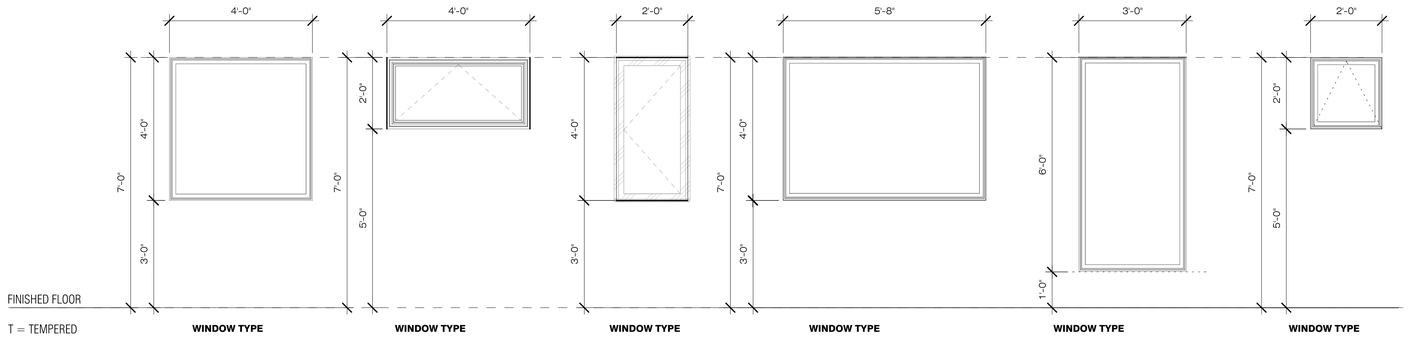


WINDOW LEGEND

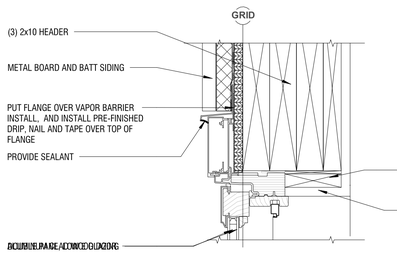
SCALE: 1/2" = 1'-0"

WINDOW SCHEDULE

MARK	TYPE	COUNT	WIDTH	HEIGHT	SILL HEIGHT	REMARKS
A	48" x 48"	10	4' - 0"	4' - 0"	3' - 0"	
B	24" x 48"	4	4' - 0"	2' - 0"	1' - 0"	
C	24" x 48"	16	2' - 0"	4' - 0"	3' - 0"	CASEMENT WINDOW
D	48" x 72"	1	5' - 8"	4' - 0"	3' - 0"	PICTURE WINDOW
E	72" x 36"	1	3' - 0"	6' - 0"	1' - 0"	PICTURE WINDOW
F	24" x 24"	2	2' - 0"	2' - 0"	5' - 0"	AWNING WINDOW

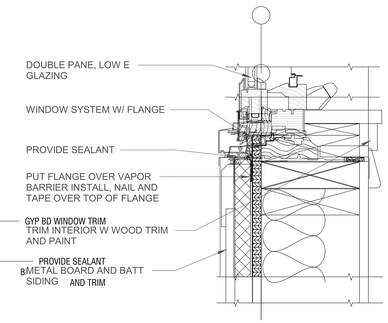
NOTE:

1. ALL GLASS WITHIN 18" OF FINISH FLOOR AND 24" FROM DOORS SHALL BE SAFETY GLASS PER IBC SECTION 2406.3.
2. ALL WINDOWS ALUM FRAMES W/ DOUBLE-PANE GLASS
3. BASES OF WINDOW DESIGN ANDERSEN E SRIES WINDOWS, E-SERIES WINDOW PRODUCTS ARE EXTRUDED ALUMINUM CLAD WOOD



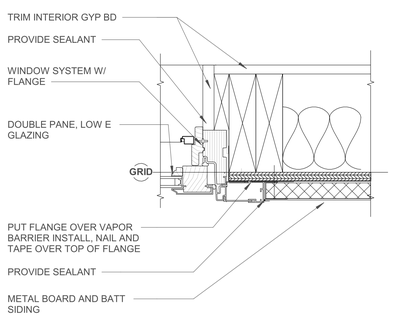
1 WINDOW HEAD

SCALE: 3" = 1'-0"



3 WINDOW SILL

SCALE: 3" = 1'-0"



2 WINDOW JAMB

SCALE: 3" = 1'-0"

WINDOW GENERAL NOTES:

1. ALL DIMENSIONS SHALL BE FIELD VERIFIED.
2. SWING INDICATION IS DIAGAMMATIC ONLY, SEE PLAN AND ELEVATION FOR ACTUAL SWING.
3. GLAZING USED IN DOORS, GLAZING WITHIN 18" OF THE FLOOR AND WITHIN A 24" ARC OF A DOOR, AND GLAZING SUBJECT TO HUMAN IMPACT SHALL BE FULLY TEMPERED OR LAMINATED GLASS.
4. ALL ENTRY DOORS TO HAVE U-FACTOR VALUE OF 0.77 OR BETTER.
5. MATCH DOOR HARDWARE TO RATING AND ACCESSIBILITY REQUIREMENTS AS REQUIRED.
6. ENTRY DOORS TO MATCH EXISTING ENTRY DOOR FINISH AND COLOR.
7. INTERIOR DOORS AND FRAMES TO MATCH EXISTING ADJACENT INTERIOR DOORS FINISH AND COLOR, UNLESS NOTED OTHERWISE.
8. AISLES LEADING TO REQUIRED EXITS SHALL HAVE A MINIMUM WIDTH OF 44". A WALKWAY WITH A MINIMUM WIDTH OF 44" SHALL BE MAINTAINED CONTINUOUSLY TO A PUBLIC WAY.
9. EXTERIOR CONCRETE SLABS AT DOOR OPENINGS SHALL HAVE A MAXIMUM SLOPE OF 1/4" PER FOOT.

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Paul Valle, Contact 406.841.4013 pvalle@mt.gov
Approver

PHASE **REVISIONS**

BID SET 12/14/2020 - REVISION #00

20011

WINDOW SCHEDULE

A801

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GENERAL NOTES

CODES & STANDARDS

1. INTERNATIONAL BUILDING CODE – 2018 IBC
2. AMERICAN SOCIETY OF CIVIL ENGINEERS – ASCE 7-16
3. AMERICAN CONCRETE INSTITUTE – ACI 318-14
4. AMERICAN INSTITUTE OF STEEL CONSTRUCTION – AISC 360-16
5. SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS – AISC 341-10
6. AMERICAN WELDING SOCIETY – AWS D1.4/D1.4M-2017
7. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION – NDS 2018
8. INTERNATIONAL MASONRY INSTITUTE – TMS 402-16/TMS 602-16
9. ASTM STANDARDS FOR THE MATERIALS SPECIFIED.

DESIGN & STRUCTURAL CRITERIA

1. PROJECT LOCATION/LOCAL JURISDICTION: LEWISTOWN, MT
2. RISK CATEGORY: CATEGORY II – FOR DETERMINATION OF LOADING, IMPORTANCE & OTHER STRUCTURAL ENGINEERING DESIGN FACTORS.
3. SOIL DESIGN CRITERIA
   - 3.1. FROST DEPTH: 48 INCHES
   - 3.2. ALLOWABLE BEARING PRESSURE: 1500 PSF
   - 3.3. COEFFICIENT OF FRICTION: .25
   - 3.4. AT-REST EARTH PRESSURE: 60 PSF/FT
   - 3.5. PASSIVE EARTH PRESSURE: 150 PSF/FT
4. DEAD LOADS
   - 4.1. ROOF DEAD LOAD: 20 PSF
   - 4.2. FLOOR DEAD LOAD: 17 PSF @ CARPET, 37 PSF @ TILE
5. LIVE LOADS
   - 5.1. ROOF LIVE LOAD: 20 PSF
   - 5.2. FLOOR LIVE LOAD: 100 PSF @ PUBLIC ROOMS, 40 PSF @ PRIVATE ROOMS, AND 15 PSF @ PARTITIONS
6. WIND DESIGN CRITERIA
   - 6.1. BASIC WIND SPEED: V = 110 MPH
   - 6.2. EXPOSURE C
7. SEISMIC DESIGN CRITERIA
   - 7.1. Ss = 0.103g, S1 = 0.047g
   - 7.2. SITE SOIL CLASSIFICATION: D
   - 7.3. SDS = 0.110g, SD1 = 0.075g
   - 7.4. SEISMIC DESIGN CATEGORY B
   - 7.5. SEISMIC DESIGN RESPONSE COEFFICIENT: Cs = 0.017
   - 7.6. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE
   - 7.7. LATERAL FORCE RESISTING SYSTEM = WOOD WALLS W/ SHEATHING, R=6.5
8. SNOW DESIGN CRITERIA
   - 8.1. GROUND SNOW LOAD (Pg): 55 PSF
   - 8.2. DESIGN ROOF SNOW LOAD (Pf): 43 PSF
   - 8.3. EXPOSURE FACTOR, Ce: 1.0
   - 8.4. THERMAL FACTOR, Ct: 1.1
   - 8.5. IMPORTANCE FACTOR, Is: 1.0
   - 8.6. ROOF SLOPE FACTOR, Cs: 1.0
   - 8.7. EXPOSURE C
   - 8.8. DRIFTING: PER CODE
   - 8.9. UNBALANCED: PER CODE
9. DEFLECTION
   - 9.1. ROOF TOTAL LOAD: L/240
   - 9.2. ROOF LIVE LOAD: L/360
   - 9.3. FLOOR TOTAL LOAD: L/240
   - 9.4. FLOOR LIVE LOAD: L/480
   - 9.5. LATERAL SYSTEMS: L/180

MISCELLANEOUS

1. REFERENCE CIVIL DRAWINGS FOR EQUIPMENT LOCATION AND ORIENTATION ON THE SITE. THE CONTRACTOR AND SUB-TRADES SHALL FURNISH ALL REQUIRED MATERIAL, LABOR, EQUIPMENT AND PERFORM ALL WORK AS NECESSARY, AS INDICATED ON THE PROJECT DOCUMENTS, OR AS REASONABLY INFERRED TO EXECUTE THE SCOPE OF WORK FOR A PROPERLY FINISHED, COMPLETE JOB.
2. THE QUALITY OF WORKMANSHIP SHOULD BE SET AND SUPERVISED BY THE CONTRACTOR TO PASS BUILDING DEPT. OR ENGINEER INSPECTION FOR ROUGH CONSTRUCTION. THE LEVEL OF QUALITY AND TOLERANCE SHALL BE APPROPRIATE FOR THE INSTALLED ELEMENT TO RECEIVE THE NEXT IN-LINE FINISH ASPECT OF CONSTRUCTION.
3. THE PURPOSE OF PROJECT DRAWINGS IS TO DEPICT THE OVERALL SCOPE OF THE PROJECT. THE PROJECT DRAWINGS HAVE BEEN DEVELOPED TO SHOW A LEVEL OF DETAIL WITH THE OBJECTIVE OF PLAN CHECK APPROVAL AND ISSUANCE OF A BUILDING PERMIT. THIS MODERATE LEVEL OF DETAIL USED SHOULD ALLOW FOR A VARIETY OF STANDARD CONSTRUCTION METHODS AND SEQUENCES. THE PROJECT DRAWINGS ARE INTENDED TO COMPLY WITH THE ORDINANCES, RULES AND REGULATIONS OF THE JURISDICTION IN WHICH THE BUILDING IS LOCATED.
4. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNOLOGIES, SEQUENCES AND PROCEDURES.
5. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.
6. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.
7. OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. THEY SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF THEY CHOOSE AN OPTION AND THEY SHALL COORDINATE ALL DETAILS.
8. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
9. TYPICAL DETAILS ARE NOT CUT ON DRAWINGS, BUT APPLY UNLESS NOTED OTHERWISE.
10. IN THE CASE OF DISCREPANCIES BETWEEN THE GENERAL NOTES, SPECIFICATIONS, PLANS/DETAILS OR REFERENCE STANDARDS, THE ARCHITECT/ENGINEER SHALL DETERMINE WHICH SHALL GOVERN. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK. SHOULD ANY DISCREPANCY BE FOUND IN THE CONTRACT DOCUMENTS, THE CONTRACTOR WILL BE DEEMED TO HAVE INCLUDED 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. ACCORDINGLY, ANY CONFLICT IN OR BETWEEN THE CONTRACT DOCUMENTS SHALL NOT BE A BASIS FOR ADJUSTMENT IN THE CONTRACT PRICE.
11. VISITS TO THE JOBSITE BY THE ENGINEER TO OBSERVE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT THEY ARE THE GUARANTORS OF THE CONTRACTORS WORK, NOR SUPERVISION, NOR SAFETY AT THE JOBSITE.

GENERAL NOTES - CONT

12. REVIEW OF SHOP DRAWINGS BY THE ENGINEER IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE CONTRACT DOCUMENTS. REVIEW OF SUCH SHOP DRAWINGS BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR CORRECTNESS OF DIMENSIONS, FABRICATION DETAILS, SPACE REQUIREMENTS, AND ERRORS IN THE SHOP DRAWINGS, OR FOR DEVIATIONS FROM THE CONTRACT DRAWINGS OR SPECIFICATIONS UNLESS THE CONTRACTOR HAS SPECIFICALLY CALLED ATTENTION TO SUCH DEVIATIONS IN WRITING BY A LETTER ACCOMPANYING THE SHOP DRAWINGS AND THE ENGINEER APPROVES SUCH CHANGE OR DEVIATION IN WRITING.
13. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK THAT CONFORMS TO THE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SAFETY AND HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY.
14. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION. DO NOT PENETRATE ANY STRUCTURAL ELEMENTS (BEAMS, COLUMNS, WALLS, SLABS, STEEL DECKS, ETC.) WITHOUT PRIOR WRITTEN APPROVAL OF STRUCTURAL ENGINEER THROUGH ARCHITECT.
15. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED.
16. CONTRACTOR SHALL COORDINATE ALL DIMENSIONS AND ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS. NOTED SCALES ARE INTENDED FOR FULL SIZE PLANS. DO NOT SCALE DRAWINGS, USE FIGURED DIMENSIONS ONLY.

