EXHIBIT B

HELENA FIRE STATION # 3

1872 Kelleher Lane, Helena, MT. 59602

VOLUME I PROJECT #: CF25011

PROJECT TEAM

OWNER

CITY OF HELENA /
HELENA COMMUNITY FACILITIES
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HELENA MT 59623
406.447.8399
CONTACT: BRIDGET JOHNSTON

ARCHITECTURAL

DOWLING ARCHITECTS
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406.457.5470
CONTACT: MIKE DOWLING, AIA. NCARB

SHIVE-HATTERY
4330 N. CAMPBELL AVE, SUITE 268
TUCSON, AZ 85718
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LANDSCAPE ARCH.

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ICT DESIGN

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CONTACT: PETE WEBER

VICINITY MAP

PROJECT SPECIFIC NOTES

1. DIMENSIONS ARE SHOWN ON THE DRAWINGS. DO NOT SCALE THE DRAWINGS.

2. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NEW MATERIALS (UNO) & QUALIFIED CRAFTPERSONS TO COMPLETE THE WORK.

3. CONSTRUCTION DOCUMENTS SHOW THE DESIGN INTENT OF THE PROJECT & MAY NOT SHOW MINOR DETAILS OF PROPOSED INSTALLATION. THE INCLUSION OF THESE MINOR DETAILS IS IMPLIED TO PROVIDE A COMPLETE PROJECT & ARE TO BE INCLUDED AS A PART OF A BID.

4. ALL HEIGHTS ARE DIMENSIONED FROM THE TOP OF FINISHED FLOOR (AFF) UNLESS NOTED OTHERWISE.

5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT EXISTING CONDITIONS PRIOR TO PROCEEDING WITH EACH INSTALLATION OR PART OF THE WORK. DISCREPANCIES MUST BE REPORTED TO THE ARCHITECT PRIOR TO PROCEEDING.

6. THE CONTRACTOR IS TO COORDINATE THE INSTALLATION OF MATERIALS & WORK OF OTHERS WHO ARE NOT SUB-CONTRACTORS TO THE GC, YET ARE REQUIRED IN PROVIDING A COMPLETED PROJECT. AREAS OF WORK REQUIRING COORDINATION INCLUDE BUT ARE NOT LIMITED TO THOSE INDICATED AS NIC ON THE CONSTRUCTION DOCUMENTS.

7. REFER TO STRUCTURAL, MECHANICAL & ELECTRICAL DRAWINGS FOR COORDINATION OF WORK.

8. ALL DIMENSIONS ARE FROM FACE OF STUD UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL VERIFY ALL DIMENSION CONDITIONS PRIOR TO CONSTRUCTION.

9. IN THE CASE OF CONTRADICTIONS BETWEEN DRAWINGS OR BETWEEN DRAWINGS & SPECIFICATIONS, ASSUME THE MORE COSTLY APPROACH FOR BIDDING PURPOSES. BRING ALL CONTRADICTIONS TO THE ATTENTION OF THE ARCHITECT

10. THE CONSTRUCTION DOCUMENTS CONSIST OF THE CONSTRUCTION DRAWINGS & SPECIFICATIONS INCLUSIVELY. SOME ITEMS MAY BE SHOWN ONLY ON THE DRAWINGS OR INDICATED ONLY IN THE SPECIFICATIONS. FOR EXAMPLE, THE SPECIFICATIONS MAY SAY TO PAINT ALL EXPOSED STRUCTURAL STEEL, BUT THIS WILL NOT BE CALLED OUT ON ALL OF THE DRAWINGS.

11. 3-D VIEWS MAY BE USED THROUGHOUT THE CONSTRUCTION DOCUMENTS. 3-D VIEWS ARE SHOWN TO CLARIFY CONDITIONS THAT CANNOT BE SHOWN IN OTHER VIEWS. 3-D VIEWS MAY NOT SHOW ALL DETAILS REQUIRED TO COMPLETE THE AREA. REFER TO DETAILS AT ADJACENT AREAS AS NECESSARY OR ASK THE ARCHITECT PRIOR TO BIDDING.

CODE REQUIREMENTS
THIS PROJECT SHALL COMPLY WITH THESE CODES, OR LATER EDITIONS, AS REQUIRED BY THE STATE OF MONTANA:

2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL EXISTING BUILDING CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 UNIFORM PLUMBING CODE
2021 INTERNATIONAL FUEL GAS CODE
2021 INTERNATIONAL ELECTRIC CODE
2021 INTERNATIONAL FIRE CODE
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2017 ICC A117.1 - ACCESSIBILITY
ADMINISTRATIVE RULES OF MONTANA (ARM) TITLE 24, CH. 301

NO HAZARDOUS MATERIALS EXCEEDING THE LIMITS STATED IN THE 2021 INTERNATIONAL BUILDING CODE TABLES 414.2.5(1) & 414.5.1 WILL BE STORED IN THIS BUILDING.

THIS BUILDING IS TO BE EQUIPPED WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH APPLICABLE CODES.

REQUIRED STRUCTURAL TESTS & SPECIAL INSPECTIONS

IN ADDITION TO REGULAR INSPECTIONS, THE FOLLOWING ITEMS WILL ALSO REQUIRE STRUCTURAL TESTS & SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17 OF THE 2021 INTERNATIONAL BUILDING CODE: SEE STRUCTURAL SHEET S000 - GENERAL STRUCTURAL NOTES FOR REGULAR INSPECTIONS, STRUCTURAL TEST REQUIREMENTS, & SPECIAL INSTRUCTIONS.

REQUIRED ENERGY CODE TESTS & SPECIAL INSPECTIONS

IN ADDITION TO REGULAR INSPECTIONS, COMPLY WITH TESTS & SPECIAL INSPECTIONS IN ACCORDANCE WITH THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE.

THESE DRAWINGS WERE PREPARED BY DOWLING ARCHITECTS FOR CONSTRUCTION OF THE BUILDING DESCRIBED. AS SUCH, THEY ARE THE PROPERTY OF DSA, P.C. AND MAY NOT BE REPRODUCED, COPIED OR USED IN ANY WAY WITHOUT PRIOR APPROVAL FROM DSA, P.C.

NOTE:
THIS SET OF CONSTRUCTION DOCUMENTS IS GENERATED FROM AN INTELLIGENT, 3 DIMENSIONAL COMPUTER MODEL. THIS CONSTRUCTION DOCUMENT SET IS REPRESENTATIVE OF THE CONDITIONS ACTUALLY MODELED THAT CAN BE SHOWN.

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REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #9887
STATE OF MONTANA

HELENA FIRESTATION #3
1872 KELLEHER LANE, HELENA, MT 59602

SHIVE-HATTERY
ARCHITECTURE + ENGINEERING

DOWLING ARCHITECTS
734 N. Last Chance Gulch | Helena, MT 59601 | 406.457.5470
www.dsa-mt.com

COVER SHEET

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JS/CC

100% CONSTRUCTION SET

A0-1

10.22.25

DOWLING ARCHITECTS, P.C. COPYRIGHT 2025 10/22/2025 11:31:13 AM Autodesk Docs://Helena Fire Station #3/Helena Fire Station 3.rvt

GENERAL NOTES:

1. STANDARD SYMBOLS AND LINE TYPES ARE SHOWN IN THE LEGEND. SOME SYMBOLS OR LINE TYPES SHOWN MAY NOT BE SHOWN ON THE PLANS.
2. IN GENERAL, EXISTING STRUCTURES AND FACILITIES ARE NOTED AS "EXISTING" AND ARE SHOWN IN LIGHT LINE WEIGHTS OR AS SCREENED BACKGROUND. NEW STRUCTURES OR FACILITIES ARE SHOWN IN HEAVY LINE WEIGHTS.

CONSTRUCTION NOTES:

1. ALL IMPROVEMENTS ON THIS PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, SEVENTH EDITION DATED APRIL 2021 (MPWSS); THE CITY OF HELENA DESIGN STANDARDS; AND THE PROJECT SPECIFICATIONS.
2. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE DIVISION OF INDUSTRIAL REGULATIONS (OSHA) SAFETY STANDARDS. IF REQUESTED BY THE INSPECTOR, THE CONTRACTOR SHALL PROVIDE PROOF OF A PERMIT FROM SAID DIVISION.
3. THE CONTRACTOR'S OPERATIONS SHALL BE CONFINED WITHIN THE PROJECT LIMITS. MATERIALS AND EQUIPMENT SHALL BE STORED ON THE PROJECT SITE WHERE APPROVED BY THE OWNER. IT SHALL BE UNDERSTOOD THAT THE RESPONSIBILITY FOR PROTECTION AND SAFEKEEPING OF EQUIPMENT AND MATERIALS ON OR NEAR THE SITE WILL BE ENTIRELY THAT OF THE CONTRACTOR AND THAT NO CLAIM SHALL BE MADE AGAINST THE OWNER BY REASON OF ANY ACT OF AN EMPLOYEE OR TRESPASSER.
4. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES FOUND ARE TO BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO COMMENCEMENT OR CONTINUATION OF CONSTRUCTION ACTIVITIES.
5. REFERENCE ALL SURVEY MONUMENTS, SECTION CORNERS, 1/4 CORNERS, AND PROPERTY CORNERS PRIOR TO BEING DISTURBED BY CONSTRUCTION. ANY MONUMENTS AND CORNERS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE OF MONTANA.
6. A PRE-CONSTRUCTION MEETING (AS REQUIRED) SHALL BE HELD WITH THE GENERAL CONTRACTOR, SITE SUBCONTRACTOR, CITY OF HELENA, OWNER, AND MORRISON-MAIERLE, INC. PRIOR TO THE START OF CONSTRUCTION.
7. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE CITY, COUNTY, AND/OR STATE INSPECTOR 48 HOURS PRIOR TO COMMENCING CONSTRUCTION AND 24 HOURS IN ADVANCE OF SPECIFIC INSPECTION NEEDS DURING THE COURSE OF THE WORK. ALL WORK SHALL BE PERFORMED DURING NORMAL WORKING HOURS AND SUBJECT TO THE AVAILABILITY OF AN INSPECTOR AND APPROVED BY THE ENGINEER. THE CONTRACTOR WILL BE BILLED FOR SAID INSPECTION SERVICES AS PROVIDED IN THE MOST RECENTLY ADOPTED FEES FOR SUCH SERVICES.
8. THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES IN A MANNER TO MINIMIZE INCONVENIENCE TO THE ADJACENT BUSINESSES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PUBLIC AND PRIVATE PROPERTY INSOFAR AS IT MAY BE AFFECTED BY THESE OPERATIONS, ALL COSTS FOR PROTECTING, REMOVING, AND RESTORING EXISTING IMPROVEMENTS SHALL BE BORNE SOLELY BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL AT ALL TIMES TAKE WHATEVER MEASURES ARE NECESSARY TO ASSURE THE PROPER CONTAINMENT AND DISPOSAL OF POLLUTANTS ON THE SITE IN ACCORDANCE WITH ANY AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
11. THE CONTRACTOR SHALL IMMEDIATELY CLEAN UP ANY CONSTRUCTION MATERIALS INADVERTENTLY DEPOSITED ON EXISTING STREETS, SIDEWALKS, OR OTHER PUBLIC RIGHTS-OF-WAY AND MAKE SURE STREETS AND WALKWAYS ARE CLEANED AT THE END OF EACH WORKING DAY.
12. CONSTRUCTION WORK ZONE TRAFFIC SIGNS SHALL BE FURNISHED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE REGULATORY AGENCIES HAVING JURISDICTION. A TRAFFIC CONTROL PLAN, PREPARED BY THE CONTRACTOR, MAY BE REQUIRED BY THE CITY OR STATE. "CONSTRUCTION AHEAD" WARNING SIGNS ARE TO TO BE INSTALLED ALONG ADJACENT ROADS OR DRIVEWAYS. FLASHERS WITH CAUTION TAPE ARE TO BE INSTALLED WHERE ANY CONSTRUCTION ACTIVITY CROSSES A SIDEWALK OR PEDESTRIAN PATH IN ACCORDANCE WITH THE SPECIFICATIONS AND ANY OR ALL LOCAL REGULATIONS.
13. AREAS ON THE SITE TO BE GRADED SHALL BE CLEARED AND GRUBBED OF ALL VEGETATION AND DEBRIS. THESE MATERIALS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.
14. SURFACE SOILS WITHIN THE PROJECT LIMITS CONTAINING ROOTS AND ORGANIC MATTER SHALL BE STRIPPED DOWN AND STOCKPILED OR DISCARDED AS DIRECTED BY THE OWNER OR ENGINEER. SOIL BORING INFORMATION IS PROVIDED IN THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY PIONEER ON AUGUST 7, 2025. DEEPER STRIPPING WHERE REQUIRED TO REMOVE WEAK SOILS OR ACCUMULATIONS OR ORGANIC MATTER, SHALL BE PERFORMED WHEN DETERMINED BY THE ENGINEER OR OWNER'S AUTHORIZED REPRESENTATIVE. STRIPPING SHALL BE REMOVED FROM THE SITE OR STOCKPILED AT A LOCATION DESIGNATED BY THE OWNER.
15. THE GROUND SURFACE EXPOSED BY STRIPPING SHALL BE SCARIFIED TO A MINIMUM DEPTH OF EIGHT INCHES (8"), MOISTURE CONDITIONED TO THE PROPER MOISTURE CONTENT FOR COMPACTION, AND COMPACTED AS REQUIRED FOR COMPACTED FILL. RECOMPACTION SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACING FILL.
16. NO STOPPING, PARKING, OR STORING OF CONSTRUCTION MATERIALS IN THE PUBLIC STREETS/ROADS, RIGHTS-OF-WAY, OR ANY DRIVEWAY IS ALLOWED.
17. THE CONTRACTOR SHALL RESTORE ALL ROADWAY SURFACES TO EQUAL OR BETTER CONDITION THAN EXISTED PRIOR TO EXCAVATION AS DETERMINED BY AGENCY, OWNER, AND/OR ENGINEER.
18. ASPHALT AND CONCRETE SHALL BE SAW CUT OR NEAT CUT AS APPROVED BY THE ENGINEER.
19. THE CONTRACTOR SHALL UTILIZE COMPACTION EQUIPMENT SUITABLE FOR THE SOIL TYPES AND SURFACE MATERIALS ENCOUNTERED ON THE PROJECT.
20. SUBGRADE, SUB-BASE, BASE, AND SURFACE COURSE COMPACTION SHALL CONFORM TO ALL APPLICABLE SPECIFICATIONS NOTED IN THE MPWSS; CITY OF HELENA DESIGN STANDARDS; AND THE CITY OF HELENA FIRE STATION #3 GEOTECHNICAL REPORT AUGUST 7, 2025 .
21. CONCRETE SHALL BE CLASS M-4000 UNLESS OTHERWISE SPECIFIED.
22. CONTRACTION JOINTS SHALL BE CONSTRUCTED BY SAWING OR SCORING. WHEN SCORING, A TOOL SHALL BE USED THAT WILL LEAVE CORNERS ROUNDED AND TO DESTROY AGGREGATE INTERLOCK FOR SPECIFIED MINIMUM DEPTH.
23. GRADE ELEVATIONS INDICATED BY "XX.XX" ON PLANS ARE +3800' TO PROJECT DATUM.
24. SIDE SLOPES FROM DRIVE AND PARKING AREAS SHALL BE 4:1 MAX UNLESS OTHERWISE SPECIFIED.
25. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT THERE IS A CONSTRUCTION PERMIT APPROVED BY THE MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY (MDEQ) OR LOCAL GOVERNING AGENCY AS APPROPRIATE FOR THE CONTROL OF STORM WATER RUNOFF. IF THERE IS NOT AN APPROVED PERMIT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY APPROVALS FROM MDEQ OR THE LOCAL GOVERNING AGENCY.
26. CONTRACTOR IS RESPONSIBLE FOR PROJECT DUST CONTROL.
27. ACCESSIBLE ROUTES SHALL HAVE A MAXIMUM. RUNNING SLOPE OF 5%.

GENERAL UTILITY NOTES:

1. THE LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES SHOWN ON THESE PLANS IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTENCE, LOCATION, DEPTH, SIZE, LINE, AND GRADE OF EXISTING UTILITY CONNECTIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING FACILITIES DUE TO FAILURE TO LOCATE OR PROVIDE PROPER PROTECTION WHEN LOCATION IS KNOWN.
2. LOCATION OF SITE UTILITIES SHALL BE VERIFIED BY GENERAL CONTRACTOR AND THE UTILITY COMPANY PROVIDING SERVICE. ANY PROPOSED ADJUSTMENTS TO DRY UTILITY LOCATION SHALL BE COORDINATED WITH UTILITY COMPANIES.
3. PRIOR TO SUBMITTING PIPING DRAWINGS FOR ANY NEW PIPE THAT IS TO CONNECT TO AN EXISTING PIPE OR STRUCTURE, THE CONTRACTOR SHALL EXPOSE THE EXISTING PIPE OR STRUCTURE TO VERIFY ITS EXACT LOCATION, SIZE, MATERIALS, INVERT ELEVATIONS, AND GRADE.
4. THE CONTRACTOR SHALL NOTIFY THE MONTANA ONE CALL CENTER @ 811 OR (800) 551-8344 FOR ON-SITE UTILITY LOCATION. ALL KNOWN EXISTING UTILITIES SHALL BE MARKED BEFORE DIGGING.
5. SITE TO BE ROUGH GRADED PRIOR TO INSTALLATION OF UTILITIES TO ASSURE 6.5 FEET (78 INCHES) OF MINIMUM COVER ON BURIED WATER PIPING OR DEEPER AS SPECIFIED. IF 6.5 FEET OF MINIMUM COVER CANNOT BE OBTAINED, INSULATION OF BURIED WATER PIPING MAY BE REQUIRED.
6. GENERAL CONTRACTOR SHALL HAVE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER ANY UTILITY SYSTEM PRIOR TO INSTALLATION.
7. CONTRACTOR TO COORDINATE WITH CITY ENGINEER PRIOR TO CONNECTING TO EXISTING WATER LINES OWNED AND MAINTAINED BY THE CITY OF HELENA.
8. ALL WATER VALVES OWNED AND OPERATED BY THE CITY OF HELENA SHALL BE OPERATED BY CITY OF HELENA PUBLIC WORKS DEPARTMENT PERSONNEL ONLY.
9. SEWER AND WATER CONNECTIONS SHALL BE PERFORMED BY A LICENSED PLUMBER.
10. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR ALL TAP AND TIE-IN FEES REQUIRED, AS WELL AS THE COST OF UNDERGROUND SERVICE CONNECTIONS TO THE BUILDING.
11. ALL GRAVITY SANITARY SEWER SERVICES SHALL BE SDR -35 & -26 PVC IN ACCORDANCE WITH ASTM D 3034, UNLESS OTHERWISE NOTED.
12. FIRE SERVICE PIPE MATERIAL SHALL BE CLASS 51 DUCTILE IRON MEETING AWWA C151.
13. DOMESTIC WATER SERVICE PIPE MATERIAL SHALL BE CLASS 51 DUCTILE IRON MEETING AWWA C151.
14. DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
15. THE PIPE GRADES SHOWN ARE CALCULATED FROM ACTUAL DISTANCES, EDGE-OF-MANHOLE TO EDGE-OF-MANHOLE FOR BOTH SANITARY SEWER AND STORM DRAIN AS APPLICABLE. THE DISPLAYED PIPE LINEAL FEET REFLECTS THE DISTANCE FROM CENTER-OF-MANHOLE TO CENTER-OF-MANHOLE ON ALL GRAVITY PIPING.
16. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
17. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
18. THRUST BLOCKS ARE NOT GENERALLY SHOWN ON THE DRAWINGS. ALL FITTINGS, INCLUDING BENDS EQUAL TO OR GREATER THAN TWENTY-TWO AND ONE-HALF DEGREES (22.5°), TEES, AND PLUGS, SHALL BE THRUST BLOCKED IN CONFORMANCE WITH MPWSS, CITY OF HELENA DESIGN STANDARDS, OR MUST HAVE MECHANICALLY RESTRAINED JOINTS WHERE INDICATED ON THE PLANS.
19. ALL VALVES SHALL BE INSTALLED WITH THRUST BLOCKING AND VALVE BOXES IN ACCORDANCE WITH MPWSS AND CITY OF HELENA STANDARDS.
20. VALVE BOXES ARE REQUIRED FOR ALL VALVES IN A BURIED SERVICE.
22. REFER TO BUILDING PLAN FOR LOCATION OF SEWER, DOMESTIC, FIRE, ROOF DRAIN (AS APPLICABLE), AND IRRIGATION CONNECTIONS.
23. GENERAL CONTRACTOR SHALL TRENCH FOR DRY UTILITIES (NATURAL GAS, POWER, CABLE, PHONE, ETC.). DRY UTILITIES ARE TO BE INSTALLED AS NOTED IN AGREEMENT(S) WITH THE UTILITY COMPANY OR COMPANIES.
24. THE CONTRACTOR SHALL ADJUST ALL NEW AND EXISTING VALVE BOXES, CURB BOXES, AND MANHOLES TO FINAL GRADE UPON COMPLETION OF ALL CONSTRUCTION. ANY BOXES OR MANHOLES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR OR ANY SUBCONTRACTOR SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR. THIS WORK SHALL BE INCIDENTAL TO THE PROJECT. SEPARATE PAYMENT WILL NOT BE MADE.

DIGITAL FILES AND MACHINE CONTROL

1. IF THE CONTRACTOR UTILIZES A COMPUTERIZED GRADE CONTROL SYSTEM WHEN GRADING/FINISHING SUBGRADE, SUB-BASE COURSE AND BASE COURSE, UTILITIES, CURB AND GUTTER, OR FOR CONSTRUCTING ANY OTHER FEATURE OR FOR ANY OTHER PURPOSE, THEN THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING THEIR OWN MACHINE CONTROL FILES. THE CONTRACTOR MAY CREATE THIS DATA FROM SUPPLEMENTAL CAD INFORMATION AND THE INFORMATION PROVIDED ON THE PLANS IN THE CONTRACT DOCUMENTS. THE ENGINEER MAY PROVIDE THE CONTRACTOR SUPPLEMENTAL CAD INFORMATION IN THE FORM OF AN XML SURFACE AND/OR CAD LINE WORK (DERIVED FROM AUTOCAD CIVIL 3D). THE XML SURFACE AND/OR CAD LINE WORK DEVELOPED BY THE ENGINEER WAS PREPARED SOLELY FOR THE PURPOSE OF DEVELOPING THE PRINTED PLANS AND WAS NOT DEVELOPED FOR ANY OTHER USE. ELECTRONIC DATA PROVIDED TO THE CONTRACTOR IS CURRENT AS OF THE TIME TRANSMITTED TO THE CONTRACTOR AND MAY NOT INCLUDE LATER REVISIONS MADE AND COMMUNICATED ON THE CONSTRUCTION PLANS.
2. THE CONTRACTOR SHALL SIGN AND PROVIDE AN MMI-SPECIFIC ELECTRONIC INFORMATION RELEASE FORM WHEN REQUESTING THE SUPPLEMENTAL CAD INFORMATION AND SHALL RECOGNIZE THAT THE PRINTED PLANS AND SPECIFICATIONS AND INFORMATION FOUND THEREIN ARE THE CONTRACT DOCUMENTS AND AS SUCH, THEY GOVERN OVER ANY CAD INFORMATION PROVIDED. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY USE OF THIS CAD INFORMATION OR MODIFICATIONS MADE THERETO.

LEGEND

	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING SANITARY SEWER MANHOLE
	EXISTING STORM DRAIN FACILITIES
	EXISTING FIBER/TELEPHONE FACILITIES
	EXISTING ELECTRICAL FACILITIES
	EXISTING GAS FACILITIES
	EXISTING WELL
	EXISTING TRAFFIC SIGN
	EXISTING CMP CULVERT
	EXISTING RCP CULVERT
SD	EXISTING STORM SEWER MAIN
S	EXISTING SAN SEWER MAIN
SS	EXISTING SAN SEWER SERVICE
FM	EXISTING SAN SEWER FORCE MAIN
F	EXISTING FIBER OPTIC
BP	EXISTING UNDERGROUND POWER
BT	EXISTING UNDERGROUND TELEPHONE
C	EXISTING UNDERGROUND CABLE
G	EXISTING GAS LINE
OHP	EXISTING OVERHEAD POWER
OHT	EXISTING OVERHEAD TELEPHONE
PETRO	EXISTING PETROLEUM LINE
W	EXISTING WATER MAIN
WS	EXISTING WATER SERVICE
	PROPOSED SAN SEWER CLEANOUTS
	PROPOSED STORM DRAIN INLET
	PROPOSED STORM DRAIN MANHOLE
SD	PROPOSED STORM DRAIN
RD	PROPOSED ROOF DRAIN
SS	PROPOSED GRAVITY SAN SEWER SERVICE
WS	PROPOSED DOMESTIC WATER SERVICE
FIRE	PROPOSED FIRE SERVICE
UTIL	PROPOSED UTILITY CONDUIT
IRRIG	PROPOSED IRRIGATION SLEEVE
	EXISTING BUILDING
	EXISTING BUILDING ROOF
	EXISTING CONCRETE
	EXISTING CURB FACE
	EXISTING CURB FLOWLINE
	EXISTING TOP BACK OF CURB
	EXISTING PARKING STRIPE
	EXISTING ASPHALT
	EXISTING GRAVEL EDGE
	EXISTING SIDEWALK
	PROPOSED BUILDING
	PROPOSED CONCRETE
	PROPOSED CURB FLOWLINE
	PROPOSED TOP BACK OF CURB
	PROPOSED PARKING STRIPE
	PROPOSED ASPHALT
	PROPOSED GRAVEL EDGE
	PROPOSED SIDEWALK
	GRAPHICAL SIDEWALK JOINT
	PROPOSED ASPHALT GRADE BREAK
38XX	EXISTING MAJOR CONTOUR
38XX.00	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
38XX.00	PROPOSED MINOR CONTOUR

DETAIL AND SECTION DESIGNATION

811 Know what's below. Call before you dig.

ABBREVIATIONS

ABDN	ABANDON
AC	ASPHALTIC CONCRETE, ALUMINUM CAP
ADA	AMERICANS WITH DISABILITIES ACT
ADDL	ADDITIONAL
ADJ	ADJACENT, ADJUST
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECTURE, ARCHITECTURAL
ARCP	ARCHED REINFORCED CONCRETE PIPE
ASPH	ASPHALT
AVG	AVERAGE
BC	BUILDING CORNER
BFF	BELOW FINISHED FLOOR
BH	BOREHOLE
BLDG	BUILDING
BLK	BLOCK
BM	BENCHMARK
BRG	BEARING
BW	BOTTOM OF WALL
CHK	CHECK
CI	CAST IRON
CIPC	CAST IN-PLACE CONCRETE
CIRC	CIRCULAR
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNITS
CO	CLEANOUT
COB	CITY OF BOZEMAN
COMB	COMBINATION
CONC	CONCRETE
CONN	CONNECT, CONNECTION
COORD	COORDINATE
CP	CONTROL POINT
CPP	CORRUGATED PLASTIC PIPE
CSP	CORRUGATED STEEL PIPE
CTR	CENTER
CU	CUBIC
CU FT, CF	CUBIC FEET
CU IN	CUBIC INCH
CULV	CULVERT
CU YD	CUBIC YARD
D & L	D&L FOUNDRY AND SUPPLY
DBL	DOUBLE
DI	DUCTILE IRON, DRAIN INLET
DIA, Ø	DIAMETER
DIM	DIMENSION
DIR	DIRECTION
DTL	DETAIL
DWG	DRAWING
E	EAST
EA	EACH, EDGE OF ASPHALT
EC	EDGE OF CONCRETE
EG	EDGE OF GRAVEL, EXISTING GROUND
EJIW	EAST JORDAN IRON WORKS
EL, ELEV	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
ENGR	ENGINEER
EP	EDGE OF PAVEMENT
EXC	EXCAVATE
EX	EXISTING
EXT	EXTERIOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FES	FLARED END SECTION
FET	FLARED END TERMINAL
FF	FINISHED FLOOR
FG	FINISHED GRADE
FHYD	FIRE HYDRANT
FL	FLOWLINE
FLR	FLOOR
FT	FOOT, FEET
FTG	FOOTING
GA	GAGE, GAUGE
GAL	GALLON
GB	GRADE BREAK
GFA	GROSS FLOOR AREA
GND	GROUND
GSP	GALVANIZED STEEL PIPE
GVL	GRAVEL
HC	HANDICAP
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
HP	HIGH POINT
HT	HEIGHT
HWY	HIGHWAY
HYD	HYDRANT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INSUL	INSULATE
INT	INTERIOR
INV	INVERT
LAT	LATITUDE
LF	LINEAR FEET
LONG	LONGITUDE, LONGITUDINAL
LT	LEFT
LVL	LEVEL
MATL	MATERIAL
MAX	MAXIMUM
MDT	MONTANA DEPARTMENT OF TRANSPORTATION
MECH	MECHANICAL
MFD	MANUFACTURED
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
N	NORTH
NE	NORTHEAST
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHP	OVERHEAD POWER
PC	POINT OF CURVE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PRELIM	PRELIMINARY
PROP	PROPERTY
PT	POINT, POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
RACET	ROAD APPROACH CULVERT END TERMINAL
R, RAD	RADIUS
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD, ROOF DRAIN
REF	REFERENCE
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
S	SOUTH
SAN	SANITARY
SCH	SCHEDULE
SD	STORM DRAIN
SE	SOUTHEAST
SEC	SECTION
SPEC	SPECIFICATION
SQ	SQUARE
SQ FT, SF	SQUARE FOOT
SQ IN	SQUARE INCH
STA	STATION
SS	SANITARY SEWER
STD	STANDARD
SVC	SERVICE
SW	SIDEWALK, SOUTHWEST
TB	THRUST BLOCK
TBC	TOP BACK OF CURB
TEMP	TEMPORARY, TEMPERATURE
TOC	TOP OF CONCRETE
TRANS	TRANSITION
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UTIL	UTILITY
VERT	VERTICAL
VOL	VOLUME
VPD	VEHICLES PER DAY
W	WEST
W/	WITH
W/O	WITHOUT
WL	WATERLINE
TR	WATER
WSEL	WATER SURFACE ELEVATION
WV	WATER VALVE
XFMR	TRANSFORMER
YD	YARD

NOTE:
FOR ABBREVIATIONS NOT LISTED, CONTACT THE ENGINEER.

VICINITY MAP
NOT TO SCALE

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HELENA FIRE STATION #3
HELENA, MT 59602

GENERAL NOTES

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668
ISSUE DATES:
DRAWN BY: JZ

C1-0
10.22.25

PURPOSE OF SURVEY: DESIGN SURVEY FOR PROPOSED FIRE STATION IMPROVEMENTS

DATE OF SURVEY: MARCH–APRIL 2025

SURVEY AREA: SOUTHEAST PORTION OF TRACT 1 OF COS#3137037, BEING THE CITY OF HELENA PUBLIC WORKS YARD, ALONG WITH THE KELLEHER LANE RIGHT–OF–WAY, AND PORTIONS OF LOT 15 OF BURNHAM RANCH SUBDIVISION, PHASE 1.

OWNERS OF RECORD: CITY OF HELENA

SURVEY COMMISSIONED BY: DOWLING SANDHOLM ARCHITECTS

UTILITIES: INFORMATION OBTAINED FROM CITY OF HELENA GIS AND HAS BEEN COMBINED WITH OBSERVED EVIDENCE AND MARKS PROVIDED BY MT ONE CALL TO DEVELOP A VIEW OF UNDERGROUND UTILITIES. HOWEVER, LACKING EXCAVATION, THE EXACT LOCATION OF UNDERGROUND UTILITIES CANNOT BE ACCURATELY, COMPLETELY, OR RELIABLY DEPICTED. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION MAY BE NECESSARY.

A HIGH–PRESSURE NATURAL GAS MAIN EXISTS IN A 40' EASEMENT CROSSING THE PROPERTY. CONTACT NORTHWEST ENERGY DAMAGE PREVENTION REPRESENTATIVE RACHEL D'AMICO (406–497–2215) FOR DESIGN COORDINATION AND JOE CARMODY (406–422–3276) WHEN WORKING WITHIN 25' OF THE LOCATED UTILITY.

BOUNDARY & EASEMENTS: BOUNDARIES OF PROPERTIES IN THE SURVEY AREA SHOWN ARE ESTABLISHED FROM FIELD–LOCATED MONUMENTS OF RECORD. ADJACENT PROPERTIES MAY BE SHOWN BASED CALCULATIONS FROM RECORD DIMENSIONS. A TITLE COMMITMENT WAS NOT PROVIDED FOR THIS SURVEY, THUS NOT ALL EASEMENTS OR OTHER ENCUMBRANCES ON TITLE MAY BE SHOWN.

BASIS OF BEARINGS
CITY OF HELENA LDP
GEODETIC NORTH OBTAINED BY GPS OBSERVATION
DATUM: NAD83(2011)(EPOCH 2010.00)
PROJECTION: TRANSVERSE MERCATOR
CENTRAL MERIDIAN: W 111°57'00" (–111.95°)
PROJECT ORIGIN LATITUDE: N 46°30'00" (46.5°)
SCALE FACTOR AT CENTRAL MERIDIAN: 1.000191
FALSE NORTHING: 1000,000.00 ift (30,480m)
FALSE EASTING: 200,000.00 ift (60,960m)

Control Point Table

Point #	Northing	Easting	Elevation	Raw Description
50	143276.8440	187635.7660	3800.272	1.5" RPC "M-M CP"
51	142803.6060	187105.1070	3808.481	1.5" RPC "M-M CP"
52	143165.5350	187172.0710	3804.467	1.5" RPC "M-M CP"

LEGEND

- CONTOURS (1 FOOT INTERVAL)
- CONTOUR DEPRESSION
- EXISTING BUILDING
- SUBJECT PARCEL BOUNDARY
- EXISTING EASEMENT, AS NOTED
- FOUND SURVEY MONUMENT
- EXISTING CURB
- EXISTING FENCE
- EXISTING CENTERLINE OF ROAD
- SD — EXISTING STORM DRAIN
- W — EXISTING WATER MAIN
- S — EXISTING SANITARY SEWER
- BP — EXISTING BURIED POWER
- NG — EXISTING NATURAL GAS
- BT — EXISTING BURIED COMMUNICATION
- EXISTING MANHOLE - STORM SEWER
- EXISTING MANHOLE - SANITARY SEWER
- EXISTING WATER VALVE
- EXISTING CLEANOUT
- EXISTING STORM INLET
- EXISTING FIRE HYDRANT
- EXISTING IRRIGATION CONTROL VALVE
- EXISTING DELINEATOR POST
- EXISTING POWER POLE
- EXISTING GUY ANCHOR
- EXISTING TELEPHONE PEDESTAL
- EXISTING SIGN POST
- EXISTING DECIDUOUS TREE
- EXISTING LIGHT POLE

LEGEND

- EXISTING ASPHALT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR

N

40 20 0 40 80
SCALE IN FEET

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EXISTING SITE FEATURES AND TOPOGRAPHY

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JZ

C2-0

10.22.25

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LEGEND	
	ASPHALT PAVEMENT (LIGHT DUTY - 1/C5.0)
	ASPHALT PAVEMENT (HEAVY DUTY - 2/C5.0)
	PROPOSED CONCRETE (LIGHT DUTY - 3/C5.0)
	PROPOSED CONCRETE (HEAVY DUTY - 4/C5.0)
	PROPOSED GRAVEL
	EXISTING ASPHALT

GENERAL NOTES:

1. ALL IMPROVEMENTS ON THIS PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, 7TH EDITION DATED APRIL 2021 (MPWSS); THE CITY OF HELENA DESIGN STANDARDS; AND THE PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHALL RESTORE ALL ROADWAY SURFACES TO EQUAL OR BETTER CONDITION THAN EXISTED PRIOR TO EXCAVATION AS DETERMINED BY AGENCY, OWNER, AND/OR ENGINEER.
3. ASPHALT, CONCRETE CURB, AND SIDEWALK SHALL BE SAW CUT OR NEAT CUT AS APPROVED BY AGENCY AND/OR ENGINEER.
4. ALL TEXT AND FEATURES SHOWN SHADED ARE EXISTING. SEE SHEET C2-0 FOR MORE COMPLETE DEPICTION OF EXISTING IMPROVEMENTS.
5. PAVEMENT MARKINGS WITHIN THE SITE SHALL BE FOUR INCH (4") YELLOW PAINTED MARKINGS WHERE SHOWN ON THE SITE PLAN IN ACCORDANCE WITH SECTION 02851 OF THE MPWSS UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ENGINEER OR OWNER.
6. BASE COURSE AND SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698.
7. CONSTRUCTION JOINTS FOR CURB SHALL BE PLACED AT TEN FOOT (10') INTERVALS ALONG TANGENT CURB SECTIONS AND A MINIMUM OF 5.25' WITHIN THE RADIUS OF ANY CURVES, HAVING A MINIMUM DEPTH OF THREE-QUARTER INCHES (3/4") AND WIDTH OF ONE-EIGHTH INCH (1/8").
8. ONE-HALF INCH (1/2") EXPANSION JOINT MATERIAL SHALL BE PLACED AT ALL PC'S, PT'S, CURB RETURNS, AND AT NOT MORE THAN 300' INTERVALS. THE EXPANSION JOINT MATERIAL SHALL EXTEND THROUGH THE FULL DEPTH OF CURB AND GUTTER.
9. NO CURB AND GUTTER SHALL BE PLACED WITHOUT A FINAL FORM INSPECTION BY THE OWNER, THEIR AUTHORIZED REPRESENTATIVE, AND/OR THE CITY OF HELENA (AS REQUIRED).
10. CONCRETE SHALL BE CLASS M-4000 UNLESS OTHERWISE SPECIFIED.
11. EXTEND CRUSHED BASE COURSE BEYOND THE BACK OF CURB A MINIMUM DISTANCE OF NINE INCHES (9"). MINIMUM THICKNESS OF CRUSHED BASE COURSE BENEATH CURB AND GUTTER SHALL BE SIX INCHES (6").

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SCALE IN FEET

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OVERALL SITE PLAN

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JZ

C3-0

10.22.25

LEGEND

	ASPHALT PAVEMENT (LIGHT DUTY - 1/C5.0)
	ASPHALT PAVEMENT (HEAVY DUTY - 2/C5.0)
	PROPOSED CONCRETE (LIGHT DUTY - 3/C5.0)
	PROPOSED CONCRETE (HEAVY DUTY - 4/C5.0)
	PROPOSED GRAVEL
	EXISTING ASPHALT

UTILITY NOTES

1. ALL IMPROVEMENTS ON THIS PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, 7TH EDITION DATED APRIL 2021 (MPWSS); THE CITY OF HELENA DESIGN STANDARDS; AND THE PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHALL RESTORE ALL ROADWAY SURFACES TO EQUAL OR BETTER CONDITION THAN EXISTED PRIOR TO EXCAVATION AS DETERMINED BY AGENCY, OWNER, AND/OR ENGINEER.
3. ASPHALT, CONCRETE CURB, AND SIDEWALK SHALL BE SAW CUT OR NEAT CUT AS APPROVED BY AGENCY AND/OR ENGINEER.
4. ALL TEXT AND FEATURES SHOWN SHADED ARE EXISTING. SEE SHEET C2-0 FOR MORE COMPLETE DEPICTION OF EXISTING IMPROVEMENTS.
5. THE LOCATION, DEPTH, AND SIZE OF THE EXISTING UTILITIES SHOWN ON THESE PLANS IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE EXISTENCE, LOCATION, DEPTH, AND SIZE OF THE UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING FACILITIES DUE TO FAILURE TO LOCATE OR PROPERLY PROVIDE PROTECTION WHEN LOCATION IS KNOWN.
6. ALL WATER VALVES OWNED AND OPERATED BY THE CITY OF HELENA SHALL BE OPERATED BY AUTHORIZED CITY OF HELENA PERSONNEL ONLY.
7. SEWER AND WATER CONNECTIONS SHALL BE PERFORMED BY A LICENSED PLUMBER.
8. GENERAL CONTRACTOR TO COORDINATE DRY UTILITY AND IRRIGATION REQUIREMENTS.
9. INSTALL INSULATION OVER ALL SEWER PIPE WITH LESS THAN 4 FEET OF COVER
10. INSTALL CLEANOUTS AS DETAILED ON THE PLAN AND AT MAXIMUM SPACING OF 100 FT.

(X) = NUMBER OF PARKING SPACES IN ROW OR GROUP

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ENLARGED SITE AND UTILITY PLAN

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JZ

C3-1

10.22.25

LEGEND

	ASPHALT PAVEMENT (LIGHT DUTY - 1/C5.0)
	ASPHALT PAVEMENT (HEAVY DUTY - 2/C5.0)
	PROPOSED CONCRETE (LIGHT DUTY - 3/C5.0)
	PROPOSED CONCRETE (HEAVY DUTY - 4/C5.0)
	PROPOSED GRAVEL
	EXISTING ASPHALT

UTILITY NOTES

1. ALL IMPROVEMENTS ON THIS PROJECT SHALL BE COMPLETED IN ACCORDANCE WITH THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, 7TH EDITION DATED APRIL 2021 (MPWSS); THE CITY OF HELENA DESIGN STANDARDS; AND THE PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHALL RESTORE ALL ROADWAY SURFACES TO EQUAL OR BETTER CONDITION THAN EXISTED PRIOR TO EXCAVATION AS DETERMINED BY AGENCY, OWNER, AND/OR ENGINEER.
3. ASPHALT, CONCRETE CURB, AND SIDEWALK SHALL BE SAW CUT OR NEAT CUT AS APPROVED BY AGENCY AND/OR ENGINEER.
4. ALL TEXT AND FEATURES SHOWN SHADED ARE EXISTING. SEE SHEET C2-0 FOR MORE COMPLETE DEPICTION OF EXISTING IMPROVEMENTS.
5. THE LOCATION, DEPTH, AND SIZE OF THE EXISTING UTILITIES SHOWN ON THESE PLANS IS APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE EXISTENCE, LOCATION, DEPTH, AND SIZE OF THE UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING FACILITIES DUE TO FAILURE TO LOCATE OR PROPERLY PROVIDE PROTECTION WHEN LOCATION IS KNOWN.
6. ALL WATER VALVES OWNED AND OPERATED BY THE CITY OF HELENA SHALL BE OPERATED BY AUTHORIZED CITY OF HELENA PERSONNEL ONLY.
7. SEWER AND WATER CONNECTIONS SHALL BE PERFORMED BY A LICENSED PLUMBER.
8. GENERAL CONTRACTOR TO COORDINATE DRY UTILITY AND IRRIGATION REQUIREMENTS.
9. INSTALL INSULATION OVER ALL SEWER PIPE WITH LESS THAN 4 FEET OF COVER
10. INSTALL CLEANOUTS AS DETAILED ON THE PLAN AND AT MAXIMUM SPACING OF 100 FT.

(X) = NUMBER OF PARKING SPACES IN ROW OR GROUP

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ENLARGED SITE AND UTILITY PLAN

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

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GENERAL NOTES

1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), SIXTH EDITION, AND CITY OF HELENA DESIGN STANDARDS, LATEST EDITION.

2. LOCATIONS OF EXISTING OVERHEAD AND BURIED UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE, AND SHALL BE VERIFIED AND MARKED UNDER THE DIRECTION OF THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES AND SHALL REPAIR ANY FACILITIES DAMAGED DURING PERFORMANCE OF THE WORK.

3. ALL STORM DRAIN INLETS AND MANHOLES SHALL BE THE SIZE INDICATED, AND CONSTRUCTED PER CITY OF HELENA STANDARD DETAILS: DETAIL # 4-1.

   MANHOLES INDICATING "RIM=" SHALL HAVE SOLID COVERS, THOSE INDICATING "GRATE=" SHALL HAVE SLOTTED (GRATED) COVERS, AND THOSE INDICATING "TBC=" SHALL HAVE CURB INLET TYPE SLOTTED COVERS.

   ALL PIPES LABELED "SD" (STORM DRAIN) ARE 12" DIA. OR LARGER AND SDR 35.

4. ALL ROOF/PATIO DRAINS SHALL CONNECT TO STORM DRAIN PIPING ON SITE AT 1.00% MIN. SLOPE. MINIMUM PIPE SIZE IS 6 INCH (5 FEET BEYOND BUILDING/PATIO WALL). USE SCH. 40 WITHIN 5 FEET OF BUILDING/PATIO WALL AND SDR 35 BEYOND. INSTALL CLEANOUTS AT 100-FOOT MAX. SPACING. COORDINATE PIPE LENGTHS AND LOCATIONS WITH THE ARCHITECTURAL PLANS AS REQUIRED TO COLLECT ALL DOWNSPOUTS. CONNECT TO STORM DRAIN PIPE WITH WYE FITTING.

5. SPOT ELEVATIONS ALONG CURB & GUTTER ARE TOP BACK OF CURB (TBC) ELEVATIONS FOR STANDARD (FULL HEIGHT) CURB, UNLESS INDICATED OTHERWISE. CURB FLARES, FLUSH CURBS AND TRANSITIONS MAY ALSO INCLUDE EDGE OF GUTTER (EG) ELEVATIONS. TO OBTAIN EG ELEVATION FOR STANDARD CURB SECTION, SUBTRACT 0.58' (SPILL CURB) OR 0.42' (CATCH CURB) FROM TBC ELEVATIONS ON PLAN.

7. LANDSCAPE SHALL BE GRADED TO DRAIN AWAY FROM ALL BUILDINGS. 6" OF BUILDING FOUNDATION REVEAL SHALL BE PROVIDED UNLESS OTHERWISE NOTED.

8. FOR CLARITY, SPOT ELEVATIONS HAVE BEEN TRUNCATED TO TWO DIGITS BEFORE THE DECIMAL. ADD BASE ELEVATION OF 3800.00 FEET TO REACH ACTUAL ELEVATIONS ON PROJECT DATUM.

LEGEND

	CATCH CURB
	SPILL CURB
	LAYDOWN CURB
T	TRANSITION CURB (T)
	FLOW LINE
	GRADE BREAK
XXXX	PROPOSED CONTOUR (WHOLE)
MEG	MATCH EXISTING GRADE

KEY NOTES

1. RETENTION POND P-1
   VOLUME = 10,827 CF
   POND BOTTOM = 3795.00
   POND TOP = 3801.00
   4:1 SIDE SLOPES

811 Know what's below. Call before you dig.

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SCALE IN FEET

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HELENA FIRE STATION #3
HELENA, MT 59602

ENLARGED GRADING PLAN

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JZ

C4-1

10.22.25

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GENERAL NOTES

1. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), SIXTH EDITION, AND CITY OF HELENA DESIGN STANDARDS, LATEST EDITION.

2. LOCATIONS OF EXISTING OVERHEAD AND BURIED UTILITIES SHOWN ON THIS DRAWING ARE APPROXIMATE, AND SHALL BE VERIFIED AND MARKED UNDER THE DIRECTION OF THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES AND SHALL REPAIR ANY FACILITIES DAMAGED DURING PERFORMANCE OF THE WORK.

3. ALL STORM DRAIN INLETS AND MANHOLES SHALL BE THE SIZE INDICATED, AND CONSTRUCTED PER CITY OF HELENA STANDARD DETAILS: DETAIL # 4-1.

   MANHOLES INDICATING "RIM=" SHALL HAVE SOLID COVERS, THOSE INDICATING "GRATE=" SHALL HAVE SLOTTED (GRATED) COVERS, AND THOSE INDICATING "TBC=" SHALL HAVE CURB INLET TYPE SLOTTED COVERS.

   ALL PIPES LABELED "SD" (STORM DRAIN) ARE 12" DIA. OR LARGER AND SDR 35.

4. ALL ROOF/PATIO DRAINS SHALL CONNECT TO STORM DRAIN PIPING ON SITE AT 1.00% MIN. SLOPE. MINIMUM PIPE SIZE IS 6 INCH (5 FEET BEYOND BUILDING/PATIO WALL). USE SCH. 40 WITHIN 5 FEET OF BUILDING/PATIO WALL AND SDR 35 BEYOND. INSTALL CLEANOUTS AT 100-FOOT MAX. SPACING. COORDINATE PIPE LENGTHS AND LOCATIONS WITH THE ARCHITECTURAL PLANS AS REQUIRED TO COLLECT ALL DOWNSPOUTS. CONNECT TO STORM DRAIN PIPE WITH WYE FITTING.

5. SPOT ELEVATIONS ALONG CURB & GUTTER ARE TOP BACK OF CURB (TBC) ELEVATIONS FOR STANDARD (FULL HEIGHT) CURB, UNLESS INDICATED OTHERWISE. CURB FLARES, FLUSH CURBS AND TRANSITIONS MAY ALSO INCLUDE EDGE OF GUTTER (EG) ELEVATIONS. TO OBTAIN EG ELEVATION FOR STANDARD CURB SECTION, SUBTRACT 0.6' (SPILL CURB) OR 0.38' (CATCH CURB) FROM TBC ELEVATIONS ON PLAN.

7. LANDSCAPE SHALL BE GRADED TO DRAIN AWAY FROM ALL BUILDINGS. 6" OF BUILDING FOUNDATION REVEAL SHALL BE PROVIDED UNLESS OTHERWISE NOTED.

8. FOR CLARITY, SPOT ELEVATIONS HAVE BEEN TRUNCATED TO TWO DIGITS BEFORE THE DECIMAL. ADD BASE ELEVATION OF 3800.00 FEET TO REACH ACTUAL ELEVATIONS ON PROJECT DATUM.

LEGEND

- CATCH CURB
- SPILL CURB
- LAYDOWN CURB
- TRANSITION CURB (T)
- FLOW LINE
- GRADE BREAK
- XXXX — PROPOSED CONTOUR (WHOLE)
- MEG — MATCH EXISTING GRADE

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ENLARGED GRADING PLAN

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JZ

C4-2

10.22.25

1. SECTION TO FOLLOW THE CITY OF HELENA FIRE STATION #3 GEOTECHNICAL REPORT AUGUST 7, 2025 - PIONEER TECHNICAL SERVICES
2. EXCAVATE AND REMOVE ANY TOPSOIL, EXISTING FILL, EXISTING ASPHALT, AND/OR DERIS FROM ASPHALT PAVEMENT FOOTPRINT. EXCAVATE TO DESIGN SUBGRADE ELEVATIONS.
3. MOISTURE CONDITION SUBGRADE SOIL TO PLUS OR MINUS 2% OF OPTIMUM MOISTURE CONTENT AND COMPACT THE EXCAVATION SURFACE TO A STANDARD RELATIVE COMPACTION (ASTM D698) OF AT LEAST 95%
4. PROVIDE BASE COURSE MEETING GRADATION REQUIREMENTS LISTED IN TABLE 5 OF THE REPORT. PLACE AND COMPACT BASE COURSE IN 8-INCH (MAXIMUM) LOOSE LIFTS AND COMPACT EACH LIFT TO A STANDARD RELATIVE COMPACTION OF AT LEAST 95%.
5. PROVIDE ASPHALT PLANT MIX WITH BINDER MATERIAL MEETING PG 58-28 GRADE AND AGGREGATES MEETING MPW TYPE B GRADING REQUIREMENTS
6. COMPACT ASPHALT TO AT LEAST 93% OF ITS RICE DENSITY (AASHTO T209)
7. THE FINISHED SURFACE MUST BE FREE OF RUTS, DEPRESSIONS, OR OTHER SURFACE DEFECTS EXCEEDING ONE-QUARTER INCH (1/4") AS MEASURED WITH A TEN FOOT (10') STRAIGHT EDGE PARALLELING THE FINISHED SURFACE. MAKE CORRECTIONS BY SCARIFYING AND RELAYING THE MIXTURE AT CONTRACTOR EXPENSE.

