3.0 Site Utility Plan with attached Sheet C3.0 Site Utility Plan dated ADD 1 09/21/22
5. Refer to Sheet C4.1 Site Erosion Control Plan
   a. Replace Sheet C4.1 Site Erosion Control Plan with attached Sheet C4.1 Site Erosion Control Plan dated ADD 1 09/21/22
6. Refer to Sheet C5.1 Notes and Details
   a. Replace Sheet C5.1 Notes and Details with attached Sheet C5.1 Notes and Details dated ADD 1 09/21/22

**CIVIL EQUIPMENT APPROVALS:**

The following equipment is approved for bidding, subject to all requirements of the Plans and Specifications. Equipment is to provide the same performance, including acoustical performance, and have the same dimensions and weights as the equipment used for the basis of design.

| EQUIPMENT APPROVALS – CIVIL | | |
|---|---|---|
| **SECTION** | **ITEM** | **MANUFACTURER** |
| C3.0 | Polycast trench drain | ZURN |

**ARCHITECTURAL DRAWINGS:**

1. Refer to Sheet A4.2 Building Sections
   a. Clarification: Refer to ADD-1 ASK 1 for revisions to detail 1/A4.2 E/W Section 4

2. Refer to Sheet A10.2 Exterior Details
   a. Clarification: Refer to ADD-1 ASK 2 for revisions to detail 17/A10.2 Roof to Wall @ Chimney.

3. Refer to Sheet A10.4 Exterior Details
   a. Clarification: Refer to ADD-1 ASK 3 for revisions to detail 14/A10.4 Fall Protection

4. Refer to Sheet A10.5 Exterior Details
   a. Add: Refer to ADD-1 ASK 4 for added detail 7/A10.5 Mech curb – Grease Fan @ Chimney

**ARCHITECTURAL SPECIFICATIONS:**

1. Refer to Specification Section 08 7100 Finish Hardware
   a. Gate 106B add Finish Hardware set 25
      i) Add:
      Weldable lock box K-BXMOR2 KEED



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| | | | |
|---|---|---|---|
| 3 Hinges | FBB199 5 X 4 1/2 NRP | US32DST | |
| 1 Exit Set | 9K3-0Y14D | 626 | BE |

b. Hardware Sets #17 and # 18 (Door 123A, 123B, and 124A)

i) Add:

| | | | |
|---|---|---|---|
| 1 Closer | HD7016 SPA | 689 | BE |

**ARCHITECTURAL APPROVALS:**

The following items have been approved for bidding:
These approvals are for quality only. No attempt has been made to check each material as to the special features, capacities or physical dimensions especially required by this project. It shall be the responsibility of the supplier, manufacturer and the contractor to check all requirements before submitting for final approval. Final approval of exact features, sizes, capacities, etc., all of which must match materials indicated specified, will be determined when submitted during construction period. Certain approvals are subject to conditions noted. Equipment and/or furnishings listed in this addendum from supplier's literature and brochures will be approved per conditions listed above. After all addenda have been issued, all previously submitted equipment and/or furnishings not listed have been rejected.

| APPROVALS - Architectural | | |
|---|---|---|
| **SECTION** | **ITEM** | **MANUFACTURER** |
| 07 2100 | Spray Polyurethane Foam Insulation | Johns Manville |

**STRUCTURAL DRAWINGS:**

1. Refer to attached Structural Drawing set all sheets replaced with removed "Not for Construction" note.

2. S2.1 FOUNDATION PLAN
   a. Adjusted footing elevation near grids 3-H.
   b. Adjusted footing elevations near grids 6-C.

3. S6.1 TYPICAL WOOD FRAMING DETAILS.
   a. Revised detail 15/S6.1.

4. S6.4 WOOD ROOF FRAMING DETAILS.
   a. Revised detail 20/S6.4.



6211 Roosevelt Way Northeast • Seattle, WA • 98115
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**TO:**

**CITY OF PASCO (OWNER)**
525 North 3rd Ave
Pasco, WA 99301

## GENERAL PROPOSAL

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this proposal are those named herein; that this proposal is in all respects fair and without fraud; that it is made without collusion with any official or employee of The City of Pasco; and that the proposal is made without any connection or collusion with any person making another proposal on this contract.

The Bidder further declares that they have carefully examined the contract documents for the construction of the project; that they have personally inspected the site; that they have satisfied themselves as to the quantities involved, including materials and equipment and conditions of work involved, including the fact that the description of the quantities of work materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the contract documents; and that this proposal is made according to the provisions and under the terms of the contract documents, which documents are hereby made a part of this proposal.

The Bidder further agrees that they have exercised their own judgment regarding the interpretation of subsurface information and have utilized all data which they believe is pertinent from the Architect, Owner and other sources in arriving at his/her conclusions.

The Bidder agrees to hold their bid proposal open for sixty (60) days after the actual date of bid opening and to accept the provisions of the Instructions to Bidders regarding disposition of bid security.

## TIME OF COMPLETION:

The undersigned agrees, if awarded the contract, to commence work under this contract on or before a date to be specified in a written “Notice to Proceed.” The undersigned understands and agrees that Substantial Completion of the Work shall be no later than 365 calendar days thereafter, and that Final Completion of the work shall be no later than 45 calendar days after Substantial Completion.

## TIME OF COMPLETION – LIQUIDATE DAMAGES

The Owner will assess, and the Contractor will be responsible for liquidated damages in the amount of $500.00 per day for each calendar day beyond the Contract Time that Substantial Completion is not achieved, and $1,000.00 per day for each calendar day beyond the Contract Time that Final Completion is not achieved.

**PERMITS, FEES AND INSPECTIONS:**

All bid proposals include the cost and acquisition of all associated permit fees, except the issuance of the general building permit secured by the Owner and the project utility connection fees that will be paid for by the Owner but acquired by the Contractor.

The Contractor shall be responsible for scheduling, application and acquisition of all permits and inspections not specifically identified above. The Contractor shall secure all permits and inspections and related fees required of all utility companies, districts and authorities having jurisdiction.

Contractor to coordinate with the Owner a minimum of two weeks in advance for the amounts of the utility connection fees to allow owner time to approve the funds needed to pay these fees.

**BID SECURITY:**

The Undersigned agrees that the certified or bank cashier's check or bid bond for an amount not less than five percent (5%) of the total bid, payable to the Owner, accompanying this proposal, is left in escrow with the Owner; that its amount of penal sum is the measure of damages which the Owner will sustain by the failure of the undersigned to execute and deliver the above named Agreement and bond, and that if the undersigned defaults in executing that Agreement, and in furnishing the bond within (10) days after written notice of the award of the contract to him/her, then the check and proceeds payable to the Owner, shall become the property of the Owner or, then the bid bond shall remain in full force and effect; but if this proposal is not accepted within (60) days of the time set for the opening of bids; or if the Undersigned executes and delivers said contract and bond, the check shall be returned to him or the bid bond shall become null and void.

Bid Security (bond or certified or bank cashier's check) for this project shall be submitted in a sealed envelope, either in person or shipped/mailed to the Pasco City Clerk at City Hall. Securities will be accepted up until the hour of **2:00 PM on October 11, 2022**. The sealed envelope must reference the project.

If the Bidder is dropping off their Bid Security in person, they shall drop off their Bid Security at the City Clerk's Office, located on the First Floor of Pasco City Hall, 525 N. 3rd Ave, Pasco, WA 99301. If a Bidder prefers to ship or mail their Bid Security please address it to:

Pasco City Clerk's Office
Attn: Pasco Fire Station 85

*SHIP ADDRESS*: 525 N 3rd Ave *(or)* *MAIL ADDRESS*: PO Box 293

Pasco, WA 99301

*Please note if it is mailed or shipped it **must arrive** by the 2:00pm deadline on Tuesday, October 11, 2022.*

**BASE BID:**

The Bidder further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the contract documents and based upon the bid price for fully completed work as included in the proposal and the Total Base Bid which includes lump sum allowances No. 1, No. 2, No. 3, & No.4 (refer to Section 01 2100) represents a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type of work called for in these contract documents.

The undersigned bids for complete construction of the following described project:
Pasco Fire Station

Prices shall include all materials, labor, tools and equipment. Total Base Bid does not include Washington State sales tax.

Pursuant to and in compliance with the Bid Documents, the undersigned Bidder agrees to perform the Work for the following Total Bid amount for the above-referenced project:

| **Description** | **Bid Amounts** | |
|---|---|---|
| | Dollars | Cents |
| **Base Bid** (without sales tax) | $ | |
| **Bid for Trench Excavation Safety Systems** (Lump Sum without sales tax). Bidder must bid a lump sum dollar amount reflecting the cost of this item in order for the bid to be responsive. | $ | |
| **Base Bid (Lump Sum Bid plus Trench Excavation Safety Systems**(without sales tax) | $ | |
| **8.7% Sales Tax** | $ | |
| **Total Bid** (with Sales Tax) | $ | |

**BASE BID (Refer to Section 01 2100 for description of Allowances):**

Bidder agrees to perform the construction of all work other than designated alternate work, as shown on the drawings, and described in the specifications for the sum of:

**TRENCH EXCAVATION SAFETY PROVISION**

If the project shall involve any work which requires trenching exceeding a depth of 4 feet, all costs for adequate trench safety systems in compliance with Chapter 39.04.180 RCW and WAC 296-155-650 shall be included in the Base Bid and lump sum dollar amount for the work shall be entered in the blank below. In the event that there is no cost for trench safety systems, the bidder shall still enter a value of $0.00 to be responsive.

**ALLOWANCES No. 1, No. 2, No. 3, & No. 4 WILL BE INCLUDED IN THE CONTRACT AMOUNT. (Refer to Section 01 2100 for description of Allowances)**

**UNIT PRICE (Refer to Section 01 2200 for description of Unit Prices)**

**1. Unit Price No. 1: Unit Price/Bank cubic yard for Over-excavation and replacement of Unsuitable Soil:**

Provide the unit prices for each item listed below. Unit prices will be used to calculate cost of change orders for additional work not specified that is Owner-requested during the duration of the project. Change order shall be calculated by multiplying unit price by approximate quantity indicated. Specific material unit prices shall not be used in combination with labor and material markup unit prices in calculating change orders. All work shall be done in compliance with Specifications.

1. Removal of One (1) cubic yard of unsuitable soil. This unit price shall include all labor, materials, equipment, transportation, and services as required to remove one (1) cubic yard of unsuitable soil AND replace it with one (1) cubic yard of compacted in-place structural fill. See Specification Section 31 2000.

| | | |
|---|---|---|
| **Unit Price Bid** (without sales tax) | $ | |

**DO NOT INCLUDE UNIT PRICE BID SUMS IN THE TOTAL BASE BID ABOVE. THESE AMOUNTS WILL BE ADDED BY THE OWNER TO THE BID TAB TO DETERMINE THE LOWEST BID.**

**BID FOR TRENCH EXCAVATION SAFETY SYSTEMS:**

If the Contract Documents contain any work in which trench excavation will exceed a dept of four feet, all costs for adequate trench safety systems shall be identified as a separate bid item in compliance with RCW 39.04.180. The Bidder agrees to comply with all the relevant trench safety requirements of Chapter 49.17 RCW and WAC 296-155-650 through WAC 296-155-66411.

**SALES TAX:**

None of the sums stated in the foregoing include Washington State Sales Tax.

**BID REVIEW MEETING:**

The Undersigned agrees that if they are the successful bidder, they will be available for a bid review meeting with the Architect and the Owner at the Owner's office, at a time to be agreed upon.

**ADDENDA:**

Addenda is acknowledged via the City of Pasco Plan Room only online at www.cityofpascoplanroom.com

**STATE SALES TAX:**

The state/local sales tax shall not be included in the bid sums; the Owner will pay such taxes to the Contractor proportionally with each periodic payment. Contractor to include a tax line item in their schedule of values.

**CONTRACT AND BONDS:**

If the Undersigned is notified of the acceptance of their bid within sixty (60) days after the time set for opening bids, they agree to execute the Contract for the above work and to furnish Performance and Labor Material Payment Bonds as required by the Instructions to Bidders.

_____
CONTRACTOR (Firm Name)

_____ _____
By (Signature) Printed Name/Title of Signatory

_____
(Indicate whether Contractor is Partnership,
Corporation, or Sole Proprietorship)

_____ _____
Washington State Contractor's Registration Number

Contractor's Industrial Insurance Account Number

Contractor's Address:

_____ _____
Telephone Number

_____ _____
Fax Number

**MANDATORY PUBLIC WORKS BIDDER RESPONSIBILITY CRITERIA**

The Washington Legislature adopted **Senate Bill 5301** that adds criterion to the list of mandatory bidder responsibility criteria that public agencies must verify and document before awarding any public works project, regardless of cost. This law establishes criterion relating to the contractor's compliance with the state's minimum wage laws. It also dictates that, prior to award, the contractor must sign a statement that they have not violated the law within a three year period.

**VERIFYING BIDDER'S COMPLIANCE**

The undersigned Bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date for this Project, the bidder is not a "willful" violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

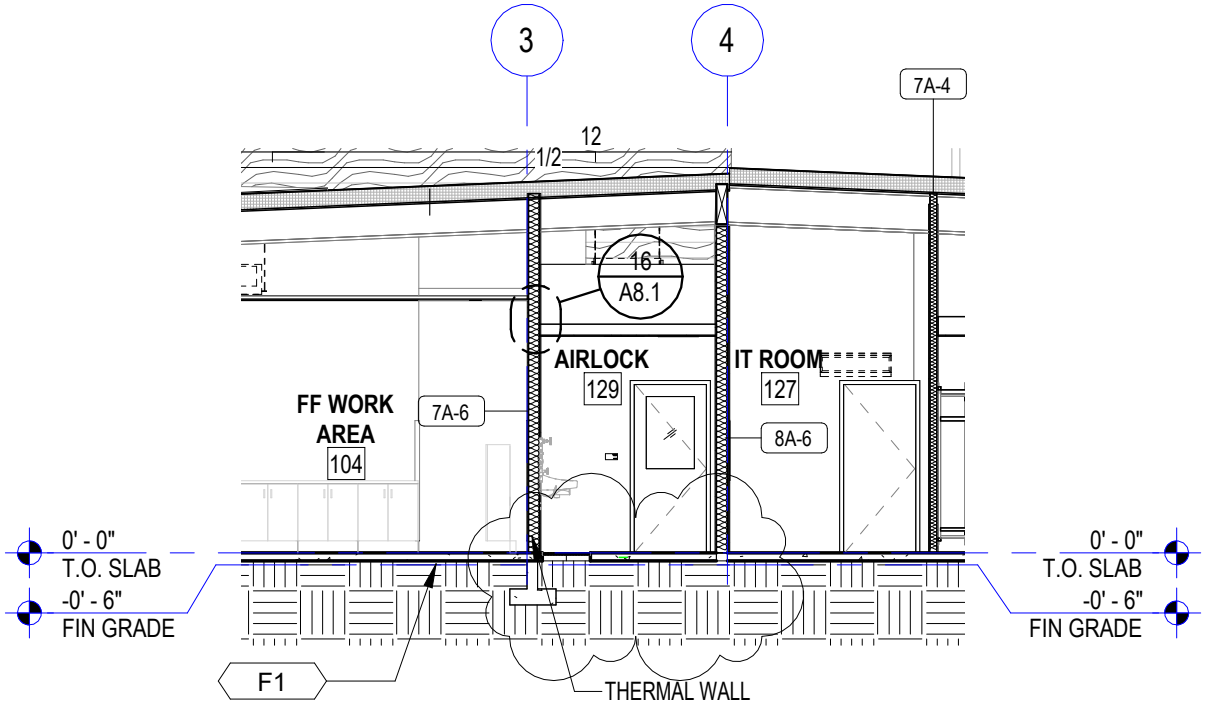
_____
CONTRACTOR (Firm Name)

_____ _____
By (Signature) Printed Name/Title of Signatory

**BID FORM PAGES 00 2400-1 thru 00 2400-6**
**TO BE SUBMITTED, ONLINE TO THE CITY OF PASCO PLAN ROOM BID SITE AT WWW.CITYOFPASCOPLANROOM.COM.**

**"FIRE STATION 85, CITY OF PASCO"**

END OF BID FORM – STIPULATED SUM




T C A
ARCHITECTURE + PLANNING + DESIGN
6211 ROOSEVELT WAY NE
SEATTLE, WA 98115
tel: (206) 522-3830

# 1/A4.2 E/W SECTION 4

SATELLITE FIRE STATION 85

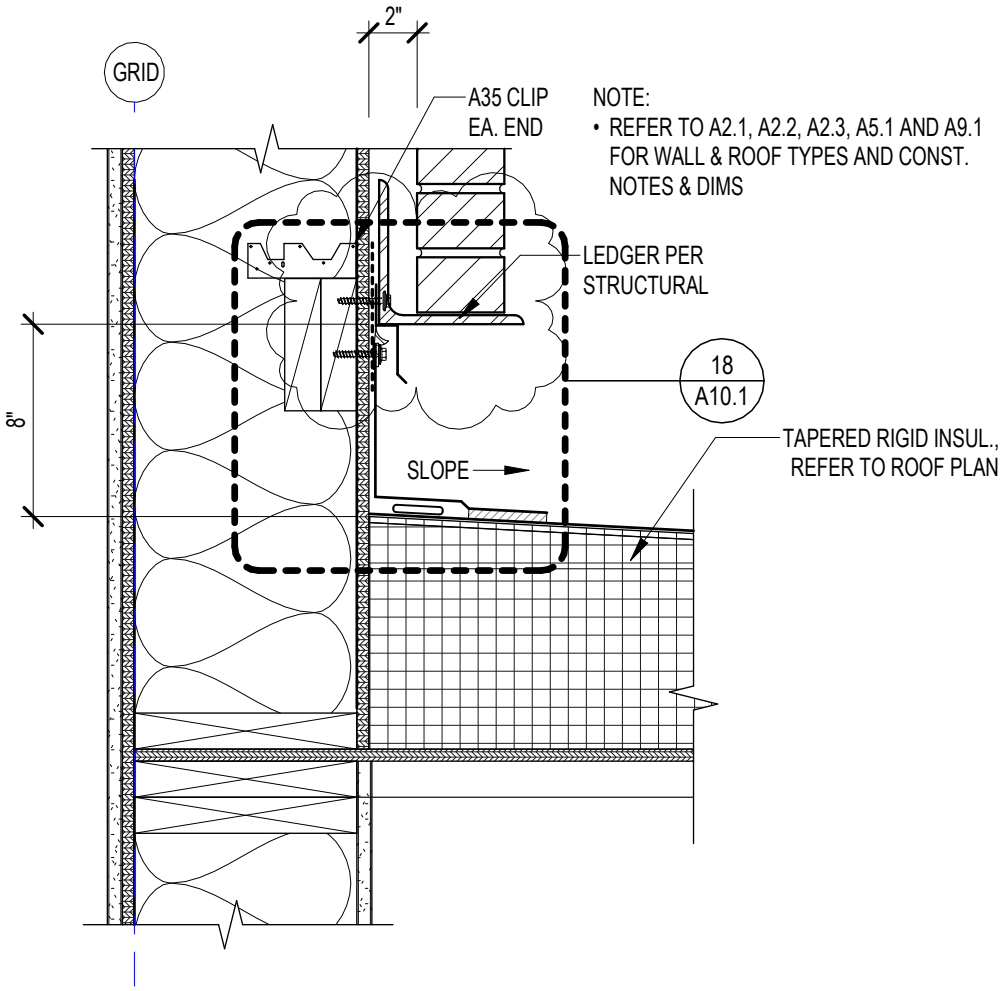
SCALE: 1/8" = 1'-0"

DATE: 09/15/22

PROJECT NO: 21-03

REFERENCE NUMBER: ADD-1 ASK-1.0

REFERENCE SHEET: A4.2



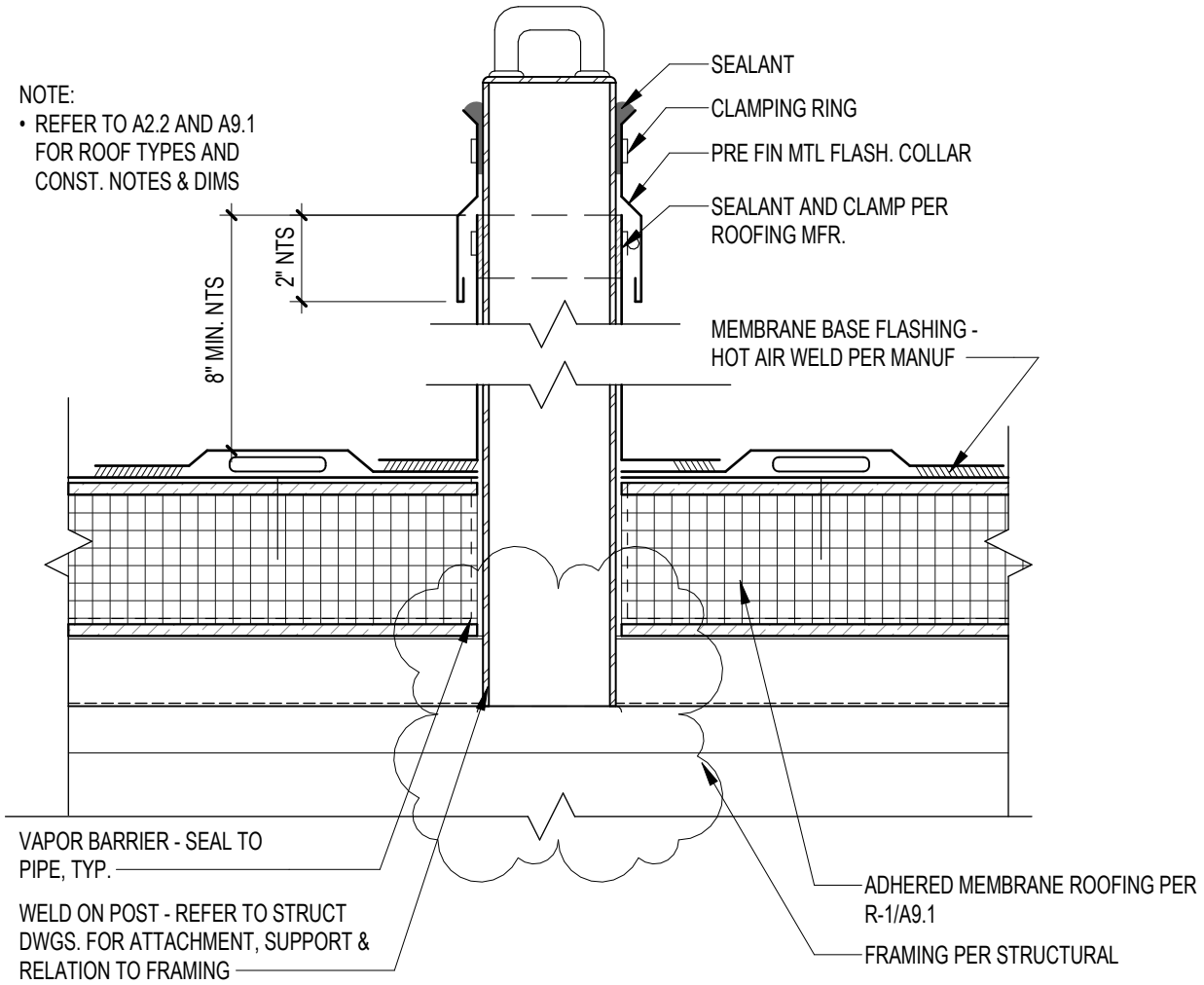

# 17/A10.2 ROOF TO WALL @ CHIMNEY

SATELLITE FIRE STATION 85

T C A
ARCHITECTURE + PLANNING + DESIGN
6211 ROOSEVELT WAY NE
SEATTLE, WA 98115
tel: (206) 522-3830

SCALE: 1 1/2" = 1'-0"
DATE: 09/14/22
PROJECT NO: 21-03
REFERENCE NUMBER: ADD-1 ASK-2.0
REFERENCE SHEET: A10.2

NOTE:
- REFER TO A2.2 AND A9.1 FOR ROOF TYPES AND CONST. NOTES & DIMS

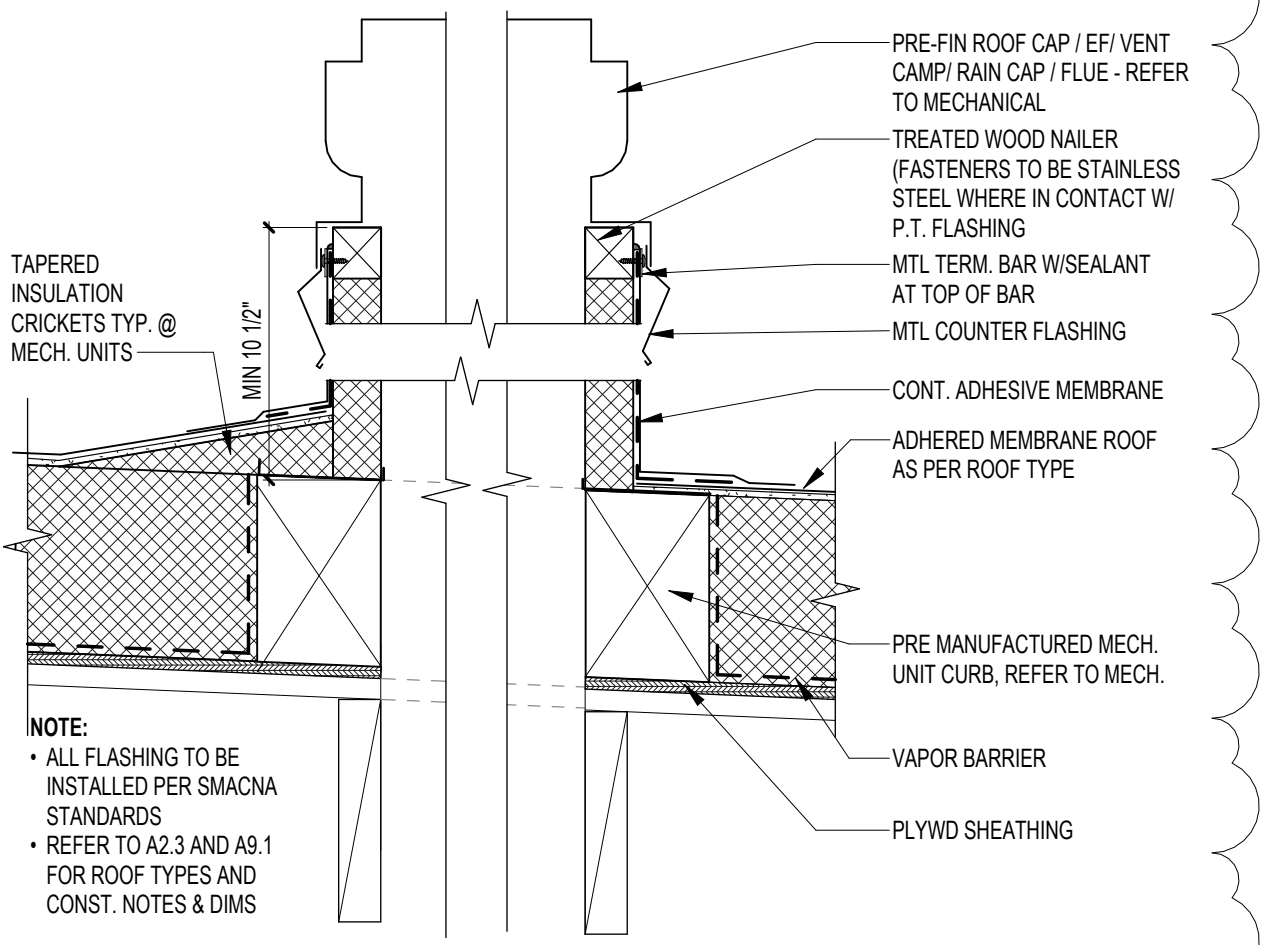



# 14/A10.4 FALL PROTECTION

SATELLITE FIRE STATION 85


T C A
ARCHITECTURE + PLANNING + DESIGN
6211 ROOSEVELT WAY NE
SEATTLE, WA 98115
tel: (206) 522-3830


| | |
|---|---|
| SCALE: | 3" = 1'-0" |
| DATE: | 09/21/22 |
| PROJECT NO: | 21-03 |
| REFERENCE NUMBER: | ADD-1<br>ASK-3.0 |
| REFERENCE SHEET: | A10.4 |




# 7/A10.5 MECH CURB - GREASE FAN @ CHIMNEY

SATELLITE FIRE STATION 85

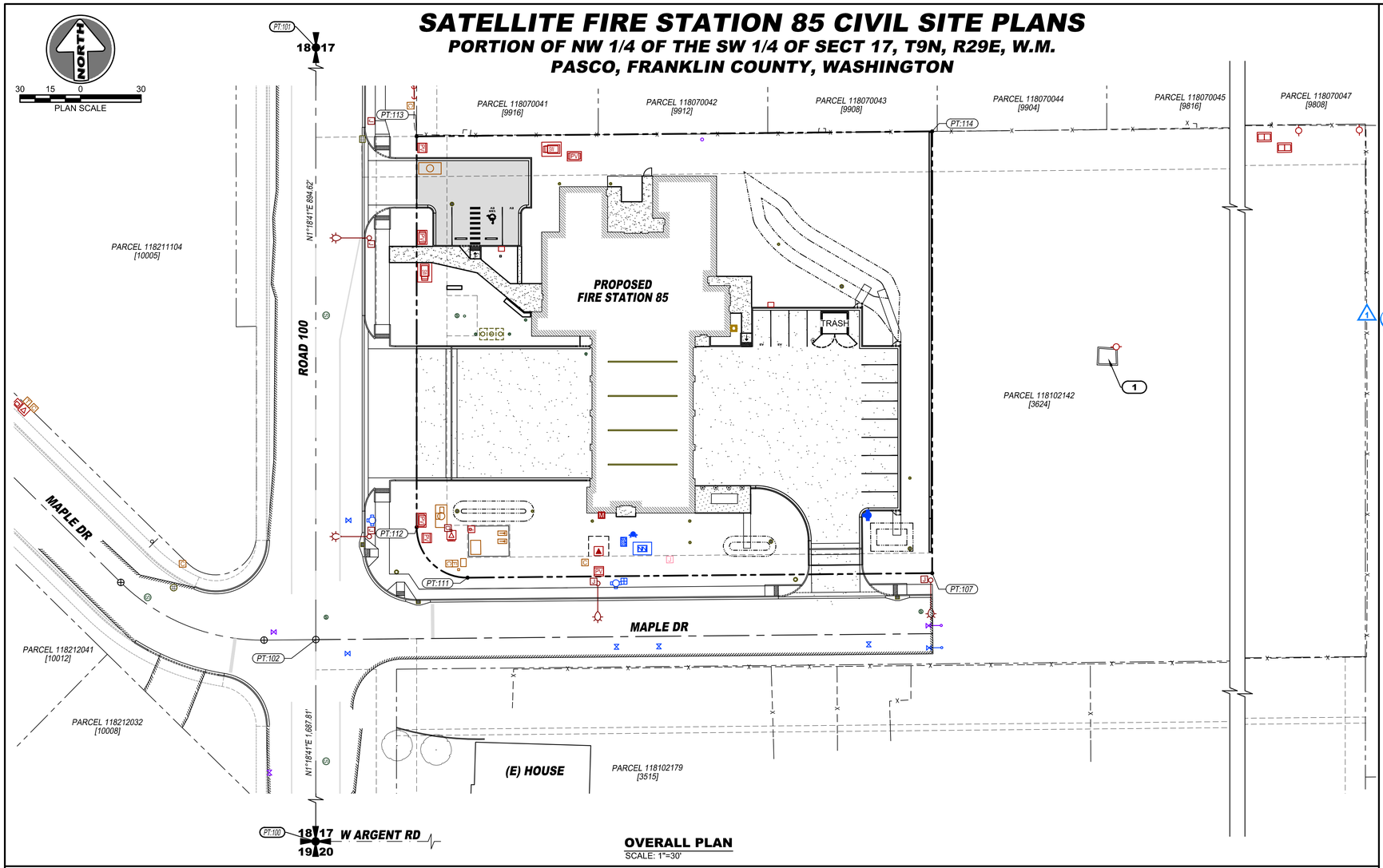
T C A
ARCHITECTURE + PLANNING + DESIGN
6211 ROOSEVELT WAY NE
SEATTLE, WA 98115
tel: (206) 522-3830

SCALE: 1 1/2" = 1'-0"
DATE: 09/21/22
PROJECT NO: 21-03
REFERENCE NUMBER: ADD-1 ASK-4.0
REFERENCE SHEET: A10.5

# SATELLITE FIRE STATION 85 CIVIL SITE PLANS

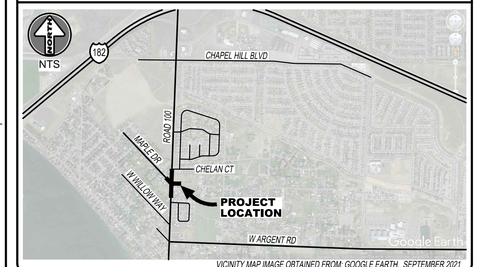
## PORTION OF NW 1/4 OF THE SW 1/4 OF SECT 17, T9N, R29E, W.M.