CONCRETE

1. CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE" AND ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE." ALL REINFORCING SHALL CONFORM TO THE CRSI SPECIFICATIONS & HANDBOOK. CONCRETE PLACEMENT SHALL MEET ALL COLD WEATHER AND HOT WEATHER REQUIREMENTS OUTLINED IN ACI 306 & 305 RESPECTIVELY.
2. ADDITION OF WATER TO THE BATCH FOR MATERIAL WITH INSUFFICIENT SLUMP WILL NOT BE PERMITTED, UNLESS THE SUPPLIER HAS SPECIFICALLY WITHHELD WATER FROM THE BATCH AT THE PLANT. IN SUCH CASE THE MIX DESIGN AND TRUCK TICKET MUST CLEARLY STATE THE MAXIMUM AMOUNT OF WATER THAT CAN BE ADDED TO THE BATCH ON SITE. IN NO CASE SHALL THE DESIGN WATER TO CEMENTITIOUS MATERIAL RATIO BE EXCEEDED.
3. CONCRETE CONTAINING SUPERPLASTICIZING ADMIXTURE SHALL HAVE A SLUMP OF 4" +/- 1", TO BE FIELD VERIFIED, PRIOR TO ADDING ADMIXTURE, AND NOT EXCEEDING 8" AT PLACEMENT.
4. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, INCLUDING SLABS ON GRADE AT 2'-0" OC AROUND AND UNDER-FLOOR DUCTS AND SLAB EDGES, REINFORCING, KEYS, ETC. MECHANICALLY VIBRATE ONLY THE TOP 5 FEET OF CAISSON CONCRETE. REVIBRATE TOP OF CAISSON 15 MINUTES AFTER PLACING CONCRETE.
5. IF CONCRETE IS PLACED BY THE PUMP METHOD, SUPPORTS SHALL BE PRODUCED FOR THE HOSE. THE HOSE SHALL NOT BE ALLOWED TO CONTACT THE REBAR OR TENDONS. THIS REQUIREMENT IS MANDATORY. DISCHARGE SHALL BE DIRECTED SO AS TO PREVENT DISPLACEMENT OF REBAR, TENDONS, OR ACCESSORIES.
6. REINFORCING SHALL BE CONTINUOUS AROUND ALL CORNERS AND THROUGH CONSTRUCTION JOINTS UNLESS SHOWN OTHERWISE.
7. ALL HOOKS ON ALL BARS SHALL BE STANDARD 90 DEGREE HOOKS UNLESS SHOWN OTHERWISE.
8. REINFORCING STEEL SHALL NOT BE BENT OR STRAIGHTENED IN A MANNER INJURIOUS TO THE CONCRETE OR STEEL.
9. ALL REINFORCING TO BE WELDED SHALL BE WELDED IN ACCORDANCE WITH AWS D1.4. NO TACK WELDING OF REINFORCING BARS IS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE BY STRUCTURAL ENGINEER.
10. ALL CONDUITS, GROUND WIRES, DRAINS, ANCHOR BOLTS, OTHER EMBEDDED ITEMS, ETC. SHALL BE IN PLACE BEFORE CONCRETE PLACEMENT.
11. REINFORCING LAP SPLICES IN CONCRETE SHALL BE PER TYPICAL DETAIL UNLESS NOTED OTHERWISE. ALL SPLICE LOCATIONS ARE SUBJECT TO APPROVAL. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF FOOTINGS AND WALLS.
12. ALL FIELD BENDING OF REINFORCING SHALL BE STANDARD 90 DEGREE HOOKS AS DEFINED IN CURRENT ACI 318 UNLESS NOTED OR DETAILED OTHERWISE.
13. WHEN TOTAL NUMBER OF REINFORCING BARS IS SHOWN ON DESIGN DRAWINGS AND SPACING IS NOT SPECIFIED, BARS SHALL BE EQUALLY SPACED.
14. DETAILS OF REINFORCING NOT SHOWN IN THESE PLANS SHALL BE DONE IN ACCORDANCE WITH ACI 315 AND ACI 318.
15. DRILLED PIER CONCRETE SHALL BE CHANNELED TO FREE FALL DOWN THE SHAFT WITHOUT STRIKING THE REINFORCING OR THE SIDES OF THE SHAFT. MAXIMUM HEIGHT OF FREE-FALL IS 10'-0".
16. ALL SLABS-ON-GRADE SHALL HAVE CONTROL JOINTS CUT IN CONCRETE WITHIN 8 HOURS OF PLACEMENT AT A SPACING NO GREATER THAN 10' OCEW (UNO ON PLANS).

FOUNDATION AND SOIL PREPARATION

SITE GRADING AND EXCAVATIONS

1. FOUNDATIONS HAVE BEEN DESIGNED BASED ON RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL EVALUATION BY TD&H ENGINEERING DATED JUNE 2020. THE FOLLOWING NOTES ARE TYPICAL AND SHALL NOT GOVERN SITE SPECIFIC REQUIREMENTS AS OUTLINED IN THIS REPORT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THIS REPORT AND FOLLOWING THOSE RECOMMENDATIONS.
2. CONFORM TO IBC CHAPTER 18 "SOILS AND FOUNDATIONS".
3. ALL TOPSOIL AND ORGANIC MATERIAL, ASPHALT, CONCRETE AND RELATED CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE PROPOSED BUILDING AND PAVEMENT AREAS AND ANY AREAS TO RECEIVE SITE GRADING FILL. FOR PLANNING PURPOSES, A MINIMUM STRIPPING THICKNESS OF 6 INCHES IS RECOMMENDED. THICKER STRIPPING DEPTHS MAY BE WARRANTED TO REMOVE ALL DETRIMENTAL ORGANICS AS DETERMINED ONCE ACTUAL STRIPPING OPERATIONS ARE PERFORMED.
4. ALL FILL AND BACKFILL SHALL BE NON-EXPANSIVE, FREE OF ORGANICS AND DEBRIS AND SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER. ALL FILL SHALL BE PLACED IN UNIFORM LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS FOR FINE-GRAINED SOILS AND NOT EXCEEDING 12 INCHES FOR GRANULAR SOILS. ALL FILL AND BACKFILL SHALL BE COMPACTED TO THE FOLLOWING PERCENTAGES OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698 OR EQUIVALENT (E.G. ASTM D4253-D4254).
   - 4.1. BELOW FOUNDATIONS OR SPREAD FOOTINGS................................ 95%
   - 4.2. BELOW SLAB-ON-GRADE CONSTRUCTION.. 95%
   - 4.3. FOUNDATION WALL BACKFILL.. 95%
   - 4.4. GENERAL LANDSCAPING OR NONSTRUCTURAL AREAS.................... 92%
5. IMPORTED STRUCTURAL FILL SHALL BE NON-EXPANSIVE, FREE OF ORGANICS AND DEBRIS, AND CONFORM WITH THE MATERIAL REQUIREMENTS OUTLINED IN SECTION 02234 OF MPWSS.

SPREAD FOOTING FOUNDATIONS

1. BOTH INTERIOR AND EXTERIOR FOOTINGS SHALL BEAR ON PROPERLY COMPACTED NATIVE SOILS. AN ALLOWABLE SOIL BEARING PRESSURE OF 1,500 PSF WAS USED FOR ALL FOOTINGS.
2. SOILS DISTURBED BELOW THE PLANNED DEPTHS OF FOOTING EXCAVATIONS SHALL EITHER BE RECOMPACTED OR BE REPLACED WITH SUITABLE COMPACTED BACKFILL APPROVED BY THE GEOTECHNICAL ENGINEER.
3. THE BOTTOM OF THE FOOTING EXCAVATIONS SHALL BE FREE OF COBBLES AND BOULDERS TO AVOID STRESS CONCENTRATIONS ACTING ON THE BASE OF THE FOOTINGS.
4. A REPRESENTATIVE OF THE PROJECT GEOTECHNICAL ENGINEER SHALL OBSERVE ALL FOOTING EXCAVATIONS AND BACKFILL PHASES PRIOR TO THE PLACEMENT OF CONCRETE FORMWORK.

FLOOR SLABS AND EXTERIOR FLATWORK

1. FOR NORMALLY LOADED, SLAB-ON-GRADE CONSTRUCTION, A MINIMUM 6-INCH CUSHION COURSE CONSISTING OF FREE-DRAINING, CRUSHED GRAVEL SHOULD BE PLACED BENEATH THE SLABS AND COMPACTED TO A MINIMUM OF 95 PERCENT DENSITY PER ASTM D698 (OR EQUIVALENT PER ASTM D4253-D4254). THIS MATERIAL SHOULD CONFORM TO SECTION 02235 OF MPWSS AND INCORPORATE A MAXIMUM PARTICLE SIZE OF ¾-INCH. PRIOR TO PLACING THE CUSHION COURSE, THE UPPER SIX INCHES OF SUBGRADE SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DENSITY PER ASTM D698.

LEGEND AND ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING MATERIAL
AWS	AMERICAN WELDING SOCIETY
@	AT
BLDG	BUILDING
BLK'G	BLOCKING
BM	BEAM
BOC	BOTTOM OF CONCRETE
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STEEL/SLAB
BOT	BOTTOM OF
BRG	BEARING
BTB	BACK TO BACK
BTWN	BETWEEN
C	STEEL CHANNEL
CFS	COLD FORMED STEEL
CIP	CAST IN PLACE
CJ	CONTROL JOINT
℄ OR CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
DEMO	DEMOLISH
DET	DETAIL
DF	DOUGLAS FIR
ø OR DIA	DIAMETER
DIM	DIMENSION
DJ	DOUBLE JOIST
DWG	DRAWING
EA	EACH
EA WAY OR EW	EACH WAY
EF	EACH FACE
EJ	EXPANSION JOINT
EL OR ELEV	ELEVATION
EMBED	EMBEDMENT
ENG	ENGINEER
EOR	ENGINEER OF RECORD
EQ	EQUAL
EXIST OR (E)	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FDT OR FND	FOUNDATION
FF	FINISH FLOOR
FLR	FLOOR
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GEN	GENERAL
GLB	GLULAM BEAM
GR	GRADE

HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCT STEEL
IBC	INTERNATIONAL BUILDING CODE
INT	INTERIOR
L	STEEL ANGLE
LG	LIGHT GAUGE
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
MAX	MAXIMUM
MCJ	MASONRY CONTROL JOINT
MECH	MECHANICAL
MANUF OR MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NO. OR #	NUMBER
(N)	NEW
NTS	NOT TO SCALE
OC	ON CENTER
OCEF	ON CENTER EACH FACE
OCEW	ON CENTER EACH WAY
OPP	OPPOSITE
OWJ	OPEN WEB JOIST
PEMB	PRE-ENGINEERED METAL BUILDING
PLCS	PLACES
PL	PLATE
PREFAB	PREFABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
REV	REVISION/REVISED
SCH OR SCHED	SCHEDULE
SFE	SUBFLOOR ELEVATION
SHT	SHEET
SIM	SIMILAR
SOG	SLAB-ON-GRADE
SPCS OR SPA	SPACE(S)
SPEC	SPECIFICATION(S)
SQ	SQUARE
STD	STANDARD
STRUCT	STRUCTURAL
SYM	SYMMETRICAL
T&B	TOP & BOTTOM
T&G	TONGUE & GROOVE
THRU	THROUGH
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL/SLAB
TOW	TOP OF WALL
TRANS	TRANSVERSE
TYP	TYPICAL
VIF	VERIFY IN FIELD
VERT	VERTICAL
UNO	UNLESS NOTED OTHERWISE
W/	WITH
WF	WIDE FLANGE
WP	WORK POINT
WT	WEIGHT

CONCRETE

CONCRETE MASONRY UNIT

STEEL IN SECTION

ELEVATION NOTED

X FLAG NOTE

1 REVISION SPECIFIED

1 SECTION OR DETAIL DESIGNATION SYMBOL

S1.0 SHEET NUMBER WHERE SECTION OR DETAIL IS SHOWN

DRYPACK/FLOWABLE GROUT

1. THE SPACE BENEATH ALL BASEPLATES AND BEARING PLATES SHALL BE THOROUGHLY CLEANED BEFORE DRYPACKING OR GROUTING. DRYPACK/GROUT SOLID BENEATH ALL BASEPLATES AND BEARING PLATES. NO VOIDS ARE PERMISSIBLE. USE OF DRYPACK OR FLOWABLE GROUT IS AT THE PLANS OR DETAILS, DRYPACK/GROUT PER THE FOLLOWING:
   - 1.1. DRYPACK – PORTLAND CEMENT, ASTM C150, TYPE I; AND CLEAN, NATURAL SAND, ASTM C404, SIZE NO. 2, MINIMUM COMPRESSIVE STRENGTH SHALL BE 5000 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C109.
   - 1.2. FLOWABLE GROUT – PREMIXED, NONMETALLIC, NONCORROSIVE, NONSTAINING GROUT CONTAINING SELECTED SILICA SANDS, PORTLAND CEMENT, SHRINKAGE COMPENSATING AGENTS, PLASTICIZING AND WATER-REDUCING AGENTS, COMPLYING WITH ASTM C1107, OF CONSISTENCY SUITABLE FOR APPLICATION, AND A 30-MINUTE WORKING TIME. MINIMUM COMPRESSIVE STRENGTH SHALL BE 5000 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH ASTM C1107.
2. GROUTING IS THE RESPONSIBILITY OF THE CONCRETE CONTRACTOR. GROUTING SHOULD BE PREFORMED PROMPTLY ONCE STEEL COLUMNS ARE IN THEIR FINAL LOCATIONS. STEEL ERECTOR SHALL NOTIFY CONCRETE CONTRACTOR IMMEDIATELY UPON FINAL PLACEMENT OF COLUMNS.

TD&H Engineering
tdhengineering.com

MONTANA
BRADY S. [illegible]
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FWP BIG SPRINGS RESIDENCE

Big springs Trout Hatchert, Lewistown, MT 59404
Paul Valle, Contact 406.841.4013 pvalle@mt.gov

PHASE	REVISIONS
100% CD BID SET	# Date

20011

GENERAL STRUCTURAL NOTES

S1.0

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MATERIALS

STRUCTURAL STEEL	W & WT	ASTM A992, Fy = 50 KSI
	CHANNEL & ANGLE	ASTM A36, Fy = 36 KSI
	PLATES	ASTM A36, Fy = 36 KSI
	HSS SQ OR RECT	ASTM A500, GR C, Fy = 50 KSI
	HSS ROUND	ASTM A500, GR C, Fy = 46 KSI
CONCRETE	ALL (U.N.O.)	PORTLAND CEMENT ASTM C150 TYPE II W/C RATIO = 0.45 MAXIMUM 28 DAY f'c = 4000 PSI SLUMP RANGE 3–5 INCHES AIR CONTENT = 4.5 – 7.5% (AIR CONTENT OF SLABS–ON–GRADE MAY BE REDUCED TO 2% MIN IF THE SLAB WILL BE PROTECTED FROM FREEZE/THAW CYCLES DURING AND AFTER CONSTRUCTION.) ¾" MAXIMUM NORMAL WEIGHT AGGREGATE
REINFORCING BARS		ASTM A615, GRADE 60 (NON–WELDABLE) ASTM A706, GRADE 60 (WELDABLE) ASTM A–185 (WELDED WIRE FABRIC)
ANCHOR RODS		ASTM F1554, GRADE 36
HIGH STRENGTH BOLTS		ASTM A325N
BOLTS		ASTM A307, GALVANIZED PER ASTM A153 (ONLY WHERE NOTED ON PLANS)
WELD METAL		E70XX ELECTRODE
ADHESIVE ANCHORS	CONCRETE	HILTI HIT RE 500V3
	ALL	ASTM A36 ALL–THREAD WITH CHISEL POINT
WOOD		SILL PLATES, D.F. #2 2x6 STUDS AND LARGER, H.F. #2 SIMPLE SPAN GLU–LAMINATED BEAMS, 24F–V4 CONTINUOUS SPAN GLU–LAMINATED BEAMS, 24F–V8 WALL SHEATHING, 24/16 OSB, EXPOSURE 1 ROOF SHEATHING, 40/20 CDX PLYWOOD FLOOR SHEATHING, ¾" APA RATED STUD–I–FLOOR

ANCHOR ROD NOTES:

1. ANCHOR ROD LOCATIONS AND DIAMETERS ARE PER PLANS.
2. ALL ANCHOR RODS SHALL BE EITHER HEADED OR DOUBLE NUT WITH 1/4"x2"x2" STEEL WASHER.
3. MINIMUM EMBEDMENT PER PLANS.
4. ANCHOR RODS SHALL BE ASTM F1554 GR 36 MATERIAL.
5. ANCHOR NUTS SHALL BE INSTALLED SNUG TIGHT.
6. EPOXY AND EXPANSION ANCHORS SHALL BE HILTI (OR EQUAL) INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.

SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER AND MUST RECEIVE APPROVAL PRIOR TO FABRICATION. SHOP DRAWINGS SHALL BE SUBMITTED FOR THE FOLLOWING MATERIALS:
   1.1. CONCRETE MIX DESIGN
   1.2. REBAR TYPE & LOCATION
   1.3. BOLTS AND ANCHOR BOLTS
   1.4. STEEL MEMBERS, PROPERTIES & LAYOUT
   1.5. PRE–ENGINEERED TIMBER TRUSS LAYOUT & CALCULATIONS WITH P.E. STAMP IN THE STATE IN WHICH THE PROJECT IS LOCATED
   1.6. FLOOR JOISTS
2. THE GENERAL CONTRACTOR WILL REVIEW AND STAMP ALL SHOP DRAWINGS AND PRODUCT DATA FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMISSION. ANY SHOP DRAWINGS OR PRODUCT DATA NOT REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR WILL BE RETURNED WITHOUT REVIEW.
3. ANY SHOP DRAWING NOT CHECKED AND INITIALED BY THE SUPPLIER/DETAILER PRIOR TO SUBMITTING FOR ARCHITECTURAL AND ENGINEERING REVIEW, WILL BE RETURNED WITHOUT REVIEW.
4. THE CONSTRUCTION DOCUMENTS MAY NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS.
5. ELECTRONIC FILES OF CONSTRUCTION DOCUMENTS WILL NOT BE MADE AVAILABLE FOR USE AS SHOP DRAWINGS.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS FOR THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PERIOD.
2. SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD THROUGH THE ARCHITECT AND GENERAL CONTRACTOR WITHIN 6 WEEKS OF AWARD OF CONTRACT TO THE GENERAL CONTRACTOR. ONCE THE SUBMITTAL DOCUMENTS HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS, THE ENGINEER OF RECORD WILL FORWARD THEM TO THE ARCHITECT WITH A NOTATION INDICATION THAT THEY ARE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE ARCHITECT WILL FORWARD THE DEFERRED SUBMITTAL DOCUMENTS TO THE GENERAL CONTRACTOR WHO WILL MAINTAIN ONE SET ON SITE FOR REFERENCE BY THE CITY INSPECTOR. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
3. ITEMS THAT ARE SUBMITTED FOR CONSIDERATION AS DEFERRED SUBMITTALS ARE AS FOLLOWS:
   3.1. PREFABRICATED WOOD TRUSSES
   3.2. STRUCTURAL FILL MATERIAL
   3.3. CONCRETE MIX DESIGN

WOOD

1. ALL WOOD TO BE CONSTRUCTED USING STANDARD PRACTICES. LATEST EDITION OF NATIONAL DESIGN SPECIFICATION (NDS) APPLIES.
2. PROVIDE ALL ACCESSORY ITEMS FOR ENGINEERED WOOD PRODUCTS (BLOCKS, CLIPS, STRAPS, STIFFENERS, ETC) DESIGNED BY THE MANUFACTURER AS REQUIRED.
3. FOLLOW ALL MANUFACTURERS RECOMMENDATIONS FOR INSTALLATION OF ALL ENGINEERED WOOD PRODUCTS AND ALL FRAMING CONNECTORS, HANGERS AND ANCHORS.
4. PROVIDE FULL BEARING FOR ALL FRAMING MEMBERS UNLESS SHOWN OTHERWISE. ALL WALL FRAMING TO BE HF #2 OR BETTER (UNO). ALL GLUE LAMINATED BEAMS (GLB) SHALL BE 24F–V4 (24F–V8 FOR CONTINUOUS SPANS) AND AC V12 FOR EXPOSED APPLICATIONS UNLESS BEAM IS PROTECTED FROM WEATHER THEN 24F IS ACCEPTABLE. SILL PLATES TO BE DF #2.
5. WALLS TO HAVE 8d NAILS @ 6" OC AT EDGE AND 12" OC IN FIELD, FULLY BLOCKED. ALL OPENINGS TO HAVE 8d NAILS @ 3" OC ALL AROUND. UNO ON SHEAR WALL PLANS.
6. ROOF TRUSSES SHALL BE DESIGNED BY OTHERS AND BE SEALED BY A PROFESSIONAL ENGINEER IN THE STATE IN WHICH THE PROJECT IS LOCATED.
7. ALL TRUSSES AND OVERHANGS TO BE CONNECTED TO WALLS WITH SIMPSON H1 CLIPS.
8. ROOF TRUSSES AND MONOTRUSSES SHALL BE PRESSED–PLATE LUMBER, DESIGNED BY OTHERS, IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE TP1, AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
9. INSTALL TEMPORARY AND PERMANENT TRUSS BRACING ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND IN ACCORDANCE WITH BCSI GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING, RESTRAINING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES, 2018 EDITION.
10. INSTALL CONTINUOUS LATERAL RESTRAINT BRACING ACCORDING TO MANUFACTURER'S SPECIFICATIONS. CONTRACTOR TO PROVIDE A PROJECT–SPECIFIC PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING DESIGN SPECIFIED BY A REGISTERED DESIGN PROFESSIONAL IN ACCORDANCE WITH IBC 2303.4.1.2. CONTINUOUS LATERAL RESTRAINTS SHALL BE DIAGONALLY BRACED IN ACCORDANCE WITH BCSI–B3.
11. PLACE FLOOR AND ROOF SHEATHING WITH FACE GRAIN PERPENDICULAR TO THE SUPPORTS AND JOINTS STAGGERED OVER SUPPORTS. PLACE WALL SHEATHING WITH FACE GRAIN VERTICAL.
12. ALL TIMBER SHALL BE CONSTRUCTED ACCORDING TO MINIMUM STANDARDS OUTLINED IN CHAPTER 23 OF THE 2018 IBC INCLUDING USING THE FASTENING SCHEDULE (TABLE 2304.10.1 OF 2018 IBC), EXCEPT AS NOTED DIFFERENTLY ON PLANS.
13. ALL ROOF AND FLOOR SHEATHING SHALL BE CDX PLYWOOD. ALL WALL SHEATHING SHALL BE ORIENTED STRAND BOARD. WALL SHEATHING SHALL EXTEND AND ATTACH TO (USING MIN 10d NAILS @ 6" OC, UNO) THE TOP AND BOTTOM OF THE WALL TOP AND BOTTOM HORIZONTAL PLATES (RESPECTIVELY). NO HORIZONTAL JOINT OF THE SHEATHING CAN BE WITHIN 2' OF THE TOP OR BOTTOM PLATE.
14. TYPICAL SUB–FLOOR SHALL BE ¾" TONGUE & GROOVE APA RATED STURD–I–FLOOR PLYWOOD NAILED W/ 10d @ 6" OC AT SHEET EDGES AND @ 12" OC FIELD. TYPICAL ROOF SHEATHING SHALL BE ⅝" THICK APA SPAN RATED CD–X PLYWOOD NAILED W/ 10d @ 6" OC AT SHEET EDGES AND @ 12" OC FIELD.
15. ALL NAILS SHALL BE COMMON NAILS UNO.
16. ALL METAL FASTENERS AND CONNECTORS IN CONTACT WITH P.T. WOOD SHALL BE GALVANIZED.
17. ALL LUMBER IN CONTACT WITH GROUND, CONCRETE, OR EXPOSED TO WEATHER SHALL BE PRESSURE TREATED. ALL METAL EXPOSED TO WEATHER OR IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE STAINLESS STEEL, HOT DIPPED GALVANIZED (MIN. G180) OR OTHERWISE PROTECTED AGAINST CORROSION.
18. BRACE STUD WALLS UNTIL ALL PLYWOOD SUB–FLOOR, FLOOR TRUSSES, ROOF TRUSSES, AND SHEAR PANELS ARE IN PLACE.
19. ANCHOR RODS FOR HOLDOWNS SHALL HAVE TACK WELDED NUT OR DOUBLE NUT ON EMBEDDED END UNO. EMBEDMENT AS LISTED ON PLANS SHALL BE MEASURED FROM THE TOP OF THE UPPERMOST EMBEDDED NUT TO THE TOP OF THE CONCRETE.

STATEMENT OF SPECIAL INSPECTIONS

1. SPECIAL INSPECTION AND TESTING SHALL BE PROVIDED BY THE OWNER IN ACCORDANCE WITH CHAPTER 17 OF THE 2018 IBC.
2. ALL SPECIAL INSPECTORS SHALL BE UNDER THE SUPERVISION OF A REGISTERED CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE IN WHICH THE WORK IS TO BE PERFORMED. ALL INSPECTIONS SHALL BE PERFORMED BY EXPERIENCED PERSONNEL MEETING THE REQUIREMENTS OF THE IBC AND AC291 "ACCREDITATION CRITERIA FOR SPECIAL INSPECTION AGENCIES" AND SHALL BE APPROVED BY THE LICENSED ENGINEER OF RECORD.
3. SPECIAL INSPECTIONS ARE NOT REQUIRED FOR WORK OF A MINOR NATURE AS APPROVED BY THE BUILDING OFFICIAL. NOR ARE THEY REQUIRED FOR GROUP U OCCUPANCIES.
4. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND– OR SEISMIC FORCE RESISTING SYSTEM SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK AS OUTLINED IN 1704.4 OF THE IBC.
5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE SPECIAL INSPECTOR OR SPECIAL INSPECTION AGENCY AT LEAST TWO WORKING DAYS PRIOR TO PERFORMING ANY WORK THAT REQUIRES SPECIAL INSPECTION. ALL WORK PERFORMED WITHOUT THE REQUIRED SPECIAL INSPECTION IS SUBJECT TO REMOVAL.
6. SPECIAL INSPECTIONS SHALL BE REQUIRED FOR PROPOSED WORK THAT IS, IN THE OPINION OF THE BUILDING OFFICIAL, UNUSUAL IN ITS NATURE, SUCH AS, BUT NOT LIMITED TO THE FOLLOWING EXAMPLES: CONSTRUCTION MATERIALS AND SYSTEMS THAT ARE ALTERNATIVES TO MATERIALS AND SYSTEMS PRESCRIBED BY THE IBC, UNUSUAL DESIGN APPLICATIONS OF MATERIALS PRESCRIBED IN THE IBC, AND MATERIALS AND SYSTEMS REQUIRED TO BE INSTALLED IN ACCORDANCE WITH ADDITIONAL MANUFACTURER'S INSTRUCTIONS THAT PRESCRIBE REQUIREMENTS NOT CONTAINED IN THE IBC OR IN STANDARDS REFERENCED BY THE IBC.

TABLE 1705.3
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

APPLIES	TYPE	CONT	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
X	1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	–	X	ACI 318, CH. 20, 25.2, 25.3, 26.6.1–26.6.3	1908.4
	2. REINFORCING BAR WELDING:				
	a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706;	–	X	AWS D1.4 ACI 318: 26.6.4	–
	b. INSPECT SINGLE–PASS FILLET WELDS, MAXIMUM 5/16"; AND		X		
	c. INSPECT ALL OTHER WELDS.	X			
X	3. INSPECT ANCHORS CAST IN CONCRETE.	–	X	ACI 318: 17.8.2	–
X	4. INSPECT ANCHORS POST–INSTALLED IN HARDENED CONCRETE MEMBERS.				
	a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X		ACI 318: 17.8.2.4	–
	b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.		X	ACI 318: 17.8.2	
X	5. VERIFY USE OF REQUIRED DESIGN MIX	–	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
X	6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	–	ASTM C172 ASTM C31 ACI 318: 26.5, 26.12	1908.10
X	7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	–	ACI 318: 26.5	1908.6, 1908.7, 1908.8
X	8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	–	X	ACI 318: 26.5.3–26.5.5	1908.9
	9. INSPECT PRESTRESSED CONCRETE FOR:				
	a. APPLICATION OF PRESTRESSING FORCES; AND	X	–	ACI 318: 26.10	–
	b. GROUTING OF BONDED PRESTRESSING TENDONS.	X	–		
	10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	–	X	ACI 318: 26.9	–
	11. VERIFY IN–SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST–TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	–	X	ACI 318: 26.11.2	–
X	12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	–	X	ACI 318: 26.11.1.2(b)	–

TABLE 1705.6
REQUIRED VERIFICATION AND INSPECTION OF SOILS

APPLIES	VERIFICATION AND INSPECTION TASK	CONT	PERIODIC
X	1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X
X	2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X
X	3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS		X
X	4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	
X	5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X