1 PAVEMENT DETAIL - LIGHT DUTY

NOT TO SCALE

1. SECTION TO FOLLOW THE CITY OF HELENA FIRE STATION #3 GEOTECHNICAL REPORT AUGUST 7, 2025 - PIONEER TECHNICAL SERVICES
2. EXCAVATE AND REMOVE ANY TOPSOIL, EXISTING FILL, EXISTING ASPHALT, AND/OR DERIS FROM ASPHALT PAVEMENT FOOTPRINT. EXCAVATE TO DESIGN SUBGRADE ELEVATIONS.
3. MOISTURE CONDITION SUBGRADE SOIL TO PLUS OR MINUS 2% OF OPTIMUM MOISTURE CONTENT AND COMPACT THE EXCAVATION SURFACE TO A STANDARD RELATIVE COMPACTION (ASTM D698) OF AT LEAST 95%
4. PROVIDE BASE COURSE MEETING GRADATION REQUIREMENTS LISTED IN TABLE 5 OF THE REPORT. PLACE AND COMPACT BASE COURSE IN 8-INCH (MAXIMUM) LOOSE LIFTS AND COMPACT EACH LIFT TO A STANDARD RELATIVE COMPACTION OF AT LEAST 95%.
5. PROVIDE ASPHALT PLANT MIX WITH BINDER MATERIAL MEETING PG 58-28 GRADE AND AGGREGATES MEETING MPW TYPE B GRADING REQUIREMENTS
6. COMPACT ASPHALT TO AT LEAST 93% OF ITS RICE DENSITY (AASHTO T209)
7. THE FINISHED SURFACE MUST BE FREE OF RUTS, DEPRESSIONS, OR OTHER SURFACE DEFECTS EXCEEDING ONE-QUARTER INCH (1/4") AS MEASURED WITH A TEN FOOT (10') STRAIGHT EDGE PARALLELING THE FINISHED SURFACE. MAKE CORRECTIONS BY SCARIFYING AND RELAYING THE MIXTURE AT CONTRACTOR EXPENSE.

2 PAVEMENT DETAIL - HEAVY DUTY

NOT TO SCALE

NOTES:

1. SECTION TO FOLLOW THE CITY OF HELENA FIRE STATION #3 GEOTECHNICAL REPORT AUGUST 7, 2025 - PIONEER TECHNICAL SERVICES
2. EXCAVATE TO DESIGN SUBGRADE. 6 INCHES OF BASE COURSE IS RECOMMENDED BELOW CONCRETE FLAT WORK AT PEDESTRIAN LOCATIONS.
3. MOISTURE CONDITION SUBGRADE SOIL TO PLUS OR MINUS 2% OF OPTIMUM MOISTURE CONTENT AND COMPACT THE EXCAVATION SURFACE TO A STANDARD RELATIVE COMPACTION (ASTM D698) OF AT LEAST 95%.
4. PLACE BASE COURSE MEETING THE GRADATION SPECIFICATIONS LISTED IN TABLE 5. PLACE IN 8-INCH (MAXIMUM) LOOSE LIFTS AND COMPACT EACH LIFT TO A STANDARD RELATIVE COMPACTION OF AT LEAST 95% PRIOR TO FORMING FOR THE CONCRETE FLATWORK.
5. EXTERIOR SLABS FOR PEDESTRIAN USE SHOULD BE AT LEAST 4 INCHES THICK.
6. TO HELP CONTROL SHRINKAGE CRACKING, PIONEER SUGGESTS CONCRETE SLABS BE REINFORCED WITH NUMBER 4 REBAR PLACED AT 18 INCHES ON-CENTER, EACH WAY OR WIRE MESH REINFORCEMENT (6X6 W2.9XW2.9 WWF). PROVIDE WIRE SUPPORTS AND SPACERS TO SUPPORT ALL REINFORCEMENT IN THE PROPER LOCATIONS AND TIE ADEQUATELY AT INTERSECTIONS TO HOLD REINFORCEMENT FIRMLY IN POSITION WHILE CONCRETE IS PLACED. WIRE SUPPORTS AND SPACERS THAT REST ON EXPOSED SURFACES SHOULD BE HOT DIPPED GALVANIZED OR PLASTIC COATED. CENTER THE REINFORCEMENT IN THE SLAB.
7. SPACE CONSTRUCTION AND CONTROL JOINTS A MAXIMUM OF 8 FEET ON-CENTER. ALL SAW CUT JOINTS WILL BE 'SOFT CUT' SAWN AS SOON AS ALLOWED BY THE SAW MANUFACTURER'S RECOMMENDATIONS.AFTER THE SLAB FINISHING HAS BEEN COMPLETED, CONSTRUCT JOINTS WITHIN 4 HOURS IN HOT WEATHER AND WITHIN 12 HOURS IN COLD WEATHER AFTER SLAB FINISH IS COMPLETED.
8. INSTALL EXPANSION JOINTS BETWEEN SLABS NO MORE THAN 40 FEET APART, AT THE SIDEWALK/DRIVEWAY AND SIDEWALK/DOORWAY ENTRY INTERFACES. AT EACH OF THESE LOCATIONS, PROVIDE EXPANSION JOINTS HAVING A MINIMUM ¾-INCH WIDTH. FILL ALL EXPANSION JOINTS WITH A FIELD-MOLDED SEALANT.

3 LIGHT DUTY CONCRETE

NOT TO SCALE

NOTES:

1. SECTION TO FOLLOW THE CITY OF HELENA FIRE STATION #3 GEOTECHNICAL REPORT AUGUST 7, 2025 - PIONEER TECHNICAL SERVICES
2. STRIP AND REMOVE TOPSOIL AND UNCONTROLLED FILL FROM PAVEMENT FOOTPRINT. EXCAVATE TO DESIGN ELEVATIONS
3. MOISTURE CONDITION SUBGRADE SOIL TO PLUS OR MINUS 2% OF OPTIMUM MOISTURE CONTENT AND COMPACT THE EXCAVATION SURFACE TO A STANDARD RELATIVE COMPACTION OF AT LEAST 95%.
4. PROVIDE BASE COURSE MEETING GRADATION REQUIREMENTS LISTED IN TABLE 5. PLACE AND COMPACT BASE COURSE IN 8-INCH (MAXIMUM) LOOSE LIFTS AND COMPACT EACH LIFT TO A STANDARD RELATIVE COMPACTION OF AT LEAST 95%.
5. PROVIDE CONCRETE WITH A MINIMUM 28-DAY FLEXURAL STRENGTH OF 500 POUNDS PER SQUARE INCH (PSI), COMPRESSIVE STRENGTH OF 4,000 PSI, AND AIR-ENTRAINED (4.5 PLUS OR MINUS 1.5%).
6. PROVIDE AND PLACE DISTRIBUTED STEEL REINFORCEMENT (REBAR), SPECIFICALLY PLACE NUMBER 4 REBAR AT 18 INCHES ON-CENTER, EACH WAY. PROVIDE SUPPORTS TO POSITION REBAR 2-INCHES FROM TOP OF SLAB AND TIE ADEQUATELY AT INTERSECTIONS TO HOLD REINFORCEMENT FIRMLY IN POSITION WHILE CONCRETE IS PLACED.
7. MAXIMUM JOINT (CONTRACTION AND CONSTRUCTION) SPACING OF 15 FEET. TO EXTENT PRACTICAL, JOINT PATTERNS SHOULD DIVIDE PAVEMENT INTO APPROXIMATE SQUARE PANELS. JOINT PATTERNS ACROSS LANES SHOULD BE CONTINUOUS.
8. PLACE ISOLATION JOINTS AT CONCRETE PAVEMENT INTERFACES WITH OTHER STRUCTURES/FIXED OBJECTS.
9. CONTRACTION JOINTS CAN BE CONSTRUCTED WITH TOOLING OR SAW CUTTING. SAW CUTTING SHOULD BE PERFORMED AS SOON AS ALLOWABLE PER SAW MANUFACTURE GUIDELINES. THE DEPTH OF THE JOINT SHOULD BE 1.5-INCHES (¼ SLAB DEPTH) FOR TRADITIONAL SAWS OR 1-INCH FOR EARLY-ENTRY SAWS. JOINTS SHOULD BE 1/8 TO ½-INCH WIDE.
10. FILL AND SEAL JOINTS TO MINIMIZE SURFACE WATER INFILTRATION.

4 HEAVY DUTY CONCRETE - FIRE TRUCK ACCESS ROUTE/DRIVEWAY

NOT TO SCALE

CONCRETE ROADWAY CURB AND GUTTER

A

DEPRESSED CURB SECTION AT CURB RAMPS AND DRIVEWAY ENTRANCES

B

ROLL CURB SECTION DRIVEWAY ENTRANCES

C

CONCRETE PEDESTRIAN CURB

D

DEPRESSED CONCRETE PEDESTRIAN CURB AT CURB RAMPS, LANDINGS AND DRIVEWAY ENTRANCES

E

CITY OF HELENA ENGINEERING STANDARDS		CURB TYPES	STANDARD DRAWING:
REVISED: 1/28/22	SCALE: NONE		5-4

GENERAL NOTES

1. ANY DEVIATIONS FROM THE CITY OF HELENA ENGINEERING AND DESIGN STANDARDS REQUIRES A DEVIATION REQUEST TO BE SUBMITTED TO CITY STAFF FOR REVIEW PRIOR TO ANY CONSTRUCTION.
2. CURB RAMP LOCATION SHALL BE PLACED WITHIN THE WIDTH OF THE ASSOCIATED CROSSWALK, OR AS SHOWN IN THE PROJECT PLANS.
3. SIDEWALKS SHALL BE 6 INCHES THICK ACROSS DRIVEWAYS AND 4 INCHES THICK ELSEWHERE.
4. ALL SIDEWALKS SHALL BE A MINIMUM WIDTH OF 5 FEET.
5. INTEGRAL CURB AND GUTTER SHALL BE USED ON ALL ROADWAYS. A MAXIMUM SLOPE OF 24:1 FROM THE LIP OF GUTTER TO THE FLOWLINE OF THE GUTTER.
6. PAVEMENT MUST BE INSTALLED BETWEEN ¼" TO ½" ABOVE THE LIP.
7. ¾" EXPANSION JOINTS SHALL CONFORM TO AASHTO M213.
8. WHERE "GRADE BREAK" IS CALLED OUT, THE ENTIRE LENGTH OF THE GRADE BREAK BETWEEN THE TWO ADJACENT SURFACE PLANES SHALL BE FLUSH.
9. DO NOT PLACE GRATINGS, JUNCTION BOXES, ACCESS COVERS OR OTHER APPURTENANCES IN FRONT OF THE CURB RAMP OR ON ANY PART OF THE CURB RAMP OR LANDING.
10. THE CURB RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE CURB RAMP SHALL BE AS FLAT AS FEASIBLE.
11. CURB RAMPS, LANDINGS AND FLARES SHALL RECEIVE BROOM FINISH.
12. PEDESTRIAN CURB MAY BE OMITTED IF THE GROUND SURFACE AT THE BACK OF THE CURB RAMP AND/OR LANDING WILL BE AT THE SAME ELEVATION AS THE CURB RAMP OR LANDING AND THERE WILL BE NO MATERIAL TO RETAIN.
13. THE DETECTABLE WARNING SURFACE SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP (EXCLUSIVE OF FLARES) OR THE LANDING.
14. THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE BACK OF CURB, AND NEED NOT FOLLOW THE RADIUS.
15. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED TO BE PERPENDICULAR TO THE GRADE BREAK AT THE BACK OF CURB.
16. THE ROWS OF TRUNCATED DOMES SHALL BE ALIGNED TO BE PARALLEL TO THE DIRECTION OF TRAVEL.
17. IF CURB AND GUTTER ARE NOT PRESENT, SUCH AS A SHARED-USE PATH CONNECTION, THE DETECTABLE WARNING SURFACE SHALL BE PLACED AT THE PAVEMENT EDGE.
18. SEE STANDARD DRAWINGS FOR SIDEWALK AND CURB RAMP DETAILS.
19. WHEN THE GRADE BREAK BETWEEN THE CURB RAMP AND THE LANDING IS LESS THAN OR EQUAL TO 5 FT. FROM THE BACK OF CURB AT ALL POINTS, PLACE THE DETECTABLE WARNING SURFACE ON THE BOTTOM OF THE CURB RAMP.

CITY OF HELENA ENGINEERING STANDARDS		ADA CURB RAMP GENERAL NOTES	STANDARD DRAWING:
REVISED: 1/28/22	SCALE: NONE		5-6

PLAN VIEW
TYPE SINGLE DIRECTION A

SECTION A

DETAIL D

CITY OF HELENA ENGINEERING STANDARDS		SINGLE DIRECTION CURB RAMP	STANDARD DRAWING:
REVISED: 1/28/22	SCALE: NONE		5-7A

PLAN VIEW
TYPE PERPENDICULAR B
(SHOWN WITH BUFFER)

CURB RADIUS DETAIL D

NOTES

1. PROVIDE A SEPARATE CURB RAMP FOR EACH MARKED OR UNMARKED CROSSWALK. CURB RAMP LOCATION SHALL BE PLACED WITHIN THE WIDTH OF THE ASSOCIATED CROSSWALK OR AS SHOWN IN THE CONTRACT PLANS.
2. SEE THE CONTRACT PLANS FOR THE CURB DESIGN SPECIFIED. SEE STANDARD PLAN F-10.12 FOR CURB, CURB AND GUTTER, DEPRESSED CURB AND GUTTER, AND PEDESTRIAN CURB DETAILS.

CITY OF HELENA ENGINEERING STANDARDS		PERPENDICULAR CURB RAMP	STANDARD DRAWING:
REVISED: 1/28/22	SCALE: NONE		5-8B

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HELENA FIRE STATION #3
HELENA, MT 59602

SITE DETAILS

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JZ

C5-0

10.22.25

Notes:
1. Thrust blocking to be in conformance with MPW standard drawing 02660-1.
2. For bolted fittings, blocking shall not obstruct bolts.
3. Hydrant weep holes to remain unobstructed.
4. Thrust block shall bear horizontally against undisturbed soil.

CITY OF HELENA ENGINEERING STANDARDS		Fire Hydrant Setting	STANDARD DRAWING:
REVISED: 2/12/13	SCALE: NONE		2-2

DETAIL OF A PROPERLY INSTALLED CORPORATION STOP, SHOWING GOOSENECK IN SERVICE PIPE

Notes:
1. Minimum cover for service lines shall be measured from existing ground line when ground is level or falling away from street, and measured from top of street curb when ground is rising from street.
2. Water service lines shall be installed where shown on the drawings or as specified.
3. Bedding shall be 1 inch (25mm) diameter maximum within 6" (15cm) of service pipe.

CITY OF HELENA ENGINEERING STANDARDS		Water Service Line	STANDARD DRAWING:
REVISED: 2/12/13	SCALE: NONE		2-3

CURB STOP LOCATION W/ BOULEVARD

CURB STOP LOCATION CURBSIDE SIDEWALK

CITY OF HELENA ENGINEERING STANDARDS		Water Service Line Curb Stop Location	STANDARD DRAWING:
REVISED: 1/12/22	SCALE: NONE		2-3A

NOTES:
1. COMPACTED CRUSHED SURFACING TOP COURSE, CRUSHED SURFACING, CAN ALSO BE USED AS BEDDING GRAVEL.
2. EXCAVATE UNSTABLE MATERIAL DOWN TO FIRM SOIL AND REPLACE WITH FOUNDATION GRAVEL BALLAST.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANCHORING PIPE TO PREVENT FLOTATION DURING CONCRETE PLACEMENT.
4. WHEN THE DESIGN OF TANKS OR PIPES DOES NOT TAKE INTO ACCOUNT BOUYANCY, UNDERDRAINS SHALL BE PROVIDED.
5. PROVIDE CLEANOUTS ON UNDERDRAIN PIPE, EVERY 100 FEET, AND AT BENDS OR JUNCTIONS.

CITY OF HELENA ENGINEERING STANDARDS		Pipe Bedding	STANDARD DRAWING:
REVISED: 2/12/13	SCALE: NONE		2-7

CITY OF HELENA ENGINEERING STANDARDS		Standard Specification Inlets	STANDARD DRAWING:
REVISED: 2/12/13	SCALE: NONE		4-1

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UTILITY DETAILS

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PROJECT #: 25-668

ISSUE DATES:

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NOTES:
1. AUTOMATED GATE SHALL BE CANTILEVERED SLIDE GATE STYLE.
2. TYPICAL CANTILEVER PANEL SHALL BE 1/2 WIDTH OF GATE OPENING PANEL. CONFIRM WITH GATE SUPPLIER.
3. GATE SUPPORT PANELS PER MANUFACTURER'S RECOMMENDATIONS.
4. CONTRACTOR SHALL PROVIDE DESIGN DETAILS TO ENGINEER FOR CANTILEVER SLIDE GATE PRIOR TO ORDERING AND CONSTRUCTION.
5. GATE SHALL BE CHAIN LINK OF GALVANIZED MATERIAL. MATCH EXISTING COLOR AND FINISH OF OTHER SITE FENCING, SEE SPECS.
6. GATE HEIGHT SHALL BE 6-FT AND RUN ABOVE TOP BACK OF CURB.

1 CANTILEVER SLIDE GATE DETAIL
SCALE: NTS

NOTES:
1. GATE LAYOUT IS SHOWN GRAPHICALLY, FINAL LAYOUT SHALL BE DETERMINED BY CONTRACTOR AND GATE SUPPLIER.
2. CONTRACTOR SHALL PROVIDE FINAL LAYOUT AND DETAILS TO ENGINEER PRIOR TO ORDERING AND CONSTRUCTION.
3. COORDINATE WITH ELECTRICAL AND LOW VOLTAGE DESIGN FOR POWER SUPPLY AND LAYOUT.
4. GATE PANELS PER MANUFACTURER'S RECOMMENDATIONS.

2 CANTILEVER SLIDE GATE LAYOUT DETAIL
SCALE: NTS

TYPICAL END PANEL

NOTE:
1. FENCE SHALL BE CHAIN LINK MATCHING EXISTING COLOR AND FINISH. SEE SPECS.
2. FENCE HEIGHT SHALL BE 6-FT.
3. FENCE POSTS SHALL BE 10' APART FOR LINES POSTS AND END PANELS.
4. FENCING SHALL BE 9 GUAGE

3 CHAIN LINK FENCE DETAIL
SCALE: NTS

NOTES:
1. SIGNS MAY ALSO BE MOUNTED ON BUILDING FACE AS APPLICABLE AND APPROVED BY OWNER.
2. SIGNS SHALL BE MOUNTED TO POST OR BUILDING USING NEOPRENE, FIBROUS, OR OTHER APPROVED NON-METALLIC WASHERS.

NOTES:
1. STEEL POSTS SHALL BE HOT-DIPPED IN GALVANIZED ZINC COATING AND FINISHED WITH CONVERSION COATING AND A CLEAR ORGANIC TOP COAT.
2. WHEN FASTENING POST TO ANCHOR, INSERT CORNER BOLT HEAD FROM OPPOSITE SIDE OF EXPECTED IMPACT. INSERT DRIVE RIVET INTO OPPOSITE SIDE FOR ADDITIONAL STABILITY.
3. ALTERNATE CRASH TESTED AND APPROVED BREAKAWAY DEVICES MAY BE USED AS AN OPTION AS APPROVED BY THE ENGINEER.

SUPPORT AND CORRESPONDING ANCHOR					
SUPPORT			ANCHOR		
TUBE SIZE	WEIGHT	WALL THICKNESS	TUBE SIZE	WEIGHT	WALL THICKNESS
2" X 2"	2.42 LB / FT	0.105" (12 GAUGE)	2-1/2" X 2-1/2"	18.4 LB / EA	0.188" (7 GAUGE)
2-1/2" X 2-1/2"	3.14 LB / FT	0.105" (12 GAUGE)	3" X 3"	23.0 LB / EA	0.188" (7 GAUGE)

4 TRAFFIC RATED ACCESSIBLE SIGN AND POST DETAIL
SCALE: NTS

* BLUE PAINT
** WHITE PAINT - STROKE WIDTH = 3" (MIN)

REFER TO "STANDARD HIGHWAY SIGNS, 2004 EDITION" APPENDIX (PAGE 6-31) FOR HANDICAPPED SYMBOL DESIGN

5 ACCESSIBLE PARKING DETAIL
SCALE: NTS

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FENCING AND SIGNAGE DETAILS

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JZ

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10.22.25

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HELENA FIRE STATION #3

LANDSCAPE DRAWINGS

CITY OF HELENA LANDSCAPE PLANTING REQUIREMENTS

ORDINANCES OF THE CITY OF HELENA 3150, CHAPTER 24

SITE LANDSCAPING- (11-24-3)

GENERAL LANDSCAPING AND TREES- (11-24-3)
60% LIVE VEGETATIVE COVER REQUIRED FOR LANDSCAPED AREAS

TOTAL LANDSCAPE AREA SITE COVERAGE - 113,458 SF
SF REQUIRED - 60% = 68,075 SQ FT
SF PROVIDED - 86,726 SQ FT

ORDINANCES OF THE CITY OF HELENA 3150, CHAPTER 24

PARKING LOT LANDSCAPING- (11-24-4)
EACH PARKING SPACE MUST BE WITHIN 35 FT OF A TREE TRUNK
30 SF MIN. PLANTING PER PARKING SPACE REQUIRED - 36 PARKING SPACES PROVIDED

SF REQUIRED - 1,080 SQ FT
SF PROVIDED - 6,674 SQ FT

ORDINANCES OF THE CITY OF HELENA 3194, CHAPTER 7

BOULEVARD LANDSCAPING AND TREES- (7-10-5)
60% LIVE VEGETATIVE COVER REQUIRED FOR LANDSCAPE

TOTAL SF OF BOULEVARD AREA = 1,548 SF
SF REQUIRED - 60% CANOPY COVERAGE = 929 SF
SF PROVIDED - 3,911 SF
TREES PROVIDED - 17

****NOTE: TREES ALONG CUSTER AVE ARE PLACED NORTH SIDE OF SIDEWALK DUE TO LACK OF EXISTING BOULEVARD**

NOTES:

1. ESTIMATED DATE OF INSTALL FOR LANDCAPE- TBD
2. (7-10-5:A,3) - BOULEVARD TREES MUST BE PLANTED WITHIN 18 MONTHS FROM DATE OF OCCUPANCY.
3. (7-10-5:A,3) - A TREE PERMIT IS REQUIRED FROM THE DEPARTMENT PRIOR TO PLANTING BOULEVARD TREES.
4. (7-10-5:A,4) - ALL TREES USED COMPLY WITH HELENA ARBORICULTURAL STANDARDS
5. (11-24-6:B) - ALL DECIDUOUS TREES TO BE 1.5 INCH CALIPER AT TIME OF PLANTING. EVERGREEN TREES TO BE NO LESS THAT 5' TALL AT TIME OF PLANTING.
6. (7-3-7:B,1) - BOULEVARD TREES THAT HAVE A SINGLE TRUNK TRIMMED TO AT LEAST 8' ABOVE THE CURB ARE PERMITTED WITHIN SIGHT TRIANGLE EXTENTS.

SHEET INDEX

L0.0	COVER SHEET
L1.0	LANDSCAPE NOTES
L1.1	DETAIL SHEET
L1.2	PAVER LAYOUT
L2.0	NORTH PLANTING PLAN
L1.2	SOUTH PLANTING PLAN

PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL / COMMON NAME	CAL
TREES			
	6	ACER GINNALA AMUR MAPLE	2.5" CAL.
	9	ACER GLABRUM ROCKY MOUNTAIN MAPLE	2.5" CAL.
	9	CELTIS OCCIDENTALIS COMMON HACKBERRY	2.5" CAL.
	8	QUERCUS MACROCARPA BURR OAK	2.5" CAL.
	8	SYRINGA RETICULATA JAPANESE TREE LILAC	1.5" CAL.

REFERENCE NOTES SCHEDULE

SYMBOL	CODE	DESCRIPTION	QTY	DETAIL
	1	PROPOSED LANDSCAPE | 6" DEPTH TOPSOIL | 2"-3" DEPTH ANGULAR ROCK MULCH OVER NON-WOVEN GEOTEXTILE FABRIC IN ALL PARKING, PLANTING AND BOULEVARD AERAS WHERE PLANTING IS SHOWN	9,036 SF	5/L1.1
	2	FIREWISE DEMONSTRATION GARDEN | PLANTING, PATHWAYS, AND SIGNAGE BY OTHERS	18,632 SF	
	3	NATIVE RANGE-GRASS FORB MIX | NON IRRIGATED, EXCEPT FOR SEED ESTABLISHMENT | NO ROCK MULCH	54,680 SF	
	4	BOULEVARD PLANTING | 3" DEPTH TOPSOIL | 2"-3" DEPTH ANGULAR ROCK MULCH OVER NON-WOVEN GEOTEXTILE FABRIC IN ALL PARKING, PLANTING AND BOULEVARD AREAS WHERE PLANTING IS SHOWN	3,827 SF	
	5	DECOMPOSED GRANITE PATHWAY | 4" DEPTH, 3/8" MINUS	5,343 SF	1/L1.1
	6	5-FT FIREWISE BUTLER STRIP | 1"-3" ANGULAR ROCK CLEAR, NO FINES	1,546 SF	3/L1.1
	8	PRE-CAST CONCRETE PAVERS | STEPSTONE LARGE SCALE CALARC PAVERS IN ADOBE, CAFE BROWN, AND PEBBLE, 12" X 48" SLABS	1,104 SF	2/L1.1
	9	VICTOR STANLEY BENCHES | MODEL PRS-10, 8FT LONG, RED HARDWARE, KEBONY WOOD SLATS	4	
	10	CUSTOM BENCHES | REFER TO ARCHITECTUAL PLANS	2	
	11	HISTORIC BELL MEMORIAL | REFER TO ARCHITECTUAL PLANS	1	
	12	FLAG POLE | REFER TO ARCHITECTUAL PLANS	1	
	13	LANDSCAPE EDGING | COLMET 3/16" THICKNESS BY 4" DEPTH W/ STAKES	308 LF	

0 40 80 120 feet
SCALE: 1" = 40'

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LANDSCAPE
SITE PLAN

PROJECT #:
24-000844

ISSUE DATES:

50% CD	09-12-25

DRAWN BY: SS

CONSTRUCTION DOCUMENTS

L0.0

10.22.25

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GENERAL NOTES

0.0 WHERE THESE NOTES ARE IN CONFLICT WITH THE PROJECT SPECIFICATIONS, THE PROJECT SPECIFICATIONS SHALL TAKE PRECEDENCE.

0.1. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS EXIST, SUCH AS DISCREPANCIES AND/OR GRADE DIFFERENCES THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATIONS.

0.2. CONTRACTOR TO CONTACT THE UTILITY NOTIFICATION CENTER OF MONTANA BEFORE DIGGING, INCLUDING BUT NOT LIMITED TO, TRENCHING AND SHRUB AND TREE PLANTING PITS. IF UTILITIES OCCUR AT LOCATIONS OF PROPOSED SHRUBS, OR WITHIN EIGHT (8) FEET OF PROPOSED TREES, THE CONTRACTOR SHALL REPORT SUCH CONDITIONS TO THE OWNER'S REPRESENTATIVE. DAMAGE TO EXISTING UTILITIES BY THE LANDSCAPE CONTRACTOR IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.

0.3. THE LANDSCAPE PLAN AND DETAILS ARE TO BE USED IN CONJUNCTION WITH THE CIVIL AND ARCHITECTURAL PLANS TO FORM COMPLETE INFORMATION REGARDING SITE WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH ALL CONSTRUCTION OPERATIONS. ALL PIPING, CONDUIT, SLEEVES, ETC., SHALL BE SET IN PLACE PRIOR TO INSTALLATION OF CONSTRUCTION ITEMS AND HARDSCAPES.

0.4. ALL EXISTING IMPROVEMENTS TO REMAIN, INCLUDING BUT NOT LIMITED TO UTILITIES, CURB AND GUTTER, WALKWAYS, AND EXISTING STRUCTURES, SHALL BE PROPERLY AND ADEQUATELY PROTECTED FROM DAMAGE DURING CONSTRUCTION OPERATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RESTORE TO THE ORIGINAL CONDITION ANY EXISTING ITEMS THAT ARE DAMAGED OR DISTURBED IN ANY WAY, AND AT NO ADDITIONAL COST TO THE OWNER.

0.5. THE DEVELOPER, HIS SUCCESSORS AND ASSIGNS, SHALL BE RESPONSIBLE FOR INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ALL LANDSCAPING MATERIALS SHOWN OR INDICATED ON THE APPROVED SITE PLAN. ALL LANDSCAPING WILL BE INSTALLED AS DELINEATED ON THE PLAN.

0.6. ALL LANDSCAPE AREAS WILL BE IRRIGATED WITH A FULLY AUTOMATIC UNDERGROUND IRRIGATION SYSTEM. ALL BUILDINGS WILL HAVE A ROCK DRY ZONE 3'-0" FROM THE BUILDING, IN WHICH THERE WILL BE NO IRRIGATION. NO SPRAY IRRIGATION SHALL BE INSTALLED WITHIN 3'-0" OF BUILDINGS.

SUBMITTALS

1. GENERAL

1.1. CERTIFICATES OF INSPECTION AND ANALYSIS: SUBMIT COPIES OF INVOICES FOR MATERIALS, INCLUDING SOIL AMENDMENTS, FERTILIZER, AND HERBICIDE, WITH STATE, FEDERAL, OR OTHER INSPECTION CERTIFICATES AND SHOWING SOURCE OR ORIGIN.

1.2. PLANTING SCHEDULE: SCHEDULE EACH TYPE OF LANDSCAPE WORK REQUIRED DURING THE NORMAL SEASON FOR SUCH WORK IN THE AREA OF THE SITE. ESTABLISH DATES FOR EACH TYPE OF WORK AND ESTABLISH A COMPLETION DATE. CORRELATE WORK WITH SPECIFIED MAINTENANCE PERIODS TO PROVIDE MAINTENANCE UNTIL ACCEPTANCE BY THE OWNER. DO NOT DEPART FROM ACCEPTED SCHEDULE, EXCEPT WITH WRITTEN AUTHORIZATION BY THE OWNER'S REPRESENTATIVE. SUBMIT REQUEST TO THE OWNER FOR CHANGES IN PLANTING SCHEDULE. WHEN DELAYS IN THE PLANTING SCHEDULE ARE UNAVOIDABLE, INCLUDE DOCUMENTATION OF REASON FOR DELAY. MAINTENANCE PERIODS, IF ANY, WILL BE ADJUSTED TO COMPENSATE FOR EXTENSION OF TIME OR WORK OUTSIDE OF TIME LIMITATIONS.

1.3. SUBMIT COPIES OF LOAD TICKETS FOR MULCH MATERIAL, PLANT MATERIAL, FERTILIZER, AND SOIL AMENDMENT TO OWNER'S REPRESENTATIVE.

1.4. DO NOT MAKE SUBSTITUTIONS: IF SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE, SUBMIT TO THE OWNER AND LANDSCAPE ARCHITECT WRITTEN EVIDENCE OF NON-AVAILABILITY AND PROPOSAL FOR USE OF EQUIVALENT MATERIAL.

1.5. PESTICIDES: DO NOT USE UNLESS SPECIFIED.

1.6. PROPER IDENTIFICATION: ALL PLANTS SHALL BE TRUE TO NAME AS ORDERED OR SHOWN ON PLANTING PLANS AND SHALL BE LABELED INDIVIDUALLY OR IN GROUPS BY SPECIES AND CULTIVAR (AS APPROPRIATE).

1.7. CONTRACTOR SHALL PROVIDE A COMPLETE LIST OF ALL PLANT MATERIAL FOR APPROVAL BY THE OWNER A MINIMUM OF TEN (10) DAYS PRIOR TO DELIVERY. ANY SUBSTITUTIONS OF PLANT MATERIAL, INCLUDING BUT NOT LIMITED TO SIZE, TYPE, SPECIES AND VARIETY SHALL BE LISTED AND SUBMITTED TO THE OWNER AND LANDSCAPE ARCHITECT FOR APPROVAL.

1.9. CONTRACT CLOSE-OUT SUBMITTALS:

1.9.1. OPERATING AND MAINTENANCE DATA: AT COMPLETION OF WORK, SUBMIT ONE (1) DIGITAL COPY AND TWO (2) HARD COPIES TO THE OWNER IN ACCORDANCE WITH DIVISION 01 SECTION "CONTRACT CLOSEOUT". INCLUDE RECOMMENDED PROCEDURES FOR CONTINUED AND PROPER MAINTENANCE DURING A FULL CALENDAR YEAR.

1.9.2. WARRANTY FOR TREES, PLANTS, AND GROUNDCOVERS: AT COMPLETION OF WORK, FURNISH WRITTEN WARRANTY TO THE OWNER BASED UPON SPECIFIED REQUIREMENTS.

QUALITY CONTROL

2. THE OWNER RESERVES THE RIGHT TO REJECT, AT ANY TIME OR PLACE PRIOR TO FINAL ACCEPTANCE, ALL PLANT MATERIALS THAT FAIL TO MEET THESE NOTES OR THE PROJECT SPECIFICATIONS. INSPECTION OF MATERIALS IS PRIMARILY FOR QUALITY, SIZE, AND VARIETY, BUT OTHER REQUIREMENTS ARE NOT WAIVED EVEN THOUGH VISUAL INSPECTION RESULTS IN APPROVAL. PLANTS ARE TO BE INSPECTED WHERE AVAILABLE; HOWEVER, INSPECTION AT THE PLACES OF SUPPLY SHALL NOT PRECLUDE THE RIGHT OF REJECTION AT THE SITE OR AT A LATER TIME BEFORE FINAL ACCEPTANCE.

2. REFERENCE STANDARDS:

2.1. ANSI Z60.1 REQUIREMENTS FOR MEASUREMENTS, GRADING, BRANCHING, QUALITY, AND THE BALLING AND BURLAPPING OF PLANTS OF THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.

2.2. PLANT MEASUREMENTS SPECIFIED IN THE PLANT LIST ARE MINIMUM ACCEPTABLE SIZES. MEASURE PLANTS BEFORE PRUNING WITH BRANCHES IN NORMAL POSITION.

2.3. PLANTS SHALL HAVE A HABIT OF GROWTH THAT IS NORMAL FOR THE SPECIES. THEY SHALL BE HEALTHY, VIGOROUS, AND FREE FROM INSECT PESTS, PLANT DISEASES, AND INJURIES. ALL PLANT MATERIAL SHALL BE INSPECTED STOCK CONFORMING TO STATE AND FEDERAL REGULATIONS.

3. ORDINANCES AND REGULATIONS: LOCAL, MUNICIPAL, AND STATE LAWS AND RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE NOTES, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR. ANYTHING CONTAINED IN THESE NOTES SHALL NOT BE CONSTRUED TO CONFLICT WITH ANY OF THE AFOREMENTIONED RULES, REGULATIONS, AND REQUIREMENTS OF THE SAME. HOWEVER, WHEN THESE NOTES AND DRAWINGS CALL FOR OR DESCRIBE MATERIALS, WORKMANSHIP OR CONSTRUCTION OF A HIGHER QUALITY, HIGHER STANDARD, OR LARGER SIZE THAN IS REQUIRED BY THE ABOVE RULES AND REGULATIONS, THE PROVISIONS OF THESE NOTES AND DRAWINGS SHALL TAKE PRECEDENCE.

DELIVERY, STORAGE, AND HANDLING

4. MATERIALS: DELIVER MATERIALS IN ORIGINAL CONTAINERS WITH TAGS SHOWING GENUS, SPECIES AND SIZE. PROTECT MATERIALS FROM DAMAGE DURING DELIVERY AND WHILE STORED AT SITE. THE OWNER RESERVES THE RIGHT TO INSPECT CONTAINERS BEFORE OR AFTER INSTALLATION TO VERIFY COMPLIANCE WITH SPECIFICATIONS.

5. TREES: NURSERY STOCK SHALL BE HARVESTED AND PLANTED DURING THE SAME GROWING SEASON. DO NOT PRUNE, EXCEPT AS APPROVED BY THE OWNER. PROTECT BARK, BRANCHES, AND ROOT SYSTEMS FROM SUN SCALD, DRYING, SWEATING, WHIPPING, AND OTHER HANDLING AND TYING DAMAGE. DO NOT BEND OR TIE TREES IN SUCH A MANNER AS TO DESTROY NATURAL SHAPE. TREES TO BE INSPECTED AND TAGGED BY THE OWNER AT NURSERY AND PRIOR TO DELIVERY ON SITE. PROVIDE PROTECTIVE COVERING DURING DELIVERY. PLANT MATERIALS DELIVERED WITHOUT PROTECTIVE COVERING MAY BE REJECTED. DO NOT DROP TREES DURING DELIVERY. ALL TREES SHALL BE LABELED WITH A SECURELY ATTACHED WATERPROOF TAG BEARING A LEGIBLE PLANT NAME. REMOVE ALL TAGS AND FLAGGING AS DIRECTED BY THE OWNER.

5.1. HANDLE PLANTING STOCK BY THE ROOT BALL ONLY.

6. DELIVER TREES AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND INSTALL IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN SIX (6) HOURS AFTER DELIVERY, SET PLANTING MATERIALS IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE, AND KEEP ROOTS MOIST.

6.1. SET BALLED STOCK ON GROUND AND COVER BALL WITH WOOD CHIPS, OR OTHER ACCEPTABLE MATERIAL.

6.2. DO NOT REMOVE CONTAINER-GROWN STOCK FROM CONTAINERS BEFORE PLANTING.

6.3. WATER ROOT SYSTEMS OF TREES STORED ON SITE WITH A FINE-MIST SPRAY. WATER AS OFTEN AS NECESSARY TO MAINTAIN ROOT SYSTEMS IN A MOIST CONDITION.

PROJECT SITE CONDITIONS

7. FIELD MEASUREMENTS: VERIFY ACTUAL GRADE ELEVATIONS, SERVICE AND UTILITY LOCATIONS, IRRIGATION SYSTEM COMPONENTS, AND DIMENSIONS OF PLANTINGS AND CONSTRUCTION CONTIGUOUS WITH NEW PLANTINGS BY FIELD MEASUREMENTS BEFORE PROCEEDING WITH PLANTING WORK.

7.1. VEHICULAR ACCESS ON SITE SHALL BE AS DIRECTED BY THE OWNER. REPAIR DAMAGE TO PREPARED TOPSOIL AND EXISTING SURFACES, CAUSED BY VEHICULAR ACCESS AND MOVEMENT DURING WORK UNDER THIS SECTION, TO THE ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.

7.2. UTILITIES: CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING UTILITIES AND REPAIRING UTILITIES DAMAGED DURING THE WORK. DETERMINE LOCATION OF OVERHEAD AND UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER THAT WILL AVOID DAMAGE. HAND EXCAVATE, AS REQUIRED. MAINTAIN MARKINGS UNTIL THEIR REMOVAL IS MUTUALLY AGREED UPON BY THE CONTRACTOR AND OWNER.

7.3. EXCAVATION: WHEN CONDITIONS DETRIMENTAL TO PLANT GROWTH ARE ENCOUNTERED, SUCH AS RUBBLE FILL, ADVERSE DRAINAGE CONDITIONS, OR OBSTRUCTIONS, NOTIFY THE OWNER BEFORE PLANTING.

7.4. WEATHER LIMITATIONS: PROCEED WITH PLANTING ONLY WHEN EXISTING AND FORECASTED WEATHER CONDITIONS PERMIT PLANTING TO BE PERFORMED WHEN BENEFICIAL AND OPTIMUM RESULTS MAY BE OBTAINED. APPLY PRODUCTS DURING FAVORABLE WEATHER CONDITIONS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND WARRANTY REQUIREMENTS.

7.5. PROTECTION: ERECT AND MAINTAIN BARRICADES, WARNING SIGNS AND LIGHTS, AND PROVIDE GUARDS AS NECESSARY OR REQUIRED TO PROTECT ALL PERSONS ON THE SITE FROM EXPOSED EXCAVATIONS.

COORDINATION AND SCHEDULING

8. COORDINATE INSTALLATION OF PLANTING MATERIALS DURING NORMAL PLANTING SEASONS FOR EACH TYPE OF PLANT MATERIAL REQUIRED. PLANTING MATERIALS SHOULD BE PLANTED BETWEEN APRIL 15 AND OCTOBER 1, OR AT THE DIRECTION OF THE OWNER. IF IRRIGATION IS NOT AVAILABLE AT THE TIME OF PLANTING THEN THE CONTRACTOR IS RESPONSIBLE FOR WATERING OF ALL PLANT MATERIAL AND NO ADDITIONAL COST TO THE OWNER.

8.1. PLANT TREES AFTER FINAL GRADES HAVE BEEN ACCEPTED AND PRIOR TO SEEDING OR SODDING, UNLESS OTHERWISE AUTHORIZED BY THE OWNER.

WARRANTY

9. WARRANTY: THE WARRANTY SPECIFIED IN THIS ARTICLE SHALL NOT DEPRIVE THE OWNER OF OTHER RIGHTS THE OWNER MAY HAVE UNDER OTHER PROVISIONS OF THE CONTRACT DOCUMENTS AND SHALL BE IN ADDITION TO, AND RUN CONCURRENT WITH, OTHER WARRANTIES MADE BY THE CONTRACTOR UNDER REQUIREMENTS OF THE CONTRACT DOCUMENTS.

9.1. TREES, PLANTS, AND GROUNDCOVERS SHALL BE WARRANTED FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF FINAL ACCEPTANCE, AGAINST DEFECTS INCLUDING DEATH, STRUCTURAL FAILURES, DIEBACK AS DETERMINED BY THE OWNER.

9.2. THE WARRANTY SHALL NOT BE ENFORCED SHOULD ANY PLANT DIE DUE TO VANDALISM AFTER FINAL ACCEPTANCE.

9.3. REMEDIAL ACTIONS:

9.3.1. REPLACE ANY PLANT MATERIALS THAT HAVE BEEN EXCESSIVELY PRUNED, MORE THAN TWENTY PERCENT (20%) PERCENT DEAD, OR IN AN UNHEALTHY OR DECLINING CONDITION IMMEDIATELY UPON NOTICE FROM THE OWNER DURING WARRANTY PERIOD.

9.3.2. IMMEDIATELY REMOVE DEAD PLANTS AND REPLACE UNLESS REQUIRED TO PLANT IN THE SUCCEEDING PLANTING SEASON.

9.3.3. ANY MATERIALS FOUND TO BE DEAD, MISSING, UNHEALTHY, IN POOR CONDITION, OR THAT HAVE LOST THEIR NATURAL SHAPE SHALL BE REPLACED IMMEDIATELY.

9.3.4. THE OWNER SHALL BE THE SOLE JUDGE AS TO THE CONDITION OF THE MATERIAL. REPLACEMENT OR REPAIR OF MATERIALS PRIOR TO INITIAL ACCEPTANCE DOES NOT WAIVE THE NORMAL WARRANTY.

9.4. ALL PLANTS SHALL BE TRUE TO NAME AND MEET ALL CONDITIONS OF THESE SPECIFICATIONS. ANY PLANT THAT IS NOT TRUE TO NAME AS INDICATED BY FORM, LEAF, FLOWER, OR FRUITING CHARACTERISTICS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

TREE MAINTENANCE DURING CONSTRUCTION PERIOD

10. MAINTAIN TREES BY PRUNING, CULTIVATING, WATERING, MULCHING, WINTER WATERING, WEEDING, WRAPPING, UNWRAPPING, RESTORING PLANTING SAUCERS, AND RESETTING TO PROPER GRADES OR VERTICAL POSITION, AS REQUIRED TO ESTABLISH HEALTHY, VIABLE PLANTINGS. CONTROL AS REQUIRED TO KEEP TREES FREE OF INSECTS AND DISEASE. RESTORE OR REPLACE DAMAGED TREE WRAPPINGS, STAKES, GUYING. TREES SHALL BE MAINTAINED BY THE CONTRACTOR THROUGH THE WARRANTY PERIOD OF THE PROJECT, INCLUDING WINTER WATERING.

PRODUCTS

MULCHES:

11. WOOD MULCH FOR PLANTING:

11.1. SHREDDED OR CHIPPED WOODY MATERIAL FREE FROM WEEDS AND OTHER NON-WOODY DEBRIS.

12. ROCK MULCH:

12.1. COBBLE AT SWALES: COBBLE SHALL BE ROUNDED RIVERBED ROCK, 4"-12" DIAMETER, SMOOTH AND WITH A MINIMUM (5% MAXIMUM) OF FRACTURED PIECES, NATURAL COLOR RANGE OF GREYS AND BROWNS. CONTRACTOR TO PROVIDE SAMPLE FOR APPROVAL.

12.2. ROCK AT DRY ZONE AROUND BUILDINGS: ROCK SHALL BE SCREENED 1" - 2" DIAMETER ANGULAR AGGREGATE, NATURAL COLOR RANGE OF GREYS AND BROWNS. CONTRACTOR TO PROVIDE SAMPLE FOR APPROVAL.

WEED -CONTROL BARRIERS:

13. NONWOVEN GEOTEXTILE FILTER FABRIC:

13.1. POLYPROPYLENE OR POLYESTER FABRIC, 3 OZ./SQ. YD. (101G/SQ. M) MINIMUM, COMPOSED OF FIBERS FORMED INTO A STABLE NETWORK SO THAT FIBERS RETAIN THEIR RELATIVE POSITION. FABRIC SHALL BE INERT TO BIOLOGICAL DEGRADATION AND RESIST NATURALLY ENCOUNTERED CHEMICALS, ALKALIS, AND ACIDS.

LANDSCAPE EDGING:

14. STEEL EDGING: TO BE 4" HEIGHT MINIMUM, ATTACHED-STAKE STEEL EDGING, 14 GAUGE, POWDER COATED BLACK, OR APPROVED SUBSTITUTE. PLANT BED EDGING LAYOUT SHOWN IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL FIELD FIT EDGER USING THE DRAWINGS AS A BASIS FOR LAYOUT. CONTACT OWNER'S REPRESENTATIVE FOR FINAL APPROVAL BEFORE EDGER INSTALLATION.

PLANT PIT BACKFILL MATERIAL:

15. UNLESS OTHERWISE DIRECTED BY THE OWNER, THE PLANT PIT BACKFILL MATERIAL SHALL CONSIST OF THE FOLLOWING, THOROUGHLY MIXED:

15.1. SOIL ORIGINALLY EXCAVATED FROM THE PIT: TWO THIRDS (2/3) PROPORTION OF TOTAL MIX.

15.2. SOIL AMENDMENT (CLASS 1 COMPOST): ONE-THIRD (1/3) PROPORTION OF TOTAL MIX.

WINTER WATER:

16. WINTER WATERING

16.1. PROVIDE WINTER WATERING OF PLANT MATERIALS AS NEEDED, OR MINIMUM OF FOUR TIMES UNLESS OTHERWISE AGREED TO. NOTIFY THE OWNER AT LEAST TWO (2) WORKING DAYS IN ADVANCE WHEN WINTER WATERING IS NEEDED, AND, UPON OWNER'S REQUEST, ADJUST WATERING SCHEDULES AS NEEDED TO ALLOW FOR OWNER'S PRESENCE DURING WATERING.

16.2. PERIODICALLY CHECK SOIL MOISTURE AND THE CONDITION OF PLANT MATERIAL THROUGHOUT THE WARRANTY PERIOD, AND NOTIFY THE OWNER IN WRITING WHEN OVER/UNDER WATERING IS IDENTIFIED DURING THE IRRIGATION SEASON.

16.3. FOR THE PERIOD BETWEEN IRRIGATION SYSTEM WINTERIZATION AND SUBSEQUENT SPRING START-UP, MONITOR WEATHER CONDITIONS AND PROVIDE SOIL MOISTURE CHECKS AT LEAST TWICE PER MONTH AND NOTIFY THE OWNER IN WRITING REGARDING SOIL MOISTURE CONDITIONS.

16.4. CONTRACTOR IS RESPONSIBLE FOR A MINIMUM OF FIVE SITE VISITS FOR WINTER WATERING. NOTIFY OWNER AT LEAST 48 HOURS IN ADVANCE OF SITE WATERING VISIT. OWNER SHALL BE IN ATTENDANCE TO DOCUMENT EACH WINTER WATERING IN WRITING AS PART OF THE FINAL ACCEPTANCE PROCESS.

16.5. WHEN WINTER WATERING, DELIVER THE FOLLOWING MINIMUM AMOUNTS OF WATER TO EACH PLANT: 15 GAL. PER B&B TREE; 3-5 GAL. PER #5 SHRUB/ORNAMENTAL GRASS; AND 2-3 GAL. PER 100 S.F. (APPROX. 2") IN #1 OR PERENNIAL PLANTING AREAS. IF IRRIGATION SYSTEM IS CHARGED TO WATER, CONTRACTOR SHALL WINTERIZE SYSTEM AFTER EACH USE.

16.6. UNDER NO CIRCUMSTANCES SHALL PLANT WARRANTIES BE VOIDED BY CONTRACTOR'S CLAIMS OF INADEQUATE OR EXCESSIVE WATERING.

EXECUTION

EXAMINATION:

17. EXAMINE AREAS TO RECEIVE LANDSCAPING FOR COMPLIANCE WITH REQUIREMENTS AND FOR CONDITIONS AFFECTING THE PERFORMANCE OF WORK OF THIS SECTION. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

17.1. VERIFY THAT NO FOREIGN OR DELETERIOUS MATERIAL OR LIQUID SUCH AS PAINT, PAINT WASHOUT, CONCRETE OR TILE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, OR ACID HAS BEEN DEPOSITED IN SOIL WITHIN THE WORK AREA.

17.2. SUSPEND PLANTING OPERATIONS DURING PERIODS OF EXCESSIVE MOISTURE OR FREEZING TEMPERATURES UNTIL ACCEPTABLE PLANTING CONDITIONS EXIST.

17.3. UNIFORMLY MOISTEN EXCESSIVELY DRY SOIL THAT IS NOT WORKABLE.

17.4. IF CONTAMINATION IS PRESENT IN THE SOIL WITHIN A PLANTING AREA, NOTIFY THE OWNER IMMEDIATELY.

17.4.1. IF CONTAMINATION IS DISCOVERED DURING CONSTRUCTION THE OWNER WILL DETERMINE THE BEST COURSE OF ACTION TO REMEDIATE THE CONTAMINATION, WHICH MAY INCLUDE REQUESTING THE CONTRACTOR PERFORM THE REMOVAL OF CONTAMINATION AND REPLACEMENT OF CLEAN MATERIAL.

17.4.2. IF CONTAMINATION IS DETERMINED TO BE THE RESULT OF CONSTRUCTION OPERATIONS, CONTRACTOR IS TO REMOVE CONTAMINATED MATERIAL AND REPLACE WITH CLEAN MATERIAL AT THE DIRECTION OF THE OWNER. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED AND APPROVED BY OWNER.