## PASCO, FRANKLIN COUNTY, WASHINGTON




**OVERALL PLAN**
SCALE: 1"=30'

## VICINITY MAP




VICINITY MAP IMAGE OBTAINED FROM: GOOGLE EARTH, SEPTEMBER 2021

## SURVEYOR

**STRATTON SURVEYING & MAPPING**
**DEREK INGALSBE** 509-735-7364
313 N MORAIN ST
KENNEWICK, WA 99336

## DATUM - BENCHMARK

**HORIZONTAL DATUM:** NAD83 WSPCS, SOUTH ZONE
**VERTICAL DATUM:** NAVD88, CITY OF PASCO
**BENCHMARK:** SI W ARGENT AND ROAD 100, COP POINT 90, EL 388.18

**UIC SITE ID 37020**

## REFERENCE MATERIALS

1. TOPOGRAPHIC SURVEY, JOB #5804, DATED 09-14-2021, STRATTON SURVEYING AND MAPPING.
2. CITY OF PASCO STANDARD DETAILS (APPROVED JUNE 2020).
3. EXISTING UTILITY LOCATION INFORMATION:
   - 3.1. SEWER, STORM, WATER, RECEIVED 08-23-2021, CITY OF PASCO
   - 3.2. POWER MAP, RECEIVED 03-09-2021, FRANKLIN PUD
   - 3.3. CABLE MAP, RECEIVED 03-16-2021 / 09-08-2021 SPECTRUM COMMUNICATIONS
   - 3.4. GAS MAP, RECEIVED 03-10-2021, CASCADE NATURAL GAS
   - 3.5. FIBER OPTIC MAP, RECEIVED 09-08-2021, FRANKLIN PUD BROADBAND
   - 3.6. FIBER OPTIC MAP, RECEIVED 03-11-2021, POCKETINET
   - 3.7. PHONE MAP, RECEIVED 08-16-2021, LUMEN
4. GEOTECHNICAL REPORT, REFERENCE #PU20159A, DATED 07-09-2021, GEOPROFESSIONAL INNOVATION.
5. RECORD DRAWINGS - ROAD 100 WATER / SEWER EXTENSIONS, COP PROJECT NUMBERS 02-1-02 AND 02-2-03.
6. ROAD 100 AND MAPLE DRIVE EXTENSION CONSTRUCTION PLANS, PROJECT #21-014, DATED 07/14/2022, HARMS ENGINEERING, INC

## CIVIL DRAWING INDEX



## UTILITY CONTACT INFORMATION

**POWER:** BIG BEND ELECTRIC COOPERATIVE - **NO UTILITIES**

**POWER:** BONNEVILLE POWER ADMINISTRATION - **NO UTILITIES**

**POWER:** FRANKLIN PUD, AARON GONZALEZ 509-546-5953
1411 W CLARK ST, PASCO, WA 99301

**FIBER OPTIC:** FRANKLIN PUD BROADBAND, BRENT WEATHERMAN 509-542-5905
1411 W CLARK ST, PASCO, WA 99301

**FIBER OPTIC:** POCKETINET COMMUNICATIONS, DON GIBBARD 509-593-4707
2919 W ISAACS AVE, WALLA WALLA, WA 99.62

**CABLE:** SPECTRUM COMMUNICATIONS, ANTONIO CAMPOS 509-572-0537
639 N KELLOGG ST, KENNEWICK, WA 99336

**GAS:** CASCADE NATURAL GAS, ARNIE GARZA 509-736-5563
200 N UNION ST, KENNEWICK, WA 99336

**IRRIGATION:** FRANKLIN COUNTY IRRIGATION DISTRICT, JOHN BURNS 509-547-3831
PO BOX 3907, 4320 ROAD 111, PASCO, WA 99301

**IRRIGATION:** SOUTH COLUMBIA BASIN IRRIGATION DISTRICT - **NO UTILITIES**

**TELEPHONE:** LUMEN, (TERRA TECH) MICHEL COCKE 253-732-7075

**SEWER / WATER:** CITY OF PASCO PUBLIC WORKS DEPARTMENT 509-545-3444
525 N 3RD AVE, PASCO, WA 99301

I AM CERTIFYING THAT I HAVE CONTACTED ALL OF THE IMPACTED OUTSIDE UTILITY PROVIDERS ASSOCIATED WITH THIS PROJECT. FURTHERMORE, I WILL WORK WITH THOSE UTILITIES TO ENSURE THAT THEIR INFRASTRUCTURE WILL BE ADDRESSED PRIOR TO START OF CONSTRUCTION WITHOUT CHANGE TO CITY APPROVED PLANS.

CITY OF PASCO APPROVAL STAMP

EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR TO VERIFY LOCATIONS WITH UTILITY COMPANIES AND/OR PRIVATE UTILITY LOCATOR PRIOR TO TRENCHING.

**CALL 2 BUSINESS DAYS BEFORE YOU DIG: 811**

## LEGEND

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| CENTER LINE | | |
| EASEMENT | | |
| PHASE LINE | | |
| PROPERTY LINE | | |
| RIGHT OF WAY | | |
| SECTION LINE | | |
| CONTOUR MAJOR | 400 | 400 |
| CONTOUR MINOR | 399 | 399 |
| PAVEMENT | | |
| CONCRETE | | |
| GRAVEL EDGE | | |
| GRADE BREAK | | |
| SWALE | | |
| CABLE | CT | CT |
| GAS | G | G |
| IRRIGATION | IR | IR |
| JOINT TRENCH | JT | JT |
| POWER OVERHEAD | OH | OH |
| POWER BURIED | P | P |
| ROOF DRAIN | RD | RD |
| SEWER | S | S |
| STORM | SD | SD |
| STORM INFILTRATION | | |
| TELEPHONE | T | T |
| WATER | W | W |
| FENCE | X | XX |
| SILT FENCE | | |
| LANDSCAPING | | |

**POWER / LIGHTING**

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| DISCONNECT | D | D |
| JUNCTION BOX | J | J |
| PULL BOX / HAND HOLE | PB EB | PB EB |
| METER | M | M |
| TRANSFORMER | | |
| VAULT | PV | PV |
| UTILITY POLE | | |
| PARKING LOT LIGHT | | |
| STREET LIGHT | PT:100 | |

| DESCRIPTION | EXISTING | PROPOSED |
|---|---|---|
| **COMMUNICATIONS** | | |
| TELEPHONE RISER | T | T |
| TELEPHONE VAULT | VT | VT |
| CABLE/FIBER RISER | C F | C F |
| **GAS** | | |
| GAS METER | | |
| VALVE - GAS | | |
| **WATER / IRRIGATION** | | |
| BENDS | | |
| BLOW-OFF | | |
| CAP | | |
| COUPLER | | |
| CROSS | | |
| REDUCER | | |
| TEE | | |
| THRUST BLOCK | | |
| VALVE - BUTTERFLY | | |
| VALVE - CHECK | | |
| VALVE - GATE | | |
| POST INDICATOR | | |
| IRRIGATION SERVICE | IR | IR |
| WATER METER | | |
| FIRE HYDRANT | | |
| FIRE DEPT CONN | | |
| DCVA | | |
| RPBA | | |
| **SEWER / STORM** | | |
| CLEANOUT | | |
| CATCH BASIN | | |
| MANHOLE - SEWER | S | S |
| MANHOLE - STORM | SD | SD |
| DRYWELL - STORM | | |
| **MISCELLANEOUS** | | |
| BENCH MARK | | |
| TEST PIT LOCATION | | |
| MONUMENT (IN CASE) | | |
| SIGN | | |

## ABBREVIATIONS

| | |
|---|---|
| AP | ANGLE POINT |
| BM | BENCHMARK |
| CL | CENTERLINE |
| C | CURVE |
| CB | CATCH BASIN |
| CF | CUBIC FEET |
| CFS | CUBIC FEET PER SECOND |
| CO | CLEANOUT |
| CONN | CONNECTION |
| CONT | CONTINUOUS |
| CSBC | CRUSHED SURFACE BASE COURSE |
| CSTC | CRUSHED SURFACE TOP COURSE |
| CY | CUBIC YARD |
| DCVA | DOUBLE CHECK VALVE ASSEMBLY |
| DI | DUCTILE IRON |
| DTL | DETAIL |
| DWG | DRAWING |
| E, EXST | EAST, EXISTING |
| EG | EXISTING GRADE |
| EL | ELEVATION |
| ESMT | EASEMENT |
| FF | FINISHED FLOOR |
| FG | FINISHED GRADE |
| FH | FIRE HYDRANT |
| FIP | FEMALE IRON PIPE |
| FL | FLOW LINE / FLANGE(D) |
| FND | FOUND (SURVEY RELATED) |
| FT | FEET |
| GB | GRADE BREAK |
| H, HORZ | HORIZONTAL |
| HMA | HOT MIXED ASPHALT |
| HP | HIGH POINT |
| IE, INV | INVERT ELEVATION |
| IF | IRRIGATION FITTING |
| IR | IRRIGATION |
| L | LEFT / LENGTH |
| LF | LINEAL FEET |
| MAX | MAXIMUM |
| ME | MATCH EXISTING |
| MH | MANHOLE |
| MIN | MINIMUM |
| MIP | MALE IRON PIPE |
| MJ | MECHANICAL JOINT |
| MUTCD | MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES |
| N | NORTH, NEW |
| OC | ON CENTER |
| P, PWR | POWER |
| PC | POINT OF CURVATURE INTERSECT |
| PE | POLYETHYLENE |
| PL | PROPERTY LINE |
| PT | POINT NUMBER, POINT OF TANGENCY |
| R | RADIUS, RIGHT |
| RFCA | RESTRAINED FLANGED COUPLING ADAPTER |
| RP | RADIUS POINT |
| RPBA | REDUCED PRESSURE BACKFLOW ASSEMBLY |
| R / W | RIGHT OF WAY |
| S | SOUTH, SEWER, SLOPE |
| SD | STORM DRAIN |
| SDMH | STORM DRAIN MANHOLE |
| SF | SQUARE FEET |
| SI | STREET OR STATION INTERSECTION |
| SL | STREET LIGHT |
| SPEC | SPECIFICATION |
| SS | SANITARY SEWER |
| SSMH | SANITARY SEWER MANHOLE |
| STA | STATION |
| STD | STANDARD |
| S / W | SIDEWALK |
| TA | TOP OF ASPHALT |
| TBC | TOP BACK OF CURB |
| TBM | TEMPORARY BENCHMARK |
| TC | TOP OF CONCRETE |
| TG | TOP OF GRAVEL |
| TEL | TELEPHONE |
| TYP | TYPICAL |
| UIC | UNDERGROUND INJECTION CONTROL |
| UTIL | UTILITY |
| V, VERT | VERTICAL |
| W, WTR | WEST, WATER |
| WF | WATER FITTING |
| WM | WATER METER |
| WSPCS | WASHINGTON STATE PLANE COORDINATE SYSTEM |

## SURVEY CONTROL

| PT # | DESCRIPTION | ELEV | NORTHING | EASTING |
|---|---|---|---|---|
| 100 | COP PT#90, SI ROAD 100 & W ARGENT, EL 388.18 | 388.18 | 339,358.32 | 1,963,565.70 |
| 101 | COP PT#89 | 410.97 | 341,940.06 | 1,963,624.82 |
| 102 | SI RD 100/MAPLE | | 341,045.69 | 1,963,604.35 |
| 107 | LOT CORNER | | 341,071.66 | 1,963,910.52 |
| 111 | LOT CORNER | | 341,074.70 | 1,963,680.28 |
| 112 | LOT CORNER | | 341,100.27 | 1,963,655.61 |
| 113 | LOT CORNER | 405.79 | 341,293.95 | 1,963,660.03 |
| 114 | LOT CORNER | | 341,290.62 | 1,963,915.54 |

## KEY NOTES

(1) DECOMMISSION EXISTING WELL PER WAC-173-160-381, DEMOLISH AND FILL WELL PIT. REMOVE AND DISPOSE OF EXISTING POWER POLE.

## IDENTIFIERS

DETAILS AND SECTIONS

A/B = A = DETAIL NUMBER, B = SHEET REFERENCE

(1) KEY NOTE
(00) WATER FITTING TAG
00 IRRIGATION FITTING TAG
00 LIGHT FIXTURE TAG
00 SIGN TAG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509.547.2679 | HarmsEngineering.com
20-014.1


CHRISTINE ENGAN NAVOLA — STATE OF WASHINGTON — 42529 — REGISTERED PROFESSIONAL ENGINEER — 9/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
| 1 | ADD 1 | 09/21/22 |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

COVER SHEET / OVERALL SITE PLAN

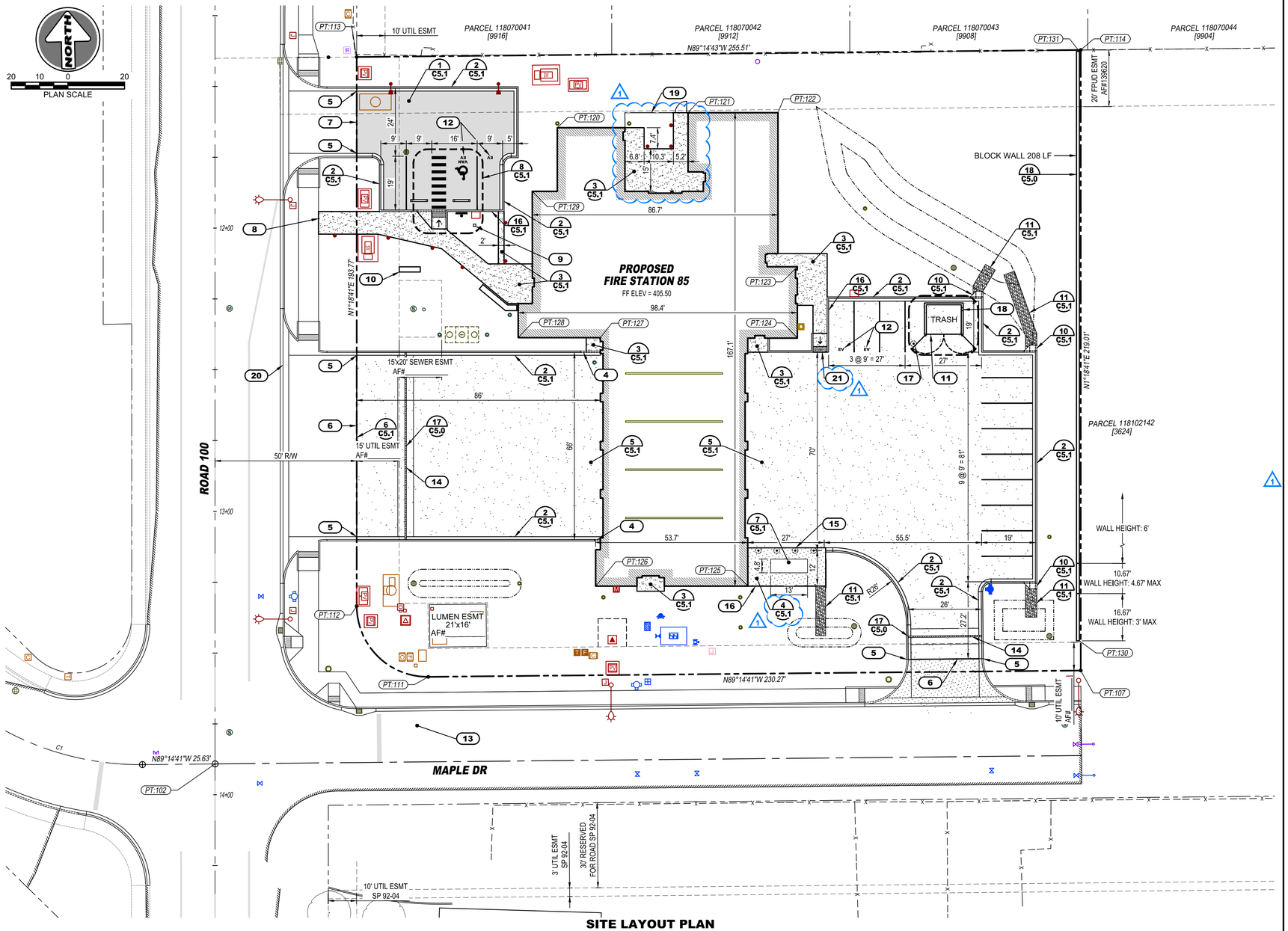
Scale: AS INDICATED
Project No. : 21-03
Date : 09/21/2022

Sheet Number :

**C1.0**

P:\2021\21-014.1 TCA - Pasco Fire Station 85\Dwgs\21-014 Fire Station 85 Site 06 V01.dwg

SW 1/4 SECT 17 T09N R29E WM




## SITE LAYOUT PLAN

SCALE: 1"=20'

## KEY NOTES

1. 24' WIDE DRIVEWAY CONSTRUCTED TO PROPERTY LINE UNDER SEPARATE PROJECT.
2. 66' WIDE DRIVEWAY CONSTRUCTED TO PROPERTY LINE UNDER SEPARATE PROJECT.
3. 26' WIDE DRIVEWAY CONSTRUCTED TO PROPERTY LINE UNDER SEPARATE PROJECT.
4. TAPER END OF CURB, 2' MIN, TO MATCH TOP OF CONCRETE SLAB.
5. NEW CURB AND GUTTER TO MATCH EXISTING.
6. NEW CONCRETE DRIVEWAY TO MATCH EXISTING.
7. NEW PAVING TO MATCH EXISTING.
8. NEW CONCRETE SIDEWALK TO MATCH EXISTING.
9. FLAG POLE WITH LIGHT, REFER TO DETAIL 18, SHEET A1.2.
10. READERBOARD, REFER TO DETAIL 5, SHEET A1.3.
11. TRASH ENCLOSURE, REFER TO DETAIL 14, SHEET A1.2.
12. 12" TALL WHITE PAINTED LETTERS LABELED "EV".
13. THE EXTENSION OF MAPLE DR. INCLUDING THE ROAD, STORM DRAINAGE, STREET LIGHTS, SIDEWALK, ADA RAMPS, AND DRIVEWAY ARE INCLUDED WITH THE CITY OF PASCO PROJECT #21164-A.
14. INSTALL A TRENCH DRAIN WITH HEAVY DUTY FRAME, DUCTILE IRON SLOTTED GRATE (H-20 LOADING). GRATE HOLD-DOWN DEVICES, HARDNOSE FRAME, HUBBLE POLYCAST 600 SERIES TRENCH DRAIN, OR ENGINEER APPROVED EQUAL.
15. INSTALL REMOVABLE BOLLARDS, REFER TO DETAIL 19 SHEET A1.2.
16. GENERATOR ENCLOSURE, REFER TO DETAIL 6 ON SHEET A1.3.
17. INSTALL BOLLARD, REFER TO DETAIL 1 SHEET A1.3.
18. PROVIDE 1' WIDE OPENING IN TRASH ENCLOSURE CURB TO ALLOW DRAINAGE.
19. CREW PATIO SCREEN, REFER TO DETAIL 6 ON SHEET A1.2.
20. THE IMPROVEMENTS ALONG ROAD 100 INCLUDING WIDENING, STORM DRAINAGE, STREET LIGHTS, SIDEWALK, CURB RAMPS, AND DRIVEWAYS ARE INCLUDED WITH THE CITY OF PASCO PROJECT #21164-A. THE WORK, WHILE NOT COMPLETE AT THE TIME OF BID, IS SHOWN AS EXISTING ON THESE PLANS.
21. INSTALL TYPE B PERPENDICULAR CURB RAMP PER WSDOT STD PLAN F-40.15 AND DETECTABLE WARNING SURFACE PER WSDOT STD PLAN F-45.10.

### PROJECT POINTS

| PT # | DESCRIPTION | NORTHING | EASTING |
|---|---|---|---|
| 102 | SI RD 100/MAPLE | 341,045.69 | 1,963,604.35 |
| 107 | LOT CORNER | 341,071.66 | 1,963,910.52 |
| 111 | LOT CORNER | 341,074.70 | 1,963,680.28 |
| 112 | LOT CORNER | 341,100.27 | 1,963,655.61 |
| 113 | LOT CORNER | 341,293.95 | 1,963,660.03 |
| 114 | LOT CORNER | 341,290.62 | 1,963,915.54 |
| 120 | BLDG CORNER | 341,267.40 | 1,963,730.25 |
| 121 | BLDG CORNER | 341,271.67 | 1,963,776.49 |
| 122 | BLDG CORNER | 341,270.94 | 1,963,808.22 |
| 123 | BLDG CORNER | 341,216.43 | 1,963,813.79 |

### PROJECT POINTS

| PT # | DESCRIPTION | NORTHING | EASTING |
|---|---|---|---|
| 124 | BLDG CORNER | 341,191.22 | 1,963,813.21 |
| 125 | BLDG CORNER | 341,104.15 | 1,963,793.75 |
| 126 | BLDG CORNER | 341,105.38 | 1,963,740.05 |
| 127 | BLDG CORNER | 341,192.98 | 1,963,743.73 |
| 128 | BLDG CORNER | 341,193.64 | 1,963,714.73 |
| 129 | BLDG CORNER | 341,245.15 | 1,963,720.91 |
| 130 | BLOCK WALL END | 341,082.16 | 1,963,910.26 |
| 131 | BLOCK WALL END | 341,290.11 | 1,963,915.02 |

CITY OF PASCO APPROVAL STAMP

EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR TO VERIFY LOCATIONS WITH UTILITY COMPANIES AND/OR PRIVATE UTILITY LOCATOR PRIOR TO TRENCHING.

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**BID SET**

| No. | Description | Date: |
|---|---|---|
| 1 | ADD 1 | 09/21/22 |
| | | |
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| | | |
| | | |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

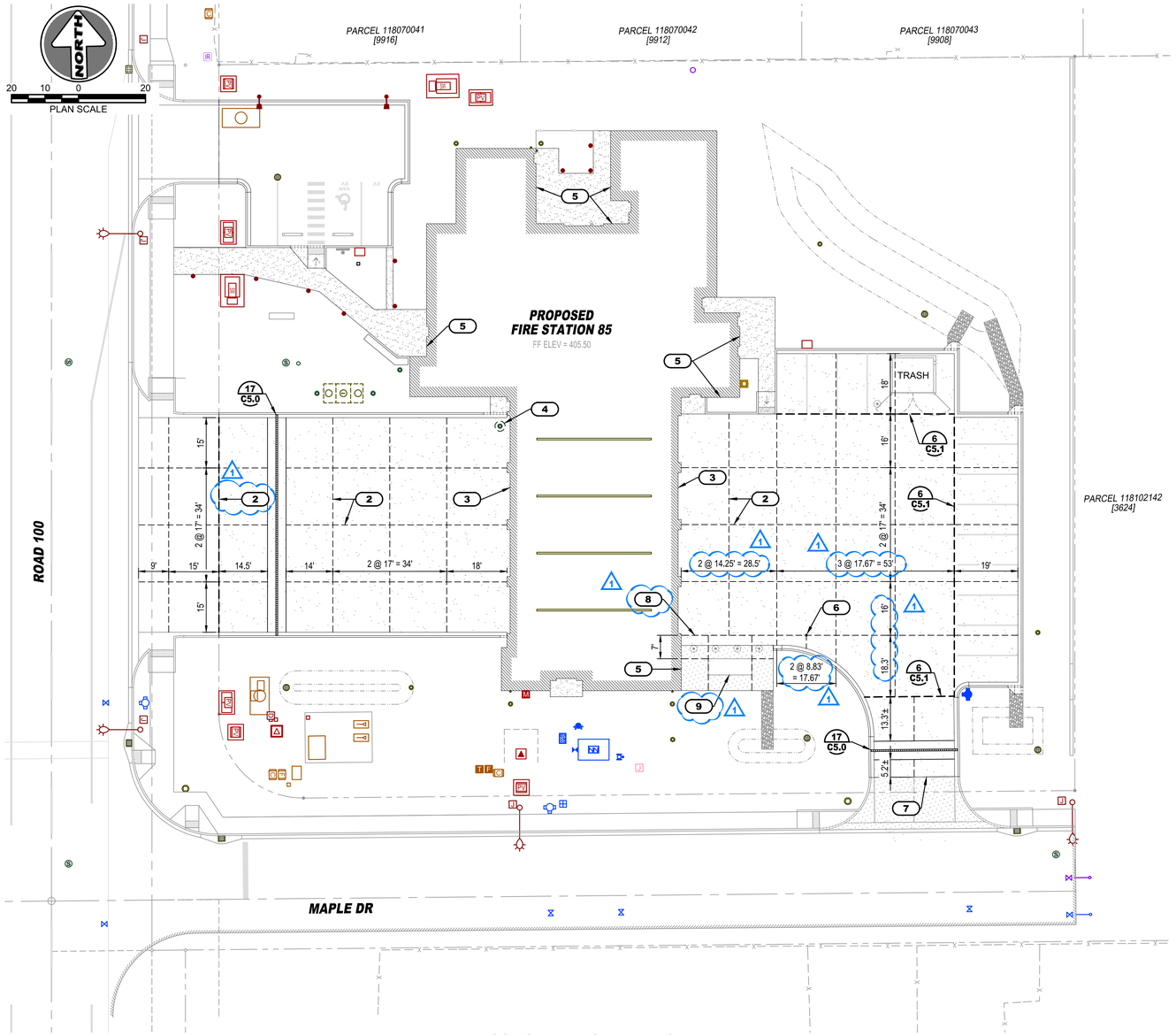
SITE LAYOUT PLAN

Scale: AS INDICATED
Project No. : 21-03
Date : 09/21/2022

Sheet Number :

**C2.0**

SW 1/4 SECT 17 T09N R29E WM




**CONCRETE JOINT LAYOUT PLAN**
SCALE: 1"=20'

## KEY NOTES

1. INSTALL EXPANSION MATERIAL BETWEEN SLABS.
2. SAW CUT CONTROL JOINT, TYPICAL.
3. REFER TO STRUCTURAL PLANS FOR JOINT DETAIL AT BUILDING.
4. PROVIDE EXPANSION JOINT AROUND VALVE BOXES AND CLEANOUTS PER WSDOT STD PLAN A-40.15, TYPICAL.
5. INSTALL EXPANSION MATERIAL BETWEEN SLAB AND BUILDING.
6. DRILL A 2" DIA FULL DEPTH HOLE AND FILL WITH JOINT SEALER, PER WSDOT STD PLAN A-40.15, T-JOINT DETAIL, TYPICAL.
7. DOWEL INTO EXISTING CONCRETE APRON, 1" DIA X 18" LONG DOWELS AT 12" ON CENTER. KEEP MINIMUM OF 6" FROM EDGE AND JOINTS. GREASE ONE END OF DOWEL.
8. INSTALL 1/2" FULL DEPTH EXPANSION JOINT MATERIAL BETWEEN THE 8" THICK SLAB AND THE 6" SLAB.
9. INSTALL 1/2" FULL DEPTH EXPANSION JOINT MATERIAL AT JOINT BETWEEN 12" THICK GENERATOR PAD AND THE 6" SLAB.

CITY OF PASCO APPROVAL STAMP

EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR TO VERIFY LOCATIONS WITH UTILITY COMPANIES AND/OR PRIVATE UTILITY LOCATOR PRIOR TO TRENCHING.

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STATE OF WASHINGTON
42529
REGISTERED PROFESSIONAL ENGINEER
9/21/22

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Project Title:

**SATELLITE FIRE STATION 85**
City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

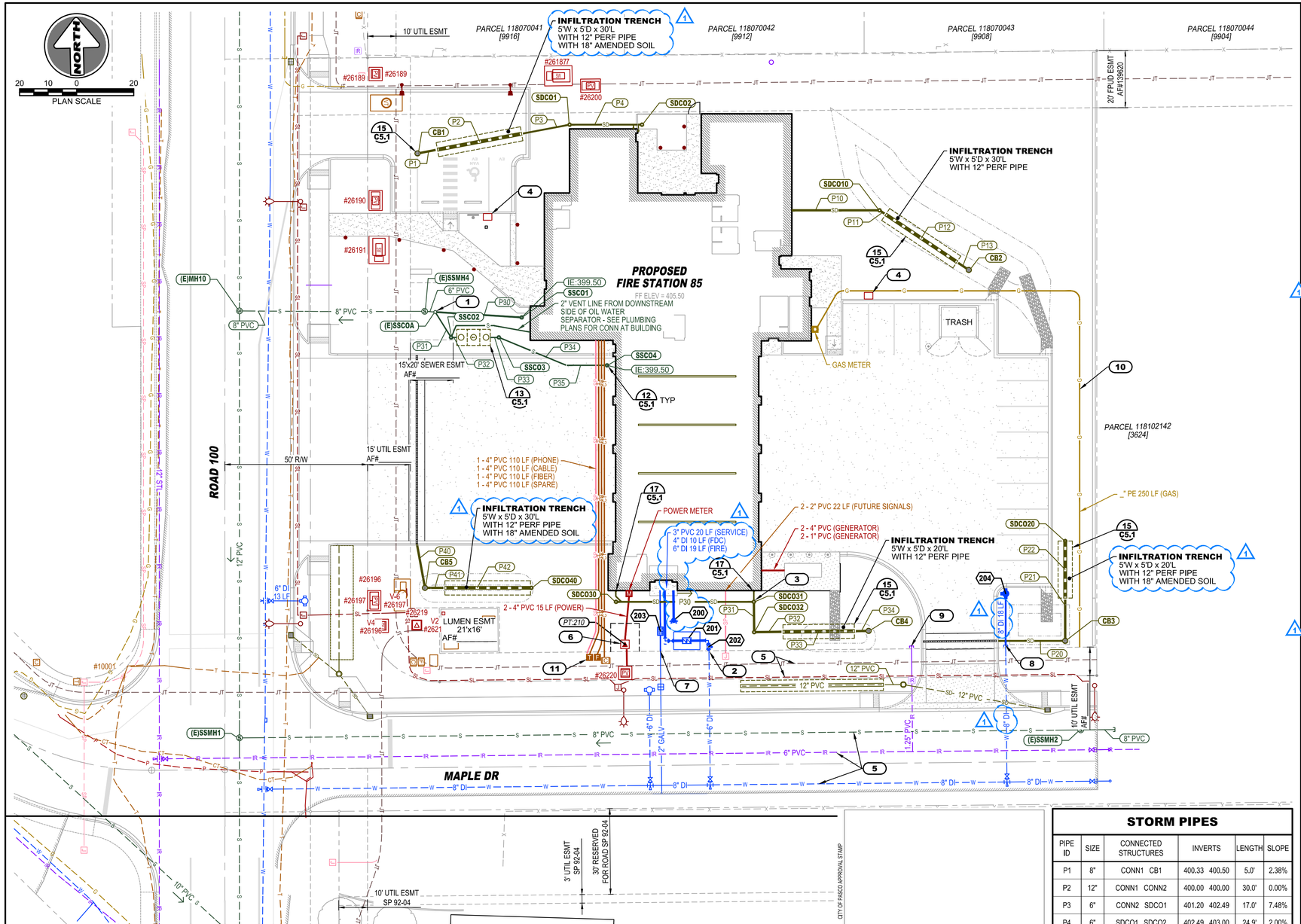
CONCRETE JOINT LAYOUT PLAN AND DETAILS

Scale: AS INDICATED
Project No. : 21-03
Date : 09/21/2022

Sheet Number :

**C2.1**

SW 1/4 SECT 17 T09N R29E WM




## SITE UTILITY PLAN

SCALE: 1"=20'

## NOTES

1. CONTRACTOR TO PROVIDE ALL TRENCHING AND BACKFILL AS NEEDED FOR INSTALLATION OF CONDUITS, NEW STRUCTURES, AND CONNECTION TO EXISTING STRUCTURES, UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO PROVIDE AND INSTALL ALL CONDUITS AND STRUCTURES, UNLESS OTHERWISE NOTED. COORDINATE WITH UTILITIES.

## KEY NOTES

1. CONNECT TO EXISTING 6" SANITARY SEWER STUB. SSMH3 AND DROP CONNECTION CLEANOUT UNDER SEPARATE PROJECT.
2. REMOVE CAP AND THRUST BLOCK AND CONNECT TO 6" STUB INSTALLED UNDER SEPARATE PROJECT.
3. TIE ROOF LEADER INTO STORM DRAIN LINE WITH WYE FITTING, TYPICAL.
4. ELECTRIC VEHICLE CHARGING STATION. SEE ELECTRICAL PLANS.
5. THE RELOCATION OF UTILITIES AND THE EXTENSION OF UTILITIES (WATER, SEWER, IRRIGATION, POWER, GAS, AND COMMUNICATIONS) ON MAPLE DR. FROM ROAD 100 TO THE EAST END OF THE PROJECT ARE INCLUDED WITH CITY OF PASCO PROJECT #21164-A. THE WORK, WHILE NOT COMPLETE AT THE TIME OF BID, IS SHOWN AS EXISTING ON THESE PLANS.
6. PROVIDE AND INSTALL A V-3 VAULT (4'-8"X4'-8"X3"-6" DEEP WITH 6'-6"X4'-8" LID) PER FRANKLIN PUD DETAIL DRAWING 244.1.
7. CONNECT TO EXISTING WATER SERVICE INSTALLED IN PROJECT #21164-A.
8. REMOVE CAP AND CONNECT TO EXISTING 8" LINE INSTALLED IN PROJECT #21164-A.
9. IRRIGATION SERVICE INSTALLED IN PROJECT #21164-A, REFER TO LANDSCAPE PLANS FOR CONTINUATION.
10. COORDINATE WITH CNG FOR NEW GAS SERVICE. PROVIDE ALL NECESSARY TRENCHING AND BACKFILL.
11. COORDINATE WITH CHARTER (CABLE) AND FRANKLIN PUD BROADBAND (FIBER) FOR NEW SERVICES. PROVIDE TRENCHING, CONDUITS, AND BACKFILL AS NECESSARY.

## WATER FITTINGS

**NOTES:**

1. NEW WATER MAIN TO BE INSTALLED WITH A MINIMUM COVER OF 42 INCHES.
2. FIRE SPRINKLER DESIGNER TO VERIFY FIRE SPRINKLER SUPPLY LINE SIZE.
3. ALL WATER FITTINGS AND JOINTS TO BE MECHANICALLY RESTRAINED.

