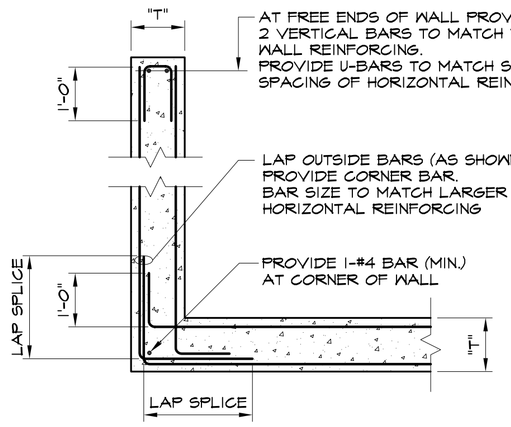
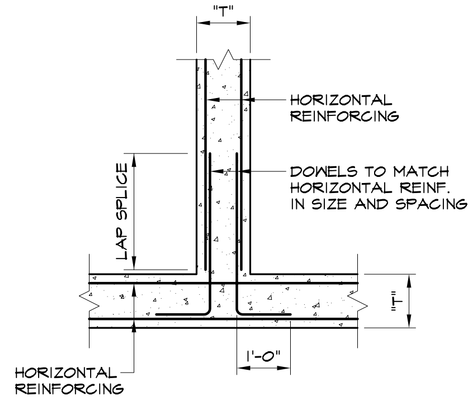
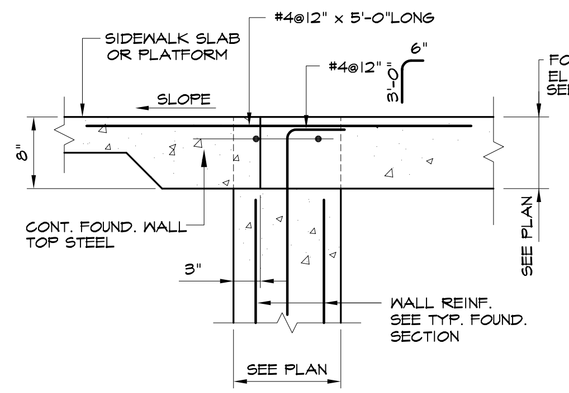


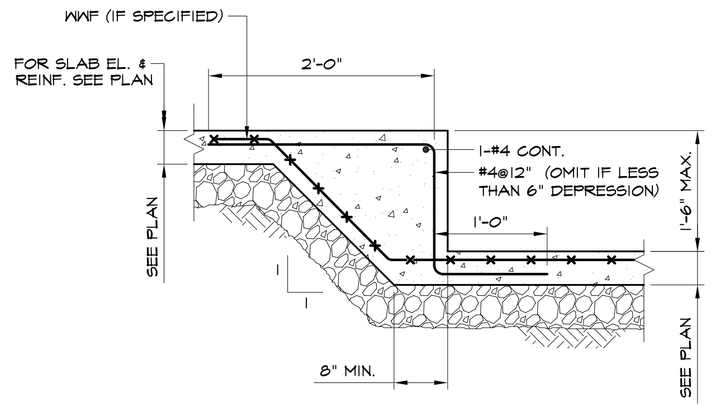
HORIZONTAL REINFORCING OF CONCRETE WALLS



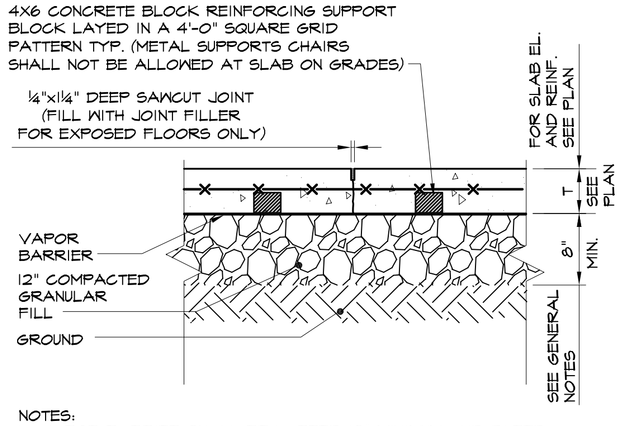
HORIZONTAL REINFORCING OF CONCRETE WALLS