FINISH AND FINE GRADE:

18. GENERAL NOTES

18.1. ROUGH GRADE AND FINISHED GRADING WILL BE PERFORMED BY OTHERS. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING AFTER SOIL AMENDMENT OPERATIONS TO ALLOW FOR MULCH INSTALLATION.

18.2. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.

18.3. CONTRACTOR TO NOTIFY OWNER'S REPRESENTATIVE OF ANY POORLY DRAINED AREAS BEFORE COMMENCING WORK.

18.4. CONTRACTOR SHALL OBTAIN APPROVAL OF THE OWNER'S REPRESENTATIVE OF THE GRADING BEFORE PLANTING.

18.5. FINISH GRADE SHALL BE BELOW EDGE OF PAVEMENT BEFORE SEEDING OR PLANTING.

18.6. NOXIOUS WEEDS OR PARTS THEREOF SHALL NOT BE PRESENT IN THE SURFACE GRADE PRIOR TO SEEDING.

PREPARATION:

19. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES, TURF AREAS AND EXISTING PLANTS FROM DAMAGE CAUSED BY PLANTING OPERATIONS. REPAIR DAMAGE TO SURROUNDING AREAS AND SITE ELEMENTS NOTED ABOVE RESULTING FROM PLANTING OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.

19.1. LAYOUT, STAKE, AND LABEL ALL INDIVIDUAL TREE LOCATIONS FOR APPROVAL BY THE OWNER PRIOR TO INSTALLING TREES.

19.2. OUTLINE PLANTING BEDS AND MARK PLANT LOCATIONS WITHIN THE BED(S) FOR APPROVAL BY THE OWNER PRIOR TO INSTALLING ANY PLANT MATERIAL OR MOW BANDS. MAKE ADJUSTMENTS AS DIRECTED AT NO ADDITIONAL COST TO THE OWNER.

19.3. IF FORMAL ARRANGEMENTS OR CONSECUTIVE ORDER OF PLANTS IS INDICATED ON CONTRACT DRAWINGS, SELECT STOCK FOR UNIFORM HEIGHT AND SPREAD, AND NUMBER THE LABELS TO ASSURE SYMMETRY IN PLANTING.

WEED CONTROL:

20. PROJECT AREA SHALL BE KEPT FREE OF WEEDS FOR THE DURATION OF THE PROJECT THROUGH PHYSICAL REMOVAL. USE HERBICIDES ONLY WITH THE WRITTEN APPROVAL OF OWNER, AND IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

MULCHING:

21. ALL PLANTED AREAS SHALL BE COVERED BY MULCH AS SPECIFIED AND TO THE DEPTH AS SPECIFIED, AS APPROVED BY OWNER.

21.1. DO NOT BURY PERENNIALS OR ORNAMENTAL GRASSES WITH MULCH

21.2. PULL MULCH BACK 6" FROM TRUNK OF TREES AS PER DETAILS.

PROTECTION:

22. LOCATE, PROTECT AND MAINTAIN THE IRRIGATION SYSTEM DURING SEEDING OPERATIONS. REPAIR IRRIGATION SYSTEM COMPONENTS DAMAGED DURING SEEDING OPERATIONS SHALL BE REPLACED OR REPAIRED TO CURRENT CITY IRRIGATION STANDARDS AT CONTRACTOR'S EXPENSE.

22.1. EROSION CONTROL: TAKE MEASURES AND FURNISH EQUIPMENT AND LABOR NECESSARY TO CONTROL AND PREVENT SOIL EROSION, BLOWING SOIL AND ACCUMULATION OF WIND-DEPOSITED MATERIALS ON THE SITE THROUGHOUT THE DURATION OF WORK.

22.2. AT TIME OF INITIAL ACCEPTANCE, VERIFY THAT TREE-WATERING DEVICES ARE IN GOOD WORKING ORDER AND LEAVE THEM IN PLACE. REPLACE IMPROPERLY FUNCTIONING DEVICES.

22.3. TO THE MAXIMUM EXTENT POSSIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE STOCKPILED ON-SITE FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.

22.4. LANDSCAPE CONTRACTOR TO REMOVE ALL ROCK AND DEBRIS OVER 2" IN SIZE AND REMOVED OFF-SITE PRIOR TO INSTALLATION OF PLANT MATERIAL. ALL MATERIALS SHALL BE DISPOSED OF OFF-SITE PER LOCAL CODES & REGULATIONS.

MINIMUM IRRIGATION SPECIFICATION:

1. IRRIGATION SYSTEM SHALL BE AN UNDERGROUND MAINLINE SYSTEM USING POP-UP ROTORS, POP-UP SPRAY HEADS, INLINE EMITTERS, OR LANDSCAPE DRIPLINE AND/OR INDIVIDUAL BUBBLERS. SYSTEM SHALL PROVIDE COMPLETE COVERAGE OF ALL PLANTED LAWN AND PLANTING BEDS.
2. PLANT MATERIAL WITH DIFFERENT WATER REQUIREMENTS SHALL BE VALVED SEPARATELY. SIMILAR PLANT MATERIAL, WITH DIFFERENT EXPOSURES SHALL BE VALVED SEPARATELY. SIMILAR PLANT MATERIAL UNDER DIFFERENT IRRIGATION METHODS SHALL BE VALVED SEPARATELY. SPRINKLERS SHALL BE GROUPED INTO LATERAL ZONES BASED ON WATER REQUIREMENTS TO ALLOW MAXIMUM FLEXIBILITY IN IRRIGATION CONTROLLER PROGRAMMING.
3. CONNECT SYSTEM TO POTABLE WATER SERVICE. PROVIDE ADEQUATE FILTRATION TO ENSURE PERFORMANCE. IRRIGATION CONTRACTOR SHALL INSTALL ALL IRRIGATION CONNECTIONS PER LOCAL CODE, INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF THE APPROPRIATE BACKFLOW PREVENTER AT THE POINT OF CONNECTION.
4. MAINLINE WILL BE SCH. 40 PVC PIPE BURIED AT MIN. 18" DEPTH. LATERALS WILL BE:CLASS 200 PVC BURIED AT MIN. 12"" DEPTH. CONTROL WIRING WILL BE ADJACENT TO OR BELOW MAINLINE PIPING. WIRING, MAINLINE, AND LATERALS SHALL BE IN SEPARATE SCH. 40 SLEEVES UNDER EACH HARD SURFACE. TWO SPARE WIRES SHALL BE RUN THROUGHOUT THE ENTIRE MAINLINE NETWORK. CONCRETE THRUST BLOCKS SHALL BE INSTALLED IN THE MAINLINE TRENCH AT ALL JOINTS OF 30 DEGREES UP TO 90 DEGREES.
5. SOLENOID VALVES SHALL BE CONTAMINATION RESISTANT GLASS REINFORCED NYLON VALVES RATED AT 200PSI, WITH A FLOW CONTROL FEATURE. VALVES WITH PRESSURE REGULATION CAPABILITIES WILL BE USED WHERE NECESSARY.
6. SPRINKLER LATERALS SHALL BE DESIGNED TO NOT EXCEED THE AVAILABLE FLOW AT THE WATER SOURCE.
7. ISOLATED SOLENOID VALVES SHALL BE HOUSED IN A SINGLE VALVE BOX FOR VALVE ACCESS, AND GROUPED SOLENOID VALVES WILL BE HOUSED IN A VALVE BOXLARGE/JUMBO VALVE BOX. ALLOW MIN. 4" CLEARANCE AROUND EACH VALVE FOR MAINTENANCE PURPOSES.
8. QUICK COUPLERS SHALL BE LOCATED THROUGHOUT THE SITE FOR INCIDENTALWATERING NEEDS IMPROVING ESTABLISHMENT OF ALL PLANTING AREAS. QUICK COUPLERS SHALL BE NO MORE THAN 200' APART.
9. POP-UP ROTORS AND SPRAY HEADS SHALL BE SPACED PER MANUFACTURER'S MAXIMUM SPACING REQUIREMENTS TO ENSURE HEAD-TO-HEAD COVERAGE.
10. CONTRACTOR MAY CHOOSE TO IRRIGATE TREES AND SHRUBS INDIVIDUALLY WITH INLINE EMITTERS OR BUBBLERS. IF BUBBLERS ARE CHOSEN: SMALL SHRUBS UP TO 3' DIA AT MATURITY SHALL BE IRRIGATED WITH AT LEAST 1 BUBBLER. MEDIUM SHRUBS 3'-6' DIA. SHALL BE IRRIGATED WITH AT LEAST 3 BUBBLERS.
11. PRESSURE-COMPENSATING LANDSCAPE DRIP LINE MAY BE USED IN SHRUB AND GROUNDCOVER AREAS. INSTALL DRIP LINE WITH EMITTER AND ROW SPACING, AND EMITTER FLOW RATES, RECOMMENDED BY THE MANUFACTURER FOR THE GIVEN PLANT MATERIAL AND SOIL TYPE.
12. ALL TREES SHALL BE IRRIGATED WITH EITHER HUNTER OR RAINBIRD ROOT WATERING SYSTEMS.
13. IRRIGATION SYSTEM CONTROLLER WILL BE FULLY AUTOMATED WITH WATER BUDGETING CAPABILITIES. TURF AND PLANTING AREAS WILL BE PLACED ON DIFFERENT ZONES ON THE CONTROLLER TO ENSURE PROPER ESTABLISHMENT OF ALL LANDSCAPE AND HABITAT IMPROVEMENTS.
14. COORDINATE POINT OF CONNECTION AND CONTROLLER LOCATION AND POWER (IF AVAILABLE) WITH SITE SUPERINTENDENT.
15. CITY OF HELENA REQUIREMENTS TAKE PRECEDENCE OVER THESE SHEET NOTES IF SPECIFICATIONS DIFFER.

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LANDSCAPE NOTES

PROJECT #: 24-000844

ISSUE DATES:

50% CD	09-12-25

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1. EDGE CONDITION AS INDICATED ON PLAN
2. 5" DEPTH OF 3/8" MINUS ANGULAR CRUSHER FINES, 4%-5% WATER CONTENT.COMPACT WITH ROLLER OR VIBRATION COMPACTOR COMPACT TO 4" THICKNESS
3. COMPACTED SUBGRADE
4. 8 OZ NON-WOVEN GEOTEXTILE FILTER FABRIC THE FULL WIDTH OF PATHWAY. FABRIC CAN RETURN AT EDGE OF PATH, BUT NO FABRIC SHALL BE VISIBLE ABOVE FINISHED GRADE.

1 DECOMPOSED GRANITE TRAIL

1 1/2" = 1'-0" P-CO-HEL2-05

INSTALLATION NOTES:
1. KEEP PAVERS CLEAN DURING INSTALLATION, DO NOT TRACK SOIL OR MUD ACROSS SURFACE. IF PAVERS BECOME DIRTY, COMPLETELY CLEAN ALL PAVERS TO RESTORE COLOR BEFORE SEALING WITH A NON-ACID MASONRY CLEANER SUCH AS SAFETY KLEAN OR GHOSTSHIELD NON-ACID.

2. SEAL WITH AN IMPREGNATOR/SEALER SUCH AS MIRACLE 511.

1. 1/16" JOINT WIDTH MAX. SEE MANUFACTURER RECOMMENDATIONS FOR INSTALLATION. AFTER INSTALLATION, APPLY A SEALING POLYMERIC SAND SUCH AS TECHNISEAL, NEXTGEL, SEK-SUREBOND, POLYSWEEP X-TREME
2. PRE-CAST CONCRETE PAVERS AS INDICATED ON PLANS
3. 1-2" SAND BEDDING COURSE
4. MIN 4" DEPTH COMPACTED 5/8" MINUS AGGREGATE BASE
5. COMPACTED SUBGRADE

2 SAND SET PRE-CAST CONCRETE PAVERS

1 1/2" = 1'-0" P-CO-HEL2-04

1. ADJACENT CONDITION AS INDICATED ON PLAN
2. METAL EDGING PER PLAN. INSTALL PER MANUF. SPECS.
3. 3" - 4" DEPTH OF MULCH PER PLAN, NO WEED FABRIC
4. MAXIMUM 1/2" REVEAL BETWEEN EDGING AND TOP OF MULCH
5. MIN. 6" DEPTH OF TOPSOIL PER PLAN
6. UNDISTURBED SUBGRADE
7. FINISH GRADE
8. BUILDING FACADE

3 BUTLER STRIP WITH METAL EDGING

1" = 1'-0" P-CO-HEL2-57

PLANTING / PRUNING NOTES:
1. DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. PRUNE ONLY DEAD OR BROKEN BRANCHES. IF FORM IS COMPROMISED BY PRUNING, REPLACE SHRUB.
2. ROOT BOUND PLANTS ARE NOT ACCEPTABLE FOR PLANTING AND WILL BE REJECTED.

PLACEMENTS NOTES:
SET SHRUB PLUMB. SPACE PLANTS AND PLACE FOR BEST EFFECT.

1. SET TOP OF ROOT BALL 1-2" ABOVE ADJACENT GRADE
2. 4" HIGH WATER SAUCER
3. BED MULCH PER SPEC.
4. REMOVE CONTAINER (INCLUDING FIBER CONTAINERS), BASKETS, BASKETS, WIRE, ETC. FROM THE ROOTBALL. BREAK UP ENCIRCLING ROOTS WITH SHARP KNIFE OR SPADE
5. BACKFILL WITH BLEND OF EXISTING SOIL AND ORGANIC MATERIAL, PER SPEC. WATER THOROUGHLY WHEN BACKFILLING
6. 1:1 SLOPE ON SIDES OF PLANTING HOLE
7. PLACE ROOT BALL ON UNDISTURBED SOIL TO PREVENT SETTLEMENT

4 SHRUB & ORNAMENTAL GRASS PLANTING

NOT TO SCALE P-CO-HEL2-03

NOTES:
1. INSTALL ROCK MULCH IN ALL AREAS SHOWN ON PLAN AT A DEPTH OF 2"-3".

5 ROCK MULCH SECTION IN PLANTING BEDS

1" = 1'-0" P-CO-HEL2-08

APPLY MULCH 4" DEEP (AFTER SETTLMENT). NOTE: MULCH DEPTH AROUND PLANT BASE MAY BE THINNER. DO NOT BURY PLANT FOLIAGE WITH MULCH.

6 PERENNIAL & GROUNDCOVER PLANTING

NOT TO SCALE P-CO-HEL2-07

PLAN VIEW - TREE STAKES

1. SET TOP OF ROOT BALL 1-2" ABOVE ADJACENT GRADE
2. 4" DEEP MULCH RING, MIN. 6' DIAMETER. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK
3. 1:1 SLOPE ON SIDES OF PLANTING HOLE
4. REMOVE ALL TWINE, ROPE AND WIRE FROM ENTIRE ROOT BALL & TRUNK. BURLAP CAN REMAIN ON LOWER 2/3's OF ROOT BALL ONLY
5. PLACE SOIL AROUND ROOT BALL FIRMLY, DO NOT COMPACT OR TAMP. SETTLE SOIL WITH WATER AND FILL ALL AIR POCKETS
6. GROMMETED NYLON STRAPS SUCH AS CHAIN-LOCK OR EQUIVALENT
7. PINE STAKES, 3 PER TREE. ALL SHALL BE DRIVEN OUTSIDE ROOTBALL INTO UNDISTURBED SOIL
8. 4-6" HIGH WATER SAUCER IN NON-TURF AREAS
9. BACKFILL WITH BLEND OF EXISTING SOIL AND A MAXIMUM 20% (BY VOLUME) ORGANIC MATERIAL, WATER THOROUGHLY WHEN BACKFILLING
10. PLACE ROOT BALL ON UNDISTURBED SOIL TO PREVENT SETTLEMENT

7 DECIDUOUS TREE PLANTING

NOT TO SCALE P-CO-HEL2-01

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DETAIL SHEET

PROJECT #: 24-000844

ISSUE DATES:

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STEPSTONE COLOR

DARK | ADOBE | COLOR #1425	1,2
MEDIUM | CAFE BROWN | COLOR #1407	2,3,4
LIGHT | PEBBLE | COLOR # 1424	5,6

RANDOM PATTERN NOTES:

- SELECT NUMBERS BETWEEN 1-6 USING A RANDOM NUMBER GENERATOR. GOOGLE'S VERSION WORKS WELL.
- RUN THE RANDOM NUMBER GENERATOR TO SELECT THE COLOR OF EACH ROW OF PAVERS, USING THE NUMBERS INDICATED FOR EACH COLOR TO THE LEFT. SOME PAVERS HAVE TWO OR THREE NUMBERS, SELECT THIS PAVER IF EITHER NUMBER IS GENERATED.
- PLACE THE COLORS IN THE PATTERN LISTED BELOW.
- CUT THE EDGE PAVERS AS NEEDED TO MEET THE ADJACENT HARDSCAPE.
- PLEASE NOTE, THE PATTERN BELOW IS FOR EXAMPLE ONLY, TO ILLUSTRATE ONE VERSION OF A RANDOM PATTERN. DO NOT COPY THE COLORS AND SIZES BELOW, AS THIS WOULD CREATE A REPEATING PATTERN.

PAVER PATTERN

COLOR PATTERN EXAMPLE

0 2 4 6 feet
SCALE: 1/2" = 1'-0"

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PATIO DETAIL

PROJECT #: 24-000844

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PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL / COMMON NAME	CAL
TREES			
	6	ACER GINNALA AMUR MAPLE	2.5" CAL.
	9	ACER GLABRUM ROCKY MOUNTAIN MAPLE	2.5" CAL.
	9	CELTIS OCCIDENTALIS COMMON HACKBERRY	2.5" CAL.
	8	QUERCUS MACROCARPA BURR OAK	2.5" CAL.
	8	SYRINGA RETICULATA JAPANESE TREE LILAC	1.5" CAL.

SYMBOL	QTY	BOTANICAL / COMMON NAME	SIZE
SHRUBS			
	12	CHRYSOTHAMNUS NAUSEOSUS BLUE RABBITBRUSH	1 GAL
	5	CORNUS SERICEA RED TWIG DOGWOOD	5 GAL
	9	JUNIPERUS COMMUNIS 'MONDAP' ALPINE CARPET JUNIPER	5 GAL
	6	PHILADELPHUS MICROPHYLLUS LITTLELEAF MOCKORANGE	5 GAL
	19	PHYSOCARPUS OPULIFOLIUS 'COPPERTINA' COPPERTINA NINEBARK	5 GAL
	18	PRUNUS BESSEYI `P011S` PAWNEE BUTTES® SAND CHERRY	1 GAL
	33	RHUS AROMATICA 'GRO-LOW' GRO-LOW FRAGRANT SUMAC	5 GAL
	21	RIBES ALPINUM 'GREEN MOUND' GREEN MOUND ALPINE CURRANT	5 GAL
	10	RIBES AUREUM GOLDEN CURRANT	5 GAL
GRASSES			
	15	BOUTELOUA GRACILIS 'BLONDE AMBITION' BLONDE AMBITION BLUE GRAMA	1 GAL
	17	HELICTOTRICHON SEMPERVIRENS SAPPHIRE BLUE OAT GRASS	1 GAL
	10	MISCANTHUS 'PURPURASCENS' FLAME GRASS	5 GAL
	10	PANICUM VIRGATUM 'TOTEM POLE' PRAIRIE WINDS® TOTEM POLE SWITCH GRASS	5 GAL
PERENNIALS			
	13	ACHILLEA MILLEFOLIUM 'FIREFLY PEACH SKY' YARROW 'FIREFLY PEACH SKY'	1 GAL
	28	AMORPHA CANESCENS LEADPLANT	1 GAL
	18	HEUCHERA X 'PALACE PURPLE' PALACE PURPLE CORAL BELLS	1 GAL

SYMBOL	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
GROUND COVERS				
	270	ARCTOSTAPHYLOS UVA-URSI KINNIKINNICK	FLAT	18" o.c.
	54,671 SF	MT PF NATIVE RANGE-GRASS FORB SHRUB MIX F PF HABITAT STORE	HYDROSEED	
	121	PHLOX DIVARICATA WILD BLUE PHLOX	FLAT	18" o.c.

SHEET L2.1

0 20 40 60 feet

SCALE: 1" = 20'

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NORTH PLANTING PLAN

PROJECT #: 24-000844

ISSUE DATES:

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PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL / COMMON NAME	CAL
TREES			
	6	ACER GINNALA AMUR MAPLE	2.5" CAL.
	9	ACER GLABRUM ROCKY MOUNTAIN MAPLE	2.5" CAL.
	9	CELTIS OCCIDENTALIS COMMON HACKBERRY	2.5" CAL.
	8	QUERCUS MACROCARPA BURR OAK	2.5" CAL.
	8	SYRINGA RETICULATA JAPANESE TREE LILAC	1.5" CAL.

SYMBOL	QTY	BOTANICAL / COMMON NAME	SIZE
SHRUBS			
	12	CHRYSOTHAMNUS NAUSEOSUS BLUE RABBITBRUSH	1 GAL
	5	CORNUS SERICEA RED TWIG DOGWOOD	5 GAL
	9	JUNIPERUS COMMUNIS 'MONDAP' ALPINE CARPET JUNIPER	5 GAL
	6	PHILADELPHUS MICROPHYLLUS LITTLELEAF MOCKORANGE	5 GAL
	19	PHYSOCARPUS OPULIFOLIUS 'COPPERTINA' COPPERTINA NINEBARK	5 GAL
	18	PRUNUS BESSEYI `P011S` PAWNEE BUTTES® SAND CHERRY	1 GAL
	33	RHUS AROMATICA 'GRO-LOW' GRO-LOW FRAGRANT SUMAC	5 GAL
	21	RIBES ALPINUM 'GREEN MOUND' GREEN MOUND ALPINE CURRANT	5 GAL
	10	RIBES AUREUM GOLDEN CURRANT	5 GAL
GRASSES			
	15	BOUTELOUA GRACILIS 'BLONDE AMBITION' BLONDE AMBITION BLUE GRAMA	1 GAL
	17	HELICTOTRICHON SEMPERVIRENS SAPPHIRE BLUE OAT GRASS	1 GAL
	10	MISCANTHUS 'PURPURASCENS' FLAME GRASS	5 GAL
	10	PANICUM VIRGATUM 'TOTEM POLE' PRAIRIE WINDS® TOTEM POLE SWITCH GRASS	5 GAL
PERENNIALS			
	13	ACHILLEA MILLEFOLIUM 'FIREFLY PEACH SKY' YARROW 'FIREFLY PEACH SKY'	1 GAL
	28	AMORPHA CANESCENS LEADPLANT	1 GAL
	18	HEUCHERA X 'PALACE PURPLE' PALACE PURPLE CORAL BELLS	1 GAL

SYMBOL	QTY	BOTANICAL / COMMON NAME	CONT	SPACING
GROUND COVERS				
	270	ARCTOSTAPHYLOS UVA-URSI KINNIKINNICK	FLAT	18" o.c.
	54,671 SF	MT PF NATIVE RANGE-GRASS FORB SHRUB MIX F	HYDROSEED	
	121	PF HABITAT STORE PHLOX DIVARICATA WILD BLUE PHLOX	FLAT	18" o.c.

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SOUTH
PLANTING
PLAN

PROJECT #:
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LEGEND

- BUSINESS: 150 GROSS
- ACCESSORY STORAGE: 300 GROSS
- RESIDENTIAL: 200 GROSS
- PARKING GARAGE: 200 GROSS

(IU: 1) INCIDENTAL USE (W/ OCCUPANT LOAD) W/ REQUIRED SEPARATION PER TABLE 509. CALCULATED AS PART OF MAJOR USE FOR AREA CALCULATION PURPOSES.

(AO: 1) ACCESSORY OCCUPANCY AREA: (W/ OCCUPANT LOAD) W/ NO SEPARATION REQUIRED AND CALCULATED AS PART OF MAJOR USE FOR ALLOWABLE AREA CALCULATION IF TOTAL ACCESSORY OCCUPANCIES OCCUPY LESS THAN 10% OF MAJOR OCCUPANCY CLASSIFICATION AREA PER FLOOR PER SECTION 508.2.

FIRE RESISTIVE CORRIDOR: WITH OPENING, DUCT, PENETRATION, AND JOINT PROTECTION. SEE WALL TYPES AND JOINT DETAILS, DOOR AND WINDOW SCHEDULES, PENETRATION DETAILS, AND MECHANICAL DRAWINGS. (PART OF ADJACENT OCCUPANCY DESIGNATION AND CALCULATED AS PART OF IT FOR BUILDING AREA CALCULATION PURPOSES.)

1-HOUR FIRE BARRIER WALL: OR COMBINATION OF (WHERE OCCURS) CONFORMING TO THE MOST STRINGENT REQUIREMENTS OF EACH. SEE CODE ANALYSIS PLANS FOR SPECIFIC NAMES OF IBC WALL DESIGNATIONS. ALL WITH FIRE-RESISTIVE OPENING PROTECTION AT DOORS, WINDOWS, DUCTS (WITH EXCEPTIONS), PENETRATIONS, AND PROTECTION AT JOINTS. SEE WALL TYPES, DOOR AND WINDOW SCHEDULES, MECHANICAL DRAWINGS, PENETRATION DETAILS, AND JOINT DETAILS WHERE APPLICABLE.

NONRATED WALL: WITH NO OPENING PROTECTION REQUIRED AT DOORS, WINDOWS, DUCTS, PENETRATIONS, AND JOINTS UON. SEE WALL TYPES.

(2) ROOM OCCUPANT LOAD (OR TOTAL FLOOR OCCUPANT LOAD) PER SECTION 1004.

EXIT SIGN W/ INTEGRATED DIRECTIONAL ARROW WHERE OCCURS AT ALL EXITS, EVERY 100' IN CORRIDORS, AND IN SPACES WHERE 2 MOE ARE REQUIRED PER SECTION 1015. SEE ELECTRICAL DRAWINGS. (W/ POCHE IN QUADRANT INDICATING "EXIT" TEXT SIDE OF SIGN.) SIGNS SHOWN IN CORRIDORS ARE CEILING HUNG. SIGNS SHOWN ON WALLS ARE WALL HUNG.

REQUIRED EXIT AND EXIT EGRESS DIRECTION AND ACCUMULATIVE NUMBER OF OCCUPANTS SERVED WITH EGRESS DIRECTION AT ARROW LOCATION.

Wmin MINIMUM EGRESS WIDTH (INCHES) BASED ON ACCUMULATIVE NUMBER OF OCCUPANTS SERVED AT INDICATED EGRESS COMPONENT, USING FACTORS FROM TABLE 1005.1: .2 INCHES/OCC FOR STAIRWAYS (FULLY SPRINKLERED BLDG); .2 INCHES/OCC FOR OTHER EGRESS COMPONENTS.

EXIT ACCESS TRAVEL DISTANCE - MAXIMUM 250' FOR 'A'; 300' FOR 'B' OCCUPANCIES W/ SPRINKLER SYSTEM PER TABLE 1016.2. MOST RESTRICTIVE REQUIREMENT GOVERNS. MAXIMUM DISTANCE FOR EACH STORY SHOWN.

COMMON PATH OF EGRESS TRAVEL DISTANCE - MAXIMUM 75' FOR 'A'; 100' FOR 'B' OCCUPANCIES W/ SPRINKLER SYSTEM; PER TABLE 1014.3.

FE PORTABLE FIRE EXTINGUISHER

3 A0-2 FIRST FLOOR - OCCUPANCY
3/32" = 1'-0"

6 A0-2 HOSE TOWER - PLATFORM 'C'
3/32" = 1'-0" REF:A4-1

5 A0-2 HOSE TOWER -PLATFORM 'B'
3/32" = 1'-0" REF:A4-3

4 A0-2 HOSE TOWER - PLATFORM 'A'
3/32" = 1'-0" REF:A4-3

1020.1 CORRIDORS.
EXCEPTION:
2. A FIRE-RESISTANCE RATING IS NOT REQUIRED FOR CORRIDORS CONTAINED WITHIN A DWELLING UNIT OR SLEEPING UNIT IN AN OCCUPANCY IN GROUP I-1 AND R.

420.2 SEPARATION WALLS.
EXCEPTION:
3. IN GROUP R-3 AND R-4 FACILITIES, WALLS WITHIN THE DWELLING UNITS OR SLEEPING UNITS ARE NOT REQUIRED TO BE CONSTRUCTED AS FIRE PARTITIONS.

CODE PLAN NOTES

1. THIS CODE ANALYSIS PLAN IS FOR REFERENCE ONLY. SEE ALL OTHER PLAN SHEETS FOR CONTRACT DOCUMENT INFORMATION. THIS CODE ANALYSIS IDENTIFIES SELECTED BUILDING CODE REQUIREMENTS BUT IS NOT INTENDED TO LIST ALL BUILDING CODE REQUIREMENTS.
2. SEE BUILDING CODE AREA CALCULATIONS FOR BUILDING ALLOWABLE AND ACTUAL AREAS CALCULATED PER CODE.
3. SEE CODE INFORMATION SHEET AND OTHER PLAN/DETAIL SHEETS FOR ACCESSIBILITY CONFORMANCE.
4. SEE SITE PLAN FOR EXIT DISCHARGE, PROPERTY LINE, PUBLIC WAY LOCATIONS AND COURTYARD LAYOUT (WHERE OCCURS).

BUILDING CODE AREA CALCULATIONS

NOTES:
1. SEE CODE ANALYSIS PLANS FOR ACCOMPANYING
2. INFORMATION.
CODE INFORMATION BELOW LISTS SELECTED REQUIREMENTS BUT DOES NOT LIST ALL BUILDING CODE REQUIREMENTS.

OCCUPANCY GROUPS: (CHAPTER 3)
MIXED USE; A-3, B, S-2, R-1
ACCESSORY OCCUPANCIES PER SECTION 508.2 WHERE OCCUR.
INCIDENTAL USE OCCUPANCIES PER TABLE 509 WHERE OCCUR.
SEE CODE ANALYSIS PLANS.

CONSTRUCTION TYPE: (TABLE 601)
TYPE V-B, FULLY SPRINKLERED

ALLOWABLE FLOOR AREA (At): (TABLE 506.2)

A3:	24,000 SF*
B:	36,000 SF
S2:	54,000 SF
R1:	28,000 SF

*MOST RESTRICTIVE OCCUPANCY GOVERNS (506.4.1)

FRONTAGE INCREASE (If): (SEC. 506.3.3)
If = [F / P - 0.25] W / 30
If = [314' / 365' - 0.25] 30 / 30
If = .61

AUTOMATIC SPRINKLER SYSTEM INCREASE (Is): (SEC. 506.3)
YES , REFER TO FIRE SPRINKLER SHEETS

BUILDING AREA DETERMINATION: (SEC. 506.4)
MAXIMUM BUILDING AREA = Aa x 2 (2 STORIES)
A-3 21,660 x 2 = 43,320 SF
:

ACTUAL FLOOR AREA:

	MAIN FLR	UPPER FLR	TOTAL
A-2:	2,840	0	2,840
B:	0	1,494	1,494
M:	1,959	0	1,959
	4,799	1,494	6,293
	(<21,660; OK)	(<21,660; OK)	(<43,320; OK)

ALLOWABLE NO. OF STORIES / HEIGHT: (TABLE 504.3)

A3:	2 STORY / 60 FT*
B:	3 STORIES / 60 FT
R1:	3 STORY / 40 FT*
S2:	3 STORY / 60 FT

*MOST RESTRICTIVE OCCUPANCY GOVERNS PER 508.3.2.2

AUTOMATIC SPRINKLER SYSTEM INCREASE: (SEC. 504.2)
A2/M: +1 STORY = 2 STORIES
+ 20 FT = 60 FT

REQUIRED SEPARATION OF OCCUPANCIES: (SEC. 508.4)
BETWEEN 'A' AND 'B' : 1 HR. SPK.
BETWEEN 'B' AND 'S-2' : 1 HR. SPK.
BETWEEN 'S-2' AND 'R' : 1 HR. SPK

EXIT ACCESS TRAVEL DISTANCE: (SEC. 1017.2)
'A' & 'R' : 250 FEET WITH SPK.
'B' : 300 FEET WITH SPK.
'S-2' : 400 FEET WITH SPK.

ACTUAL NO. OF STORIES / HEIGHT:
1 STORIES / 26 FT; OK

OCCUPANT LOADS: (SEC. 1004 + TABLE 1004.1.2)
SEE CODE ANALYSIS PLAN. OCCUPANT LOADS BASED ON MAX. FLOOR AREA IN SQ FT PER OCCUPANT FROM TABLE 1004.1.2:

BUSINESS: 150 GROSS
ACCESSORY STORAGE: 300 GROSS
RESIDENTIAL: 200 GROSS
PARKING GARAGE: 200 GROSS

Total Occupants
117 OCCUPANTS

EGRESS WIDTH PER OCCUPANT SERVED: (SEC. 1005.1)
STAIRWAYS: 0.3 INCHES / OCCUPANT
OTHER EGRESS COMPONENTS: 0.2 INCHES / OCCUPANT

BUILDING CODE INFORMATION

APPLICABLE BUILDING CODE:	2021 INTERNATIONAL BUILDING CODE
BUILDING AGENCY / JURISDICTION:	CITY OF HELENA, MONTANA
SEISMIC DESIGN CATEGORY:	D (SEE STRUCTURAL)
BASIC WIND SPEED:	3 SECOND GUST = 90 MPH
BUILDING AREA:	FIRST FLOOR : .....11,556 SF HOSE TOWER LANDINGS:.....448 SF
TOTAL AREA:	**12,004 SF**

TYPE OF CONSTRUCTION

(CHAPTER 6) CONSTRUCTION TYPE V-B

FIRE-RESISTANCE RATING REQUIREMENTS

	BUILDING ELEMENT	RATING
TABLE 601	STRUCTURAL FRAME	0 HR
TABLE 602	EXTERIOR BEARING WALLS: FIRE SEP <5'	0 HR - N/A
	EXTERIOR BEARING WALLS: FIRE SEP >5',<10'	0 HR - N/A
	EXTERIOR BEARING WALLS: FIRE SEP >10'	0 HR
TABLE 601	INTERIOR BEARING WALLS	0 HR
TABLE 602	EXTERIOR NONBEARING WALLS: FIRE SEP <5'	0 HR - N/A
	EXTERIOR NONBEARING WALLS: FIRE SEP >5',<100	HR - N/A
	EXTERIOR NONBEARING WALLS: FIRE SEP >10'	0 HR
TABLE 601	FLOORS	0 HR
TABLE 601	ROOFS	0 HR

MAXIMUM AREA OF EXTERIOR OPENINGS

(CHAPTER 7) MAXIMUM AREA OF EXTERIOR OPENINGS PER TABLE 705.8

NORTH WALL - SEPARATION >30 FT		EAST WALL - SEPARATION >30 FT	
UNPROTECTED	NO LIMIT	UNPROTECTED	NO LIMIT
PROTECTED	NO LIMIT	PROTECTED	NO LIMIT
SOUTH WALL - SEPARATION >30 FT		**WEST WALL - SEPARATION 0 FT**	
UNPROTECTED	NO LIMIT	UNPROTECTED	NOT PERMITTED
PROTECTED	NO LIMIT	PROTECTED	NOT PERMITTED

PLUMBING FIXTURE COUNTS

(PER ADMINISTRATIVE RULES OF MONTANA 24.301.351)

B OCCUPANCY (OFFICE) - 24 OCCUPANTS

FIXTURE TYPE	FIXTURES REQUIRED	NO. OCC.	TOTAL REQ'D	FIXTURES PROVIDED
WC, *	1 PER 25 FOR FIRST 50	13	1	1 UNISEX* - -
LAVS	1 PER 40	13	1	- 1
DF:	1 PER 100	N/A	1	1

R OCCUPANCY (DORMS)

FIXTURE TYPE	FIXTURES REQUIRED	NO. OCC.	TOTAL REQD	FIXTURES PROVIDED
WC	1 PER 10	16	2 1	2 UNISEX* -
LAVS,	1 PER 10	16	2	2 UNISEX* -
SHOWERS	1 PER 8	16	2	2 UNISEX*
DF:	1 PER 100	16	1	BOTTLES PROVIDED
SERVICE SINK	--		1	1

PROPOSED FIXTURE COUNT:
5 UNISEX W.C., 5 LAV, 2 UTILITY SINKS, 1 D.F. (with bottle filler)

REGISTERED ARCHITECT MICHAEL W. DOWLING LIC. #2087 STATE OF MONTANA

HELENA FIRESTATION #3
1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY ARCHITECTURE + ENGINEERING

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www.dparchitect.com

CODE INFORMATION

PROJECT #: 25-668
ISSUE DATES:

DRAWN BY: JS/CC

100% CONSTRUCTION SET

A0-2

10.22.25

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REFERENCE SYMBOLS

(1) View Name — 1/8" = 1'-0" SCALE — REF: 1/A000	REFERENCING SHEET
5 A3-8 — 5 A3-8	BUILDING SECTIONS SEE DRAWINGS EX: SHEET A3-8, DETAIL 5
3 A5-2	WALL SECTIONS SEE DRAWINGS EX: SHEET A5-2, DETAIL 3
4 A7-1	EXTERIOR ELEVATION SEE DRAWINGS EX: SHEET A7-1, DETAIL 4
SIM — 1 A1-1	CONSTRUCTION DETAIL SEE DRAWINGS EX: SHEET A1-1, DETAIL 1
5 — 4 A7-1	INTERIOR ELEVATION SEE DRAWINGS EX: SHEET A7-1, DETAIL 4 & 5
101A	DOOR SYMBOL SEE DOOR SCHEDULE
A	WINDOW SYMBOL SEE WINDOW TYPES
Room name — 101	ROOM SYMBOL EX: 101 - FIRST FLOOR
A — 1	GRID LINES: LETTERS LEFT TO RIGHT NUMBERS BOTTOM TO TOP
E2p — 10' - 0"	WALL/PARTITION TYPE SYMBOL SEE WALL/PARTITION TYPES
Name — Elevation	BENCHMARK

ABBREVIATIONS

(1)	QUANTITY
&	AND
@	AT
#	NUMBER
AB	ANCHOR BOLT
A/C	AIR CONDITIONING
ACT	ACOUSTICAL CEILING TILE
ADDM	ADDENDUM
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
ARCH	ARCHITECTURAL
BC	BRICK COURSE
BO	BOTTOM OF
BLDG	BUILDING
BLKG	BLOCKING
BTWN	BETWEEN
BOW	BOTTOM OF WALL
BU	BUILT UP
CL	CENTERLINE
CB	CATCH BASIN
CC	CENTER TO CENTER
CDX	EXTERIOR GRADE PLYWOOD
CF	CUBIC FEET
CT	CERAMIC TILE
CH	CHANNEL
CJ	CONTROL JOINT
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL/COLS	COLUMN/COLUMNS
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CTR	CENTER
CTRD	CENTERED
DBL	DOUBLE
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DTL/DET	DETAIL
DWG	DRAWING
EA	EACH
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EJ	EXPANSION JOINT
ELEV	ELEVATION - HEIGHT
ELEC	ELECTRICAL
EQ	EQUAL
(E)/EXIST	EXISTING
ETR	EXISTING TO REMAIN
EXT	EXTERIOR
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISH FLOOR
FDN	FOUNDATION
FEC	FIRE EXTINGUISHER CABINET
FIN FLR or FF	FINISHED FLOOR
FLR	FLOOR
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FT	FOOT
FTG	FOOTING
GA	GAUGE
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GALV	GALVANIZED
GLU LAM or GLB	GLUE LAMINATED BEAM
GWB	GYPSUM WALL BOARD
HD BD	HARD BOARD
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HT	HEIGHT
HTG	HEATING
HVAC	HEATING, VENTILATING, AIR CONDITIONING
IN	INCH
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
JST	JOIST
JT	JOINT
LB	POUND
LF	LINEAL FEET
LTWT	LIGHTWEIGHT
LVL	LAMINATED VENEER LUMBER
MAT	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MDF	MEDIUM DENSITY FIBER BOARD
MFR	MANUFACTURER
MIL	MILLIMETER
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC or O.C.	ON CENTER
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OTS	OPEN TO STRUCTURE
PAF	POWER ACTUATED FASTENER
PART BD	PARTICLE BOARD
PERP	PERPENDICULAR
PFM	PREFINISHED METAL
PL	PLATE
PLAM	PLASTIC LAMINATE
PLWD	PLYWOOD
PNL	PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	POINT
P.T.	PRESSURE-TREATED
PTD	PAPER TOWEL DISPENSER
PVC	POLYVINYLCHLORIDE
QTY	RADIQUANTITY
RD	ROOF DRAIN
REF	REFERENCE
REF	REFRIGERATOR
REINF	REINFORCING
REQD	REQUIRED
RES	RESILIENT
RM	ROOM
RO	ROUGH OPENING
SCHED	SCHEDULE
SACT	SUSPENDED ACOUSTICAL CEILING TILE
SD	SOAP DISPENSER
SF	SQUARE FEET
SHT	SHEET
SHTG	SHEATHING
SHWR	SHOWER
SIM	SIMILAR
SIP	STRUCTURAL INSULATED PANEL
SND	SANITARY NAPKIN DISPOSAL
SPEC	SPECIFICATIONS
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUB FLR	SUBFLOOR
T&G	TONGUE AND GROOVE
TJI	TRUSS JOIST INCORPORATED
TO	TOP OF
TOB	TOP OF BEAM
TOP	TOP OF PLATE
TO FTG	TOP OF FOOTING
TOS	TOP OF STEEL
TOSL	TOP OF SLAB
TOW	TOP OF WALL
TPD	TOILET PAPER DISPENSER
TPO	THERMOPLASTIC MEMBRANE ROOFING
T	TREAD
TS	TUBULAR STEEL
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VB	VAPOR BARRIER
VIF	VERIFY IN FIELD
W/	WITH
WC	WATER CLOSET
WD	WOOD
WNDW	WINDOW
W/O	WITHOUT
WP	WATERPROOF
WR	WATER RESISTANT
WRB	WEATHER RESISTIVE BARRIER
WT	WEIGHT
WWF	WELDED WIRE FABRIC

ROOF NOTE:

1.0 SEE ROOF PLAN FOR ADDITIONAL INFORMATION INCLUDING CRICKETING & SLOPE TO ROOF DRAIN, TYP.

2.0 MINIMUM R -VALUE FOR ROOF ASSEMBLY IS R 30 SET BY THE 2021 International Energy Conservation Code (IECC),

ROOF/CEILING ASSEMBLIES

RA-1: INSULATED SINGLE PLY MEMBRANE FLAT ROOF

ROOF OVER APPARATUS BAYS

RA-2: STANDING SEAM ROOF

RA-3: SLOPED STANDING SEAM ROOF

RA-4: MEMBRANE FLAT ROOF W/ EXPOSED STRUCTURE

FLOOR ASSEMBLIES

FA-1: SLAB ON GRADE

FA-2: WOOD JOIST FLOOR

HOSE TOWER PLATFORMS

FA-3: INSULATED CONCRETE DECK

TOP PLATFORM OF HOSE TOWER

REGISTERED ARCHITECT MICHAEL W. DOWLING AIC #7087 STATE OF MONTANA

HELENA FIRESTATION #3

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ROOF, CEILING & FLOOR ASSEMBLIES

PROJECT #: 25-668

ISSUE DATES:

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EXTERIOR (E)

E1
CITADEL PANEL & GWB

E2
CITADEL PANEL & CAVITY

SEE INT. ELEVATIONS FOR REVEAL LOCATIONS.SHEAT HING TO BE PAINTED BLACK AT ALL REVEAL LOCATIONS

EAST & WEST WALLS OF FIRE TRUCK BAYS T.O. SLAB TO 10'

E3
CITADEL PANEL & CEMENT FIBER INSULATED

TOP FLOOR OF FIRE TOWER

E4
CITADEL PANEL & HORIZ. CORRIGATED METAL INSULATED

EAST & WEST WALLS OF FIRE TRUCK BAYS

10' ABOVE T.O. SLAB TO B.O. STRUCTURE

E5
CITADEL PANEL & GWB INSULATED

EAST & WEST WALLS OF FIRE TRUCK BAYS N/S WING WALLS

E6
CITADEL PANEL & VERTICAL FAUX WOOD ALUMINUM UNINSULATED

ALL WALL ASSEMBLIES WITH BRICK VENNER MUST PROVIDE TYP. WEEP VENT SPACED 24" O.C. AT BASE COURSE OF WALL

E7
BRICK VENEER & GWB

EXTERIOR WALL ASSEMBLIES

ALL WALL ASSEMBLIES WITH BRICK VENNER MUST PROVIDE TYP. WEEP VENT SPACED 24" O.C. AT BASE COURSE OF WALL

E8
BRICK VENEER & BRICK VENEER INSULATED

PATIO 1/2 WALL

ALL WALL ASSEMBLIES WITH BRICK VENNER MUST PROVIDE TYP. WEEP VENT SPACED 24" O.C. AT BASE COURSE OF WALL

E9
BRICK VENEER & BRICK VENEER UNINSULATED

E10
HORIZ. CORRUGATED METAL

E10.1 - HCM BOTH SIDES
E10.2 - HCM EXT., 5/8" GWB ON INT

WING WALLS OF HOSE TOWER

E11
HORIZ. CORRUGATED METAL & FAUX WOOD SIDING UNINSULATED

E12
VERTICAL SHOU SUGI BON W/ GWB

E13
STANDING SEAM W/ GWB

E14
BLACK STANDING SEAM W/ CAVITY

EXTERIOR WALL ASSEMBLIES

E15
CITADEL PANEL & CITADEL PANEL

EXTERIOR WALL ASSEMBLIES

INTERIOR SOUND-RATED (S)

S1
SOUND BARRIER WALL

GA FILE NO. WP 3007

45 TO 49 STC SOUND

SOUND DESIGN:
SOUND TESTED WITH RESILIENT CHANNELS 24" O.C. ON ONE SIDE, 3 1/2" GLASS FIBER INSULATION. GYPSUM BOARD APPLIED TO RESILIENT CHANNELS WITH 1-5/8" SCREWS, 12" O.C.

INTERIOR WALL ASSEMBLIES

INTERIOR FIRE-RATED (F)

NORTH & SOUTH WALLS OF FIRE TRUCK BAYS

CEMENT FIBER TO 10' A.F.F. PAINTED GWB ABOVE 10' TO STRUCTURE

F1
1HR FIRE WALL W/ FIBER CEMENT

GA FILE NO. WP 3661

1HR FIRE

FIRE DESIGN:
ONE LAYER 5/8" TYPE X GYPSUM WALLBOARD APPLIED AT RIGHT ANGLE TO EACH SIDE OF 2X6 WOOD STUDS 16" O.C. WITH 2 1/4" TYPE S OR W SCREWS 12" O.C. 5 1/2" MINERAL FIBER INSULATION, NOMINAL 2.5 PCF, FRICTION FIT IN STUD SPACE.
VERTICAL JOINTS STAGGERED 16" O.C., HORIZONTAL JOINTS STAGGERED 24" O.C., ON OPPOSITE SIDES.

NORTH & SOUTH WALLS OF FIRE TRUCK BAYS

10' ABOVE T.O. SLAB TO B.O. STRUCTURE

F2
1HR FIRE WALL

GA FILE NO. WP 3661

1HR FIRE DESIGN:
ONE LAYER 5/8" TYPE X GYPSUM WALLBOARD APPLIED AT RIGHT ANGLE TO EACH SIDE OF 2X6 WOOD STUDS 16" O.C. WITH 2 1/4" TYPE S OR W SCREWS 12" O.C. 5 1/2" MINERAL FIBER INSULATION, NOMINAL 2.5 PCF, FRICTION FIT IN STUD SPACE.
VERTICAL JOINTS STAGGERED 16" O.C., HORIZONTAL JOINTS STAGGERED 24" O.C., ON OPPOSITE SIDES.

GENERAL WALL TYPE NOTES

1. TYPE "X" GYPSUM WALL BOARD SPECIFIED THROUGHOUT. PROVIDE WATER-RESISTANT TYPE "X" GYPSUM BOARD AT WET AREAS, AND TILE BACKER BOARD TYPE "X" ON ALL WALLS WITH TILE.
2. CONFORM TO DETAILED REQUIREMENTS OF DESIGNATED TESTING AUTHORITY NUMBERS AT ALL WALLS. WALLS DESIGNATED AS "BASED ON" VARY AS NOTED IN (PARENTHESIS.) SHEATHING AT DECORATIVE PILASTER WALLS (WHERE OCCUR) MAY VARY FROM WALL TYPE ONLY AT PILASTER CONDITION. SEE ASSOCIATED DETAILS.
3. SEE STRUCTURAL SHEAR WALL SCHEDULE FOR SHEAR WALL ATTACHMENT AND EDGE BLOCKING REQUIREMENTS. STRUCTURAL SHEAR WALL SCHEDULE OVERRIDES LISTED ASSEMBLY ATTACHMENT AND BLOCKING REQUIREMENTS ONLY WHEN MORE RESTRICTIVE.
4. REFER TO CODE ANALYSIS PLANS WALL TYPE LEGEND FOR IBC DESIGNATION OF FIRE RESISTIVE WALLS WITH OPENING PROTECTION (FIRE RESISTIVE RATED DOORS AND GLAZING). SEE DOOR AND WINDOW SCHEDULES.
5. REFER TO CODE ANALYSIS PLANS WALL TYPE LEGEND FOR IBC DESIGNATION OF FIRE RESISTIVE WALLS WITH DUCTS AND AIR TRANSFER OPENING PROTECTION. SEE MECHANICAL DRAWINGS.
6. APPROVED DRYWALL SCREWS, THE SAME LENGTH AND SHAFT THICKNESS OF SPECIFIED NAILS, CAN BE SUBSTITUTED IN RATED ASSEMBLIES.
7. SEE SPECIFICATIONS FOR APPLICATION OF FINISH REQUIREMENTS.
8. PENETRATIONS OF FIRE-RESISTIVE WALLS, FLOOR-CEILING AND ROOF-CEILINGS SHALL BE PROTECTED AS REQUIRED IN IBC SECTION 713.
9. PENETRATIONS THROUGH HORIZONTAL ASSEMBLIES SHALL COMPLY WITH SECTION 712.4. PROVIDE FIRE, SMOKE AND CEILING RADIATION DAMPERS AT DUCT AND AIR TRANSFER OPENINGS IN FIRE RATED ASSEMBLIES PER IBC SECTION 716.
10. ALL SOUND CONTROL SYSTEMS (INCLUDING ALL STC-RATED WALL AND FLOOR-CEILING ASSEMBLIES) SHALL BE AIRTIGHT. RECESSED WALL FIXTURES, SUCH AS MEDICINE CABINETS OR ELECTRICAL AND LOW-VOLTAGE OUTLETS, THAT PENETRATE THE GYPSUM BOARD SHALL NOT BE LOCATED BACK-TO-BACK OR IN THE SAME STUD CAVITY. ANY OPENING FOR FIXTURES OR PIPES SHALL BE CUT TO PROPER SIZE AND SEALED. THE ENTIRE PERIMETER OF A SOUND INSULATING SYSTEM SHALL BE MADE AIRTIGHT TO PREVENT SOUND FLANKING. FLEXIBLE SEALANT OR AN ACOUSTICAL GASKET SHALL BE USED TO SEAL BETWEEN THE STC RATED SYSTEM AND ALL ADJOINING SURFACES. TAPING GYPSUM BOARD WALL AND WALL-CEILING INTERSECTIONS PROVIDES AN ADEQUATE AIR SEAL AT THESE LOCATIONS. CONSULT GWB MANUFACTURER FOR AN SPECIAL RECOMMENDATIONS.
11. NOTE THERE ARE A FEW SHEAR WALLS REQUIRING 15/32" PLYWOOD ON THE INTERIOR , REFER TO TO STRUCTURAL .