200 1 - 4" FIRE DEPARTMENT CONNECTION ASSEMBLY WITH LOCKING KNOX BRAND CAP

201 1 - 6" DCDA PER COP STD DETAIL W-16
1 - CONCRETE VAULT, OLDCASTLE 676-LA
2 - 6" 90° BENDS

202 1 - 6" POST INDICATOR VALVE (PIV) WITH TAMPER SWITCH

203 1 - 2" RPBA AND HOT BOX PER COP STD DETAIL W-17. PROVIDE POWER AND HEAT TAPE AS NEEDED FOR HOT-BOX FREEZE PROTECTION. PROVIDE NECESSARY FITTINGS TO UPSIZE AFTER THE RPBA.

204 1 - FIRE HYDRANT ASSEMBLY PER COP STD DETAIL W-10
1 - 8"x6" REDUCER

## STORM STRUCTURES

| STRUCTURE ID / SIZE | NORTHING EASTING | RIM EL | PIPES IN/OUT | SUMP |
|---|---|---|---|---|
| CB1 [48" DIA] | N:341,260.05 E:1,963,676.78 | 403.85 | IE OUT (E): 400.50 [8"], P1 | 2.00' |
| CB2 [48" DIA] | N:341,214.81 E:1,963,868.94 | 403.00 | IE OUT (NW): 99.43 [8"], P13 | 2.00' |
| CB3 [48" DIA] | N:341,084.07 E:1,963,899.75 | 401.75 | IE IN (W): 400.03 [6"], P20<br>IE OUT (N): 399.83 [8"], P21 | 2.00' |
| CB4 [48" DIA] | N:341,089.15 E:1,963,830.96 | 402.25 | IE OUT (W): 398.43 [8"], P34 | 2.00' |
| CB5 [48" DIA] | N:341,107.77 E:1,963,675.88 | 402.42 | IE IN (N): 400.89 [8"], P40<br>IE OUT (E): 399.31 [8"], P41 | 2.00' |
| SDCO1 [6" DIA] | N:341,268.90 E:1,963,730.29 | 405.45 | IE IN (E): 402.49 [6"], P4<br>IE OUT (W): 402.49 [6"], P3 | 0.00' |
| SDCO2 [6" DIA] | N:341,268.32 E:1,963,755.63 | 405.48 | IE OUT (W): 403.00 [6"], P4 | 0.00' |
| SDCO10 [8" DIA] | N:341,236.41 E:1,963,838.15 | 403.23 | IE IN (W): 399.39 [8"], P10<br>IE OUT (SE): 399.39 [8"], P11 | 0.00' |
| SDCO20 [8" DIA] | N:341,119.05 E:1,963,900.55 | 402.99 | IE IN (S): 398.15 [12"], P22 | 0.00' |
| SDCO30 [6" DIA] | N:341,101.35 E:1,963,742.70 | 405.01 | IE OUT (E): 403.00 [6"], P30 | 0.00' |
| SDCO31 [8" DIA] | N:341,100.24 E:1,963,791.00 | 405.00 | IE IN (W): 402.53 [6"], P30<br>IE OUT (S): 402.53 [8"], P31 | 0.00' |
| SDCO32 [8" DIA] | N:341,089.62 E:1,963,790.86 | 402.62 | IE IN (N): 399.85 [8"], P31<br>IE OUT (E): 399.85 [8"], P32 | 0.00' |
| SDCO40 [8" DIA] | N:341,106.92 E:1,963,713.17 | 402.33 | IE IN (W): 398.00 [12"], P42 | 0.00' |

## STORM PIPES

| PIPE ID | SIZE | CONNECTED STRUCTURES | INVERTS | LENGTH | SLOPE |
|---|---|---|---|---|---|
| P1 | 8" | CONN1 CB1 | 400.33 400.50 | 5.0' | 2.38% |
| P2 | 12" | CONN1 CONN2 | 400.00 400.00 | 30.0' | 0.00% |
| P3 | 6" | CONN2 SDCO1 | 401.20 402.49 | 17.0' | 7.48% |
| P4 | 6" | SDCO1 SDCO2 | 402.49 403.00 | 24.9' | 2.00% |
| P10 | 8" | SDCO10 | 400.00 399.39 | 30.4' | 2.00% |
| P11 | 8" | SDCO10 CONN10 | 399.39 399.33 | 2.3' | 2.00% |
| P12 | 12" | CONN10 CONN11 | 399.00 399.00 | 30.0' | 0.00% |
| P13 | 8" | CONN11 CB2 | 99.33 99.43 | 3.0' | 2.00% |
| P20 | 6" | CB3 | 400.50 400.03 | 21.4' | 2.00% |
| P21 | 8" | CONN20 CB3 | 398.48 399.83 | 13.0' | 9.00% |
| P22 | 12" | SDCO20 CONN20 | 398.15 398.15 | 19.7' | 0.00% |
| P30 | 6" | SDCO30 SDCO31 | 403.00 402.53 | 47.7' | 0.98% |
| P31 | 8" | SDCO31 SDCO32 | 402.53 399.85 | 10.1' | 25.23% |
| P32 | 8" | SDCO32 CONN30 | 399.85 398.33 | 9.8' | 15.00% |
| P33 | 12" | CONN30 CONN31 | 398.00 398.00 | 25.0' | 0.00% |
| P34 | 8" | CONN31 CB4 | 398.33 398.43 | 3.0' | 2.00% |
| P40 | 8" | CB5 | 401.25 400.89 | 13.8' | 2.27% |
| P41 | 8" | CB5 CONN40 | 399.31 398.33 | 5.0' | 14.00% |
| P42 | 12" | CONN40 SDCO40 | 398.00 398.00 | 30.0' | 0.00% |

## SEWER STRUCTURES

| STRUCTURE ID / SIZE | NORTHING EASTING | RIM EL | PIPES IN / OUT, ID |
|---|---|---|---|
| (E)SSCOA [6" DIA] | N:341,204.34 E:1,963,681.70 | 405.37 | IE IN (E): 398.50 [6"], P30<br>IE IN (SE): 397.00 [4"], P31<br>IE OUT (W): 385.55 [6"], (E)P2<br>IE OUT (W): 398.50 [6"], (E)P1 |
| SSCO1 [6" DIA] | N:341,201.75 E:1,963,711.95 | 405.44 | IE OUT (W): 399.50 [6"], P30 |
| SSCO2 [4" DIA] | N:341,195.32 E:1,963,687.05 | 404.22 | IE IN (E): 397.21 [4"], P32<br>IE OUT (NW): 397.21 [4"], P31 |
| SSCO3 [4" DIA] | N:341,194.94 E:1,963,703.79 | 404.87 | IE IN (SE): 397.56 [4"], P34<br>IE OUT (W): 397.56 [4"], P33 |
| SSCO4 [4" DIA] | N:341,184.28 E:1,963,741.46 | 405.45 | IE OUT (W): 399.50 [4"], P35 |

## SEWER PIPES

| PIPE ID | SIZE | CONNECTED STRUCTURES | INVERTS | LENGTH | SLOPE |
|---|---|---|---|---|---|
| P30 | 6" | (E)SSCOA SSCO1 | 398.50 399.50 | 29.9' | 3.29% |
| P31 | 4" | (E)SSCOA SSCO2 | 397.00 397.21 | 10.1' | 2.00% |
| P32 | 4" | SSCO2 | 397.21 397.25 | 1.8' | 2.00% |
| P33 | 4" | SSCO3 | 397.50 397.56 | 2.8' | 2.00% |
| P34 | 4" | SSCO3 SS20 | 397.56 399.22 | 25.4' | 6.47% |
| P35 | 4" | SS20 SSCO4 | 399.21 399.50 | 14.1' | 2.00% |

## WATER FITTING LOCATIONS

| PT / FITTING # | NORTHING | EASTING |
|---|---|---|
| 200 | 341,094.38 | 1,963,762.77 |
| 201 | 341,087.16 | 1,963,767.20 |
| 202 | 341,084.80 | 1,963,774.75 |
| 203 | 341,090.72 | 1,963,758.02 |

## POWER VAULT LOCATIONS

| PT # | VAULT ID | NORTHING | EASTING |
|---|---|---|---|
| 210 | V-3 TRANSFORMER (6'-6" X 4'-8") | 341,086.38 | 1,963,745.51 |

## FIRE FLOW REQUIREMENTS

| | |
|---|---|
| BUILDING SIZE: | 11,250 SF |
| CONSTRUCTION TYPE: | V-B |
| REQUIRED FIRE FLOW: | 2,750 GPM |
| REQUIRED FIRE FLOW DURATION: | 2 HOUR |
| FIRE SPRINKLERS PROVIDED: | YES |
| REDUCTIONS TO REQUIRED FIRE FLOW: | 75% |
| NET REQUIRED FIRE FLOW REMAINING: | 688 GPM |
| MINIMUM FIRE FLOW IFC 903.3.1.1, NFPA 13 SPRINKLERS: | 1,500 GPM |

EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR TO VERIFY LOCATIONS WITH UTILITY COMPANIES AND/OR PRIVATE UTILITY LOCATOR PRIOR TO TRENCHING

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CHRISTINE ENGAN PAJOLA — STATE OF WASHINGTON — 42529 — REGISTERED PROFESSIONAL ENGINEER — 9/21/22

**BID SET**

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|---|---|---|
| 1 | ADD 1 | 09/21/22 |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

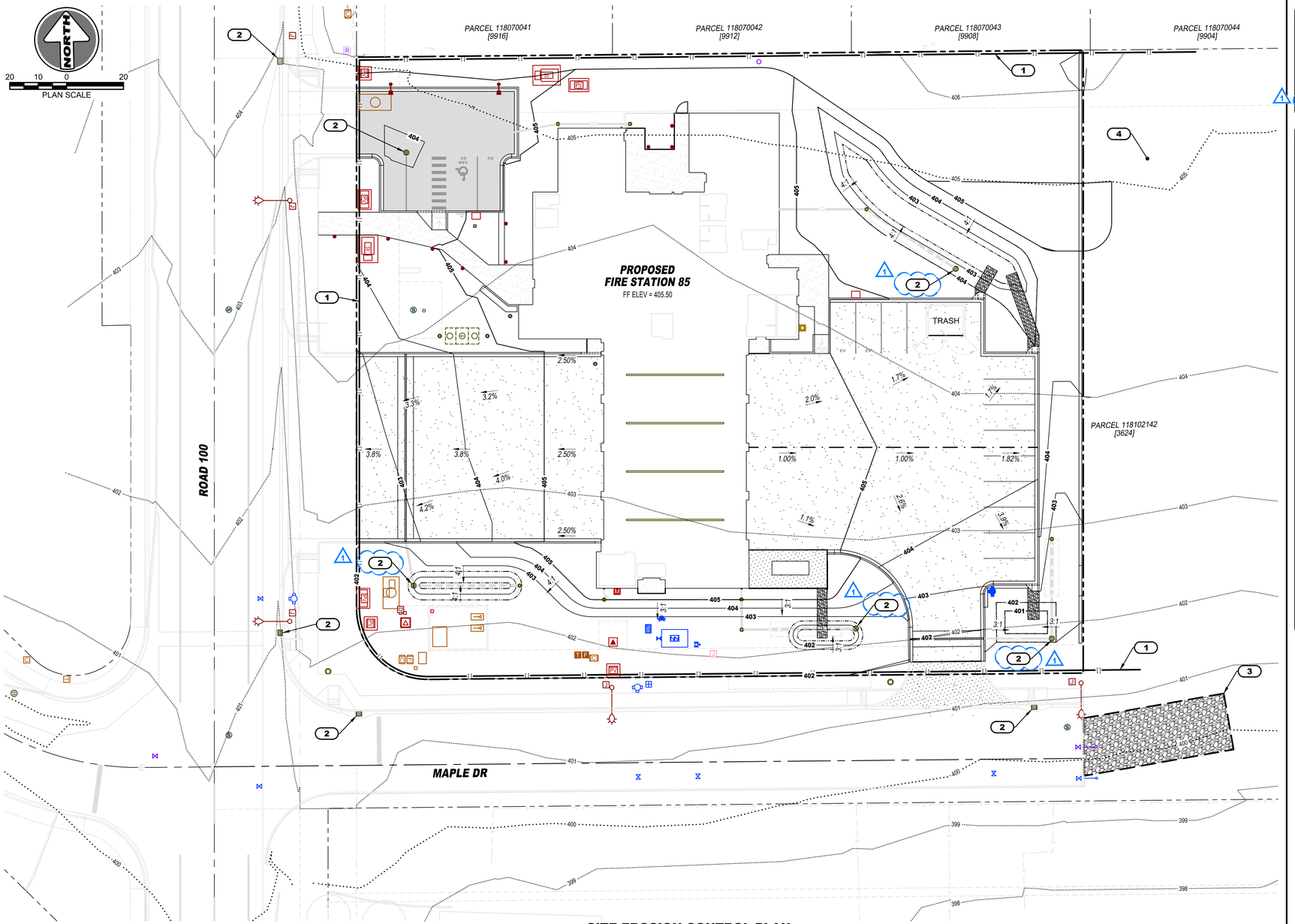
SITE UTILITY PLAN

Scale: AS INDICATED
Project No. : 21-03
Date : 09/21/2022

Sheet Number :

**C3.0**

SW 1/4 SECT 17 T09N R29E WM




## SITE EROSION CONTROL PLAN

SCALE: 1"=20'

## KEY NOTES

1. INSTALL 775 LF OF SILT FENCE AS NEEDED PER PER WSDOT STD PLAN I-30.15-02.
2. PROVIDE STORM DRAIN INLET PROTECTION TO NEW AND EXISTING STRUCTURES AS NEEDED PER PER WSDOT STD PLAN I-40.20-00.
3. PROVIDE STABILIZED CONSTRUCTION ENTRANCE PER WSDOT STD PLAN I-80.10-02.
4. ALL DISTURBED AREAS INCLUDING OUTSIDE THE FIRE STATION SITE TO BE HYDROSEEDED AT END OF PROJECT.

## EROSION CONTROL NOTES

1. CONTRACTOR TO INSTALL ALL BEST MANAGEMENT PRACTICES (BMP'S) PRIOR TO BEGINNING SITE CONSTRUCTION.
2. ALL BMP'S ARE TO BE INSPECTED AND MAINTAINED DAILY DURING CONSTRUCTION.
3. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL.
4. ALL VEHICLES LEAVING SITE ARE TO USE CONSTRUCTION ENTRANCES TO WASH WHEELS FOR MUD AND DUST CONTROL FROM LEAVING SITE.
5. EXISTING CATCH BASINS WITH POTENTIAL OF RECEIVING RUN-OFF FROM SITE CONSTRUCTION ARE TO BE PROTECTED WITH AN APPROVED BMP, LOCATIONS SHOWN ON PLAN.
6. ALL STORM DRAIN INLETS MADE OPERABLE DURING CONSTRUCTION SHALL BE COVERED WITH FILTER FABRIC TO PREVENT SEDIMENT ENTERING THE SYSTEM. THE FILTER FABRIC SHALL BE INSPECTED REGULARLY AND CLEANED WHEN NEEDED.
7. CONTRACTOR TO MINIMIZE DISTURBANCE FROM THEIR NATURAL STATE OF AREAS OUTSIDE STREETS, UTILITIES AND CONSTRUCTION STAGING AREAS.
8. CONSTRUCTION BYPRODUCTS (OILS, SOLVENTS, GLUES, ETC.) AND EXCESS MATERIALS (CONCRETE, ASPHALT, PAINT, ETC.) TO BE REMOVED FROM SITE AND DISPOSED OF PROPERLY.
9. CONTRACTOR TO INSTALL AND IMPLEMENT ADDITIONAL BMP'S AS SITE CONDITIONS OR FIELD CHANGES NECESSITATE. ALL CHANGES OR ADDITIONS TO THE EROSION CONTROL OR BMP'S ARE TO BE RELAYED AND COORDINATED THROUGH THE CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL).
10. PROPERTIES ADJACENT TO THE PROJECT SITE THAT ARE SUBJECT TO POTENTIAL EROSION CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION THROUGH THE USE OF SILT FENCE, OR OTHER BMP SELECTED BY THE CONTRACTOR.
11. THE CONTRACTOR AND/OR OWNER SHALL BE RESPONSIBLE AT ALL TIMES FOR PREVENTING SILT-LADEN RUNOFF FROM DISCHARGING FROM THE PROJECT SITE, FAILURE TO DO SO CAN RESULT IN A FINE.
12. ALL DISTURBED SOILS, INCLUDING STOCKPILES, EXPOSED AND/OR UNWORKED FOR MORE THAN THE TIME PERIODS DESCRIBED BELOW: 30 DAYS (JULY 1 THRU SEPT 30) 15 DAYS (OCTOBER 1 THRU JUNE 30) SHALL BE PROTECTED FROM EROSION.
13. SILT FENCE TO BE LAYFIELD WBSF-124 WIREBACKED CONTINUOUS ROLL OR ENGINEER APPROVED EQUAL.
14. WATER OR USE A SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL.
15. ALL DISTURBED AREAS SHALL BE STABILIZED WITH A MINIMUM OF 4" OF 1¼" MINUS CRUSHED ROCK (CSBC) OR BE HYDROSEEDED. HYDROSEED SHALL BE APPLIED AT 60 LBS/ACRE WITH THE FOLLOWING SEEDING MIX: 40% ANNUAL RYEGRASS, 20% BLUE BUNCH WHEAT GRASS, 20% THICKSPIKE WHEAT GRASS, AND 20% SANDBERGS GRASS. ADDITIONALLY THE HYDROSEEDING SHALL INCLUDE 2,000 LBS/ACRE OF WOOD FIBER MULCH AND 50 LBS/ACRE OF GUAR BASED TACKIFIER.

CITY OF PASCO APPROVAL STAMP

EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR TO VERIFY LOCATIONS WITH UTILITY COMPANIES AND/OR PRIVATE UTILITY LOCATOR PRIOR TO TRENCHING

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CHRISTINE ENGAN PAVOLA — STATE OF WASHINGTON — 42529 — REGISTERED PROFESSIONAL ENGINEER — 9/21/22

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Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

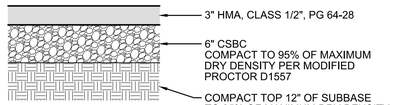
SITE EROSION CONTROL PLAN

Scale: AS INDICATED
Project No. : 21-03
Date : 09/21/2022

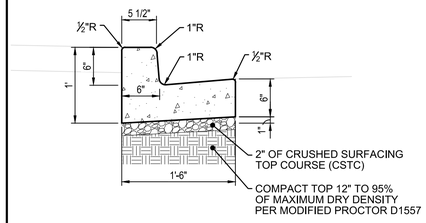
Sheet Number :

**C4.1**

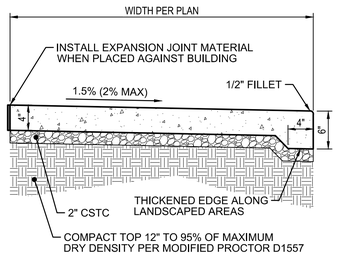
*SW 1/4 SECT 17 T09N R29E WM*




**1 C2.0 PAVING SECTION**
SCALE: NONE

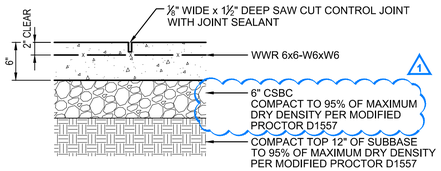



**2 C2.0 CURB AND GUTTER**
SCALE: NONE



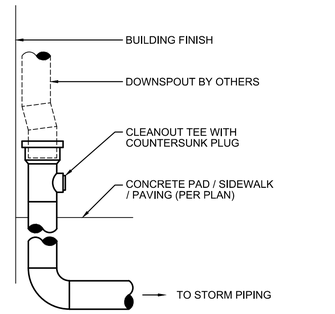

**NOTE:**
BROOM FINISH, WITH CONSTRUCTION JOINTS AT 5' OC AND ⅜" FULL DEPTH EXPANSION JOINTS AT 15' OC.

**3 C2.0 4" CONCRETE / SIDEWALK**
SCALE: NONE

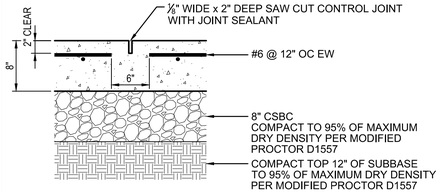



**NOTES:**
1. PANELS TO BE ROUGHLY SQUARE. ADJUST CONTROL JOINTS AS NECESSARY BASED ON CONCRETE DIMENSIONS. MAXIMUM SPACING IS 15' OC FOR 6" THICK SLAB AND 3/4" AND LARGER MAX AGGREGATE.

**4 C2.0 6" CONCRETE SECTION**
SCALE: NONE

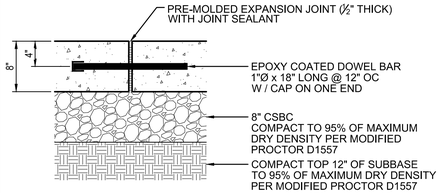



**17 C2.0 DOWNSPOUT CLEANOUT**
SCALE: NONE



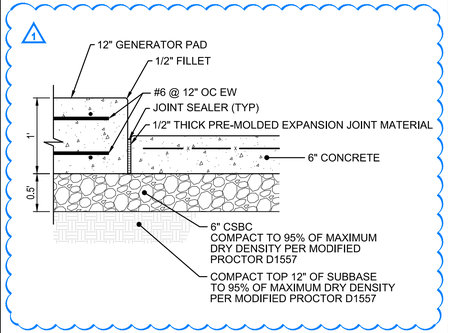

**NOTES:**
1. PANELS TO BE ROUGHLY SQUARE. ADJUST CONTROL JOINTS AS NECESSARY BASED ON CONCRETE DIMENSIONS. MAXIMUM SPACING IS 20' OC FOR 8" THICK SLAB AND ¾" AND LARGER MAX AGGREGATE.
2. DISCONTINUE REINFORCING AT JOINTS.
3. REFER TO WSDOT STD PLAN A-40.15 FOR PAVEMENT ISOLATION JOINTS AND LOCATIONS.

**5 C2.0 8" CONCRETE SECTION**
SCALE: NONE

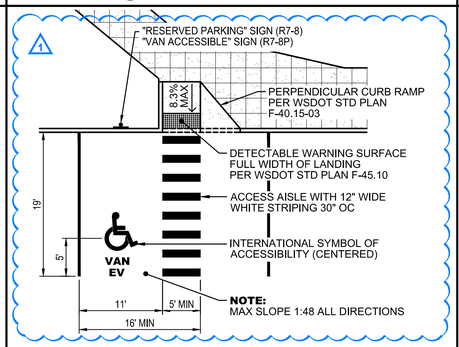



**NOTES:**
1. PANELS TO BE ROUGHLY SQUARE. ADJUST CONTROL JOINTS AS NECESSARY BASED ON CONCRETE DIMENSIONS. MAXIMUM SPACING IS 20' OC FOR 8" THICK SLAB AND ¾" AND LARGER MAX AGGREGATE.
2. DISCONTINUE REINFORCING AT JOINTS.
3. REFER TO WSDOT STD PLAN A-40.15 FOR PAVEMENT ISOLATION JOINTS AND LOCATIONS.

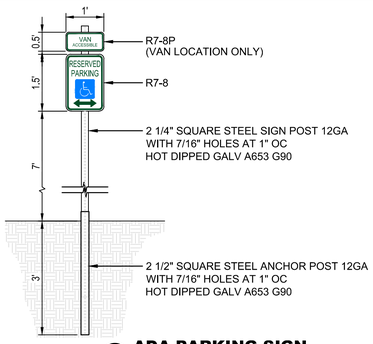
**6 C2.0 DOWELED EXPANSION JOINT**
SCALE: NONE



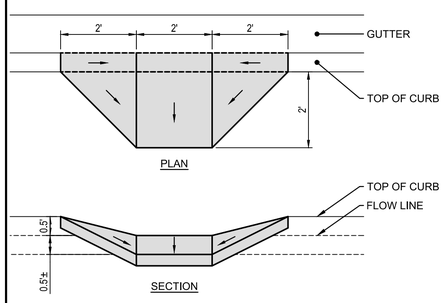

**7 C2.0 12" CONCRETE SECTION**
SCALE: NONE



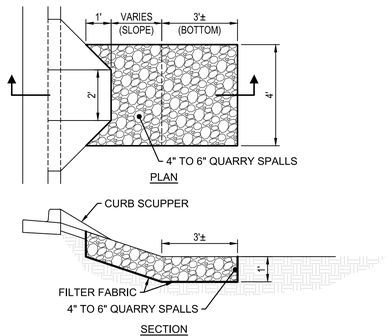

**8 C2.0 ADA PARKING STALL**
SCALE: NONE



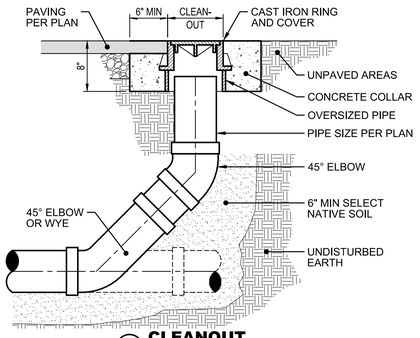

**9 C5.1 ADA PARKING SIGN**
SCALE: NONE



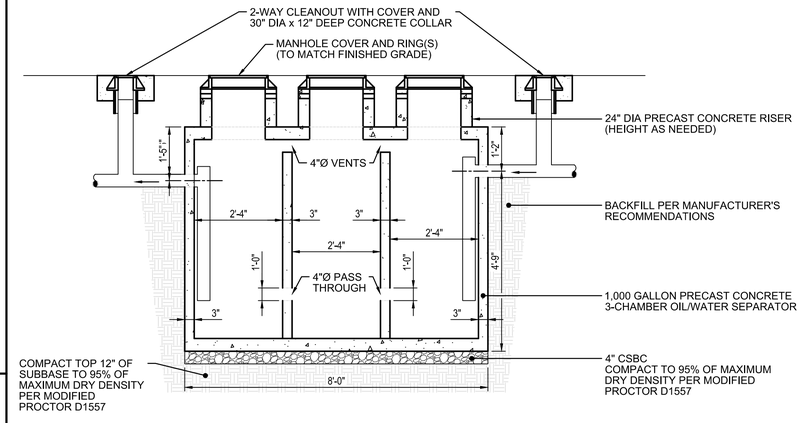

**10 C2.0 CURB SCUPPER**
SCALE: NONE



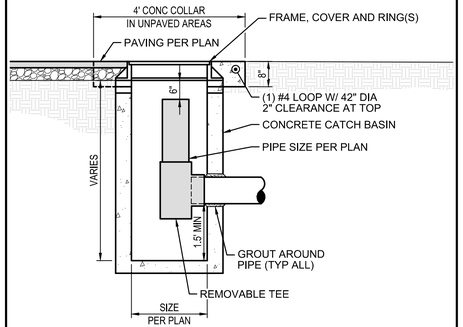

**11 C2.0 CURB OUTFALL**
SCALE: NONE



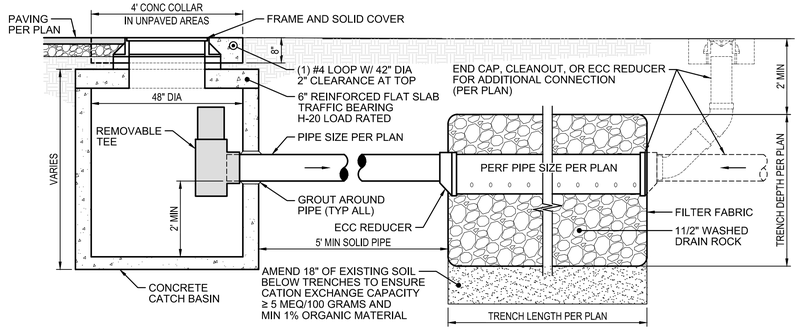

**12 C2.0 CLEANOUT**
SCALE: NONE



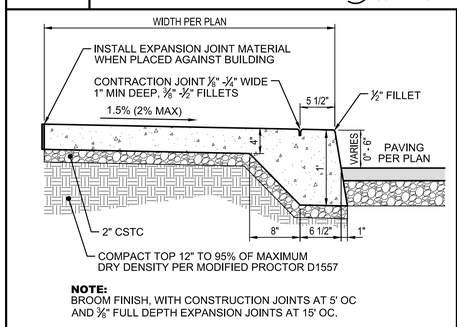

**13 C2.0 OIL/WATER SEPARATOR**
SCALE: NONE




**14 C2.0 24" DIA CATCH BASIN**
SCALE: NONE




**15 C2.0 INFILTRATION TRENCH CONNECTION**
SCALE: NONE




**NOTE:**
BROOM FINISH, WITH CONSTRUCTION JOINTS AT 5' OC AND ⅜" FULL DEPTH EXPANSION JOINTS AT 15' OC.

**16 C2.0 MONOLITHIC CURB AND SIDEWALK**
SCALE: NONE

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STATE OF WASHINGTON
42529
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9/21/22

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Project Title:

**SATELLITE FIRE STATION 85**
City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

NOTES AND DETAILS

Scale: AS INDICATED
Project No. : 21-03
Date : 09/21/2022

Sheet Number :

**C5.1**

SW 1/4 SECT 17 T09N R29E WM

# General Structural Notes

(THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS.)

***CRITERIA:***

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC) WITH WASHINGTON STATE ADMINISTRATIVE CODE AMENDMENTS, 2018 EDITION.

2. DESIGN LOADING CRITERIA:

| | |
|---|---|
| RISK CATEGORY IBC TABLE 1604.5 | IV |
| ROOF SNOW LOAD | 30 PSF ($I_S$ = 1.2) |
| FLOOR LIVE LOAD (MECHANICAL MEZZANINE) | 40 PSF |
| CANOPIES | SAME AS ROOF SNOW LOAD |
| MECHANICAL UNITS | SEE DRAWINGS FOR MAXIMUM ALLOWABLE WEIGHTS |
| EARTHQUAKE (NEW BUILDING DESIGN) | SEISMIC DESIGN CATEGORY D<br>$S_S$ = 0.410, $S_1$ = 0.156, $S_{DS}$ = 0.402, $S_{D1}$ = 0.239<br>EQUIVALENT LATERAL FORCE PROCEDURE<br>LIGHT FRAMED WOOD STRUCTURAL PANELS<br>R = 6.5, $\Omega_0$ = 2.5, $I_E$ = 1.5<br>Cs = 0.093, BASE SHEAR = 62 KIPS<br>STORY DRIFT LIMIT = 0.01 * H |
| WIND | 112 MPH, EXPOSURE "B", $K_{zt}$ = 1.0 |
| WIND (CLADDING/ENCLOSURE ELEMENT DESIGN PRESSURES) | 32/20PSF MAX. AT WALLS (LRFD/ASD)<br>50/30PSF GROSS UPLIFT AT ROOF (LRFD/ASD) |

WIND PRESSURES BASED ON LESS THAN 10 SQUARE FOOT TRIBUTARY AREAS NEAR WALL CORNERS OR ROOF EDGES (EXCLUDING CORNER ZONES AT ROOF). REDUCED DESIGN PRESSURES MAY BE CALCULATED IN ACCORDANCE WITH ASCE 7-16 CHAPTER 30.

SEE DRAWINGS FOR ADDITIONAL LOADING CRITERIA

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND ALL OTHER CONTRACT DOCUMENTS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ALL DISCREPANCIES PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE BUILDING LAYOUT DIMENSIONS (GRID LAYOUTS, SITE COORDINATES, ETC.) AMONGST ALL TRADES, INCLUDING SHOP FABRICATED ITEMS.

4. NOT USED.

5. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, BOTH FOR VERTICAL LOADS AND LATERAL STABILITY, FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.

7. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.

8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

9. ALL STRUCTURAL SYSTEMS COMPOSED OF COMPONENTS TO BE FIELD ERECTED SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PREPARED BY THE SUPPLIER.

10. LATERAL BRACING AND/OR GRAVITY SUPPORT AND ANCHORAGE OF ALL MECHANICAL OR ELECTRICAL EQUIPMENT SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF WASHINGTON, EXCEPT FOR ELEMENTS SPECIFICALLY SHOWN AND DETAILED ON THE STRUCTURAL DRAWINGS. THE MECHANICAL/ELECTRICAL CONTRACTOR MUST HIRE THE ENGINEER AND IS RESPONSIBLE FOR ALL COSTS RELATED TO THE PURCHASE AND INSTALLATION OF NECESSARY SUPPORTS, BRACING AND ANCHORAGE. SEISMIC BRACING AND ANCHORAGE DESIGN AND CONSTRUCTION SHALL COMPLY WITH CHAPTER 13 OF ASCE 7-16. SEE GENERAL STRUCTURAL NOTE 14 FOR ADDITIONAL INFORMATION.

11. SHOP DRAWINGS FOR REINFORCING STEEL (FOR BOTH CONCRETE AND MASONRY CONSTRUCTION), STRUCTURAL STEEL, METAL DECKING, GLUED LAMINATED MEMBERS, AND ENGINEERED WOOD I-JOISTS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

12. SHOP DRAWING REVIEW: DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, AND THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.

    SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

13. DEFERRED SUBMITTALS SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF WASHINGTON. THE COMPONENT DESIGNER SHALL BE A REGISTERED STRUCTURAL ENGINEER IF REQUIRED BY THE BUILDING OFFICIAL OF THE LOCAL JURISDICTION. BUILDING COMPONENT SUBMITTALS SHALL INCLUDE THE DESIGNING PROFESSIONAL ENGINEER'S STAMP AND SHALL BE APPROVED BY THE COMPONENT DESIGNER PRIOR TO CURSORY REVIEW BY THE ENGINEER OF RECORD FOR LOADS IMPOSED ON THE BASIC STRUCTURE. THE COMPONENT DESIGNER IS RESPONSIBLE FOR CODE CONFORMANCE INCLUDING ACCOMMODATION FOR STRUCTURAL DISPLACEMENT PER ASCE 7-16 SECTION 13.3.2. AND ALL NECESSARY CONNECTIONS NOT SPECIFICALLY CALLED OUT ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. DEFERRED SUBMITTALS SHALL INDICATE MAGNITUDE AND DIRECTION OF ALL LOADS IMPOSED ON BASIC STRUCTURE. DESIGN CALCULATIONS SHALL BE INCLUDED IN THE SUBMITTAL. THE CONTRACTOR SHALL FORWARD DEFERRED SUBMITTALS TO THE BUILDING OFFICIAL WHERE REQUIRED.