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GENERAL STRUCTURAL NOTES

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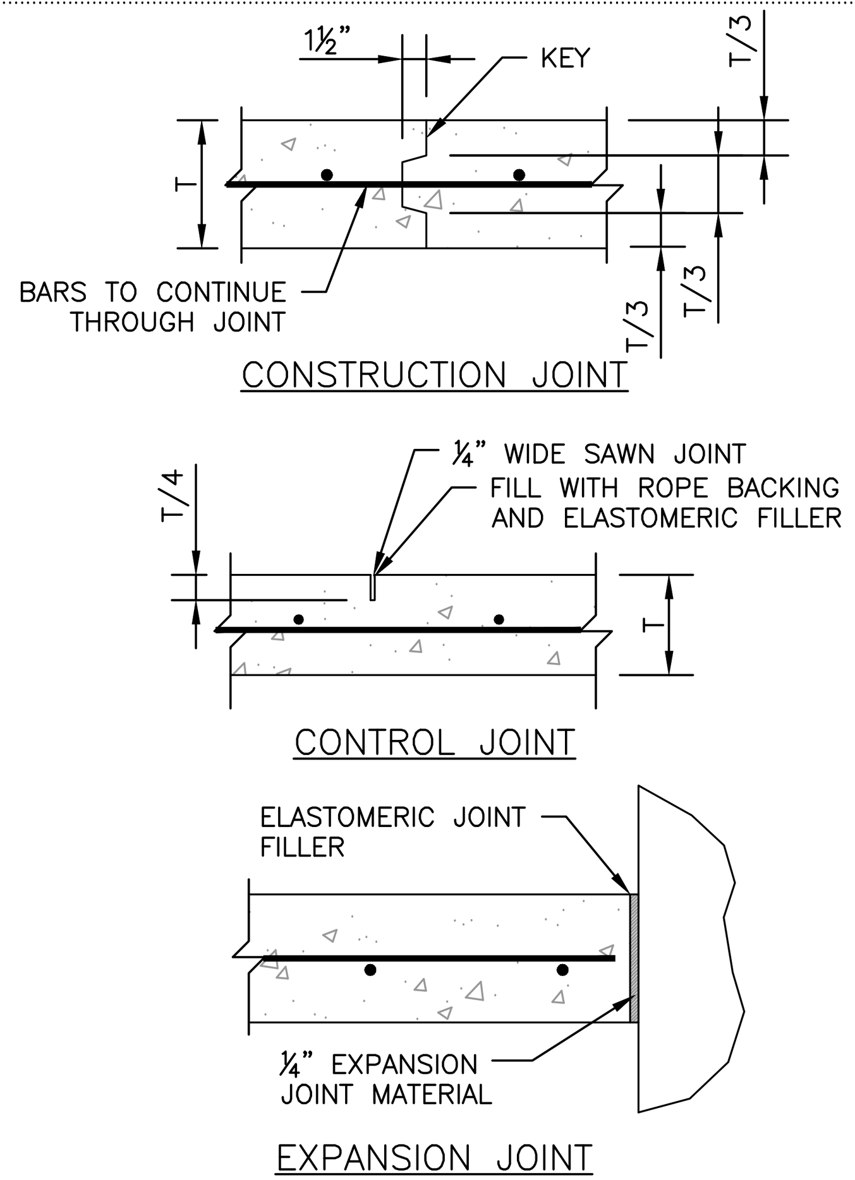
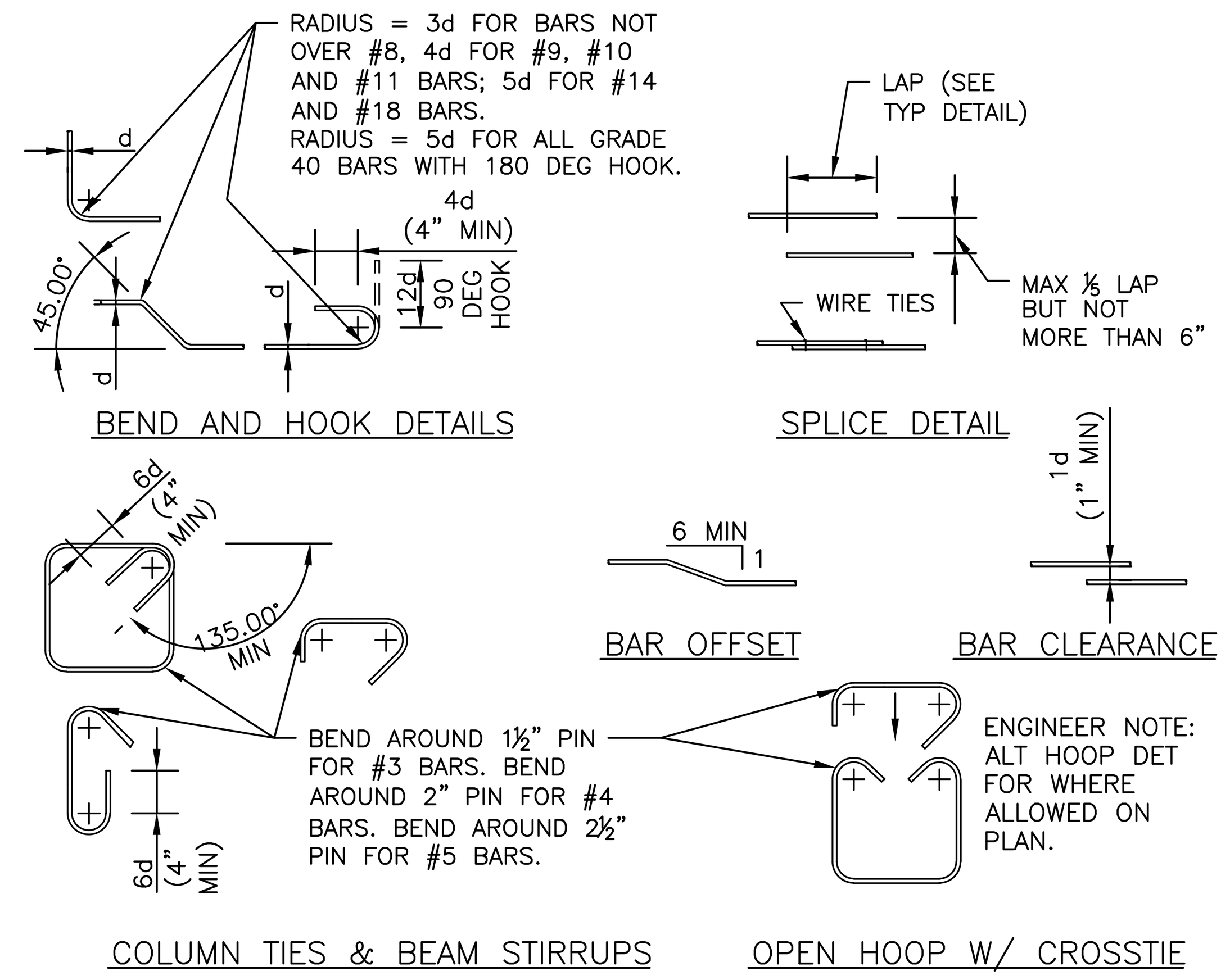
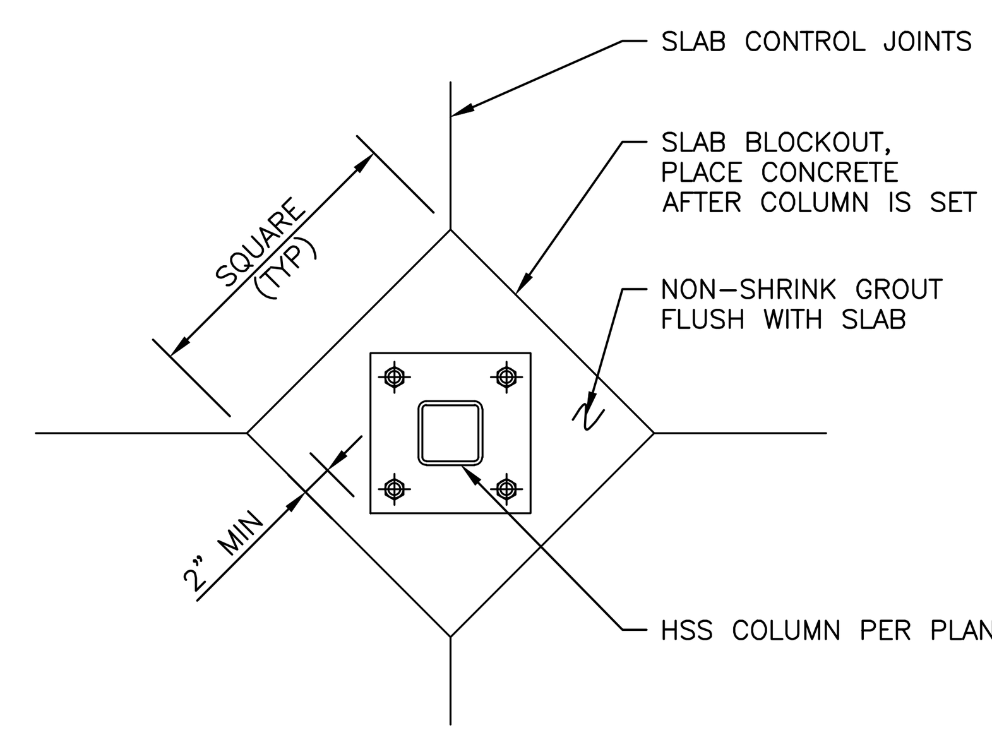


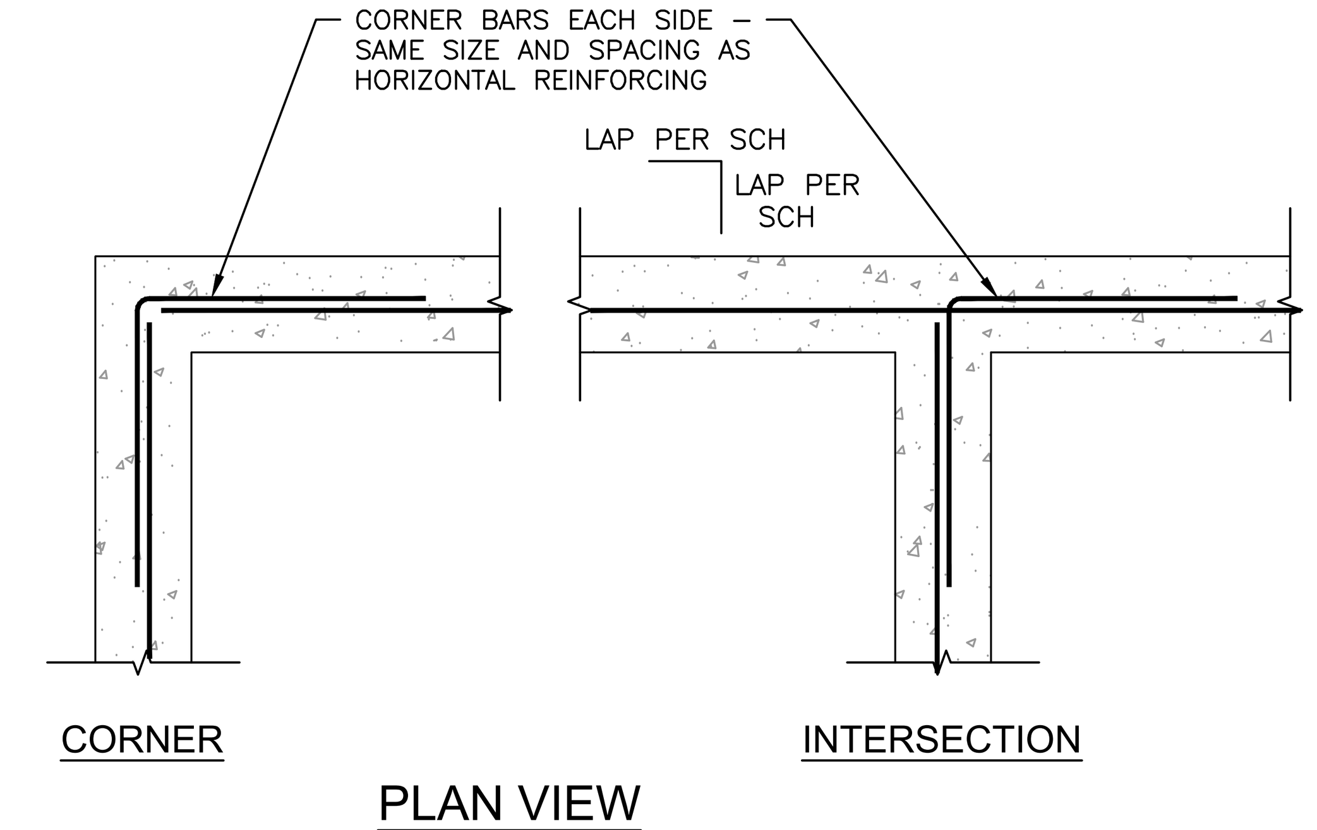
1 CONCRETE SLAB JOINT DETAILS
NTS TDH 1006



2 TYP CONC REINF BAR DETAILS
NTS TDH 1200



3 TYPICAL BLOCKOUT DETAIL
NTS TDH 1021



4 CORNER AND INTERSECTION CONCRETE REINFORCING DETAIL
NTS TDH 1022

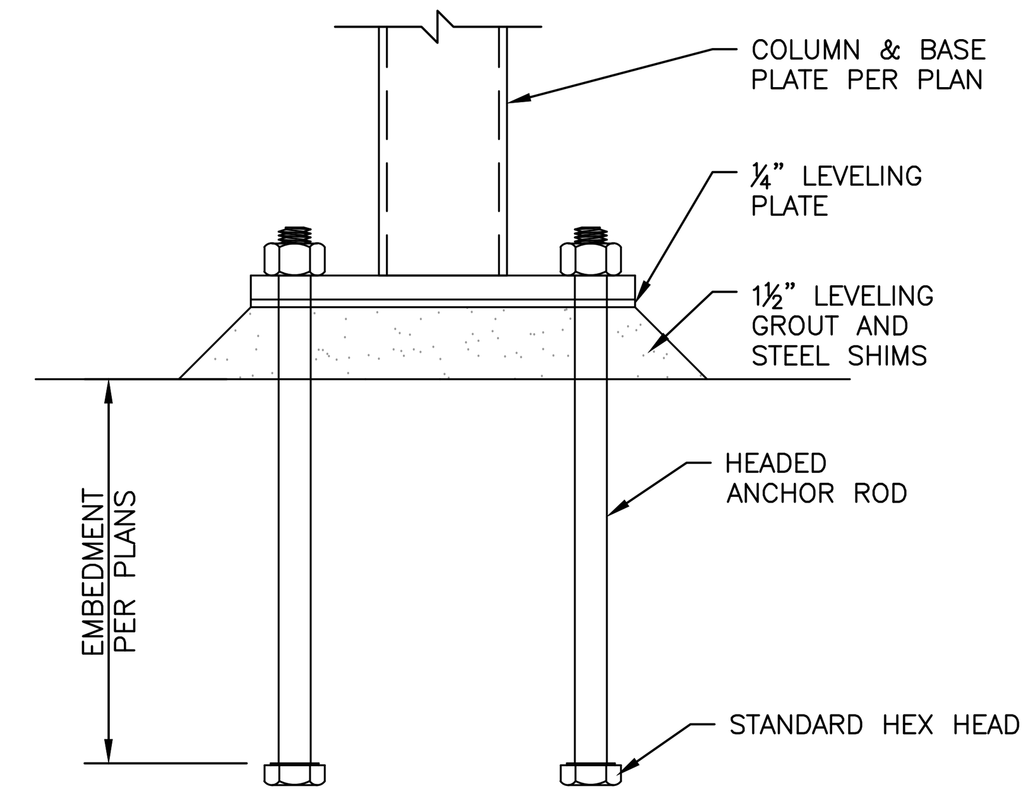
CAST-IN-PLACE (NONPRESTRESSED) CONCRETE	CONCRETE COVER
CAST AGAINST & EXPOSED TO EARTH	3"
EXPOSED TO EARTH OR WEATHER	
NO. 6 THROUGH NO. 18 BARS	2"
NO. 5 BAR, W31 OR D31 WIRE, AND SMALLER	1½"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
SLABS, WALLS, JOISTS	
NO. 14 AND NO. 18 BARS	1½"
NO. 11 BAR, AND SMALLER	¾"
BEAMS, COLUMNS	
PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS	1½"
SHELLS, FOLDED PLATE MEMBERS	
NO. 6 BAR AND LARGER	¾"
NO. 5 BAR, W31 OR D31 WIRE, AND SMALLER	½"

5 REINFORCING CONCRETE COVER
NTS TDH 11805

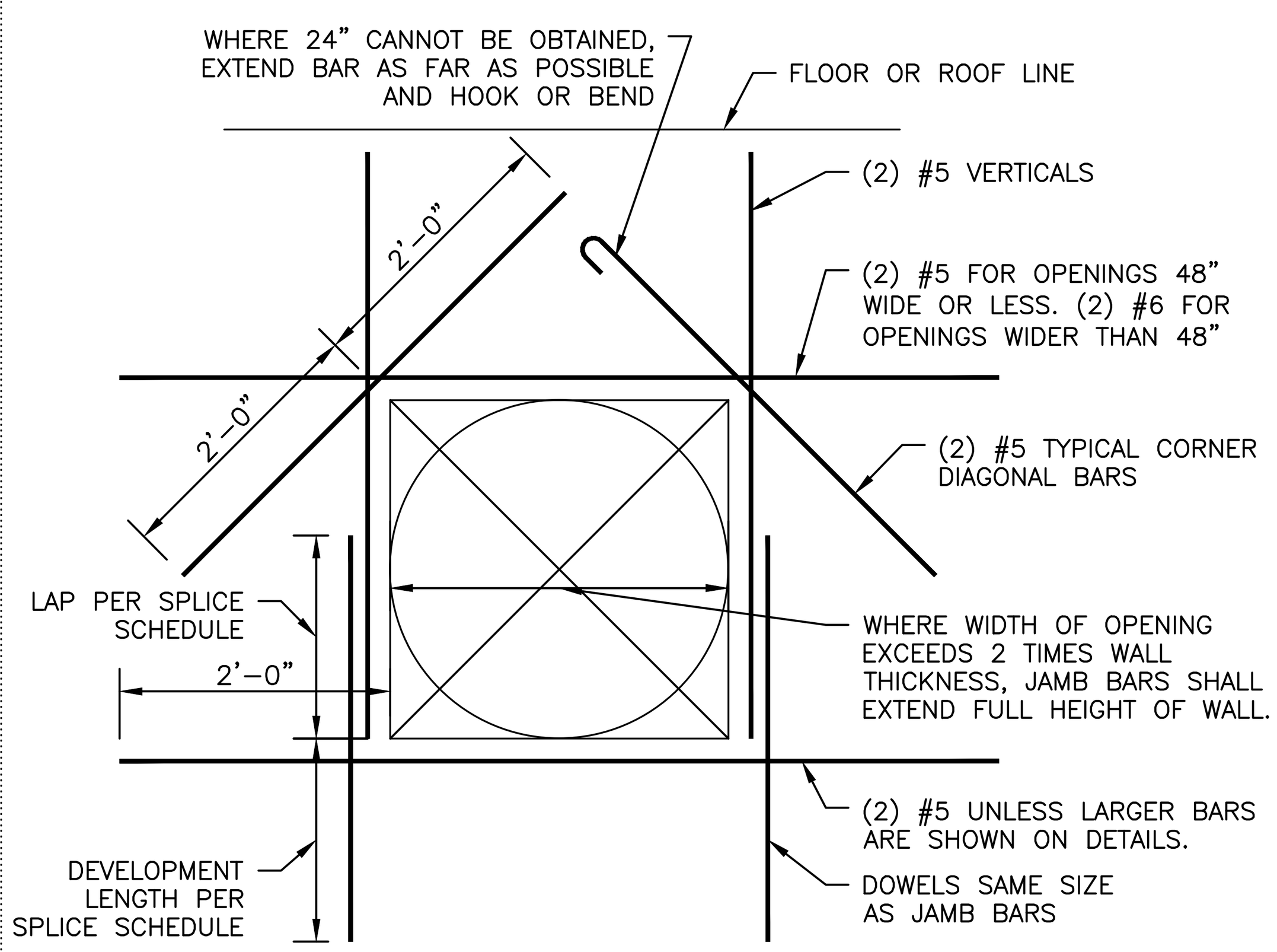
BAR SIZE			CONCRETE	
IN-LB	SOFT METRIC	AREA (IN*2)	HORIZ & VERT	TOP
#3	#10	0.11	1'-7"	2'-1"
#4	#13	0.20	2'-1"	2'-9"
#5	#16	0.31	2'-7"	3'-5"
#6	#19	0.44	3'-1"	4'-1"
#7	#22	0.60	4'-6"	5'-11"
#8	#25	0.79	5'-2"	6'-9"
#9	#29	1.00	5'-10"	7'-7"
#10	#32	1.27	6'-7"	8'-6"
#11	#36	1.56	7'-3"	9'-6"

NOTES:
1. FOR REINFORCING WITH EPOXY COATING, MULTIPLY LAP LENGTH SHOWN BY 1.5.
2. CONCRETE LAP LENGTHS ARE CLASS "B" BASED ON F'C=4,000 PSI WITH COVER REQUIREMENTS INDICATED AND BAR SPACING AT LEAST TWO BAR DIAMETERS.
3. TOP BAR LAPS ARE HORIZONTAL LAPS WHERE MORE THAN 12" OF FRESH CONCRETE IS PLACED BELOW THE BARS.
4. TOP BAR LENGTHS MAY BE USED AT ALL LOCATIONS IN CONCRETE AT THE CONTRACTOR'S DISCRETION.