WALL TYPE TAG

WALL TYPE
WALL HEIGHT
E2s
4' - 0"
PARTIAL HEIGHT WALL

WALL HEIGHT DESIGNATION

- c EXTEND WALL TO UNDERSIDE OF CEILING
- d STUDS EXTEND TO STRUCTURE, FINISH EXTENDS TO 6" ABOVE CEILING
- p PARTIAL HEIGHT WALL, SEE PLANS & ELEVATIONS
- s EXTEND ENTIRE WALL TO UNDERSIDE OF STRUCTURE (UNDERSIDE OF ROOF SHEATHING, DECK OR SLAB AT FIRE WALLS)
- x SHAFT: WALL IS CONTINUOUS THROUGH FLOOR ASSEMBLIES

INTERIOR (I)

I1
I1.1 - 2X4 WD STUDS
I1.2 - 2X6 WD STUDS
I1.3 - 2x4 WD STUDS & INSUL.
I1.4 - 2X6 WD STUDS & INSUL.

I2
I2.1 - 2X4 WD STUDS
I2.2 - 2X6 WD STUDS

I3
I3.1 - 2X4 WD STUDS
I3.2 - 2X6 WD STUDS

INTERIOR WALL ASSEMBLIES

REGISTERED ARCHITECT
MICHAEL W. DOWLING
UC #9857
STATE OF MONTANA

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

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WALL ASSEMBLIES

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JS/CC

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WINDOW TYPES

NOTES

1. ALL DIMENSIONS ARE NOMINAL; COORDINATE R.O. WITH ACTUAL DIMENSIONS .
2. FIELD VERIFY ALL DIMENSIONS @ NEW WINDOWS IN EXISTING OPENINGS.
3. TYPICAL EXTERIOR GLAZING IS TYPE IG-1 UNO.
4. TYPICAL INTERIOR GLAZING IS TYPE G-2, UNO.
5. SEE SPECS. FOR SPECIFICS ON STOREFRONT AND CURTAINWALL SYSTEMS
6. SEE EXT./INT. ELEVATIONS FOR WINDOW SILL HEIGHTS

LEGEND

HATCH PATTERN INDICATES SAFETY GLASS:
GLAZING TYPE IG-2 AT EXTERIOR
GLAZING TYPE G-3 AT INTERIOR

NOTES:
1. WINDOW OPENING SHOWN. DOORS ARE SIMILAR. SEE ASSOCIATED DETAILS.
2. THE FOLLOWING NOTES OCCUR IN ORDER OF INSTALLATION SEQUENCE.

1. BLDG PAPER BENEATH WINDOW
2. FLEXIBLE MEMBRANE SILL PAN COVERING SILL AND EXTENDING UP JAMB 4" TO 6"
3. BLDG PAPER AROUND JAMBS AND HEADER OVERLAPPING FLEXIBLE MEMBRANE SILL PAN 2"
4. CAULK BEHIND NAILING FLANGE (EXCEPT AT SILL FLANGE) PRIOR TO INSTALLATION. LAP EXTERIOR FACE OF FLANGE
5. WINDOW OR DOOR - WINDOW FLANGE UNDER FLEXIBLE MEMBRANE FLASHING
6. FLEXIBLE MEMBRANE FLASHING
7. METAL DRIP FLASHING @ HEAD
8. FLEXIBLE MEMBRANE FLASHING AT HEADER OVERLAPPING JAMB FLEXIBLE MEMBRANE BY 2"
9. BUILDING PAPER BIB TUCKED UNDER SEAM IN PRIMARY BUILDING PAPER COURSE & LAPPED OVER METAL FLASHING

4 / A1-3 WINDOW FLASHING DETAIL
3" = 1'-0"

DOOR SCHEDULE & ELEVATIONS

NOTES

1. SEE SPECIFICATIONS FOR DOOR HARDWARE DESCRIPTIONS.
2. ALL EXTERIOR DOORS TO HAVE - CLOSERS, WEATHERSTRIPPING, & LOW PROFILE ALUM. THRESHOLDS
3. ALL DOORS WITH ADA HARDWARE
4. ALL BATHROOMS DOORS TO HAVE CLOSERS.

ABBREVIATIONS

FACT	FACTORY FINISH
HM	HOLLOW METAL
P	PAINT
TS	TRANSPARENT FINISH - STAINED
WD	WOOD - SOLID CORE
ALUM	ALUMINUM

LEGEND

HATCH PATTERN INDICATES SAFETY GLASS:
GLAZING TYPE IG-2 AT EXTERIOR
GLAZING TYPE G-3 AT INTERIOR

DOOR SCHEDULE

DOOR NO.	DOOR TYPE	ROOM NAME	WIDTH	HEIGHT	THICKNESS	FRAME TYPE	HARDWARE GROUP	Door Material	Comments
100A	A	VESTIBULE	6' - 0"	8' - 0"	2"	2	NO. AL-01	ALUM.	
100B	A	VESTIBULE	6' - 0"	8' - 0"	2"	2	NO. AL-02	ALUM.	
101A	50	LOBBY	3' - 0 1/2"	7' - 0 1/4"		3	NO. 06	WOOD	
101B	F	LOBBY	3' - 0"	7' - 0"	1 3/4"	1	NO. 10	WOOD	
102	B	CLASSROOM	3' - 0 3/4"	7' - 0"	2"	2	NO. 03	WOOD	
103	D	STORAGE	3' - 0"	7' - 0"	1 3/4"	1	NO. 10	WOOD	NOTE : UNDERCUT DOOR BY 1" FOR AIR FLOW
104	D	I.T.	3' - 0"	7' - 0"	1 3/4"	1	NO. 10	WOOD	NOTE : UNDERCUT DOOR BY 1" FOR AIR FLOW
105	D	BR	3' - 0"	7' - 0"	1 3/4"	1	NO. 17	WOOD	
106	D	BR	3' - 0"	7' - 0"	1 3/4"	1	NO. 17	WOOD	
108	E	OFFICE 1	3' - 0"	7' - 0"	1 3/4"	1	NO. 15	WOOD	
109	E	OFFICE 2	3' - 0"	7' - 0"	1 3/4"	1	NO. 15	WOOD	
110	E	OFFICE 3	3' - 0"	7' - 0"	1 3/4"	1	NO. 15	WOOD	
111	E	OFFICE 4	3' - 0"	7' - 0"	1 3/4"	1	NO. 15	WOOD	
112	E	CONFERENCE ROOM	3' - 0"	7' - 0"	1 3/4"	1	NO. 10	WOOD	
113A	E	HALLWAY	3' - 0"	7' - 0"	1 3/4"	1	NO. 19	WOOD	
113B	E	HALLWAY	3' - 0"	7' - 0"	1 3/4"	1	NO. 07	WOOD	45 MIN. FIRE RATED/CLOSER
114	G	ELEC. MECH.	3' - 0"	7' - 0"	1 3/4"	1	NO. 08	WOOD	45 MIN. FIRE RATED/CLOSER
115A	E	TURNOUT	3' - 0"	7' - 0"	1 3/4"	1	NO. 09	WOOD	45 MIN. FIRE RATED/CLOSER
115B	E	TURNOUT	3' - 0"	7' - 0"	1 3/4"	1	NO. 20	WOOD	
116A	G	SCBA	3' - 0"	7' - 0"	1 3/4"	1	NO. 01	STEEL	
116B	G	SCBA	3' - 0"	7' - 0"	1 3/4"	1	NO. 18	WOOD	
117A	H	APPARATUS BAY	14' - 0"	14' - 0"	2"	1	NO. OH-01	STEEL	
117B	H	APPARATUS BAY	14' - 0"	14' - 0"	2"	1	NO. OH-01	STEEL	
117C	H	APPARATUS BAY	14' - 0"	14' - 0"	2"	1	NO. OH-01	STEEL	
117D	G	APPARATUS BAY	3' - 0"	7' - 0"	1 3/4"	1	NO. 04	STEEL	
117E	G	APPARATUS BAY	3' - 0"	7' - 0"	1 3/4"	1	NO. 04	STEEL	
117F	I	APPARATUS BAY	14' - 0"	14' - 0"	2"	1	NO. OH-01	STEEL	
117G	I	APPARATUS BAY	14' - 0"	14' - 0"	2"	1	NO. OH-01	STEEL	
117H	I	APPARATUS BAY	14' - 0"	14' - 0"	2"	1	NO. OH-01	STEEL	
118A	G	HOSE TOWER	3' - 0"	7' - 0"	1 3/4"	1	NO. 11	WOOD	45 MIN. FIRE RATED/CLOSER
118B	C	HOSE TOWER	6' - 0"	6' - 8"	1 3/4"		NO. 14.01	STEEL	INSULATED W/ WEATHER STRIPPING AND LOW PROFILE THRESHOLD
119	G	GENERAL STORAGE	3' - 0"	7' - 0"	1 3/4"	1	NO. 11	WOOD	45 MIN. FIRE RATED/CLOSER
121A	E	HALLWAY	3' - 0"	7' - 0"	1 3/4"	1	NO. 07	WOOD	45 MIN. FIRE RATED/CLOSER
121B	E	HALLWAY	3' - 0"	7' - 0"	1 3/4"	1	NO. 19	WOOD	
122	E	WATCH ROOM	3' - 0"	7' - 0"	1 3/4"	1	NO. 10	WOOD	
123A	E	HALLWAY	3' - 0"	7' - 0"	1 3/4"	1	NO. 12	WOOD	PROVIDE VINYL , WINDOW TINTING FOR DORMS
123B	G	HALLWAY	3' - 0"	7' - 0"	1 3/4"	1	NO. 03	STEEL	
124	D	BR	3' - 0"	7' - 0"	1 3/4"	1	NO. 17	WOOD	
125	D	BR	3' - 0"	7' - 0"	1 3/4"	1	NO. 17	WOOD	
126	G	FIRE R.	3' - 0"	7' - 0"	1 3/4"	1	NO. 05	STEEL	
132	D	DORM 5	3' - 0"	7' - 0"	1 3/4"	1	NO. 16	WOOD	
133	D	DORM 4	3' - 0"	7' - 0"	1 3/4"	1	NO. 16	WOOD	
134	D	DORM 3	3' - 0"	7' - 0"	1 3/4"	1	NO. 16	WOOD	
135	D	DORM 2	3' - 0"	7' - 0"	1 3/4"	1	NO. 16	WOOD	
136	D	DORM 1	3' - 0"	7' - 0"	1 3/4"	1	NO. 16	WOOD	
137	D	HALLWAY	3' - 0"	7' - 0"	1 3/4"	1	NO. 13	WOOD	
138A	B	KITCH / DAYROOM	3' - 0"	8' - 0"	1 3/4"	2	NO. 03	WOOD	
138B	C	KITCH / DAYROOM	4' - 0"	7' - 0"	1 3/4"	1	NO. 14	WOOD	
138C	C	KITCH / DAYROOM	4' - 0"	7' - 0"	1 3/4"	1	NO. 14	WOOD	
139A	E	HALLWAY	3' - 0"	7' - 0"	1 3/4"	1	NO. 12	WOOD	
139B	A	FITNESS	6' - 0"	7' - 0"	2"	2	NO. 02	ALUM.	
Grand total: 51									

WINDOW TYPES
1/4" = 1'-0"

WINDOW TYPES
1/4" = 1'-0"

FRAME TYPES
1/4" = 1'-0"

DOOR TYPES
1/4" = 1'-0"

REGISTERED ARCHITECT
MICHAEL W. DOWLING
IAC #7087
STATE OF MONTANA

HELENA FIRESTATION #3
1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

DOWLING ARCHITECTS
736 N. Last Chance Gulch | Helena, MT 59601 | 406.457.8470
www.dlarchitect.com

DOOR & WINDOW SCHEDULES & ELEVATIONS

PROJECT #: 25-668
ISSUE DATES:

DRAWN BY: JS/CC

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A1-3

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STOREFRONT TYPES
1/4" = 1'-0"

NOTES

1. ALL DIMENSIONS ARE NOMINAL; COORDINATE R.O. WITH ACTUAL DIMENSIONS .
2. FIELD VERIFY ALL DIMENSIONS @ NEW WINDOWS IN EXISTING OPENINGS.
3. TYPICAL EXTERIOR GLAZING IS TYPE IG-1 UNO.
4. TYPICAL INTERIOR GLAZING IS TYPE G-2, UNO.
5. SEE SPECS. FOR SPECIFICS ON STOREFRONT AND CURTAINWALL SYSTEMS

LEGEND

HATCH PATTERN INDICATES SAFETY GLASS:
GLAZING TYPE IG-2 AT EXTERIOR
GLAZING TYPE G-3 AT INTERIOR

CW- CURTAIN WALL
SF - STOREFRONT

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #3087
STATE OF MONTANA

HELENA FIRESTATION #3

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SHIVEHATTERY
ARCHITECTURE + ENGINEERING

CURTAIN/STOREFRONT
WINDOWS
ELEVATIONS
AND
SCHEDULE

PROJECT #:
25-668

ISSUE DATES:

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05 A2-1 25' FLAGPOLE
1/2" = 1'-0"

04 A2-1 CHAIN LINK FENCE
1" = 1'-0"

MATERIAL LEGEND

- CRUSHED GRANITE *REFER TO LANDSCAPING DETAILS*
- CONCRETE
- COMMERCIAL RATED COMPACTED ROAD BASE
- TRESS *REFER TO LANDSCAPING*

03 A2-1 SITE PLAN
1" = 40'-0"

N

GENERAL SITE NOTES:

1. WORK UNDER THIS CONTACT INCLUDES ALL DESIGNATED CONCRETE WALKS, PADS & CURBS, & ASPHALT PAVING WITH IN THE PROJECT LIMITS. PROVIDE ALL SITEWORK INDICATED INCLUDING TOPSOIL, IRRIGATION, LANDSCAPING, ETC TO PROVIDE A COMPLETE FINISHED SITE. SEE CIVIL, LANDSCAPE, MECHANICAL, & ELECTRICAL FOR EXTENT OF WORK UNDER THESE SUBCONTRACTORS.
2. DIMENSIONS ARE TYPICALLY TO FACE OF CONCRETE FOUNDATION, EDGE OF WALK OR PAVING SIDE OF CURB.
3. LOCATE SIDEWALK CONTROL OR EXPANSION JOINTS AS SHOWN ON WALKS AND SLABS. IF JOINTS ARE NOT SPECIFICALLY DIMENSIONED ALIGN WITH BUILDING COLUMNS, BUILDING OFFSETS, CENTERED ON OPENINGS OR ALIGNED WITH BUILDING;'; ELEMENTS AS SHOWN.
4. PRIOR TO FINAL ACCEPTANCE, REPLACE DISTURBED AREAS OF ADJACENT LANDSCAPING & IRRIGATION BACK TO ORIGINAL CONDITION.
5. PATCH & REPAIR OR REPLACE ALL EXISTING SIDEWALKS TO REMAIN DAMAGED BY CONSTRUCTION.
6. FIRE TRAINING TOWER BY OTHERS. GC TO COORDINATE POWER TO THE TOWER AND SITE USE AND ACCESS FOR SITEWORK, FOUNDATION WORK AND TOWER CONSTRUCTION.

GENERAL DEMOLITION NOTES:

1. REMOVE AND DISMANTLE THE EXISTING CHAIN LINK FENCE , VERIFY WITH OWNER FOR SALVAGE / DEMOLISH. REFER TO CIVIL FOR CONNECTION OF NEW FENCE WITH EXISTING.

ZONING ANALYSIS

ZONING DISTRICT: PLI - PUBLIC LANDS & INSTITUTIONS DISTRICT

ZONING CODE: HELENA CITY CODE TITLE 11 - ZONING; AS AMENDED BY ORDINANCE NO. 3097: ZONING

GEOCODE: 05-1888-17-4-01-05-0000

LOT DESC: S17, T10 N, R03 W, C.O.S. 3120033, PARCEL A, & TR 1 COS #3137037 LESS HWY R/W

LOT AREA: 4.42 **Acres (based on M-M.)**

FLOOR AREA:
FIRST FLOOR : .....11,556 SF
HOSE TOWER LANDING(S):.....448 SF

TOTAL: 12,004 SF

LOT COVERAGE:
MAXIMUM: NONE

SETBACK REQUIREMENTS:
FRONT: NONE
REAR: NONE (UNLESS ABUTTING RESIDENTIAL -15' N/A)
SIDE: NONE (UNLESS ABUTTING RESIDENTIAL -15' N/A)
PROPOSED: SEE SITE PLAN

BUILDING HEIGHT:
MAXIMUM: 60'
PROPOSED: 38'-6"

OFF STREET PARKING:
REQUIRED: 3 SPACES PER 1000/ SF = 36 SPACES
PROPOSED: 36 SPACES

ACCESSIBLE PARKING:
REQUIRED: 1 (=1 PER 25 SPACES)
PROPOSED: 2 SPACES

BICYCLE PARKING
REQUIRED: 3
PROPOSED: 7

PARKING AREA LANDSCAPING:
REQUIRED: 30 SF PER VEHICLE PARKING SPACE = 1080 SF
PROPOSED: 27,765 SF (REFER TO LANDSCAPING PLANS)

02 A2-1 STANDARD BIKE RACK
1/2" = 1'-0"

01 A2-1 BOLLARD DETAIL @ APPARATUS BAY DOORS
1/2" = 1'-0"

REGISTERED ARCHITECT MICHAEL W. DOWLING AIC #7887 STATE OF MONTANA

HELENA FIRESTATION #3
1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY ARCHITECTURE + ENGINEERING

DOWLING ARCHITECTS
734 N. Last Chance Gulch | Helena, MT 59601 | 406.457.5470
www.dowlingarch.com

SITE INFORMATION

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JS/CC

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A2-1

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11 A2-2 AUTO FENCE ENLARGED PLAN
1/4" = 1'-0" REF:A2-1

NOTES:
1. VERIFY EXACT HEIGHT, EXTENSION, AND PEDESTAL LOCATION WITH I.T.
2. PAINT ALL EXPOSED STEEL

10 A2-2 GATE CONTROLS
3/4" = 1'-0"

07 A2-2 BELL MONUMENT ELEVATION 2
3/4" = 1'-0"

04 A2-2 BELL MONUMENT ELEVATION
3/4" = 1'-0"

06 A2-2 4" BOLLARD DETAIL @
ELECTRIC GATE CONTROLS
3/4" = 1'-0"

GENERAL NOTES

1.0 CONTACT ARCHITECT FIRM FOR INFORAMTION ON HISTORIC / SALVAGE WOOD .

2.0 VERIFY FINISH W/ ARCHITECT

03 A2-2 MEMORIAL BENCH ELEVATION
2
3/4" = 1'-0"

02 A2-2 MEMORIAL BENCH ELEVATION
1
3/4" = 1'-0"

GENERAL NOTE
VERIFY FONT & FINISH COLOR W/ ARCHITECT

09 A2-2 MARQUEE SIGN
1/2" = 1'-0"

08 A2-2 SITE PLAN - Callout 2
1/2" = 1'-0" REF:A2-1

05 A2-2 BELL MONUMENT ENLARGED PLAN
1/4" = 1'-0" REF:A2-1

01 A2-2 MEMORIAL BENCHES ENLARGED PLAN
1/4" = 1'-0" REF:A2-1

N

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #3887
STATE OF MONTANA

HELENA FIRESTATION #3

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SHIVEHATTERY
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DOWLING ARCHITECTS
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www.dowlarch.com

SITE INFORMATION DETAILS

PROJECT #: 25-668

ISSUE DATES:

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100% CONSTRUCTION SET

A2-2

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01 A3-1 FLOOR PLAN
1/8" = 1'-0"

GENERAL NOTES:

1. DIMENSIONS ARE TO GRID, FACE OF STUD, MASONRY, OR DOOR/WINDOW OPENINGS. DIMENSIONS TO OPENINGS ARE NOMINAL. VERIFY ALL OPENINGS WITH ROUGH OPENING REQUIREMENTS.
2. ALL DOOR OPENINGS PERPENDICULAR TO A WALL ARE 6" MIN. TO THE WALL FRAMING UNO.
3. SEE SHEET A1-2 FOR WALL TYPES.
4. ALL INTERIOR WALL TYPES ARE I1s UNO.
5. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
6. ALL SIGNAGE TO COMPLY WITH IBC SECTION 1110 AND APPLICABLE ICC/ANSI PROVISIONS. SEE SPECIFICATIONS.

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #9887
STATE OF MONTANA

NOTE: VERIFY GUARD RAIL & GATE LOCATION BASED ON OVERHEAD CABLING LINE LOCATION

04 A3-1 HOSE TOWER PLATFORM 'C'
1/8" = 1'-0"

03 A3-1 HOSE TOWER PLATFORM 'B'
1/8" = 1'-0"

02 A3-1 HOSE TOWER PLATFORM 'A'
1/8" = 1'-0"

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY ARCHITECTURE + ENGINEERING

DOWLING ARCHITECTS
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www.dlar-mt.com

FIRST FLOOR PLAN

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JS/CC

100% CONSTRUCTION SET

A3-1

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GENERAL NOTES:

1. DIMENSIONS ARE TO GRID, FACE OF STUD, MASONRY, OR DOOR/WINDOW OPENINGS. DIMENSIONS TO OPENINGS ARE NOMINAL. VERIFY ALL OPENINGS WITH ROUGH OPENING REQUIREMENTS.
2. ALL DOOR OPENINGS PERPENDICULAR TO A WALL ARE 6" MIN. TO THE WALL FRAMING UNO.
3. SEE SHEET A1-2 FOR WALL TYPES.
4. ALL INTERIOR WALL TYPES ARE I1s UNO.
5. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
6. ALL SIGNAGE TO COMPLY WITH IBC SECTION 1110 AND APPLICABLE ICC/ANSI PROVISIONS. SEE SPECIFICATIONS.

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #3087
STATE OF MONTANA

1 A3-2 FLOOR PLAN - WALL TAGS
1/8" = 1'-0"

4 A3-2 HOSE TOWER - PLATFORM 'C'
1/8" = 1'-0" REF:A4-1

3 A3-2 HOSE TOWER -PLATFORM 'B'
1/8" = 1'-0" REF:A4-3

2 A3-2 HOSE TOWER PLATFORM 'A' WALL TAGS
1/8" = 1'-0" REF:A4-3

HELENA FIRESTATION #3

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FIRST FLOOR PLAN - WALL TAG PLAN

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JS/CC

100% CONSTRUCTION SET

A3-2

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PAINT 4" WIDE STRIPES ON FINISH FLOOR WHERE INDICATED FROM EAST APP BAY INT. WALL FINISH TO WEST APP. BAY INT. WALL FINISH. DIMS. SHOWN ARE FROM CENTER LINE OF BAY DOORS. SPECIFIC PAINT TO USE: TBD

1 / A3-3 FINISH FLOOR PLAN
1/8" = 1'-0"

N

FLOOR MATERIAL LEGEND

CONC - SPRAY LOCK P3 INDUSTRIAL FINISH

CA - CARPET TILES

RBR - RUBBER INTERLOCKING TILE
LAMINATE :L1, ES47 PERFORMANCE
RIPPIN RED - COMPUTED BY TILE : ILT1-000444

EP - EPOXY FLOORING - EP1, EP2, EP3
REFER TO DIFFERENT COLOR VARIATIONS OF EPOXY FLOORING. REFERENCE FINISH SCHEDULE FOR ROOM BY ROOM EPOXY FLOORING INFORMATION

GENERAL NOTES

1.0 FINISH SCHEDULE APPLIES TO GENERAL ROOM AREAS. ADDITIONAL FINISH REQUIREMENTS MAY BE SHOWN ON OTHER DRAWINGS OR IN THE SPECIFICATIONS.

2.0 ACCENT WALL FINISH IS NOTED ON PLAN

3.0 SEE INTERIOR ELEVATIONS FOR TILE WALL FINISH

4.0 FOR NEEDED RED ACCENTS, Pierce Red #90, IS THE SAME RED COLOR FOR THE FIRE ENGINES .

WALL MATERIAL/BASE FINISH LEGEND

CF- CEMENT FIBER PANEL VERIFY PAINT FINISH WITH DOWLING

PT 1 - PAINT FIELD

PT 2 - ACCENT WALL

RB 1 - MANNINGTON COMMERCIAL- EDGE EFFECTS, ETCHED EEETC.

RB 2 - MANNINGTON COMMERCIAL- BURKEBASE TYPE TP

TILE1 - URBAN DISTRICT BRX- EASTSIDE BRX 2X8, STAGGERED THIRD W/ DARK GRAY GROUT

TILE2 - MIX OF SUBWAY TILE (RETROSPACE REMIX-MODERN WHITE OFFSET 3x6) AND PENNY ROUND TILE (COLOR WHEEL MOSAIC- CURRANT) WITH DARK GRAY GROUT.

WP - WATERPROOF PAINT - SEE INT. ELEVATIONS FOR HEIGHT PER WALL. VERIFY COLOR WITH DOWLING ARCH

EXAMPLE

STORAGE — ROOM NAME
105 — ROOM NUMBER
RB 1 — WALL MATERIAL CALL OUT

RB 1 — SPECIAL CONDITION OCCURS PER WALL AS INDICATED. CONDITION ONLY OCCURS ON THE SIDE OF THE WALL INDICATED BY THE BRACKETS, NOT BOTH SIDES

FINISH SCHEDULE

ROOM NUMBER	NAME	BASE FINISH	FLOOR FINISH	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	COMMENTS
100	VESTIBULE	RBR	EP1	PT1	PT1	PT1	PT1	
101	LOBBY	RBR	EP1	PT1	PT1	PT1	PT1	
102	CLASSROOM	RB1	CA		PT2	PT1	PT1	
103	STORAGE	RB1	EP1	PT1	PT1	PT1	PT1	
104	I.T.	RB1	EP1	PT1	PT1	PT1	PT1	
105	BR	TILE1	EP3	WP	WP	WP	TILE1	SEE INT. ELEVATIONS FOR WALL TILE FINISH DETAILS & DIMENSIONS
106	BR	TILE1	EP3	WP	WP	WP	TILE1	SEE INT. ELEVATIONS FOR WALL TILE FINISH DETAILS & DIMENSIONS
107	WORK AREA	RB1	EP1	PT1	PT1	PT1	PT1	
108	OFFICE 1	RB1	EP1	PT2	PT1	PT1	PT1	
109	OFFICE 2	RB1	EP1	PT2	PT1	PT1	PT1	
110	OFFICE 3	RB1	EP1	PT2	PT1	PT1	PT1	
111	OFFICE 4	RB1	EP1	PT2	PT1	PT1	PT1	
112	CONFERENCE ROOM	RB1	EP1	PT1	PT1	PT1	PT2	
113	AIR LOCK	RB1	EP1	PT2	PT1	PT2	PT1	SEE FINISH FLOOR PLAN FOR PRECISE PT2 LOCATION
114	ELEC. MECH.	RB2	CONC	PT1	PT1	PT1	PT1	
115	TURNOUT	RB2	EP1	PT1	PT1	PT1	PT1	
116-A	SCBA	FRP BASE	EP1	FRP/PT1	FRP/PT1	FRP/PT1	FRP/PT1	FRP ONLY UP TO 48" FROM F.F., SEE INT. ELEVATIONS
116-B	SCBA R.R.	FRP BASE	EP1	FRP/PT1	FRP/PT1	FRP/PT1	FRP/PT1	FRP ONLY UP TO 48" FROM F.F., SEE INT. ELEVATIONS
117	APPARATUS BAY	RB2	CONC	CF	CF	CF	CF	CF UP TO 10', PAINTED GWB ABOVE. SEE INT. ELEVATIONS
118	HOSE TOWER	RB2	CONC	PT1	PT1	PT1	PT1	
119	GENERAL STORAGE / MED	RB2	CONC	PT1	PT1	PT1	PT1	
120	REPAIR/ MAINT.	RB2	CONC	PT1	PT1	PT1	PT1	
121	AIR LOCK	RB1	EP2	PT2	PT1	PT2	PT1	SEE FINISH FLOOR PLAN FOR PRECISE PT2 LOCATION
122	WATCH ROOM	RB2	EP2	PT1	PT2	PT1	PT1	
123	HALLWAY	RB2	EP2	PT1	PT1	PT1	PT1	
124	BR	TILE2	EP3	TILE2	TILE2	TILE2	TILE2	SEE INT. ELEVATIONS FOR WALL TILE FINISH DETAILS & DIMENSIONS
125	BR	TILE2	EP3	TILE2	TILE2	TILE2	TILE2	SEE INT. ELEVATIONS FOR WALL TILE FINISH DETAILS & DIMENSIONS
126	FIRE R.	RB2	CONC	PT1	PT1	PT1	PT1	
127	LOCKER 1	RB2	EP2	PT1	PT1	PT2	PT1	
128	LOCKER 2	RB2	EP2	PT1	PT1	PT2	PT1	
129	LOCKER 3	RB2	EP2	PT1	PT1	PT2	PT1	
130	LOCKER 4	RB2	EP2	PT1	PT1	PT2	PT1	
131	LOCKER 5	RB2	EP2	PT1	PT1	PT2	PT1	
132	DORM 5	RB2	EP2	PT1	PT1	PT1	PT1	
133	DORM 4	RB2	EP2	PT1	PT1	PT1	PT1	
134	DORM 3	RB2	EP2	PT1	PT1	PT1	PT1	
135	DORM 2	RB2	EP2	PT1	PT1	PT1	PT1	
136	DORM 1	RB2	EP2	PT1	PT1	PT1	PT1	
137	JAN. / LAUNDRY	RB2	EP2	WP	WP	WP	WP	WP FROM F.F. TO CEILING
138	DAY ROOM	RB1	EP2	PT1	PT1	PT1	PT1	SEE INT. ELEVATIONS FOR KITCHEN BACKSPLASH TILE DETAILS
139	FITNESS	RB2	RBR	PT1	PT1	PT1	PT1	
141	CORRIDOR	RBR						

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2087
STATE OF MONTANA

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

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www.dawnet.com

FINISH FLOOR PLAN

PROJECT #: 25-668

ISSUE DATES:

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A3-3

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01 A3-5 FIRST FLOOR RCP
1/8" = 1'-0"

GENERAL NOTES

1. GENERALLY CENTER CEILING GRIDS IN EACH ROOM AS SHOWN ON PLANS TO PROVIDE EQUALLY SIZED PANELS ON OPPOSITE WALLS. IF PLANS INDICATE A GRID ALIGNING WITH A COLUMN, WALL, SOFFIT, ETC., START GRID AT INDICATED SURFACE.
2. SEE FLOOR PLAN FOR WALL TYPES AND WALLS THAT EXTEND FULL HEIGHT TO STRUCTURE.
3. SEE TYPICAL CEILING DETAILS ON SHEET A6-9.
4. CEILING FIXTURES ARE SHOWN FOR REFERENCE ONLY FOR COORDINATION WITH CEILING FINISH SYSTEM. SEE MECHANICAL, ELECTRICAL AND SPRINKLER DRAWINGS FOR ALL CEILING FIXTURES AND TYPES.
5. SPOT ELEVATIONS ARE FROM FINISH FLOOR TO SURFACE FINISH OF CEILING AND ARE ROUNDED TO THE NEAREST INCH.
6. OPEN CEILINGS WITH EXPOSED MECHANCIAL & STRUCTURAL TO BE PAINTED VERIFY COLOR WITH ARCHITECT.

LEGEND

- GYP- GYPSUM BOARD, PAINT
- WB- 2100 SERIES PANELIZED LINEAR WOOD BAFFLES - 9 WOOD MOUNTED ON T-BAR SUSPENDED
- ACT- 2x2 ACOUSTIC PANEL
- PSS- PERFORATED STEEL SOFFIT
- EXT. METAL SOFFIT (FAUX WOOD FINISH)

REGISTERED ARCHITECT
MICHAEL W. DOWLING
MC #7887
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REFLECTED CEILING PLAN

PROJECT #:
25-668

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01 A3-6 F.F.& E.
1/8" = 1'-0"

02 A3-6 HOSE TOWER PLATFORM 'B' FFE
1/8" = 1'-0" REF:A4-3

N

GENERAL FF&E NOTES:

1. QUANTITIES SHALL BE VERIFIED WITH THE ARCHITECT AND OWNER PRIOR TO PURCHASE OF FURNITURE.
2. ALL HALFTONE (GRAY) ELEMENTS ARE SHOWN ELSEWHERE ON THE DRAWINGS, NOT IN CONTRACT OR OFOI.
3. GC TO PROVIDE WALL BLOCKING AS REQUIRED FOR WALL MOUNTED FIXTURES / EQUIPMENT & TELEVISIONS.
4. GC TO PROVIDE ALL EQUIPMENT NOTED

FURNITURE PROVIDE BY OWNER , CONTRACTOR INSTALLED

CONTRACTOR SOURCED AND INSTALLED FURNITURE

(M) MANUAL SHADE - CONTRACTOR SOURCED

(E) ELECTRIC, MOTORIZED SHADES - CONTRACTOR SOURCED

FURNITURE SCHEDULE

MARK	DESCRIPTION	COUNT
T1	FURNITURE - OFFICE TABLE	
C1	FURNITURE - ADJUSTABLE OFFICE CHAIR	
C2	FURNITURE - FIXED CHAIRS	
T2	FURNITURE - TRAINING ROOM TABLES	
T3	FURNITURE - CONFERENCE TABLE	
L1	FURNITURE - GEARGRID - STANDARD FREESTANDING , SINGLE SIDED 24"W X 20" D X 72 **GC PROVIDED**	
L2	FURNITURE - GEARGRID - STANDARD FREESTANDING , DOUBLE SIDED 24"W X 20" D X 72" **GC PROVIDED**	
M1	MAGNETIC STEEL DRY ERASE BOARD - 4'X3' , ULINE H-5828	
M2	GEARGRID - MODULAR STORAGE - SEATTLE SYSTEM 3 PACK 75"W X 32" D X 82" H	
H1	THREE TIER FIRE HOSE CART (6FT) - FIRE HOSE DIRECT, ITEM# FHC3T6 - GC PROVIDED.	
C3	FURNITURE - DAYROOM RECLINERS DUTY- BUILT ULTIMATE FIREFIGHTER RECLINER FIRE FSF STATION FURNITURE.COM	
C4	FURNITURE - KITCHEN ISLAND CHAIRS	
T4	FURNITURE - DAYROOM KITCHEN TABLE	
C5	FURNITURE - DAYROOM KITCHEN CHAIRS	
D1	MILLWORK - WOOD BENCH ON WALL MOUNT STEEL BRACKETS **GC PROVIDED**	
D2	MILLWORK - DORM DESK ON WALL MOUNT STEEL BRACKETS **GC PROVIDED**	
D3	FURNITURE - DORM DESK CHAIR	
D4	FURNITURE - DORM NIGHT STAND, FIRE FSF STATION FURNITURE.COM BUILT FIREHOUSE TOUGH SOLID WOOD NIGHTSTAND	
D5	FURNITURE - DORM BEDROOMS, FIRE FSF STATION FURNITURE.COM BUILT FIREHOUSE STRONG ADJUSTABLE HEIGHT STEEL -BED TWIN XL	
G1	RECESSED GLASS DISPLAY - CLARIDGE 370 SERIES , 4'X4'X2', W/ LED LIGHTING **GC PROVIDED**	
G2	RECESSED GLASS DISPLAY - CLARIDGE 370 SERIES , 4'X10'X1', W/ LED LIGHTING **GC PROVIDED**	
G3	BULLETIN BOARD, SURFACE MOUNT, IMPERIAL - CLARIDGE, 4' X6'	
F1	SAFE HAVEN - BABY BOX , https://www.shbb.org/	
F2	ULINE, MODULAR DRAWER 96X30" , BLACK , W/ MAPLE TOP: H- 10197-MAP ULINE, POLY PEGBOARD 96X48 , BLACK : H-8498BL ULINE, 43 PIECE PEGBOARD ASSORTMENT, BLACK : H-7136 **GC PROVIDED**	
F3	ULINE, JUMBO HEAVY DUTY STORAGE CABINET - 49X 18 X 78: H3617BL **GC PROVIDED**	
F4	ULINE, FLAMMABLE STORAGE CABINET- SLIMLINE , SELF CLOSING: H-2570S-Y **GC PROVIDED**	
F5	ULINE, TOOLFEX BROOM , MOP, SHOVEL , WALL HOLDER : H-7867BL **GC PROVIDED**	
F6	SHELVING UNIT , 48W x 72H x 24D	
F7	ULINE, LECTERN : H - 7825	
F8	FIRE HOSE SADDLE RACK WALL MOUNTED RED GALVANIZED STEEL SR-12 , FIREHOSE SUPPLY.COM **GC PROVIDED**	

EQUIPMENT SCHEDULE

MARK	DESCRIPTION
E1	Decon SCBA Extractor - Roto-Decon by Circul-Air Corp SKU: CAC-DECON-240-NA
E2	Commercial Washer - Continental Girbau Inc / RMG040
E3	Continental Express Dry Turnout Gear Dryer, 6 set CON-XD-6
E4	Containment Fill Station CFS5.5-2S Bauer Compressors 2-Position 5.5 Sku: CFSF.F-2S
E5	Cylinder Fill Station, Bauer Verticus, VAC13H-E1, Single Phase 6000 psi
E6	Ice Machine - Vibekio, 22.2 400 lb - Commercial Free standing Ice Maker , auto cleaning Model # CIM-01
E7	SVOPES Electric Hoist. 1760 lbs Capacity. 120V Winch with 328 ft Wireless Remote Control. Item #6907374 Model #SVOPESDDGSSHL10469V1

NOTE. GC TO PROVIDE ACCESSORY STANDS/ PLATFORMS THAT WOULD BE AN ADDITION TO THE BASE MODEL(S) , SEE MANUFACTURERS RECOMMENDATIONS.

REGISTERED ARCHITECT MICHAEL W. DOWLING LIC. #9887 STATE OF MONTANA

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SHIVEHATTERY ARCHITECTURE + ENGINEERING

F.F.&E.

PROJECT #: 25-668

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A3-6

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03 A3-7 ROOF PLAN
1/8" = 1'-0"

02 A3-7 ROOF PLAN Copy 1
1/8" = 1'-0" REF:A4-1

01 A3-7 CANTILEVERED, ENTRY CANOPY
1/4" = 1'-0"

ROOF PLAN NOTES

1. DIMENSIONS ARE TO GRID, FACE OF STUD, MASONRY, FACE OF STOREFRONT MULLION, OR DOOR / WINDOW OPENINGS. DIMENSIONS TO OPENINGS ARE NOMINAL. VERIFY ALL OPENINGS WITH ROUGH OPENING REQUIREMENTS PRIOR TO FRAMING / BLOCKING.
2. PRIMARY GRIDS ARE SHOWN FOR DIMENSIONING AND STRUCTURAL MATERIALS. SECONDARY/INTERMEDIATE GRIDS ARE NOT SHOWN. REFER TO STRUCTURAL SHEETS FOR ALL GRIDS AND DIMENSIONS
3. VERIFY ALL DIMENSIONS TO AND SIZES OF WALL AND FLOOR OPENINGS AND PENETRATIONS FOR UTILITIES WITH THE STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.
4. REGULARLY CLEAN DEBRIS FROM ROOF DECK AND ROOF DRAINS.
5. GUARDS REQUIRED AT EQUIPMENT WITHIN 10'-0" OF ROOF EDGE.
6. G.C. TO PROVIDE AND INSTALL, CUSTOMIZABLE VINYL WRAP, OVER ROOF TOP MECHANICAL UNITS , BY DAIKIN OR E.Q.. G.C. TO PROVIDE PRODUCT SUBMITTAL TO ARCHITECT FOR REVIEW.

ROOF MATERIAL LEGEND

- 60 MIL EPDM ROOFING CRICKET W/ TAPERED INSULATION - 3/8" / 12" SLOPE MIN
- STANDING SEAM ROOF
- HIDDEN APPARATUS BAY GUTTER SYSTEM, DIMENSIONED AND SLOPED AS ANNOTATED
- PSS- PERFORATED STEEL SOFFIT

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2887
STATE OF MONTANA

HELENA FIRESTATION #3

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ROOF PLAN

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06 A4-1 NORTH 1/8" = 1'-0"

MATERIAL LEGEND AND NOTES

- CITADEL PANEL 20 RAIN SCREEN, FINISH TO BE VERIFIED BY ARCHITECT
- HORIZONTAL CORRUGATED METAL
- DARK BRICK VENEER
- VERTICAL SHOU SUGI BON WOOD SIDING
- 6"- V GROOVE , FAUX - METAL SIDING & TRIM
- VERTICAL "WATERFALL" STANDING SEAM WALL

1. THIS LEGEND DOES NOT INCLUDE ALL MATERIALS. SEE NOTES AND REFERENCED DETAILS FOR ADDITIONAL INFORMATION
2. PAINT ALL EXPOSED STEEL, COLOR TBD
3. LOCATIONS OF MATERIAL JOINTS AND REVEALS ARE TO BE AS SHOWN ON THE EXTERIOR ELEVATIONS. WHERE NOT DIMENSIONED OR DETAILED JOINTS AND REVEALS ARE TO BE EQUALLY SPACED AND/OR CENTERED ALIGNED WITH ADJACENT ELEMENTS AS SHOWN.
4. RAIN SCREEN FASTENER SPACING AND LAYOUT TO BE COORDINATED WITH ARCHITECT PRIOR TO INSTALLATION.
5. REFER TO SHEET A6-6 FASTENER PATTERNS FOR CITADEL

05 A4-1 ENTRY ELEVATION 1/8" = 1'-0"

04 A4-1 SOUTH 1/8" = 1'-0"

03 A4-1 WEST 1/8" = 1'-0"

KEY NOTES LEGEND

1. HELENA FIRE STATION CREST W/ BACKLIGHTING, SEE DETAIL 08 / A6-4
2. 1/4" STEEL SURFACE WELDED, SEE DETAIL 07 / A6-4
3. HELENA FIRE STATION CREST WITHOUT BACKLIGHTING, SEE DETAILS ON A6-4
4. CONTINUOUS WATERFALL ROOF TRANSITIONS INTO WALL
5. SOLDIER BRICK COURSE, SEE DETAIL 02 & 04 / A6-11
6. MASONRY SILL, SEE DETAIL 01, PG: A6-11
7. BRICK REVEAL COURSE, SEE DETAIL 11 & 13, PG: A6-1
8. DECORATIVE / PERFORATED METAL PANEL , 1/4" STEEL SOFFIT - TYP. SEE DETAIL: 13 / A6-7
9. DOWLING CORNERSTONE/TIME CAPSULE LOCATION, SEE DETAIL: 06/ A6-4
10. SURFACE MOUNTED ROOF ACCESS LADDER, 01 / A6-5
11. CANTALEVERED ENTRY CANOPY, SEE SHEET A6-8

02 A4-1 NORTH FITNESS ROOM 1/8" = 1'-0"

01 A4-1 EAST 1/8" = 1'-0"

HELENA FIRESTATION #3

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EXTERIOR ELEVATIONS

PROJECT #: 25-668

ISSUE DATES:

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02 A4-2 ISO NE

01 A4-2 ISO SE

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REGISTERED ARCHITECT
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HELENA FIRESTATION #3

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ISO PERSPECTIVES

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02 A4-2.1 ISO SW

01 A4-2.1 ISO NW

REGISTERED ARCHITECT
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HELENA FIRESTATION #3

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ISO PERSPECTIVES

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REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2087
STATE OF MONTANA

03 A4-3 BUILDING SECTION - HOSE TOWER
1/8" = 1'-0" REF:A3-1

02 A4-3 BUILDING SECTION - APPARATUS BAY
1/8" = 1'-0" REF:A3-1

01 A4-3 BUILDING SECTION - EAST
1/8" = 1'-0" REF:A3-1

HELENA FIRESTATION #3

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BUILDING SECTIONS

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REGISTERED ARCHITECT
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03 A4-4 BUILDING SECTION - ENTRANCE AREA
1/8" = 1'-0"

02 A4-4 BUILDING SECTION - DAY ROOM / DORM ROOMS
1/8" = 1'-0"

01 A4-4 BUILDING SECTION - NORTH
1/8" = 1'-0"

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REGISTERED ARCHITECT
MICHAEL W. DOWLING
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03 A4-5 BUILDING SECTION - DAY ROOM / DORM ROOMS
1/8" = 1'-0"

02 A4-5 BUILDING SECTION - EXERCISE / WATCH ROOM
1/8" = 1'-0"

01 A4-5 BUILDING SECTION
1/8" = 1'-0"

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BUILDING SECTIONS

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06 A5-1 CLASSROOM WALL SECTION 1/2" = 1'-0" REF: A4-3

05 A5-1 HOSE TOWER WALL SECTION 1/2" = 1'-0" REF: A4-3

04 A5-1 HOSE TOWER WALL SECTION 1/2" = 1'-0" REF: A4-3

03 A5-1 HOSE TOWER WALL SECTION 1/2" = 1'-0" REF: A4-3

02 A5-1 HOSE TOWER WALL SECTION 1/2" = 1'-0" REF: A4-3

01 A5-1 WALL SECTION 1/2" = 1'-0" REF: A4-3

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WALL SECTIONS

PROJECT #: 25-668

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06 A5-2 OFFICES WALL SECTION
1/2" = 1'-0" REF: A4-5

05 A5-2 WALL SECTION
1/2" = 1'-0" REF: A4-5

04 A5-2 WALL SECTION
1/2" = 1'-0" REF: A4-5

03 A5-2 WALL SECTION
1/2" = 1'-0" REF: A4-5

02 A5-2 WALL SECTION
1/2" = 1'-0" REF: A4-5

01 A5-2 DORMS WALL SECTION
1/2" = 1'-0" REF: A4-5

REGISTERED ARCHITECT
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WALL SECTIONS

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06 A5-3 WALL SECTION
1/2" = 1'-0" REF: A4-4

05 A5-3 WALL SECTION
1/2" = 1'-0" REF: A4-4

04 A5-3 OFFICE/VESTIBULE WALL SECTION
1/2" = 1'-0" REF: A4-4

03 A5-3 WALL SECTION
1/2" = 1'-0" REF: A4-4

02 A5-3 APP BAY WALL SECTION
1/2" = 1'-0" REF: A4-3

01 A5-3 APP. BAY WALL SECTION
1/2" = 1'-0" REF: A4-3

REGISTERED ARCHITECT
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AIC #7087
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05 A5-4 WALL SECTION 1/2" = 1'-0" REF:A4-5

04 A5-4 WALL SECTION 1/2" = 1'-0" REF:A4-5

03 A5-4 FITNESS ROOM WALL SECTION 1/2" = 1'-0" REF:A4-5

02 A5-4 FITNESS ROOM WALL SECTION 1/2" = 1'-0" REF:A4-5

01 A5-4 WALL SECTION 1/2" = 1'-0" REF:A4-5

REGISTERED ARCHITECT
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WALL SECTIONS

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06 A5-5 WALL SECTION 1/2" = 1'-0" REF:A4-4

05 A5-5 WALL SECTION 1/2" = 1'-0" REF:A4-4

04 A5-5 WALL SECTION 1/2" = 1'-0" REF:A4-4

03 A5-5 MAIN ENTERANCE WALL SECTION 1/2" = 1'-0" REF:A4-4

02 A5-5 LOBBY WALL SECTION 1/2" = 1'-0" REF:A4-4

01 A5-5 EXT. PATIO WALL SECTION 1/2" = 1'-0" REF:A4-4

REGISTERED ARCHITECT
MICHAEL W. DOWLING
AC. #2087
STATE OF MONTANA

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

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WALL SECTIONS

PROJECT #: 25-668

ISSUE DATES:

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14 A6-1 HOSE TOWER ROOF DETAIL
1 1/2" = 1'-0" REF:A5-1

12 A6-1 HOSE TOWER RAILING DETAIL
1 1/2" = 1'-0" REF:A5-1

09 A6-1 FASCIA @ HOSE TOWER
1 1/2" = 1'-0" REF:A5-1

06 A6-1 ROOF FRAMING @ HOSE TOWER
1 1/2" = 1'-0" REF:A5-1

03 A6-1 ROOF EAVE @ HOSE TOWER
1 1/2" = 1'-0" REF:A5-1

13 A6-1 BRICK REVEAL DOUBLE SIDED
3" = 1'-0"

08 A6-1 HOSE TOWER OVERHANG
1 1/2" = 1'-0" REF:A5-1

05 A6-1 HOSE TOWER FLOOR DETAIL
1 1/2" = 1'-0" REF:A5-1

02 A6-1 HOSE TOWER FLOOR DETAIL
1 1/2" = 1'-0" REF:A5-1

11 A6-1 BRICK REVEAL
3" = 1'-0"

10 A6-1 BRICK BASE DETAIL
1 1/2" = 1'-0" REF:A5-1

07 A6-1 PARAPET DETAIL
3" = 1'-0" REF:A5-2

04 A6-1 ROOF DETAIL
1 1/2" = 1'-0" REF:A5-1

01 A6-1 ROOF DETAIL
1 1/2" = 1'-0" REF:A5-1

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10 A6-2 APPARATUS BAY ROOF - DETAIL
1" = 1'-0" REF:A5-1

07 A6-2 APPARATUS BAY FASCIA - DETAIL
1 1/2" = 1'-0" REF:A5-1

04 A6-2 RAKE TRIM @ HOSE TOWER
1 1/2" = 1'-0" REF:A5-1

03 A6-2 HOSE TOWER ROOF DETAIL
1 1/2" = 1'-0" REF:A5-1

09 A6-2 DAY ROOM ROOF DETAIL
1 1/2" = 1'-0" REF:A5-2

06 A6-2 HIDDEN GUTTER DETAIL
3" = 1'-0" REF:A5-5

02 A6-2 HOSE TOWER FLOOR DETAIL
1 1/2" = 1'-0" REF:A5-1

08 A6-2 APPARATUS BAY - DETAIL
1 1/2" = 1'-0" REF:A5-2

05 A6-2 FOUNDATION WALL DETAIL
1 1/2" = 1'-0" REF:A5-5

01 A6-2 APPARATUS BAY ROOF - DETAIL
1 1/2" = 1'-0" REF:A5-1

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #3887
DATE OF MOTION

HELENA FIRESTATION #3

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EXTERIOR DETAILS

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11 A6-3 FRAMED WALL MEETS FOUNDATION WALL DETAIL
1 1/2" = 1'-0" REF:A5-2