THE FOLLOWING BUILDING COMPONENTS SHALL BE DEFERRED SUBMITTALS FOR THIS PROJECT:

PREFABRICATED STAIRS AND LADDERS

***STATEMENT OF SPECIAL INSPECTIONS (STRUCTURAL):***

14. STATEMENT OF SPECIAL INSPECTIONS – STRUCTURAL ITEMS (SEISMIC DESIGN CATEGORY D):

DEFINITIONS:
THE SEISMIC FORCE RESISTING SYSTEM FOR THIS STRUCTURE CONSISTS PRIMARILY OF SHEAR WALLS, FLOOR/ROOF DIAPHRAGMS, AND STRUT MEMBERS AS SPECIFIED ON THE DRAWINGS. SEE THE LEGEND OF PLAN SHEETS FOR ADDITIONAL INFORMATION DEFINING MEMBER LOCATIONS.

SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED BY THE OWNER APPOINTED INSPECTION AGENCY IN ACCORDANCE WITH CHAPTER 17 OF THE IBC WITH REPORTS PER IBC SECTION 1704.2.4 SUBMITTED TO THE OWNER, ARCHITECT, STRUCTURAL ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL FOR EACH DAY SPECIAL INSPECTIONS OR TESTING IS PERFORMED. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN IBC SECTION 110. SEE TABLES BELOW FOR ADDITIONAL INFORMATION.

| STRUCTURAL ITEMS | SPECIAL INSPECTION FREQUENCY | IBC REFERENCE |
|---|---|---|
| **STRUCTURAL STEEL FABRICATION,ERECTION, AND NONDESTRUCTIVE TESTING*** | SPECIAL INSPECTION AND NONDESTRUCTIVE TESTING FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE (QA) INSPECTION REQUIREMENTS OF AISC 360-16 CHAPTER N. CONTINUOUS INSPECTION SHALL BE PERFORMED AT "P" TASKS DEFINED IN AISC 360-16; PERIODIC INSPECTION SHALL BE PERFORMED AT "O" TASKS DEFINED IN AISC 360-16. ADDITIONAL SPECIAL INSPECTION AND TESTING REQUIREMENTS FOR THE STRUCTURAL STEEL SEISMIC SYSTEM SHALL BE PER AISC 341-16 CHAPTER J AS INDICATED BELOW. | |
| SHOP AND FIELD WELDING | CONTINUOUS/PERIODIC (QA PER AISC 360 CH. N5.4) | 1705.2.1 |
| HIGH STRENGTH BOLTING | CONTINUOUS/PERIODIC (QA AISC 360 CH. N5.6) | 1705.2.1 |
| METAL DECKING | PERIODIC | 1705.2.2 |
| MATERIAL VERIFICATION (IDENTIFICATION MARKS AND MANUFACTURER'S TEST REPORTS) | PERIODIC | 1705.2.1 |
| STRUCTURAL STEEL SEISMIC SYSTEM (INSPECTION AND TESTING) | CONTINUOUS/PERIODIC (QA PER AISC 341 CH. J) | 1705.12.1 & 1705.13.1 |
| **CONCRETE (SEE GENERAL STRUCTURAL NOTE 20 FOR ADDITIONAL REQUIREMENTS)**** | | |
| REINFORCING PLACEMENT | PERIODIC AND PRIOR TO ALL CONCRETE POURS | TABLE 1705.3 ITEM 1 |
| REINFORCING WELDING | PERIODIC (CONTINUOUS FOR SHEAR WALL, MOMENT FRAME, OR OTHER SHEAR REINFORCING AND ALL WELDS GREATER THAN 5/16") | TABLE 1705.3 ITEM 2c |
| ANCHOR BOLT PLACEMENT | PERIODIC AND PRIOR TO ALL CONCRETE POURS | TABLE 1705.3 ITEM 3 |
| CONCRETE PLACEMENT*** | CONTINUOUS | TABLE 1705.3 ITEM 5,6&7 |
| CURING & FORMWORK PROCEDURES | PERIODIC | TABLE 1705.3 ITEM 8,11&12 |
| **MASONRY** | | |
| LEVEL B SPECIAL INSPECTION | PERIODIC (CONTINUOUS FOR GROUTING AND WELDING OF REINFORCING BARS) | TABLE 3.1.2 TMS 402-16 |
| **WOOD** | | |
| FASTENERS, BOLTS, STRAPS, HOLDOWNS, ETC. | PERIODIC FOR CONNECTIONS OF ALL MEMBERS OF THE SEISMIC AND WIND FORCE RESISTING SYSTEM INCLUDING DIAPHRAGMS, SHEAR WALLS, STRUTS, & HOLDOWNS | 1705.11.1&1705.12.2**** |
| EXPANSION BOLTS, INSERTS & CONCRETE SCREWS | PERIODIC INCLUDING TORQUE TESTS IN ACCORDANCE WITH APPROVED ICC-ES REPORTS | TABLE 1705.3 ITEM 4 |
| EPOXY GROUTED RODS OR REBAR | PERIODIC INCLUDING INSPECTION OF EMBEDMENT DEPTH AND HOLE CLEANLINESS PRIOR TO ALL INSTALLATIONS (CONTINUOUS FOR UPWARDLY INCLINED ANCHORS) | TABLE 1705.3 ITEM 4, ACI 318-14 SECTION 17.8 |
| SOIL COMPACTION | CONTINUOUS | 1705.6 |

* STRUCTURAL STEEL QUALITY ASSURANCE INSPECTIONS, EXCEPT NONDESTRUCTIVE TESTING, MAY BE WAIVED IF APPROVED BY THE OWNER AND BUILDING OFFICIAL FOR WORK PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION IN ACCORDANCE WITH IBC SECTION 1704.2.5.1.
** EXCEPTIONS 1 THRU 5 PER IBC SECTION 1705.3 SHALL NOT APPLY TO CONCRETE WORK ON THIS PROJECT.
*** FREQUENCY OF CONCRETE LABORATORY TESTING SHALL BE IN ACCORDANCE WITH ACI 318-14 SECTION 26.12.2 UNLESS OTHERWISE NOTED IN THE PROJECT SPECIFICATIONS.
**** THE EXCEPTION FOR SHEATHING FASTENED AT A SPACING GREATER THAN 4"oc SHALL NOT APPLY TO WOOD OR METAL FRAMING ON THIS PROJECT.

| ARCH, MECH, & ELEC ITEMS | SEISMIC DESIGN REQUIREMENTS (ASCE 7-16 CHAPTER 13) | PERIODIC SPECIAL INSPECTION AS SPECIFIED PER IBC CHAPTER 17 |
|---|---|---|
| EXTERIOR WALLS, VENEER & CLADDING | ASCE 7-16 SECTION 13.5.3 | REQUIRED FOR WALL FRAMING, FOR FASTENING OF VENEER OR CLADDING EXCEEDING 5 PSF (IBC 1705.12.5) |
| SUSPENDED CEILINGS | ASCE 7-16 SECTION 13.5.6 | INSPECTIONS PER IBC SECTION 110 AND ASCE 7 13.5.6.2.2 AS REQUIRED |
| PARTITION WALLS FASTENING | ASCE 7-16 SECTION 13.5.8 | REQUIRED DURING ERECTION AND FOR WALLS > 15 PSF (IBC 1705.12.5) |
| GLAZING SYSTEMS | ASCE 7-16 SECTION 13.5.9 | NOT REQUIRED |
| LIFE SAFETY COMPONENTS INCLUDING FIRE PUMPS, EMERGENCY GENERATORS, SMOKE EVACUATION FANS, AND COMPONENTS WITH HAZARDOUS COMBUSTIBLE, OR HIGHLY TOXIC CONTENTS (Ip=1.5 PER ASCE 7-16 SECTION 13.1.3) | ASCE 7-16 SECTION 13.6 AND IBC 1705.13.2 | REQUIRED FOR VERIFICATION OF CERTIFICATE OF COMPLIANCE LABEL ON COMPONENT (IBC 1705.12.4) |
| INSTALLATION AND ANCHORAGE OF 1705.12.6) SPRINKLER SYSTEMS, FIRE PUMPS, EMERGENCY GENERATORS, COMPONENTS WITH HAZARDOUS, COMBUSTIBLE, OR HIGHLY TOXIC CONTENTS (Ip=1.5 PER ASCE 7-16 SECTION 13.1.3) | ASCE 7-16 SECTION 13.6 AND IBC 1705.13.2 | REQUIRED (IBC 1705.12.4 & |
| ALL OTHER MECHANICAL AND ELECTRICAL COMPONENTS | ASCE 7-16 SECTION 13.6 | NOT REQUIRED |

STRUCTURAL OBSERVATION IN ACCORDANCE WITH IBC SECTION 1704.6 WILL BE PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD DURING CONSTRUCTION AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION CONSISTS OF VISUAL OBSERVATION FOR GENERAL CONFORMANCE TO THE CONSTRUCTION DOCUMENTS AND DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED BY SECTIONS 110, 1704, OR OTHER SECTIONS OF THE IBC.

CONTRACTOR STATEMENT OF RESPONSIBILITY: CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY IN ACCORDANCE WITH IBC SECTION 1704.4 TO THE BUILDING OFFICIAL AND OWNER PRIOR TO CONSTRUCTION ACKNOWLEDGING THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.

## SHEET INDEX




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MICHAEL A. ARMSTRONG — STATE OF WASHINGTON — 37839 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER
04/21/22

**BID SET**

| No. | Description | Date: |
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Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**GENERAL STRUCTURAL NOTES**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S1.1**

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# General Structural Notes

(THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS.)

***GEOTECHNICAL:***

15. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH THE CIVIL/STRUCTURAL DRAWINGS AND SPECIFICATIONS OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER. FOOTINGS SHALL BEAR ON FIRM, COMPACTED NATIVE GRAVEL SOIL OR GRANULAR STRUCTURAL FILL AT LEAST 24" BELOW LOWEST ADJACENT FINISHED GRADE. THE OWNER APPOINTED GEOTECHNICAL ENGINEER SHALL APPROVE FOOTING EXCAVATION/PREPARATION PRIOR TO PLACEMENT OF ALL FOOTINGS. BACKFILL BEHIND ALL RETAINING WALLS WITH FREE DRAINING, GRANULAR FILL AND PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE CIVIL DRAWINGS AND SPECIFICATIONS.

    ALLOWABLE SOIL PRESSURE . . . . . 3000 PSF
    SOIL PROFILE TYPE . . . . . SITE CLASS D

    GEOTECHNICAL REPORT REFERENCE: GEOPROFESSIONAL INNOVATION CORPORATION, "GEOTECHNICAL ENGINEERING EVALUATION PROPOSED FIRE STATION 85", DATED JULY 9, 2021, FILE NO. PU21059A.

***ANCHORAGE:***

16. EXPANSION BOLTS INTO CONCRETE SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS: "KWIK BOLT TZ" AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 1917); OR "STRONG-BOLT 2" AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. (ICC-ES NO. 3037); OR "POWER-STUD+ SD2" AS MANUFACTURED BY DEWALT (ICC-ES NO. 2502). SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC-ES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. IN ADDITION, SUBSTITUTIONS SHALL MEET ICC-ES ACCEPTANCE CRITERIA AC193. SPECIAL INSPECTION IS REQUIRED FOR ALL EXPANSION BOLT INSTALLATION. EXPANSION BOLTS SHALL NOT BE USED AS SUBSTITUTES FOR EMBEDDED ANCHOR BOLTS UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. NOTIFY ENGINEER IF BOLT LOCATIONS CONFLICT WITH REINFORCING STEEL – DO NOT CUT REINFORCING OR REDUCE EMBEDMENT DEPTHS WITHOUT PRIOR APPROVAL.

    UNLESS OTHERWISE NOTED, PROVIDE THE FOLLOWING NOMINAL EMBEDMENT DEPTHS FOR EXPANSION BOLTS INTO CONCRETE:

    HILTI KWIK BOLT TZ:
    3/8"Ø EXPANSION BOLTS . . . . . 2 5/16"
    1/2"Ø EXPANSION BOLTS . . . . . 3 5/8"
    5/8"Ø EXPANSION BOLTS . . . . . 4 7/16"
    3/4"Ø EXPANSION BOLTS . . . . . 5 5/16"

    SIMPSON STRONG-BOLT 2:
    3/8"Ø EXPANSION BOLTS . . . . . 2 7/8"
    1/2"Ø EXPANSION BOLTS . . . . . 3 7/8"
    5/8"Ø EXPANSION BOLTS . . . . . 5 1/8"
    3/4"Ø EXPANSION BOLTS . . . . . 5 3/4"

    DEWALT/POWERS POWER-STUD+SD2:
    3/8"Ø EXPANSION BOLTS . . . . . 2 3/8"
    1/2"Ø EXPANSION BOLTS . . . . . 3 3/4"
    5/8"Ø EXPANSION BOLTS . . . . . 4 7/8"
    3/4"Ø EXPANSION BOLTS . . . . . 5 3/4"

17. DRIVE PINS AND OTHER POWDER-ACTUATED FASTENERS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS INCLUDING MINIMUM EMBED REQUIREMENTS: "TE SERIES" (0.157" DIAMETER) AS MANUFACTURED BY ITW RAMSET (ICC-ES NO. 1799); OR "X-P" (0.157" DIAMETER) AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 2269); OR "STRONG-TIE PDPA" (0.157" DIAMETER) AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. (ICC-ES NO. 2138); OR "CSI PIN" (0.157" DIAMETER) AS MANUFACTURED BY DEWALT (ICC-ES NO. 2024); OR AN APPROVED EQUIVALENT IN STRENGTH AND EMBEDMENT. MINIMUM EMBEDMENT IN CONCRETE SHALL BE 1" UNLESS OTHERWISE NOTED. MAINTAIN AT LEAST 3-1/2" TO NEAREST CONCRETE EDGE.

18. EPOXY-GROUTED RODS OR REBAR TO CONCRETE SPECIFIED ON THE DRAWINGS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS INCLUDING MINIMUM EMBED REQUIREMENTS: "SET-XP" AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, INC. (ICC-ES NO. 2508); OR "HIT-HY 200" AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 3187), "SAFE-SET" INSTALLATION WITH HOLLOW CARBIDE DRILL BIT IS PERMITTED; OR "PURE110+" AS MANUFACTURED BY DEWALT (ICC-ES NO. 3298), OR "AC200+" AS MANUFACTURED BY DEWALT (ICC-ES NO. 4027). SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC-ES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. IN ADDITION, SUBSTITUTIONS SHALL MEET ICC-ES ACCEPTANCE CRITERIA AC308. SPECIAL INSPECTION OF EPOXY-GROUTED ANCHOR INSTALLATION IS REQUIRED. NOTIFY ENGINEER IF ANCHOR LOCATIONS CONFLICT WITH REINFORCING STEEL – DO NOT CUT REINFORCING OR REDUCE EMBEDMENT DEPTHS WITHOUT PRIOR APPROVAL. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY CERTIFIED PERSONNEL IN CONFORMANCE TO ACI 318-14 SECTION 17.8.2.2. HOLES SHALL BE HAMMER DRILLED AND DRY.

    EPOXY GROUTED RODS OR REBAR SHALL NOT BE USED AS SUBSTITUTES FOR CAST-IN-PLACE ANCHOR BOLTS, THREADED RODS, OR REINFORCING STEEL UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. FIELD FIXES OR OTHER CONDITIONS NOT ADDRESSED IN THE DOCUMENTS MUST BE SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER, INCLUDING EMBEDMENT DEPTHS.

    UNLESS OTHERWISE NOTED, PROVIDE THE FOLLOWING EMBEDMENT DEPTHS FOR ANCHORS AT CONCRETE:

    3/8"Ø ROD OR #3 BAR . . . . . 4"
    1/2"Ø ROD OR #4 BAR . . . . . 5"
    5/8"Ø ROD OR #5 BAR . . . . . 7"
    3/4"Ø ROD OR #6 BAR . . . . . 9"
    7/8"Ø ROD OR #7 BAR . . . . . 12"
    1"Ø ROD OR #8 BAR . . . . . 15"

19. CONCRETE SCREW ANCHORS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS INCLUDING MINIMUM EMBED REQUIREMENTS: "TITEN HD" AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY (ICC-ES NO. 2713); OR "KWIK HUS-EZ" AS MANUFACTURED BY HILTI, INC. (ICC-ES NO. 3027); OR "SCREW-BOLT+" AS MANUFACTURED BY DEWALT (ICC-ES NO. 3889). SUBSTITUTES PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC-ES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. IN ADDITION, SUBSTITUTIONS SHALL MEET ICC-ES ACCEPTANCE CRITERIA AC193. SPECIAL INSPECTION IS REQUIRED FOR ALL CONCRETE SCREW ANCHOR INSTALLATION. CONCRETE SCREW ANCHORS SHALL NOT BE USED AS SUBSTITUTES FOR EMBEDDED ANCHOR BOLTS OR EXPANSION BOLTS UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. NOTIFY ENGINEER IF SCREW ANCHOR LOCATIONS CONFLICT WITH REINFORCING STEEL – DO NOT CUT REINFORCING OR REDUCE EMBEDMENT DEPTHS WITHOUT PRIOR APPROVAL.

***CONCRETE:***

20. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318-14 CHAPTER 26 AND ACI 301. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF 4,000 PSI AT INTERIOR SLABS AND 4,500 PSI AT ALL CONCRETE EXPOSED TO WEATHER. MAXIMUM WATER-CEMENTITIOUS MATERIAL RATIO FOR INTERIOR SLABS SHALL BE BETWEEN 0.40 AND 0.44.

    ALL CONCRETE SHALL BE EXPOSURE CLASSES F0, S0, W0, AND C0 PER ACI 318-14 TABLES 19.3.1.1 AND 19.3.2.1 EXCEPT AS NOTED BELOW.

    ALL CONCRETE EXPOSED TO EARTH (FOUNDATIONS, ETC.): (F0, S0, W0, C1)
    ALL CONCRETE EXPOSED TO WEATHER: (F1, S0, W0, C1)

    SEE SPECIFICATIONS FOR SHRINKAGE REDUCING CONCRETE MIX CRITERIA WHERE INDICATED ON DRAWINGS.

    CONCRETE MIXES SHALL MEET OR EXCEED THE REQUIREMENTS SPECIFIED ABOVE. MIXES SHALL BE SUBMITTED TO THE ENGINEER AND BUILDING OFFICIAL FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE AND SHALL INCLUDE THE AMOUNTS OF CEMENT, CEMENTITOUS MATERIAL, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES, AS WELL AS THE WATER-CEMENT RATIO, SLUMP, CONCRETE YIELD AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH ACI 318-14, CHAPTER 26 AND 27. REVIEW OF MIX SUBMITTALS BY THE ENGINEER OF RECORD INDICATES ONLY THAT INFORMATION PRESENTED CONFORMS GENERALLY WITH CONTRACT DOCUMENTS. CONTRACTOR OR SUPPLIER MAINTAINS FULL RESPONSIBILITY FOR SPECIFIED PERFORMANCE.

21. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, fy = 60,000 PSI. GRADE 60 REINFORCING BARS WHICH ARE TO BE WELDED SHALL CONFORM TO ASTM A706. REINFORCEMENT COMPLYING WITH ASTM A615(S1) MAY BE WELDED ONLY IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN A.W.S. D1.4 ARE SUBMITTED.

    WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064.

22.
    A. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 315-18 AND 318-14. LAP ALL CONTINUOUS REINFORCEMENT IN ACCORDANCE WITH "REINFORCEMENT SPLICE AND DEVELOPMENT LENGTH SCHEDULE" OF 7/S3.1. PROVIDE CORNER BARS AT ALL WALL INTERSECTIONS. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 12" AT SIDES AND ENDS.

    NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS OTHERWISE NOTED ON THE DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.

    B. FIBROUS REINFORCEMENT: POLYPROPYLENE FIBROUS REINFORCEMENT IN ACCORDANCE WITH THE SPECIFICATIONS SHALL BE USED WHERE NOTED ON THE DRAWINGS OR SPECIFICATIONS. ADD FIBERS TO THE CONCRETE MIX AND FINISH IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

23. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

    FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH . . . . . 3"
    FORMED SURFACES EXPOSED TO EARTH (i.e. WALLS BELOW GROUND) OR WEATHER (#6 BARS OR LARGER). . . 2"
    (#5 BARS OR SMALLER). . . 1 1/2"
    SLAB-ON-GRADE BOTTOM REINFORCING (WITH VAPOR BARRIER BELOW) . . . . . 1 1/2"
    COLUMN TIES OR SPIRALS AND BEAM STIRRUPS . . . . . 1 1/2"

24. CAST-IN-PLACE CONCRETE: SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND DIMENSIONS OF DOOR AND WINDOW OPENINGS IN ALL CONCRETE WALLS. SEE MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF MISCELLANEOUS MECHANICAL OPENINGS THROUGH CONCRETE WALLS. SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES.

25. BONDING AGENT SHALL BE "MASTEREMACO ADH 326" BY BASF CORPORATION. OR EQUIVALENT, AND SHALL BE USED WHERE NEW CONCRETE IS PLACED AGAINST HARDENED CONCRETE. PLACE IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, INCLUDING PREPARATION OF EXISTING SURFACES. CONCRETE SHALL BE CONSIDERED HARDENED AFTER 56 DAYS.

26.
    A. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (6,000 PSI MINIMUM).

    B. RIGID INSULATION BELOW SLABS SHALL BE CLOSED-CELL, LIGHTWEIGHT RIGID CELLULAR POLYSTYRENE GEOFOAM IN WITH COMPLIANCE WITH ASTM D68117 WITH A MAXIMUM DENSITY OF 2.5 POUNDS PER CUBIC FOOT AND A COMPRESSIVE STRENGTH AS INDICATED BELOW. CONTRACTOR SUBMIT DATA FOR ENGINEER'S REVIEW. INSTALL IN STRICT ACCORANCE WITH MANUFACTURER'S REQUIREMENTS WITH OFFSET JOINTS.

    COMPRESSIVE STRENGTH
    EPS29 WITH A COMPRESSIVE RESISTANCE OF 10.9 PSI AT 1% STRAIN

***MASONRY:***

27.
    A. CONCRETE MASONRY UNIT WALLS SHALL BE CONSTRUCTED OF MEDIUM OR NORMAL WEIGHT MASONRY UNITS, CONFORMING TO ASTM C90, LAID IN A RUNNING BOND WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 1,900 PSI. MORTAR SHALL BE TYPE "S" IN CONFORMANCE WITH ASTM C270 AND ARTICLE 2.6A OF TMS602-16. GROUT SHALL CONFORM TO ARTICLE 2.2 OF TMS602-16 AND ASTM C1019 REQUIREMENTS AND ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS, DESIGN F'm = 1,500 PSI AT 28 DAYS. STRENGTH SHALL BE VERIFIED BY PRISM TESTING OR SHALL BE VERIFIED BY THE UNIT STRENGTH METHOD IN ACCORDANCE WITH IBC SECTION 1705.4 AND ARTICLE 1.4B OF TMS602-16 PRIOR TO CONSTRUCTION. ADDITIONAL UNIT STRENGTH OR PRISM TESTING IN ACCORDANCE WITH ASTM C1314 SHALL BE COMPLETED FOR EACH 5,000 SQUARE FEET OF WALL DURING CONSTRUCTION.

    UNLESS OTHERWISE NOTED, PROVIDE THE FOLLOWING REINFORCEMENT:

    8" WALLS #5 @ 48"oc. VERT. (2)#5 @ 48"oc. HORIZ.

    IN ADDITION, PROVIDE (1)#5 VERT. FULL HEIGHT AT EACH SIDE OF OPENINGS, AT WALL CORNERS AND INTERSECTIONS, AT FREE ENDS OF WALLS, AND (2)#5 HORIZONTAL AT ELEVATED FLOOR AND ROOF LEVELS, AT TOPS OF WALLS, AND ABOVE AND BELOW ALL OPENINGS. ALL HORIZONTAL REINFORCEMENT SHALL BE PLACED IN BOND BEAMS. EXTEND HORIZONTAL REINFORCEMENT 2'-0" BEYOND OPENINGS. IF 2'-0" UNAVAILABLE EXTEND REINFORCEMENT AS FAR AS POSSIBLE AND HOOK. PROVIDE CORNER BARS TO LAP HORIZONTAL REINFORCEMENT AT CORNERS AND INTERSECTIONS. LAP SPLICES SHALL BE 25" FOR NO. 4 BARS, 40" FOR NO. 5 BARS, AND 72 BAR DIAMETERS FOR NO. 6 AND LARGER BARS.

    FILL ALL CELLS CONTAINING REINFORCEMENT OR EMBEDDED ITEMS AND ALL CELLS IN CONTACT WITH EARTH WITH GROUT. PROVIDE CLEANOUT HOLES AT BOTTOM OF ALL CELLS CONTAINING REINFORCEMENT FOR POURS GREATER THAN 5.33 FEET IN HEIGHT (MAXIMUM SPACING OF CLEANOUTS SHALL BE 32"oc FOR SOLIDLY GROUTED WALLS). MAXIMUM HEIGHT OF GROUT POURS SHALL BE IN ACCORDANCE WITH TMS602-16 TABLE 7. MAXIMUM HEIGHT OF GROUT LIFTS IS 5.33 FEET, EXCEPT AS PERMITTED PER ARTICLE 3.5D OF TMS602-16.

***STEEL:***

***B.*** STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON THE LATEST EDITIONS OF THE A.I.S.C. SPECIFICATIONS AND CODES:

1. SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS-ALLOWABLE STRESS AND PLASTIC DESIGN, OR LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.

2. CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, ADOPTED JUNE 15, 2016.

    IN REFERENCE TO SECTIONS 3.1.1 AND 4.4.1, THE CONTRACT DOCUMENTS (DESIGN DRAWINGS) SHOW COMPLETE CONNECTION DETAILS FOR ALL MEMBERS EXCEPT THOSE NOTED TO BE DESIGN-BUILD ITEMS. ALTERNATE CONNECTION DETAILS REQUESTED BY THE FABRICATOR SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL VIA A REQUEST FOR INFORMATION (RFI) PRIOR TO COMPLETION OF SHOP DRAWINGS.

    IN REFERENCE TO SECTION 3.1.6, FABRICATOR SHALL ALSO REVIEW PROJECT SPECIFICATIONS AND ARCHITECTURAL DRAWINGS TO DETERMINE PAINTING AND GALVANIZING REQUIREMENTS. MEMBERS EMBEDDED IN CONCRETE, MASONRY OR TO RECEIVE SPRAY-ON FIREPROOFING SHALL NOT BE PAINTED. DO NOT PAINT OR GALVANIZE AREAS OF PIECES TO BE FIELD WELDED, OR REMOVE PAINT AND GALVANIZING IN FIELD PRIOR TO WELDING.

    IN REFERENCE TO SECTION 3.3, IN THE EVENT OF DISCREPANCIES BETWEEN DESIGN DRAWINGS AND SPECIFICATIONS, THE DESIGN DRAWINGS GOVERN.

    IN REFERENCE TO SECTION 4.1, THE FABRICATOR SHALL NOT ASSUME BID PACKAGES CONSTITUTE RELEASING THE DRAWINGS FOR CONSTRUCTION WITHOUT EXPLICIT DIRECTION TO DO SO BY THE OWNER.

3. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

4. QUALITY CONTROL SHALL BE IN ACCORDANCE WITH AISC 360 CHAPTER N (AISC 341 CHAPTER J FOR STEEL SEISMIC SYSTEM).

    CONTRACTOR SHALL ALSO COMPLY WITH OSHA REGULATION 29 CFR PART 1926 SUBPART R - STEEL ERECTION, PUBLISHED JANUARY 18, 2001. MISCELLANEOUS PLATES FOR GUYING CABLE ATTACHMENTS, TEMPORARY JOIST BRACING, ETC. SHALL BE ADDED AS REQUIRED. CONTRACTOR SHALL EVALUATE COLUMNS AND PROVIDE ADEQUATE BASE PLATE SHIMS, ADDITIONAL TEMPORARY ERECTION BOLTS/CLIPS, GUYS, OR TEMPORARY BRACING AS REQUIRED PER SECTION 1926.755.

28. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS: ANGLES, CHANNELS, AND RODS SHALL CONFORM TO ASTM A36, Fy = 36 KSI. WIDE FLANGE AND WT STEEL SHAPES SHALL CONFORM TO ASTM A992, Fy = 50 KSI. STEEL PLATES SHALL CONFORM TO ASTM A572, Fy = 50 KSI. STEEL PIPE SHALL CONFORM TO ASTM A53, TYPE E OR S, GRADE B, Fy = 35 KSI. STRUCTURAL TUBING (HSS) SHALL CONFORM TO ASTM A500, GRADE C, Fy = 50 KSI. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 (36 KSI). STEEL-TO-STEEL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. THREADED RODS FOR EPOXY GROUTED CONNECTIONS SHALL CONFORM TO ASTM A36 OR ASTM F1554 (36 KSI).

29. DIMENSIONAL TOLERANCE FOR STRUCTURAL STEEL MEMBERS SHALL BE PER THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, SECTION 6.4 AND ASTM SPECIFICATION A6. UNLESS SPECIFICALLY ALLOWED BY THE ENGINEER, COLUMN MEMBERS SHALL NOT BE MODIFIED BY THE ROTARY STRAIGHTENING PROCESS.

30. ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SHALL CONFORM TO SECTION 10 OF THE A.I.S.C. CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, ADOPTED JUNE 15, 2016. ANY STEEL THAT IS TO BE EXPOSED TO VIEW UPON COMPLETION OF THE PROJECT SHALL BE CONSIDERED ARCHITECTURALLY EXPOSED. SEE SPECIFICATIONS FOR SPECIFIC FABRICATION AND ERECTION REQUIREMENTS FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL.

31. BOLTS IN CONNECTIONS NOT SPECIFIED AS SLIP-CRITICAL NEED ONLY BE TIGHTENED TO THE SNUG TIGHT CONDITION. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. IF A SLOTTED HOLE OCCURS IN AN OUTER PLY, A FLAT HARDENED WASHER OR COMMON PLATE WASHER SHALL BE INSTALLED OVER THE SLOT.

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**BID SET**

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Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**GENERAL STRUCTURAL NOTES**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S1.2**

# General Structural Notes

(THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS.)

32. HOLE SIZES IN STEEL MEMBERS FOR CONNECTIONS TO CONCRETE OR MASONRY SHALL BE AS FOLLOWS UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS:

| ANCHOR TYPE | MAXIMUM HOLE DIA. OVER NOMINAL BOLT DIA. OTHER THAN COL. BASE PLATES | COL. BASE PLATES |
|---|---|---|
| CAST-IN-PLACE ANCHOR BOLTS | 1/16" * | TABLE 14-2 OF AISC STEEL CONSTR. MANUAL, 15TH ED. |
| EXPANSION BOLTS | 1/16" * | 5/16" |
| EPOXY GROUTED BOLTS | 1/8" * | 5/16" |

* USE OF LARGER HOLES WOULD REQUIRE THE USE OF WELDED PLATE WASHERS AND WOULD REQUIRE PRIOR APPROVAL BY THE STRUCTURAL ENGINEER.

HARDENED OR COMMON PLATE WASHERS ARE REQUIRED BELOW ALL NUTS WHERE OVERSIZED HOLES ARE USED AND SHALL BE SIZED TO COVER ENTIRE HOLE. MINIMUM WASHER SIZES FOR COLUMN BASE PLATES SHALL BE IN ACCORDANCE WITH TABLE 14-2 OF THE AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION.

33. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.C. AND A.W.S. STANDARDS AND SHALL BE PERFORMED BY W.A.B.O. CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY A.W.S.) SHALL BE USED. DO NOT PAINT OR GALVANIZE AREAS OF PIECES TO BE FIELD WELDED, OR REMOVE PAINT AND GALVANIZING IN FIELD PRIOR TO WELDING. WELDING OF GRADE 60 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING WITHIN 4" OF COLD BENDS IN REINFORCING STEEL IS NOT PERMITTED. SEE REINFORCEMENT NOTE FOR MATERIAL REQUIREMENTS OF WELDED BARS.

THE WELD SYMBOLS SHOWN ON THE DRAWINGS ARE INTENDED ONLY TO AID THE CONTRACTOR IN THE DETERMINATION OF FIELD VERSUS SHOP WELDING. THE CONTRACTOR SHALL WORK WITH THE FABRICATOR AND ERECTOR TO COORDINATE THE FINAL DETERMINATION OF FIELD VERSUS SHOP WELDS TO ACCOMMODATE THE CONSTRUCTION SEQUENCING OF THE PROJECT.

ALL WELDS SHALL BE MADE WITH A FILLER WELD METAL THAT HAS A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT.-LBS. AT 0 DEGREES F. WELDS SPECIFICALLY DENOTED AS "DEMAND CRITICAL" SHALL BE MADE WITH FILLER WELD METAL THAT ADDITIONALLY HAS A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 40 FT-LBS AT 70 DEGREES F. SEE AISC 341-16 CHAPTER A3 (4B) AND AWS D1.8 SECTION 6.3 FOR ADDITIONAL REQUIREMENTS. PROPOSED FILLER MATERIAL FOR BOTH SHOP AND FIELD WELDS SHALL BE SUBMITTED FOR REVIEW PRIOR TO CONSTRUCTION.