TYPICAL WALL SECTION AT DOORWAY W/SIDEWALK OR PLATFORM

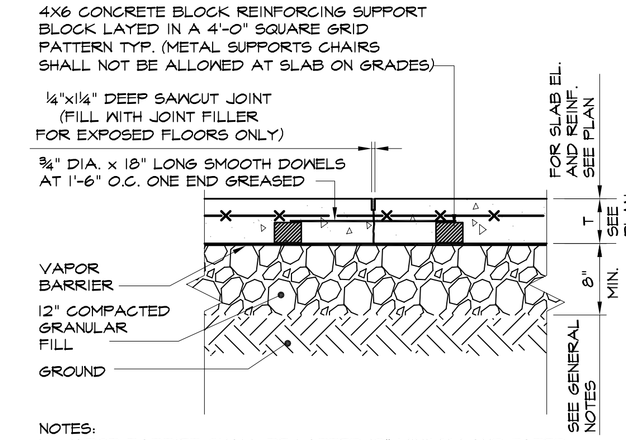


DEPRESSION AT SLAB ON GRADE



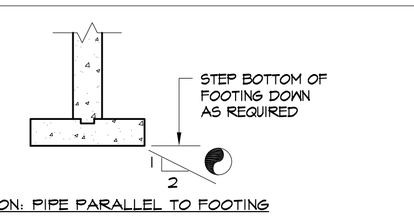
NOTES:
1. VAPOR BARRIER SHALL BE LAPPED 12" MINIMUM AND TAPED. ALL CUTS AND RIPS IN VAPOR BARRIER SHALL BE TAPED.

TYPICAL SAW CUT DETAIL CONTROL JOINT DETAIL

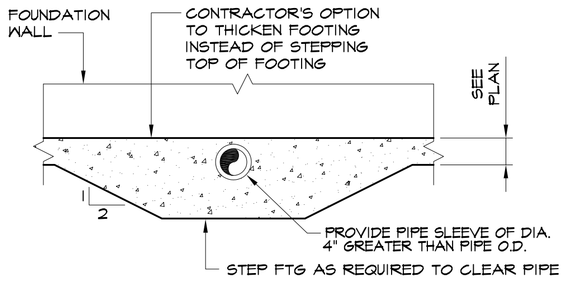


NOTES:
1. VAPOR BARRIER SHALL BE LAPPED 12" MINIMUM AND TAPED. ALL CUTS AND RIPS IN VAPOR BARRIER SHALL BE TAPED.

TYPICAL SLAB ON GRADE CONSTRUCTION JOINT DETAIL

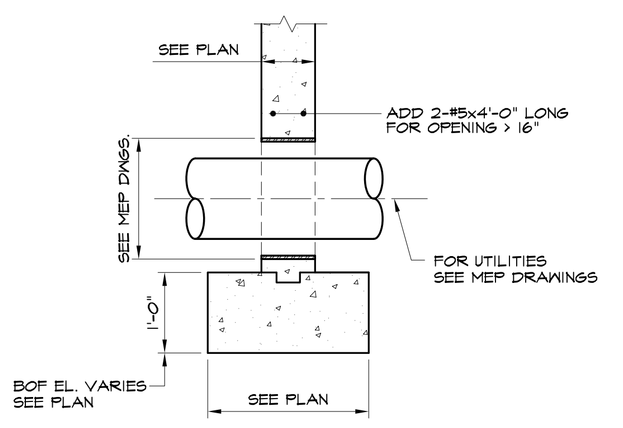


SECTION: PIPE PARALLEL TO FOOTING



SIDE ELEVATION: PIPE PERPENDICULAR TO FOOTING

TYPICAL FOOTING DETAILS AT PIPES



TYPICAL UTILITY SLEEVE

NOTE: STEP FOOTING DOWN AS REQUIRED TO ACCOMMODATE UTILITY SLEEVE ELEVATION.

GENERAL NOTES:

1. The design is in accordance with IBC 2003.
2. The structural drawings shall be used in conjunction with the architectural, mechanical, electrical, plumbing, and landscape drawings and specifications.
3. Details shown as typical are applicable to all similar conditions.
4. All dimensions, elevations and conditions shall be verified in the field by the contractors and any discrepancies shall be brought to the attention of the Engineer for clarification before proceeding with the affected part of the work. For work attached to or within existing structures, the contractors shall determine all necessary dimensions, elevations and conditions required for the accurate fabrication and erection of the building components. The contractor shall verify all dimensions and conditions at the site and report any discrepancy to the engineer before ordering material and proceeding with the work. Dimensions and elevations noted in the contract documents as (+/-) and all field conditions shall be verified in the field (V.I.F.) by the contractors prior to the submission of shop drawings. Upon receipt of shop drawings, the engineer has the right to assume that all field dimensions, elevations and conditions have been verified by the contractors and that the shop drawings accurately reflect such verifications unless stated otherwise on the shop drawings.
5. All blasting shall be completed prior to the placement of concrete.
6. The contractor is entirely responsible for the stability of the structure during all phases of erection & construction.
7. Where drawings and specifications show conflicting information, it shall be brought to the attention of the Engineer for clarification.