09 A6-3 BRICK BASE DETAIL
1 1/2" = 1'-0" REF:A5-3

06 A6-3 FASCIA DETAIL
3" = 1'-0" REF:A5-3

03 A6-3 SOFFIT @ BRICK VENEER DETAIL
1 1/2" = 1'-0" REF:A5-3

08 A6-3 PARAPET @ CORR. METAL SIDING
1 1/2" = 1'-0" REF:A5-4

05 A6-3 METAL ROOF
1 1/2" = 1'-0" REF:A5-3

02 A6-3 SCBA - SOUND WALL
1 1/2" = 1'-0" REF:A5-4

10 A6-3 FRAMED HORZ. CORR METAL MEETS FOUNDATION WALL DETAIL
1 1/2" = 1'-0" REF:A5-4

07 A6-3 DORM WALL DETAIL
1 1/2" = 1'-0" REF:A5-2

04 A6-3 DORM WALL ROOF DETAIL
1 1/2" = 1'-0" REF:A5-2

01 A6-3 SCBA - SOUND WALL
1 1/2" = 1'-0" REF:A5-4

REGISTERED ARCHITECT
MICHAEL W. DOWLING
MC #9867
STATE OF MONTANA

HELENA FIRESTATION #3

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09 A6-4 Decorative Signage - Detail
1" = 1'-0"

05 A6-4 ROOF DETAIL @ CLASSROOM
1 1/2" = 1'-0" REF:A5-3

04 A6-4 ROOF DETAIL @ CLASSROOM
3" = 1'-0" REF:A5-3

08 A6-4 FIRE DEPARTMENT - METAL
LOGO/ WALL SIGNAGE
1" = 1'-0"

07 A6-4 METAL LOGO / WALL SIGNAGE
1" = 1'-0" REF:A4-1

03 A6-4 AWNING DETAIL
3" = 1'-0" REF:A5-5

02 A6-4 AWNING DETAIL
3" = 1'-0" REF:A5-5

06 A6-4 BRICK BASE DETAIL
1" = 1'-0"

01 A6-4 ROOF DETAIL
1 1/2" = 1'-0" REF:A5-5

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2987
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HELENA FIRESTATION #3

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08 A6-5 APPARATUS ROOF DETAIL
1 1/2" = 1'-0" REF:A5-3

05 A6-5 PARAPET @ CITADEL PANEL CONDITION
1 1/2" = 1'-0" REF:A5-4

07 A6-5 ROOF OVERHANG @ MAIN ENTRANCE
1 1/2" = 1'-0" REF:A4-4

06 A6-5 ROOF DRAIN W/ OVERFLOW - CONSTRUCTION
1 1/2" = 1'-0"

04 A6-5 ROOF AT WALL
1 1/2" = 1'-0"

03 A6-5 PIPE PENETRATION WITH FIELD FABRICATED FLASHING
3" = 1'-0"

02 A6-5 ROOF HATCH
1" = 1'-0"

01 A6-5 ROOF LADDER
1/2" = 1'-0"

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EXTERIOR DETAILS

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GENERAL DETAIL FOR WALL ASSEMBLIES WITH VERTICAL HAT CHANNEL SYSTEMS. ALWAYS REFER TO SPECIFIC WALL ASSEMBLIES FOR HAT CHANNEL ORIENTATION AND MATERIALS

07 A6-6 GENERAL VERTICAL HAT CHANNEL DETAIL
3" = 1'-0"

06 A6-6 CITADEL PANEL DETAIL
3" = 1'-0"

05 A6-6 CITADEL DETAIL SECTION
3" = 1'-0"

04 A6-6 CITADEL PANEL DETAIL @ CORNER CONDITION TYP
3" = 1'-0"

03 A6-6 ANGLED PANEL FASTENER DETAIL @DORMS/OFFICE CONDITION
3/8" = 1'-0" REF:A4-1

02 A6-6 PANEL FASTENER DETAIL @ HOSE TOWER CONDITION
3/8" = 1'-0" REF:A4-1

01 A6-6 PANEL FASTENER @ APPARATUS BAY DETAIL
3/8" = 1'-0" REF:A4-1

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2087
STATE OF MONTANA

HELENA FIRESTATION #3

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EXTERIOR PANEL DETAILS

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AWNING GENERAL NOTES:

1. VERIFY DIMENSIONS IN FIELD.
2. REFER TO SPECIFICATIONS REGARDING POLYCARBONATE PANELS. ALUMINUM TAPE EDGES AT LOCATIONS FOR CHANNEL CONNECTIONS
3. PROVIDE 'H' PROFILE SEAM CONNECTORS FOR POLCORBONATE PANELS
4. PAINT ALL EXPOSED STEEL, VERIFY W/ ARCHITECT

12 A6-7 AWNING @ APPARATUS BAY - POLYCARBONATE PANEL ROOF
1/4" = 1'-0"

11 A6-7 AWNING @ APPARATUS BAY - STEEL SOFFIT
1/4" = 1'-0" REF:A3-7

13 A6-7 DECORATIVE / PERFORATED METAL PANEL ,1/4"
1" = 1'-0"

10 A6-7 AWNING @ DAYROOM - STEEL SOFFIT
1/4" = 1'-0" REF:A3-7

09 A6-7 AWNING @ CLASSROOM - STEEL SOFFIT
1/4" = 1'-0" REF:A3-7

08 A6-7 APPARATUS AWNING DETAIL
3" = 1'-0" REF:A6-7

07 A6-7 APPARATUS AWNING - FASCIA DETAIL
3" = 1'-0" REF:A6-7

06 A6-7 AWNING DETAIL
3" = 1'-0" REF:A6-7

05 A6-7 AWNING DETAIL
3" = 1'-0" REF:A6-7

04 A6-7 AWNING DETAIL
3" = 1'-0" REF:A6-7

03 A6-7 APPARATUS AWNING DETAIL
3/4" = 1'-0" REF:A3-5

02 A6-7 AWNING
3/4" = 1'-0" REF:A3-5

01 A6-7 AWNING @ HOSE TOWER
1" = 1'-0" REF:A3-5

MICHAEL W. DOWLING
REGISTERED ARCHITECT
AIC. #2887
STATE OF MONTANA

HELENA FIRESTATION #3
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EXTERIOR DETAILS - AWNINGS

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08 A6-8 SUSPENDED STEEL CANOPY
3" = 1'-0"

07 A6-8 SUSPENDED STEEL CANOPY
3" = 1'-0"

06 A6-8 SUSPENDED STEEL CANOPY
3" = 1'-0"

05 A6-8 CANTILEVERED, ENTRY CANOPY
3" = 1'-0"

04 A6-8 CANTILEVERED, ENTRY CANOPY
3" = 1'-0"

03 A6-8 CANTILEVERED, ENTRY CANOPY
3" = 1'-0"

02 A6-8 CANTILEVERED, ENTRY CANOPY
3/4" = 1'-0"

01 A6-8 SUSPENDED STEEL CANOPY
3/4" = 1'-0"

REGISTERED ARCHITECT MICHAEL W. DOWLING AC. #7887 STATE OF MONTANA

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

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EXTERIOR DETAILS - ENTRY CANOPY

PROJECT #: 25-668

ISSUE DATES:

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10 A6-9 CEILING - FURR DOWN
1 1/2" = 1'-0"

09 A6-9 CLG DROP SOFFIT
1 1/2" = 1'-0"

12 A6-9 SOFFIT AT SUSPENDED ACOUSTICAL TILE CEILING
3" = 1'-0"

11 A6-9 Ceiling - Wall Bracing
3" = 1'-0"

NOTE:

1. FOR LOCATION OF BRACING AND ADDITIONAL REQUIREMENTS, SEE **DIAGRAM ACOUSTICAL CEILING DETAIL**

08 A6-9 TYP ACT SUSPENDED CEILING BRACING
3" = 1'-0"

PIPE STRUT SCHEDULE

HEIGHT (H) IN FT	PIPE STRUT SIZE
0-7	1/2" STD WT PIPE
7-10	3/4" STD WT PIPE
10-16	1" STD WT PIPE

07 A6-9 CLG SEISMIC REQ'S
1 1/2" = 1'-0"

NOTES:

1. HANGING WIRES SHALL BE ATTACHED TO SUSPENDED MEMBERS WITH A MINIMUM OF THREE TIGHT TURNS IN 1 1/2". BOTH ENDS OF WIRE.
2. BRACING WIRES SHALL BE ATTACHED TO SUSPENDED MEMBERS WITH A MINIMUM OF FOUR TIGHT TURNS IN 1 1/2". BOTH ENDS OF WIRE.
3. COMPLY WITH IBC 2012 REQUIREMENTS.

06 A6-9 FOUR WAY TEE BRACING
3" = 1'-0"

05 A6-9 FRAMED CEILING SYSTEM
3" = 1'-0"

04 A6-9 CLG CLOUD AT WOOD EDGE
3" = 1'-0"

NOTE:

1. 1/4 OF THE LENGTH OF THE END RUNNER, WHICHEVER IS LEAST.
2. PROVIDE SPACER @ FREE END WHERE THE FIRST RUNNER IS 12" OR MORE FROM WALL.

03 A6-9 ACOUSTICAL CEILING DETAIL #1
3" = 1'-0" REF:A5-1

02 A6-9 Ceiling - ACT @ Wall
3" = 1'-0"

01 A6-9 Ceiling @ Gypsum @ Walls
3" = 1'-0"

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2087
STATE OF MONTANA

HELENA FIRESTATION #3

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INTERIOR , CEILING DETAILS

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06 A6-10 H.C.M & CITADEL PANEL @ DOOR JAMB PLAN DETAIL
1 1/2" = 1'-0" REF: A7-2

03 A6-10 BRICK & CITADEL PANEL PLAN DETAIL
1 1/2" = 1'-0" REF: A7-1

08 A6-10 STANDING SEAM & CITADEL PANEL PLAN DETAIL
1 1/2" = 1'-0" REF: A7-2

05 A6-10 H.C.M. & CITADEL PANEL PLAN DETAIL
1 1/2" = 1'-0" REF: A7-1

02 A6-10 BRICK CORNER PLAN DETAIL
1 1/2" = 1'-0" REF: A7-1

07 A6-10 H.C.M. & CITADEL PANEL PLAN DETAIL
1 1/2" = 1'-0" REF: A7-2

04 A6-10 H.C.M. & BRICK PLAN DETAIL
1 1/2" = 1'-0" REF: A7-1

01 A6-10 CITADEL PANEL & CITADEL PANEL PLAN DETAIL
1 1/2" = 1'-0" REF: A7-1

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2087
STATE OF MONTANA

HELENA FIRESTATION #3

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PLAN DETAILS

PROJECT #: 25-668

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06 A6-11 STOREFRONT HEAD AT CORRUGATED METAL SIDING
3" = 1'-0"

03 A6-11 Section 1 - Callout 4 - Callout 1
1 1/2" = 1'-0" REF:A5-1

05 A6-11 STOREFRONT SILL @ CONC SLAB
3" = 1'-0" REF:A5-1

02 A6-11 STOREFRONT HEAD AT BRICK VENEER
3" = 1'-0" REF:A5-1

04 A6-11 CURTAINWALL WINDOW SILL
3" = 1'-0" REF:A5-1

01 A6-11 STOREFRONT AT BRICK VENEER W/ MASONRY SILL
3" = 1'-0" REF:A5-1

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2087
STATE OF MONTANA

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

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DOOR & WINDOW DETAILS

PROJECT #: 25-668

ISSUE DATES:

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A6-11

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10 A6-12 PLAN DETAILS
1 1/2" = 1'-0" REF:A7-2

09 A6-12 PLAN DETAILS
1 1/2" = 1'-0" REF:A7-2

08 A6-12 PLAN DETAILS
1 1/2" = 1'-0" REF:A7-2

07 A6-12 PLAN DETAILS
3" = 1'-0" REF:A7-1

06 A6-12 PLAN DETAILS
3" = 1'-0" REF:A7-2

05 A6-12 PLAN DETAILS
3" = 1'-0" REF:A7-1

04 A6-12 PLAN DETAILS
3" = 1'-0" REF:A7-1

03 A6-12 PLAN DETAILS
3" = 1'-0" REF:A7-1

02 A6-12 Detail 30
3" = 1'-0" REF:A7-1

01 A6-12 PLAN DETAILS
3" = 1'-0" REF:A7-1

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #9887
STATE OF MONTANA

HELENA FIRESTATION #3

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DOOR & WINDOW DETAILS

PROJECT #: 25-668

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06 A6-13 OVERHEAD DOOR THRESHOLD
3" = 1'-0" REF:A5-3

04 A6-13 FITNESS ROOM WINDOW DETAIL
3" = 1'-0" REF:A5-4

02 A6-13 LOBBY WINDOW TO APP BAY DETAIL
3" = 1'-0" REF:A5-5

05 A6-13 HM DOOR THRESHOLD
3" = 1'-0" REF:A5-4

03 A6-13 EXT. METAL FRAME DOOR
3" = 1'-0" REF:A5-4

01 A6-13 CURTAIN WALL SILL DETAIL
3" = 1'-0" REF:A5-2

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2087
STATE OF MONTANA

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

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DOOR & WINDOW DETAILS

PROJECT #: 25-668

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GENERAL NOTES:

1. DIMENSIONS ARE TO GRID, FACE OF STUD, MASONRY, OR DOOR/WINDOW OPENINGS. DIMENSIONS TO OPENINGS ARE NOMINAL. VERIFY ALL OPENINGS WITH ROUGH OPENING REQUIREMENTS.
2. ALL DOOR OPENINGS PERPENDICULAR TO A WALL ARE 6" MIN. TO THE WALL FRAMING UNO.
3. SEE SHEET A1-2 FOR WALL TYPES.
4. ALL INTERIOR WALL TYPES ARE I1s UNO.
5. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
6. ALL SIGNAGE TO COMPLY WITH IBC SECTION 1110 AND APPLICABLE ICC/ANSI PROVISIONS. SEE SPECIFICATIONS.

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2087
STATE OF MONTANA

1 A7-1 FLOOR PLAN
1/4" = 1'-0" REF:A3-1

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ENLARGED NORTH FIRST FLOOR PLAN

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JS/CC

100% CONSTRUCTION SET

A7-1

10.22.25

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GENERAL NOTES:

1. DIMENSIONS ARE TO GRID, FACE OF STUD, MASONRY, OR DOOR/WINDOW OPENINGS. DIMENSIONS TO OPENINGS ARE NOMINAL. VERIFY ALL OPENINGS WITH ROUGH OPENING REQUIREMENTS.
2. ALL DOOR OPENINGS PERPENDICULAR TO A WALL ARE 6" MIN. TO THE WALL FRAMING UNO.
3. SEE SHEET A1-2 FOR WALL TYPES.
4. ALL INTERIOR WALL TYPES ARE I1s UNO.
5. ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.
6. ALL SIGNAGE TO COMPLY WITH IBC SECTION 1110 AND APPLICABLE ICC/ANSI PROVISIONS. SEE SPECIFICATIONS.

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #3087
STATE OF MONTANA

1 FLOOR PLAN
A7-2 1/4" = 1'-0" REF:A3-1

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

DOWLING ARCHITECTS
7341K Lake Chamon Dr.Gulch | Helena, MT 59602 | 406.457.9410
www.dlarch.com

ENLARGED SOUTH FIRST FLOOR PLAN

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JS/CC

100% CONSTRUCTION SET

A7-2

10.22.25

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17 / A7-3 116 SCBA BATHROOM ELEVATION 1
1/4" = 1'-0"

16 / A7-3 116 SCBA BATHROOM ELEVATION 2
1/4" = 1'-0"

15 / A7-3 116 SCBA BATHROOM ELEVATION 3
1/4" = 1'-0"

14 / A7-3 125 DORM SIDE BATHROOM ELEVATION 1
1/4" = 1'-0"

13 / A7-3 125 DORM SIDE BATHROOM ELEVATION 2
1/4" = 1'-0"

12 / A7-3 125 DORM SIDE BATHROOM ELEVATION 3
1/4" = 1'-0"

11 / A7-3 105 PUBLIC BATHROOM ELEVATION 1
1/4" = 1'-0"

10 / A7-3 105 PUBLIC BATHROOM ELEVATION 2
1/4" = 1'-0"

09 / A7-3 106 PUBLIC BATHROOM ELEVATION 1
1/4" = 1'-0"

08 / A7-3 106 PUBLIC BATHROOM ELEVATION 2
1/4" = 1'-0"

07 / A7-3 124 DORM SIDE BATHROOM ELEVATION 1
1/4" = 1'-0"

06 / A7-3 124 DORM SIDE BATHROOM ELEVATION 2
1/4" = 1'-0"

05 / A7-3 124 DORM SIDE BATHROOM ELEVATION 3
1/4" = 1'-0"

04 / A7-3 102 CLASSROOM ELEVATION 1
1/4" = 1'-0"

03 / A7-3 102 CLASSROOM ELEVATION 2
1/4" = 1'-0"

02 / A7-3 102 CLASSROOM ELEVATION 3
1/4" = 1'-0"

01 / A7-3 102 CLASSROOM ELEVATION 4
1/4" = 1'-0"

STANDARD FIXTURE MOUNTING HEIGHTS AND CLEARANCE REQUIREMENTS

1. DIMENSIONS TO TOILET ROOM ACCESSORIES ARE TO THE TOP OF THE HIGHEST OPENING OR OPERABLE PART.
2. ACCESSORIES ABOVE COUNTERS SHALL BE MOUNTED WITH T.O. OPERABLE PARTS LESS THAN 3'-6" A.F.F.

TYP ACCESSIBLE MOUNTING HEIGHTS

ACCESSIBLE TOILET

SINK CLEARANCE

ACCESSIBLE SHOWER

GENERAL NOTES

1. SEE STANDARD FIXTURE MOUNTING HEIGHTS AND REQUIREMENTS THIS SHEET UNLESS OTHERWISE NOTED.
2. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBF.
3. FLUSH CONTROLS SHALL BE OPERABLE BY AN OSCILLATING HANDLE WITH A MAXIMUM OPERATING FORCE OF 5 LBS AND SHALL BE MOUNTED ON OPEN FLOOR SIDE OF THE TOILET.
4. DIA. OR WIDTH OF THE GRAB BARS SHALL BE 1 1/4" TO 1 1/2" WITH 1 1/2" CLEARANCE BETWEEN GRAB BAR AND WALL. GRAB BAR ENDS TO BE RETURNED TO WALL. GRAB BARS SHALL HAVE STRENGTH AND ANCHORAGE TO SUSTAIN 250 LB CONCENTRATED LOAD.
5. WHERE TOWEL, WASTE RECEPTACLE AND OTHER DISPENSING AND DISPOSING FIXTURES ARE PROVIDED, AT LEAST ONE OF EACH FIXTURE IS TO BE MOUNTED WITH OPERABLE PARTS WITHIN 48" FROM FLOOR.
6. HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED.
7. PROVIDE CODE-COMPLIANT BLOCKING WITHIN WALLS AS REQUIRED FOR ALL WALL-MOUNTED ITEMS.
8. SECURELY ANCHOR HANDWASH SINKS TO WITHSTAND AN APPLIED VERTICAL LOAD OF 250 LB ON THE FRONT OF THE FIXTURE.
9. 6" SELF-COVED WALL BASE REQUIRED AT KITCHENS, SOILED UTILITY ROOMS, AND JANITOR CLOSETS.
10. EXPOSED TILE TO HAVE SCHLUTER TILE EDGE TRIM WHERE TILE DOESN'T DIE INTO ANOTHER SURFACE/ CASEWORK
11. REFER TO SHEET A3-6 F.F. & E. FOR SPECIFICATOINS ON ANY FURNITURE/EQUIPMENT SEEN IN INT. ELEVATIONS TO BE OWNER/CONTRACTOR SUPPLIED
12. EXPOSED SINK DRAINS TO BE COVERED BY ADA PROTIVE BOOT.

REGISTERED ARCHITECT
MICHAEL W. DOWLING
A.C. #2837
STATE OF MONTANA

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY ARCHITECTURE + ENGINEERING

DOWLING ARCHITECTS
734 N. Last Chance Gulch | Helena, MT 59601 | 406.457.2470
www.dparchitect.com

ENLARGED PLANS, INTERIOR ELEVATIONS & DETAILS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JS/CC

100% CONSTRUCTION SET

A7-3

10.22.25

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GENERAL NOTES

1. SEE STANDARD FIXTURE MOUNTING HEIGHTS AND REQUIREMENTS THIS SHEET UNLESS OTHERWISE NOTED.
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11. REFER TO SHEET A3-6 F.F. & E. FOR SPECIFICATOINS ON ANY FURNITURE/EQUIPMENT SEEN IN INT. ELEVATIONS TO BE OWNER/CONTRACTOR SUPPLIED
12. EXPOSED SINK DRAINS TO BE COVERED BY ADA PROTIVE BOOT.

REGISTERED ARCHITECT MICHAEL W. DOWLING MC #2087 STATE OF MONTANA

17 / A7-4 LOBBY
1/4" = 1'-0"

16 / A7-4 101 LOBBY ELEVATION 1
1/4" = 1'-0"

15 / A7-4 101 LOBBY ELEVATION 2
1/4" = 1'-0"

14 / A7-4 HOSETOWER PLATFORM B
1/4" = 1'-0"

13 / A7-4 139 FITNESS ROOM ELEVATION 1
1/4" = 1'-0"

12 / A7-4 139 FITNESS ROOM ELEVATION 2
1/4" = 1'-0"

11 / A7-4 139 FITNESS ROOM ELEVATION 3
1/4" = 1'-0"

10 / A7-4 139 FITNESS ROOM ELEVATION 4
1/4" = 1'-0" REF:A7-2

09 / A7-4 127 LOCKER ELEVATION
1/4" = 1'-0"

08 / A7-4 123 HALLWAY ELEVATION 1
1/4" = 1'-0"

07 / A7-4 118 HOSE TOWER PLATFORM ELEVATION 1
1/4" = 1'-0"

06 / A7-4 138 DAY ROOM ELEVATION 1
1/4" = 1'-0"

05 / A7-4 138 DAY ROOM ELEVATION 2
1/4" = 1'-0"

04 / A7-4 138 DAY ROOM ELEVATION 3
1/4" = 1'-0"

03 / A7-4 138 DAY ROOM ELEVATION 4
1/4" = 1'-0"

02 / A7-4 138 DAY ROOM ELEVATION 5
1/4" = 1'-0"

01 / A7-4 138 DAY ROOM ELEVATION 6
1/4" = 1'-0"

00 / A7-4 138 DAY ROOM ELEVATION 7
1/4" = 1'-0"

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY ARCHITECTURE + ENGINEERING

DOWLING ARCHITECTS
7241N. Last Chance Gulch | Helena, MT 59601 | 406.457.9470
www.dlarc-mt.com

ENLARGED PLANS, INTERIOR ELEVATIONS & DETAILS

PROJECT #: 25-668

ISSUE DATES:

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18 / A7-5 116 SCBA ELEVATION 1
1/4" = 1'-0"

17 / A7-5 116 SCBA ELEVATION 2
1/4" = 1'-0"

16 / A7-5 116 SCBA ELEVATION 3
1/4" = 1'-0"

15 / A7-5 115 TURNOUT ELEVATION 1
1/4" = 1'-0"

14 / A7-5 115 TURNOUT ELEVATION 2
1/4" = 1'-0"

13 / A7-5 115 TURNOUT ELEVATION 3
1/4" = 1'-0"

12 / A7-5 137 LAUNDRY ELEVATION 1
1/4" = 1'-0"

11 / A7-5 137 LAUNDRY ELEVATION 2
1/4" = 1'-0"

10 / A7-5 137 LAUNDRY ELEVATION 3
1/4" = 1'-0"

09 / A7-5 136 DORM 1 ELEVATION 1
1/4" = 1'-0"

07 / A7-5 135 DORM 2 ELEVATION 1
1/4" = 1'-0"

06 / A7-5 122 WATCH ROOM ELEVATION 1
1/4" = 1'-0"

05 / A7-5 122 WATCH ROOM ELEVATION 2
1/4" = 1'-0"

04 / A7-5 WATCHROOM ELEVATION 3
1/4" = 1'-0"

03 / A7-5 HOSE TOWER
1/4" = 1'-0"

02 / A7-5 107 WORKROOM HALLWAY ELEVATION 1
1/4" = 1'-0"

01 / A7-5 107 WORKROOM HALLWAY ELEVATION 2
1/4" = 1'-0"

GENERAL NOTES

1. SEE STANDARD FIXTURE MOUNTING HEIGHTS AND REQUIREMENTS THIS SHEET UNLESS OTHERWISE NOTED.
2. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBF.
3. FLUSH CONTROLS SHALL BE OPERABLE BY AN OSCILLATING HANDLE WITH A MAXIMUM OPERATING FORCE OF 5 LBS AND SHALL BE MOUNTED ON OPEN FLOOR SIDE OF THE TOILET.
4. DIA. OR WIDTH OF THE GRAB BARS SHALL BE 1 1/4" TO 1 1/2" WITH 1 1/2" CLEARANCE BETWEEN GRAB BAR AND WALL. GRAB BAR ENDS TO BE RETURNED TO WALL. GRAB BARS SHALL HAVE STRENGTH AND ANCHORAGE TO SUSTAIN 250 LB CONCENTRATED LOAD.
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12. EXPOSED SINK DRAINS TO BE COVERED BY ADA PROTIVE BOOT.

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2887
STATE OF MONTANA

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

DOWLING ARCHITECTS
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www.dowlingarch.com

SHIVEHATTERY
ARCHITECTURE + ENGINEERING

ENLARGED PLANS, INTERIOR ELEVATIONS & DETAILS

PROJECT #: 25-668

ISSUE DATES:

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100% CONSTRUCTION SET

A7-5

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04 A7-6 117 APPARATUS BAY ELEVATION 4
1/4" = 1'-0"

03 A7-6 117 APPARATUS BAY ELEVATION 3
1/4" = 1'-0"

05 A7-6 INT. BOLLARD APP BAY DETAIL
1 1/2" = 1'-0" REF:A7-6

02 A7-6 117 APPARATUS BAY ELEVATION 2
1/4" = 1'-0"

01 A7-6 117 APPARATUS BAY ELEVATION 1
1/4" = 1'-0"

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12. EXPOSED SINK DRAINS TO BE COVERED BY ADA PROTIVE BOOT.

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #9887
STATE OF MONTANA

HELENA FIRESTATION #3

1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY
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www.dowlingarch.com

ENLARGED PLANS, INTERIOR ELEVATIONS & DETAILS

PROJECT #: 25-668

ISSUE DATES:

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STANDARD CASEWORK DIMENSIONS

4 A7-7 UPPER CASEWORK W/ MICROWAVE
1 1/2" = 1'-0"

1 A7-7 UPPER CASEWORK
1 1/2" = 1'-0"

6 A7-7 CASEWORK PENINSULA
1 1/2" = 1'-0"

5 A7-7 BASE CASEWORK
1 1/2" = 1'-0"

3 A7-7 BASE CASEWORK W/ 4 DRAWERS
1 1/2" = 1'-0"

8 A7-7 BASE CASEWORK W/O DRAWER
1 1/2" = 1'-0"

7 A7-7 BASE CASEWORK W/ SINK
1 1/2" = 1'-0"

GENERAL NOTES

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12. EXPOSED SINK DRAINS TO BE COVERED BY ADA PROTIVE BOOT.

REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2887
STATE OF MONTANA

HELENA FIRESTATION #3
1872 KELLEHER LANE, HELENA, MT 59602

SHIVEHATTERY
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DOWLING ARCHITECTS
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CASEWORK, INTERIOR ELEVATIONS & DETAILS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JS/CC

100% CONSTRUCTION SET

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10.22.25

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1 / A7-8 DAYROOM ISLAND CASEWORK DETAIL 1
1 1/2" = 1'-0" REF:A7-2

2 / A7-8 DAYROOM ISLAND CASEWORK DETAIL 2
1 1/2" = 1'-0" REF:A7-2

GENERAL NOTES

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REGISTERED ARCHITECT
MICHAEL W. DOWLING
LIC. #2887
STATE OF MONTANA

HELENA FIRESTATION #3

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CASEWORK, INTERIOR ELEVATIONS & DETAILS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: JS/CC

100% CONSTRUCTION SET

A7-8

10.22.25

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GENERAL STRUCTURAL NOTES:

GENERAL:

1. THESE DRAWINGS HAVE BEEN PREPARED SOLELY FOR USE IN THE CONSTRUCTION OF HELENA FIRE STATION #3 AT THE LOCATION OF HELENA, MT. POSSESSION OF THESE DRAWINGS DOES NOT GRANT A LICENSE TO CONSTRUCT OR FABRICATE THE WHOLE, OR PARTS OF THIS PROJECT IN OTHER LOCATIONS.
2. STRUCTURAL DRAWINGS ARE A PORTION OF THE CONTRACT DOCUMENTS AND ARE INTENDED TO BE USED WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND SITE CIVIL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE REQUIREMENTS FROM THESE DRAWINGS INCLUDING BUT NOT LIMITED TO DIMENSIONS, BLOCKOUTS, OPENINGS, SLEEVES, EMBEDDED ITEMS, ETC. INTO THEIR SHOP DRAWINGS AND WORK. NOTIFY THE ARCHITECT/STRUCTURAL ENGINEER OF RECORD OF ANY DISCREPANCIES OR IF ACTUAL CONDITIONS DIFFER FROM THOSE SHOWN OR NOTED.
3. DO NOT SCALE OR RESIZE THE DRAWINGS IN ANY MANNER. ANY ADJUSTMENTS TO THE SIZE OR SCALE OF THE DRAWINGS MAY RESULT IN MISINTERPRETATION OF CRITICAL DIMENSIONS AND DETAILS.
4. THE STRUCTURAL DRAWINGS ARE INTENDED TO SHOW THE GENERAL CHARACTER AND EXTENT OF THE PROJECT AND ARE NOT INTENDED TO SHOW ALL DETAILS OF WORK. USE ENTIRE DETAIL SHEETS AND SPECIFIC DETAILS REFERENCED IN THE PLANS AS "TYPICAL" WHEREVER THEY APPLY. USE DETAILS ON ENTIRE SHEETS WITH "TYPICAL" IN THE NAME WHEREVER THEY APPLY.
5. WHERE DESCREPANCIES OCCUR BETWEEN THE GENERAL STRUCTURAL NOTES, SPECIFICATIONS, PLANS/DETAILS OR REFERENCE STANDARDS, THE ARCHITECT/ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK. SHOULD ANY DISCREPANCY BE FOUND IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL INCLUDE IN THE PRICE THE MOST EXPENSIVE WAY OF COMPLETING THE WORK, UNLESS PRIOR TO THE SUBMISSION OF THE PRICE, THE CONTRACTOR ASKS FOR A DECISION FROM THE ARCHITECT AS TO WHICH SHALL GOVERN. CONFLICTS BETWEEN THE CONTRACT DOCUMENTS SHALL NOT BE A BASIS FOR ADJUSTMENT IN CONTRACT PRICE.
6. THE CONTRACTOR SHALL FURNISH THE PRODUCTS SPECIFIED ON THE DRAWINGS. SUBSTITUTIONS WILL BE CONSIDERED ONLY IF THE CONTRACTOR PROVIDES DOCUMENTATION TO PROVE THE ALTERNATIVE EQUALS OR EXCEEDS THE STRUCTURAL PERFORMANCE CHARACTERISTICS OF THE SPECIFIED PRODUCT.
7. **CODE REQUIREMENTS:**
   A. ALL WORK SHALL BE IN STRICT COMPLIANCE WITH:
      a. 2021 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED BY THE STATE OF MONTANA (INTERNATIONAL BUILDING CODE, 2021 EDITION, EFFECTIVE JUNE 11, 2022)
      b. ALL OTHER STATE AND LOCAL BUILDING REQUIREMENTS THAT APPLY.
8. **TEMPORARY CONDITIONS:**
   A. THE STRUCTURAL DRAWINGS REPRESENT THE STRUCTURE IN THE FINAL CONSTRUCTED CONDITION, CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY SUPPORT PRIOR TO COMPLETION OF VERTICAL AND LATERAL LOAD SYSTEMS. MORRISON-MAIERLE HAS NOT BEEN RETAINED TO PROVIDE ANY SERVICES RELATED TO JOB SITE SAFETY PRECAUTIONS, OR TO REVIEW THE MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES FOR THE CONTRACTOR TO PERFORM WORK. UNLESS WE ARE SPECIFICALLY RETAINED AND COMPENSATED TO DO OTHERWISE, OUR WORK IS LIMITED TO THE FINAL DESIGN OF THE WORK DESCRIBED ON OUR DRAWINGS FOR THIS PROJECT.
   B. CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.
9. **ASSUMED FUTURE CONSTRUCTION:**
   A. VERTICAL: NONE
   B. HORIZONTAL: NONE

DESIGN CRITERIA:

1. DESIGN IS BASED ON THE FOLLOWING LOADING FOR THE BASIS OF STRENGTH, PERFORMANCE, AND SERVICEABILITY OF THE STRUCTURE:

DESIGN CRITERIA

LIVE LOAD CRITERIA (IBC 1603.1.1)		
FLOOR LIVE LOADS:	**UNIFORM LOAD**	**CONCENTRATED LOAD**
ASSEMBLY AREAS	100 PSF (NON-REDUCIBLE)	N/A
CORRIDORS: FIRST FLOOR	100 PSF	N/A
OFFICE BUILDINGS: OFFICES	50 PSF + 15 PARTITIONS	2000 LBS
OFFICE BUILDINGS: CORRIDORS	80 PSF	2000 LBS
DORMITORY/SLEEPING ROOMS	40 PSF	N/A
STORAGE: LIGHT	125 PSF (NON-REDUCIBLE)	N/A
STAIRS AND EXIT WAYS	100 PSF	300 LBS

ROOF LIVE LOAD CRITERIA (IBC 1603.1.2)		
ORDINARY FLAT, PITCHED, CURVED	20 PSF (SEE SNOW LOAD)	N/A

SNOW LOAD CRITERIA (IBC 1603.1.3)	
DESIGN ROOF SNOW LOAD	30 PSF (MT STATE MINIMUM)
SNOW DRIFT	PER ASCE 7-22 AS SHOWN ON PLANS
GROUND SNOW LOAD	Pg = 45 PSF (ASCE 7-22 HAZARD TOOL)
FLAT ROOF SNOW LOAD	Pf = 24 PSF
SNOW EXPOSURE FACTOR	Ce = 0.9
SNOW LOAD IMPORTANCE FACTOR	Is = 1.2
THERMAL FACTOR	Ct = 1.1

WIND LOAD CRITERIA (IBC 1603.1.4)	
BASIC DESIGN WIND SPEED	V = 118 MPH
RISK CATEGORY	IV
WIND EXPOSURE	C
INTERNAL PRESSURE COFFICIENT	GCpi = +/- 0.18
COMPONENT & CLADDING PRESSURE FOR DEFERRED DESIGN ELEMENTS	SEE TABLE, NOTES AND DIAGRAMS BELOW

SEISMIC LOAD CRITERIA (IBC 1603.1.5)		
RISK CATEGORY	IV	
SEISMIC IMPORTANCE FACTOR	Ie = 1.25	
MAPPED SPECTRAL RESPONSE	Ss = 0.485	S1 = 0.153
SITE CLASS	D	
DESIGN SPECTRAL RESPONSE	Sds = 0.457	Sd1 = 0.234
SEISMIC DESIGN CATEGORY	D	
BASIC SEISMIC FORCE RESISTING SYSTEM (SFRS)	X DIRECTION (E/W)	Z DIRECTION (N/S)
	NORTH & SOUTH WINGS: LIGHT FRAMED WOOD WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR LATERAL RESISTANCE APPARATUS BAY: STEEL SPECIAL MOMENT FRAMES	NORTH & SOUTH WINGS: LIGHT FRAMED WOOD WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR LATERAL RESISTANCE APPARATUS BAY: STEEL SPECIAL MOMENT FRAMES
DESIGN BASE SHEAR	NORTH WING = 13 KIPS SOUTH WING 14 KIPS APPARATUS BAY = 9 KIPS	NORTH WING = 13 KIPS SOUTH WING 14 KIPS APPARATUS BAY = 9 KIPS
SEISMIC RESPONSE COEFFICIENT	0.071	0.071
RESPONSE MODIFICATION FACTOR	8 (APPARATUS BAY) 6.5 (NORTH & SOUTH WINGS)	8 (APPARATUS BAY) 6.5 (NORTH & SOUTH WINGS)
ANALYSIS PROCEDURE USED	EQUIVALENT LATERAL FORCE	EQUIVALENT LATERAL FORCE

GEOTECHNICAL CRITERIA (IBC 1603.1.6)		
DESIGN BASED ON REPORT BY	PIONEER GEOTECHNICAL REPORT DATED 08/07/25	
DESIGN SOIL BEARING PRESSURE	3000 PSF (DL + LL)	4000 PSF (EL / WL INCLUDED)
RETAINING WALLS EQ. FLUID PRESSURE	35 PCF (ACTIVE)	55 PCF (AT REST)
PASSIVE BEARING PRESSURE	250 PSF/FT	
COEFFICIENT OF SLIDING FRICTION	0.4	

COMPONENTS AND CLADDING WIND PRESSURES	
ZONE	**PRESSURE (PSF)**
ROOF	
SEE S0-7	
WALL	
4	29/-32
4 PARAPET	25/-57
5	29/-39
5 PARAPET	25/-77

NOTATION:
1. h = MEAN ROOF HEIGHT (23 FT)
2. a = 6 FT
3. LISTED PRESSURE VALUES ARE IN POUNDS PER SQUARE FOOT (PSF) AND WERE DETERMINED AT THE MEAN ROOF HEIGHT. WIND PRESSURE VALUES MAY BE REDUCED FOR COMPONENTS AT LOWER ELEVATIONS PER ASCE 7 SECTION 30.5
4. POSITIVE VALUES INDICATE LOAD ACTING TOWARDS A SURFACE, NEGATIVE VALUES INDICATE LOAD ACTING AWAY FROM A SURFACE
5. LISTED PRESSURES ARE FOR ELEMENTS WITH A TRIBUTARY WIND AREA OF 10 SQUARE FEET OR LESS. FOR ELEMENTS WITH LARGER TRIBUTARY AREAS, THE VALUES MAY BE ADJUSTED PER ASCE 7, CHAPTER 30
6. LISTED VALUES DO NOT APPLY TO SIGNS, CHIMNEYS, TANKS, ROOFTOP EQUIPMENT OR SIMILAR STRUCTURES.
7. DESIGN FOR THE LARGEST POSITIVE AND NEGATIVE PRESSURE ACTING INDEPENDENTLY
8. THE MINIMUM DESIGN PRESSURE FOR ALL ELEMENTS IS 16 PSF

TYPICAL WALL ELEVATION

STRUCTURAL OBSERVATIONS:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ENGINEER OF RECORD A MINIMUM OF 24 HOURS IN ADVANCE OF REQUIRED OBSERVATION STAGES BELOW. CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE AND ACCESS FOR THE OBSERVER. APPROVAL BY THE MUNICIPAL INSPECTOR DOES NOT PRECLUDE OBSERVATIONS BY THE ENGINEER OF RECORD AND APPROVAL BY THE ENGINEER OF RECORD DOES NOT PRECLUDE THE INSPECTION PROCESS BY THE MUNICIPAL INSPECTOR AND ANY OTHER CODE REQUIREMENTS FOR INSPECTION.
2. UPON COMPLETION OF WORK THE STRUCTURAL OBSERVER SHALL SUBMIT A REPORT TO THE OWNER AND BUILDING OFFICIAL ATTESTING TO THE VISUAL OBSERVATION MADE. THE REPORT SHALL IDENTIFY ANY REPORTED DEFICIENCIES WHICH HAVE NOT BEEN RESOLVED.

STRUCTURAL OBSERVATIONS	
STAGE	**COMMENTS**
PRIOR TO FIRST CONCRETE POUR	AFTER REBAR PLACEMENT
DURING INITIAL STEEL ERECTION	
COMPLETION OF STEEL ERECTION	
DURING INITIAL WOOD FRAMING CONSTRUCTION	
COMPLETION OF WOOD FRAMING CONSTRUCTION	
AT COMPLETION OF DIAPHRAGM FASTENING	
AS REQUIRED TO ADDRESS STRUCTURAL ISSUES	

SUBMITTALS:

1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION OF ALL STRUCTURAL PRODUCTS, INCLUDING THE FOLLOWING:

SUBMITTALS		
ITEM	**SUBMITTAL**	**DEFERRED SUBMITTAL**
GLUE-LAMINATED MEMBERS	X	
ENGINEERED WOOD I-JOISTS	X	
PRE-ENGINEERED WOOD OPEN-WEB TRUSSES	X	X
CONCRETE MIX DESIGNS	X	
CONCRETE REINFORCEMENT	X	
CONCRETE ANCHORAGES	X	
EMBEDDED STEEL ITEMS	X	
STRUCTURAL STEEL	X	
OPEN WEB STEEL JOISTS AND GIRDERS	X	X
STEEL WELDING PROCEDURES	X	
STEEL DECKING	X	
STRUCTURAL LIGHT GAUGE METAL FRAMING	X	
STRUCTURAL STEEL FASTENERS	X	
EXTERIOR CLADDING AND FURRING	X	X
CURTAIN WALL, WINDOW WALL AND OTHER GLAZING SYSTEMS	X	X
SKYLIGHTS, CANOPIES, AND AWNINGS	X	X
STAIRS, LADDERS AND RAILINGS	X	X
MEP EQUIPMENT ANCHORAGE AND BRACING	X	X

2. SHOP DRAWINGS SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION FOR ALL STRUCTURAL PRODUCTS DELIVERED TO THE PROJECT. IF THE SHOP DRAWINGS DEVIATE FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ARE SUBJECT TO REVIEW AND ACCEPTANCE OF THE STRUCTURAL ENGINEER OF RECORD.
3. DEFERRED SUBMITTAL DESIGN DRAWINGS, SHOP DRAWINGS, AND CALCULATIONS FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED BY OTHERS SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. THE DEFERRED SUBMITTAL SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND ARE SUBJECT TO REVIEW AND ACCEPTANCE OF THE STRUCTURAL ENGINEER FOR LOADS IMPOSED ON THE SUPPORTING STRUCTURE. CALCULATIONS SHALL BE INCLUDED FOR ALL CONNECTIONS TO THE STRUCTURE, CONSIDERING LOCALIZED EFFECTS ON STRUCTURAL ELEMENTS INDUCED BY THE CONNECTION LOADS. DESIGN SHALL BE BASED ON THE REQUIREMENTS OF THE CODES AND DESIGN CRITERIA NOTED IN THESE GENERAL STRUCTURAL NOTES.
4. THE CONTRACTOR SHALL COORDINATE SEISMIC RESTRAINTS OF MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT, MACHINERY AND ASSOCIATED PIPING WITH THE STRUCTURE. CONNECTIONS TO STRUCTURE SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION.
5. FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DEVIATE FROM OR ADD TO THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION.
6. THE USE OF REPRODUCTIONS OR PHOTOCOPIES OF THE CONTRACT DOCUMENTS SHALL NOT BE PERMITTED. WHEN CAD OR REVIT FILES ARE PROVIDED TO THE CONTRACTOR OR SUBCONTRACTORS, IT IS THE RESPONSIBILITY OF THE DETAILERS TO REMOVE ALL INFORMATION NOT DIRECTLY RELEVANT TO THE CREATION OF THE PLACING DRAWINGS AS WELL AS ALL REFERENCES TO THE OUTSIDE SOURCE FILES.
7. SUBMITTAL DOCUMENTS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO BEING SUBMITTED TO THE ARCHITECT FOR REVIEW.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE REVIEWED SUBMITTAL TO THE BUILDING DEPARTMENT FOR DEFERRED PERMIT APPLICATION. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

EARTHWORK:

1. **GENERAL:**
   A. A GEOTECHNICAL INVESTIGATION AND REPORT HAS BEEN COMPLETED AS NOTED IN THE 'DESIGN CRITERIA'. REFER TO GEOTECHNICAL REPORT FOR RECOMMENDATIONS ON SITE PREPARATIONS, FILL SPECIFICATIONS AND SITE SPECIFIC CONSTRUCTION CONSIDERATIONS.
   B. STABILITY OF CONSTRUCTION EXCAVATION AND WORKER SAFETY ARE THE RESPONSIBILITY OF THE CONTRACTOR. BASED UPON THE GEOTECHNICAL REPORT, TEMPORARY CONSTRUCTION EXCAVATIONS, ABOVE GROUNDWATER, TO BE PLANNED IN ACCORDANCE WITH OSHA PROVISIONS SHOULD ASSUME TYPE B MATERIAL FOR STIFF CLAY, AND TYPE C MATERIAL FOR SAND.
   C. DO NOT EXCAVATE CLOSER THAN 2:1 SLOPE BELOW FOOTING EXCAVATIONS.
   D. ALL SLABS-ON-GRADE SHALL BEAR ON COMPACTED STRUCTURAL FILL OR COMPETENT NATIVE SOIL PER THE GEOTECHNICAL REPORT. ALL MOISTURE SENSITIVE SLABS-ON-GRADE OR THOSE SUBJECT TO RECEIVE MOISTURE SENSITIVE COATINGS OR COVERINGS SHALL BE PROVIDED WITH AN APPROPRIATE CAPILLARY BREAK AND VAPOR BARRIER OR RETARDANT OVER THE SUBGRADE PREPARED AND INSTALLED AS NOTED IN THE GEOTECHNICAL REPORT. BARRIER MANUFACTURER'S WRITTEN RECOMMENDATIONS AND COORDINATED WITH THE FINISHES SPECIFIED BY THE ARCHITECT.

CAST-IN-PLACE CONCRETE:

1. CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301, *SPECIFICATION FOR STRUCTURAL CONCRETE*, AND ACI 117, *SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS*, UNLESS NOTED OTHERWISE.
2. AVERAGE CONCRETE STRENGTH DETERMINED BY JOB CAST LAB CURED CYLINDER PER ASTM C39 TO BE AS INDICATED BELOW PLUS INCREASE DEPENDING ON THE PLANT'S STANDARD DEVIATION AS SPECIFIED IN ACI 318. MINIMUM CONCRETE PROPERTIES SHALL BE AS FOLLOWS:

CONCRETE PROPERTIES						
USE	**CONCRETE TYPE**	**MIN COMPRESSIVE STRENGTH**	**TEST AGE DAYS**	**AIR CONTENT**	**MAX WATER TO CEMENT RATIO**	**MAX AGGERGATE SIZE**
EXTERIOR FOOTINGS AND WALLS	NW	4,500 PSI	28	6% +/- 1.5%	0.45	1"
INTERIOR FOOTINGS AND WALLS	NW	4,000 PSI	28	--	0.45	1"
EXTERIOR SLABS ON GRADE	NW	3,500 PSI	28	4.5% +/- 1.5%	0.55	1"
INTERIOR SLABS ON GRADE	NW	3,500 PSI	28	--	0.50	1"
SLAB ON METAL DECK	NW	3,500 PSI	28	--	N/A	3/4"
APPARATUS BAY SLAB ON GRADE	NW	5,000 PSI	28	6% +/- 1.5%	0.45	1"

NOTES:
1. NORMAL WEIGHT CONCRETE (NW): 145 PCF, STONE AGGREGATE

3. DURABILITY REQUIREMENTS: CONCRETE MIXES USED ON THE PROJECT SHALL BE PROPORTIONED TO SATISFY THE FOLLOWING DURABILITY REQUIREMENTS:

CONCRETE PROPERTIES				
USE	**FREEZE-THAW (ACI 318, 19.3.1)**	**PERMEABILITY (ACI 318, 19.3.1)**	**CHLORIDES (ACI 318, 19.3.1)**	**SULFATES (ACI 318, 19.3.1)**
EXTERIOR FOOTINGS AND WALLS	F2	W1	C0	S0
INTERIOR FOOTINGS AND WALLS	F0	W0	C0	S0
EXTERIOR SLABS ON GRADE	F1	W1	C1	S0
INTERIOR SLABS ON GRADE	F0	W0	C0	S0
SLAB ON METAL DECK	F0	W0	C0	S0
APPARATUS BAY SLAB ON GRADE	F2	W1	C2	S0

4. THE CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGNS ALONG WITH TEST DATA A MINIMUM OF TWO WEEKS PRIOR TO PLACING CONCRETE. ADDITIONAL WATER SHALL NOT BE ADDED TO THE CONCRETE MIX AT THE JOBSITE UNLESS SPECIFICALLY NOTED IN THE MIX DESIGN.
5. SLEEVES, OPENINGS, CONDUITS AND OTHER EMBEDDED ITEMS IN SLABS SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN ONE THIRD OF THE THICKNESS OF THE SLAB AND SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS ON CENTER AND SHALL BE APPROVED BY THE EOR BEFORE POURING.
6. CURING OF CONCRETE SHALL COMPLY WITH ACI 308, UNLESS NOTED OTHERWISE.
7. WHERE CONCRETE IS PLACED AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE CLEANED AND ROUGHENED TO A MINIMUM 1/4" AMPLITUDE.
8. PROVIDE 3/4" CHAMFERS ON ALL EXPOSED CONCRETE CORNERS UNLESS NOTED OTHERWISE.
9. CONSTRUCTION JOINT LOCATIONS FOR CONCRETE WORK ARE NOT SHOWN IN THE DRAWINGS. THE CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CONSTRUCTION OF THE JOINTS.
10. PROVIDE TOOLED OR SAW-CUT CONTROL JOINTS OR CONSTRUCTION JOINTS IN SLABS ON GRADE COMPLYING WITH THE FOLLOWING CRITERIA. THE CONTRACTOR SHALL SUBMIT CONTROL JOINT PLAN AT LEAST (7) DAYS PRIOR TO POURING THE SLABS WHERE THE JOINTS ARE NOT EXPLICITLY SPECIFIED BY THE ARCHITECT.
    A. JOINT SPACING SHALL NOT EXCEED 30 TIMES THE SLAB THICKNESS
    B. ASPECT RATIO OF SLAB PANELS SHALL BE MAXIMUM OF 1.5 TO 1.0; HOWEVER A RATIO OF 1.0 TO 1.0 IS PREFERRABLE
    C. JOINTS SHALL BE CONTINUOUS ACROSS INTERSECTING JOINTS, NOT STAGGERED OR OFFSET
    D. JOINTS SHALL EXTEND FROM ISOLATION JOINT AROUND COLUMNS AND WALLS

REINFORCING STEEL:

1. REINFORCING STEEL SHALL CONFORM TO THE FOLLOWING PROPERTIES:

REINFORCEMENT STEEL PROPERTIES		
USE	**REINFORCEMENT SIZE**	**SPECIFICATION**
GENERAL USE	ALL	ASTM A615, GRADE 60
REINFORCEMENT TO BE WELDED	ALL	ASTM A706
WELDED WIRE REINFORCEMENT	ALL	ASTM A1064

2. REINFORCING STEEL TO BE WELDED SHALL USE ONLY LOW HYDROGEN ELECTRODES. ALL WELDING TO BE IN COMPLIANCE WITH AWS D1.4. WELD REINFORCING STEEL ONLY WHERE INDICATED ON THE DRAWINGS. WELDING OR TACK WELDING OF REINFORCEMENT BARS TO OTHER BARS OR STEEL COMPONENTS IS PROHIBITED.
3. REINFORCING STEEL SLABS SHALL BE SUPPORTED ON CONCRETE DOBBIES, OR APPROVED CHAIRS IN SUFFICIENT NUMBERS TO SUPPORT THE BARS WITHOUT SETTLEMENT. FABRICATE AND INSTALL REINFORCING STEEL ACCORDING TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES - ACI STANDARD 315.
4. CONTACT LAP ALL REINFORCING BARS PER THE TYPICAL LAP SPLICE LENGTH SCHEDULE, EXCEPT AS NOTED ON DRAWINGS. MECHANICAL SPLICES NOTED ON THE DRAWINGS SHALL BE DAYTON SUPERIOR BAR-LOCK OR APPROVED WITH A CURRENT ICC-ES OR IAPMO-ES EVALUATION REPORT.