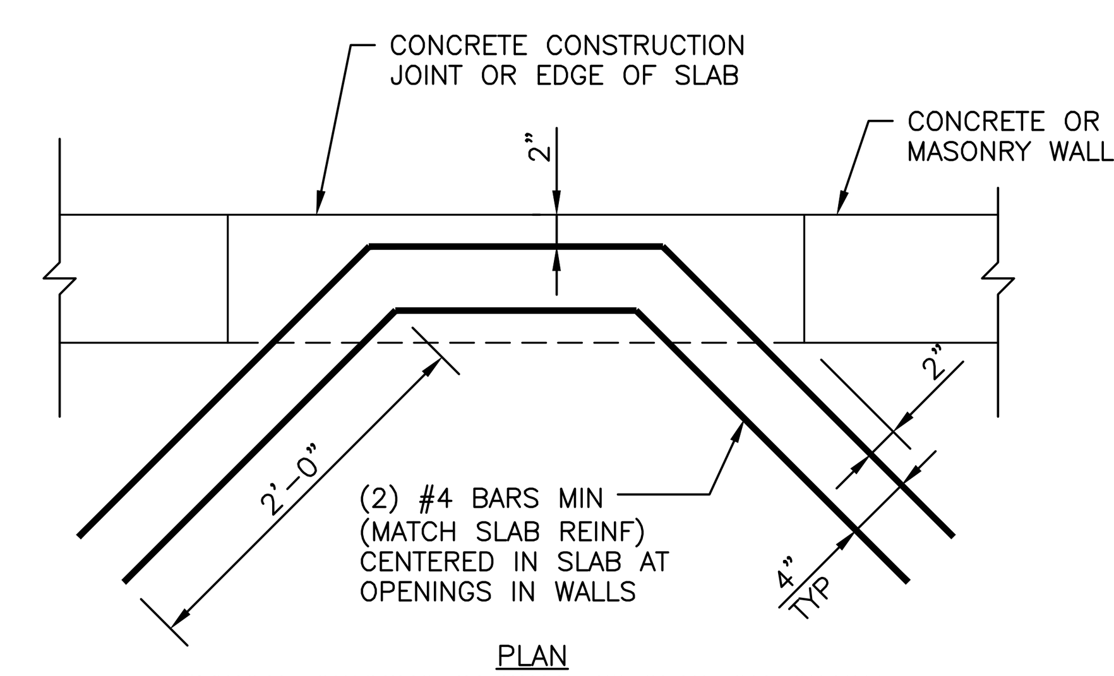
6 TYP. REINFORCING SPLICE LENGTHS
NTS TDH 1904 TDH 11806



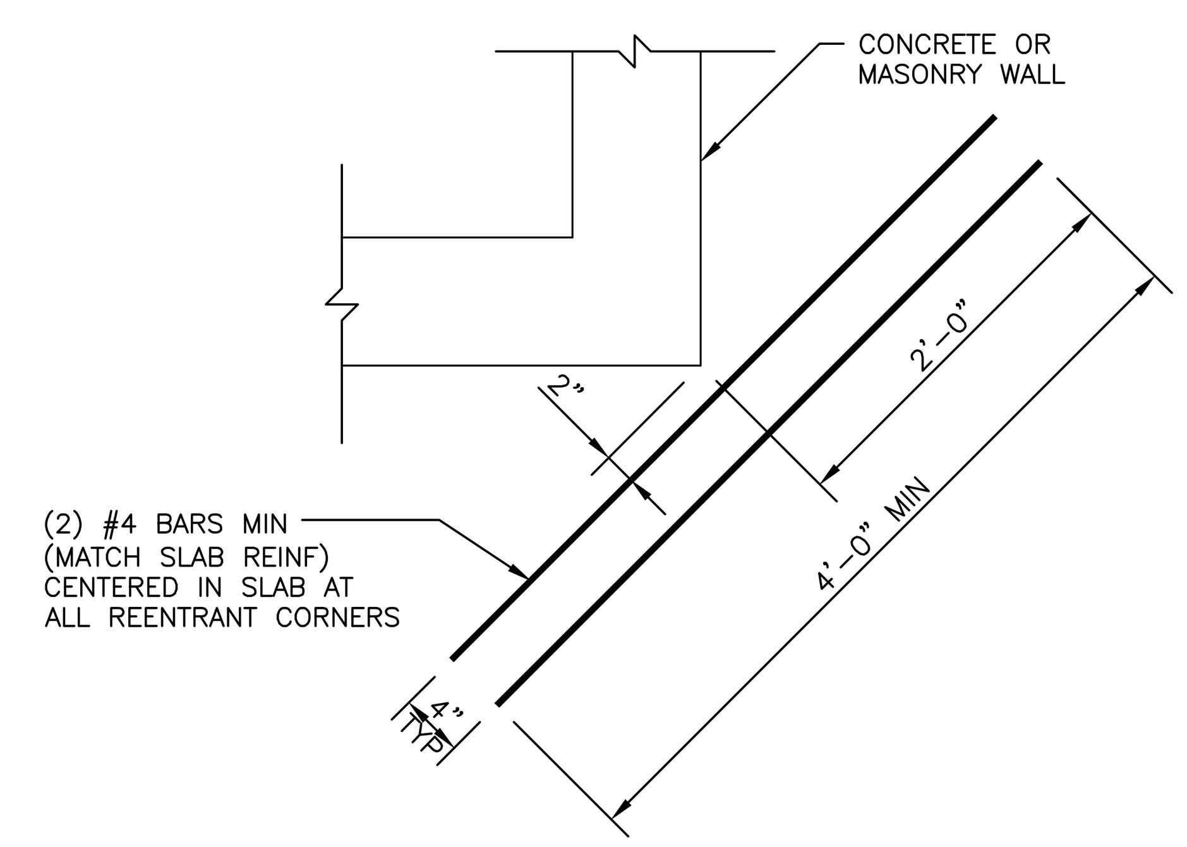
7 TYPICAL HEADED ANCHOR ROD DETAIL
NTS



9 TYPICAL OPENING IN CONCRETE WALL DETAIL
NTS TDH 1201 TDH 4001



PLAN
TYPICAL OPENING IN WALL AT SLAB ON GRADE



PLAN
TYPICAL AT REENTRANT CORNER REINFORCING IN SLAB ON GRADE

12 TYPICAL REENTRANT CORNER REINFORCING IN SLAB-ON-GRADE
NTS TDH 1203

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TYPICAL DETAILS

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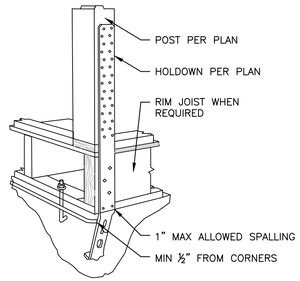
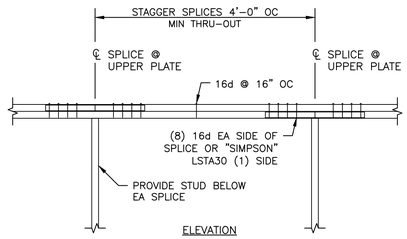
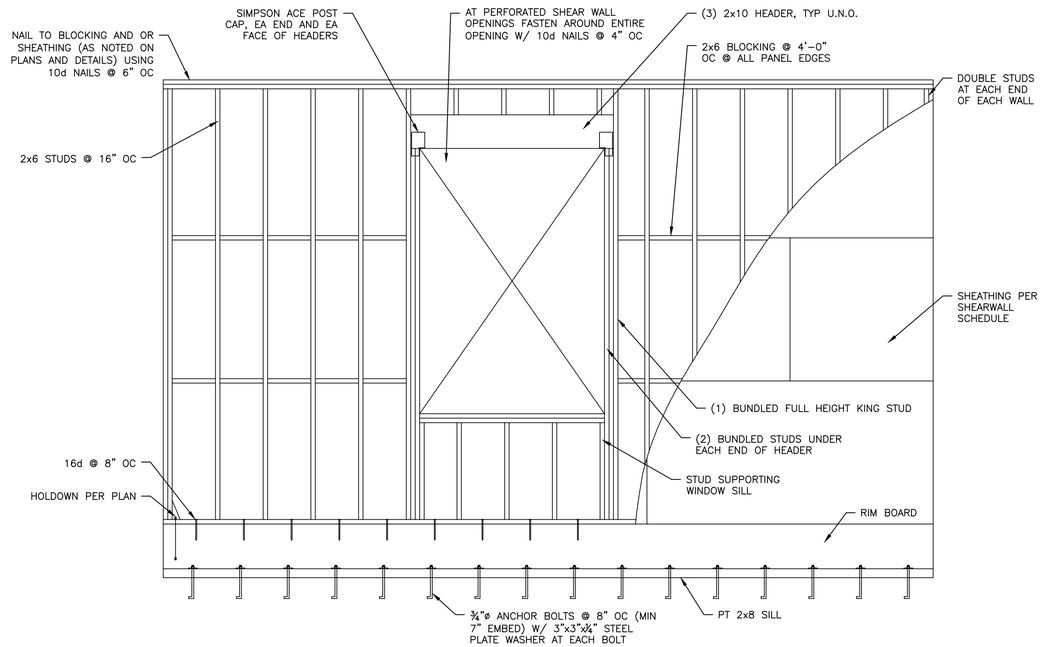


1 HOLDOWN DETAIL
NTS TDH 3020



2 TOP PLATE SPLICE
NTS TDH 3514



WOOD STUD SHEAR WALL SCHEDULE					
MARK	GWB & APA RATED PLYWOOD/OSB SHEATHING	NAIL SIZE	EDGE NAIL SPACING	FIELD NAIL SPACING	HOLDOWN
SW1	7/16" OSB	8d	6"	12"	NONE
SW2	7/16" OSB	8d	6"	12"	SIMPSON LSTHD8RJ

NOTES:
1. USE 4'x8' WOOD STRUCTURAL PANELS WITH EXTERIOR GLUE.
2. FIELD FASTENERS SHALL BE 12" OC AND STUD SPACING SHALL BE NO GREATER THAN 16" OC.
3. USE 3"x3"x0.229" PLATE WASHERS WITH ALL ANCHOR BOLTS AND 7" MINIMUM EMBEDMENT.
4. NAIL SHEATHING TO PT SILL ON CONCRETE WALL @ 6" OC.
5. NAIL SHEATHING TO WALL SILL @ 6" OC.

7 TYPICAL WOOD BEARING WALL & SHEARWALL DETAIL
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TABLE 2304.10.1	FASTENING SCHEDULE	
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
ROOF		
1. BLOCKING BETWEEN CEILING JOISTS, RAFTERS OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	3 – 8d COMMON (2½"x0.131"); OR 3 – 10d BOX (3"x0.128"); OR 3 – 3" x 0.131" NAILS; OR 3 – 3" 14 GAGE STAPLES, 7/16" CROWN	EACH END, TOENAIL
BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS.	2 – 8d COMMON (2½"x0.131") 2 – 3" x 0.131" NAILS 2 – 3" 14 GAGE STAPLES	EACH END, TOENAIL
	2 – 16d COMMON (3½"x0.162") 3 – 3" x 0.131" NAILS 3 – 3" 14 GAGE STAPLES	END NAIL
FLAT BLOCKING TO TRUSS AND WEB FILLER	16d COMMON (3½"x0.162") @ 6" O.C. 3" x 0.131" NAILS @ 6" O.C. 3" 14 GAGE STAPLES @ 6" O.C.	FACE NAIL
2. CEILING JOISTS TO TOP PLATE	3 – 8d COMMON (2½"x0.131"); OR 3 – 10d BOX (3"x0.128"); OR 3 – 3" x 0.131" NAILS; OR 3 – 3" 14 GAGE STAPLES, 7/16" CROWN	EACH JOIST, TOENAIL
3. CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (NO THRUST). (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	3 – 16d COMMON (3½"x0.162"); OR 4 – 10d BOX (3"x0.128"); OR 4 – 3" x 0.131" NAILS; OR 4 – 3" 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
4. CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT). (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	PER TABLE 2308.7.3.1	FACE NAIL
5. COLLAR TIE TO RAFTER	3 – 10d COMMON (3"x0.148"); OR 4 – 10d BOX (3"x0.128"); OR 4 – 3" x 0.131" NAILS; OR 4 – 3" 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
6. RAFTER OR ROOF TRUSS TO TOP PLATE (SEE SECTION 2308.7.5, TABLE 2308.7.5)	3 – 10d COMMON (3"x0.148"); OR 3 – 16d BOX (3½"x0.135"); OR 4 – 10d BOX (3"x0.128"); OR 4 – 3" x 0.131 NAILS; OR 4 – 3" 14 GAGE STAPLES, 7/16" CROWN	TOENAIL[c]
7. ROOF RAFTERS TO RIDGE VALLEY OR HIP RAFTERS; OR ROOF RAFTER TO 2–INCH RIDGE BEAM	2 – 16d COMMON (3½"x0.162"); OR 3 – 10d BOX (3"x0.128"); OR 3 – 3" x 0.131 NAILS; OR 3 – 3" 14 GAGE STAPLES, 7/16" CROWN	END NAIL
	3 – 10d COMMON (3"x0.148"); OR 4 – 16d BOX (3½"x0.135"); OR 4 – 10d BOX (3"x0.128"); OR 4 – 3" x 0.131 NAILS; OR 4 – 3" 14 GAGE STAPLES, 7/16" CROWN	TOENAIL