FOUNDATIONS:

1. Foundations shall bear on compacted granular fill or natural undisturbed soils having a minimum bearing capacity of 2 tons per square foot (as verified by the Geotechnical Engineer). Structural fill shall meet the requirements of the Geotechnical Report.
2. All exterior foundations shall be a minimum of 4'-0" below finished grade, to provide adequate frost protection to footings.
3. No foundations or slabs shall be placed in water or on frozen ground.
4. The contractor should review the Geotechnical Report prepared by the Geotechnical Consultants. Any recommendations made by the Report shall become part of the job specifications.
5. Basement level foundation walls are not designed to be free-standing. Do not place backfill without adequate bracing or until first floor framing is in place and has cured for seven days.
6. Backfill on both sides of foundation and retaining walls at the same time, maintaining equal heights of backfill on each side, until final grade is reached on one side.
7. If rock ledge is encountered during the excavation of the foundations, the ledge shall be overexcavated by a minimum of 12 inches. A 12 inch layer of compacted gravel shall be placed as a cushion between the ledge and the bottom of footing.

REINFORCED CONCRETE:

1. All structural concrete shall be normal weight, stone aggregate concrete, and shall be proportioned, mixed and placed under the supervision of a control engineer in accordance with ACI 315, 318 and 301 standards, latest editions. Concrete shall develop the following 28 day strengths:
   a. Concrete Flatwork exposed to weather: 4000 psi (6% air entrained)
   b. Exterior: walls, footings, piers and slabs: 3000 psi (6% air entrained)
   c. All other concrete: 3000 psi
2. Reinforcing bars including stirrups shall conform to ASTM A615 with 60,000 psi yield strength with minimum anchorage and splice requirements for reinforcing in accordance with ACI 318, latest edition. Welded wire fabric shall conform to ASTM A185.
3. Concrete walls shall be cast in alternate panels not exceeding 100 ft. in length. The use of pour strips at splices in horizontal reinforcing may be used to extend the length of pours.
4. Slabs on grade shall be placed in accordance with the latest ACI recommendations.
5. Slabs on grade shall be placed on a layer of well graded granular material compacted to 95% of maximum dry density.
6. Provide concrete pads for mechanical equipment according to the requirements of the manufacturer and in accordance with the typical details, and mechanical drawings.
7. Detailing of reinforcement shall be according to the latest edition of ACI 315 "Details and Detailing of Concrete Structures".
8. Not all openings through concrete slabs and walls are shown on structural drawings. Openings indicated on the drawings or any additional openings or inserts required must be verified with respective trades before placement of concrete.
9. See architectural drawings for finishes, depressions, reglets, notches, and other architectural features.
10. Concrete exposed to the exterior shall be air entrained.
11. Unless noted otherwise, provide the following clear cover for reinforcing steel:
    a. Footings: 3"
    b. Foundation Walls: 2"
    c. Interior Slabs: 1"
    d. Exterior Slabs: 2"
    e. Columns, Piers or Pilasters: 1 1/2" to ties.
12. All exposed concrete to be rubbed to a smooth finish.
13. All Anchor Bolts shall be dryset (Set prior to placement) (net setting is unacceptable).

STRUCTURAL STEEL & METAL DECK:

1. All structural steel work shall conform to the "Specifications for Design, Fabrication and Erection of Structural Steel for Buildings" of the American Institute of Steel Construction. All joists and joist girders shall conform to the latest Steel Joist Institute Standard Specifications.
2. The structural steel shall conform to the following:
   a. Structural shapes: ASTM A572 (Grade 50) or A992
   b. Plates and angles: ASTM A36.
3. All deck to be placed continuously over two or more spans except in areas where there is only one span.
4. Provide 16 gage (minimum thickness) metal closures (pour stops) all around periphery and edges of openings
5. The contractor shall supply all plates, clips, seat angles, connections, etc. as required for completion of the structure, even if such items are not explicitly called for on the architectural or structural drawings.
6. All connections of non-composite beams where reactions are not given on the plans shall be designed for the Allowable Uniform Loads on Beams divided by two.
7. Provide temporary shoring for metal deck or concrete slabs as required for those areas where they cannot support the weight of wet concrete and construction loads. Shoring shall be kept in place until concrete attains full strength.
8. Design and detail all connections according to the AISC specifications.
9. All connections shall be bolted with ASTM A325 or A490 high-strength bolts or welded in accordance with AWS and AISC requirements.
10. The fabricator shall submit job standards for each type of connection to be used on the project. If shop dwgs. are submitted without prior submittal of job standards the shop drawings will be returned without review.
11. Design all brace connections to develop the full capacity of the member unless otherwise noted.
12. All connections shall be bolted with ASTM A325 or A490 high-strength bolts or welded in accordance with AWS and AISC requirements.
13. Unless otherwise noted All composite beams connections shall be designed for 2.0 times the reaction from the Allowable Uniform Loads on Beams tables. Unless noted otherwise all girders shall be designed for 1.5 times the reaction from the Allowable Uniform Loads on Beam tables. Girders are defined as horizontal framing members that support other horizontal framing members. Beams are defined as horizontal framing members which do not support other members.
14. The fabricator shall submit job standards for each type of connection to be used on the project. If shop dwgs. are submitted without prior submittal of job standards the shop drawings will be returned without review.