REINFORCING STEEL (CONTINUED):

GRADE 60 REINFORCING STEEL LAP SPLICE LENGTH AND DEVELOPMENT LENGTH															
BAR SIZE	**f'c = 3,000 PSI**					**f'c = 4,000 PSI**					**f'c = 5,000 PSI**				
	MISC BARS		**TOP BARS (SEE NOTE 3)**		**HOOK BARS**	**MISC BARS**		**TOP BARS (SEE NOTE 3)**		**HOOK BARS**	**MISC BARS**		**TOP BARS (SEE NOTE 3)**		**HOOK BARS**
	Ld	**LAP**	**Ld**	**LAP**	**Ldh**	**Ld**	**LAP**	**Ld**	**LAP**	**Ldh**	**Ld**	**LAP**	**Ld**	**LAP**	**Ldh**
#3	17	22	22	28	9	15	19	29	25	8	13	17	17	22	7
#4	22	29	29	38	11	19	25	25	33	10	17	23	23	29	9
#5	28	36	36	47	14	24	31	31	41	12	22	28	28	36	11
#6	33	43	43	56	17	29	37	37	49	15	26	34	34	44	13
#7	48	63	63	81	20	42	54	54	71	17	38	49	49	63	15
#8	55	72	72	93	22	48	62	62	81	19	43	56	56	72	17
#9	62	81	81	105	25	54	70	70	91	22	48	63	63	81	20

   A. ALL TABULATED VALUES ARE IN INCHES, FOR GRADE 60, UNCOATED REINFORING, NORMAL WEIGHT CONCRETE WITH CLEAR SPACING AND CLEAR COVER GREATER THAN THE BAR DIAMETER.
   B. IT SHALL BE PERMITTED TO INTERPOLATE BETWEEN CONCRETE STRENGTHS OR USE THE NEXT LOWER CONCRETE STRENGTH.
   C. TOP BARS ARE ANY HORIZ BAR PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZ WALL BARS ARE CONSIDERED TOP BARS.
   D. LAP SPLICES ARE FOR NON-LATERAL LOAD RESISTING ELEMENTS. FOR REBAR LAPS SPLICES AT LATERAL LOAD RESISTING ELEMENTS, REFERENCE PLANS AND ELEVATIONS.
   E. Ld = DEVELOPMENT LENGTH IN TENSION OF DEFORMED BAR
      Ldh = DEVELOPMENT LENGTH IN TENSION OF DEFORMED BAR OR DEFORMED WIRE WITH A STANDARD...
      LAP = LAP SPLICE LENGTH OF DEFORMED BAR OR DEFORMED WIRE

4. REINFORCING STEEL SHALL BE PROTECTED BY PLACING BARS WITH A MINIMUM COVER, UNLESS NOTED OTHERWISE.

REINFORCING STEEL CONCRETE COVER	
USE	**CLEAR COVER**
SLABS	3/4"
WALLS (INTERIOR FACES)	3/4"
CONCRETE CAST AGAINST EARTH	3"
CONCRETE EXPOSED TO WEATHER OR EARTH	1-1/2" (FOR #5 OR SMALLER), 2" (FOR #6 AND LARGER)

5. PROVIDE DOWELS FROM FOOTINGS TO MATCH ALL VERTICAL WALL, PILASTER AND COLUMN REINFORCING. PROVIDE CORNER BARS TO MATCH HORIZONTAL REINFORCING IN WALLS AND FOOTINGS AT ALL CORNERS AND INTERSECTIONS. CONTINUE HORIZONTAL WALL BARS THROUGH PILASTERS COLUMNS AND INTERSECTING WALLS.

CONCRETE CONNECTORS:

1. UNLESS A SPECIFIC ANCHOR PRODUCT IS NOTED IN THE DRAWINGS, POST-INSTALLED ANCHORS MAY USE ONE OF THE ANCHORS LISTED BELOW FOR THE REQUIRED TYPE.

POST INSTALLED CONCRETE ANCHORS		
TYPE	**PRODUCT**	**REPORT #**
ADHESIVE ANCHORS & DOWELS	SIMPSON SET-3G	ICC-ES ESR-4057
	SIMPSON AT-XP	ICC-ES ESR-5026
	HILTI HIT-HY 200	ICC-ES ESR-3187
EXPANSION ANCHOR	SIMPSON STRONG-BOLT 2	ICC-ES ESR-3037
	HILTI KWIK BOLT TZ2	ICC-ES ESR-4266
SCREW ANCHOR	SIMPSON TITEN HD	ICC-ES ESR-2713
	HILTI KWIK HUS-EZ	ICC-ES ESR-3027

2. ALL ANCHORS SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND PRODUCT EVALUATION REPORTS.
3. EMBEDMENTS SPECIFIED ON DRAWINGS ARE "EFFECTIVE" EMBEDMENTS. REFERENCE MANUFACTURER LITERATURE FOR CORRESPONDING ACTUAL EMBEDMENT DEPTHS.
4. ANCHORS RODS EXPOSED TO EARTH OR WEATHER SHALL BE PROTECTED FROM CORROSION BY HOT-DIP GALVANIZING OR USE OF STAINLESS STEEL. POST INSTALLED EXPANSION AND SCREW ANCHORS EXPOSED TO EARTH OR WEATHER SHALL BE STAINLESS STEEL.
5. FOR POST-INSTALLED ANCHORS, LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED.
6. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF (2) ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE ANCHOR AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MANY NOT BE SHIFTED AS NOTED ABOVE, SEEK GUIDANCE FROM THE STRUCTURAL ENGINEER OF RECORD.
7. SPECIAL INSPECTION OF ANCHOR INSTALLATION IS REQUIRED UNLESS SPECIFICALLY NOTED OTHERWISE IN DRAWINGS. SEE SPECIAL INSPECTION AND MATERIALS TESTING PROGRAM AND NOTES.
8. ALL ANCHOR BOLTS, HOLDDOWNS AND OTHER REQUIRED ACCESSORIES SHALL BE SECURED IN PLACE PRIOR TO INSPECTION AND CONCRETE PLACEMENT. DO NOT STAB THE ABOVE LISTED ITEMS INTO FRESH CONCRETE AFTER PLACEMENT. PROPERLY VIBRATE AROUND INSTALLED ITEMS TO ENSURE PROPER CONSOLIDATION OF CONCRETE.

STRUCTURAL STEEL

1. DESIGN, FABRICATION AND ERECTION OF STEEL MEMBERS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AISC 360 *SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS* AND AISC 303 *CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES*. STRUCTURAL STEEL SHALL BE:

STRUCTURAL STEEL	
SHAPE	**MATERIAL SPECIFICATION AND GRADE**
WIDE FLANGE (W-SHAPES)	ASTM A992, GRADE 50
CHANNELS (C-SHAPES)	ASTM A36, GRADE 36
ANGLES (L-SHAPES)	ASTM A36, GRADE 36
STRUCTURAL TEES (WT-SHAPES)	ASTM A992, GRADE 50
HOLLOW STRUCTURAL SECTIONS (HSS)	ASTM A500, GRADE C
STRUCTURAL PIPES	ASTM A53, GRADE B
PLATES	ASTM A36, GRADE 36
PLATES NOTED AS "GR. 50"	ASTM A572, GRAD

SEISMIC FORCE RESISTING SYSTEM:

1. THE SEISMIC FORCE RESISTING SYSTEM (SFRS) IS COMPOSED OF:
   A. BEAMS AND COLUMNS THAT CREATE FRAMES TO RESIST LATERAL SHEAR LOADS IMPOSED ON THE STRUCTURE BY SEISMIC FORCES.
   B. BEAM OR BRACE MEMBERS KNOWN AS "COLLECTORS" WHICH MAY BE REQUIRED TO DELIVER THE SEISMIC FORCES TO THE FRAMES.

2. MEMBERS AND THEIR CONNECTIONS THAT ARE PART OF THE SEISMIC FORCE RESISTING SYSTEM ARE IDENTIFIED IN THE DRAWINGS ARE SUBJECT TO THE FOLLOWING REQUIREMENTS IN ADDITION TO ANY OTHER REQUIREMENTS OF AISC 341 *SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS*:
   A. FOR PREQUALIFIED MOMENT CONNECTIONS IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, REFER TO THE REQUIREMENTS OF AISC 358 *PREQUALIFIED CONNECTIONS FOR SPECIAL AND INTERMEDIATE STEEL MOMENT FRAMES FOR SEISMIC APPLICATIONS*
   B. **BOLTING:**
      a. HIGH STRENGTH BOLTS USED AS PART OF THE SEISMIC FORCE RESISTING SYSTEM (SFRS) SHALL BE FULLY PRE-TENSIONED AND ALL FAYING SURFACES SHALL BE PREPARED AS REQUIRED FOR CLASS A OR BETTER SLIP-CRITICAL JOINTS.
      b. ALL ASPECTS OF BOLTING THE SFRS SHALL BE IN ACCORDANCE WITH THE *RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS*.
   C. **WELDING:**
      a. ALL WELDING PROCEDURES AND FILLER MATERIALS IN THE SFRS SHALL MEET THE REQUIREMENTS OF CLAUSES 6.1, 6.2 AND 6.3 OF THE *STRUCTURAL WELDING CODE - SEISMIC SUPPLEMENT (AWS D1.8)*.
      b. FILLER METAL SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT 0°F, AS DETERMINED BY AWS CLASSIFICATION OF MANUFACTURER CERTIFICATION.
      c. CONTINUITY PLATES AND STIFFENERS IN THE WEBS OF WIDE FLANGE SHAPES SHALL BE DETAILED PER THE REQUIREMENTS OF CLAUSE 4.1 OF AWS D1.8.
      d. WELD ACCESS HOLES FOR GROOVE WELDS SHALL BE DETAILED IN ACCORDANCE WITH SECTION 6.10.1.2 OF AWS D1.8
      e. **BACKING BARS:**
         - MAY BE LEFT IN PLACE AT GROOVE WELDS FOR COLUMN SPLICES
         - SHALL BE REMOVED AT GROOVE WELDS FOR COLUMN TO BASEPLATE CONNECTIONS UNLESS THE BACKING IS INSTALLED IN ACCORDANCE WITH AISC 341 SECTION D2.6
         - AT BEAM TO COLUMN MOMENT CONNECTIONS BACKING BARS SHALL BE IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF AISC 358:
           1. AT CONTINUITY PLATES, SECTION 3.3.1
           2. AT BEAM BOTTOM FLANGES, SECTION 3.3.2
           3. AT BEAM TOP FLANGES, SECTION 3.3.3
           4. NONFUSIBLE BACKING SUCH AS COPPER MAY BE USED WHEN IN ACCORDANCE WITH SECTION 3.3.5
      f. **DEMAND CRITICAL WELDS:**
         - DEMAND CRITICAL WELDS ARE IDENTIFIED IN THE DRAWING WHERE THEY OCCUR AND ALL PREVIOUSLY DEFINED WELDING REQUIREMENTS APPLY TO DEMAND CRITICAL WELDS.
         - FILLER METAL SHALL HAVE A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT 0°F AND 40 FT-LBS AT 70°F, AS DETERMINED BY AWS CLASSIFICATION OF MANUFACTURER CERTIFICATION.
      g. WELDING OF THE SFRS SHALL BE COMPLETED BY WELDERS CERTIFIED IN ACCORDANCE WITH AWS D1.8.

3. DISCONTINUITIES RESULTING FROM FABRICATION AND ERECTION PROCEDURES AND FROM OTHER ATTACHMENTS ARE PROHIBITED IN THE AREA OF A MEMBER OR A CONNECTION ELEMENT DESIGNATED AS A PROTECTED ZONE. PROTECTED ZONES ARE IDENTIFIED IN THE DRAWINGS

OPEN WEB STEEL JOISTS:

1. STEEL JOISTS GIRDERS AND JOISTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC AND THE STEEL JOIST INSTITUTE (SJI) STANDARD SPECIFICATION. JOIST ERECTOR SHALL COMPLY WITH THE STEEL JOIST INSTITUTE SPECIFICATION OF LATEST ADOPTION IN HANDLING AND ERECTION OF MATERIAL. NOTIFY JOIST SUPPLIER OF ANY DAMAGED JOISTS. PROVIDE SHOP DRAWINGS AND CALCULATIONS THAT INDICATE JOIST SIZES, LOADING, MEMBER SIZES, PANEL POINT LOCATIONS, CAMBERS, BRIDGING AND ANY OTHER INFORMATION THAT MAY BE PERTINENT TO THE PROJECT. SHOP DRAWINGS AND CALCULATIONS SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED. PROVIDE INSPECTION REPORT PREPARED BY THE PRODUCT ENGINEER CERTIFYING THAT THE JOISTS HAVE BEEN FABRICATED ACCORDING TO THE DESIGN ASSUMPTIONS AND REQUIREMENTS. REPORT IS TO ACCOMPANY THE JOISTS ON DELIVERY TO THE PROJECT.

2. JOISTS GIRDERS AND JOISTS DEPTHS, TYPE AND SPACING ARE SHOWN ON THE PLANS. JOIST GIRDERS AND JOISTS SHALL BE DESIGNED FOR THE LOADS SHOWN ON THE PLANS ALONG WITH THE FOLLOWING REQUIREMENTS:
   A. SPECIFIED LOADING SHALL BE APPLIED TO THE JOIST AS INDICATED IN THE 'OPEN WEB JOIST LOADING' DEATIL WITHIN THESE CONSTRUCTION DOCUMENTS.
   B. DESIGN THE JOISTS FOR AN ADD-LOAD AND BEND-CHECK LOAD (FOR TOP AND BOTTOM CHORD) OF 500 POUNDS TO ACT CONCURRENTLY WITH ALL OTHER LOADS.
   C. THE CONTRACTOR SHALL PROVIDE THE SUPPLIER FINAL MECHANICAL UNIT WEIGHTS, SIZES AND LOCATIONS.
   D. THE CONTRACTOR SHALL PROVIDE THE SUPPLIER FINAL FIRE SUPPRESSION PIPING LAYOUT. THE DEAD LOAD SHOWN ON THE LOADING PLANS INCULDES A 2 POUNDS PER SQUARE FOOT ALLOWANCE FOR THE PIPING. THE SUPPLIER SHALL DESIGN THE JOISTS FOR THE MAXIMUM EFFECT FROM EITHER THE CONCENTRATED LOADS BASED ON THE ACTUAL PIPING LAYOUT OR THE DISTRIBUTED LOAD ALLOWANCE.
   E. JOISTS THAT ARE RELIED UPON TO ANCHOR STRUCTURAL WALLS FOR OUT-OF-PLANE WIND OR SEISMIC FORCES ARE INDICATED IN THE PLANS. DESIGN THE JOISTS FOR THE AXIAL LOAD FROM THE WALL ANCHORAGE FORCES. JOIST AXIAL LOAD TO BE TRANSFERED THROUGH THE BEARING SEAT. GIRDER TOP CHORDS TO BE DESIGNED TO TRANSFER JOIST AXIAL LOADS PERPENDICULAR THROUGH THE GIRDER CHORD.
   F. ROOF JOISTS: DEFLECTION LESS THAN SPAN DIVIDED BY **240** FOR TOTAL SERVICE LOAD AND LESS THAN SPAN DIVIDED BY **360** FOR SNOW OR ROOF LOADS ONLY.

3. CAMBER ALL JOISTS WITH STANDARD CAMBERS IN ACCORDANCE WITH THE SJI STANDARD SPECIFICATION UNLESS NOTED OTHERWISE ON DRAWINGS.

4. JOIST BRIDGING SHALL BE PROVIDED IN ACCORDANCE WITH SJI REQUIREMENTS. JOIST BRIDGING IN ADDITION TO THAT SHOWN ON THE PLANS SHALL BE AS REQUIRED BY SJI AND THE JOIST MANUFACTURER'S RECOMMENDATIONS.

5. ERECTION AIDS ARE TO BE DETERMINED AND PROVIDED BY CONTRACTOR. THE CONTRACTOR'S ERECTOR AND FABRICATOR SHALL COORDINATE THE TYPE AND QUANTITY OF ERECTION AIDS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ERECTION SEQUENCING, TEMPORARY BRACING, SAFETY OF WORKERS, AND OVERALL COMPLIANCE WITH APPLICABLE OSHA REQUIREMENTS.

STEEL DECKING:

1. STEEL ROOF DECKING SHALL BE IN ACCORDANCE WITH ANSI/SDI RD, *DESIGN STANDARD FOR STEEL ROOF DECK*, ANSI/SDI C, SDI COSP, *STEEL DECK INSTITUTE CODE OF STANDARD PRACTICE*, AND AISI S100, *SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS*.

2. STEEL ROOF DECKING DEPTH, GAUGE AND ATTACHMENT TO BE AS SHOWN ON DRAWINGS. LAY-UP TO BE THREE SPAN MINIMUM, UN-SHORED UNLESS NOTED OTHERWISE.

3. STEEL DECK SHALL HAVE A CURRENT ICC-ES OR IAPMO-ES EVALUATION REPORT THAT COMPLIES WITH THE IBC.

4. STEEL DECK SHALL BE GALVANIZED DECK CONFORMING TO ASTM A653 OR ASTM A1008 GRADE 50. COATING WEIGHT SHALL BE G60 FOR INTERIOR DECK AND G90 FOR DECK EXPOSED TO THE EXTERIOR OR CORROSIVE ENVIRONMENTS.

5. WELDING OF DECK SHALL BE IN ACCORDANCE WITH AWS D1.3, *STRUCTURAL WELDING CODE - STEEL SHEET*.

6. METAL DECK SUPPLIER SHALL PROVIDE CLOSURE PLATES, FLUTE EXTENSIONS AND ALL MISCELLANEOUS LIGHT GAGE METAL NECESSARY TO COMPLETE THE WORK. PROVIDE "Z" OR "L" SHAPED FLUTE EXTENSIONS TO ATTACH DECKING TO STRUCTURAL COMPONENTS OF THE FLOOR AND ROOF FRAMING WHERE DECKING LAYOUT DOES NOT CENTER THE BOTTOM DECK FLUTE OVER SUPPORT. ATTACH FLUTE EXTENSIONS TO THE ADJACENT DECK PANEL WITH THE SAME ATTACHMENT TYPE AND SPACING AS REQUIRED SIDELAPS.

7. SUPPORTS FOR EQUIPMENT THAT IS SUSPENDED FROM THE UNDERSIDE OF ROOF DECK SHALL BE CONFIGURED TO LIMIT THE HANGING LOAD ON A LOW FLUTE OF THE DECK TO 50 POUNDS OR LESS AND DEVICES SHALL BE PROVIDED TO DISTRIBUTE THE LOAD TO THE VERTICAL WEBS OF THE DECK. HANGING LOADS SHALL BE SPACED NO CLOSER THAN 3 FEET APART. IF THIS CRITERIA CAN NOT BE MET, THE EQUIPMENT SHALL BE SUSPENDED FROM THE ROOF BEAMS OR JOISTS.

8. THE MINIMUM DECK SIZES AND GAGES ARE AS NOTED ON THE PLANS AND ARE BASED ON A 3-SPAN, UNSHORED CONDITION. THE MINIMUM DECK PROPERTIES ARE AS SHOWN BELOW:
   A. 1 1/2" - 20 GAGE TYPE B ROOF DECK MIN I (IN4/FT) = 0.219, MIN S (IN3/FT) = 0.230
   B. 2" - 18 GAGE TYPE W FLOOR DECK MIN I (IN4/FT) = 0.564, MIN S (IN3/FT) = 0.471

9. STEEL ROOF DECK ATTACHMENT SHALL BE AS SPECIFIED BELOW:
   A. 1/2" EFFECTIVE DIAMETER PUDDLE WELDS OR HILTI X-ENP19 PAFS IN 36/4 PATTERN AT TRANSVERSE AND PERIMETER SUPPORTS.
   B. 1/2" EFFECTIVE DIAMETER PUDDLE WELDS AT 12" OC OR HILTI X-ENP19 PAFS AT LONGITUDINAL SUPPORTS.
   C. VSC2 (VERCO) AT 8" OC, OR DELTA GRIP EQUIVALENT AT SIDE LAP CONNECTIONS.

10. STEEL FLOOR DECK ATTACHMENT SHALL BE AS SPECIFIED BELOW):
    A. 1/2" EFFECTIVE DIAMETER PUDDLE WELDS IN 36/4 PATTERN AT TRANSVERSE AND PERIMETER SUPPORTS.
    B. 1/2" EFFECTIVE DIAMETER PUDDLE WELDS AT 16" OC AT LONGITUDINAL SUPPORTS.
    C. BUTTON PUNCH OR 1 1/2" TOP OR SIDE SEAM WELDS AT 36" OC AT SIDE LAP CONNECTIONS.

COLD-FORMED STEEL FRAMING:

1. FRAMING MEMBERS SHALL BE CERTIFIED ACCORDING TO THE PRODUCT CERTIFICATION PROGRAM OF THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA), THE STEEL FRAMING INDUSTRY ASSOCIATION, OR THE STEEL STUD MANUFACTURERS ASSOCIATION. FRAMING SHALL COMPLY WITH ANSI S100, S200, S211, AND S212.

2. 18 GAUGE (43 MIL) AND THINNER STEEL SHALL BE FORMED FROM ASTM A1003 ST33H (Fy = 33 KSI). 16 GAUGE (54MIL) AND THICKER STEEL SHALL BE FORMED FROM ASTM A1003 ST50H (Fy = 50 KSI).

3. ALL COLD-FORMED METAL FRAMING COMPONENTS SHALL BE GALVANIZED WITH A G-60 COATING PER ASTM A653.

4. ALL FIELD CUTTING OF FRAMING SHALL BE DONE BY SAWING, SHEARING, OR PLASMA CUTTING. SPLICES IN FRAMING MEMBERS NOT SPECIFICALLY DETAILED IN THE DRAWINGS ARE NOT ALLOWED. AXIAL LOADED BEARING MEMBERS, INCLUDING WALL STUDS AND BUILT-UP POSTS, SHALL HAVE SQUARE END CUTS AND BE SEATED TIGHT AGAINST TOP AND BOTTOM TRACKS WITH A MAXIMUM GAP TOLERANCE OF 1/16" BETWEEN STUD AND TRACK.

5. UNLESS OTHERWISE NOTED, TRACK FRAMING SHALL MATCH STUD/JOIST SIZE AND GAUGE. ATTACH TO STUD AND JOIST FRAMING WITH (1) SCREW AT EACH FLANGE.

6. DO NOT NOTCH, OR COPE FRAMING MEMBERS. STUDS SHALL BE FURNISHED WITH FACTORY PUNCHOUTS THROUGH WEBS FOR ROUTING CONDUIT AND BRIDGING; DO NOT CUT ADDITIONAL HOLES OR ENLARGE THE PUNCHOUTS. PUNCHOUTS SHALL BE AT LEAST THE DEPTH OF THE MEMBER CLEAR FROM THE CLOSEST FASTENER, WELDED CONNECTION OR BEARING POINT.

7. INSTALL DOUBLE-FLAT STRAP BRACING OR CHANNEL BRIDGING PRIOR TO LOADING STUDS. CONTRACTOR TO ENSURE PRE-PUNCHED HOLE ALIGNMENT IF CHANNEL BRIDGING IS TO BE USED.

8. BLOCK ALL EDGES OF SHEAR WALL SHEATHING WITH THE SAME GAGE MATERIAL AS WALL STUDS. 2"x18 GAGE STRAPPING MAY BE USED AS EDGE BLOCKING. FULL-DEPTH STUD SECTIONS CLIP ATTACHED TO STUDS MAY BE USED AS STABILITY BLOCKING IN ADDITION TO EDGE BLOCKING FOR SHEATHING. SEE WOOD AND WOOD PRODUCTS NOTES FOR ADDITIONAL SHEATHING REQUIREMENTS.

9. WELDING OF FRAMING SHALL BE IN ACCORDANCE AWS D1.3, *STRUCTURAL WELDING CODE - STEEL SHEET*. ALL WELDS OF GALVANIZED STEEL SHALL BE TOUCHED UP WITH A ZINC-RICH PAINT PER ASTM A780.

10. UNLESS NOTED OTHERWISE IN DRAWINGS, USE #12 SCREWS (16 GAUGE AND THICKER), #10 SCREWS (18 AND 20 GAUGE) AND #8 SCREWS (22 GAUGE) TO CONNECT COLD-FORMED STEEL FRAMING. SELF TAPPING AND DRILLING SCREWS TO BE HILTI KWIK-PRO (ICC ESR-2196) OR ITW BUILDEX TEKS (ICC ESR-1976). PLACE SCREWS WITH MINIMUM SPACING AND EDGE DISTANCE OF 3/4", UNLESS NOTED OTHERWISE ON DRAWINGS. PROVIDE MINIMUM LENGTH FOR SCREW TO PENETRATE BEYOND FASTENED MEMBERS BY AT LEAST TWO FULL DIAMETER THREADS.

11. BOLTS TO BE PLACED IN PRE-DRILLED HOLES IN COMPLIANCE WITH AISI NORTH AMERICAN SPECIFICATION, SECTION E3A. STANDARD HOLE SIZES SHOULD NOT EXCEED THE BOLT DIAMETER + 1/32" FOR BOLTS LESS THAN 1/2" DIAMETER, OR BOLT DIAMETER + 1/16" FOR BOLTS 1/2" DIAMETER AND GREATER. OVERSIZED OR SLOTTED HOLES SHOULD NOT BE USED UNLESS NOTED OTHERWISE ON DRAWINGS.

12. POWER ACTUATED FASTENERS TO BE USED TO CONNECT COLD FORMED STEEL FRAMING TO CONCRETE OR STEEL TO BE 0.157" DIAMETER HILTI X-U (ICC ESR-2269). WHEN CONNECTING TO STEEL, FASTENERS SHALL HAVE A MINIMUM EDGE DISTANCE OF 1/2" AND A MINIMUM SPACING OF 1" ON CENTER. LENGTH OF FASTENER SHALL BE SUCH THAT THE POINT PENETRATES THROUGH THE STEEL BASE MATERIAL WHEN CONNECTING TO STEEL LESS THAN 3/4" THICK. LENGTH OF FASTENER SHALL PROVIDE 1/2" MINIMUM POINT PENETRATION WHEN CONNECTING TO STEEL 3/4" THICK OR GREATER. WHEN CONNECTING TO CONCRETE, FASTENRS SHALL HAVE A MINIMUM EDGE DISTANCE OF 3" AND A MINIMUM SPACING OF 4" ON CENTER. USE 1" EMBEDMENT UNLESS NOTED OTHERISE ON DRAWINGS. DO NOT INSTALL UNTIL THE CONCRETE HAS REACHED ITS DESIGNATED STRENGTH.

SAWN LUMBER:

1. SAWN LUMBER SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE NATIONAL DESIGN SPECIFICATION (NDS) DESIGN VALUES FOR WOOD CONSTRUCTION AND CONFORMING TO THE WEST COAST LUMBER INSPECTION BUREAU OR WESTERN WOOD PRODUCTS ASSOCIATION GRADING RULES OR APPROVED EQUIVALENT. ALL LUMBER SHALL BE MARKED BY THE GRADING AGENCY EXCEPT FOR ARCHITECTURAL/ EXPOSED MEMBERS. A CERTIFICATE OF COMPLIANCE BY THE MANUFACTURER SHALL BE PROVIDED IN LIEU OF MARKING. LUMBER SHALL BE THE SPECIES, AND GRADE NOTED BELOW UNLESS NOTED OTHERWISE ON DRAWINGS:

SAWN LUMBER

USE	SPECIES AND GRADE
JOISTS, RAFTERS, & STRINGERS (2x THRU 4x)	DOUGLAS FIR-LARCH #2 & BETTER
BEAMS (5x AND GREATER)	DOUGLAS FIR-LARCH #1
BUCKS, BLOCKING, BRIDGING AND MISCELLANEOUS	DOUGLAS FIR-LARCH OR HEM FIR #3
STUDS (2x THRU 4x)	DOUGLAS FIR-LARCH #2 & BETTER
SILLS, LEDGERS, ETC. IN CONTACT WITH CONCRETE	PRESSURE TREATED HEM FIR #2
HORIZONTAL PLATES, AND HEADERS	KILN DRIED DOUGLAS FIR-LARCH #2 & BETTER
POSTS, COLUMNS (5x AND GREATER)	DOUGLAS FIR-LARCH #1

2. DIMENSIONAL LUMBER SHALL BE DELIVERED WITH MOISTURE CONTENT LESS THAN 19% AND SURFACED S4S. TIMBERS SHALL BE DELIVERED WITH MOISTURE CONTENT LESS THAN 15%. ALL LUMBER DELIVERED TO THE SITE SHALL BE STACKED OR STORED OFF THE GROUND AND PROPERLY PROTECTED AGAINST WEATHER.

3. ALL LUMBER IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED, UNLESS AN APPROVED MOISTURE BARRIER IS PROVIDED.

4. PRIOR TO ERECTION OF FLOOR OR ROOF FRAMING SUPPORTED BY A WOOD STUD BEARING WALL, EACH SUPPORTING BEARING WALL SHALL HAVE ONE OF THE FOLLOWING STUD BRACING ELEMENTS INSTALLED:
   A. ONE FACE OF WALL FULLY SHEATHED WITH WOOD STRUCTURAL PANELS
   B. ONE FACE OF WALL FULLY SHEATHED WITH GYPSUM BOARD PANELS
   C. BLOCKING INSTALLED BETWEEN EACH STUD AT 4'-0" ON CENTER

5. FASTEN BUILT-UP STUDS COLUMNS AND JAMBS WITH (1) ROW OF 10D NAILS AT 6" ON CENTER, STAGGERED, BETWEEN EACH LAMINATION FOR 2x4 STUDS AND (2) ROWS OF 10D NAILS AT 8" ON CENTER, BETWEEN EACH LAMINATION FOR 2x6 STUDS, UNLESS OTHERWISE NOTED IN THE DRAWINGS.

6. ALL NON-BEARING PARTITION WALLS SHALL BE INSTALLED WITH A GAP BETWEEN THE TOP PLATE OF THE WALL AND FLOOR OR ROOF FRAMING. THE PARTITIONS SHALL BE ANCHORED TO THE FRAMING WITH A CONNECTOR THAT BRACES THE WALL WHILE PERMITTING THE FRAMING TO FREELY DEFLECT VERTICALLY.

7. UNLESS NOTED OTHERWISE PROVIDE SOLID SAWN OR BUILT-UP POSTS UNDER BEAMS WITH A MINIMUM WIDTH EQUAL TO THE BEAM WIDTH AND A DEPTH EQUAL TO THE WALL THICKNESS. PROVIDE SIMPSON 'LPC' POST CAP.

8. DO NOT NOTCH OR BORE HOLES IN BEAMS WITHOUT PRIOR APPROVAL FROM THE EOR.

9. PROVIDE DOUBLE JOISTS BELOW INTERIOR NON-BEARING WALLS RUNNING PARALLEL WITH JOISTS.

10. PROVIDE SOLID BLOCKING THROUGH RIM JOIST SPACE BELOW POSTS OR BUILT-UP STUDS.

11. PROVIDE KING STUDS AT JAMBS OF OPENINGS IN WOOD FRAMED WALLS; SEE KING STUD SCHEDULE.

GLUED-LAMINATED TIMBER:

1. GLUED-LAMINATED (GLULAM) MEMBERS SHALL BE FABRICATED IN CONFORMANCE WITH ANSI STANDARD A190.1. EACH MEMBER SHALL BEAR AN IDENTIFICATION MARK OR BE ACCOMPANIED BY A CERTIFICATE OF CONFORMANCE. GLUED-LAMINATED TIMBER SHALL CONFORM TO THE COMBINATION NOTED BELOW:

GLUED-LAMINATED MEMBERS

LOCATION	USE	COMBINATION SYMBOL	FLEXURAL STRESS Fb (PSI)	MODULUS OF ELASTICITY (PSI)
INTERIOR, OR EXTERIOR PROTECTED BY ROOF	SIMPLE SPAN BEAMS	24F-V4 (DF/DF)	+2,400 / -1,850	1,800,000
	CONTINUOUS AND CANTILEVER BEAMS	24F-V8 (DF/DF)	+/-2,400	1,800,000
	COLUMNS AND TRUSS MEMBERS	2-DF-L2	+/-1,300	1,600,000

2. EXPOSED GLUED-LAMINATED MEMBERS SHALL CONFORM TO AITC, ARCHITECTURAL APPEARANCE GRADE WHILE CONCEALED MEMBERS SHALL CONFORM TO AITC, INDUSTRIAL GRADE.

3. GLUED-LAMINATED MEMBERS THAT ARE OUTSIDE OF A CONDITIONED BUILDING ENVELOPE SHALL UTILIZE WET-USE EXTERIOR WATERPROOF ADHESIVES.

4. GLUED-LAMINATED MEMBERS SHALL BE MANUFACTURED BETWEEN 3,500 AND 5,000 FOOT STANDARD MILL CAMBER WITH TOLERANCES AS ALLOWED BY ANSI A190. THE DRAWINGS WILL INDICATE WHETHER ADDITIONAL CAMBER IS REQUIRED.

5. DO NOT NOTCH OR BORE HOLES IN BEAMS WITHOUT PRIOR APPROVAL FROM THE EOR.

6. WHERE HANGERS ARE REQUIRED BUT NOT SPECIFICALLY NOTED ON DRAWINGS, SIMPSON EG HANGERS SHALL BE USED. HARDWARE SUBSTITUTIONS ARE NOT PERMITTED WITHOUT PRIOR APPROVAL FROM STRUCTURAL EOR.

ENGINEERED LUMBER:

1. **STRUCTURAL COMPOSITE LUMBER:**
   A. STRUCTURAL COMPOSITE LUMBER PRODUCTS SUCH AS LAMINATED VENEER LUMBER (LVL), PARALLEL STRAND LUMBER (PSL), AND LAMINATED STRAND LUMBER (LSL) SHALL BE OF THE SIZE AND TYPE SHOWN ON THE DRAWINGS. ALL STRUCTURAL COMPOSITE LUMBER PRODUCTS NOTED SHALL HAVE A CURRENT ICC-ES REPORT. ALL STRUCTURAL COMPOSITE LUMBER SHALL BE MARKED BY MANUFACTURER EXCEPT FOR ARCHITECTURAL/ EXPOSED MEMBERS. A CERTIFICATE OF COMPLIANCE BY THE MANUFACTURER SHALL BE PROVIDED IN LIEU OF MARKING.
   B. MEMBERS SHALL HAVE THE FOLLOWING MINIMUM DESIGN PROPERTIES:

STRUCTURAL COMPOSITE LUMBER MINIMUM PROPERTIES

COMPOSITE LUMBER PRODUCT	USE	MODULUS OF ELASTICITY E (PSI)	FLEXURAL STRESS Fb (PSI)	COMPRESSION STRESS Fcll (PSI)	SHEAR STRESS Fv (PSI)
LVL	JOISTS, BEAMS, AND HEADERS	2,000,000	2,600	-	285
PSL	BEAMS AND HEADERS	2,200,000	2,900	2,900	290
	POSTS AND COLUMNS	1,800,000	2,400	2,500	190
LSL	STUDS 2x4 AND 2x6	1,300,000	1,700	1,835	425
	STUDS 2x8	1,500,000	2,250	2,105	505
	COLUMNS, BEAMS < 9-1/2" DEEP	1,300,000	1,700	1,835	425
	BEAMS 9-1/2" AND DEEPER	1,550,000	2,325	-	310

   C. ERECTOR TO INSTALL STRUCTURAL COMPOSITE LUMBER IN ACCORDANCE WITH THE MANUFACTURERS DRAWINGS AND INSTALLATION GUIDELINES.
   D. DO NOT NOTCH OR BORE HOLES IN BEAMS WITHOUT PRIOR APPROVAL FROM THE EOR.

2. **ENGINEERED WOOD I-JOISTS:**
   A. ALL ENGINEERED WOOD I-JOISTS SHALL BE MANUFACTURED BY REDBUILT, WEYERHAEUSER, OR AN APPROVED EQUAL, CONFORMING TO APA EWS STANDARD PRI-400, *PERFORMANCE STANDARD FOR APA EWS I-JOISTS* OR A CURRENT ICC-ES REPORT. ENGINEERED WOOD I-JOISTS SHALL BE OF THE SIZE SHOWN ON THE DRAWINGS.
   B. ALL BRIDGING, BEARING HARDWARE, BLOCKING, HANGERS, ETC., THAT CONNECT TO THE WOOD I-JOISTS SHALL BE PER THE MANUFACTURERS STANDARD DETAILS. ERECTOR TO INSTALL WOOD I-JOISTS IN ACCORDANCE WITH THE MANUFACTURERS DRAWINGS AND INSTALLATION GUIDELINES.
   C. JOIST MANUFACTURER TO INSPECT ALL JOISTS AFTER THEY HAVE BEEN ERECTED AND FLOOR AND/OR ROOF SHEATHING, BRIDGING, BLOCKING, ETC., HAS BEEN INSTALLED. MANUFACTURER TO SUBMIT CERTIFICATE TO THE STRUCTURAL ENGINEER OF RECORD UPON COMPLETION THAT THE INSPECTION WAS MADE AND THAT THE JOISTS ARE IN ACCEPTABLE CONDITION AND MEET THE MANUFACTURER'S DESIGN AND INSTALLATION REQUIREMENTS.
   D. CONTRACTOR SHALL VERIFY ALL WEIGHTS AND LOCATIONS OF LOADS DUE TO ROOF TOP MECHANICAL EQUIPMENT, PIPING, ELECTRICAL UNITS, AND OTHER LOADS PRIOR TO JOIST FABRICATION.

WOOD CONNECTIONS:

1. FRAMING ACCESSORIES SHALL BE MANUFACTURED BY SIMPSON STRONG TIE (OR APPROVED EQUAL) AND OF THE TYPE AND SIZE SHOWN ON THE DRAWINGS. FULLY FASTEN ACCORDING TO MANUFACTURER'S SCHEDULE USING LARGEST SIZE SHOWN AND INSTALL FOLLOWING ALL MANUFACTURES REQUIREMENTS, UNLESS NOTED OTHERWISE.

2. ALL FRAMING NAILS SHALL BE 'COMMON' NAILS OF THE SIZE AND QUANTITY INDICATED ON THE DRAWINGS. USE OF SMALLER DIAMETER "BOX" NAILS FREQUENTLY USED IN NAIL GUNS REQUIRES USE OF LARGER PENNY WEIGHT TO PROVIDE AN EQUIVALENT DIAMETER/LENGTH NAIL. ALL NAILING SHALL COMPLY WITH IBC FASTENING SCHEDULE PER CHAPTER 23. OBTAIN ENGINEERS APPROVAL OF ALL PROPRIETARY NAILING SYSTEMS.

3. BOLTS AND LAG SCREWS SHALL BE ASTM A307 AND CONFORM TO ANSI/ASME STANDARD B18.2.1. ALL BOLTS AND LAG SCREWS BEARING ON WOOD SHALL BE INSTALLED WITH STANDARD CUT WASHERS. BOLT HOLES IN WOOD MEMBERS SHALL NOT EXCEED 1/16" LARGER THAN THE BOLT DIAMETER. AT EXPOSED CONNECTIONS CUT OFF EXTENDED BOLT AND 'KNICK' THREADS TO PRECLUDE LOOSENING. LAG SCREWS HOLE CLEARANCE SHALL BE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH AS THE UNTHREADED SHANK. THE LEAD HOLE SHALL BE 60 PERCENT OF THE SHANK DIAMETER AND A LENGTH EQUAL TO THE THREADED PORTION.

4. ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE 36 UNLESS NOTED OTHERWISE. ANCHOR RODS TO BE WELDED SHALL CONFORM TO ASTM F1554, GRADE 55. THREADED RODS SHALL CONFORM TO ASTM A36 UNLESS NOTED OTHERWISE.

5. UNLESS OTHERWISE NOTED, ALL WOOD BEARING WALLS SHALL BE ANCHORED TO THE STEM WALL/FOUNDATION WITH 5/8"Ø ANCHOR RODS WITH 7" EMBEDMENT AT 4'-0" ON CENTER

6. CUTTING AND NOTCHING OF JOISTS AND STUDS SHALL CONFORM TO THE TYPICAL WOOD DETAILS PROVIDED.

7. STEEL CONNECTION PLATE MATERIAL SHALL CONFORM TO ASTM A36. WELDING SHALL CONFORM TO AWS D1.1.

8. PROVIDE SHEAR PLATES OF THE SIZE AND MATERIAL INDICATED. SHEAR PLATE DIMENSIONS, GROOVES, DAPS, AND BOLT HOLES SHALL CONFORM TO APPENDIX K OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS). PRESSED STEEL TYPE CONNECTORS ARE TO BE MANUFACTURED FROM SAE 1010 HOT ROLLED CARBON STEEL. MALLEABLE IRON SHEAR PLATES ARE TO BE MANUFACTURED WITH ASTM A47 GRADE 32510 MATERIAL.

9. CONFIRM REQUIRED CORROSION PROTECTION FOR HARDWARE AND FASTENERS WITH SPECIFIC RECOMMENDATIONS FROM PRESSURE TREATING MANUFACTURER OR HANGER MANUFACTURER (USE MOST CONSERVATIVE) FOR SPECIFIC WOOD TREATMENTS USED. MINIMUM CORROSION PROTECTION ON METAL CONNECTORS EXPOSED TO THE ENVIRONMENT OR PRESSURE TREATED LUMBER TO BE PER ASTM A653 CLASS 185 (SIMPSON ZMAX) OR ASTM A123. FINISH FOR EXPOSED CONNECTION HARDWARE SHALL BE EPOXY-BASED CORROSION RESISTANT PAINT WITH COLOR AS CHOSEN BY ARCHITECT.

10. FASTENERS FOR PRESSURE TREATED LUMBER MUST BE HOT-DIP GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER. HOT-DIP GALVANIZED HARDWARE AND FASTENERS MUST COMPLY WITH ASTM A153, STAINLESS STEEL FASTENERS TO BE TYPE 304 OR TYPE 316. HARDWARE AND FASTENERS USED TOGETHER MUST BE THE SAME TYPE (E.G. HOT-DIP GALVANIZED NAILS WITH HOT-DIP GALVANIZED HANGERS).

WOOD STRUCTURAL PANELS:

1. WOOD STRUCTURAL PANELS SHALL BE IN ACCORDANCE PS 1, STRUCTURAL PLYWOOD, AND/OR PS 2, PERFORMANCE STANDARD FOR WOOD-BASED STRUCTURAL-USE PANELS. ALL WOOD STRUCTURAL PANELS SHALL BE APA RATED SHEATHING, EXPOSURE 1 PLYWOOD OR OSB, WITH SPAN RATINGS, THICKNESS & NAILING FOR SHEATHING AS SHOWN ON THE DRAWINGS. PANELS SHALL BE STAMPED WITH THE APA TRADEMARK.

2. ALL SHEATHING DELIVERED TO THE SITE SHALL BE STACKED OR STORED OFF THE GROUND AND PROPERLY PROTECTED AGAINST WEATHER.

3. WOOD STRUCTURAL PANEL INSTALLATION SHALL BE IN CONFORMANCE WITH APA RECOMMENDATIONS. ALLOW 1/8" SPACING AT PANEL ENDS AND EDGES, UNLESS OTHERWISE RECOMMENDED BY THE PANEL MANUFACTURER.

4. ALL ROOF SHEATHING AND FLOOR SHEATHING SHALL BE INSTALLED WITH FACE GRAIN OR STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND STAGGERED 48". EXCEPT AS INDICATED ON THE DRAWINGS. ROOF SHEATHING SHALL EITHER BE BLOCKED, TONGUE-AND-GROOVE, OR HAVE EDGES SUPPORTED BY PLYCLIPS. WHERE BLOCKING IS SPECIFICALL

STATEMENT OF SPECIAL INSPECTION AND TESTING NOTES:

1. SPECIAL INSPECTIONS SHALL CONFORM TO SECTION 1705 OF THE 2021 IBC, CONTRACT DOCUMENTS AND APPROVED SUBMITTALS. REFER TO SPECIAL INSPECTION AND TESTING TABLES FOR PROJECT REQUIREMENTS.

2. SPECIAL INSPECTIONS AND ASSOCIATED TESTING SHALL BE PERFORMED BY AN APPROVED ACCREDITED INDEPENDENT AGENCY MEETING THE REQUIREMENTS OF ASTM E329 (MATERIALS). THE INSPECTION AND TESTING AGENCY SHALL FURNISH TO THE STRUCTURAL ENGINEER/ ARCHITECT A COPY OF THEIR SCOPE OF ACCREDITATION. SPECIAL INSPECTORS SHALL BE APPROVED BY THE BUILDING OFFICIAL. WELDING INSPECTORS SHALL BE QUALIFIED PER SECTION 6.1.4.1(1) OF AWS D1.1.

3. THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS. ISSUES REQUIRING IMMEDIATE CORRECTIVE ACTIONS OR ENGINEERING INPUT ARE TO BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY UPON DISCOVERY.

4. THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXPOSED FOR SPECIAL INSPECTION PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS.

5. THE SPECIAL INSPECTOR AND GEOTECHNICAL ENGINEER SHALL FURNISH INSPECTION REPORTS FOR EACH INSPECTION TO THE BUILDING OFFICIAL, STRUCTURAL ENGINEER, ARCHITECT, CONTRACTOR, AND OWNER. THE SPECIAL INSPECTION AGENCY SHALL SUBMIT A FINAL REPORT STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS INSPECTED AND IS IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THAT ALL DISCREPANCIES NOTED IN THE INSPECTION REPORTS HAVE BEEN CORRECTED.

6. QUALITY ASSURANCE (QA) IS REQUIRED FOR STRUCTURAL STEEL ITEMS PER AISC 360 AND 341 UNLESS SPECIFICALLY NOTED OTHERWISE. QUALITY CONTROL (QC) TO BE PROVIDED BY THE FABRICATOR, ERECTOR OR OTHER RESPONSIBLE CONTRACTOR AS APPLICABLE. CONTRACTOR AND SPECIAL INSPECTOR TO DOCUMENT QUALITY CONTROL AS REQUIRED IN AISC 360 SECTION N3 AND AISC 341 SECTION J2

7. **INSPECTION TYPES:**
   - CONTINUOUS : THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.
   - PERIODIC : THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK.
   - OBSERVE (O) : OBSERVE THESE FUNCTIONS ON A RANDOM, DAILY BASIS. OPERATIONS NEED NOT BE DELAYED PENDING OBSERVATIONS.
   - PERFORM (P) : INSPECTIONS SHALL BE PERFORMED PRIOR TO THE FINAL ACCEPTANCE OF THE ITEM.
   - DOCUMENT (D): INDICATES CONTRACTOR AND SPECIAL INSPECTOR TO PROVIDE DOCUMENTATION IN ACCORDANCE WITH AISC 341.

8. SPECIAL INSPECTION OF MECHANICAL POST INSTALLED ANCHORS SHALL BE IN STRICT CONFORMANCE WITH THE ICC REPORT AND MANUFACTURER'S INSTALLATION REQUIREMENTS. ANCHOR INSTALLERS SHALL BE QUALIFIED AS REQUIRED BY JURISDICTION REQUIREMENTS.
   - INSPECTION REPORTS SHALL IDENTIFY NAMES OF INSTALLERS.
   - SPECIAL INSPECTOR SHALL PROVIDE DOCUMENTATION AT THE END OF ANCHOR INSTALLATIONS STATING THAT THE ANCHORS WERE INSPECTED PER APPROVED ANCHOR EVALUATION REPORT.

9. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF THE MAIN WIND-OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND-OR SEISMIC- RESISTING COMPONENT LISTED IN THE TABLES SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING
   - ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.
   - ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
   - PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND DISTRIBUTION OF THE REPORTS.
   - IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

GENERAL - SPECIAL INSPECTIONS

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 7)		REMARKS
			CONTINUOUS	PERIODIC	
FABRICATORS	1705.11 1704.2.5				SPECIAL INSPECTION IS REQUIRED FOR STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES FABRICATED ON THE PREMISES OF A FABRICATOR'S SHOP. SPECIAL INSPECTIONS SHALL BE PERFORMED DURING FABRICATION. PERFORMING SPECIAL INSPECTIONS IS NOT REQUIRED, WHERE FABRICATOR HAS BEEN APPROVED AS AN APPROVED FABRICATOR, PER IBC SECTION 1704.2.5.1. - STEEL FABRICATORS AND INSTALLERS CERTIFIED THROUGH AISC COMPLY WITH THIS PROVISION. THE FABRICATOR AND OR INSTALLER MUST STILL COMPLETE AND DOCUMENT THE QUALITY CONTROL TASKS AND NON-DESTRUCTIVE TESTING OUTLINED IN AISC 360 AND AISC 341, AS APPLICABLE.
DEFERRED SUBMITTALS				X	SPECIAL INSPECTION REQUIREMENTS FOR DEFERRED SUBMITTAL ITEMS, INCLUDING REQUIREMENTS FOR DESIGNATED SEISMIC SYSTEMS IN ACCORDANCE WITH IBC SECTION 1705.13.4 IF APPLICABLE, TO BE SPECIFIED BY THE SYSTEM ENGINEER AND INCLUDED WITH DEFERRED SUBMITAL DOCUMENTS.
SUBMITTALS TO THE BUILDING OFFICIAL	1704.5			X	CERTIFICATES OF COMPLIANCE, REPORTS OF PRE-CONSTRUCTION TESTS, OR REPORTS OF MATERIAL PROPERTIES SHALL BE SUBMITTED TO THE BUILDING OFFICIAL.
POST INSTALLED ADHESIVE ANCHORS WITH SUSTAINED TENSION LOADS INSTALLED HORIZONTALLY OR AT AN UPWARD INCLINE IN HARDENED CONCRETE			X		SPECIAL INSPECTION OF MECHANICAL POST INSTALLED ANCHORS SHALL BE IN STRICT CONFORMANCE WITH THE ICC REPORT AND MANUFACTURER'S INSTALLATION REQUIREMENTS. ANCHOR INSTALLERS SHALL BE QUALIFIED AS REQUIRED BY JURISDICTION REQUIREMENTS.INSPECTION - REPORTS SHALL IDENTIFY NAMES OF INSTALLERS.
POST INSTALLED MECHANICAL ANCHORS AND ADHESIVE ANCHORS (EXCLUDING CONDITIONS NOTED ABOVE) IN HARDENED CONCRETE				X	

SOILS/GEOTECHNICAL - SPECIAL INSPECTIONS

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARDS REFERENCE	FREQUENCY (NOTE 7)		REMARKS
			CONTINUOUS	PERIODIC	
SOILS					
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	1705.6	GEOTECHNICAL REPORT		X	BY THE GEOTECHNICAL ENGINEER
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL				X	
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS				X	
DURING FILL PLACEMENT, VERIFY USE OF PROPER MATERIALS AND PROCEDURES IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.			X		
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY				X	

SOILS/GEOTECHNICAL - TESTING

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 7)		REMARKS
			CONTINUOUS	PERIODIC	
FILL IN-PLACE DENSITY OR PREPARED SUBGRADE DENSITY	1705.6	VARIES; GEOTECHNICAL REPORT OR MINIMUM PER IBC APPENDIX J107.5, WHICHEVER IS GREATER		X	BY THE GEOTECHNICAL ENGINEER
MATERIAL VERIFICATION		VARIES; CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		X	BY THE GEOTECHNICAL ENGINEER

CONCRETE - SPECIAL INSPECTIONS

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 7)		REMARKS
			CONTINUOUS	PERIODIC	
GENERAL	1705.3 1901.6	ACI 318: 26.13			SPECIAL INSPECTIONS OF CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1705.3 OF THE IBC AND SECTION 26.13 OF ACI 318.
REINFORCING STEEL	1901.5	ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3		X	REINFORCING TO COMPLY WITH ALL CODE PROTECTION, SPACING AND TOLERANCE LIMITS.
WELDING REINFORCING STEEL	1705.3.1 1705.3.2 1903.1 1903.2	AWS D1.4 ACI 318: 26.6.4			
1. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706				X	
2. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16" FILLET				X	
3. ALL OTHER REINFORCING STEEL WELDING,			X		
INSPECT ANCHORS/BOLTS CAST IN CONCRETE	-	ACI 318:	X		ALL CAST-IN-PLACE ANCHORS/BOLTS SHALL BE VISUALLY INSPECTED. REFERENCE STEEL INSPECTIONS.FOR ADDITIONAL INSTALLATION, MATERIAL AND WELDING INSPECTIONS OF STEEL ITEMS EMBEDDED IN CONCRETE (HEADED STUDS, DBA's, ETC.)
VERIFYING USE OF REQUIRED MIX DESIGN(S)	1904.1 1904.2	ACI 318: CH. 19, 26.4.3, 26.4.4		X	
CONCRETE SPECIMENS FOR TESTING		ASTM C172 ASTM C31 ACI 318: 26.5, 26.12	X		PRIOR TO CONCRETE PLACEMENT, FABRICATE CONCRETE SPECIMENS FOR TESTING. SEE THE CONCRETE TESTING TABLE FOR ADDITIONAL INFORMATION.
CONCRETE PLACEMENT		ACI 318: 26.5, 26.13.3.2(a)	X		
CONCRETE CURING		ACI 318: 26.5.3 - 26.5.5		X	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURES AND TECHNIQUES
VERIFICATION OF FORMWORK		ACI 318: 26.11.1.2(b), 26.13.3.3		X	SPECIAL INSPECTIONS APPLY TO SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED
EMBEDDED ITEMS IN CONCRETE				X	ALL NON-STRUCTURAL EMBEDDED ITEMS, SUCH AS CONDUITS, PIPES AND SLEEVES, SHALL BE REVIEWED FOR CONFORMANCE WITH STRUCTURAL DOCUMENTS FOR SIZE, SPACING, LOCATION, EDGE DISTANCE AND TRIM REINFORCING.