34. METAL FLOOR AND ROOF DECKING: PROVIDE SIZE, TYPE, GAGE, AND ATTACHMENT TO THE SUPPORTING STRUCTURE AS SHOWN ON THE DRAWINGS. ALTERNATES MUST BE CONNECTED ACCORDING TO PUBLISHED ICC-ES CRITERIA FOR DIAPHRAGM SHEARS SHOWN. PROVIDE SHORING WHERE REQUIRED PER MANUFACTURER'S PUBLISHED CRITERIA. ALL DECKING SHALL CONFORM TO THE REQUIREMENTS OF THE STEEL DECK INSTITUTE. SUBMIT DECK INFORMATION TO ARCHITECT AND ENGINEER PRIOR TO BEGINNING SHOP DRAWINGS.

35. HEADED STUDS FOR COMPOSITE CONNECTION OF STRUCTURAL STEEL TO CONCRETE AND THREADED STUDS (CPL'S OR CFL'S) FOR CONNECTION OF STRUCTURAL STEEL TO OTHER ELEMENTS SHALL BE MANUFACTURED FROM MATERIAL CONFORMING TO ASTM A29 GR. 1010 THROUGH 1020 (TYPE 2, Fu = 60 KSI MIN.). HEADED STUDS SHALL BE WELDED IN CONFORMANCE WITH THE REQUIREMENTS OF A.W.S D1.1 CHAPTER 7. UNLESS OTHERWISE NOTED, STUDS SHALL BE WELDED BY THE AUTOMATIC MACHINE WELDING PROCESS IN CONFORMANCE WITH A.W.S. REQUIREMENTS.

STUD TYPES SHALL BE MANUFACTURED BY NELSON STUD WELDING, INC. OR EQUIVALENT. HEADED STUDS SHALL BE TYPE S3L SHEAR CONNECTORS, THREADED STUDS SHALL BE TYPE CPL PARTIALLY THREADED STUDS OR TYPE CFL FULLY THREADED STUDS.

36. DEFORMED BAR ANCHORS (D2L's) SHALL BE TYPE D2L ANCHORS BY NELSON STUD WELDING, INC., OR EQUIVALENT. ANCHORS SHALL BE MADE FROM COLD ROLLED, DEFORMED STEEL CONFORMING TO ASTM A-496. D2L ANCHORS MAY NOT BE SUBSTITUTED FOR WELDED A706 BARS WHERE THESE BARS ARE PART OF THE LATERAL FORCE RESISTING SYSTEM.

A706 GRADE 60 REINFORCING BARS OF AN EQUAL DIAMETER AND LENGTH OF THE SPECIFIED D2L's MAY BE USED PROVIDED THEY ARE WELDED TO THE SUPPORTING STEEL IN ACCORDANCE WITH THE TABLE BELOW:

| BAR SIZE | ALL-AROUND FILLET WELD SIZE |
|---|---|
| #4 | 5/16" |
| #5 | 3/8" |
| #6 | 7/16" |

***WOOD:***

37. FRAMING LUMBER SHALL BE KILN DRIED OR MC-19, AND GRADED AND MARKED IN CONFORMANCE WITH W.C.L.I.B. STANDARD GRADING RULES FOR WEST COAST LUMBER NO. 17 OR W.W.P.A. WESTERN LUMBER GRADING RULES. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

STUDS AND JOISTS: (2x AND 3x MEMBERS) — DOUGLAS FIR NO. 2
MINIMUM BASIC DESIGN STRESS, Fc = 1350 PSI, Fb = 900 PSI, Fv = 180 PSI, E = 1600 KSI

(4x MEMBERS) — DOUGLAS FIR NO. 1
MINIMUM BASIC DESIGN STRESS, Fc = 1500 PSI, Fb = 1000 PSI, Fv = 180 PSI, E = 1700 KSI

BEAMS AND STRINGERS: (INCLUDING 6x AND LARGER MEMBERS) — DOUGLAS FIR NO. 1
MINIMUM BASIC DESIGN STRESS, Fb = 1350 PSI, Fv = 170 PSI, E = 1600 KSI

POSTS: (4x MEMBERS) — DOUGLAS FIR NO. 1
MINIMUM BASIC DESIGN STRESS, Fc = 1500 PSI, E = 1700 KSI

(6x & LARGER MEMBERS) — DOUGLAS FIR NO. 1
MINIMUM BASIC DESIGN STRESS, Fc = 1000 PSI, E = 1600 KSI

PLATES, LEDGERS & MISCELLANEOUS LIGHT FRAMING: — DOUGLAS FIR NO. 3 OR STUD GRADE
MINIMUM BASIC DESIGN STRESS, Fb = 525 PSI, E = 1400 KSI, Fc = 775 PSI, Ft = 325 PSI

NOTE: FINGER JOINTED STUDS MAY BE SUBSTITUTED ONLY IF THEY MEET PRESCRIBED BENDING STRESS & TENSION STRESS CRITERIA.

38. GLUED LAMINATED MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ASTM AND ANSI/AITC A190.1 STANDARDS IN ACCORDANE WITH IBC SECTION 2303.1.3. EACH MEMBER SHALL BEAR THE APA EWS IDENTIFICATION MARK. HORIZONTAL MEMBERS AND INCLINED MEMBERS OF LESS THAN 1:1 SLOPE SHALL HAVE A RADIUSED CAMBER OF 3,500 FT. UNLESS OTHERWISE NOTED.

SIMPLE SPAN BEAMS: DOUGLAS FIR COMBINATION 24F-V4
Fb = 2400 PSI, Fv = 265 PSI, E = 1800 KSI

CONTINUOUS OR CANTILEVERED BEAMS: DOUGLAS FIR COMBINATION 24F-V8
Fb = 2400 PSI, Fv = 265 PSI, E = 1800 KSI

COLUMNS: DOUGLAS FIR COMBINATION 1-DF-L3
(2 LAMINATIONS) Fc = 1200 PSI, Fbyy = 1000 PSI, Fbxx = 1250 PSI, E = 1500 KSI
(3 LAMINATIONS) Fc = 1200 PSI, Fbyy = 1250 PSI, Fbxx = 1250 PSI, E = 1500 KSI
(4 OR MORE LAMINATIONS) Fc = 1550 PSI, Fbyy = 1450 PSI, Fbxx = 1500 PSI, E = 1500 KSI

GLUED LAMINATED MEMBERS EXPOSED TO WEATHER OR MOISTURE SHALL BE TREATED WITH A NON-CORROSIVE, APPROVED PRESERVATIVE.

39. ENGINEERED LUMBER: EACH PIECE SHALL BEAR A STAMP OR STAMPS NOTING THE NAME AND PLANT NUMBER OF THE MANUFACTURER, THE GRADE, THE NER OR ICC-ES REPORT NUMBER, AND THE QUALITY CONTROL AGENCY. ALL MEMBERS SHALL BE MANUFACTURED WITH AN APPROVED ADHESIVE.

BEAMS: ENGINEERED TYPE A (LSL)
Fb = 2250 PSI, E = 1500 KSI, Fv = 220 PSI

ENGINEERED TYPE B (PSL)
Fb = 2900 PSI, E = 2000 KSI, Fv = 285 PSI

RIM BOARD: 1 1/4" OR 1 1/2" LAMINATED STRAND LUMBER
Fb = 1700 PSI, E = 1300 KSI, Fv = 400 PSI

STUDS: LAMINATED STRAND LUMBER (LSL)
Fb = 2250 PSI, E = 1500 KSI, Fv = 285 PSI, Fc = 1950 PSI (WIDTH $\geq$ 7 1/4")
Fb = 1700 PSI, E = 1300 KSI, Fv = 285 PSI, Fc = 1400 PSI (WIDTH < 7 1/4")

POSTS: PARALLEL STRAND LUMBER (PSL)
Fb = 2400 PSI, E = 1800 KSI, Fv = 285 PSI, Fc = 2500 PSI

DESIGN SHOWN ON THE DRAWINGS SHALL MEET OR EXCEED THE MINIMUM PROPERTIES INDICATED ABOVE. A CURRENT NER OR ICC-ES REPORT MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. ENGINEERED LUMBER MANUFACTURE SHALL BE ONE OF THE FOLLOWING:

WEYERHAEUSER (ICC-ES REPORT NO. ESR-1387)
REDBUILT LLC (ICC-ES REPORT NO. ESR-2993)
BOISE CASCADE (ICC-ES REPORT NO. ESR-1040)
ROSEBURG (ICC-ES REPORT NO. ESR-1210)

ALTERNATE ENGINEERED LUMBER MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. A CURRENT NER OR ICC-ES REPORT AND A LIST STATING THE ITEM-FOR-ITEM SUBSTITUTION MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR ANY PROPOSED SUBSTITUTES.

40. NOT USED.

41. ENGINEERED WOOD I-JOISTS SHALL BE FURNISHED AND INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ALL NECESSARY BRIDGING, BLOCKING, BLOCKING PANELS, STIFFENERS, ETC., SHALL BE DETAILED AND FURNISHED BY THE MANUFACTURER. PERMANENT AND TEMPORARY BRIDGING SHALL BE INSTALLED IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS. ALL JOIST HANGERS AND OTHER HARDWARE SHALL BE COMPATIBLE IN SIZE WITH ENGINEERED WOOD I-JOISTS PROVIDED.

JOIST TYPES:

11 7/8" I-110 JOIST
M = 3160 (ft-lbs), EI = 267 x 106 (in.2-lbs), V = 1420 (lbs)

11 7/8" I-210 JOIST
M = 3755 (ft-lbs), EI = 315 x 106 (in.2-lbs), V = 1480 (lbs)

16" I-360 JOIST
M = 8405 (ft-lbs), EI = 830 x 106 (in.2-lbs), V = 2190 (lbs)

I-JOISTS SHALL MEET OR EXCEED MINIMUM PROPERTIES INDICATED ABOVE AND FROM APA TECHNICAL PUBLICATION ON I-JOISTS Z725. A CURRENT NER OR ICC-ES REPORT MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. JOIST CHORD MEMBERS SHALL BE AT LEAST 1 3/4" WIDE AND CONSIST OF MATERIAL WITH A SPECIFIC DENSITY OF AT LEAST 0.50. JOIST MANUFACTURE SHALL BE ONE OF THE FOLLOWING:

WEYERHAEUSER (ICC-ES REPORT NO. ESR-1153)

REDBUILT LLC (ICC-ES REPORT NO. ESR-2994)

BOISE CASCADE (ICC-ES REPORT NO. ESR-1336)

ROSEBURG (ICC-ES REPORT NO. ESR-1251)

LOUSIANA-PACIFIC (ICC-ES REPORT NO. ESR-1305)

ALTERNATE ENGINEERED WOOD I-JOISTS MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. A CURRENT NER OR ICC-ES REPORT AND A LIST STATING THE ITEM-FOR-ITEM SUBSTITUTION MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR ANY PROPOSED SUBSTITUTES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENGINEERING COSTS RELATING TO REVIEW AND/OR RE-DESIGN TO ACCOMMODATE PROPOSED SUBSTITUTIONS.

THE JOIST MANUFACTURER SHALL COORDINATE LOCATIONS AND SUPPORT CONFIGURATIONS OF PLUMBING, MECHANICAL UNITS, DUCTS, AND/OR OTHER MISCELLANEOUS ITEMS WITH THE CONTRACTOR PRIOR TO JOIST FABRICATION. THE JOIST MANUFACTURER SHALL DESIGN JOISTS TO SUPPORT ALL LOADS ASSOCIATED WITH SUCH ITEMS. THE JOIST SHOP DRAWINGS SHALL INCLUDE ALL DESIGN LOADS AND APPROVED HANGER CONNECTION DETAILS TO JOISTS FOR SUPPORT OF HUNG MECHANICAL SYSTEM COMPONENTS.

SUBMIT SHOP DRAWINGS TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

ALL I-JOIST HANGERS SHALL BE 'ITS' SERIES, UNLESS OTHERWISE NOTED.

42. ROOF, FLOOR & WALL SHEATHING SHALL BE APA RATED, EXTERIOR OR EXPOSURE 1 PLYWOOD IN CONFORMANCE WITH IBC SECTION 2303.1.5. REFER TO 20/S6.6 FOR REQUIRED SHEATHING TYPE AT SHEAR WALL SHEATHING. SHEATHING SHALL BE MANUFACTURED UNDER THE PROVISIONS OF VOLUNTARY PRODUCT STANDARDS DOC PS 1-09, PS 2-10, OR APA PRP-108 PERFORMANCE STANDARDS AND POLICIES FOR STRUCTURAL USE PANELS. SEE DRAWINGS FOR THICKNESS, SPAN RATING, AND NAILING REQUIREMENTS. UNLESS OTHERWISE NOTED, WALL SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING OF 24/0. GLUE FLOOR SHEATHING TO ALL SUPPORTING MEMBERS WITH ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.

43. ALL PRESSURE-TREATED (P.T.) WOOD MEMBERS SPECIFIED ON THE DRAWINGS THAT OCCUR ABOVE GROUND AND CONTINUOUSLY PROTECTED FROM MOISTURE (INTERIOR LOCATIONS) SHALL BE PRESSURE-TREATED WITH DOT SODIUM BORATE (SBX) WITHOUT $NaSiO_2$. AT LOCATIONS PERMANENTLY EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, WOOD MEMBERS SHALL BE PRESSURE-TREATED WITH COPPER AZOLE CA-B (HEM-FIR ONLY), OR ALKALINE COPPER QUAT (ACQ-C FOR DOUGLAS-FIR, OR ACQ-D FOR HEM-FIR) PRESERVATIVES UNLESS OTHERWISE NOTED. AMMONIACAL COPPER ZINC ARSENATE (ACZA) PRESERVATIVE, OR OTHER PRESERVATIVES WITH AMMONIA CARRIERS, SHALL NOT BE USED.

SEE GENERAL STRUCTURAL NOTES 44 AND 46 FOR MATERIAL REQUIREMENTS OF CONNECTORS AND FASTENERS IN CONTACT WITH PRESSURE-TREATED MEMBERS.

INSTALL 2 LAYERS OF ASPHALT-IMPREGNATED BUILDING PAPER BETWEEN UNTREATED LEDGERS, BLOCKING, ETC., AND CONCRETE OR MASONRY.


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Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**GENERAL STRUCTURAL NOTES**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S1.3**

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# General Structural Notes

(THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS.)

44. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR WOOD CONSTRUCTION CONNECTORS CATALOG NO. C-C-2019. ALTERNATE CONNECTORS CONFORMING WITH IBC SECTION 1711 MAY BE USED SUBJECT TO REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER. A CURRENT ICC-ES REPORT AND A LIST STATING THE ITEM-FOR-ITEM SUBSTITUTION MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR ANY PROPOSED SUBSTITUTES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENGINEERING COSTS RELATING TO REVIEW AND/OR RE-DESIGN TO ACCOMMODATE PROPOSED SUBSTITUTIONS. INSTALL NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, CENTER STRAP ON JOINT AND INSTALL NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER, WITH EQUAL NUMBER AND SIZE OF FASTENERS IN EACH MEMBER. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. INSTALL WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.

    ALL TIMBER CONNECTORS IN CONTACT WITH FIRE RETARDANT TREATED WOOD OR PRESSURE-TREATED WOOD THAT USES PRESERVATIVE CHEMICALS OTHER THAN DOT SODIUM BORATE (SBX) WITHOUT $NaSiO_2$ SHALL BE MANUFACTURED FROM ZMAX STEEL BY SIMPSON (G185 STEEL PER ASTM A653), OR TYPE 304 OR 316 STAINLESS STEEL. ALTERNATIVELY, CONNECTORS CAN BE POST HOT DIP GALVANIZED PER ASTM A123 OR MECHANICALLY GALVANIZED PER ASTM B695, CLASS 55 OR GREATER. STAINLESS STEEL FASTENERS SHALL BE USED WITH STAINLESS STEEL CONNECTORS, AND HOT DIP GALVANIZED FASTENERS PER ASTM A153 SHALL BE USED WITH GALVANIZED CONNECTORS.

45. WOOD FRAMING NOTES: THE FOLLOWING APPLY UNLESS OTHERWISE NOTED ON THE DRAWINGS:

    A. ALL WOOD FRAMING DETAILS SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE IBC. MINIMUM NAILING SHALL CONFORM TO IBC TABLE 2304.10.1 OR CURRENT ICC-ES REPORT NER-272. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS. INSTALL WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. INSTALLATION OF LAG SCREWS SHALL CONFORM TO 2018 NDS SECTION 12.1.4, AND INSTALLATION OF BOLTS SHALL CONFORM TO 2018 NDS SECTION 12.1.3.

    B. WALL FRAMING: TWO STUDS MINIMUM SHALL BE INSTALLED AT THE ENDS OF ALL WALLS, UNLESS OTHERWISE NOTED. INSTALL SOLID BLOCKING FOR WOOD COLUMNS THROUGH FLOOR SPACES TO SUPPORTS BELOW.

    ALL STUD WALLS SHALL HAVE THEIR LOWER WOOD PLATES ATTACHED TO WOOD FRAMING BELOW WITH 16d NAILS AT 12"oc STAGGERED OR BOLTED TO CONCRETE WITH 5/8" DIAMETER ANCHOR BOLTS @ 4'-0"oc PER IBC SECTION 2308.6 (EMBED 7"), UNLESS OTHERWISE NOTED. 3" x 3" x 0.229" PLATE WASHERS SHALL BE USED WITH ALL SILL PLATE ANCHOR BOLTS AND INSTALLED PER AF&PA SDPWS-2015 SECTION 4.3.6.4.3. INDIVIDUAL MEMBERS OF BUILT-UP STUD POSTS SHALL BE NAILED TO EACH OTHER WITH 16d @ 12"oc STAGGERED.

    C. FLOOR AND ROOF FRAMING: INSTALL DOUBLE JOISTS SEPARATED BY SOLID BLOCKING EQUAL TO DEPTH OF STUDS ABOVE UNDER ALL PARALLEL PARTITIONS THAT EXTEND OVER MORE THAN HALF THE JOIST LENGTH AND AROUND ALL OPENINGS IN FLOORS OR ROOFS. INSTALL SOLID BLOCKING AT ALL BEARING POINTS. TOENAIL JOISTS TO SUPPORTS WITH TWO 16d NAILS. ATTACH TIMBER JOISTS TO FLUSH HEADERS OR BEAMS WITH SIMPSON METAL JOIST HANGERS IN ACCORDANCE WITH NOTES ABOVE. NAIL ALL MULTI-JOIST BEAMS TOGETHER WITH 16d @ 12"oc STAGGERED.

    ROOF AND FLOOR SHEATHING SHALL BE LAID UP WITH GRAIN PERPENDICULAR TO SUPPORTS AND NAILED AS SHOWN ON THE DRAWINGS. INSTALL APPROVED PANEL EDGE CLIPS CENTERED BETWEEN JOISTS/TRUSSES AT UNBLOCKED ROOF SHEATHING EDGES. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE-AND-GROOVE JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. ALLOW 1/8" SPACING AT ALL PANEL EDGES AND ENDS OF FLOOR AND ROOF SHEATHING. TOENAIL BLOCKING TO SUPPORTS WITH 16d @ 12"oc. AT BLOCKED FLOOR AND ROOF DIAPHRAGMS, INSTALL FLAT 2x BLOCKING AT ALL UNFRAMED PANEL EDGES AND NAIL WITH EDGE NAILING SPECIFIED.

    D. WOOD SHRINKAGE: THE PLUMBING, FIRE PROTECTION, DRAINAGE, MECHANICAL, ELECTRICAL, CLADDING, AND OTHER SYSTEMS INSTALLED WITHIN THE BUILDING SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE VERTICAL SHRINKAGE AT THE WOOD FRAMING LEVELS. THE WOOD SHRINKAGE AMOUNT SHALL BE ASSUMED TO EQUAL 3/8" FOR EACH WOOD FRAMED FLOOR LEVEL.

    E. NAILING: MINIMUM NAIL DIAMETER AND LENGTH SHALL BE AS FOLLOWS:

| | NAIL SIZE ON DRAWINGS | DIAMETER AND LENGTH |
|---|---|---|
| SHEATHING NAILS | 8d | 0.131" x 2 1/4" |
| | 10d | 0.148" x 2 1/2" |
| FRAMING NAILS | 10d | 0.148" x 3" |
| | 16d | 0.148" x 3 1/4" |

46. ALL TIMBER FASTENERS IN CONTACT WITH FIRE RETARDANT TREATED WOOD OR PRESSURE-TREATED WOOD THAT USES CHEMICALS OTHER THAN DOT SODIUM BORATE (SBX) WITHOUT $NaSiO_2$, SHALL BE POST HOT DIP GALVANIZED PER ASTM A153.

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Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

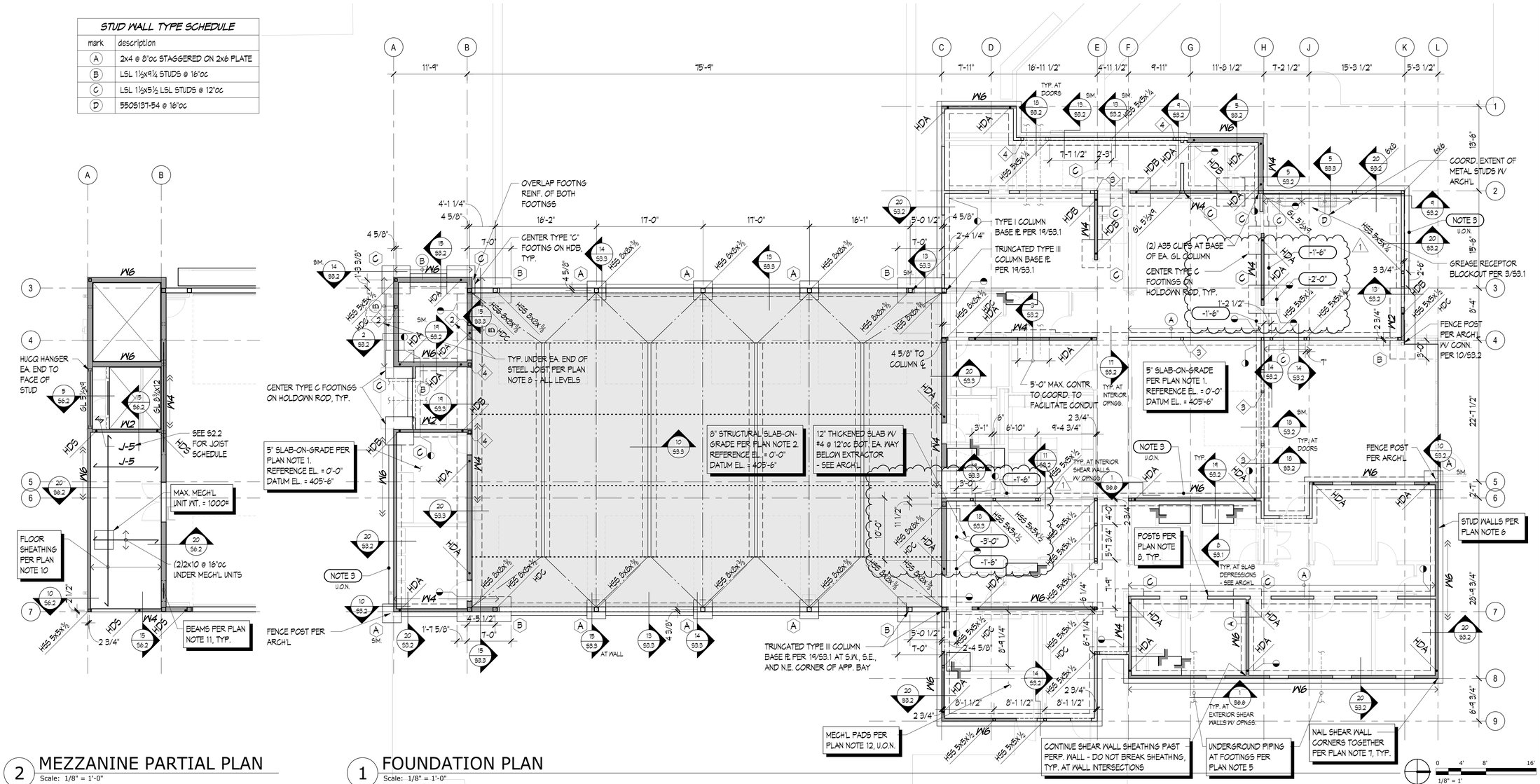
**GENERAL STRUCTURAL NOTES**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S1.4**

| STUD WALL TYPE SCHEDULE | |
|---|---|
| mark | description |
| A | 2x4 @ 8'oc STAGGERED ON 2x6 PLATE |
| B | LSL 1½x9¼ STUDS @ 16'oc |
| C | LSL 1½x5½ LSL STUDS @ 12'oc |
| D | 5505137-54 @ 16'oc |




## 2 MEZZANINE PARTIAL PLAN

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

## 1 FOUNDATION PLAN

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

### PLAN NOTES:

1. TYPICAL SLAB-ON-GRADE SHALL BE 5" THICK WITH #4 @ 16"oc EA. WAY AT CENTER, U.O.N. INSTALL VAPOR BARRIER BELOW SLAB AT INTERIOR SPACES OVER FREE-DRAINING GRANULAR FILL PER SPECIFICATIONS. ADD 2 LBS/CY OF MASTER BUILDERS MASTERFIBER MAC 360 SYNTHETIC HYBRID FIBER OR EQUIVALENT. ADD SHRINKAGE REDUCING ADMIXTURE PER SPECIFICATIONS.

   SEE ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSION AND SLOPE REQUIREMENTS (SEE 8/S3.1 AT SLAB DEPRESSIONS).

2. APPARATUS BAY SLAB-ON-GRADE (SHOWN SHADED) SHALL BE 8" THICK WITH #5 @ 14"oc EA. WAY, TOP - SEE 5/S3.1. INSTALL VAPOR BARRIER BELOW SLAB AT INTERIOR SPACES OVER 4" FREE-DRAINING GRANULAR FILL PER SPECIFICATIONS AND 5/S3.1. ADD 2 LBS/CY OF MASTER BUILDERS MASTERFIBER MAC 360 SYNTHETIC HYBRID FIBER OR EQUIVALENT. ADD SHRINKAGE REDUCING ADMIXTURE PER SPECIFICATIONS.

   SEE ARCH'L DRAWINGS FOR SLAB ELEVATIONS AND SLOPE REQUIREMENTS. PROVIDE CONSTRUCTION AND CONTRACTION JOINTS AS SHOWN ON PLAN PER 5/S3.1 .

3. TOPS OF ALL EXTERIOR FOOTINGS SHALL BE AT ELEVATION -2'-0", U.O.N. TOPS OF ALL INTERIOR FOOTINGS SHALL BE AT ELEVATION -1'-6", U.O.N. OVER EXCAVATE AND PLACE SUITABLE COMPACTED FILL AS DIRECTED BY OWNER APPROVED GEOTECHNICAL ENGINEER WHERE REQUIRED. SEE GENERAL STRUCTURAL NOTE 15. CONTRACTOR SHALL COORDINATE WITH FINAL SITE GRADES AND MAINTAIN MINIMUM DEPTH OF FOOTINGS SHOWN ON THE DRAWINGS.

4. PROVIDE CONSTRUCTION/CONTROL JOINTS IN 5" THICK SLABS-ON-GRADE TO DIVIDE SLAB INTO RECTANGULAR AREAS 140 SQUARE FEET OR LESS. AREAS SHALL BE APPROXIMATELY SQUARE AND HAVE NO ACUTE OR RE-ENTRANT ANGLES. JOINT LOCATIONS MUST BE APPROVED BY THE ARCHITECT. SEE 10/S3.1 .

5. SEE ARCHITECTURAL/MECHANICAL/CIVIL DRAWINGS FOR UNDERSLAB PIPING. FOOTINGS SHALL BE LOWERED OR THICKENED PER 15/S3.1 TO AVOID CONFLICTS. STRUCTURAL DRAWINGS MAY NOT SHOW ALL LOCATIONS OF PIPING.

6. STUD WALLS SHALL BE 2x STUDS @ 16"oc, U.O.N. SEE ARCHITECTURAL FOR WALL TYPES. SEE 5/S6.1, 3/S6.1 AND 2/S6.1 FOR ALLOWABLE HOLE SIZES IN STUDS AND TOP PLATES AND ALLOWABLE NOTCHES IN STUDS.

7. WHERE SHEAR WALLS INTERSECT, NAIL ADJACENT WALL STUDS TOGETHER PER 5/S6.6 .

8. POSTS OR JAMB STUDS SUPPORTING BEAMS AND STEEL JOISTS ABOVE SHALL BE (2) STUDS, U.O.N.

9. AT PLYWOOD SHEATHED WALLS, CONTRACTOR SHALL EXTEND SHEATHING TO ACHIEVE FULL COVERAGE OF ENTIRE WALL TO AVOID CONFLICTS BETWEEN VARYING PLYWOOD AND GNB THICKNESSES.

10. FLOOR SHEATHING SHALL BE ¾" T&G PLYWOOD (PANEL SPAN RATING 48/24). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES AND BLOCKING W/ 10d @ 6"oc. NAIL SHEATHING TO ALL STRUTS, STRUT BLOCKING, AND INTERIOR SHEAR WALLS BELOW W/ (2) ROWS OF 10d @ 4½"oc (STAGGERED ROWS). NAIL SHEATHING AT ALL EXTERIOR SHEAR WALLS BELOW W/ 10d @ 12"oc. NAIL SHEATHING AT ALL INTERMEDIATE SUPPORTS W/ 10d @ 12"oc. GLUE SHEATHING AT ALL SUPPORTS W/ ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.

11. BEAMS SHALL CONSIST OF THE FOLLOWING, U.O.N.:

    INTERIOR BEAMS OVER DOORS SHALL BE (2)2x10 AND DROPPED BELOW STUD WALL TOP PLATE PER 10/S6.1 , U.O.N.

12. MECHANICAL PADS PER 11/S3.1 . COORDINATE LOCATIONS, EXTENTS AND QUANTITIES WITH MECH'L AND ARCH'L DRAWINGS.

### LEGEND:

- X'-X" — TOP OF SLAB ELEVATION
- X — FOOTING MARK PER 20/S3.1
- POST THIS LEVEL (SEE PLAN NOTE 8)
- BELOW GRADE UTILITY (SEE PLAN NOTE 5)
- STRUCTURAL WALL THIS LEVEL (SEE PLAN NOTE 6)
- X — NUMBER OF STUDS IN MULTI-STUD POST THIS LEVEL - NAIL TOGETHER PER GENERAL STRUCTURAL NOTES
- CONSTRUCTION JOINT PER 5/S3.1
- CONTROL JOINT - SEE 5/S3.1
- high / low — STEP IN FOOTING PER 12/S3.1
- X'-X" — TOP OF FOOTING ELEVATION
- APPARATUS BAY SLAB-ON-GRADE PER PLAN NOTE 2
- STEP IN TOP OF SLAB

### SEISMIC FORCE RESISTING SYSTEM LEGEND:

(SEE GENERAL STRUCTURAL NOTE 14)

- Wx — SHEAR WALL THIS LEVEL PER SCHEDULE OF 20/S6.6 (SEE PLAN NOTE 7 & 9)
- HDx — HOLDOWN TYPE 'X' THIS LEVEL PER SCHEDULE OF 17/S6.6
- HSS — HSS PER PLAN
- HDX — HSS HOLDOWN TYPE 'X' PER SCHEDULE OF 17/S6.6 WHERE OCCURS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**BID SET**

| No. | Description | Date: |
|---|---|---|
| 1 | ADDENDUM 1 | 09/21/22 |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**FOUNDATION PLAN**

Scale: 1/8" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S2.1**

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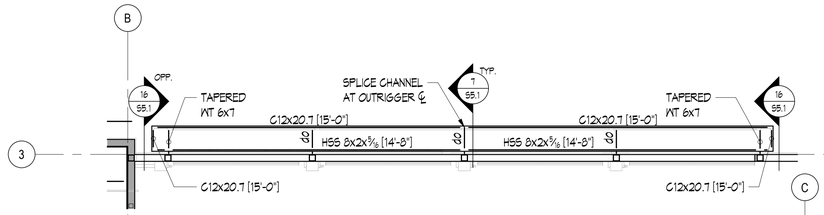
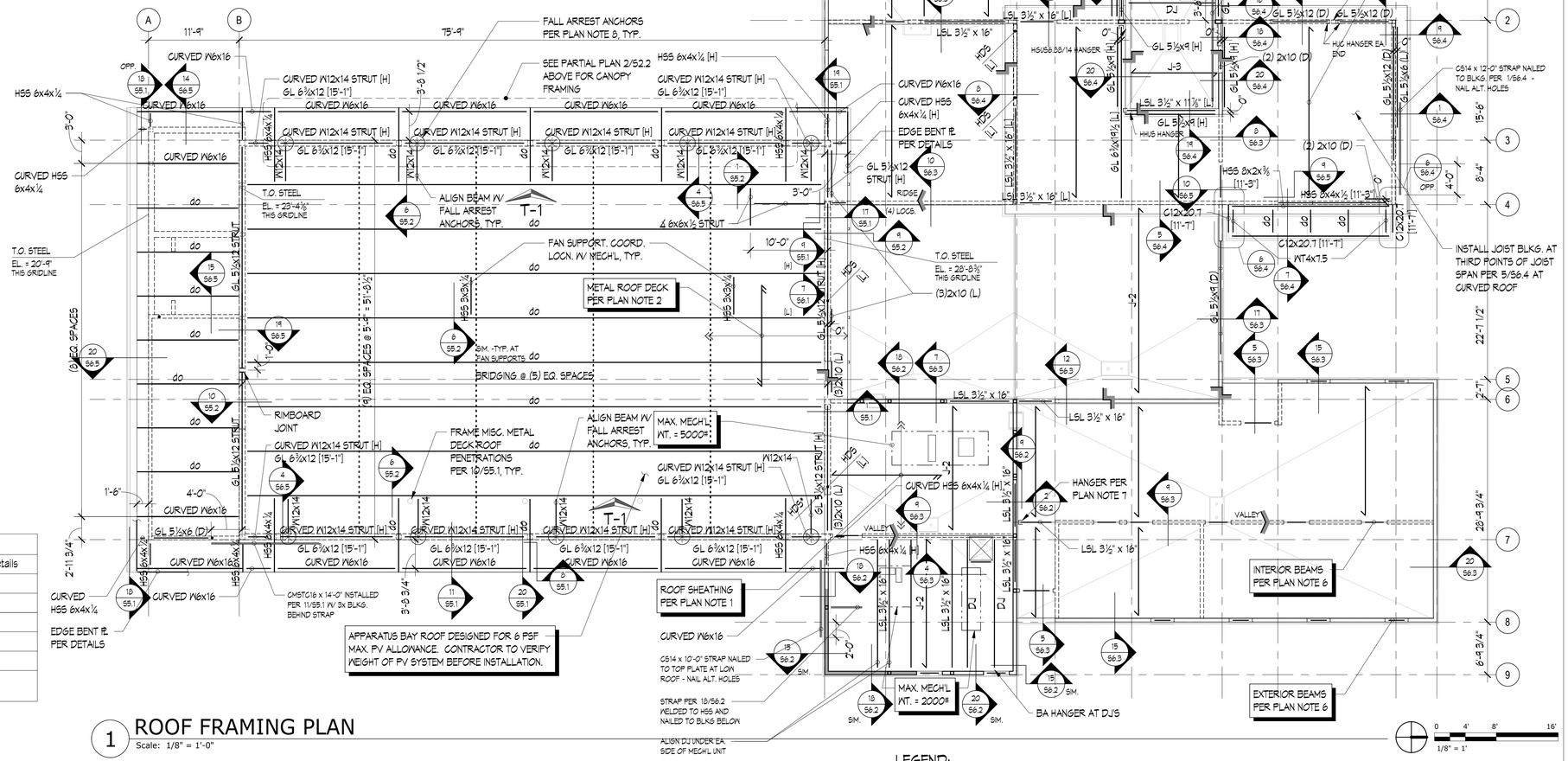



## 2 APPARATUS BAY CANOPY FRAMING PLAN

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




## 1 ROOF FRAMING PLAN

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

### WOOD JOIST SCHEDULE

| mark | description | hanger type, U.O.N. in details |
|---|---|---|
| J-1 | 16" I-360 @ 24"oc | MIT* |
| J-2 | 16" I-360 @ 16"oc | MIT* |
| J-3 | 11⅞" I-110 @ 24"oc | ITS |
| J-4 | 11⅞" I-210 @ 16"oc | ITS |
| J-5 | 2x10 @ 16"oc | LUS |

* INSTALL WEB STIFFENERS AND ADDITIONAL HANGER NAILING PER DETAIL 15/S6.3.