REINFORCED CONCRETE MASONRY (CMU):

1. All masonry walls shall develop a strength of f'm=1500psi.
2. All grouting shall be in accordance with ACI 530.1 Specifications, latest edition.
3. All reinforcing in masonry walls shall be fy=60,000 psi.
4. All exterior and interior walls shall be reinforced as noted on plans.
5. Continuous wire reinforcing (horizontal joint reinforcing) shall be galvanized ladder type, and shall be spaced at 16" O.C. vertically in all masonry walls.
6. Contractor shall use low lift grouting procedure for construction of reinforced masonry walls (see Typical Masonry Details). Vertical reinforcing shall be lap spliced a minimum of 48 times the reinforcing bar diameter unless noted otherwise. The consistency of grout should be as required to assure complete filling of the cavities and to produce the required masonry strength.
7. Reinforced bond beams are to be provided where specified on the structural and architectural drawings.
8. Provide additional reinforcement at sides and above and below masonry openings as indicated on typical details.
9. Provide one piece custom blocks at 135° corners.

WOOD CONSTRUCTION:

1. All lumber used shall conform to the following species:
   a. All lumber for trusses shall be as required by the truss supplier.
   b. Laminated Verneer Lumber (LVL) shall have an allowable bending stress of 2800 psi, an allowable shear stress of 285 psi, and a modulus of elasticity of 2.0 x 106 psi.
   c. Parallams (LAM) shall have an allowable bending stress of 2200 psi, an allowable compression stress parallel to grain of 3000 psi, and a modulus of elasticity of 1.8 x 106 psi.
   d. All other lumber shall be spruce-pine-fir as follows:
      1. Studs - No.1 / No.2 or better
      2. Joists & Rafters - No.1 / No.2 or better
      3. Beams & Girders - No.1 or better
   e. All pressure treated wood shall be SYP #2 or better and treated with ACQ-C or ACQ-D Carbonate preservative.
2. Wood I-joists shall be designed for loads shown. supplier to submit stamped calculations and shop drawings for approval.
3. All metal straps shall conform to the Truss Plate Institute.
4. All wood in contact with concrete shall be pressure treated.
5. All exterior walls shall be sheathed in 1/2" APA exterior grade, Exposure 1 (24/16) plywood or OSB (unless noted otherwise).
6. All floor sheathing shall be 3/4" Structural 1 (48/24) plywood or OSB glued and nailed to floor members.
7. All roof sheathing shall be 5/8" APA Exposure 1 (40/20) plywood or OSB (unless noted otherwise). Provide plywood edge clips.
8. Nailing Pattern for Exterior Plywood: 6d nails @ 6" at edges, and at 8" at the interior, unless noted otherwise.
9. The truss fabricator shall design all wood trusses for the live and dead loads shown on drawings. The fabricator shall be required to submit shop drawings and stamped calculations for approval to the Engineer. Shop drawings shall include erections drawings, details, bridging and other customary information required to properly construct the roof trusses. The Truss Supplier shall provide all hangers for LVLs and trusses. The hanger marks shall be shown and marked on the Erection plans. The Truss Supplier shall coordinate supports for hanging pipes, mechanical units and other equipment.
10. The contractor shall adequately brace the wood trusses during erection. Installation of permanent bracing shall be in accordance with the truss designer's requirements.
11. At all interior load bearing walls and all non-load bearing walls over 8' in height, provide one row of wood blocking at mid-height of studs.
12. All mechanical fasteners in contact with pressure treated wood shall be hot-dip galvanized or mechanically deposited zinc coated fasteners. Hot-dip galvanized fasteners should meet ASTM A153, with 2-ounces of zinc coating per square foot minimum. Mechanically deposited zinc coated fasteners shall meet ASTM B695 Class 55 or greater.
13. All mechanical connectors in contact with pressure treated wood shall be hot-dip galvanized connectors. All hot-dip galvanized connectors shall meet ASTM A653, Class G185 with 1.85-ounces of zinc coating per square foot minimum or Type 304 and 316 stainless steel products.
14. Fasteners and connectors used together should be of the same type (e.g. hot-dip nails with hot-dip joist hangers).
15. All mechanical connectors in contact with pressure treated wood and not meeting the above corrosion protection requirements shall be isolated from contact with the pressure treated wood by means of three layers of 15-lbs felt paper.