CONCRETE - TESTING

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 7)	REMARKS
CONCRETE STRENGTH	1705.3 ASTM C172 ASTM C31 ACI 318 26.12, ACI 318 26.5	ASTM C39	EACH 150 CY NOR LESS THAN EACH 5000 SF OF SLAB OR WALL PLACED EACH SHIFT	FABRICATE SPECIMENS AT TIME FRESH CONCRETE IS PLACED
CONCRETE SLUMP		ASTM C143		
CONCRETE AIR CONTENT		ASTM C231		
CONCRETE TEMPERATURE		ASTM C1064		

STEEL - SPECIAL INSPECTIONS

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 7)		REMARKS
			CONTINUOUS/ PERFORM	PERIODIC/ OBSERVE	
CONTRACTOR QUALITY CONTROL REQUIREMENTS		AISC 360 CHAPTER N	X	X	CONTRACTOR TO PROVIDE QUALITY CONTROL FOR ALL ITEMS INDICATED TO BE OBSERVED AND/OR PERFORMED IN TABLE BELOW
STEEL FABRICATION					
FABRICATION OF STRUCTURAL ELEMENTS	1704.2.5.1	AISC 360		X	REFER TO INSPECTION OF FABRICATOR...
MATERIAL VERIFICATION OF STRUCTURAL STEEL COMPONENTS	1705.2	ASTM A6 ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS AISC 360 A3.1 AISC 360 N2.1		X	CERTIFIED MILL TEST REPORTS
MATERIAL VERIFICATION OF ANCHOR BOLTS AND THREADED RODS		AISC 360 A3.4 AISC 360 N3.2 ASTM STANDARDS SPECIFIED IN CONSTRUCTION DOCUMENTS		X	MANUFACTURER'S CERTIFIED TEST REPORTS
MATERIAL VERIFICATION OF WELD FILLER METALS	1705.2.1.1 TABLE 1705.2-5	AISC 360 A3.5 AISC 360 N3.2APPLICABLE AWS A5 DOCUMENTS		X	MANUFACTURER'S CERTIFIED TEST REPORTS
PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL: VERIFY THE DIAMETER, GRADE, TYPE, AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE PRIOR TO PLACEMENT OF CONCRETE	1705.2	AISC N5.8		X	
INSPECT THE FABRICATED STEEL OR ERECTED STEEL FRAME TO VERIFY COMPLIANCE WITH THE DETAILS AS SHOWN ON THE CONSTRUCTIONS DOCUMENTS, SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS, AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION	1705.2	AISCN5.8		X	

STEEL - SPECIAL INSPECTIONS

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 7)		REMARKS
			CONTINUOUS/ PERFORM	PERIODIC/ OBSERVE	
INSPECTION TASKS PRIOR TO WELDING					
WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS	1705.2	AISC TABLE N5.4-1		O	
WELDING PROCEDURE SPECIFICATIONS AVAILABLE			P		
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE			P		
MATERIAL IDENTIFICATION (TYPE/GRADE)				O	
WELDER IDENTIFICATION SYSTEM				O	
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY): JOINT PREPARATION, DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL), CLEANLINESS (CONDITION OF STEEL SURFACES), TACKING (TACK WELD QUALITY AND LOCATION), BACKING TYPE AND FIT (IF APPLICABLE)				O	
FIT-UP OF CJP GROOVE WELDS OF HSS T-, Y- AND K-JOINTS WITHOUT BACKING (INCLUDING JOINT GEOMETRY): JOINT PREPARATIONS, DIMENTIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL), CLEANLINESS (CONDITION OF STEEL SURFACES), TACKING (TACK WELD QUALITY AND LOCATION)				O	
CONFIGURATION AND FINISH OF ACCESS HOLES				O	
FIT-UP OF FILLET WELDS: DIMENSIONS (ALIGNMENT, GAPS AT ROOT), CLEANLINESS (CONDITION OF STEEL SURFACE), TACKING (TACK WELD QUALITY AND LOCATION)				O	
INSPECTION TASKS DURING WELDING					
CONTROL AND HANDLING OF WELDING CONSUMABLES: PACKAGING, EXPOSURE CONTROL	1705.2	AISC TABLE N5.4-2		O	
NO WELDING OVER CRACKED TACK WELDS				O	
ENVIRONMENTAL CONDITIONS: WIND SPEED WITHIN LIMITS, PRECIPITATION AND TEMPERATURE				O	
WPS FOLLOWED: SETTINGS ON WELDING EQUIPMENT, TRAVEL SPEED, SELECTED WELDING MATERIALS, SHIELDING GAS TYPE/FLOW RATE, PREHEAT APPLIED, INTERPASS TEMPERATURE MAINTAINED, PROPER WELDING POSITION				O	
WELDING TECHNIQUES: INTERPASS AND FINAL CLEANING, EACH PASS WITHIN PROFILE LIMITATIONS, EACH PASS MEETS QUALITY REQUIREMENTS				O	
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS			P		
INSPECTION TASKS AFTER WELDING					
WELDS CLEANED	1705.2	AISC TABLE N5.4-3		O	
SIZE, LENGTH, AND LOCATION OF WELDS			P		
WELDS MEET VISUAL ACCEPTANCE CRITERIA: CRACK PROHIBITION, WELD/BASE-METAL FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT, POROSITY			P		
ARC STRIKES			P		
K-AREA			P		WHEN WELDING DOUBLER PLATES, CONTINUITY PLATES, OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA OF ROLLED SHAPES, VISUALLY INSPECT THE WEB FOR k-AREA CRACKS WITHIN 3" OF THE WELD
WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES			P		AFTER ROLLED HEAVY SHAPES (SEE SECTION A3.1c) AND BUILT-UP HEAVY SHAPES (SEE SECTION A3.1d) ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE FOR CRACKS
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)			P		
REPAIR ACTIVITIES			P		
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER			P		
NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR				O	
INSPECTION TASKS PRIOR TO BOLTING					
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	1705.2	AISC 360 TABLE N5.6-1 AISC 360 M2.5	P		
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS				O	
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH, IF THREADS ARE TO BE EXCLUDED FROM THE SHEAR PLANE)				O	
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL				O	
CONNECTING ELEMENTS< INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS				O	
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED				O	
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS				O	
INSPECTION TASKS PRIOR TO HIGH STRENGH BOLTING					
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	1705.2	AISC 360 TABLE N5.6-2 AISC M2.5 RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS SECTION 9		O	
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION				O	
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING				O	
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID...				O	
INSPECTION TASKS AFTER BOLTING					
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	1705.2	AISC 360 TABLE N5.6-3	P		

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STATEMENT OF SPECIAL INSPECTION

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

DRAWN BY: MMI

S0-3

10.22.25

STEEL LATERAL SYSTEM - SPECIAL INSPECTIONS

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	QA/QC TASKS (NOTES 6&7) OBSERVE	PERFORM	REMARKS
VISUAL INSPECTION TASKS PRIOR TO WELDING					
MATERIAL IDENTIFICATION (TYPE/GRADE)	1705.13.1	AISC 341 TABLE J6.1 AWS D1.8/D1.8M	X		
WELDER IDENTIFICATION SYSTEM			X		
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY): JOINT PREPARATION, DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL), CLEANLINESS (CONDITION OF STEEL SURFACES), TACKING (TACK WELD QUALITY AND LOCATION), BACKING TYPE AND FIT (IF APPLICABLE)			X**	X**	
CONFIGURATION AND FINISH OF ACCESS HOLES			X		
FIT-UP OF FILLET WELDS: DIMENSIONS (ALIGNMENT, GAPS AT ROOT), CLEANLINESS (CONDITION OF STEEL SURFACE), TACKING (TACK WELD QUALITY AND LOCATION)			X**	X**	
** FOLLOWING PERFORMANCE OF THIS INSPECTION FOR TEN WELDS TO BE MADE BY A GIVEN WELDER, WITH THE WELDER DEMONSTRATING UNDERSTANDING OF REQUIREMENTS AND POSSESSION OF SKILLS AND TOOLS TO VERIFY THESE ITEMS, THE PERFORM DESIGNATION OF THIS TASK SHALL BE REDUCED TO OBSERVE, AND THE WELDER SHALL PERFORM THIS TASK. SHOULD THE INSPECTOR DETERMINE THAT THE WELDER HAS DISCONTINUED PERFORMANCE OF THIS TASK, THE TASK SHALL BE RETURNED TO PERFORM UNTIL SUCH TIME AS THE INSPECTOR HAS RE-ESTABLISHED ADEQUATE ASSURANCE THAT THE WELDER WILL PERFORM THE INSPECTION TASKS LISTED.					
VISUAL INSPECTION TASKS DURING WELDING					
WPS FOLLOWED: SETTINGS ON WELDING EQUIPMENT, TRAVEL SPEED, SELECTED WELDING MATERIALS, SHIELDING GAS TYPE/FLOW RATE, PREHEAT APPLIED, INTERPASS TEMPERATURE MAINTAINED, PROPER WELDING POSITION	1705.13.1	AISC 341 TABLE J6.2 AWS D1.8/D1.8M	X		
USE OF QUALIFIED WELDERS			X		
CONTROL AND HANDLING OF WELDING CONSUMABLES: PACKAGING, EXPOSURE CONTROL			X		
ENVIRONMENTAL CONDITIONS: WIND SPEED WITHIN LIMITS, PRECIPITATION AND TEMPERATURE			X		
WELDING TECHNIQUES: INTERPASS AND FINAL CLEANING, EACH PASS WITHIN PROFILE LIMITATIONS, EACH PASS MEETS QUALITY REQUIREMENTS			X		
NO WELDING OVER CRACKED TACKS			X		
FIELD INSTALLED DBA'S IN DIAPHRAGMS		AWS D1.1 CLAUSE 7		X	
WELDED REBAR ANCHORS IN DIAPHRAGMS		AWS D1.4		X	#6 AND LARGER BARS ARE TO BE WELDED
VISUAL INSPECTION TASKS AFTER WELDING					
WELDS CLEANED	1705.13.1	AISC 341 TABLE J6.3 AWS D1.8/D1.8M	X		* WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES, OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 INCHES OF THE WELD. THE VISUAL INSPECTION SHALL BE PERFORMED NO SOONER THAN 48 HOURS FOLLOWING COMPLETION OF THE WELDING
SIZE, LENGTH, AND LOCATION OF WELDS				X	
WELDS MEET VISUAL ACCEPTANCE CRITERIA				X (D)	
K-AREA *				X (D)	
PLACEMENT OF REINFORCING OR CONTOURING FILLET WELDS (IF REQUIRED)				X (D)	
BACKING REMOVED, WELD TABS REMOVED AND FINISHED, AND FILLET WELDS ADDED (IF REQUIRED BY THE CONSTRUCTION DOCUMENTS)				X (D)	
REPAIR ACTIVITIES				X (D)	
INSPECTION TASKS PRIOR TO BOLTING					
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL	1705.13.1	AISC 341 TABLE J7.1 RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS	X		
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL			X		
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS			X		
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED FOR FASTENER ASSEMBLIES AND METHODS USED				X (D)	
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS			X		
INSPECTION TASKS DURING BOLTING					
FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	1705.13.1	AISC 341 TABLE J7.2 RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS	X		
JOINT BROUGHT TO THE SNUG TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION			X		
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING			X		
BOLTS ARE PRETENSIONED PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES			X		
INSPECTION TASKS AFTER BOLTING					
DOCUMENT ACCEPTED AND REJECTED CONNECTION	1705.13.1	AISC 341 TABLE J7.3		X (D)	
PROPRIETARY SYSTEMS					
PROPRIETARY MOMENT RESISTING FRAME CONNECTION SYSTEMS	1705.1.1				REFER TO WELDING AND HIGH STRENGTH BOLTING SPECIAL INSPECTION REQUIREMENTS AND MATERIAL SPECIFIC TESTING REQUIREMENTS. REFER TO DEFERRED SUBMITTAL FOR ADDITIONAL INFORMATION

STEEL - TESTING

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 7)	REMARKS
STEEL				
ULTRASONIC (UT) TESTING OF WELDS	1705.2.1	AWS D1.1 6.13 & 6.14.3 AISC 341 N5.5	P (D)	- IN RISK CATEGORY III AND IV, ALL C.J.P. WELDS IN MATERIAL 5/16" AND THICKER SUBJECT TO TRANSVERSLY APPLIED TENSION. - IN RISK CATEGORY II, 10% OF C.J.P. WELDS IN MATERIAL 5/16" AND THICKER SUBJECT TO TRANSVERSLY APPLIED TENSION. - INCREASE OR DECREASE RATES PER AISC 341 N5.5E AND N5.5F
MAGNETIC PARTICLE (MT) TESTING OF WELDS	1705.2.1	AWS D1.1 6.14.4 AISC360 N5.5c	P (D)	- REQUIRED AT THERMALLY CUT ACCESS HOLES WHERE FLANGE THICKNESS EXCEEDS 2" FOR ROLLED SHAPES OR WHEN THE WEB THICKNESS EXCEEDS 2" FOR BUILT-UP SHAPES. - REQUIRED WHERE SPECIFICALLY NOTED ON DRAWINGS
PRE-INSTALLATION VERIFICATION OF PRETENSIONED HIGH STRENGTH BOLTS	1705.2.1	RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS SECTION 7	EACH COMBINATION OF DIAMETER, LENGTH, GRADE, AND LOT TO BE USED IN THE WORK	

STEEL LATERAL SYSTEM - TESTING

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	DESCRIPTION/FREQUENCY	REMARKS
CJP GROOVE WELD NON DESTRUCTIVE TESTING	1705.13.1	AISC 341 SECTION J6.2	UT SHALL BE PERFORMED ON 100% OF WELDS. MT SHALL BE PERFORMED ON 25% OF ALL BEAM TO COLUMN CJP GROOVE WELDS.	WELD DISCONTINUITIES SHALL BE ACCEPTED OR REJECTED ON THE BASIS OF CRITERIA OF AWS D1.1/D1.1M TABLE 6.2. UT TESTING NOT REQUIRED ON THICKNESS LESS THAN 5/16"
COLUMN SPLICE AND COLUMN TO BASE PL PJP GROOVE WELD NON DESTRUCTIVE TESTING			UT SHALL BE PERFORMED ON 100% OF PJP GROOVE WELDS IN COLUMN SPLICES AND COLUMN TO BASE PL WELDS	WELD DISCONTINUITIES SHALL BE ACCEPTED OR REJECTED ON THE BASIS OF CRITERIA OF AWS D1.1/D1.1M TABLE 6.2. UT TECHNICIANS SHOULD BE QUALIFIED IN ACCORDANCE WITH AWS D1.8/D1.8M USING WELD JOINT MOCK-UPS INCORPORATING PJP GROOVE WELDS
CJP BASE METAL NON DESTRUCTIVE TESTING FOR LAMELLAR TEARING AND LAMINATIONS			FOR BASE METAL THICKNESS (t) OF 1 1/2" AND GREATER AND CONNECTED MATERIAL THICKNESS OF 3/4" AND GREATER, UT 100% OF BASE METALS FOR DISCONTINUITIES BEHIND AND ADJACENT TO THE FUSION LINE.	ANY BASE METAL DISCONTINUITIES FOUND WITHIN t/4 OF THE STEEL SURFACE SHALL BE ACCEPTED OR REJECTED ON THE BASIS OF THE CRITERIA OF AWS D1.1/D1.1M TABLE 6.2. t IS THE THICKNESS OF THE PART SUBJECTED TO THE THROUGH-THICKNESS STRAIN
BEAM COPE AND ACCESS HOLE NON DESTRUCTIVE TESTING			MT OR PT TESTING OF WELD SPLICES AND CONNECTIONS. THERMALLY CUT SURFACES OF BEAM COPES AND ACCESS HOLES WHERE FLANGE THICKNESS EXCEEDS 1 1/2" FOR ROLLED SHAPES OR WHEN THE WEB THICKNESS EXCEEDS 1 1/2" FOR BUILT-UP SHAPES	
REDUCED BEAM SECTION REPAIR NON DESTRUCTIVE TESTING			MT SHALL BE PERFORMED ON ANY WELD AND ADJACENT AREA OF THE RBS CUT SURFACE THAT HAS BEEN REPAIRED BY WELDING OR ON THE BASE METAL OF THE RBS CUT SURFACE IF A SHARP NOTCH HAS BEEN REMOVED BY...	
WELD TAB REMOVAL SITES			AT THE END OF WELDS WHERE WELD TABS HAVE BEEN REMOVED, MT SHALL BE PERFORMED ON THE SAME BEAM-TO-COLUMN JOINTS RECEIVING UT AS REQUIRED UNDER "CJP GROOVE WELD WELD NON DESTRUCTIVE...	MT OF CONTINUITY PLATE WELD TABS REMOVAL SITES IS NOT REQUIRED.

WOOD - SPECIAL INSPECTIONS

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 7) CONTINUOUS	PERIODIC	REMARKS
FABRICATION OF PREFABRICATED STRUCTURAL ELEMENTS	1705.5			X	REFER TO INSPECTION OF FABRICATOR REQUIREMENTS
FABRICATION OF HIGH-LOAD DIAPHRAGMS:					
A. VERIFY STRUCTURAL PANEL GRADE AND THICKNESS	1705.5.1 TABLE 2305.2 (2)			X	
B. VERIFY NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES	1705.5.1			X	
C. VERIFY NAIL OR STAPLE DIAMETER AND LENGTH, NUMBER OF FASTENER LINES AND SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE MARGINS	1705.5.1			X	
METAL PLATE CONNECTED WOOD TRUSSES SPANNING 60 FT OR GREATER	1705.5.2			X	VERIFY TEMPORARY INSTALLATION OF RESTRAINT/BRACES AND PERMANENT INDIVIDUAL TRUSS MEMBERS RESTRAINT/BRACES ARE INSTALLED IN ACCORDANCE WITH APPROVED TRUSS...

LIGHT GAUGE AND OTHER STEEL - SPECIAL INSPECTIONS

SYSTEM OR MATERIAL	IBC CODE REFERENCE	CODE OR STANDARD REFERENCE	FREQUENCY (NOTE 7) CONTINUOUS / PERFORM	PERIODIC/ OBSERVE	REMARKS
GENERAL					
MATERIAL VERIFICATION OF WELD FILLER METALS		AWS D1.3		X	MANUFACTURER'S CERTIFIED TEST REPORTS
VERIFYING USE OF PROPER WPS'S				X	RETAIN A RECORD OF WELDING PROCEDURE SPECIFICATIONS
VERIFYING WELDER QUALIFICATIONS				X	RETAIN A RECORD OF QUALIFICATION CARDS
IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	1705.2.2 1705.2.3 1705.2.4 TABLE 1705.2-4	APPLICABLE ASTM STANDARDS		X	MANUFACTURER'S CERTIFIED TEST REPORTS
STEEL JOISTS AND JOIST GIRDERS: INSTALLATION OF END CONNECTIONS, WELDING OR BOLTING, BRIDGING - HORIZONTAL AND DIAGONAL	1705.2.3	SJI 100, SJI 200		X	PER SJI SPECIFICATIONS LISTED IN IBC 2207.1
COLD-FORMED STEEL TRUSSES SPANNING 60 FT OR GREATER	1705.2.4			X	VERIFY TEMPORARY INSTALLATION OF RESTRAINT/BRACES AND PERMANENT INDIVIDUAL TRUSS MEMBERS RESTRAINT/BRACES ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL.
INSPECTION TASKS PRIOR TO STEEL DECK PLACEMENT					
VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH APPROVED CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS	1705.2.2	SDI 2017 – STANDARD FOR QA/QC 1.3, APP. 1 TABLE 1.1	P		
DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES			P		
INSPECTION TASKS AFTER STEEL DECK PLACEMENT					
VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH APPROVED CONSTRUCTION DOCUMENTS	1705.2.2	SDI 2017 – STANDARD FOR QA/QC 1.3, APP. 1 TABLE 1.2	P		
VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS			P		
DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESORIES			P		
INSPECTION TASKS PRIOR TO STEEL DECK WELDING					
WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	1705.2.2	SDI 2017 – STANDARD FOR QA/QC 1.3, APP. 1 TABLE 1.3		O	
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE				O	
MATERIAL IDENTIFICATIONS (TYPE/GRADE)				O	
CHECK WELDING EQUIPMENT				O	
INSPECTION TASKS DURING STEEL DECK WELDING					
USE OF QUALIFIED WELDERS	1705.2.2	SDI 2017 – STANDARD FOR QA/QC 1.3, APP. 1 TABLE 1.4		O	
CONTROL AND HANDLING OF WELDING CONSUMABLES				O	
ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISURE, TEMPERATURE)				O	
WPS FOLLOWED				O	
INSPECTION TASKS AFTER STEEL DECK WELDING					
VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS	1705.2.2	SDI 2017 – STANDARD FOR QA/QC 1.3, APP. 1 TABLE 1.5	P		
WELDS MEET VISUAL ACCEPTANCE CRITERIA			P		
VERIFY REPAIR ACTIVITIES			P		
DOCUMENT ACCEPTANCE OR REJECTION OF WELDS			P		
INSPECTION TASKS PRIOR TO STEEL DECK MECHANICAL FASTENING					
MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	1705.2.2	SDI 2017 – STANDARD FOR QA/QC 1.3, APP. 1 TABLE 1.6		O	
PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION				O	
PROPER STORAGE FOR MECHANICAL FASTENERS				O	
INSPECTION TASKS DURING STEEL DECK MECHANICAL FASTENING					
FASTENERS ARE POSITIONED AS REQUIRED	1705.2.2	SDI 2017 – STANDARD FOR QA/QC 1.3, APP. 1 TABLE 1.7		O	
FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS				O	
INSPECTION TASKS AFTER STEEL DECK MECHANICAL FASTENING					
CHECK SPACING, TYPE AND INSTALLATION OF SUPPORT, SIDELAP AND PERIMETER FASTENERS	1705.2.2	SDI 2017 – STANDARD FOR QA/QC 1.3, APP. 1 TABLE 1.8	P		
VERIFY REPAIR ACTIVITIES			P		
DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS			P		

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STATEMENT OF SPECIAL INSPECTION

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

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SYMBOL/ANNOTATION	DESCRIPTION	SYMBOL/ANNOTATION	DESCRIPTION	SYMBOL/ANNOTATION	DESCRIPTION	SYMBOL/ANNOTATION	DESCRIPTION
	EARTH/SOIL HATCH		NONSTRUCTURAL PARTITION WALL EXTENDING TO FLOOR ABOVE		WOOD OR STEEL STUD BEARING WALL BELOW	SFRS	INDICATES TAGGED ELEMENT OR ELEMENTS ALONG A TAGGED GRID ARE PART OF THE SEISMIC FORCE RESISTING SYSTEM. REFER TO DETAIL SINGLE SHEAR PLATE CONNECTIONS DETAIL
	GRANULAR FILL/GRAVEL HATCH	A"xB" OR C"Ø D" U R "W"	PENTRATION IN BEAM (SHOP FABRICATED): • 'AxB', 'C' - MAX PENETRATION SIZE • 'D' - TOP OF BM TO CL OF PENETRATION • 'W' - CL OF PENETRATION ALONG BM LENGTH • 'U', 'R' - UNREINFORCED OR REINFORCE PENETRATION	PLS	WOOD TOP PLATE ELEVATION STEP	KP KP	INDICATES KNIFE PLATE CONNECTION THROUGH COLUMN. REFER TO DETAIL SINGLE SHEAR PLATE CONNECTIONS DETAIL
	RIGID INSULATION HATCH		WOOD STRUCTURAL PANEL HATCH		WOOD STRUCTURAL PANEL DECK	AS	INDICATES ANGLE STRUT BOTTOM FLANGE BRACE. ARROW HEAD INDICATES LOW SIDE OF BRACE. REFER TO DETAIL ANGLE STRUT
#	KEYED NOTE		WOOD STUD WALL HATCH		STEEL HATCH		CONCRETE SLAB ON STEEL DECK
1 S5.1	DETAIL CALLOUT (90 DEGREE ORIENTATION TO CURRENT VIEW) VIEW ORIENTED TOWARD ARROW	W#	WOOD SHEAR/BEARING WALL MARK (SEE SCHEDULE)		STEEL STUD WALL HATCH		BARE STEEL DECK
2 S5.1	DETAIL CALLOUT (MATCHES ORIENTATION OF CURRENT VIEW) ENLARGED VIEW	HD#	HOLD-DOWN MARK (SEE SCHEDULE)	SD#	STEEL DECK MARK (SEE SCHEDULE)		CONCRETE HATCH
1 S4.1	ELEVATION CALLOUT	H#	WOOD HEADER MARK (SEE SCHEDULE)		SQUARE/RECTANGULAR HSS COLUMN		GROUT HATCH
1 S4.1	SECTION CALLOUT		SAWN LUMBER COLUMN		ROUND HSS COLUMN	F# (XX'-XX")	CONCRETE SPREAD FOOTING MARK (SEE SCHEDULE) & TOP OF FOOTING ELEVATION (IF INDICATED)
TOF = 97' - 0 "	COMPONENT ELEVATION		GLULAM COLUMN		WIDE-FLANGE COLUMN	FA (XX'-XX")	CONCRETE CONTINUOUS FOOTING MARK (SEE SCHEDULE) & TOP OF FOOTING ELEVATION (IF INDICATED)
	SLAB/DECK/WALL OPENING		SAWN LUMBER BEAM		STEEL BEAM SIMPLE SHEAR CONNECTION TO COLUMN, UNLESS NOTED OTHERWISE	GB#	CONCRETE GRADE BEAM MARK (SEE SCHEDULE)
	SLAB/DECK STEP		GLULAM BEAM		STEEL BEAM SIMPLE SHEAR CONNECTION TO BEAM, UNLESS NOTED OTHERWISE	P#	CONCRETE PIER MARK (SEE SCHEDULE)
	SLAB/DECK SLOPE TRANSITION		LVL BEAM		STEEL BEAM TO COLUMN GRAVITY MOMENT CONNECTION, REFER TO DETAIL BEAM TO COLUMN MOMENT CONNECTION		CONCRETE COLUMN/PIER
XXX @ XX" OC	JOIST/TRUSS SYSTEM CALLOUT		WOOD I-JOIST		STEEL BEAM TO BEAM GRAVITY MOMENT CONNECTION, REFER TO DETAIL TYPICAL BM TO BM MOMENT CONN	FS FS	FOOTING ELEVATION STEP
A 1	AREA LOAD DESIGNATION NUMBER INDICATES SUPERIMPOSED DEAD LOAD MARK LETTER INDICATES LIVE LOAD MARK		WOOD BLOCKING		STEEL BRACED FRAME/MOMENT FRAME IN PLAN	WS	TOP OF WALL ELEVATION STEP
Pd Wd	SNOW DRIFT LOAD 'Pd' - MAXIMUM DRIFT SURCHARGE 'Wd' - WIDTH OF SNOW DRIFT		WOOD OR STEEL STUD BEARING WALL EXTENDING TO FLOOR ABOVE	F	INDICATES FULL DEPTH SHEAR PLATE BEAM-TO-BEAM CONNECTION. REFER TO DETAIL SINGLE SHEAR PLATE CONNECTIONS DETAIL		BLOCKOUT AT TOP OF WALL OR DOOR OPENING
MECH XXXX#	MECHANICAL UNIT / AREA ADD LOAD CONTRACTOR TO COORDINATE SIZE, WEIGHT AND LOCATION WITH JOIST MANUFACTURER		WOOD OR STEEL STUD SHEAR WALL (GRAY HATCH)	SC	INDICATES BEAM TO BEAM OR BEAM TO COLUMN CONNECTION USES SLIP CRITICAL BOLTS. REFER TO DETAIL SINGLE SHEAR PLATE CONNECTIONS DETAIL	PC# (XX'-XX")	CONCRETE PILE/PIER CAP MARK (SEE SCHEDULE) & TOP OF CAP ELEVATION

STRUCTURAL ANNOTATIONS

#	NUMBER OR POUNDS
&	AND
@	AT
Ø	DIAMETER
AA	ADHESIVE ANCHOR
AB	ANCHOR BOLT
ABV	ABOVE
ACI	AMERICAN CONCRETE INSTITUTE
AD	ADHESIVE DOWEL
ADDL	ADDITIONAL
ADJ	ADJACENT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AOR	ARCHITECT OF RECORD
APA	AMERICAN PLYWOOD ASSOCIATION
APPROX	APPROXIMATELY
AR	ANCHOR ROD
ARCH	ARCHITECT
AS	ANGLE STRUT
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
BC	BOTTOM CHORD
BF	BRACED FRAME
BLDG	BUILDING
BLKG	BLOCKING
BLW	BELOW
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
BP	BASE PLATE
BRB	BUCKLING RESTRAINED BRACE
BRBF	BUCKLING RESTRAINED BRACED FRAMED
BRG	BEARING
BSMT	BASEMENT
BTWN	BETWEEN
BU	BUILT UP
C	CHANNEL
CANTL	CANTILEVER
CB	CARRIAGE BOLT
CC	CONCRETE COLUMN
CD	CONSTRUCTION DOCUMENTS
CDF	CONTROLLED DENSITY FILL
CFS	COLD FORMED STEEL
CG	CENTER OF GRAVITY
CIP	CAST IN PLACE
CJ	CONSTRUCTION/CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS/ CONTINUED
CONTR	CONTRACTOR
COORD	COORDINATE
CTR	CENTER
CTRD	CENTERED
D	PENNY (NAIL) OR DEPTH
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEG	DEGREE
DEMO	DEMOLITION
DET	DETAIL
DF	DOUGLAS FIR
DIA	DIAMETER
DIM	DIMENSION
DIST	DISTANCE
DL	DEAD LOAD
DWG	DRAWING
DWL	DOWEL
(E)	EXISTING
EA	EACH
EAP	ENGINEERED AGGREGATE PIER
EF	EACH FACE
EL	ELEVATION
ELEV	ELEVATOR
EMBED	EMBEDMENT
ENGR	ENGINEER
EOR	ENGINEER OF RECORD
EQ	EQUAL/ EQUALLY
EQUIP	EQUIPMENT
EW	EACH WAY
EXP	EXPANSION
EXP BT	EXPANSION BOLT
EXST	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FLR	FLOOR
FO	FACE OF
FS	FOOTING STEP
FSTNR	FASTENER
FT	FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GL	GLUE LAMINATED
GLB	GLUE LAMINATED BEAM
GR	GRADE
GR BM	GRADE BEAM
GSN	GENERAL STRUCTURAL NOTES
GYP	GYPSUM
H	HIGH
HD	HOLD-DOWN
HDR	HEADER
HG	WOOD BEAM HANGER
HGR	HANGER
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
INFO	INFORMATION
INT	INTERIOR
J	JOIST
JT	JOINT
K	KIP(S)
KSI	KIPS PER SQUARE INCH

L	ANGLE
2L	DOUBLE ANGLE
LAM	LAMINATED
LBS	POUND
LD	DEVELOPMENT LENGTH
LF	LINEAR FEET
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LS	LAP SPLICE
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
M	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBR	MEMBER
MD	METAL DECK
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MEZZ	MEZZANINE
MF	MOMENT FRAME
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
ML	MASONRY LINTEL
MMI	MORRISON-MAIERLE INC
MP	MASONRY PIER
MTL	METAL
N	NORTH
(N)	NEW
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NLB	NONLOAD BEARING
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPNG	OPENING
OPP	OPPOSITE
OWJ	OPEN WEB JOIST
PAF	POWER-ACTUATED FASTENERS
PAR	PARALLEL
PC	PIER CAP/CONCRETE PILE
PERP	PERPENDICULAR
PH	PHASE
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLYWD	PLYWOOD
PREFAB	PREFABRICATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED/POST TENSIONED
QA	QUALITY ASSURANCE
R/RAD	RADIUS
RD	ROUND
REBAR	REINFORCING STEEL BARS
REF	REFERENCE OR REFER TO
REINF	REINFORCE, REINFORCING
REQD	REQUIRED
REQT	REQUIREMENT
REV	REVISION
RO	ROUGH OPENING
RT	RIGHT
SA	SCREW ANCHOR
SC	SLIP CRITICAL
SCHED	SCHEDULE
SD	STEEL DECK
SF	SQUARE FEET
SHTHG	SHEATHING
SI	SQUARE INCH
SIM	SIMILAR
SIP	STRUCTURAL INSULATED PANEL
SL	SNOW LOAD
SMS	SHEET METAL SCREW
SOG	SLAB ON GRADE
SOMD	SLAB ON METAL DECK
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
SUB	SUBSTITUTE
SUB FLR	SUBFLOOR
T	TON
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
THRU	THROUGH
TJI	TRUSS JOIST
TMBR	TIMBER
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOD	TOP OF DECK/SHEATHING
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
URM	UNREINFORCED MASONRY
VERT	VERTICAL
VIF	VERIFY IN FIELD
W OR WF	WIDE FLANGE
W/	WITH
W/O	WITHOUT
WD	WOOD
WL	WIND LOAD
WLD	WELD/WELDED
WP	WORKING POINT
WSP	WOOD STRUCTURAL PANEL
WT	STRUCTURAL TEE
WWF	WELDED WIRE FABRIC
X BRACE	CROSS BRACE

STRUCTURAL ABBREVIATIONS

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ANNOTATIONS AND SYMBOLS & ABBREVIATIONS

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CONTINUOUS FOOTINGS - SCHEDULE

MARK	WIDTH	THICKNESS	# OF REINF MATS	TRANS REINF	LONG REINF
FA	1' - 6"	1' - 0"	1	#5 @ 12" OC	(3) #4
FB	2' - 0"	1' - 0"	1	#5 @ 12" OC	(3) #4
FC	2' - 0"	1' - 0" THICKENED SLAB	1	#5 @ 12" OC	(3) #4

SPREAD FOOTING - SCHEDULE

MARK	WIDTH	LENGTH	REINFORCEMENT	THICKNESS	COMMENTS
F1	2' - 6"	2' - 6"	(3) #5 EW, T&B	1' - 0"	SEE PLAN
F2	3' - 0"	3' - 0"	#4 @ 16" OC, EW, T & B	1' - 0"	SEE PLAN
F3	5' - 0"	5' - 0"	(6) #5 EW, T&B	1' - 0"	SEE PLAN

CONCRETE WALLS - SCHEDULE

MARK	THICKNESS	HORIZ REINF	VERT REINF
C1	8"	#5 @ 16" OC	#5 @ 16" OC
C2	1' - 1 1/2"	#5 @ 16" OC EA FACE	#5 @ 16" OC EA FACE

CONCRETE PIERS - SCHEDULE

MARK	LENGTH	WIDTH	VERT REINF	TIE REINFORCEMENT
P1	2' - 6"	2' - 6"	(14) #6	#4 TIES & CROSSTIES @ 6" OC
P2	1' - 6"	1' - 6"	(8) #5	#4 TIES & CROSSTIES @ 6" OC
P3	1' - 8"	1' - 2"	(8) #5	#4 TIES & CROSSTIES @ 6" OC

NOTES:
SEE CROSS SECTIONS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS.

HEADER SCHEDULE

MARK	HEADER SIZE	BEARING STUDS	KING STUDS
H1	(2) 2x10	(1) 2x6	(2) 2x6
H2	3 1/2x9 GLB	(2) 2x6	(2) 2x6
H3	5 1/2x9 GLB	(2) 2x6	(2) 2x6
H4	5 1/2x12 GLB	(2) 2x6	(2) 2x6
H5	3 1/2x12 GLB	(2) 2x6	(2) 2x6

NOTES:
1. REF 7 / S7-1 FOR TYPICAL WOOD HEADER DETAIL

HOLD-DOWN SCHEDULE

MARK	TIE / HOLD-DOWN	STUD / POST SIZE	ANCHORAGE
HD1	'SIMPSON' CS14	(1) 2x WALL STUDS	STRAP LENGTH = 32" + CLEAR SPAN
HD2	'SIMPSON' HDU-2-SDS2.5	(2) 2x WALL STUDS	• 'SIMPSON' SB5/8x24 W/ 18" EMBED IN STEMWALL • 5/8" Ø CAST-IN OR ADHESIVE ANCHOR W/ 10" EMBEDMENT AT THICKENED SLAB
HD3	'SIMPSON' HDU-8-SDS2.5	(3) 2x WALL STUDS	'SIMPSON' SB7/8x24 W/ 18" EMBED IN STEMWALL
HD4	'SIMPSON' HDU-4-SDS2.5	(2) 2x WALL STUDS	• 'SIMPSON' SB5/8x24 W/ 18" EMBED IN STEMWALL • 5/8" Ø CAST-IN OR ADHESIVE ANCHOR W/ 10" EMBEDMENT AT THICKENED SLAB

NOTES:
1. HOLDOWN LOCATION SHOWN ON PLANS IS APPROXIMATE. LOCATE AT OPENING JAMB OR CORNER . SEE ARCHITECTURAL DRAWINGS FOR OPENING LOCATIONS AND SIZE.
2. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

SHEATHED SHEARWALL - SCHEDULE

MARK	SHEATHING, STUDS, AND ATTACHMENT					SILL PLATE AND ATTACHMENT		STRAPPING AT OPENING (AS NOTED)			
	STUD SIZE	STUD SPACING	PANEL	SHEAR PANEL ATTACHMENT	FRAMING AT PANEL EDGES	SILL PLATE	ANCHOR	STRAP TYPE	STRAP END LENGTH	ATTACHMENT AT EACH LENGTH OF STRAP	BLOCKING SIZE
W1	2x	16" OC	R-6 ZIP PANEL SHTG	0.131" Ø SHANK NAIL @ 3" OC EDGE; 0.131" Ø SHANK NAIL @ 12" OC FIELD	(1) 2X	2x	5/8" DIA W/ 7" EMBED @ 4' - 0" OC	--	--	--	--
W2	(3) 2x	24" OC	R-6 ZIP PANEL SHTG	0.131" Ø SHANK NAIL @ 3" OC EDGE; 0.131" Ø SHANK NAIL @ 12" OC FIELD	(1) 2X	2x	5/8" DIA W/ 7" EMBED @ 4' - 0" OC	--	--	--	--
W3	2x	16" OC	15/32" WOOD STRUCTURAL PANEL	8d @ 6" OC EDGE NAIL; 8d @ 12" OC FIELD NAIL	(1) 2X	2x	5/8" DIA W/ 7" EMBED @ 4' - 0" OC	--	--	--	--
W4	(3) 2x	24" OC	15/32" WOOD STRUCTURAL PANEL	8d @ 6" OC EDGE NAIL; 8d @ 12" OC FIELD NAIL	(1) 2X	2x	5/8" DIA W/ 7" EMBED @ 4' - 0" OC	--	--	--	--
W5	2x	16" OC	15/32" WOOD STRUCTURAL PANEL	8d @ 3" OC EDGE NAIL; 8d @ 12" OC FIELD NAIL	(2) 2X	2x	5/8" DIA W/ 7" EMBED @ 2' - 0" OC	--	--	--	--
W6	2x	16" OC	R-6 ZIP PANEL SHTG @ EXT; 15/32" WOOD STRUCTURAL PANEL @ INTERIOR	0.131" Ø SHANK NAIL @ 3" OC EDGE; 0.131" Ø SHANK NAIL @ 12" OC FIELD @ EXTERIOR. 8d NAILS @ 3" OC EDGE NAIL; 8d @ 12" OC FIELD NAIL @ INTERIOR	(2) 2X	2x	5/8" DIA W/ 7" EMBED @ 2' - 0" OC	--	--	--	--
W7	2x	16" OC	R-6 ZIP PANEL SHTG @ EXT; 15/32" WOOD STRUCTURAL PANEL @ INTERIOR	0.131" Ø SHANK NAIL @ 3" OC EDGE; 0.131" Ø SHANK NAIL @ 12" OC FIELD @ EXTERIOR. 8d NAILS @ 3" OC EDGE NAIL; 8d @ 12" OC FIELD NAIL @ INTERIOR	(2) 2X	2x	5/8" DIA W/ 7" EMBED @ 2' - 0" OC	SIMPSON CS16	1'-3"	(11) 10d NAILS	2x

SHEATHED SHEAR WALL SCHEDULE NOTES:
1. SEE GENERAL STRUCTURAL NOTES AND SCHEMATIC SHEAR WALL DETAILS ON S7-2 FOR ADDITIONAL REQUIREMENTS.
2. WHERE A SHEATHING DESIGNATION IS NOT PROVIDED AT EXTERIOR WALLS, PROVIDE SHEATHING AND ATTACHMENT PER TYPE W1. BLOCKING AT PANEL EDGES IS NOT REQUIRED IN NON-SHADED REGIONS
3. SHEATHING SHALL BE 15/32" APA STRUCTURAL PLYWOOD w/ APA 24/16 MINIMUM RATING UNLESS OTHERWISE NOTED. SHEATHING AND ATTACHMENT TYPE IS REQUIRED OVER THE ENTIRE LENGTH OF THE WALL INDICATED.
4. WHERE DOUBLE SIDED SHEATHING IS SPECIFIED, STAGGER VERTICAL PANEL JOINTS BETWEEN OUTSIDE AND INSIDE SHEATHING.
5. WHERE DOUBLE MEMBERS ARE SPECIFIED AT PANEL EDGES, PROVIDE DOUBLE 2X MEMBERS AT ALL VERTICAL AND HORIZONTAL PANEL EDGES, INCLUDING STUDS, BLOCKING, SILL AND TOP AND BOTTOM PLATES.
6. PROVIDE 3"X3"X1/4" PLATE WASHERS AT SILL PLATE FOR ALL ANCHOR AND LAG BOLTS. SLOT PLATE WASHERS WITH A DIAGONAL, 1 3/4" LONG SLOTTED HOLE (CENTERED) AND ORIENT PLATE WASHERS ON SILL PLATE SO THAT THE EDGE OF EACH PLATE WASHER IS WITHIN 1/2" OF THE SHEATHED EDGE OF THE SILL PLATE. PROVIDE STANDARD CUT WASHERS BETWEEN NUTS AND PLATE WASHERS.
7. STRAPPING REFERS TO HORIZONTAL STEEL STRAP AT HEADER AND SILL OF OPENINGS. SEE MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION INFORMATION.
8. WHERE STRAPPING AT OPENINGS IS NOTED IN SHEAR WALL SCHEDULE, REFER TO DETAIL 2 / S7-2 FOR ADDITIONAL INFORMATION.
9. AT ZIP SHEATHED WALLS, PROVIDE 1 1/2" FASTENER PENETRATION INTO FRAMING.
10. WHERE SHEATHING IS DESIGNATED ON EXTERIOR AND INTERIOR FACES, INSTALL ZIP SHEATING AT EXTERIOR FACE AND STRUCTURAL PANEL SHEATHING ON INTERIOR FACE WITH FASTENERS DENOTED. WHERE STRAPPING IS NOTED, INSTALL STRAPPING ON BOTH EXTERIOR AND INTERIOR FACES.
11. WHERE STRAPPING AT OPENINGS OCCURS AT EXTERIOR ZIP SHEATHED WALLS, PROVIDE 0.131" Ø SHANK NAILS AT STRAPPING W/ 1 1/2" PENETRATION INTO BLOCKING.

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HELENA FIRESTATION #3
HELENA , MT. 59602

STRUCTURAL SCHEDULES

100% CONSTRUCTION DOCUMENTS

PROJECT #: 25-668

ISSUE DATES:

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S0-6

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1 ROOF - LOADING PLAN
1/16" = 1'-0"

2 WIND UPLIFT LOAD MAP
1/16" = 1'-0"

SNOW LOAD (SL) DESIGNATION

MARK	USE	UNIFORM LOAD
A	FLAT ROOF SNOW LOAD	31 PSF

DEAD LOAD (SDL) DESIGNATIONS

MARK	USE	SUPERIMPOSED UNIFORM LOAD	CONCENTRATED LOAD
1	ROOF: METAL DECK	16.0 PSF	500 LBS
2	ROOF: LIGHT FRAMED	12.5 PSF	N/A

WIND UPLIFT PLAN NOTES

1. COMPONENTS AND CLADDING WIND PRESSURES ARE BASED ON ASCE 7-16 CHAPTER 30, PART 3: BUILDINGS WITH h ≤ 60 FT.
2. COMPONENTS AND CLADDING ZONE LOCATIONS AND WIND PRESSURES ARE BASED ON ASCE 7-16, TABLE 30.3-1 & FIGURE 30.3-2A.
3. CANOPY WIND PRESSURES ARE NET PRESSURES ON ATTACHED CANOPIES CONSIDERING SIMULTANEOUS CONTRIBUTIONS FROM UPPER AND LOWER SURFACES. NEGATIVE AND POSITIVE SIGNS SIGNIFY UPLIFTING AND DOWNWARD PRESSURES, RESPECTIVELY.

STRENGTH LEVEL WIND UPLIFT PRESSURES ON ROOF AREAS (PSF)

ZONE	EFFECTIVE WIND AREA (SQUARE FEET)			
h = XX	<=10	100	200	>500
1	16/-46	16/-36	16/-33	16/-29
1'	16/-26	16/-26	16/-24	16/-18
2	16/-61	16/-48	16/-44	16/-39
3	16/-83	16/-57	16/-49	16/-39
2 TOWER	16/-68	16/-53	16/-49	16/-43
3 TOWER	16/-92	16/-63	16/-55	16/-43
CANOPY 1	21/-21	16/-16	16/-16	16/-16
CANOPY 2	22/-22	16/-16	16/-16	16/-16

A 1
NUMBER INDICATES SUPERIMPOSED DEAD LOAD MARK
LETTER INDICATES LIVE LOAD MARK

AREA LOAD DESIGNATION

Pd — MAXIMUM DRIFT SURCHARGE, IN ADDITION TO UNIFORM SNOW LOAD
Wd — WIDTH OF SNOW DRIFT

SNOW DRIFT LOAD

MECH XXXX# — MECHANICAL UNIT / AREA ADD LOAD. CONTRACTOR TO COORDINATE SIZE, WEIGHT AND LOCATION WITH JOIST MANUFACTURER

MECHANICAL UNIT / AREA ADD LOAD

LOADING SYMBOLS LEGEND

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ROOF LOADING PLAN

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

FOUNDATION PLAN NOTES

1. PROJECT DATUM ELEVATION = 100' - 0" AT TOP OF SLAB ON GRADE (SEE CIVIL DRAWINGS FOR ABSOLUTE ELEVATION). ALL SPOT ELEVATIONS ARE IN REFERENCE TO THE DATUM ELEVATION.
2. VERIFY ALL DIMENSIONS AND ELEVATION WITH THE ARCHITECTURAL DRAWINGS, SEE CIVIL DRAWINGS FOR EXTERIOR SLABS AND GRADING.
3. REFER TO THE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
4. REFER TO THE DRAWING ANNOTATIONS & SYMBOLS FOR EXPLANATION OF DRAWING CONVENTIONS.
5. REFER TO DRAWINGS S5, S6, S7, & S-9 FOR TYPICAL CONCRETE, STEEL, WOOD, & COLD FORM DETAILS RESPECTIVELY. TYPICAL DETAILS ARE NOT NECESSARILY REFERENCED BY CALLOUTS ON PLAN; IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW THE REQUIREMENTS OF THE DETAILS AT THE LOCATION AT WHICH THEY OCCUR.
6. COORDINATE THE FOLLOWING ITEMS WITH DRAWINGS OF OTHER DISCIPLINES:
   - SUBGRADE PREPARATION REQUIREMENTS BELOW FOOTINGS AND SLABS ON GRADE AND BACKFILL REQUIREMENTS BEHIND BASEMENT AND RETAINING WALLS; SEE THE PROJECT GEOTECHNICAL REPORT.
   - SIZES AND LOCATIONS OF OPENINGS AND PENETRATIONS THROUGH WALLS AND FLOORS; SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
   - EXTERIOR CONCRETE, INCLUDING SLABS AND SITE RETAINING WALLS; SEE ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS.
   - ELEVATOR SUMP PITS; SEE ARCHITECTURAL AND ELEVATOR SUPPLIER DRAWINGS.
   - RECESSED AND DEPRESSED FLOOR AREAS; SEE ARCHITECTURAL DRAWINGS.
   - EXTENT OF AND REQUIREMENTS FOR MASONRY VENEER; SEE ARCHITECTURAL DRAWINGS.
   - LOCATIONS AND REQUIREMENTS FOR NON-BEARING / NON-STRUCTURAL PARTITION WALLS; SEE ARCHITECTURAL DRAWINGS.
   - LOCATION, SIZE, AND ANCHORAGE OF ELECTRICAL MECHANICAL, AND PLUMBING EQUIPMENT; SEE ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
7. EXTERIOR GRIDLINES ARE ALIGNED TO THE FACE OF FOUNDATION WALL AND INTERIOR GRIDLINES ARE ALIGNED TO THE CENTER OF COLUMN OR WALL, UNLESS NOTED OTHERWISE.
8. WALLS AND COLUMNS ABOVE SHOWN HALFTONE FOR CLARITY. REFER TO FIRST FLOOR FRAMING PLAN FOR MORE INFORMATION.
9. FOR STRUCTURAL SCHEDULES, REFER TO SHEET S0-6.