TABLE 2304.10.1-CONTINUED	FASTENING SCHEDULE	
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
WALL		
8. STUD TO STUD (NOT AT BRACED WALL PANELS)	16d COMMON (3 ½" x 0.162");	24" O.C. FACE NAIL
	10d BOX (3"x0.128"); OR 3" x 0.131" NAILS; OR 3 – 3" 14 GAGE STAPLES, 7/16" CROWN	16" O.C. FACE NAIL
9. STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d COMMON (3½"x0.162"); OR	16" O.C. FACE NAIL
	16d BOX (3½"x0.135"); OR	12" O.C. FACE NAIL
	3" x 0.131" NAILS; OR 3 – 3" 14 GAGE STAPLES, 7/16" CROWN	12" O.C. FACE NAIL
10. BUILT–UP HEADER (2" TO 2" HEADER)	16d COMMON (3½"x0.162"); OR	16" O.C. EACH EDGE, FACE NAIL
	16d BOX (3½"x0.135")	12" O.C. EACH EDGE, FACE NAIL
11. CONTINUOUS HEADER TO STUD	4 – 8d COMMON (2½"x0.131"); OR 4 – 10d BOX (3"x0.128")	TOENAIL
12. TOP PLATE TO TOP PLATE	16d COMMON (3½"x0.162"); OR	16" O.C. FACE NAIL
	10d BOX (3"x0.128"); OR 3" x 0.131" NAILS; OR 3" 14 GAGE STAPLES, 7/16" CROWN	12" O.C. FACE NAIL
13. TOP PLATE TO TOP PLATE, AT END JOINTS	8 – 16d COMMON (3½"x0.162");OR 12 – 10d BOX (3"x0.128"); OR 12 – 3" x 0.131" NAILS; OR 12 – 3" 14 GAGE STAPLES, 7/16" CROWN	EACH SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
14. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16d COMMON (3½"x0.162"); OR	16" O.C. FACE NAIL
	16d BOX (3½"x0.135"); OR 3" x 0.131" NAILS; OR 3" 14 GAGE STAPLES, 7/16" CROWN	12" O.C. FACE NAIL
15. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING AT BRACED WALL PANELS	2 – 16d COMMON (3½"x0.162");OR 3 – 16d BOX (3½"x0.135"); OR 4 – 3" x 0.131" NAILS; OR 4 – 3" 14 GAGE STAPLES, 7/16" CROWN	16" O.C. FACE NAIL
16. STUD TO TOP OR BOTTOM PLATE	4 – 8d COMMON (2½"x0.131"); OR 4 – 10d BOX (3"x0.128"); OR 4 – 3" x 0.131" NAILS; OR 4 – 3" 14 GAGE STAPLES, 7/16" CROWN; OR	TOENAIL
	2 – 16d COMMON (3½"x0.162");OR 3 – 10d BOX (3"x0.128"); OR 3 – 3" x 0.131" NAILS; OR 3 – 3" 14 GAGE STAPLES, 7/16" CROWN	END NAIL
17. TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	2 – 16d COMMON (3½"x0.162")OR 3 – 10d BOX (3"x0.128"); OR 3 – 3" x 0.131" NAILS; OR 3 – 3" 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL

TABLE 2304.10.1-CONTINUED	FASTENING SCHEDULE	
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
WALL		
18. 1" BRACE TO EACH STUD AND PLATE	2 – 8d COMMON (2½"x0.131"); OR 2 – 10d BOX (3"x0.128"); OR 2 – 3" x 0.131" NAILS; OR 2 – 3" 14 GAGE STAPLES, 7/16" CROWN	FACE NAIL
19. 1" X 6" SHEATHING TO EACH BEARING	2 – 8d COMMON (2½"x0.131"); OR 2 – 10d BOX (3"x0.128")	FACE NAIL
20. 1" X 8" AND WIDER SHEATHING TO EACH BEARING	3 – 8d COMMON (2½"x0.131"); OR 3 – 10d BOX (3"x0.128")	FACE NAIL
FLOOR		
21. JOIST TO SILL, TOP PLATE, OR GIRDER	3 – 8d COMMON (2½"x0.131"); OR 3 – 10d BOX (3"x0.128"); OR 3 – 3" x 0.131" NAILS; OR 3 – 3" 14 GAGE STAPLES, 7/16" CROWN	TOENAIL
22. RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL OR OTHER FRAMING BELOW	8d COMMON (2½"x0.131"); OR 10d BOX (3"x0.128"); OR 3" x 0.131" NAILS; OR 3" 14 GAGE STAPLES, 7/16" CROWN	6" O.C., TOENAIL
23. 1" X 6" SUBFLOOR OR LESS TO EACH JOIST	2 – 8d COMMON (2½"x0.131"); OR 2 – 10d BOX (3"x0.128")	FACE NAIL
24. 2" SUBFLOOR TO JOIST OR GIRDER	2 – 16d COMMON (3½"x0.162")	FACE NAIL
25. 2" PLANKS (PLANK & BEAM – FLOOR & ROOF)	2 – 16d COMMON (3½"x0.162")	EACH BEARING, FACE NAIL
26. BUILT–UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	20d COMMON (4"x0.192")	32" O.C., FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
	10d BOX (3"x0.128"); OR 3" x 0.131" NAILS; OR 3" 14 GAGE STAPLES, 7/16" CROWN	24" O.C., FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
	AND: 2 – 20d COMMON (4"x0.192"); OR 3 – 10d BOX (3"x0.128"); OR 3 – 3" x 0.131" NAILS; OR 3 – 3" 14 GAGE STAPLES, 7/16" CROWN	ENDS AND AT EACH SPLICE, FACE NAIL
27. LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	3 – 16d COMMON (3½"x0.162");OR 4 – 10d BOX (3"x0.128"); OR 4 – 3" x 0.131" NAILS; OR 4 – 3" 14 GAGE STAPLES, 7/16" CROWN	EACH JOIST OR RAFTER, FACE NAIL
28. JOIST TO BAND JOIST OR RIM JOIST	3 – 16d COMMON (3½"x0.162");OR 4 – 10d BOX (3"x0.128"); OR 4 – 3" x 0.131" NAILS; OR 4 – 3" 14 GAGE STAPLES, 7/16" CROWN	END NAIL
29. BRIDGING OR BLOCKING TO JOIST, RAFTER OR TRUSS	2 – 8d COMMON (2½"x0.131"); OR 2 – 10d BOX (3"x0.128"); OR 2 – 3" x 0.131" NAILS; OR 2 – 3" 14 GAGE STAPLES, 7/16" CROWN	EACH END, TOENAIL

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Big springs Trout Hatchert, Lewistown, MT 59404
Paul Valle, Contact 406.841.4013 pvalle@mt.gov

PHASE	REVISIONS
100% CD	# Date
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TYPICAL DETAILS

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TABLE 2304.10.1-CONTINUED		FASTENING SCHEDULE	
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION	
WOOD STRUCTURAL PANELS (WSP), SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING[a]			
		EDGES (INCHES)	INTERMEDIATE SUPPORTS (INCHES)
30. ⅜" – ½"	6d COMMON OR DEFORMED (2"x0.113") (SUBFLOOR AND WALL)	6	12
	8d COMMON OR DEFORMED (2½"x0.113") (ROOF) OR RSRS–01 (2⅜"x0.113") NAIL (ROOF)[d]	6	12
	2⅜" x 0.113" NAIL (SUBFLOOR AND WALL)	6	12
	1¾" 16 GAGE STAPLE, 7/16" CROWN (SUBFLOOR AND WALL)	4	8
	2⅜" x 0.113" NAIL (ROOF)	4	8
	1¾" 16 GAGE STAPLE, 7/16" CROWN (ROOF)	3	6
31. 19/32" – ¾"	8d COMMON (2½"x0.131"); OR 6d DEFORMED (2"x0.113") (SUBFLOOR AND WALL)	6	12
	8d COMMON OR DEFORMED (2½"x0.131") (ROOF) OR RSRS–01 (2⅜"x0.113:) NAIL (ROOF)[d]	6	12
	2⅜" x 0.113" NAIL; OR 2" 16 GAGE STAPLE, 7/16" CROWN	4	8
32. ⅞" – 1¼"	10d COMMON (3"x0.148"); OR 8d DEFORMED (2½"x0.131")	6	12
OTHER EXTERIOR WALL SHEATHING			
33. ½" FIBERBOARD SHEATHING[b]	1½" GALVANIZED ROOFING NAIL (7/16" HEAD DIAMETER); OR 1¼" 16 GAGE STAPLE WITH 7/16" OR 1" CROWN	3	6
34. 25/32" FIBERBOARD SHEATHING[b]	1¾" GALVANIZED ROOFING NAIL (7/16" DIAMETER HEAD); OR 1½" 16 GAGE STAPLE WITH 7/16" OR 1" CROWN	3	6
WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
35. ¾" AND LESS	8d COMMON (2½"x0.131"); OR 6d DEFORMED (2"x0.113")	6	12
36. ⅞" – 1"	8d COMMON (2½"x0.131"); OR 8d DEFORMED (2½"x0.131")	6	12
37. 1⅛" – 1¼"	10d COMMON (3"x0.148"); OR 8d DEFORMED (2½"x0.131")	6	12
PANEL SIDING TO FRAMING			
38. ½" OR LESS	6d CORROSION–RESISTANT SIDING (1⅞" x 0.106"); OR 6d CORROSION–RESISTANT CASING (2" x 0.099")	6	12
39. ⅝"	8d CORROSION–RESISTANT SIDING (2⅜" x 0.128"); OR 8d CORROSION–RESISTANT CASING (2½" x 0.113")	6	12

TABLE 2304.10.1-CONTINUED		FASTENING SCHEDULE	
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION	
WOOD STRUCTURAL PANELS (WSP), SUBFLOOR, ROOD AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING[a]			
		EDGES (INCHES)	INTERMEDIATE SUPPORTS (INCHES)
INTERIOR PANELING			
40. ¼"	4d CASING (1½"x0.080"); OR 4d FINISH (1½"x0.072")	6	12
41. ⅜"	6d CASING (2"x0.099"); OR 6d FINISH (PANEL SUPPORTS AT 24 INCHES)	6	12

FOR SI: 1 INCH = 25.4 mm

a. NAILS SPACED AT 6 INCHES AT INTERMEDIATE SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLEBOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO SECTION 2305. NAILS FOR WALL SHEATHING ARE PERMITTED TO BE COMMON, BOX OR CASING.

b. SPACING SHALL BE 6 INCHES ON CENTER ON THE EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE SUPPORTS FOR NONSTRUCTURAL APPLICATIONS. PANEL SUPPORTS AT 16 INCHES (20 INCHES IF STRENGTH AXIS IN THE LONG DIRECTION OF THE PANEL, UNLESS OTHERWISE MARKED).

c. WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE AND THE CEILING JOIST IS FASTENED TO THE TOP PLATE IN ACCORDANCE WITH THIS SCHEDULE, THE NUMBER OF TOENAILS IN THE RAFTER SHALL BE PERMITTED TO BE REDUCED BY ONE NAIL.

d. RSRS–01 IS A ROOF SHEATHING RING SHANK NAIL MEETING THE SPECIFICATIONS IN ASTM F1667.

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Paul Valle, Contact 406.841.4013 pvalle@mt.gov

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TYPICAL DETAILS

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CONSTRUCTION DRAWINGS
FOR
FWP LEWISTOWN - HATCHERY HOUSE
2051 FISH HATCHERY ROAD
LEWISTOWN, MONTANA
AUGUST 10, 2020

SHEET INDEX

SHEET NUMBER	DESCRIPTION
C1.0	COVER SHEET / LOCATION MAP AND DRAWING SCHEDULE
C1.1	NOTES, ABBREVIATIONS, AND LEGEND
C2.0	VICINITY MAP
C3.0	DRAINFIELD LAYOUT PLAN
C4.0	DETAILS
TOTAL 5 SHEETS	

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QUALITY CHECK:
DATE: 08-10-2020
JOB NO. 20-060
FIELDBOOK

MT FWP HATCHERY HOUSE
FERGUS COUNTY, MT

COVER SHEET

20-060 - C1.X.DWG
SHEET C1.0

BID SET

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GENERAL NOTES

1. NOTIFY ALL UTILITY COMPANIES IN WRITING, CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE BEGINNING EXCAVATION.
2. ALL CONSTRUCTION SHALL CONFORM TO MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS (MPWSS), LATEST EDITION.
3. PERMITTING AND FEES SHALL BE PAID BY CONTRACTOR AND COORDINATED WITH COUNTY PLANNING DEPARTMENT.
4. RESEARCH AND IF REQUIRED SECURE MPDES STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE MONTANA DEPT. OF ENVIRONMENTAL QUALITY PRIOR TO START OF CONSTRUCTION.
5. PROVIDE AND MAINTAIN DUST CONTROL THROUGHOUT CONSTRUCTION.
6. ELECTRONIC DESIGN FILES IN CIVIL 3D VERSION 2018 AVAILABLE FOR CONSTRUCTION STAKING UPON REQUEST AND EXECUTION OF TD&H "ELECTRONIC MEDIA WAIVER OF RESPONSIBILITY" FORM. ANY OTHER FORMAT OR SOFTWARE WILL REQUIRE PAYMENT FOR CONVERSION.
7. ALL SOIL STOCKPILES MUST BE CONTAINED WITH SILT FENCE.
8. ALL ELEVATIONS SHOWN REFERENCE FINISH GRADES.
9. EXISTING UTILITIES SHOWN ARE BASED ON FIELD SURVEY DATA AND AVAILABLE AS-BUILT DRAWING INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATING EXISTING UTILITIES AND CONFIRMING CONNECTION REQUIREMENTS PRIOR TO ORDERING NEW FITTINGS.
10. ALL EXCAVATION SHALL BE TYPE 2 EXCAVATION PER OSHA AND ALL TRENCHES SHALL HAVE TYPE 'A' BACKFILL UNLESS OTHERWISE NOTED.
11. PROTECT ALL EXISTING SURVEY MONUMENTATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY DISTURBED MONUMENTATION.
12. ALL STREET SIGNAGE TO COMPLY WITH MUTCD CURRENT EDITION.
13. COORDINATE ALL TRAFFIC CONTROL AND SITE ACCESS ISSUES AND PERMITTING WITH PROJECT ENGINEER OR DESIGNATED OWNER'S REPRESENTATIVE.
14. REMOVE ANY OBSTACLE (FENCES, CONCRETE SLABS, SIGNS, PEDESTALS ETC.) THAT INTERFERE WITH CONSTRUCTION UPON APPROVAL OF PROJECT ENGINEER.

SANITARY SEWER NOTES

1. ALL WORK TO BE PERFORMED SHALL BE IN CONFORMANCE WITH THE COUNTY SEWAGE TREATMENT SYSTEM DESIGN AND CONSTRUCTION STANDARDS, COUNTY REGULATIONS FOR SEWAGE TREATMENT SYSTEMS AND IN ACCORDANCE WITH THE APPROVED PLANS.
2. ALL SANITARY SEWER LINES SHALL BE IN ACCORDANCE WITH FERGUS COUNTY DESIGN CRITERIA, STANDARDS, AND ALL OTHER COUNTY REQUIREMENTS. PERMITTING SHALL BE SECURED BY CONTRACTOR.
3. ALL PORTIONS OF THE SYSTEM WILL BE A MINIMUM OF 10 FEET FROM PROPERTY LINES. THE DRAINFIELD MUST BE A MINIMUM OF 50 FEET FROM ANY CISTERN AND 100' FROM SURFACE WATER OR WELL. THE SEPTIC TANK AND SEALED LINES MUST BE A MINIMUM OF 50 FEET FROM WELLS.
4. THE SEPTIC & DOSING TANKS ARE TO BE LEAK TESTED PRIOR TO SERVICE. TESTING MAY BE VACUUM OR WATER PRESSURE METHODS.
5. SEAL ALL JOINTS IN SEPTIC TANK/DOSING TANK WITH WATERTIGHT SEALS MEETING ASTM C990-09.
6. GRADE SYSTEM SURFACE AND SURROUNDING GROUND TO PROVIDE POSITIVE DRAINAGE.
7. MAINTAIN A MINIMUM OF 2% SLOPE TOWARDS SEPTIC TANK FROM THE BUILDING & 2% FROM SEPTIC TANK TO DRAINFIELD. ALL GRAVITY PIPES SHALL MAINTAIN A CONSISTENT GRADE.
8. LATERALS SHALL BE FLUSHED PRIOR TO CAPPING ENDS.
9. PVC GRAVITY SEWER PIPES ARE TO BE SDR35 PVC AND SHALL MEET THE REQUIREMENTS OF ASTM D 3034-08 & ASTM D 1785-12 STANDARDS UNLESS OTHERWISE NOTED ON PLANS.
10. EFFLUENT FILTER SHALL MEET ANSI/NSF STANDARD 46 FOR EFFLUENT FILTERS & INSTALLATION & MAINTENANCE INSTRUCTIONS.
11. PRE-CAST CONCRETE SEPTIC TANK & DOSING TANK SHALL COMPLY WITH ASTM C 1227-12, ASTM C 150-12, TYPE I, TYPE I-II OR TYPE V CEMENT.
12. SEPTIC & DOSING TANK MANUFACTURER SHALL PROVIDE PLANS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN MONTANA & INSTALLATION INSTRUCTIONS.