### PLAN NOTES:

1. ROOF SHEATHING SHALL CONSIST OF ⅝" PLYWOOD (PANEL SPAN RATING 32/16). NAIL SHEATHING AT ALL FRAMED PANEL EDGES, DIAPHRAGM BOUNDARIES AND BLOCKING W/ 10d @ 6"oc. NAIL SHEATHING TO ALL STRUTS, STRUT BLOCKING, AND INTERIOR SHEAR WALLS BELOW W/ (2) ROWS OF 10d @ 4½"oc (STAGGERED ROWS). NAIL SHEATHING AT ALL EXTERIOR SHEAR WALLS BELOW W/ 10d @ 4½"oc. NAIL SHEATHING AT ALL INTERMEDIATE SUPPORTS W/ 10d @ 12"oc, U.O.N. INSTALL PANEL EDGE CLIPS PER GENERAL STRUCTURAL NOTES AT ALL UNFRAMED, UNBLOCKED PANEL EDGES.
2. ROOF DECKING AT APPARATUS BAY SHALL BE 1½" DEEP PER 5/S5.1.
3. ROOF JOISTS SHALL BE TYPE J-1 PER SCHEDULE THIS SHEET, U.O.N..
4. NOT USED.
5. STRUCTURAL DRAWINGS DO NOT SHOW LOCATIONS OF ALL HUNG MECH'L UNITS, PIPING, OR OTHER EQUIPMENT. REFER TO MECH'L DRAWINGS FOR LOCATIONS OF EQUIPMENT & HUNG MECH'L SYSTEMS. GENERAL CONTRACTOR SHALL COORDINATE THE SUPPORT SYSTEM AND DESIGN LOADS FOR HUNG PIPING (INCLUDING COMBINED MULTIPLE PIPE RUNS) AND OTHER MECHANICAL SYSTEMS WITH THE MECHANICAL CONTRACTOR.
6. BEAMS SHALL CONSIST OF THE FOLLOWING, U.O.N.:

   INTERIOR BEAMS OVER DOORS SHALL BE (2)2x10 AND DROPPED BELOW STUD WALL TOP PLATE PER 10/S6.1, U.O.N.

   EXTERIOR BEAMS AT ROOF SHALL CONSIST OF RIM BOARD PER DETAIL 15/S6.3 AND 20/S6.3 CONTINUOUS OVER WALL OPENINGS, U.O.N.
7. INSTALL HU (MAX.) HANGERS AT ALL FLUSH WOOD BEAM-TO-WOOD BEAM CONNECTIONS AND ALL FLUSH SKEWED FRAMING CONNECTIONS, U.O.N. INSTALL HUC HANGERS AT ALL FLUSH WOOD BEAM-TO-CONTINUOUS POST CONNECTIONS, U.O.N. HU & HUC HANGERS SHALL BE SIZED TO MATCH NOMINAL DEPTH OF SUPPORTED MEMBERS, U.O.N.
8. FALL ARREST ANCHORS ARE DESIGN-BUILD COMPONENTS & SHALL BE ISSUED AS A DEFERRED SUBMITTAL TO THE ARCHITECT & ENGINEER FOR REVIEW & APPROVAL (SEE SPECIFICATIONS). CONTRACTOR SHALL PROVIDE ALL LOCATIONS OF ANCHORS TO STEEL FABRICATOR PRIOR TO FABRICATION OF THOSE ITEMS.

### LEGEND:

- [X'-X"] — TOP OF BEAM ELEVATION
- SPAN DIRECTION OF WOOD FRAMING MEMBERS
- STRUCTURAL WALL BELOW THIS LEVEL
- [H], [M], [L] — RELATIVE PLACEMENT OF FRAMING MEMBERS OR DETAIL CUT. [H] = HIGH, [L] = LOW
- T.O. STEEL / EL. = X'-X" — TOP OF STEEL EQUALS BOTTOM OF METAL DECK
- DJ — DOUBLE JOIST
- T-1 — TRUSS PER 20/S5.2
- DIAGONAL BRIDGING PER 7/S5.2
- DESIGN-BUILD FALL ARREST ANCHOR PER SPECIFICATIONS - SEE ARCH'L FOR LOCATIONS
- STEP IN ROOF FRAMING
- (D) — DROPPED BEAM

### SEISMIC FORCE RESISTING SYSTEM LEGEND:

(SEE GENERAL STRUCTURAL NOTE 14)

- STRUT — DRAG STRUT OR CHORD COMPONENT OF THE SEISMIC FORCE RESISTING SYSTEM
- STRAP PER PLAN
- HDS [L] — HOLDOWN STRAP PER 17/S6.6 AT LOW ROOF

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09/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
| | | |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**ROOF FRAMING PLAN**

Scale: 1/8" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S2.2**

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## I MINIMUM STRAIGHT DEVELOPMENT LENGTH ($\ell_d$)

| BAR SIZE | f'c = 4,000 PSI | | f'c = 5,000 PSI | |
|---|---|---|---|---|
| | TOP BARS | OTHER BARS | TOP BARS | OTHER BARS |
| # 3 | 19" | 15" | 17" | 13" |
| # 4 | 25" | 19" | 23" | 17" |
| # 5 | 31" | 24" | 28" | 22" |
| # 6 | 37" | 29" | 34" | 26" |
| # 7 | 54" | 42" | 49" | 38" |
| # 8 | 62" | 48" | 56" | 43" |
| # 9 | 70" | 54" | 63" | 48" |
| # 10 | 79" | 61" | 71" | 54" |
| # 11 | 87" | 67" | 78" | 60" |

## II MINIMUM LAP SPLICE LENGTHS ($\ell_s$) ✦ (CLASS B)

| BAR SIZE | f'c = 4,000 PSI | | f'c = 5,000 PSI | |
|---|---|---|---|---|
| | TOP BARS | OTHER BARS | TOP BARS | OTHER BARS |
| # 3 | 24" | 19" | 22" | 17" |
| # 4 | 33" | 25" | 29" | 23" |
| # 5 | 41" | 31" | 36" | 28" |
| # 6 | 49" | 37" | 44" | 34" |
| # 7 | 71" | 54" | 63" | 49" |
| # 8 | 81" | 62" | 72" | 56" |
| # 9 | 91" | 70" | 81" | 63" |
| # 10 | 102" | 79" | 92" | 71" |
| # 11 | 114" | 87" | 102" | 78" |

✦ "TOP BARS" ARE HORIZONTAL BARS WITH MORE THAN 12" DEPTH OF CONCRETE CAST BELOW THEM, INCLUDING WALL HORIZONTAL REINFORCING.

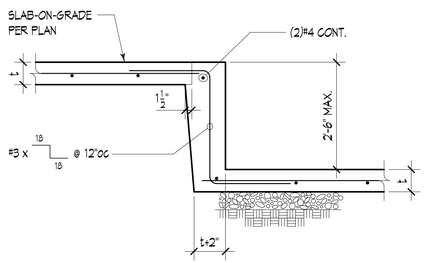
IF CLEAR CONCRETE COVER IS LESS THAN 1x THE DIAMETER OF THE BAR OR THE CENTER-TO-CENTER SPACING IS LESS THAN (3) BAR DIAMETERS, THEN VALUES SHALL BE INCREASED BY 50%.

## III MINIMUM EMBEDMENT LENGTHS ($\ell_{dh}$) FOR STANDARD END HOOKS

| BAR SIZE | f'c = 4,000 PSI | f'c = 5,000 PSI |
|---|---|---|
| # 3 | 6" | 6" |
| # 4 | 7" | 6" |
| # 5 | 9" | 8" |
| # 6 | 10" | 9" |
| # 7 | 12" | 11" |
| # 8 | 14" | 12" |
| # 9 | 15" | 14" |
| # 10 | 17" | 16" |
| # 11 | 19" | 17" |

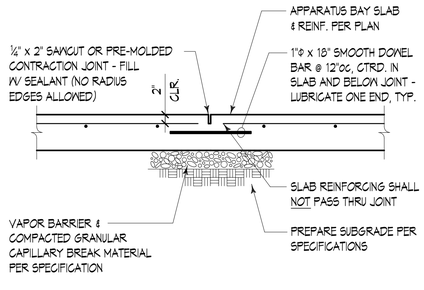
1. SIDE COVER MUST BE EQUAL TO OR GREATER THAN 2½".
2. END COVER FOR 90° HOOKS MUST BE EQUAL TO OR GREATER THAN 2".

3309
Reinforcing Splice & Development Schedule **7**

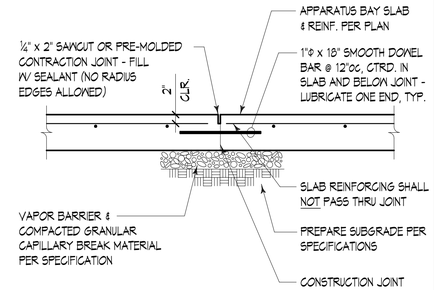



STEPS OVER 8" BUT NOT EXCEEDING 2'-6"

3815
**3**

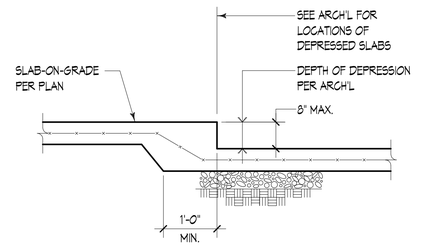



CONTRACTION JOINT

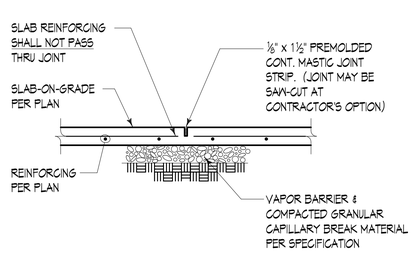



CONSTRUCTION & CONTRACTION JOINT

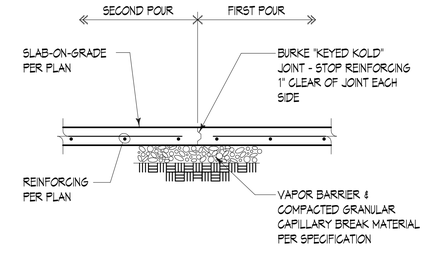
3202
Slab Joint **5**




3005
Slab Step **8**

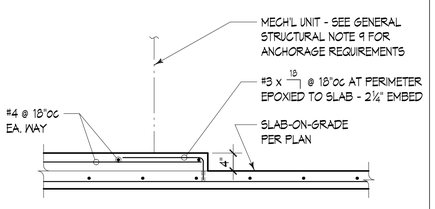



CONTROL JOINT

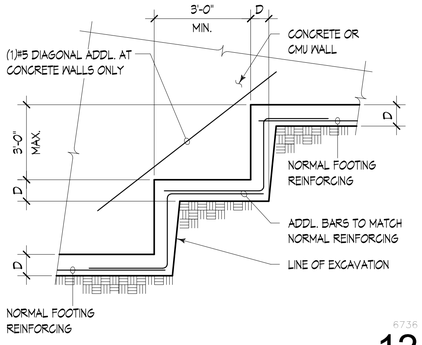



CONSTRUCTION JOINT

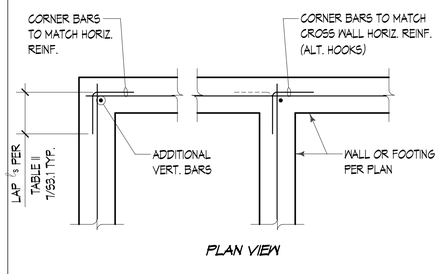
3001
Slab Joint **10**




6737
Housekeeping Pads **11**

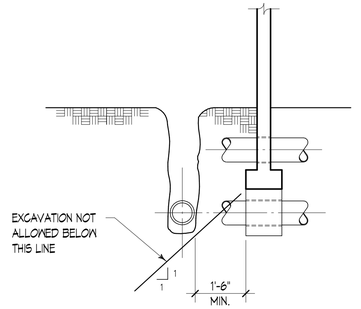


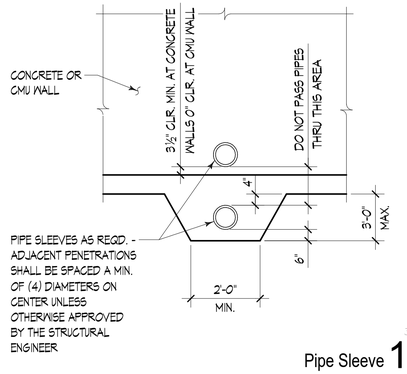

6736
**12**




PLAN VIEW

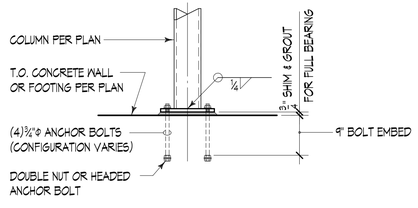
3006
Corner Reinforcing - Single Curtain **13**

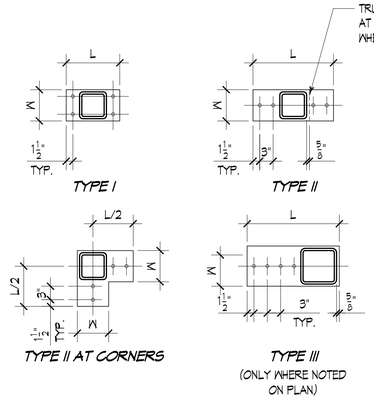



3010
Pipe Sleeve **15**

**16**




| COLUMN SIZE | TYPE I | | TYPE II | | TYPE III | | THICKNESS |
|---|---|---|---|---|---|---|---|
| | L | W | L | W | L | W | |
| HSS 5x5 | 12" | 7" | 17" | 5½" | - | - | ½" |
| HSS 8x8 | 14" | 9" | 20" | 9" | 21" | 9" | 1" |

NOTES:

1. INSTALL OFFSET BASE PL AT WALL ENDS AND CORNER BASE PL AT WALL CORNERS WHERE REQUIRED.
2. WHERE OFFSET TYPE II BASE PL IS REQUIRED, TRUNCATE (1) SIDE AND INSTALL (2) BOLT CONNECTION AT OPPOSITE SIDE AS SHOWN.

3314
**19**

| MARK | SIZE | REINFORCING |
|---|---|---|
| A | 3'-0" x 3'-0" x 12" | (4)#4 E.W. BOT. (ADDL. (2)#4 E.W. TOP AT SIM.) |
| B | 4'-0" x PER PLAN x 16" | (2)#5 LONG. TOP #5 @ 24"oc, TRANS. TOP (5)#5 LONG. BOT. #5 @ 12"oc, TRANS. BOT. |
| C | 4'-6" x 4'-6" x 24" | (6)#6 E.W. TOP & BOT. |

3804
**20**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09/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
| | | |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**CONCRETE DETAILS**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S3.1**

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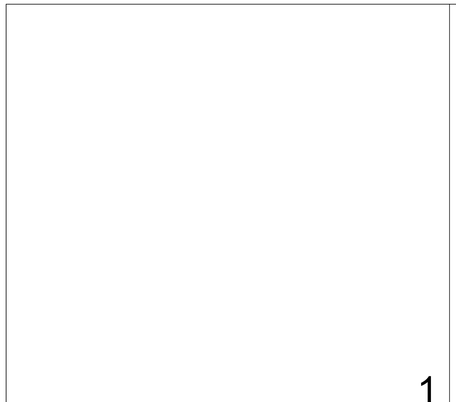

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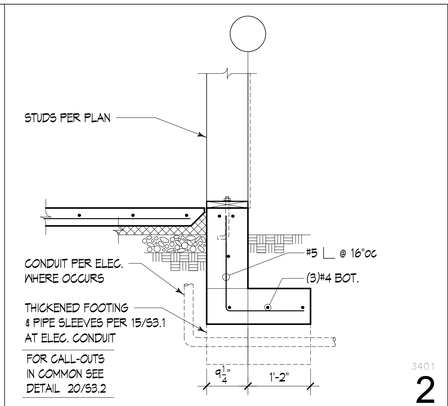


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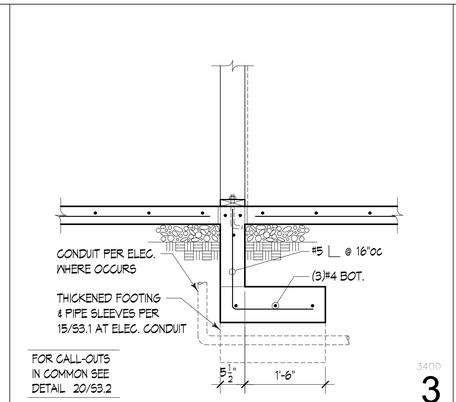


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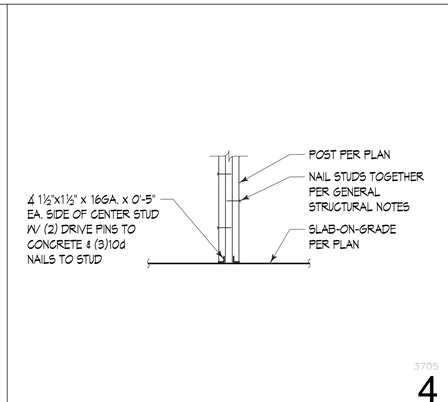


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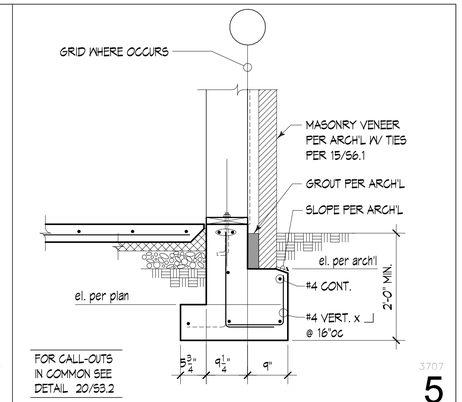


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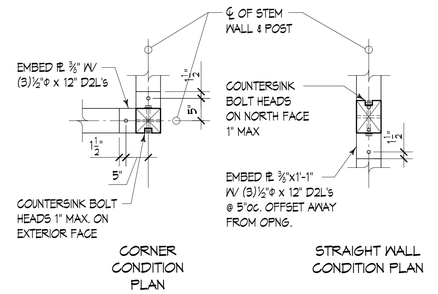


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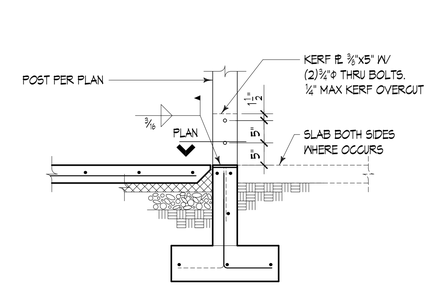


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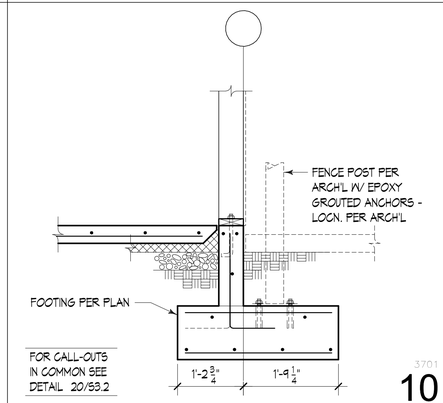


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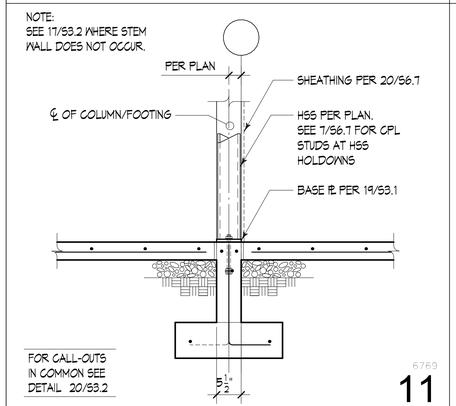


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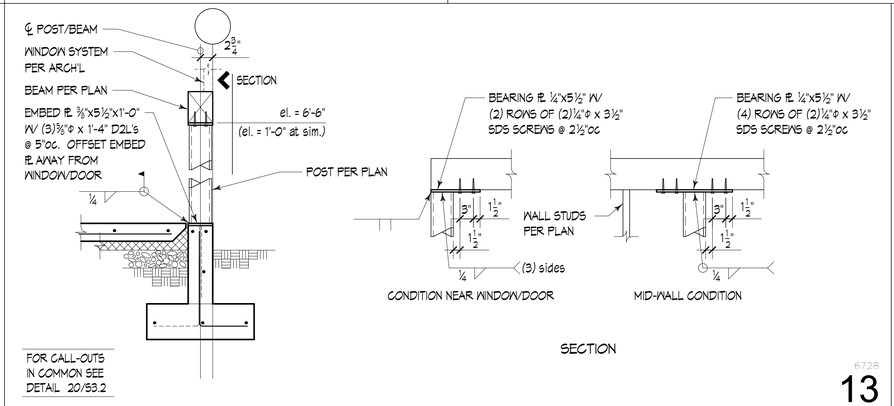


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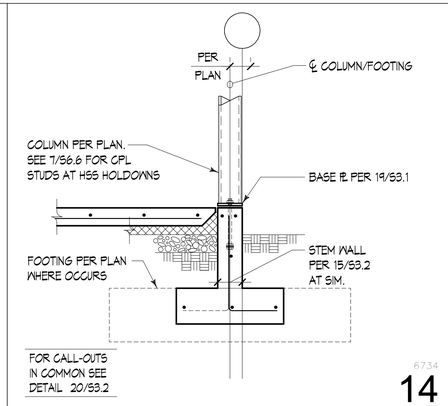


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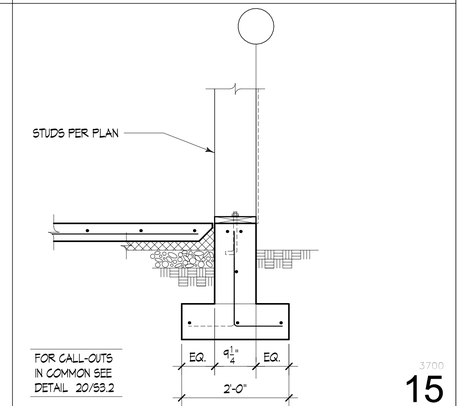


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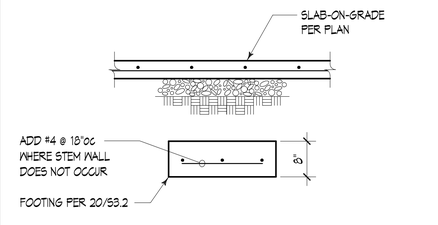


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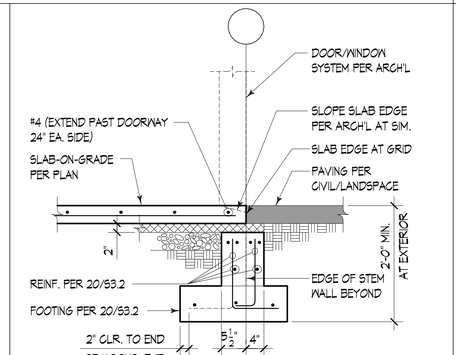


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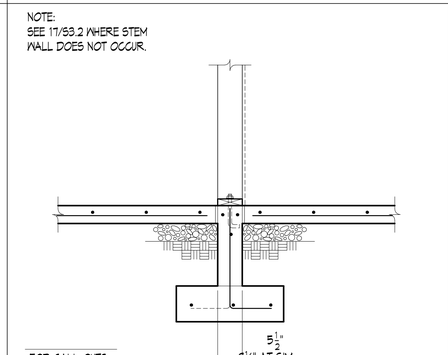


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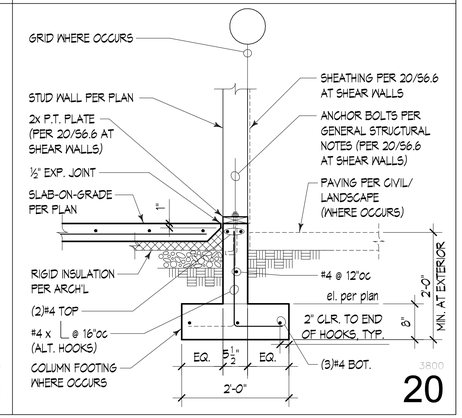


3800

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09/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
| | | |
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Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**CONCRETE FOUNDATION DETAILS**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S3.2**

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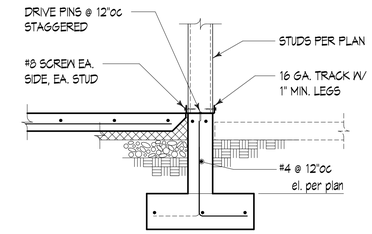


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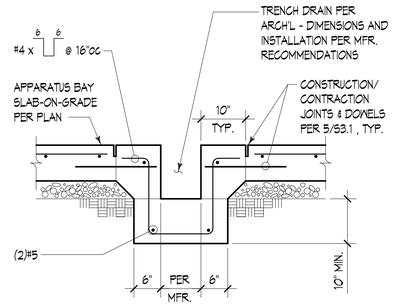
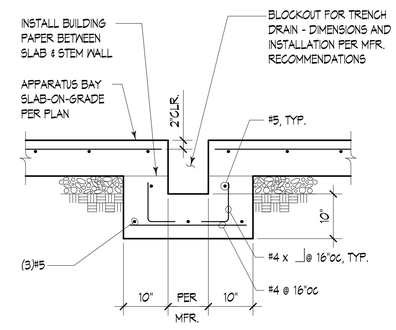



ALTERNATE TRENCH DETAIL

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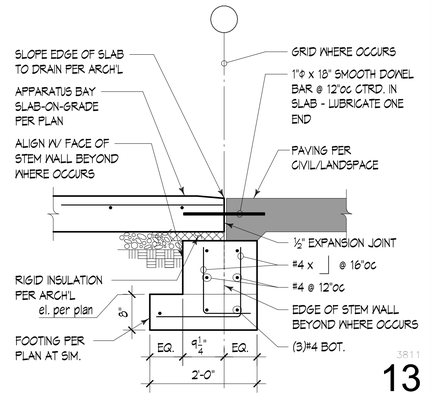


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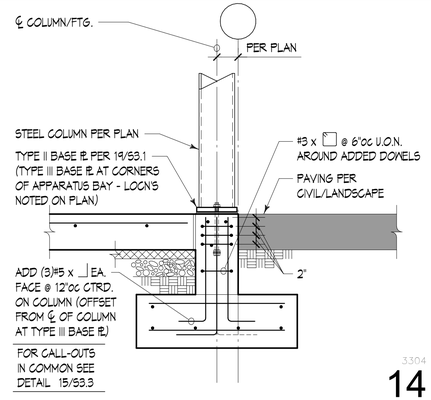


FOR CALL-OUTS
IN COMMON SEE
DETAIL 15/S3.3

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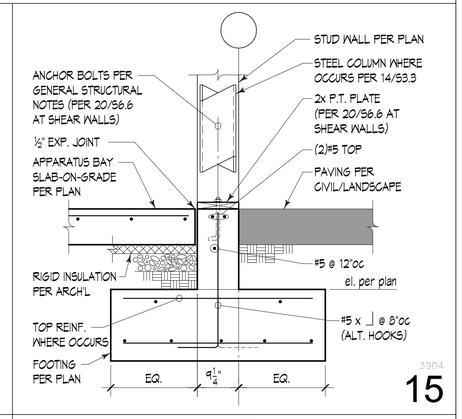


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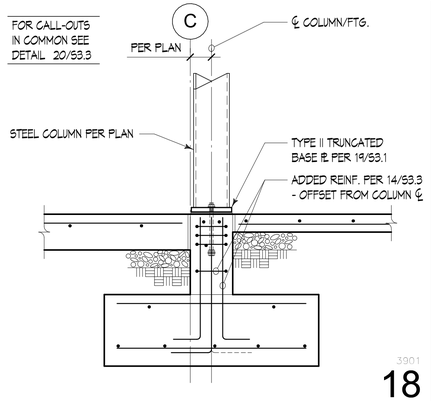


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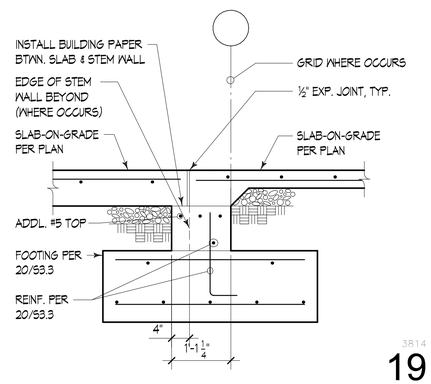


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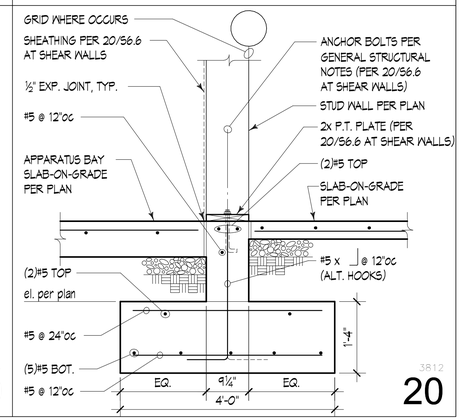


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**BID SET**

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Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

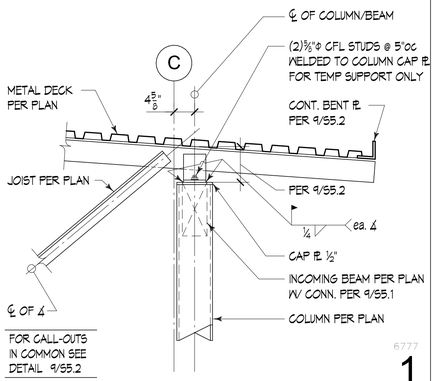
Sheet Title:

**CONCRETE FOUNDATION DETAILS**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S3.3**




FOR CALL-OUTS IN COMMON SEE DETAIL 9/S5.2

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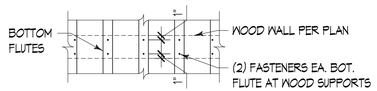
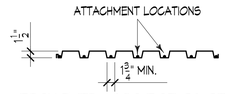



PLAN VIEW AT WOOD SUPPORTS




**DECK TYPE = ASC DGB-36 OR VERCO PLB-36, G60 GALVANIZED W/ FOLLOWING MIN. PROPERTIES:** ①

Fy = 50ksi, PANEL WIDTH = 36"

ALLOWABLE SHEAR CAPACITY REQUIRED = 749 plf

20GA.