DESIGN LOADS:

The building has been designed to conform to the 2003 International Building Code, and to resist the following loads:

Rooms:.....LL=40 psf
Corridors:.....LL=40psf
Lobby:.....LL=100psf

Wind:
1. Wind Speed(3 Second Gust) V=100 mph
2. Wind Importance Factor: I=1.00 Building Category II
3. Wind Exposure: "B"

Snow
Ground Snow:.....Pg=50 psf
Flat Roof Snow:.....Pf=35 psf
Snow Exposure Factor.....Ce=1.00
Snow Load Importance Factor.....I=1.00
Thermal Factor.....Ct=1.00

Seismic Design:
1. Seismic Design Category: "B" Seismic Use Group: "I"
2. Spectral Response Coefficients: Sds= .296 Sd1=.113
3. Site Class "C"
4. Basic Seismic Force Resisting System: Ordinary Steel Concentrically Braced Frames Below 2nd Floor Wood Shear Walls Above 2nd Floor
5. Design Base Shear: V=120 k
6. Analysis Procedure: V=Cs*W

INTENT OF THE STRUCTURAL DRAWINGS:

1. The intent of the structural drawings is to show the main structural features and structural design for the project. Architectural details are shown incidentally only and not completely. Therefore, architectural drawings must be used in conjunction with the structural drawings.

SHOP DRAWINGS:

1. All shop drawings submitted to the Engineer should indicate the date, revision number and issue description of the reference drawings (the structural contract drawings used to prepare the shop drawings). If shop drawings are not prepared according to the latest structural drawings, or if shop drawings are submitted without indicating reference drawings, the shop drawings will be returned without review.
2. All shop drawings shall be checked by the Subcontractor and reviewed by the General Contractor prior to submission. Shop drawings which have not been checked by the Subcontractor or reviewed by the General Contractor will be returned without review.
3. Review of shop drawings by the Engineer does not relieve the Contractor from full conformance to the contract documents.

ABBREVIATIONS OF STRUCTURAL DRAWINGS:

A.B.	Anchor Bolt	L.P.	Low Point
A.R.	Anchor Rod	LVL	Laminated Veneer Lumber
ARCH.	Architectural/Architect	MC	Moment Connection
BOF	Bottom of Footing	MIN.	Minimum
CJ	Control Joint	N.S.	Near Side
℄	Center line	O.C.	On Center
CONC.	Concrete	PL	Plate
CMU	Concrete Masonry Unit	P.T.	Pressure Treated
DIA.	Diameter	RD	Roof Drain
DWGS.	Drawings	REINF.	Reinforced / Reinforcing
EF	Elevation	REQ'D.	Required
EL.	Each Face	RTU	Roof Top Unit
EOD	Edge of Deck	T&B	Top & Bottom
EW B.	Each Way Bottom	TOC	Top of Concrete
EXIST.	Existing	TOS	Top of Steel
FDN.	Foundation	TOW	Top of Wall
F.S.	Far Side	TYP.	Typical
FTG.	Footing	UNO.	Unless Noted Otherwise
H.P.	High Point	VERT.	Vertical
HSS	Hollow Structural Steel	V.I.F.	Verify In Field
HORZ.	Horizontal	W	With
LAM	Parallam		
LLH	Long Leg Horizontal		
LLV	Long Leg Vertical		

Refer to project specifications for additional requirements.

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CONTRACTOR:

ARCHETYPE, P.A.
ARCHITECTS
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(207) 772-6022 Fax (207) 772-4056

GENERAL NOTES/DETAILS

Project:
WALKER TERRACE
ONE WALKER STREET
PORTLAND, MAINE

Date	Scale
JULY 12, 2005	N.T.S.

Revisions:	Checked By:
SUBMISSION JULY 12, 2005	

S2.1