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FOUNDATION PLAN

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S1-1

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1 / S1-2 FOUNDATION/ MAIN FLOOR PLAN
1/8" = 1'-0"

FLOOR PLAN NOTES

1. PROJECT DATUM ELEVATION = 100' - 0" AT TOP OF SLAB ON GRADE (SEE CIVIL DRAWINGS FOR ABSOLUTE ELEVATION). ALL SPOT ELEVATIONS ARE IN REFERENCE TO THE DATUM ELEVATION.
2. VERIFY ALL DIMENSIONS AND ELEVATION WITH THE ARCHITECTURAL DRAWINGS, SEE CIVIL DRAWINGS FOR EXTERIOR SLABS AND GRADING.
3. REFER TO THE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
4. REFER TO THE DRAWING ANNOTATIONS & SYMBOLS FOR EXPLANATION OF DRAWING CONVENTIONS.
5. REFER TO DRAWINGS S5, S6, S7, & S-9 FOR TYPICAL CONCRETE, STEEL, WOOD, & COLD FORM DETAILS RESPECTIVELY. TYPICAL DETAILS ARE NOT NECESSARILY REFERENCED BY CALLOUTS ON PLAN; IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW THE REQUIREMENTS OF THE DETAILS AT THE LOCATION AT WHICH THEY OCCUR.
6. COORDINATE THE FOLLOWING ITEMS WITH DRAWINGS OF OTHER DISCIPLINES:
   - SUBGRADE PREPARATION REQUIREMENTS BELOW FOOTINGS AND SLABS ON GRADE AND BACKFILL REQUIREMENTS BEHIND BASEMENT AND RETAINING WALLS; SEE THE PROJECT GEOTECHNICAL REPORT.
   - SIZES AND LOCATIONS OF OPENINGS AND PENETRATIONS THROUGH WALLS AND FLOORS; SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
   - EXTERIOR CONCRETE, INCLUDING SLABS AND SITE RETAINING WALLS; SEE ARCHITECTURAL, CIVIL, AND LANDSCAPE DRAWINGS.
   - RECESSED AND DEPRESSED FLOOR AREAS; SEE ARCHITECTURAL DRAWINGS.
   - EXTENT OF AND REQUIREMENTS FOR MASONRY VENEER; SEE ARCHITECTURAL DRAWINGS.
   - LOCATIONS AND REQUIREMENTS FOR NON-BEARING / NON-STRUCTURAL PARTITION WALLS; SEE ARCHITECTURAL DRAWINGS.
   - LOCATION, SIZE, AND ANCHORAGE OF ELECTRICAL MECHANICAL, AND PLUMBING EQUIPMENT; SEE ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
7. EXTERIOR GRIDLINES ARE ALIGNED TO THE FACE OF FOUNDATION WALL AND INTERIOR GRIDLINES ARE ALIGNED TO THE CENTER OF COLUMN OR WALL, UNLESS NOTED OTHERWISE.
8. BEARING AND EXTERIOR WALL FRAMING SHALL BE 2X6 STUDS AT 16" ON CENTER, UNLESS NOTED OTHERWISE.
9. PROVIDE KING STUDS AT JAMBS OF OPENINGS IN WOOD FRAMED EXTERIOR WALLS; SEE SCHEDULE.
10. FASTEN PLIES OF WALL STUDS FOR COLUMNS, KING STUDS, AND TRIMMER STUDS AS SPECIFIED IN THE GENERAL NOTES AND/OR TYPICAL DETAILS.
11. PROVIDE SOLID BLOCKING THROUGH RIM JOIST SPACE BELOW POSTS OR BUILT-UP STUDS.
12. SLAB ON GRADE SHALL BE 4" THICK AND REINFORCED WITH #4 AT 16" ON CENTER, EA WAY UNO.
13. FOR STRUCTURAL SCHEDULES, REFER TO SHEET S0-6.
14. FOOTINGS SHOWN HALFTONE FOR CLARITY. REFER TO FOUNDATION PLAN FOR MORE INFORMATION.
15. REFER TO MECHANICAL DRAWINGS FOR EXACT SIZE AND LOCATION OF RECESSED MANIFOLD IN STRUCTURAL WALL. AT MANIFOLD LOCATION, PROVIDE HEADER TYPE 'H1' WITH BEARING AND KING STUDS DENOTED IN HEADER SCHEDULE.

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FIRST FLOOR FRAMING PLAN

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PROJECT #: 25-668

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1 S1-3 ROOF STRUCTURAL PLAN
1/8" = 1'-0"

ROOF PLAN NOTES

1. PROJECT DATUM ELEVATION = 100' - 0" AT TOP OF SLAB ON GRADE (SEE CIVIL DRAWINGS FOR ABSOLUTE ELEVATION). ALL SPOT ELEVATIONS ARE IN REFERENCE TO THE DATUM ELEVATION.
2. REFER TO THE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
3. REFER TO THE DRAWING ANNOTATIONS & SYMBOLS FOR EXPLANATION OF DRAWING CONVENTIONS.
4. REFER TO THE LOADING PLAN FOR DESIGN CRITERIA, SHEET S0-6.
5. REFER TO DRAWINGS S5, S6, S7, & S-9 FOR TYPICAL CONCRETE, STEEL, WOOD, & COLD FORM DETAILS RESPECTIVELY. TYPICAL DETAILS ARE NOT NECESSARILY REFERENCED BY CALLOUTS ON PLAN; IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW THE REQUIREMENTS OF THE DETAILS AT THE LOCATION AT WHICH THEY OCCUR.
6. COORDINATE THE FOLLOWING ITEMS WITH DRAWINGS OF OTHER DISCIPLINES:
   - SIZES AND LOCATIONS OF OPENINGS AND PENETRATIONS THROUGH WALLS AND FLOORS; SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
   - ELEVATOR HOIST BEAM LOCATIONS; SEE ELEVATOR SUPPLIER DRAWINGS.
   - EXTENT OF AND REQUIREMENTS FOR MASONRY VENEER; SEE ARCHITECTURAL DRAWINGS.
   - WINDOW AND DOOR LOCATIONS AND ROUGH OPENING SIZES IN WALLS; SEE ARCHITECTURAL DRAWINGS.
   - LOCATION, SIZE, AND ANCHORAGE OF ELECTRICAL MECHANICAL, AND PLUMBING EQUIPMENT; SEE ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
   - ROUTING OF DUCTS AND UTILITIES THROUGH WEBS OF TRUSSES OR JOISTS; SEE MECHANICAL AND PLUMBING DRAWINGS.
7. TOP OF STEEL FRAMING SHALL BE PLACED DIRECTLY BELOW BOTTOM OF DECK, UNLESS NOTED OTHERWISE.
8. REFER TO 'STEEL DECKING' SECTION OF THE GENERAL STRUCTURAL NOTES FOR INFORMATION ON FASTENING OF METAL DECK.
9. THE DESIGN OF OPEN-WEB STEEL JOISTS IS DEFERRED TO THE JOIST SUPPLIER. MAXIMUM ALLOWABLE JOIST DEPTH, TYPE (E.G. LH), AND SPACING ARE INDICATED ON THE PLANS, NOTIFY THE EOR IF A SHALLOWER DEPTH IS MORE ECONOMICAL. JOISTS ARE TO BE DESIGNED FOR THE LOADS INDICATED ON THE LOADING PLANS AND CRITERIA DEFINED IN THE GENERAL STRUCTURAL NOTES. SEE 3 / S6-4 FOR ADDITIONAL LOADING INFORMATION. LISTED LOADS DO NOT INCLUDE THE SELF-WEIGHT OF THE JOISTS OR JOIST GIRDERS.
10. (TL/SL) - INDICATES UNFACTORED TOTAL LOAD/SNOW LOAD IN LBS/FT AT STEEL JOISTS. TOTAL LOAD DOES NOT INCLUDE JOIST SELF-WEIGHT, SNOW DRIFT, OR ANY MECH'L UNIT WEIGHTS.
11. 'SP' AT STEEL JOIST DESIGNATES SPECIAL LOADING CONDITION. JOISTS W/ 'SP' DESIGNATION SHALL BE DESIGNED FOR THE UNFACTORED TOTAL LOAD AND SNOW LOADS PROVIDED ON PLAN, PLUS THE SPECIAL LOADING AS SHOWN ON SHEET S0-7 - ROOF LOADING PLAN.
12. UNLESS NOTED OTHERWISE, BEAMS AND/OR JOISTS ARE EQUALLY SPACED BETWEEN COLUMNS.
13. BEARING AND EXTERIOR WOOD WALL FRAMING SHALL BE 2X6 STUDS AT 16" ON CENTER, UNLESS NOTED OTHERWISE.
14. THE DESIGN OF PREFABRICATED WOOD TRUSSES IS DEFERRED TO THE TRUSS SUPPLIER. TRUSSES ARE TO BE DESIGNED FOR THE LOADS INDICATED ON THE LOADING PLANS AND CRITERIA DEFINED IN THE GENERAL STRUCTURAL NOTES.
15. ROOF SHEATHING SHALL BE 5/8" THICK, 40/20 SPAN RATING, APA RATED SHEATHING WITH 8d NAILS AT 6" ON CENTER AT PANEL EDGES AND 8d NAILS AT 12" ON CENTER AT INTERIOR PANEL SUPPORTS.
16. REFER TO S4-2 FOR ENLARGED CANOPY FRAMING PLANS.
17. FOR STRUCTURAL SCHEDULES, REFER TO SHEET S0-6.
18. PROVIDE 2x4 FLAT BLOCKING UNDER ROOF SHEATHING CENTERED UNDER MECHANICAL UNIT PERIMETER CURB. FASTEN EA END OF FLAT 2x TO TOP CHORD OF ROOF TRUSS W/ SIMPSON Z2 CLIP. AT MECHANICAL UNIT SIDES PARALLEL WITH ROOF TRUSSES, ALIGN ROOF TRUSS DIRECTLY UNDER MECHANICAL UNIT CURB FOR SUPPORT.
19. AT MECHANICAL DUCT PENETRATIONS IN WOOD WALLS PROVIDE HEADER TYPE 'H1' WITH BEARING AND KING STUDS DENOTED IN HEADER SCHEDULE. REF MECHANICAL DRAWINGS FOR LOCATIONS

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ROOF FRAMING PLAN

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1 GRID E BUILDING ELEVATION
1/4" = 1'-0"

2 GRID O BUILDING ELEVATION
1/4" = 1'-0"

ELEVATION NOTES

1. PROJECT DATUM ELEVATION = 100' - 0" AT TOP OF SLAB-ON-GRADE (SEE CIVIL DRAWINGS FOR ABSOLUTE ELEVATION). ALL SPOT ELEVATIONS ARE IN REFERENCE TO THE DATUM ELEVATION.
2. REFER TO THE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
3. REFER TO THE DRAWING ANNOTATIONS & SYMBOLS FOR EXPLANATION OF DRAWING CONVENTIONS.
4. COORDINATE THE FOLLOWING ITEMS WITH DRAWINGS OF OTHER DISCIPLINES:
   - SIZES AND LOCATIONS OF OPENINGS AND PENETRATIONS THROUGH WALLS AND FLOORS; SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
   - WINDOW AND DOOR LOCATIONS AND ROUGH OPENING SIZES IN WALLS; SEE ARCHITECTURAL DRAWINGS.
5. REFER TO S5-1 FOR TYPICAL LIGHT GAUGE FRAMING DETAILS.
6. ATTACHMENT OF GLAZING TO STEEL OR LIGHT GAUGE FRAMING BY PROVIDER. HEAD OF GLAZING SHALL BE ABLE TO ACCOMMODATE 1/2" OF DOWNWARD DEFLECTION & 1/2" OF UPWARD DEFLECTION

METAL FRAMING SCHEDULE

USE	MARK	MEMBER SIZE	CONFIGURATION
STUD	S1	600S162-54 AT 16" O.C.	---
	S2	800S162-54 AT 16" O.C.	---
JAMB	J1	600S162-54 600T150-54	#10 SCREWS AT 12" O.C., EA FLANGE LEG
	J2	(2) 800S162-54 BACK-TO-BACK (1) 800T150-54	(2) ROWS OF #10 SCREWS @ 12" OC AT WEB. #10 SCREWS @ 12" OC EA FLANGE LEG
HDR	H1	(2) 600S162-54 & (2) 600T150-54	#10 SCREWS AT 12" O.C., EA FLANGE LEG
	H2	(2) 600S162-54 & (2) 800T150-54	#10 SCREWS AT 12" O.C., EA FLANGE LEG
SILL	T1	600T150-54	---
	T2	800T150-68	---

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EXTERIOR
WALL
ELEVATIONS

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PROJECT #:
25-668

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ELEVATION NOTES

1. PROJECT DATUM ELEVATION = 100' - 0" AT TOP OF SLAB-ON-GRADE (SEE CIVIL DRAWINGS FOR ABSOLUTE ELEVATION). ALL SPOT ELEVATIONS ARE IN REFERENCE TO THE DATUM ELEVATION.
2. REFER TO THE GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.
3. REFER TO THE DRAWING ANNOTATIONS & SYMBOLS FOR EXPLANATION OF DRAWING CONVENTIONS.
4. COORDINATE THE FOLLOWING ITEMS WITH DRAWINGS OF OTHER DISCIPLINES:
   - SIZES AND LOCATIONS OF OPENINGS AND PENETRATIONS THROUGH WALLS AND FLOORS; SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
   - WINDOW AND DOOR LOCATIONS AND ROUGH OPENING SIZES IN WALLS; SEE ARCHITECTURAL DRAWINGS.
5. REFER TO S5-1 FOR TYPICAL LIGHT GAUGE FRAMING DETAILS.
6. ATTACHMENT OF GLAZING TO STEEL OR LIGHT GAUGE FRAMING BY PROVIDER. HEAD OF GLAZING SHALL BE ABLE TO ACCOMMODATE 1/2" OF DOWNWARD DEFLECTION & 1/2" OF UPWARD DEFLECTION

METAL FRAMING SCHEDULE

USE	MARK	MEMBER SIZE	CONFIGURATION
STUD	S1	600S162-54 AT 16" O.C.	---
	S2	800S162-54 AT 16" O.C.	---
JAMB	J1	600S162-54 600T150-54	#10 SCREWS AT 12" O.C., EA FLANGE LEG
	J2	(2) 800S162-54 BACK-TO-BACK (1) 800T150-54	(2) ROWS OF #10 SCREWS @ 12" OC AT WEB. #10 SCREWS @ 12" OC EA FLANGE LEG
HDR	H1	(2) 600S162-54 & (2) 600T150-54	#10 SCREWS AT 12" O.C., EA FLANGE LEG
	H2	(2) 600S162-54 & (2) 800T150-54	#10 SCREWS AT 12" O.C., EA FLANGE LEG
SILL	T1	600T150-54	---
	T2	800T150-68	---

3 GRID 1 BUILDING ELEVATION
1/4" = 1'-0"

4 GRID 1 BUILDING ELEVATION
1/4" = 1'-0"

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EXTERIOR WALL ELEVATIONS

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1 MOMENT FRAME ELEVATION
1/4" = 1'-0"

2 MOMENT FRAME ELEVATION
1/4" = 1'-0"

3 MOMENT FRAME ELEVATION
1/4" = 1'-0"

4 MOMENT FRAME ELEVATION
1/4" = 1'-0"

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MOMENT FRAME ELEVATIONS

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NOTE:
SEE SHEET S0-6
FOR SCHEDULES.

NOTE:
SLAB ON GRADE SHALL BE 4" THICK AND REINFORCED WITH #4 AT 16" ON CENTER, EACH WAY, UNLESS NOTED OTHERWISE.

1 HOSE TOWER MAIN FLOOR PLAN
1/4" = 1'-0"

NOTE:
1. FLOOR SHEATHING SHALL BE 3/4" THICK, 48/24 SPAN RATING, APA RATED SHEATHING WITH 8d NAILS AT 6" ON CENTER AT PANEL EDGES AND 8d NAILS AT 12" OC CENTER AT INTERIOR PANEL SUPPORTS.
2. TOS AT GIRT IS LOCATED ABOVE FLOOR LEVEL TO SUPPORT CANOPY FRAMING CHANNELS.

2 HOSE TOWER PLATFORM 1 STRUCTURAL PLAN
1/4" = 1'-0"

NOTE:
FLOOR SHEATHING SHALL BE 3/4" THICK, 48/24 SPAN RATING, APA RATED SHEATHING WITH 8d NAILS AT 6" ON CENTER AT PANEL EDGES AND 8d NAILS AT 12" OC CENTER AT INTERIOR PANEL SUPPORTS.

3 HOSE TOWER PLATFORM 2 STRUCTURAL PLAN
1/4" = 1'-0"

NOTE:
REFER TO 'STEEL DECKING' SECTION OF THE GENERAL STRUCTURAL NOTES FOR INFORMATION ON FASTENING OF METAL DECK.

4 HOSE TOWER PLATFORM 3 STRUCTURAL PLAN
1/4" = 1'-0"

NOTE:
REFER TO 'STEEL DECKING' SECTION OF THE GENERAL STRUCTURAL NOTES FOR INFORMATION ON FASTENING OF METAL DECK.

5 HOSE TOWER ROOF STRUCTURAL PLAN
1/4" = 1'-0"

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HOSE TOWER ENLARGED FRAMING PLANS

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S4-1

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1 APPARATUS BAY CANOPY FRAMING PLAN
NTS

2 NORTH ENTRY CANOPY FRAMING PLAN
NTS

3 SOUTHWEST CANOPY FRAMING PLAN
NTS

4 NORTHEAST CANOPY FRAMING PLAN
NTS

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EXTERIOR CANOPY ENLARGED FRAMING PLANS

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NOTES:
1. 'd' = NOMINAL BAR DIAMETER.
2. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FILED BENT, UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.

1 REINFORCING HOOKS AND BENDS
NTS

NOTES:
1. MAXIMUM SPACING BETWEEN SPLICED REBAR IN NON-CONTACT LAP SPLICES SHALL BE THE LESSER OF:
   a. 1/5 THE REQUIRED LAP SPLICE LENGTH; OR
   b. 6"
2. MINIMUM SPACING BETWEEN REBAR ALSO APPLIES TO THE CLEAR DISTANCE BETWEEN CONTACT LAP SPLICES AND ADJACENT SPLICES OF REBAR.
3. SPLICES MAY BE WIRED TOGETHER INSTEAD OF SPACING AS SHOWN ABOVE.

2 CONCRETE REBAR SPACING
NTS

NOTE:
DETAIL APPLIES TO ISOLATED OPENINGS SMALLER THAN 12" IN DIAMETER OR GREATEST RECTANGULAR DIMENSION. SEE 'TYPICAL WALL REINFORCEMENT AT OPENINGS' FOR LARGER OPENINGS AND 'TYPICAL WALL REINFORCEMENT AT SERIES OF OPENINGS' FOR MULTIPLE OPENINGS IN SERIES.

3 TYPICAL WALL REINF AT SMALL OPNGS
NTS

NOTES:
1. SEE 'TYPICAL WALL REINFORCEMENT AT OPENINGS' FOR BALANCE OF REQUIREMENTS.
2. THIS DETAIL APPLIES WHERE CLEAR SPACING BETWEEN PENETRATIONS IS LESS THAN 3 TIMES THE INDIVIDUAL OPENING. FOR LARGER SPACINGS, COMPLY WITH 'TYPICAL WALL REINFORCEMENT AT SMALL OPENINGS'.
3. IF THE TYPICAL WALL REINFORCING CONFLICTS WITH AN OPENING, HOOK BARS AT TRIM REINFORCING. IF NOT, PASS REINFORCING THROUGH THE EFFECTIVE OPENING.

4 TYPICAL WALL REINF AT SERIES OF OPNGS
NTS

NOTES:
1. TRANSVERSE REINFORCING (IF PRESENT) AND VERTICAL DOWELS NOT SHOWN.
2. SEE GENERAL NOTES FOR LAP LENGTHS.

5 FOOTING REINFORCING AT CORNERS AND INTERSECTIONS
NTS

6 WALL REINF AT CORNERS, INTERSECTIONS, AND ENDS
NTS

NOTE:
COORDINATE AND FOLLOW ARCHITECTURAL DETAILS FOR DIMENSIONS AND THERMAL BREAKS WHICH TAKE PRECEDENCE OVER THIS DETAIL.

7 TYPICAL SLAB/ FDN WALL @ WALL OPENING
NTS

8 PIPE/CONDUIT TRENCH AT FOOTING
NTS

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TYPICAL CONCRETE DETAILS

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NOTES:
1. REFER TO GEOTECHNICAL REPORT FOR INFORMATION REGARDING SUBGRADE PREPARATION.
2. REFER TO ARCHITECTURAL DRAWINGS FOR CONTROL JOINTS LOCATIONS.
3. CONTRACTOR TO PROVIDE LAYOUT AND LOCATION OF CONSTRUCTION JOINTS 14 DAYS MINIMUM PRIOR TO POUR FOR ARCHITECTURAL APPROVAL. REFER TO GENERAL STRUCTURAL NOTES FOR REQUIREMENTS ON JOINT SPACING AND SIZE.

1 SLAB ON GRADE CONTROL JOINT
NTS

NOTES:
1. SEE GENERAL NOTES FOR LAP SPLICE AND BEND REQUIREMENTS.
2. AT CONTRACTOR'S OPTION, CAST-IN-PLACE (CIP) DOWELS MAY BE REPLACED WITH # 4X2'-10" WITH 5" EMBEDMENT DRILLED AND ADHESIVE DOWELS (SEE GENERAL STRUCTRUAL NOTES FOR MORE INFORMATION), WITH ENTIRE SURFACE AT INTERSECTION OF EXTERIOR FOUNDATION WALL AND INTERIOR FOOTING ROUGHEN TO 1/4" AMPLITUDE.

2 INTERIOR FTG INTERSECTION DETAIL
NTS

NOTE: GC TO COORDINATE TRENCH WIDTH WITH FINAL TRENCH DRAIN SELECTION

3 TRENCH SECTION
NTS

NOTES:
1. FASTEN GRATING TO EMBEDDED STEEL ANGLE IN ACCORDANCE WITH THE GRATING MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE A MINIMUM OF (2) FASTENED CONNECTIONS PER SECTION OF GRATING PER SIDE (4 TOTAL PER GRATING SECTION).

4 GRATING SUPPORT
NTS

NOTE:
1. REF ARCH FOR EMBEDDED BOLLARD LOCATIONS.
2. REF ARCH/ELECTRICAL FOR BOLLARDS W/ MOUNTED CONTROLS AND CONDUIT ROUTED THRU SECTION.

5 TYPICAL BOLLARD DETAIL
NTS

6 STEP/DEPRESSION IN SLAB-ON-GRADE
NTS

7 MASONRY VENEER ANCHORAGE
NTS

VENEER LOOSE LINTEL SCHEDULE		
OPNG WIDTH OR MARK	ANGLE LINTEL SIZE	MIN ANGLE END BRG
W ≤ 3'-4"	L3-1/2x3x1/4 LLH	4"
3'-4" < W ≤ 6'-8"	L4x3-1/2x1/4 LLV	6"
6'-8" < W ≤ 10'-8"	L6x3-1/2x3/8 LLV	7"

NOTE:
FOR USE WITH 4" NOMINAL VENEER ONLY.

8 MASONRY VENEER LOOSE LINTEL
NTS

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TYPICAL CONCRETE DETAILS

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1 EXTERIOR HSS COLUMN FOOTING
NTS

2 SLAB ON GRADE AT EXT STEM WALL
NTS

3 STUD WALL TO THICKENED SLAB FTG
NTS

4 SLAB ON GRADE AT EXT STEM WALL W/ LEDGE
NTS

5 SLAB ON GRADE AT EXT STEM WALL
NTS

6 WALL BLOCKOUT AT MOMENT FRAME COLUMNS
NTS

7 WALL BLOCKOUT AT COLUMNS
NTS

8 CONC PIER AT EXTERIOR WALL
NTS

9 DOUBLE COLUMN BLOCKOUT AT WALL/PIER
NTS

10 DOUBLE COLUMN BLOCKOUT AT WALL/PIER
NTS

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SECTION A-A

COLUMN BASE PL SCHEDULE	
COLUMN SIZE	BASE PL
HSS5X5	PL3/4X11X0'-11"
HSS6X6	PL3/4x12x1'-0"
C8	PL3/4x8x1'-2"

NOTES:
1. BASE PLATE SCHEDULE IS TO BE USED FOR ALL GRAVITY COLUMNS ON PLAN UNLESS NOTED OTHERWISE.
2. THE CONTRACTOR MAY SELECT ONE OF THE FOLLOWING OPTIONS FOR HOLES IN BASE PLATE:
   A. USE TEMPLATE PLATES WITH CAST-IN-ANCHORS AND PROVIDE ANCHOR DIAMETER + 1/8" HOLES.
   B. PROVIDE 1/2" OVERSIZED HOLES AND 1/4"X2X2 PLATE WASHERS WITH STANDARD HOLES WELDED TO TOP OF BASE PLATE WITH 3/16" FILLET ON TWO SIDES.
   C. PROVIDE STANDARD HOLES IN BASE PLATE AND SUBSTITUTE CAST-IN-ANCHORS WITH POST-INSTALLED ADHESIVE ANCHORS WITH EQUIVALENT EMBEDMENT.
3. ANCHOR BOLTS SHALL BE HEADED OR THREADED AND NUTTED.

1 TYPICAL BASE PL DETAIL
NTS

2 HSS GIRT TO COLUMN CONNECTION
NTS

NOTES:
1. TOP OF STEEL ELEVATION IS MEASURED AT TOP OF CAP PLATE AT CENTERLINE OF COLUMN.
2. AT HSS COLUMNS, PROVIDE SQUARE CAP PLATE AT SQUARE SECTIONS & ROUND PLATES AT ROUND SECTIONS.

3 TYPICAL CAP PL @ TOP OF COL
NTS

BOLTED SINGLE SHEAR PLATE CONNECTION SCHEDULE						
BEAM SIZE	'N' 7/8ø A325-N BOLTS REQUIRED (NOTE 3)	SHEAR PLATE THICKNESS 't'	WELD SIZE 'f' (NOTE 6)	MAX SINGLE COPE DEPTH (NOTE 4)	MAX DOUBLE COPE DEPTH (NOTE 4)	MIN HSS COLUMN WALL THICKNESS
C8, C9, C10	2	1/4"	3/16"	1"	NR (NOTE 5)	1/4"
W8	2	1/4"	3/16"	1"	NR (NOTE 5)	1/4"
W10	2	1/4"	3/16"	2"	1 1/4"	1/4"
C12, C15	3	1/4"	3/16"	2"	1 1/4"	1/4"
W12	3	1/4"	3/16"	2"	1 1/4"	1/4"
W14	3	5/16"	1/4"	2"	1 1/2"	1/4"
W16	4	5/16"	1/4"	2"	1 1/2"	1/4"
W18	5	5/16"	1/4"	2"	1 1/4"	5/16"
W21	6	3/8"	5/16"	2"	1 1/4"	5/16"
W24	7	3/8"	5/16"	2"	1 1/4"	5/16"

BOLTED SINGLE ROW SHEAR PLATE CONNECTION NOTES:

1. PROVIDE EITHER STANDARD OR HORIZONTAL SHORT SLOTTED HOLES AS PERMITTED BY AISC J3.2 IN THE BEAM WEB AND/OR THE SHEAR PLATE.
2. WHERE SHORT-SLOTTED HOLES ARE USED, PROVIDE HARDENED WASHERS PER AISC J3.2.
3. ASTM A325-N BOLTS TO BE SNUG TIGHT UNLESS OTHERWISE NOTED
4. COPE DEPTHS (SINGLE AND DOUBLE) SHALL NOT EXCEED THE LESSER OF THOSE SHOWN IN SCHEDULE, NOR AS ALLOWED BY BOLT HOLE SPACING AND MINIMUM EDGE DISTANCE REQUIREMENTS. SINGLE COPE LENGTH SHALL NOT EXCEED 6 1/2". DOUBLE COPE LENGTHS SHALL NOT EXCEED THAT REQUIRED TO ACCOMMODATE GIRDER FLANGE + 1/2" MAXIMUM GAP BETWEEN FLANGES.
5. NR = NOT RECOMMENDED. DOUBLE COPES FOR THESE BEAMS ARE RESTRICTED BY CONNECTION GEOMETRY AND/OR LARGE REDUCTIONS IN SHEAR CAPACITY. DOUBLE COPES ARE POSSIBLE, BUT CAPACITIES MUST BE CALCULATED FOR SPECIFIC BEAM AND GIRDER GEOMETRIES AND MUST BE DETAILED SEPARATELY.
6. WELD SIZE 'f' TO BE THE GREATER OF THE SIZE SHOWN AND THE AWS MINIMUM.
7. DIMENSION 'k' IS AS DEFINED IN THE AISC MANUAL OF STEEL CONSTRUCTION FOR EACH STEEL SHAPE.
8. WHERE SC IS INDICATED ON PLAN, CONNECTION IS SLIP CRITICAL, BOLTS ARE TO BE A325-SC AND FAYING SURFACES ARE TO BE PREPARED AS REQUIRED FOR CLASS A OR BETTER SLIP CRITICAL JOINTS, AT SLIP CRITICAL CONNECTIONS, CENTER SHEAR PLATE VERTICALLY ON CONNECTED BEAM.
9. WHERE SFRS IS INDICATED ON PLAN, CONNECTION IS PART OF THE SEISMIC FORCE RESISTING SYSTEM. REFER TO NOTES 3, 4 AND 5 IN THE "SEISMIC FORCE RESISTING SYSTEM" SECTION OF THE GENERAL STRUCTURAL NOTES FOR BOLTING AND WELDING REQUIREMENTS

TYPICAL SHEAR PLATE CONNECTION

BEAM TO WIDE FLANGE COLUMN FLANGE
REF "TYPICAL SHEAR PLATE CONNECTION" FOR ADDL INFO

TYPICAL SECTION AT INTERIOR COLUMN

BEAM TO BEAM CONNECTION
REF "TYPICAL SHEAR PLATE CONNECTION" FOR ADDL INFO

BEAM TO WIDE FLANGE COLUMN WEB (BEAM FITS INSIDE COLUMN)
REF "TYPICAL SHEAR PLATE CONNECTION" FOR ADDL INFO

NOTE: ADDITIONAL INFORMATION PER TYPICAL SECTION AT INTERIOR COLUMN

TYPICAL SECTION AT CORNERS AND (3) SIDED CONDITIONS

FULL DEPTH SHEAR PL CONNECTION (DENOTED BY, F ON PLAN
REF "TYPICAL SHEAR PLATE CONNECTION" FOR ADDL INFO

BEAM TO WIDE FLANGE COLUMN WEB
REF "TYPICAL SHEAR PLATE CONNECTION" FOR ADDL INFO

4 SINGLE SHEAR PLATE CONNECTIONS
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TYPICAL STEEL DETAILS

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FOR OPENINGS 7' - 0" AND LESS

SECTION A-A
NTS

NOTES:
1. DETAIL APPLIES FOR PENETRATIONS AND OPENINGS NOT SHOWN IN THE PLANS. COORDINATE LOCATIONS AND SIZES WITH DRAWINGS FROM OTHER DISCIPLINES.
2. INSTALL REINFORCING BEFORE CUTTING HOLES.
3. THE OPENING NOTED REQUIRES A CLEAR SPACING BETWEEN ADJACENT OPENINGS OF THREE TIMES THE MAXIMUM OPENING DIMENSION. IF THE REQUIRED LAYOUT CANNOT CONFORM TO THIS REQUIREMENT, REINFORCE THE GROUP OF OPENINGS AS IF IT IS ONE COMBINED PENETRATION.

1 TYPICAL PENETRATIONS THROUGH STL ROOF DECK
NTS

2 TYPICAL EDGE OF ROOF DECK
NTS

3 SLAB ON METAL DECK SUPPORT AT CORNER COLUMN
NTS

NOTE:
CONDITION APPLIES WHEN DECK SPANS PERPENDICULAR TO SUPPORTED BEAM.

BM TO BM OR BM TO COL MOMENT CONN

4 TYPICAL DECK SUPPORT @ MOMENT CONN
NTS

MOMENT FRAME CONN @ ROOF W/ DROPPED BEAM

5 TYPICAL STL COL BASE ON FDN WALL - 4 BOLT
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6 BM TO BM MOMENT CONNECTION
NTS

7 DOUBLE BM OVER COLUMN MOMENT CONNECTION
NTS

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TYPICAL STEEL DETAILS

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ELEVATION VIEW

SECTION A-A

SECTION B-B (PLAN VIEW)

BM SIZE	Nvb	Sv	Lslot	Lev	Leh
W12	(3)	2 3/16"	1 1/2"	1 1/8"	1 3/4"
W14	(3)	2 3/4"	1 1/2"	1 1/8"	1 3/4"
W16	(3)	2 3/4"	1 1/2"	1 1/8"	1 3/4"
W18	(3)	3 1/4"	1 1/2"	1 1/8"	1 3/4"
W21	(5)	2 3/8"	1 7/8"	1 1/8"	1 3/4"
W24	(5)	2 3/4"	1 7/8"	1 1/4"	1 3/4"
W27	(7)	2 5/16"	2 3/8"	1 1/4"	1 3/4"
W30	(7)	2 3/4"	2 3/8"	1 1/4"	1 3/4"

SHEAR PL DETAIL

NOTES:
1. SIMPSON STRONG-TIE YIELD-LINK MOMENT CONNECTION STRUCTURAL FUSE ARE PROTECTED UNDER ONE OR MORE OF THE FOLLOWING US PATENTS AND APPLICATIONS: US PATENT NO. 8,001,734 B2, US PATENT NO. 8,375,652 B2, AND US PATENT PUBLICATION NO. 2015/0159362, AND MUST BE SUPPLIED OR LICENSED THROUGH SIMPSON STRONG-TIE.
2. THE FABRICATOR SHALL REQUEST YIELD LINK DETAIL SHEETS FROM SIMPSON STRONG-TIE FOR LINK DIMENSIONS AND THICKNESSES, BOLT DIAMETERS AND SPACINGS, AND REQUIREMENTS FOR BUCKLING-RESTRAINT PLATES AND SPACER PLATES.
3. REFER TO MOMENT FRAME ELEVATIONS FOR INFORMATION ON STIFFENER PLATES, SHEAR PLATES, AND YIELD-LINKS AT EACH BEAM/COLUMN CONNECTION. NOMENCLATURE FOLLOWS THESE CONVENTIONS:
   A. STPx: x IS x/8-INCH THICK STIFFENER PLATE. E.G., STP4 DENOTES A 1/2" PLATE.
   B. STx-yz-w: x IS x/8-INCH THICK SHEAR PLATE; y IS y/8-INCH DIAMETER BOLT; z IS BOLT GRADE/THREAD CONDITION: A = A325N, B = A325X, C = A490N, D = A490X; w IS THE NUMBER OF HORIZONTAL BOLTS. E.G., ST4-7A-2 DENOTES A 1/2" PLATE WITH 7/8" DIAMETER A325N BOLTS AND TWO HORIZONTAL BOLTS.
   C. YLx-y: x IS x/8-INCH THICK LINK STEM, y IS THE LINK YIELDING WIDTH; SEE YIELD-LINK DETAIL.
   D. DPx: x IS x/8-INCH THICK DOUBLER PLATES (i.e. DP4 IS 1/2" THICK DOUBLER PLATE.)
4. SIZE OF WELD W1 SHALL BE 5/8 TIMES THE THICKNESS OF THE CONNECTED PLATE.
5. PROTECTED ZONES OF THE CONNECTION INCLUDES THE FOLLOWING ELEMENTS:
   A. YIELD-LINK
   B. BUCKLING RESTRAINT PLATES
   C. BEAM FLANGE AREAS CONNECTED TO THE YIELD-LINK STEM
   D. COLUMN FLANGE AREAS CONNECTED TO THE YIELD-LINK FLANGE
   E. SHEAR PLATE AND BEAM WEB INTERFACING WITH SHEAR PLATE
6. BOLT HOLES IN THE BEAM FLANGES AND BEAM WEBS SHALL BE STANDARD HOLES.
7. COMPLY WITH THE FOLLOWING BOLT INSTALLATION REQUIREMENTS:
   A. LINK FLANGE TO COLUMN FLANGE: SNUG-TIGHT OR PRETENSIONED
   B. LINK STEM TO BEAM FLANGE: PRETENSIONED
   C. BUCKLING-RESTRAINT PLATE TO BEAM FLANGE: MUST BE SNUG-TIGHT
   D. SHEAR PLATE TO BEAM WEB: SNUG-TIGHT OR PRETENSIONED

1 TYPICAL YIELD-LINK CONN
NTS

NOTES:
1. DETAIL APPLIES WHERE BOLTS ENCROACH UPON K-REGION OF COLUMN FLANGE
2. FINGER SHIM SHALL BE STRUCTURAL GRADE STEEL MATERIAL. TRIM TO FIT AS REQUIRED.
3. K1 VALUE FOR STEEL SHAPE VARIES. BOLT WASHER/SHIM SHALL BEAR FLAT ON COLUMN FLANGE.
4. SEE RCSC SPECIFICATION ON USE OF WASHERS ON SLOPING SURFACES.

2 TYP BOLT BEARING NEAR COLUMN WEB
NTS

ELEVATION VIEW

SECTION A-A

3 TYPICAL COVER PL OVER YIELD-LINK
NTS

SECTION A-A

4 MOMENT FRAME BASEPLATE
NTS

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TYPICAL YIELD LINK DETAILS

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NOTES:
1. JOIST SEAT DEPTH IS MEASURED FROM BOTTOM OF STEEL DECK TO TOP OF WIDE FLANGE BEAM.
2. JOIST SEAT DEPTH SHOWN IS TYPICAL.

1 OWSJ PERPENDICULAR TO EXTERIOR WF BM
NTS

NOTES:
1. USE AT ALL POINTS OF CONCENTRATED LOADS OCCURRING BETWEEN JOISTS PANEL POINTS JOIST MANUFACTURER TO SHOP REINFORCE AT ALL CONCENTRATED LOADS WHERE LOCATION IS SHOWN ON DRAWINGS.
2. SEE MECHANICAL FOR LOAD LOCATIONS AND MAGNITUDES.

2 JOIST REINFORCING DETAIL
NTS

LOADS
DL = DEAD LOAD
SL = SNOW LOAD
WL+ = DOWNWARD WIND LOAD
WL- = UPLIFT WIND LOAD
WLA = AXIAL WIND LOAD
EQ = AXIAL EARTHQUAKE LOAD

NOTES:
1. DEAD LOAD DOES NOT CONTAIN AN ALLOWANCE FOR JOIST SELF WEIGHT. DISTRIBUTE DEAD LOADING TO TOP AND BOTTOM CHORDS AS SHOWN.
2. DESIGN ALL OPEN WEB JOISTS FOR A 2 KIP (0.6W OR 0.7E - ASD) AXIAL LOAD UNLESS A LARGER LOAD IS OTHERWISE SPECIFIED ON PLAN.
3. AXIAL LOADS ARE APPLIED TO THE TOP CHORD AND MAY RESULT IN COMPRESSION OR TENSION THAT IS TO BE TRANSFERRED THRU THE SEAT. DESIGN JOISTS AND SEAT FOR THE CONTROLLING LOADING CONDITION.
4. DEAD AND SNOW LOADS SHALL BE APPLIED VERTICALLY. WIND LOADS SHALL BE APPLIED PERPENDICULAR TO THE ROOF PLANE.
5. REFER TO THE PLANS FOR ADDITIONAL LOADS FROM EQUIPMENT AND FURNISHING TO BE SUPPORTED BY JOISTS. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF SUCH ITEMS WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS.
6. JOIST MANUFACTURER SHALL COORDINATE WEB CONFIGURATION W/ MECHANICAL CONTRACTOR TO ALLOW FOR DUCTING.
7. JOIST SUPPLIER SHALL REFER TO PLANS FOR SEAT DEPTHS (EXTEND FROM BOTTOM OF DECK ELEVATION TO TOP OF JOIST BEARING ELEVATION).
8. DESIGN JOISTS FOR AN ADD-LOAD AND A BEND-CHECK LOAD (FOR TOP & BOTTOM CHORD) OF 500 POUNDS.
9. REFER TO 'STEEL JOIST FRAMING' SECTION OF GENERAL STRUCTURAL NOTES FOR ADDITIONAL DESIGN REQURIEMENTS.

3 OPEN-WEB STEEL JOIST LOADING
NTS

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TYPICAL STEEL JOIST DETAILS

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1 STEEL BEAM AT HSS COLUMN
NTS

DOUBLE BM OVER COLUMN MOMENT CONNECTION W/ COLUMN ABOVE
2 NTS

3 HSS TO HSS CONNECTION
NTS

4 HSS EDGE BM TO W-BM
NTS

5 HSS COLUMN TO TOP OF WF BEAM
NTS

6 HSS BM TO HSS COL WELDED
NTS

NOTE:
SEE DETAIL 2 / S7-4 FOR ADDITIONAL INFORMATION AT PERPENDICULAR TRUSS CONNECTION.

10 APPARATUS BAY - WALL TRANSITION
NTS

NOTE:
WHERE W-BM FRAMES INTO BURIED HSS POST, PROVIDE BEAM TO POST CONNECTION PER 4 / S6-1

7 HSS POST BURIED IN WOOD WALL
NTS

NOTES:
1. PROVIDE FABREEKA-TIM WASHERS AND BUSHINGS AND HARDENED WASHERS AS RECOMMENDED BY MANUFACTURER TO THERMALLY ISOLATE BOLTS; INSTALL BOLTS SNUG TIGHT.
2. PLATE WIDTH, 'B', SHALL BE THE GREATER OF THE BEAM WIDTH PLUS 1" (ROUNDED UP TO NEAREST 1/2") AND 6"
3. NUMBER OF BOLTS, 'N', SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
   A. 14" DEEP BEAMS AND SHALLOWER: 'N' = 4

8 CANOPY CANTILEVER AT APPARATUS BAY
NTS

NOTE:
FOR BALANCE OF REQUIREMENTS, SEE 4 / S6-1.

9 TYPICAL HSS BM TO HSS COL CONN
NTS

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STEEL DETAILS

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1 STEEL JOIST AT STEEL BEAM
NTS

2 STEEL DECK AT STEEL BEAM
NTS

3 STEEL DECK AT STEEL BEAM
NTS

4 STEEL CHANNEL AT STEEL BEAM
NTS

5 STEEL CHANNEL AT STEEL COLUMN
NTS

NOTE:
1. GC TO COORDINATE FINAL LOCATIONS OF PL3/16 ON CHANNEL RELATIVE TO ROOF TRUSS FRAMING ABOVE AND MAXIMUMS PROVIDED ON PLAN. THREADED ROD SHALL BE INSTALLED IN-BETWEEN ROOF TRUSSES ABOVE.
2. GC TO COORDINATE LOCATION OF 2x6 (FLAT) SUPPORT RELATIVE TO TRUSS PANEL POINTS TO ENSURE NO CLONFLICT OCCURS.

6 STEEL ROD AT PERIMETER CHANNEL
NTS

7 APPARATUS BAY SOFFIT SUPPORT
NTS

8 SOFFIT SUPPORT AT HSS STUBS
NTS

9 HSS GIRT AT HSS COLUMN
NTS

10 STEEL BRACE AT STEEL COLUMN
NTS

11 STEEL BRACE AT STEEL COLUMN
NTS

12 GRATING AT HSS
NTS

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1 GRATING AT WF BEAM
NTS

2 ZIP LINE HSS - ROOF DETAIL
NTS

3 STEEL BEAM AT OPENING
NTS

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1 TYPICAL SILL PLATE ANCHORAGE
NTS

TYPICAL NOTES FOR BEARING WALLS:
1. HOLES SHALL NOT BE LOCATED IN THE SAME STUD AS A CUT OR NOTCH.
2. CONTACT SEOR PRIOR TO CUTTING OR NOTCHING TO VERIFY SIZE AND LOCATION IF HOLES GREATER THAN 20% STUD WIDTH OR NOTCHES GREATER THAN 10% STUD WIDTH ARE REQUIRED IN TWO OR MORE CONSECUTIVE STUDS.
3. THIS DETAIL APPLIES TO SOLID SAWN LUMBER ONLY, NOT TO ENGINEERED WOOD PRODUCTS OR GLULAMS.
4. AT EXTERIOR WALLS, NOTCHES ARE NOT PERMITTED.
5. CONTACT ENGINEER IF CONDITIONS EXCEED THOSE SHOWN.

2 HOLES AND NOTCHES IN STUD
NTS

SCT	NO OF LAMINATIONS	NAIL SIZE	EDGE DISTANCE	END DISTANCE
2x4	2	10d	1"	2 1/2"
	3	30d	1 1/4"	3 1/2"
	4	60d	1 3/8"	4"
2x6	2	10d	1 1/2"	2 1/2"
	3	30d	1 1/2"	3 1/2"
	4	60d	1 3/8"	4"

NOTES:
1. TABLE VALUES ABOVE ARE BASED ON COMMON PENNY NAILS. SINKER NAILS MAY BE USED WITH SAME EDGE/END DISTANCES IF 16d SIZE IS USED IN LIEU OF 10d. BOX NAILS ARE NOT ALLOWED.
2. * DENOTES BUILT-UP MEMBERS REQUIRING (3) ROWS OF FASTENERS, SEE ADJACENT LAYOUT.
3. ALL NAILS MUST PENETRATE ALL LAMINATIONS AND @ LEAST 3/4 OF THE THICKNESS OF THE OUTERMOST LAMINATION (ENSURE THIS REQUIREMENT IS MET WHEN SPACERS ARE USED).

3 TYPICAL BUILT-UP STUD PACK FASTENING
NTS

NOTES
WHERE PENETRATIONS EXCEED THESE LIMITS, CONTACT EOR.

4 NOTCHES AND PENETRATIONS IN TOP/SILL PLATES
NTS

NOTE:
SPLICE SHALL OCCUR OVER A STUD.

5 TYPICAL TOP PLATE SPLICE
NTS

6 ALLOWABLE PENETRATIONS IN GLBS
NTS

7 WOOD HEADER DETAIL
NTS

8 BEAM TO STUD WALL CONNECTION
NTS

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TYPICAL WOOD DETAILS

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1 WOOD SHEATHED SHEARWALL - SINGLE STORY
NTS

2 WOOD SHEATHED SHEARWALL - WITH STRAPPING
NTS

3 NON-BRG ROOF FRAMING DETAIL
NTS

PLAN

NOTES:
1. MAINTAIN 1/8" GAP AT ALL PANEL JOINTS; REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
2. PANELS SHALL BE 4' - 0" x 8' - 0" MINIMUM EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING; SUCH UNDERSIZED PANELS SHALL HAVE A MINIMUM DIMENSION OF 24" UNLESS EDGES ARE SUPPORTED BY AND FASTENED TO FRAMING MEMBERS OR BLOCKING.
3. INSTALL NAILS 3/8" MINIMUM FROM PANEL EDGES.

4 PLYWOOD DIAPHRAGM PANEL EDGES
NTS

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SECTION A-A

SECTION B-B

1 TYPICAL ROOF BLOCKOUT DETAIL - TRUSSES

NTS

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TYPICAL WOOD DETAILS

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1 RED BUILT TRUSSES @ EXTERIOR WALL
NTS

2 RED BUILT TRUSSES @ EXTERIOR WALL - NO OVERHANG
NTS

3 WF BEAM AT RED BUILT TRUSSES
NTS

4 RED BUILT TRUSSES @ EXTERIOR WALL WITH INSET STEEL BEAM
NTS

NOTE:
SEE DETAIL 2 / S7-4 FOR ADDITIONAL INFORMATION AT PERPENDICULAR TRUSS CONNECTION.

5 RED BUILT TRUSSES @ STUD WALL
NTS

6 RED BUILT TRUSSES @ INTERIOR WALL
NTS

7 RED BUILT TRUSSES @ INTERIOR WALL
NTS

8 RED BUILT TRUSSES @ EXT WALL W/ OVERHANG
NTS

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NOTE:
SEE DETAIL 2 / S7-4 FOR ADDITIONAL INFORMATION AT PERPENDICULAR TRUSS CONNECTION.

1 RED BUILT TRUSSES @ INTERIOR GLULAM BEAM
NTS

2 PERP FLOOR JOISTS @ EXT WOOD WALL
NTS

3 FLUSH FRAMED WOOD FLOOR BEAM
NTS

4 WOOD WALL FRAMING AT STEEL BEAM
NTS

5 WOOD WALL FRAMING AT STEEL BEAM
NTS

6 WOOD WALL FRAMING AT STEEL BEAM
NTS

7 WOOD WALL FRAMING AT STEEL BEAM
NTS

8 PATIO RAFTERS LEDGER
NTS

9 WOOD I-JOIST TO WF BEAM - FLUSH
NTS

10 RED BUILT TRUSSES @ STUD WALL
NTS

11 RED-BUILT TRUSSES AT WOOD WALL
NTS

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WOOD DETAILS

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1 RED BUILT TRUSSES @ EXTERIOR WALL
NTS

2 RED BUILT TRUSSES @ EXTERIOR WALL WITH SOFFIT
NTS

3 WOOD STUD WALL AT HSS GIRT
NTS

4 WALL MOUNTED PRESSURE WASHER SUPPORT
NTS

5 WOOD GIRT HOSE TOWER
NTS

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NOTE:
FOR TRACK SPLICE, REF "TRACK SPLICE AT TRACK TO STRUCTURE"

1 TRACK TO STRUCTURE
NTS

NOTE: FOR BALANCE OF REQUIREMENTS SEE DETAIL "TRACK TO STRUCTURE"

2 TRACK SPLICE AT TRACK TO STRUCTURE
NTS

TYPE 1 BRIDGING

TYPE 2 BRIDGING

NOTES:
1. PROVIDE BRIDGING ON ALL WALL STUDS.
2. INSTALL BRIDGING PRIOR TO INSTALLATION OF SUPPORTED FRAMING.
3. TYPE 1 BRIDGING NOT ALLOWED ON STUDS GREATER THAN 6" DEEP (d).
4. IF TOP-DOWN FINISHING IS DESIRED, THE CONTRACTOR IS RESPONSIBLE FOR EVALUATING THE UNBRACED CONDITIONS OF THE STUDS UNTIL THIS MECHANICAL BRIDGING IS INSTALLED.

3 TYP WALL BRIDGING
NTS

4 TYPICAL CFS OPENING AT TRACK HEADER
NTS

5 CFS DOOR OPENING AT BOXED HEADER
NTS

NOTE: WHERE GLAZING OCCURS AT OPENING, PROVIDE 1/2" DEFLECTION HEAD MIN

6 CFS HEADER AT HSS COLUMN
NTS

7 CFS SILL AT HSS COLUMN
NTS

8 CFS STUDS AT HSS
NTS

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TYPICAL COLD FORMED STEEL DETAILS

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