$I_e$ = +0.191"/-0.231 in.$^4$

$S_e$ = +0.228/-0.236 in.$^3$

| MAXIMUM ALLOWABLE SPANS ② | |
|---|---|
| SPAN CONDITION | 20GA. |
| SINGLE SPAN | 6'-0" |
| DOUBLE OR TRIPLE SPAN | 7'-6" |

| DECK ATTACHMENT AT SUPPORTS ③ | | | |
|---|---|---|---|
| FASTENER TYPE | FASTENER PATTERN PERP. TO DECK FLUTES | FASTENER SPACING PARALLEL TO DECK FLUTES | SIDE SEAM CONN. SPACING ④ |
| ½"ø (EFFECTIVE) PUDDLE WELDS | 36/1/4 ((2) ROWS 36/1 AT STRUTS) ⑤ | 12"oc (6"oc AT STRUTS) ⑤ | 24"oc |
| PONDER ACTUATED FASTENERS (PAF) ⑥ | 36/1/4 ((2) ROWS 36/1 AT STRUTS) ⑤ | 8"oc (4"oc AT STRUTS) ⑤ | 24"oc |
| #14 x 2" SELF TAPPING WOOD SCREW ⑦ | (2) SCREWS AT EA. BOT. FLUTE | 5"oc | 24"oc |

DECK NOTES:

① DECK MUST STRICTLY MEET CRITERIA LISTED, INCLUDING ICC-ES RESEARCH REPORT ALLOWABLE SHEAR LOADS. SUBMIT DECK INFORMATION TO ENGINEER PRIOR TO BEGINNING SHOP DRAWINGS.

② USE GAGE OF DECK PER SPAN TABLE, U.O.N PER PLAN.

③ USE DECK ATTACHMENTS AT SUPPORTS PER THE TABLE U.O.N. CONTRACTOR MAY ELECT TO USE EITHER PUDDLE WELDS OR PONDER ACTUATED FASTENERS, CONTRACTOR TO UTILIZE ONLY ONE DECK ATTACHMENT TYPE PER CONTINUOUS DECKING AREA. SCREWS TO BE USED AT WOOD SUPPORTS AND SHEAR WALLS.

④ CONNECT DECK SEAMS WITH THE PUNCHLOK SYSTEM FOR VERCO DECK OR THE DELTAGRIP SYSTEM FOR ASC DECK, U.O.N PER PLAN.

⑤ STRUT ATTACHMENT PATTERNS SHALL APPLY AT ALL BEAMS NOTED AS "STRUT" ON PLAN, BRACED FRAME BEAMS, MOMENT FRAME BEAMS, AND CONCRETE AND MASONRY WALLS (WHERE DECK OCCURS BOTH SIDES OF SUPPORT, EXCLUDING OVERHANGS AND CHANGES IN DECK ORIENTATION).

⑥ PONDER ACTUATED FASTENERS SHALL BE PER HILTI (ICC-ESR 2197) OR PNEUTEK (ICC-ESR 2941).

⑦ AT WOOD SUPPORTS USE SELF-TAPPING WOOD SCREWS AT EACH BOTTOM FLUTE PER THE TABLE. SEE PLAN VIEW AT WOOD SUPPORTS TO THE LEFT FOR SCREW SPACING REQUIREMENTS.

⑧ REINFORCE DECK OPENINGS PER 10/S5.1 , U.O.N. DECK OPENINGS MAY NOT BE SHOWN ON PLAN - SEE ARCH'L & MECH'L FOR ADDITIONAL INFO.

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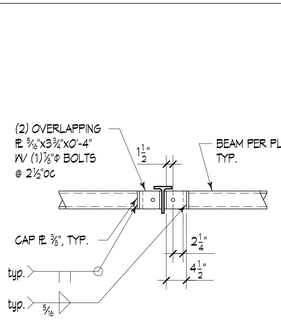
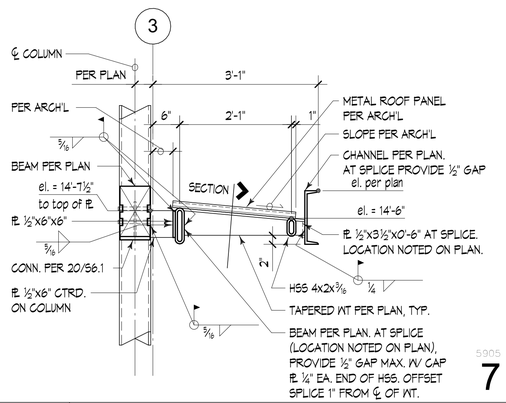



SECTION

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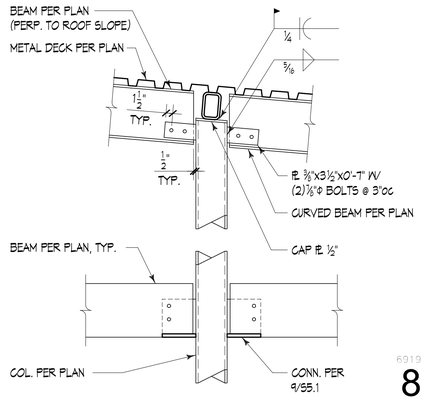


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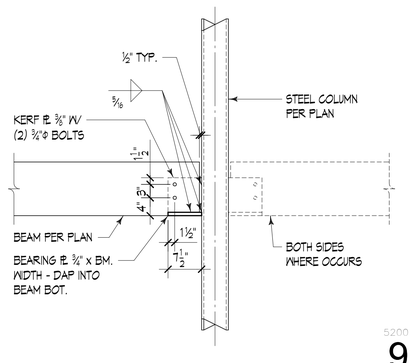


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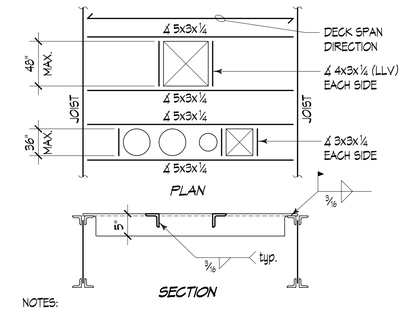


SECTION

NOTES:
1. WELD DECK TO ANGLES W/ ½"ø PUDDLE WELDS @ 6"oc ALL AROUND OPENING.
2. NO REINFORCING REQUIRED FOR SINGLE OPENINGS 6"ø or 6" SQ. or LESS.
3. LARGER OPENINGS MUST BE COORDINATED W/ ARCHITECT & ENGINEER.

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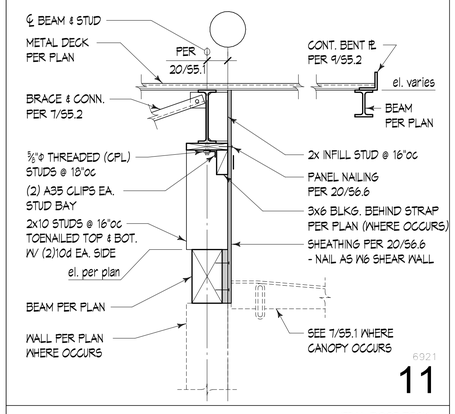


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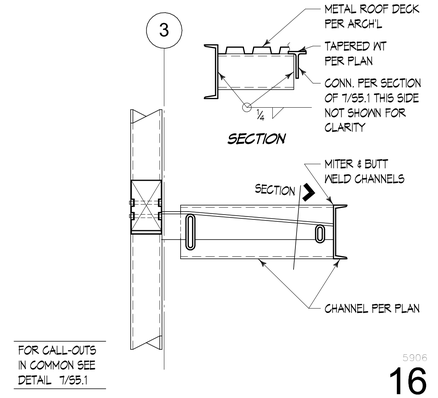


FOR CALL-OUTS IN COMMON SEE DETAIL 7/S5.1

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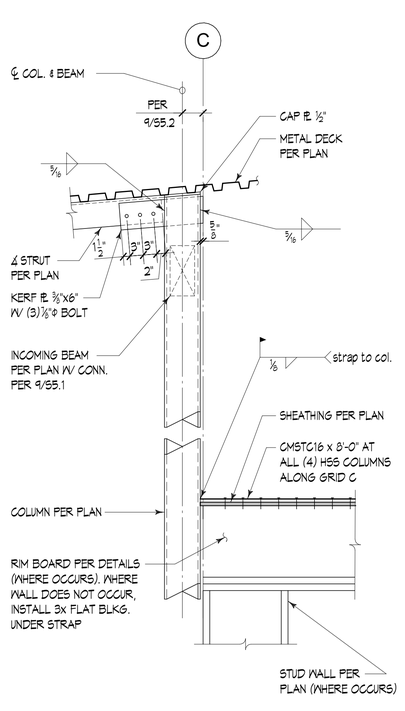


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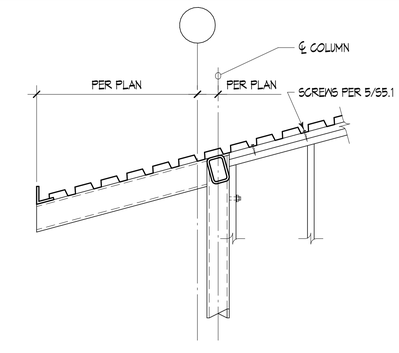


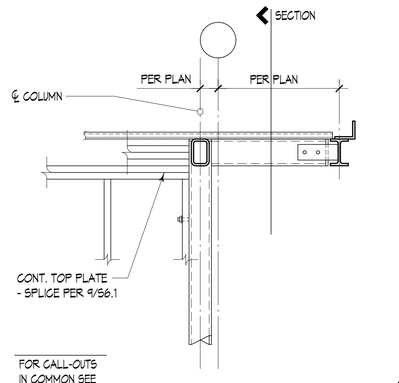


FOR CALL-OUTS IN COMMON SEE DETAIL 19/S5.1

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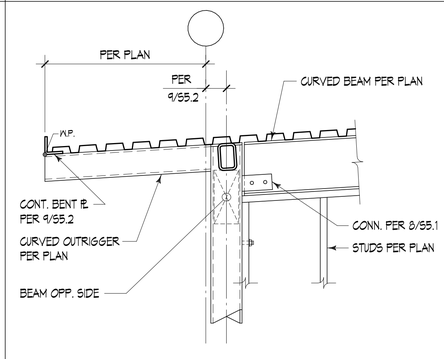


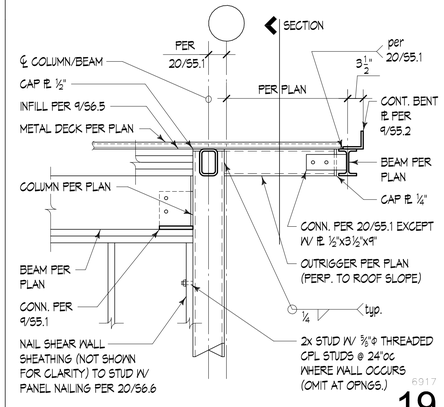


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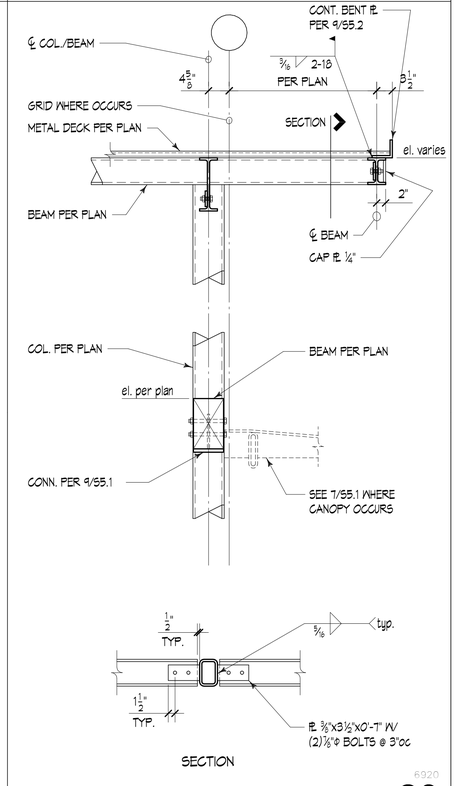


SECTION

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MICHAEL A ARMSTRONG — STATE OF WASHINGTON — 37839 — REGISTERED PROFESSIONAL ENGINEER — 09/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
| | | |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**STEEL DETAILS**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S5.1**

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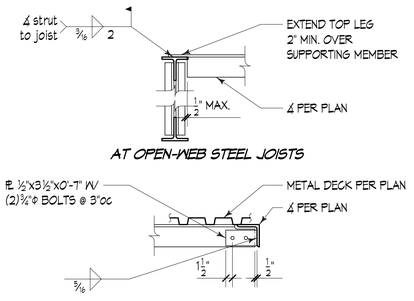


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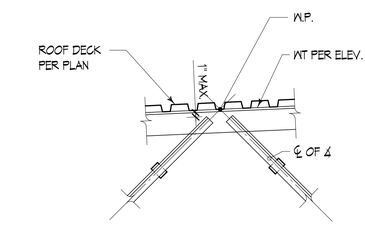


FOR CALL-OUTS IN COMMON SEE DETAIL 8/S5.2

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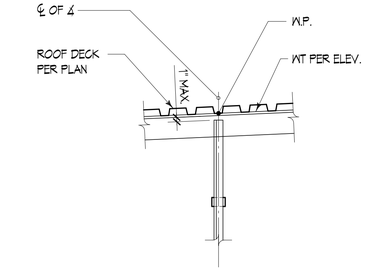


FOR CALL-OUTS IN COMMON SEE DETAIL 8/S5.2

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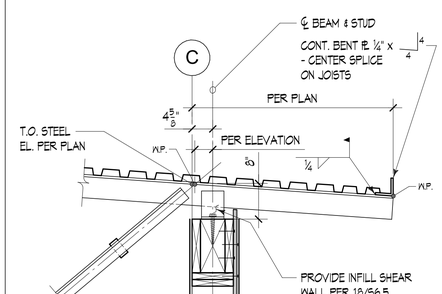


FOR CALL-OUTS IN COMMON SEE DETAIL 10/S5.2

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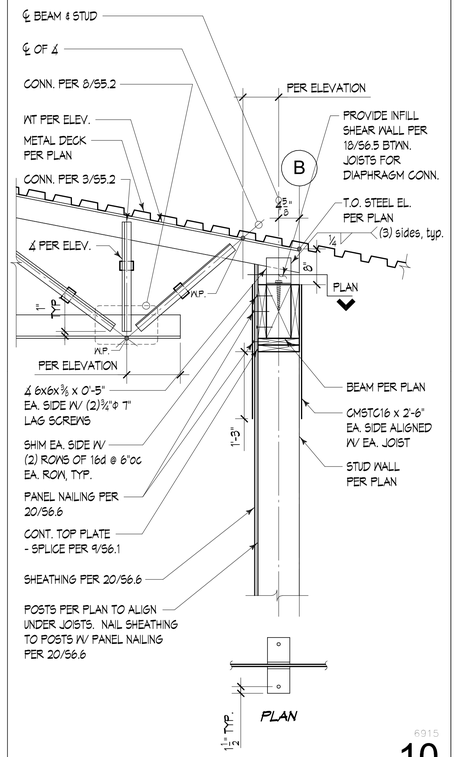


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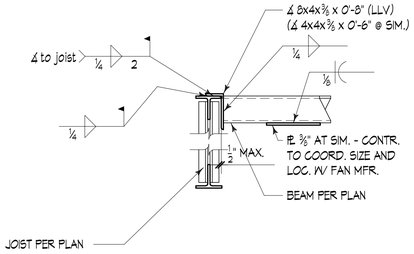


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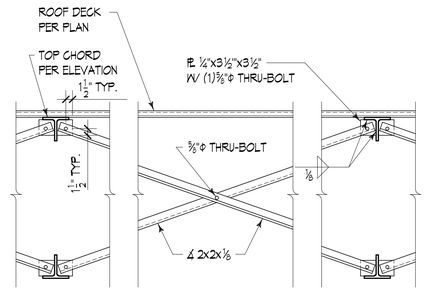


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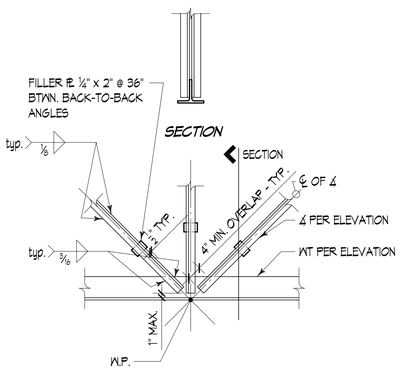


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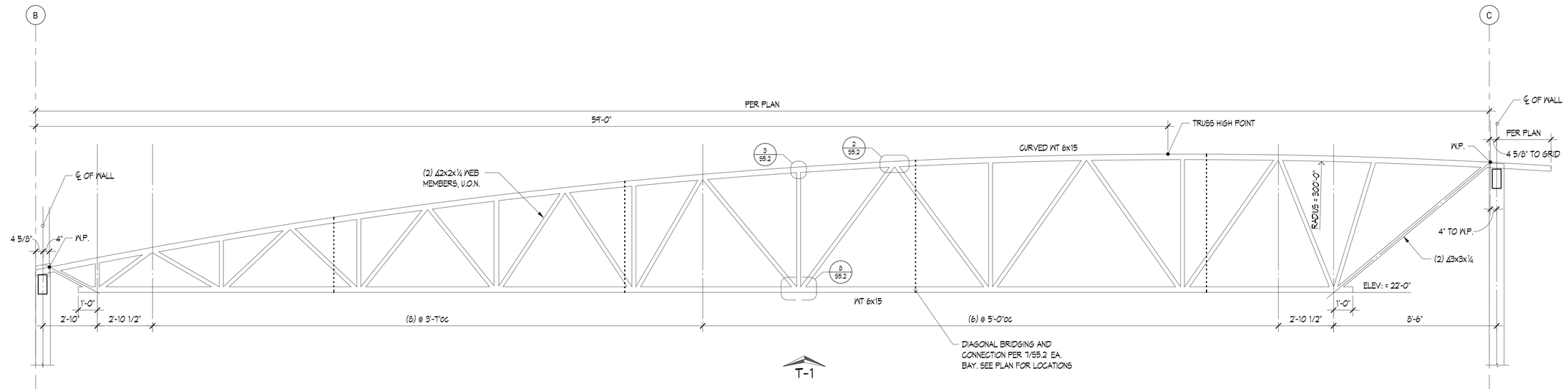


3/8" = 1'-0"

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MICHAEL A. ARMSTRONG — STATE OF WASHINGTON — 37839 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

09/21/22

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Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**TRUSS ELEVATION AND DETAILS**

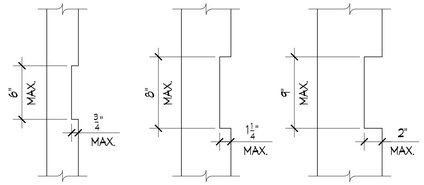
Scale: **As indicated**
Project No. : **S210211-09**
Date : **09/13/2022**

Sheet Number :

**S5.2**

1

NOTE:
NOTCHES SHALL NOT OCCUR IN MORE THAN (2) SUCCESSIVE STUDS.

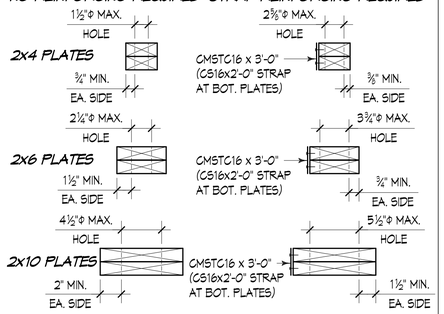



2x4 STUDS (3x4 SIMILAR) | 2x6 STUDS (3x6 SIMILAR) | 2x10 STUDS (3x10 SIMILAR)

6003

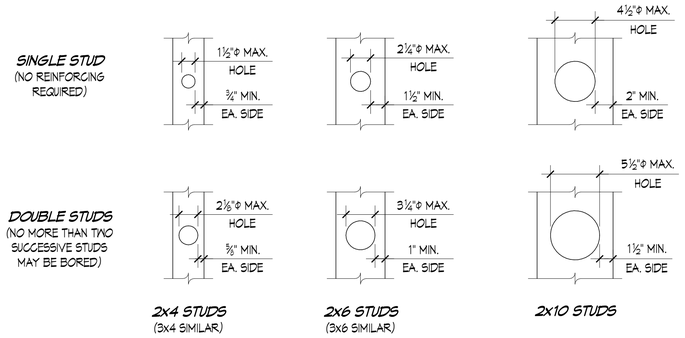
1½"=1'-0" 2

NO REINFORCING REQUIRED STRAP REINFORCING REQUIRED




6001

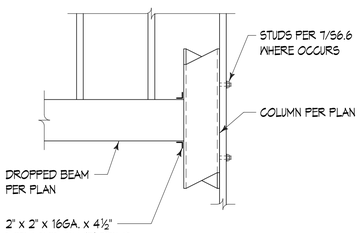
1½"=1'-0" 3




6002

1½"=1'-0" 5

6




6421

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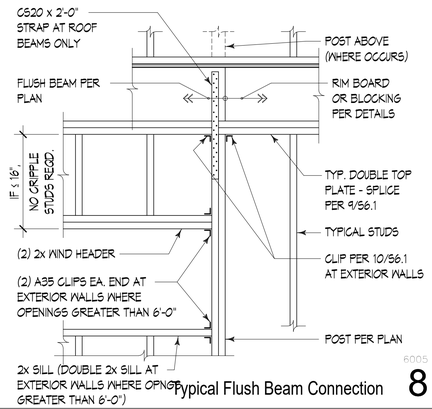
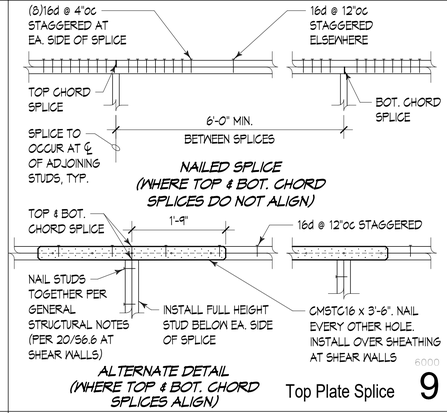


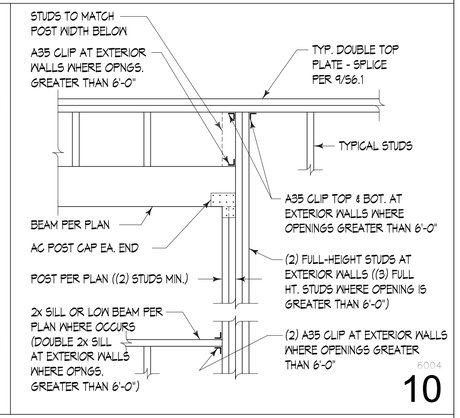

6005

Typical Flush Beam Connection 8




6000

Top Plate Splice 9




6004

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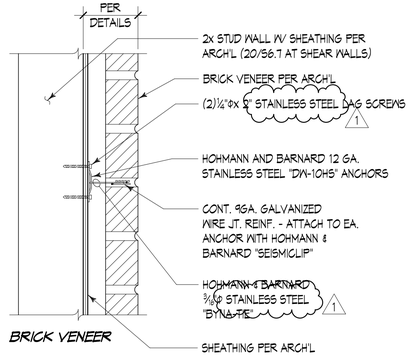
13

| HORIZ. ANCHOR SPACING | MAX. VERT. SPACING OF ANCHORS ① |
|---|---|
| 12"oc | 18"oc |
| 16"oc | 18"oc |
| 24"oc | 12"oc |

① PLACE ANCHORS @ 8"oc AT VERT. EDGES OF ALL OPENINGS. ANCHORS SHALL BE LOCATED MAX. 12" FROM EDGE OF OPENING IN PLAN (ADD ADD'L WALL STUDS AS REQD.). MIN. 2'-0" LONG JT. REINF. SHALL BE ADDED AT EACH ANCHOR WHERE THEY DO NOT ALIGN W/ TYP. ANCHORS BEYOND.




6742

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09/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
| 1 | ADDENDUM 1 | 09/21/22 |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

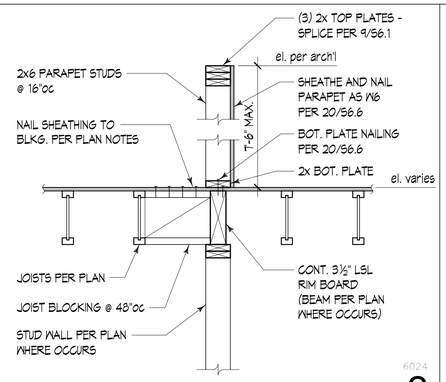
**TYPICAL WOOD FRAMING DETAILS**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S6.1**

1

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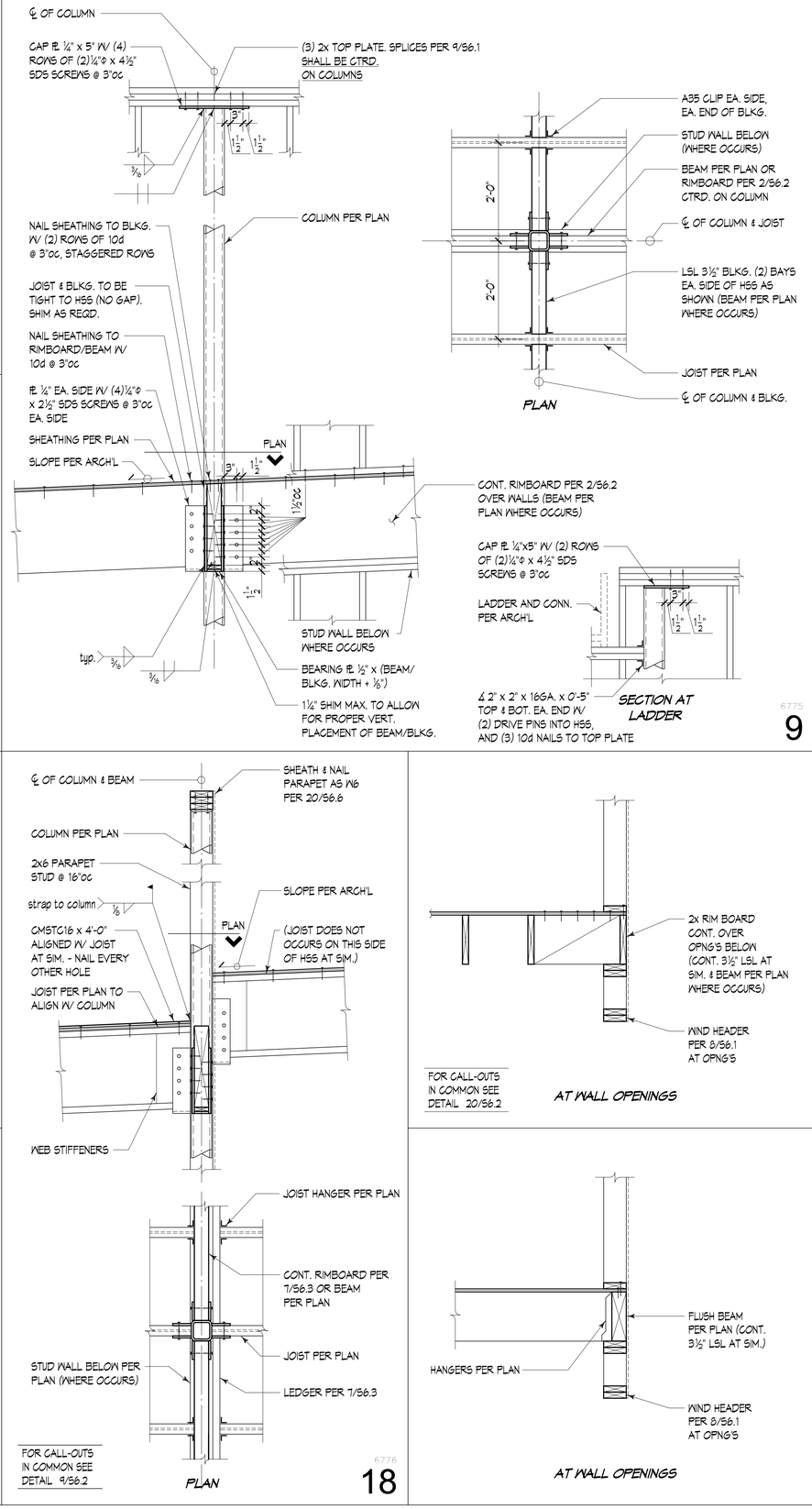


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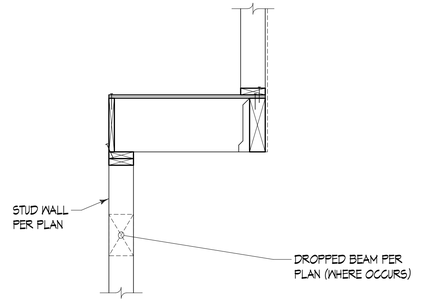


FOR CALL-OUTS IN COMMON SEE DETAIL 20/S6.2

6700

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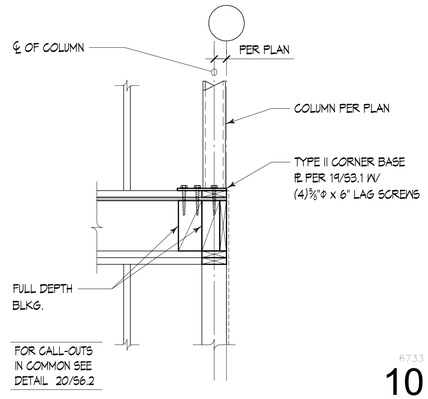


FOR CALL-OUTS IN COMMON SEE DETAIL 20/S6.2

6733

10

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12







FOR CALL-OUTS IN COMMON SEE DETAIL 9/S6.2

6776

PLAN

18

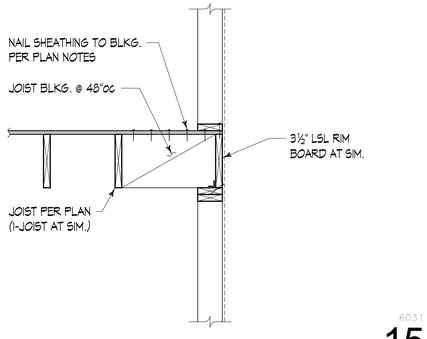



FOR CALL-OUTS IN COMMON SEE DETAIL 20/S6.2

AT WALL OPENINGS

6031

15




16

17




AT WALL OPENINGS




6033

20

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09/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
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| | | |
| | | |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

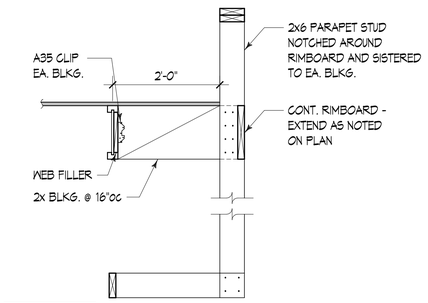
Sheet Title:

**WOOD FRAMING DETAILS**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S6.2**




FOR CALL-OUTS
IN COMMON SEE
DETAIL 2/S6.3

6413

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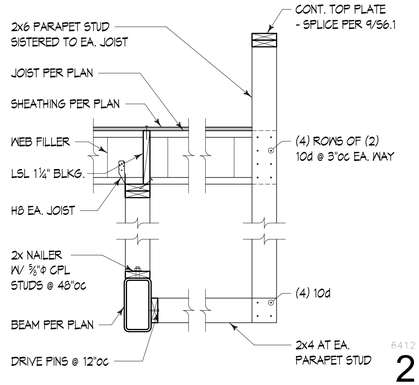


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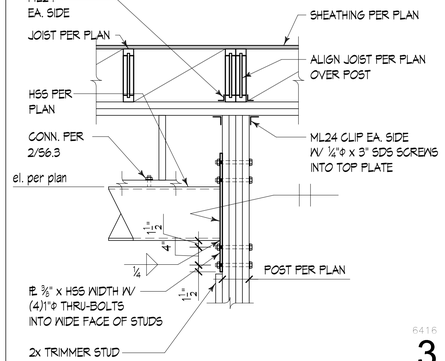


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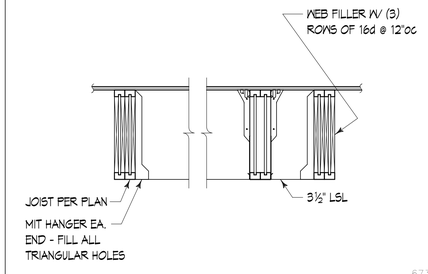


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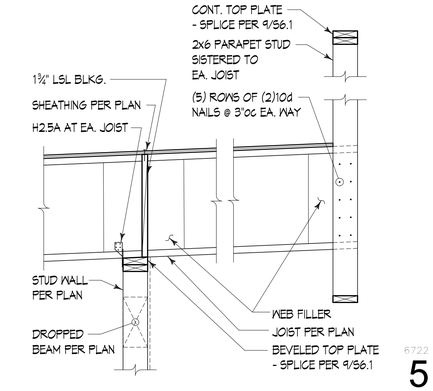


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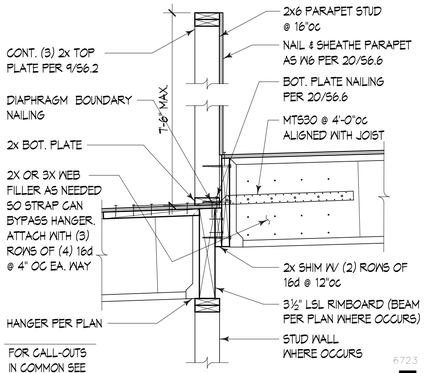


FOR CALL-OUTS
IN COMMON SEE
DETAIL 15/S6.3

6723

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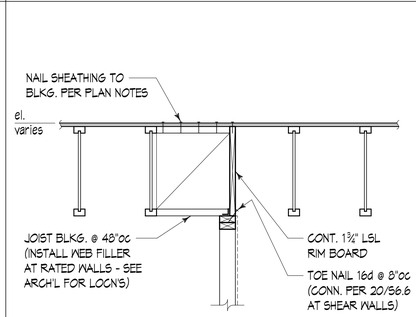