LEGEND

NEW	EXISTING	DESCRIPTION
		BUILDING
		CLEANOUT
		CONCRETE
		FENCE
		RIGHT OF WAY LINE
		ROAD CENTERLINE
ST DT		SEPTIC & DOSING TANK
SS		SANITARY SEWER
		SANITARY DRAINFIELD LATERALS

ABBREVIATIONS

AND	&	MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS	MPWSS
AT	@	POLYVINYL CHLORIDE	PVC
CLEANOUT	CO	RADIUS	R
CONCRETE	CONC	REINFORCED CONCRETE PIPE	RCP
CONTROL POINT	CP	SCHEDULE	SCH
DIAMETER	DIA OR ø	SQUARE FEET	SF
ELEVATION	EL OR ELEV	TOP OF CONCRETE	TOC
FINISH FLOOR	FF	TOP OF CURB	TC
FLOW LINE	FL	TOP SIDEWALK	TS
INVERT ELEVATION	IE	TYPICAL	TYP
LINEAR FEET	LF	VERIFY IN FIELD	VIF
MAXIMUM	MAX	WITH	W/
MINIMUM	MIN		

SCALING NOTE

DRAWING SHEETS PRINTED FROM ADOBE PDF ELECTRONIC FILES ARE NOT TO SCALE. VERIFY PRINTED SHEET SCALES FROM THE BAR SCALES LOCATED ON THE PLAN SHEETS

UTILITY LOCATION

THE LOCATIONS OF UNDERGROUND UTILITIES REPRESENTED ON THIS DRAWING HAVE BEEN DETERMINED FROM A FIELD SURVEY AND FROM RECORDS OBTAINED FROM THE VARIOUS UTILITY COMPANIES. THE NUMBER AND LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL MAKE HIS OWN INVESTIGATION TO OBTAIN THE EXACT INFORMATION NECESSARY TO PROTECT OR ACCESS ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CALL THE FOLLOWING NUMBER FOR ASSISTANCE : 406-755-8344 OR 800-551-8344.

"CALL BEFORE YOU DIG"

MONTANA REGISTERED PROFESSIONAL ENGINEER

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FERGUS COUNTY, MT

COVER SHEET

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SHEET C1.0

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FERGUS COUNTY, MT

VICINITY MAP

20-060 - C2.X - SITEDWG.DWG

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RYAN C. BOYD
27056PE

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MT FWP HATCHERY HOUSE
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DRAINFIELD LAYOUT PLAN

20-060 - C2.X - SITEDWG.DWG

SHEET **C2.1**

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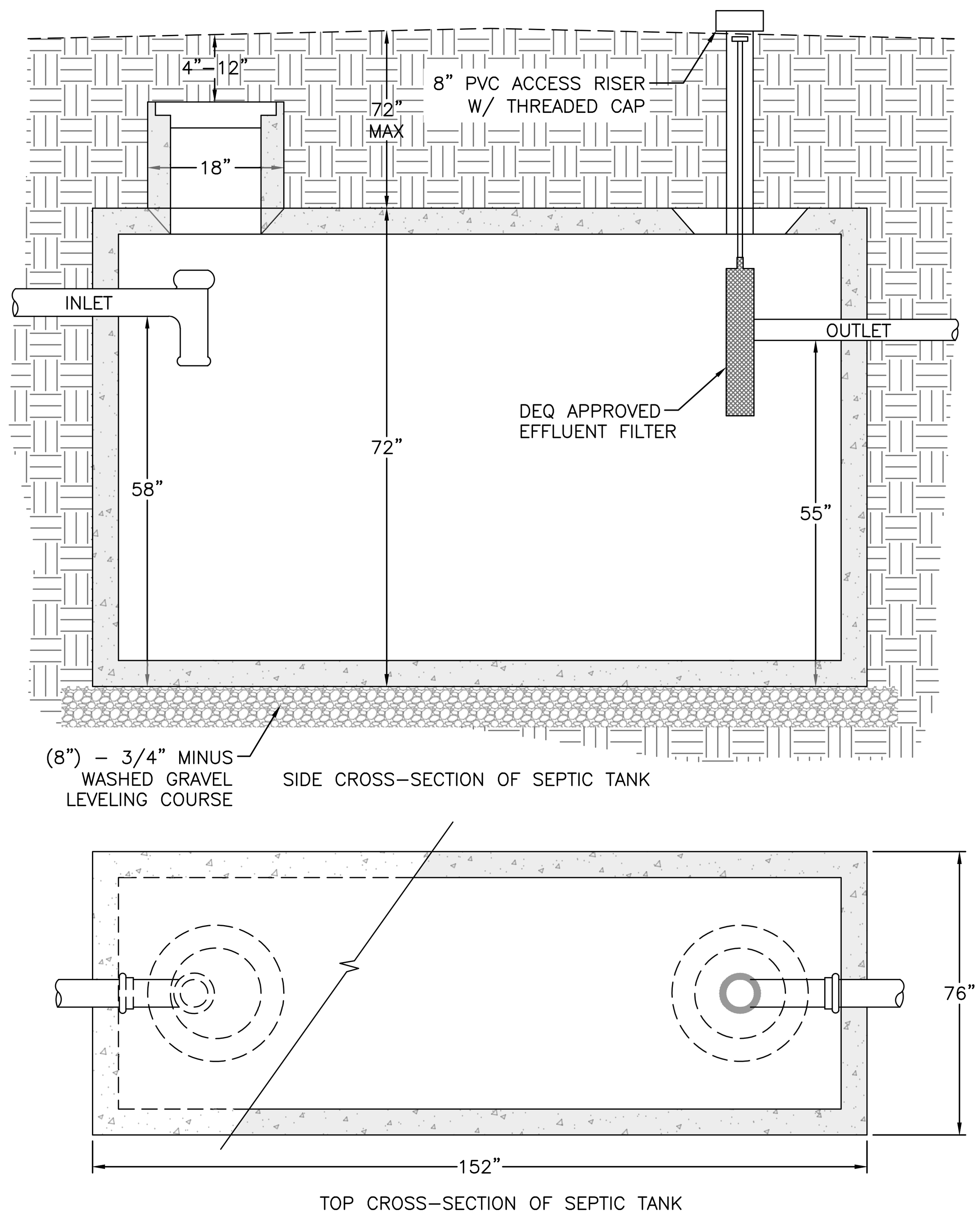
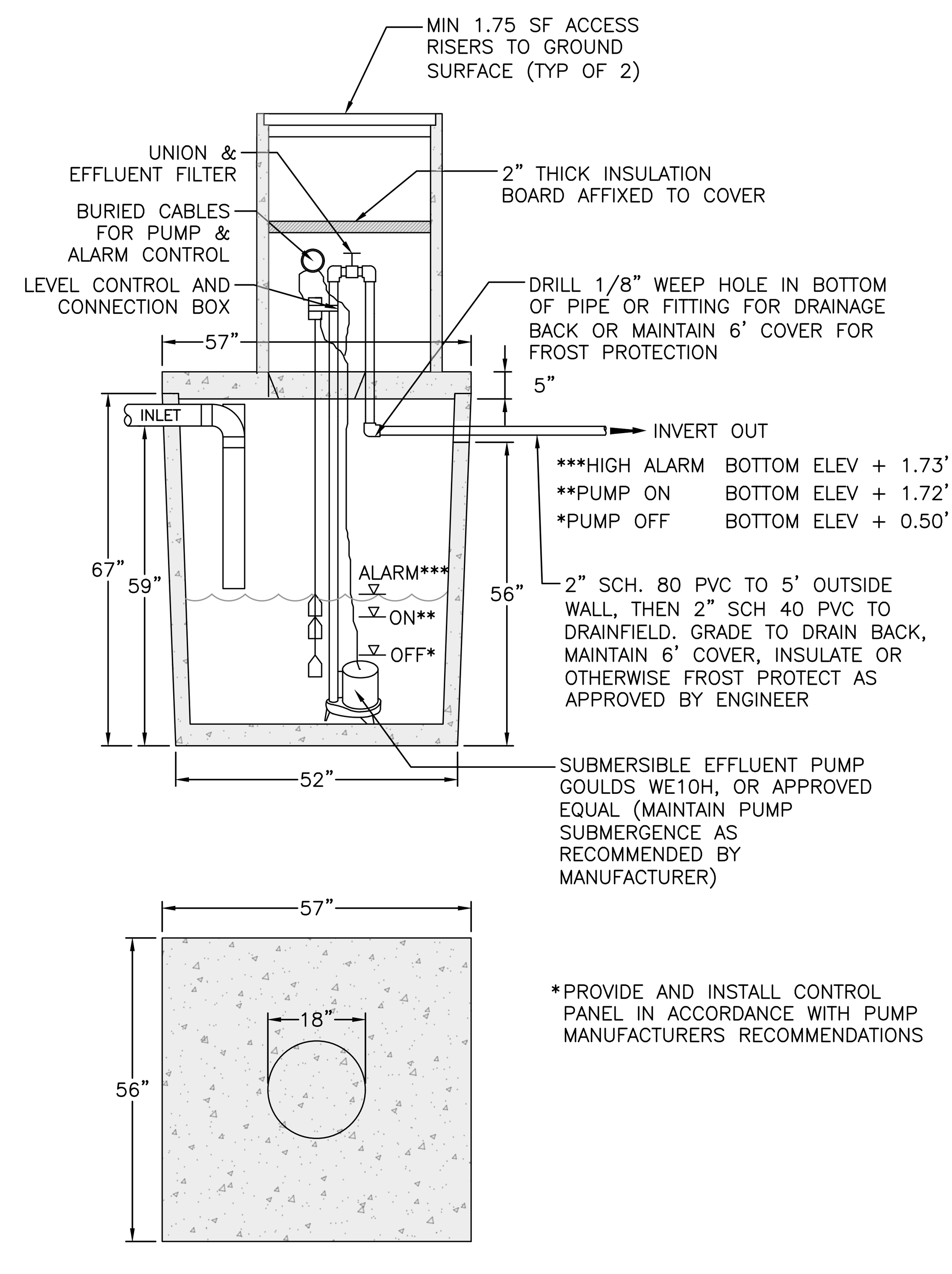


2,000 GALLON SEPTIC TANK (1 / C3.0)

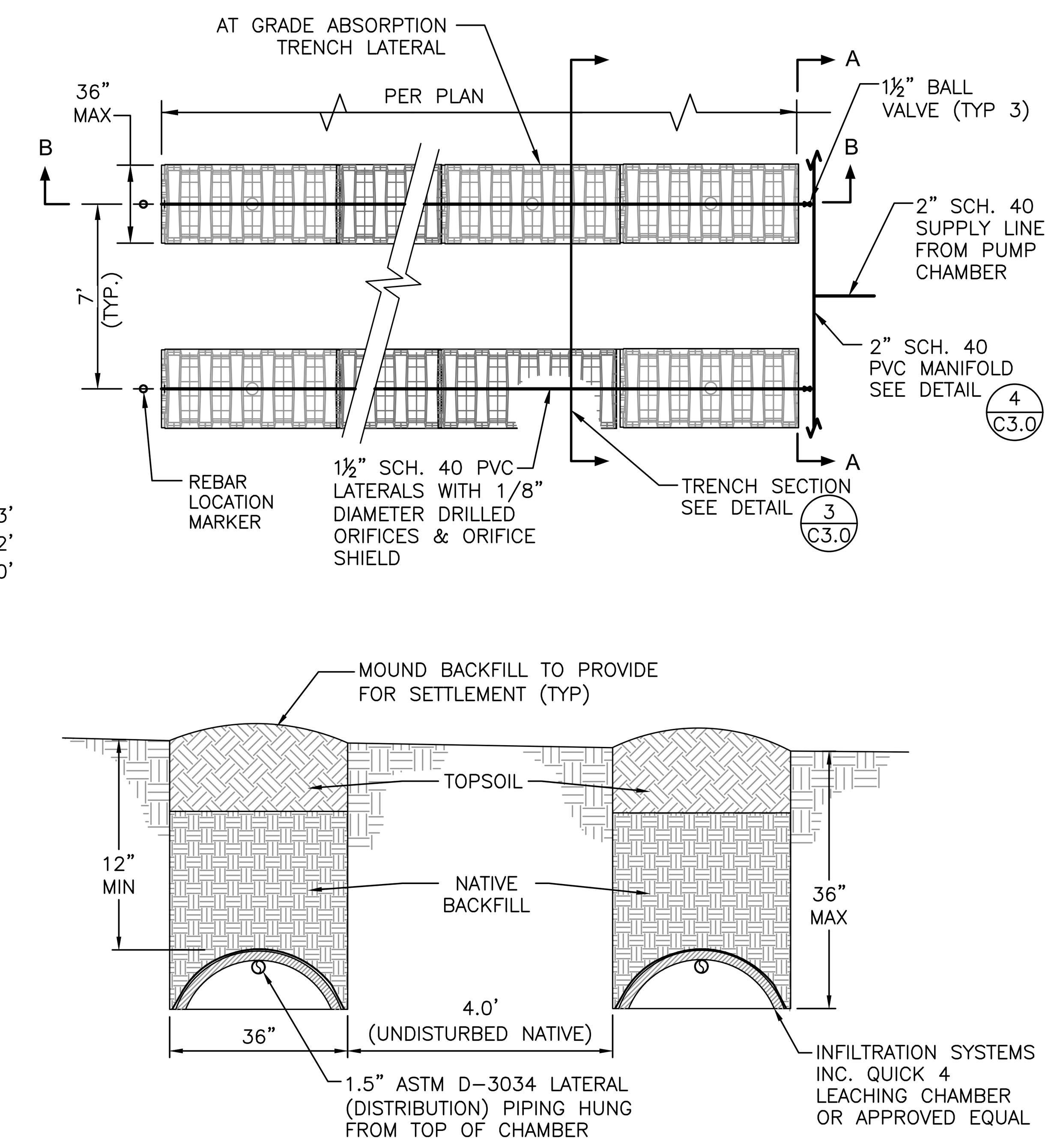
NO SCALE



NOTES:
1. PUMP SELECTION BASED ON 100' OF 2" DISCHARGE PIPE TO DRAINFIELD AND 10' OF ELEVATION CHANGE FROM SEPTIC TANK TO DRAINFIELD. FINAL PUMP SELECTION SHALL REFLECT SITE CONDITIONS AT INDIVIDUAL LOT.

500 GALLON DOSING TANK (1A / C3.0)

NO SCALE

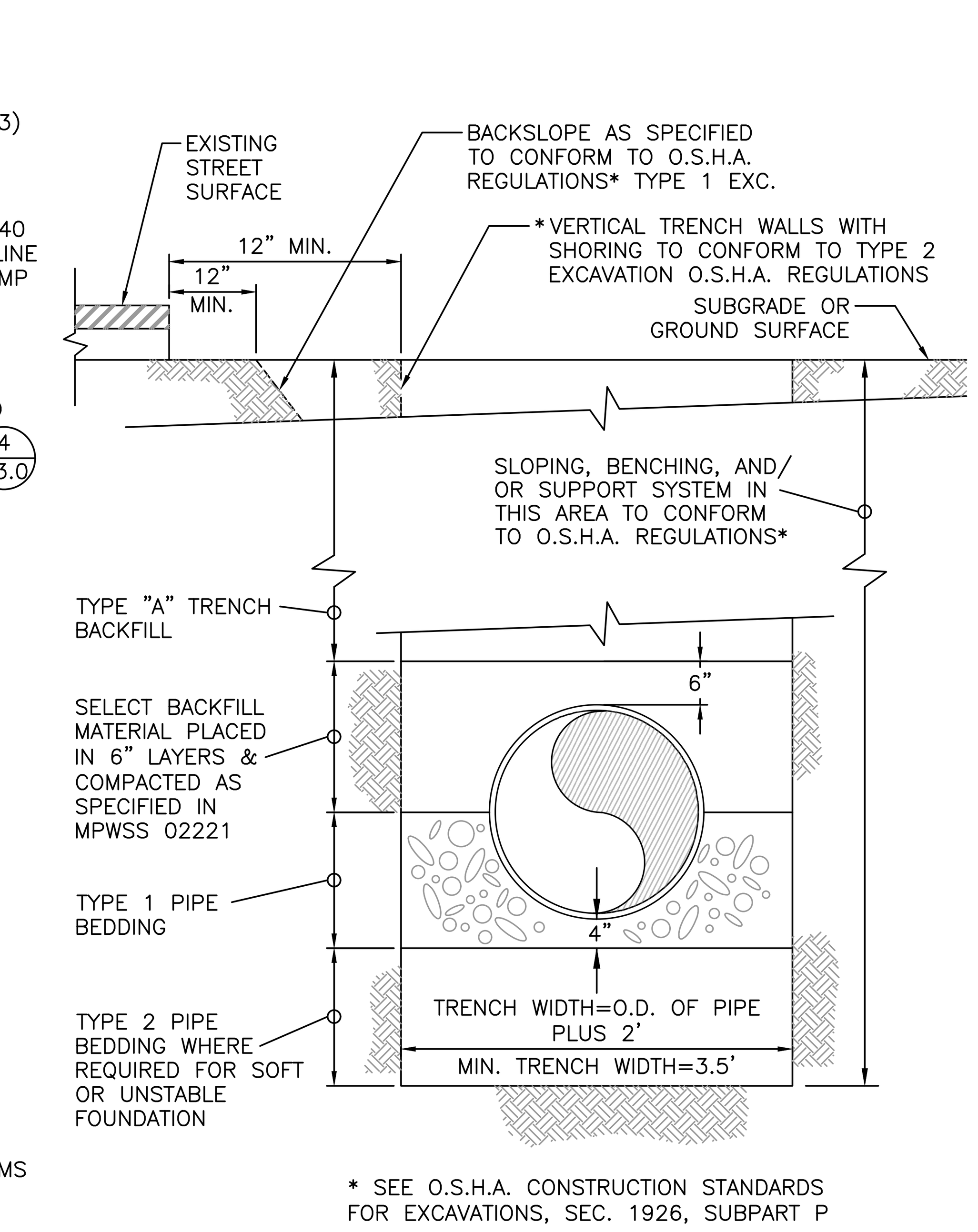


INFILTRATION CHAMBER INSTALLATION NOTES:

1. EXCAVATE LEVEL GRAVELLESS ABSORPTION TRENCHES FOR CHAMBER INSTALLATION.
2. SCARIFY SURFACE TO REMOVE ANY SMEARING CAUSED DURING EXCAVATION.
3. INSTALL LEACHING CHAMBERS IN ADJACENT ROWS TO COVER DESIRED AREA. LEACHING CHAMBERS TO BE INFILTRATION SYSTEMS INC. QUICK 4 LEACHING CHAMBER OR APPROVED EQUAL.
4. INSTALL UNIVERSAL END CAP AND SECURE IN-PLACE WITH BACKFILL. ANCHOR 1½" DISTRIBUTION LATERAL TO THE TOP OF EACH ROW OF CHAMBERS.
5. FILL PERIMETER AND INTERIOR SIDEWALL AREAS TO TOP OF CHAMBERS AND WALK INTO PLACE.

STANDARD ABSORPTION TRENCH DETAIL (2 / C3.0)

NO SCALE

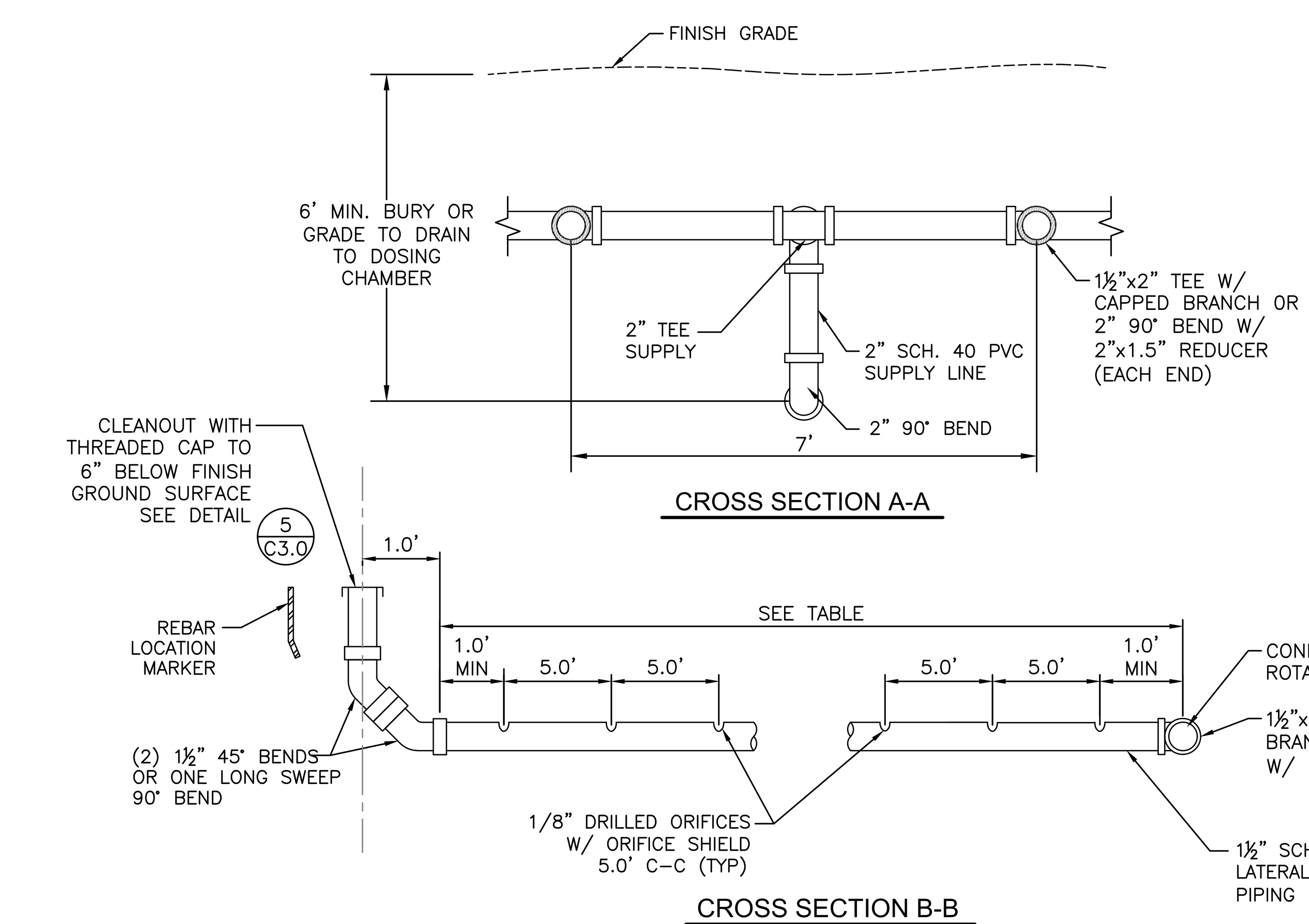


NOTES:

1. WHERE TRENCH PASSES THROUGH EXISTING PAVEMENT, THE PAVEMENT SHALL BE CUT ALONG A NEAT VERTICAL LINE A MINIMUM OF 12" FROM THE EDGE OF THE TRENCH OPENING. WHERE NEAT LINE IS LESS THAN 3" FROM EDGE OF EXISTING PAVEMENT OR CURB AND GUTTER SECTION, REMOVE AND REPLACE ENTIRE PAVEMENT SECTION BETWEEN TRENCH AND EDGE OF PAVEMENT.

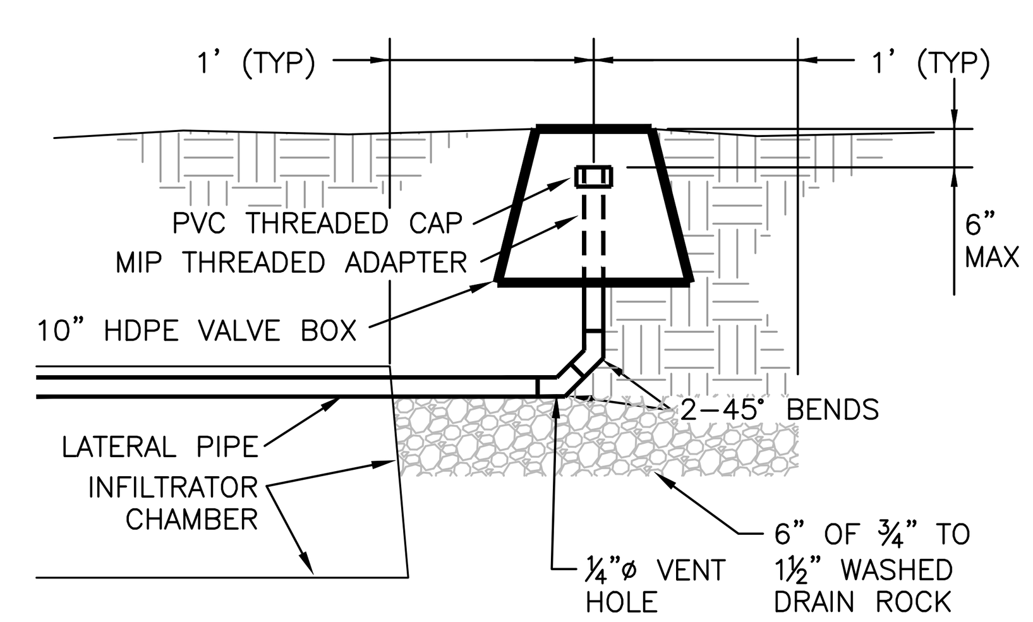
TYPICAL UTILITY TRENCH DETAIL (3 / C3.0)

NO SCALE



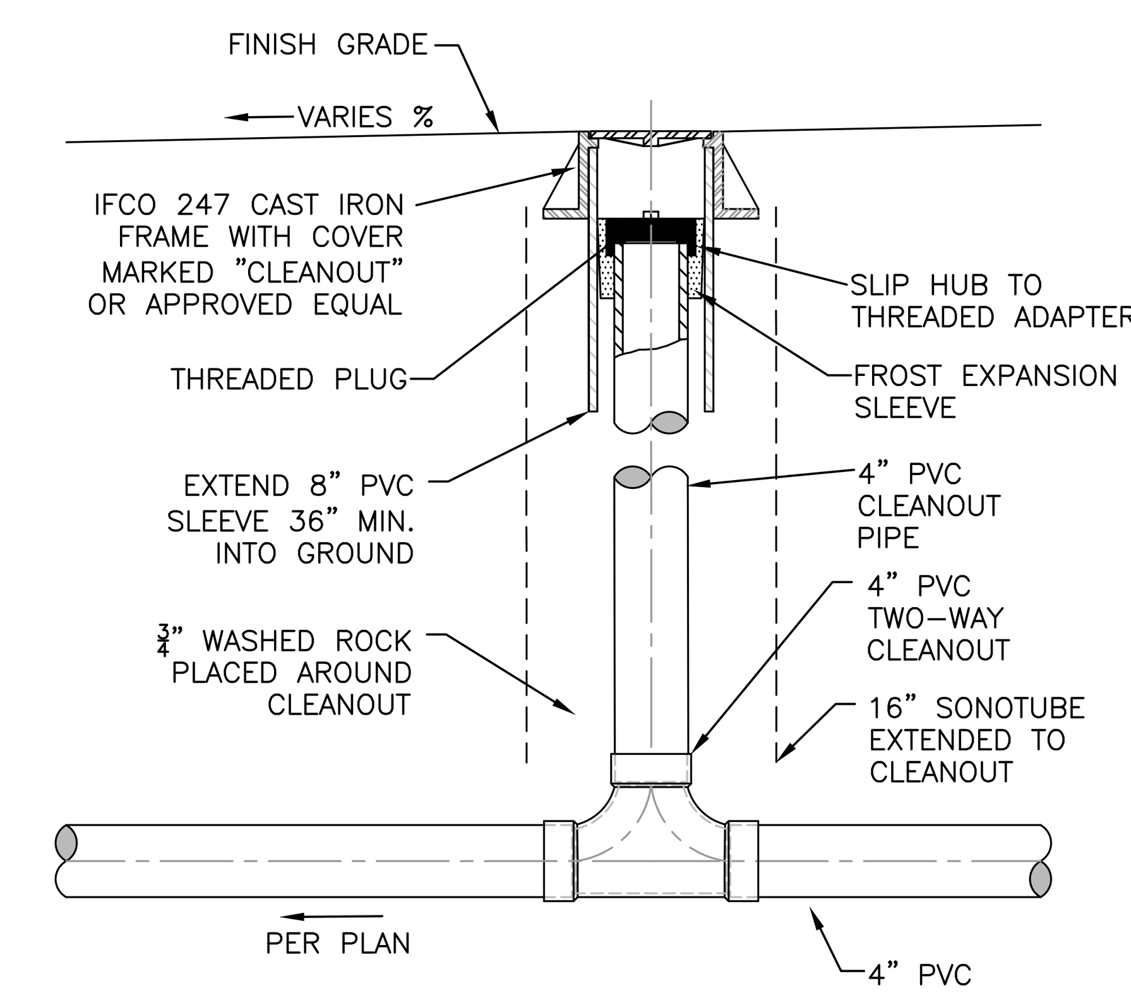
MANIFOLD-LATERAL DETAIL (4 / C3.0)

NO SCALE



LATERAL CLEANOUT DETAIL (5 / C3.0)

NO SCALE



2-WAY CLEANOUT DETAIL (6 / C3.0)

NO SCALE

MONTANA REGISTERED PROFESSIONAL ENGINEER

TD&H Engineering
tdhengineering.com

REV	DATE	REVISION

DRAWN BY:	RCB
DESIGNED BY:	RCB
QUALITY CHECK:	
DATE:	08-10-2020
JOB NO.	20-060
FIELDBOOK	

MT FWP HATCHERY HOUSE
FERGUS COUNTY, MT

SEPTIC SYSTEM DETAILS

20-060 - C3.0 - DETAILS.DWG

SHEET C3.0

BID SET

J:\2020\20-060 MT FWP_Lewistown Services\CADD\CIVIL\20-060 - C3.0 - DETAILS.dwg, 8/11/2020 4:17:04 PM, RCB1