FOR CALL-OUTS
IN COMMON SEE
DETAIL 10/S6.3

6028

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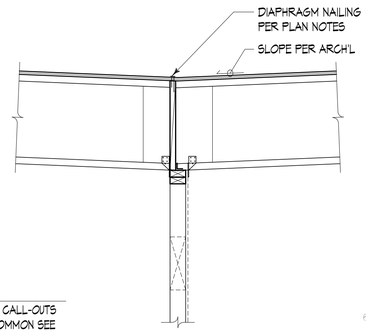


FOR CALL-OUTS
IN COMMON SEE
DETAIL 10/S6.3

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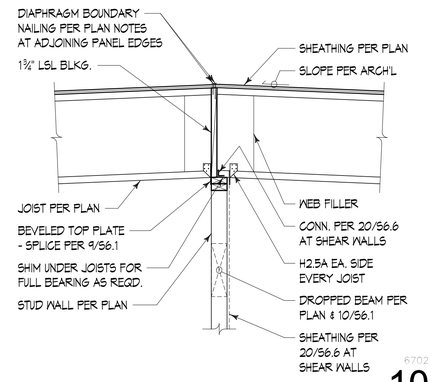


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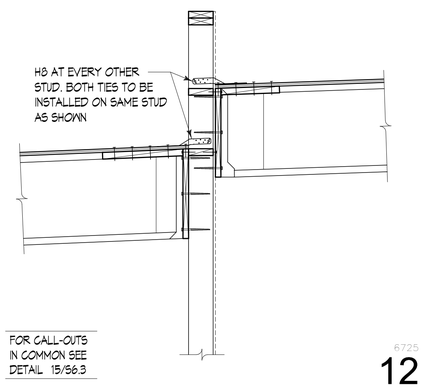


FOR CALL-OUTS
IN COMMON SEE
DETAIL 15/S6.3

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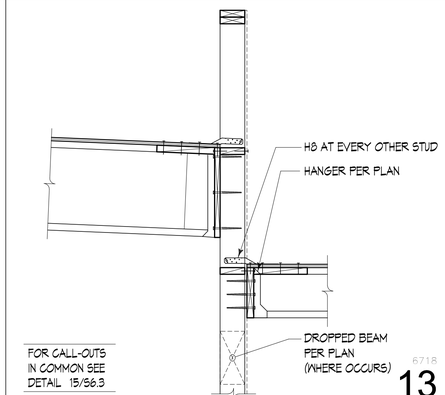


FOR CALL-OUTS
IN COMMON SEE
DETAIL 15/S6.3

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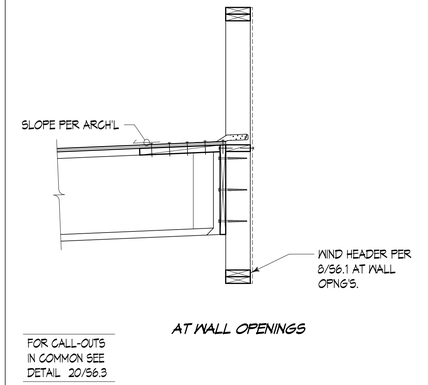


AT WALL OPENINGS

FOR CALL-OUTS
IN COMMON SEE
DETAIL 20/S6.3

6051

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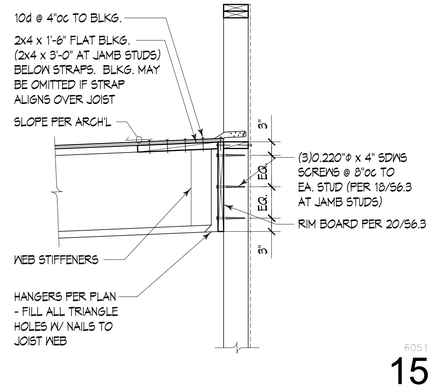


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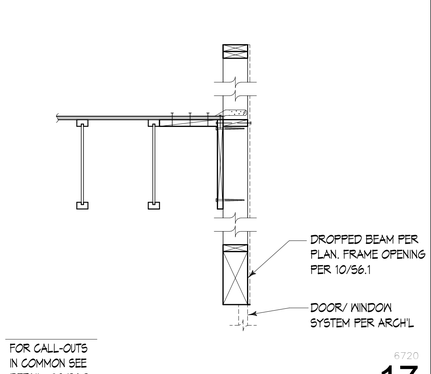


FOR CALL-OUTS
IN COMMON SEE
DETAIL 20/S6.3

6720

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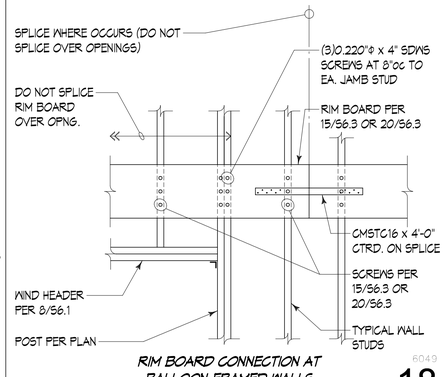


RIM BOARD CONNECTION AT BALLOON FRAMED WALLS

6049

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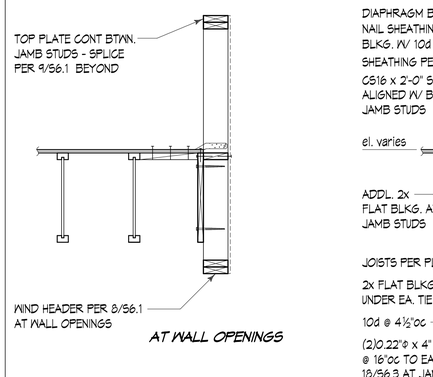
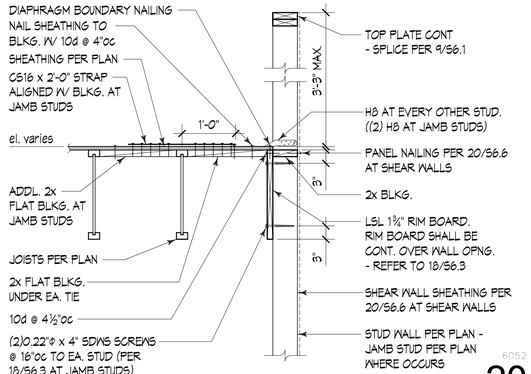



AT WALL OPENINGS




6052

20

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09/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
| | | |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**WOOD ROOF FRAMING DETAILS**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S6.3**

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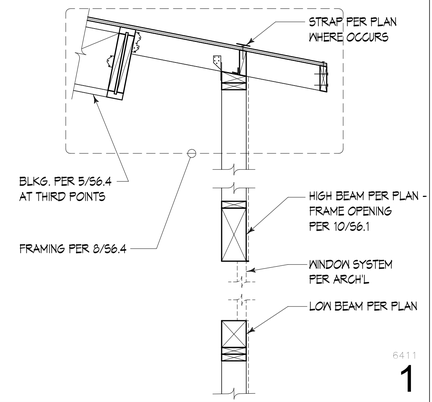


6411

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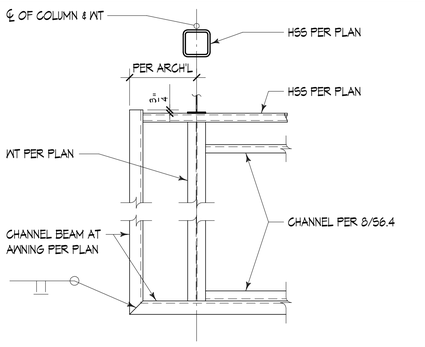


PLAN

6600

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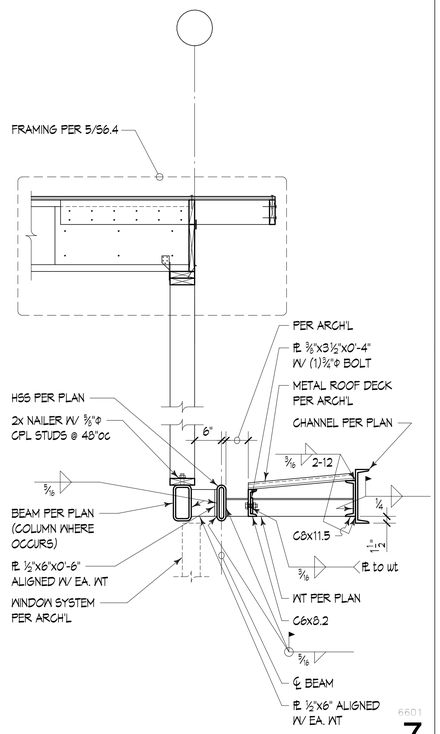


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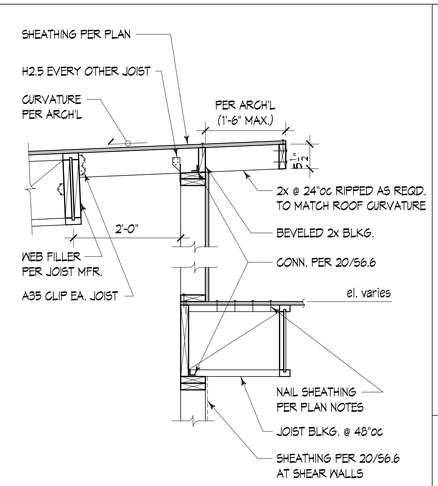
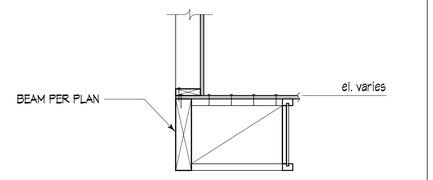



WALL CONDITION




BEAM CONDITION

FOR CALL-OUTS IN COMMON SEE DETAIL 5/S6.4

6410

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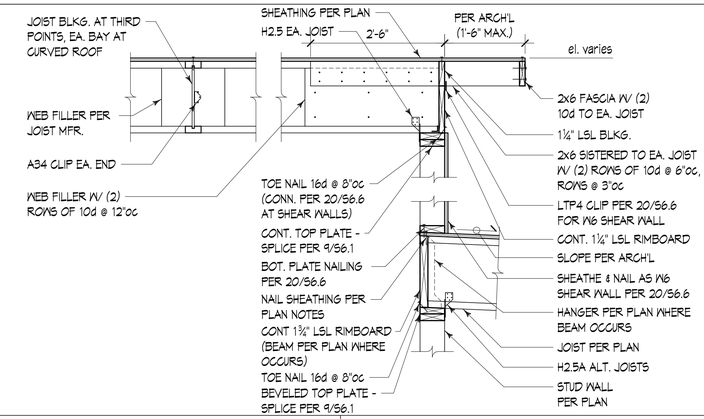


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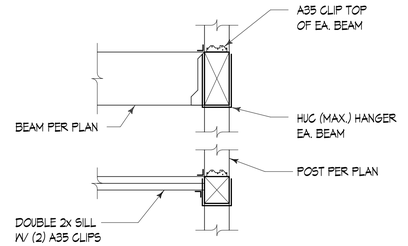


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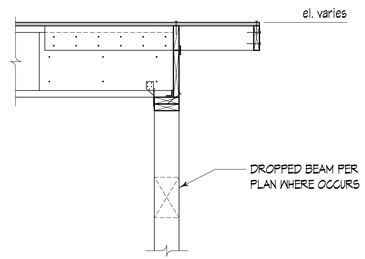


FOR CALL-OUTS IN COMMON SEE DETAIL 5/S6.4

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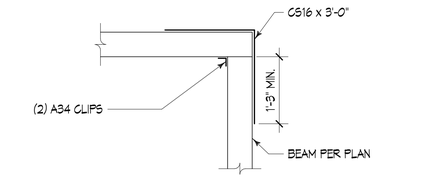


PLAN

6415

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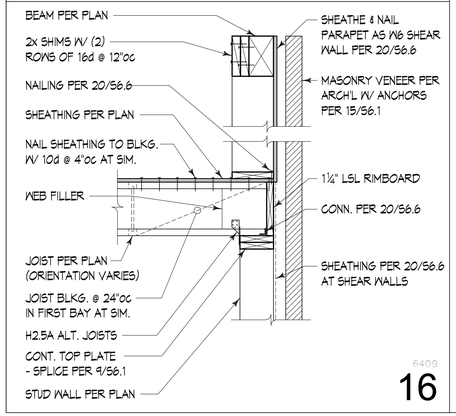


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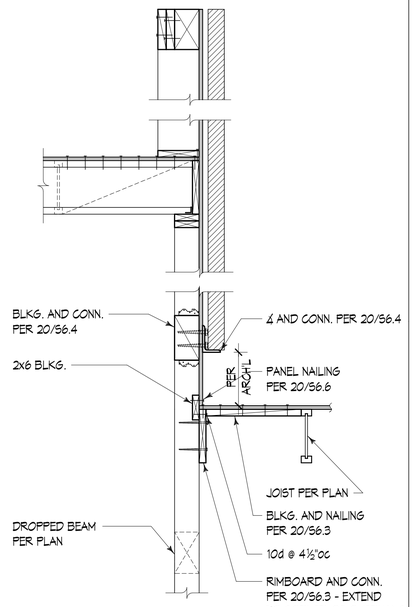


FOR CALL-OUTS IN COMMON SEE DETAIL 16/S6.4

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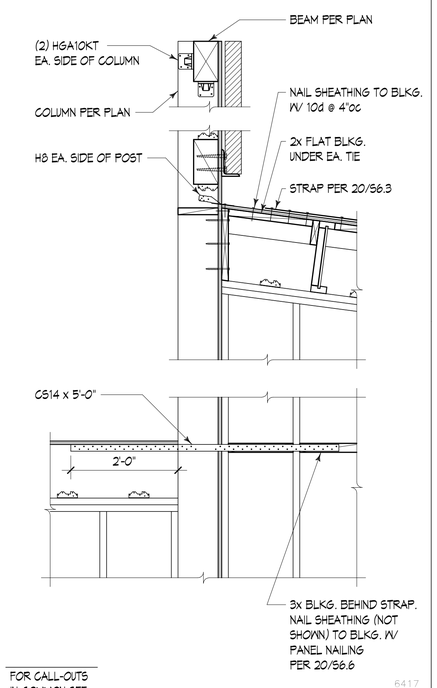


FOR CALL-OUTS IN COMMON SEE DETAIL 20/S6.4

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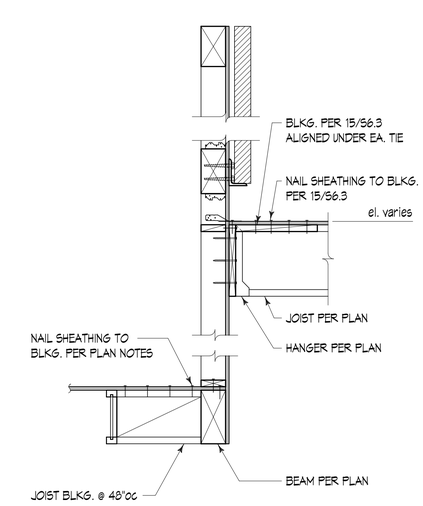
18

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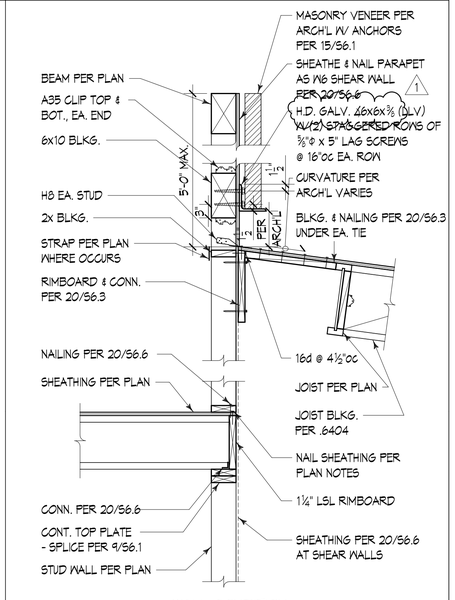
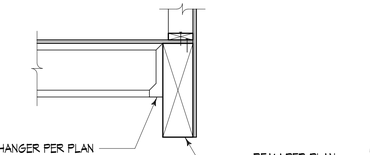



WALL CONDITION




BEAM CONDITION

6406

20

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MICHAEL A. ARMSTRONG — STATE OF WASHINGTON — 37839 — REGISTERED PROFESSIONAL ENGINEER
09/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
| 1 | ADDENDUM 1 | 09/21/22 |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**WOOD ROOF FRAMING DETAILS**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

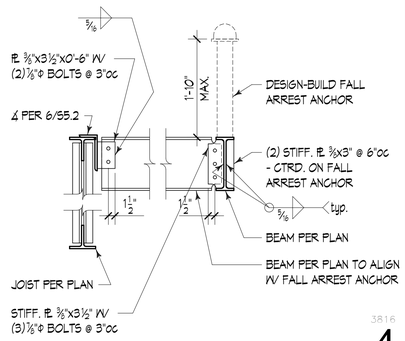
Sheet Number :

**S6.4**

1

2

3

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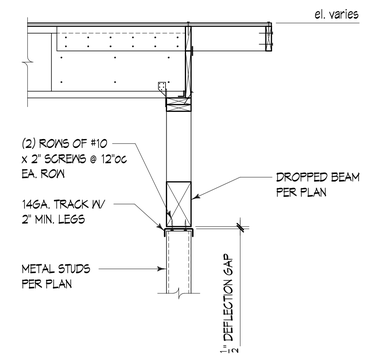


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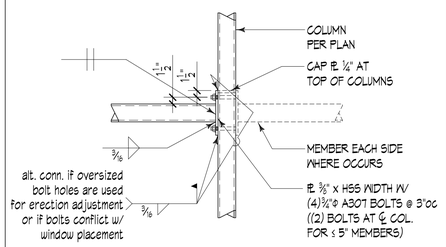
NOTE:
OFFSET BOLTS VERTICALLY AS REQD. WHERE HSS OCCURS ON TWO ADJACENT SIDES OF COL.

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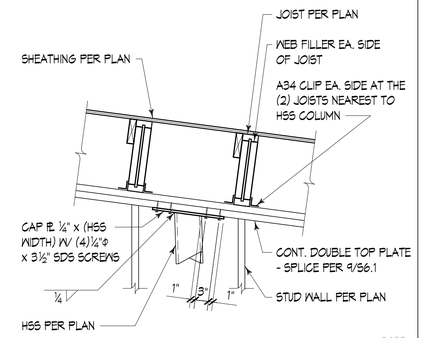


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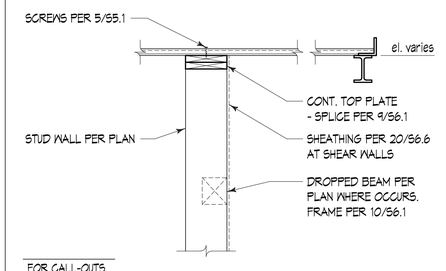
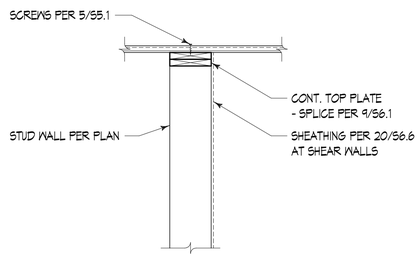



FOR CALL-OUTS IN COMMON SEE DETAIL 11/S5.1

6739

14

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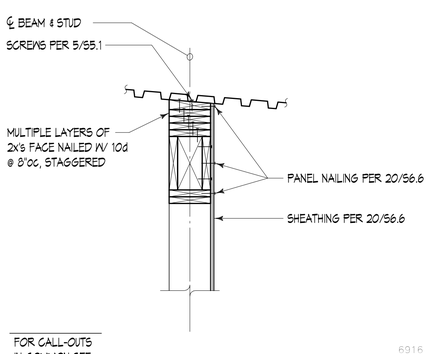


FOR CALL-OUTS IN COMMON SEE DETAIL 10/S5.2

6916

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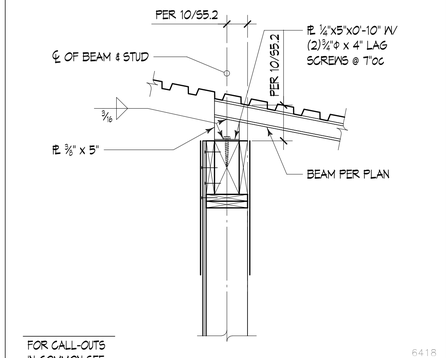


FOR CALL-OUTS IN COMMON SEE DETAIL 10/S5.2

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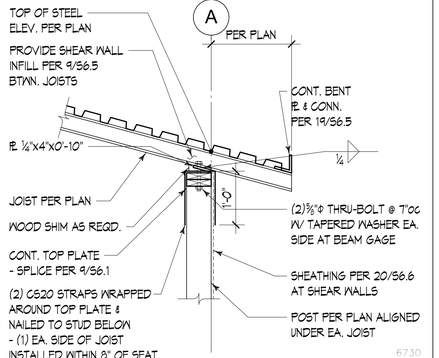


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MICHAEL A ARMSTRONG — STATE OF WASHINGTON — 37839 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

09/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
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Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

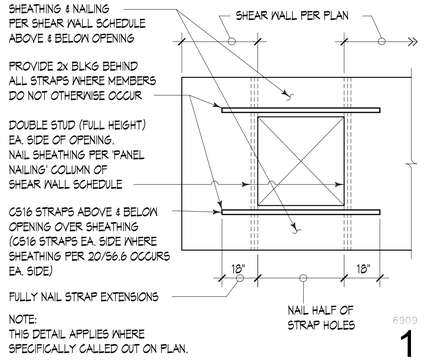
Sheet Title:

**WOOD ROOF & MISC. FRAMING DETAILS**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S6.5**

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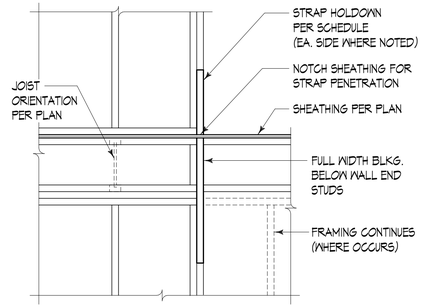


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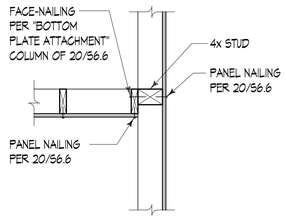
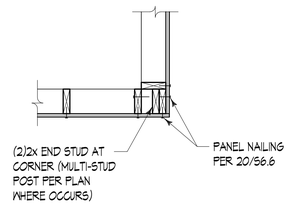
2

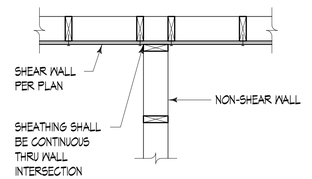
SINGLE SIDED SHEAR WALLS




AT INTERSECTION




AT CORNER




SHEAR WALL/NON-SHEAR WALL INTERSECTION

6908

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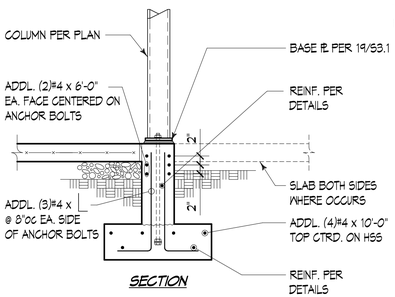
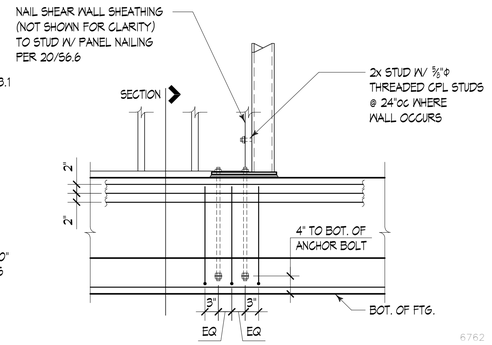



SECTION

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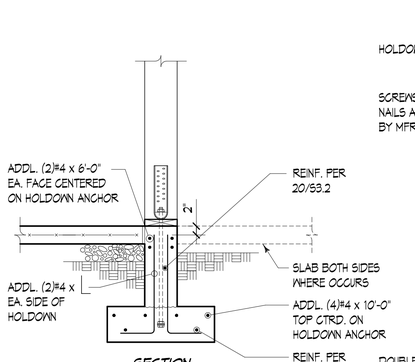


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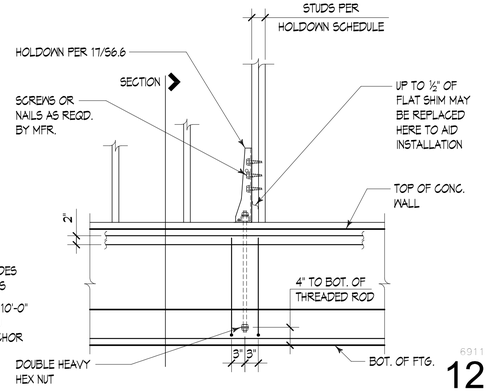


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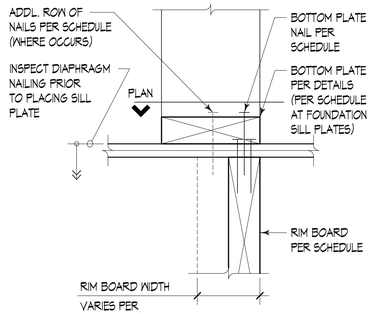
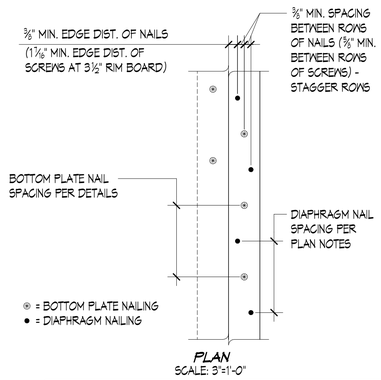
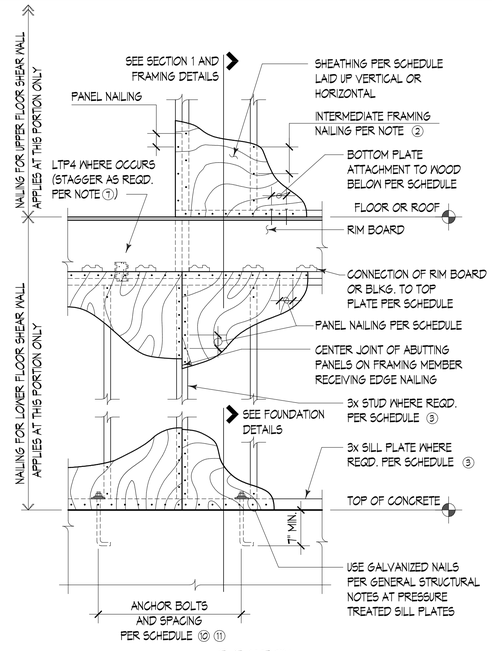



SECTION 2
SCALE: 3"=1'-0"

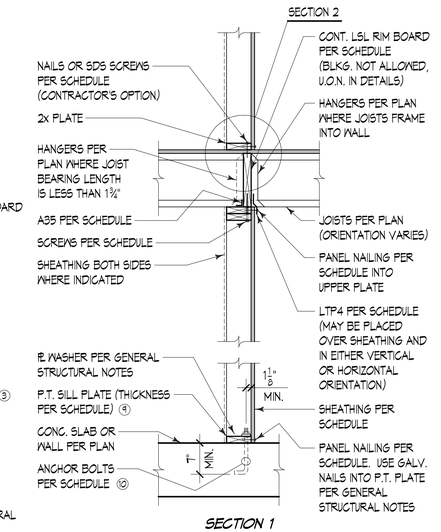



PLAN
SCALE: 3"=1'-0"




ELEVATION

TYPICAL SHEAR WALL NAILING CONVENTION




SECTION 1

| MARK | SHEATHING ① | 0.148" x 2½" PANEL NAILING ② | THICKNESS OF STUD OR BLKG. AT ABUTTING PANEL EDGES, AND THICKNESS OF FOUNDATION SILL PLATE ③ | MINIMUM LSL OR LVL RIM BOARD THICKNESS (BASED ON SHEAR WALL BELOW RIM BOARD) ④ | CONNECTION OF RIM BOARD OR BLKG. TO TOP PLATE (BASED ON SHEAR WALL BELOW RIM BOARD) ⑤ | | | BOTTOM PLATE ATTACHMENT ⑤ | | ANCHOR BOLTING TO CONCRETE ④⑩⑪ | | LRFD CAPACITY (PLF) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | A35 CLIPS | LTP4 CLIPS ⑦ | 0.220"ø x 5" SDWS SCREWS ⑤ | 0.148" x 3¼" NAILS ⑤ | 0.220"ø x 5" SDWS SCREWS ⑤ | ⅝"ø | ¾"ø | |
| W6 | ½" | 6"OC | 2x | 1¾" | 22"OC | 23"OC | 14"OC | 5"OC | 14"OC | 48"OC | 48"OC | 495 |
| W4 | ½" | 4"OC | 3x | 1¾" | 15"OC | 15"OC | 9"OC | 4"OC | 9"OC | 47"OC | 48"OC | 735 |
| W2 | ½" | 2"OC | 3x | 3½" | 9"OC | 9"OC | 8"OC | (2) ROWS @ 4"OC | 8"OC | 28"OC | 36"OC | 1230 |

SHEAR WALL SCHEDULE NOTES:

① SHEATHING SHALL CONSIST OF 1/2" PLYWOOD. OSB SHALL NOT BE SUBSTITUTED FOR PLYWOOD. SHEATHING SHALL HAVE A MINIMUM SPAN RATING OF 24/0.

② PANEL NAILING APPLIES TO ALL SHEATHING PANEL EDGES. INSTALL BLOCKING AT ALL UNFRAMED PANEL EDGES. NAIL SHEATHING TO INTERMEDIATE FRAMING WITH PANEL NAILS AT 12"OC. NAIL TO BE PLACED AT LEAST ⅜" FROM PANEL EDGES AND THE EDGE OF CONNECTING MEMBERS

③ DOUBLE 2x MEMBERS MAY BE SUBSTITUTED FOR 3x MEMBERS AND 3x FOUNDATION PLATES. WALL STUDS SHALL BE FACE NAILED TOGETHER PER THE BOTTOM PLATE ATTACHMENT COLUMN OF THE SCHEDULE. DOUBLE 2x FOUNDATION SILL PLATES SHALL BE NAILED TOGETHER W/ 10d @ 4"OC, STAGGERED.

④ SEE PLANS AND DETAILS FOR LOCATIONS WHERE THICKER RIM BOARD MAY BE REQUIRED.

⑤ SEE PLAN VIEW FOR MINIMUM ROW SPACING AND MINIMUM EDGE DISTANCE.

⑥ WHERE PANELS ARE APPLIED TO EACH FACE OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS.

⑦ CLIPS SHALL BE INSTALLED W/ 0.131 x 2 1/2" NAILS IN ALL HOLES. WHERE CLIPS ARE REQUIRED EACH SIDE, CLIPS SHALL BE STAGGERED TO AVOID NAIL INTERFERENCE.

⑧ CONTRACTOR MAY USE EITHER OF THE CONNECTION OPTIONS INDICATED AND MAY COMBINE A35 CLIPS ON ONE SIDE OF WALL WITH LTP4 ON THE OPPOSITE SIDE.

⑨ PLATE WASHERS IN 2x4 STUD WALLS AND ALL SINGLE SIDED SHEAR WALLS SHALL BE 3"X3"X0.229". SINGLE SIDED 2x6 SHEAR WALLS HAVE 4½"x3"X0.229" PLATE WASHERS. SINGLE SIDED 2x10 SHEAR WALLS SHALL HAVE 8¼"x3"x0.229" PLATE WASHERS. PLATE WASHER SHALL HAVE A STANDARD HOLE. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1-¾" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND NUT. THE EDGE OF PLATE WASHERS SHALL BE LOCATED WITHIN ½" (1" WHERE THE FOUNDATION SILL PLATE IS A 3x) OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING.

⑩ INSTALL ADDITIONAL ANCHOR BOLTS EACH SIDE OF PLATE BREAKS AND PENETRATIONS EXCEEDING THE "NO REINFORCING" HOLE SIZE PER 3/S6.1.

⑪ ANCHOR BOLTS IN CONFLICT WITH HOLDOWN COMPRESSION STUDS SHALL BE INSTALLED OUTSIDE THE STUD PACK, AND LOCATED NO CLOSER THAN 6" FROM AN ADJACENT ANCHOR BOLT.

6500

Shear Wall Schedule - Plywood 20

| MARK | HOLDOWN ① | MIN. NUMBER STUDS, U.O.N. ② | LOAD | DETAIL REF. |
|---|---|---|---|---|
| HDA | HDU5-SDS2.5 | 2 | 5.6k | 12/S6.6 |
| HDB | HDU11-SDS2.5 | 3 | 11.1k | 12/S6.6 |
| HDS | CMST14 | 2 | 6.5k | 2/S6.6 |
| HDC | HSS PER PLAN | - | - | 7/S6.6 |

HOLDOWN SCHEDULE NOTES:

① HOLDOWN TYPES REFER TO SIMPSON STRONG-TIE CATALOG CALLOUTS.

② NAIL PLYWOOD SHEATHING TO STUDS RECEIVING HOLDOWN W/ SCHEDULED PANEL EDGE NAILING. STAGGER NAILS SO THAT EACH STUD IS NAILED.

6912

Simpson Strong Tie Holdown Schedule 17

16

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37839
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER
09/21/22

**BID SET**

| No. | Description | Date: |
|---|---|---|
| | | |

Project Title:

**SATELLITE FIRE STATION 85**

City of Pasco
3624 Road 100, Pasco, WA 99301

Sheet Title:

**SHEAR WALL & MISC. DETAILS**

Scale: 3/4" = 1'-0"
Project No. : S210211-09
Date : 09/13/2022

Sheet Number :

**S6.6**

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