Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 09/22/14
CITY OF PORTLAND, MAINE

TYPICAL RISERS

RISER HEIGHT	LANDING TO LANDING HT. - "H"						
	12 RISERS	13 RISERS	14 RISERS	15 RISERS	16 RISERS	17 RISERS	18 RISERS
6"	-----	6'-6"	6'-4"	10'-0"	10'-6"	11'-4"	12'-0"
6 1/2"	6'-6"	6'-2 1/2"	6'-11"	10'-7 1/2"	11'-4"	-----	-----
7"	6'-0"	6'-4"	10'-6"	11'-5"	12'-0"	-----	-----
7 1/2"	6'-6"	10'-5 1/2"	11'-1"	11'-10 1/2"	-----	-----	-----

MINIMUM FINISH FRAMED OPENING FOR STAIRS

STAIR DIA. "D"	FINISHED OPENING
5'-0"	5'-2" x 5'-2"
5'-6"	5'-8" x 5'-8"
6'-0"	6'-2" x 6'-2"
6'-6"	6'-8" x 6'-8"
7'-0"	7'-2" x 7'-2"

FRAME ROUGH OPENING LARGER TO ALLOW FOR FINISH MATERIAL SUCH AS STP, BD, TRIM ETC.

RIGHT HAND UP

NOTE: 9 RISER LAYOUTS SHOWN (12 TREADS & 1 LANDING)

INDICATES DIRECTION TO ENTER STAIR (DOWN)

LEFT HAND UP

1. LANDING IS REVERSIBLE. 60 OR 90 DEGREE EDGE OF LANDING MAY BE USED FOR TOP STEP.
2. 6.5" MINIMUM RISER HEIGHT REQUIRED FOR HEADROOM BELOW SQUARE LANDING.
3. IF DOORWAY OCCURS AT LANDING, A LARGER LANDING MAY BE REQUIRED. SEE NOTE 16 & DETAIL 18

TREAD, COLUMN, & FOOTING SCHEDULE

STAIR DIAMETER "D"	TREAD "R" IN	TREAD "E" IN	COLUMN MAX. LOAD (LBS.)	COLUMN PIPE DIA. & TYPE IN	COLUMN O.D.	CONC. PAD "W" BBB SOIL BRG. VALUE 1,500 P.S.F.
5'-0"	2'-6"	14 5/4"	4"	2500	5" STD.	5 1/2"	16"
5'-6"	2'-6"	16 5/8"	4"	2500	5" STD.	5 1/2"	16"
6'-0"	2'-6"	17 1/8"	4"	2500	5 1/2" STD.	6"	16"
6'-6"	3'-3"	14 5/8"	4"	2500	5 1/2" EX. STR.	4"	16"
7'-0"	3'-6"	2'"	4"	2500	5 1/2" EX. STR.	4"	16"
6'-0" MAX. W/ MATCH ABOVE				3600	5 1/2" EX. STR.	4"	20"

(1) SEE DETAILS 9, 7, & 8
(2) SEE DETAIL 6
(3) SEE DETAILS 3 & 3A
(4) FOR PLASMA CUT TREADS SEE 7 & 7A.
(5) IF SOIL BEARING VALUE IS GREATER THAN 1,500 P.S.F., USE "W" FOR 1,500 P.S.F. EXISTING OR NEW CONCRETE FLOOR OR WOOD FLOOR FRAMING SHALL BE DESIGNED FOR THE SPECIFIC COLUMN LOAD FOR EACH INSTALLATION.
(6) 2-STORY STAIRS (24'-0" MAX. HT. WITH LANDING AT MID HEIGHT).
(7) COMPARABLE DIAMETER AND WALL THICKNESS OF STEEL ROUND H.S.S. OR ALUMINUM ROUND TUBING MAY BE SUBSTITUTED FOR PIPE SHOWN.

STAIR SCHEDULE 5

GENERAL NOTES

(THESE NOTES SHALL APPLY UNLESS OTHERWISE NOTED)

NOTE: WHERE CODE IS SPECIFIED, IT SHALL BE THE 2003 LOS ANGELES CITY BUILDING CODE, 2003 CALIFORNIA BUILDING CODE WITH L.A. CITY AMENDMENTS AND 2007 CALIFORNIA BUILDING CODE AND 2006 INTERNATIONAL BUILDING CODE.

1. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE.
2. SOIL BEARING MINIMUM = 1,500 P.S.F. PER TABLE 1804.2 FOR CLAY, SANDY CLAY, SILTY CLAY, CLAYEY SILT, SILT AND SANDY SILT FOR GRADING PREINSPECTION OR SOILS REPORT.
3. CONCRETE FOR NON FOOTINGS SHALL BE STANDARD MIX, 2500 P.S.I. AT 28 DAYS.
4. STRUCTURAL STEEL PLATES AND BARS SHALL BE A.S.T.M. A-36 (OR HIGHER) YIELD STRENGTH, ALUMINUM PLATE FOR TREADS SHALL BE 3003-H22. ALL OTHER PLATE SHALL BE 6061-T6.
5. STEEL PIPE COLUMNS AND SLEEVES SHALL BE A.S.T.M. A-53 GRADE B OR ROUND H.S.S. A.S.T.M. A500 GRADE B.
6. ALUMINUM PIPE COLUMNS AND ROUND TUBE COLUMNS SHALL BE 6061-T6.
7. STEEL TUBES SHALL BE A.S.T.M. A500 GRADE C. (Fy = 50 K.S.I. MIN.). ALUMINUM TUBES SHALL BE 6061-T6.
8. BOLTS SHALL BE A.S.T.M. A-307. SET SCREWS SHALL BE A.S.T.M. F912.
9. BOLTS IN ALUMINUM SHALL BE HOT DIPPED GALVANIZED A.S.T.M. A153 OR ELECTRO-GALVANIZED A.S.T.M. B633.
10. FASTENERS FOR EXTERIOR EXPOSURE SHALL BE GALVANIZED FOR STEEL STAIRWAY AND STAINLESS STEEL FOR ALUMINUM STAIRWAY.
11. STEEL WELDING SHALL BE PER CODE USING SHIELDED METAL ARC PROCESS WITH E7XXX ELECTRODES OR EQUAL IN AN APPROVED FABRICATOR'S SHOP. ALUMINUM WELDING SHALL BE PER CODE WITH 5356 WELD FILLER.
12. ALL FABRICATION SHALL BE DONE IN THE SHOP OF A LICENSED FABRICATOR OF THE CITY OF LOS ANGELES OR EQUAL.
13. STAIRWAY SHALL BE USED FOR ONE AND TWO FAMILY DWELLING ONLY.
14. SPIRAL STAIRWAYS ARE PERMITTED TO BE USED AS A COMPONENT IN THE MEANS OF EGRESS ONLY WITHIN DWELLING UNITS. (NOTE THAT A PRIVATE STAIRWAY IS A STAIRWAY THAT SERVES A SINGLE TENANT. A SINGLE TENANT MAY BE ONE OR MORE OCCUPANTS IN A DWELLING).
15. PROVIDE MINIMUM OF 26" WIDE WALKING AREA FROM OUTER EDGE OF SUPPORT COLUMN TO INNER EDGE OF HANDRAIL. 1 1/2" MINIMUM TREAD AT A POINT 12 INCHES FROM WHERE THE TREAD IS NARROWEST. MINIMUM 6'-6" HEAD ROOM, AND RISE NOT TO EXCEED 6 1/2". STAIR TREADS AND RISERS SHALL BE OF UNIFORM SIZE AND SHAPE. THE TOLERANCE BETWEEN THE LARGEST AND SMALLEST RISER HEIGHT OR BETWEEN THE LARGEST AND SMALLEST TREAD DEPTH SHALL NOT EXCEED 3/8" (0.375 INCH) IN ANY FLIGHT OF STAIRS.
16. THE TOP OF GUARDRAILS SHALL BE 42" MINIMUM IN HEIGHT. OPEN GUARDRAILS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH THAT A 4" SPHERE CANNOT PASS THROUGH.
17. HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE STAIRS. FOR PRIVATE STAIRWAYS HANDRAILS AND NOT REQUIRED TO EXTEND 12" BEYOND THE TIE TOP OR BOTTOM RISER PER CODE SECTION 1012.5.
18. LANDINGS AND LANDINGS AT DOORS SHALL COMPLY WITH CODE SECTIONS 1008.1.5 AND 1008.4.
17. REDUCED PLANS OR POOR QUALITY PRINTS (TOO DARK OR TOO LIGHT) WILL NOT BE ACCEPTED FOR OBTAINING A BUILDING PERMIT.
18. A PLOT PLAN AND/OR FLOOR PLAN IS REQUIRED FOR OBTAINING A BUILDING PERMIT USING THIS PRODUCT.
19. REPRESENTATIONS OF PATTERNS AND VIEWS SHOWN ON THIS PLAN MAY NOT MATCH CURRENT PRODUCTION.
20. ALL WORK MUST COMPLY WITH L.A. CITY PLANNING AND ZONING CODES AND LOCAL CODES.
21. STRUCTURAL OBSERVATION IS NOT REQUIRED PER L.A. CITY INFORMATION BULLETIN P/B 2002-021 (L.A.M.C./L.B.C. SECTION 1704.3.2).
22. DESIGN LOADS:
   A. LIVE LOADS:
      FLOOR: 40 P.S.F. OR 300 LB. ON 4 SQ. IN. ON TREADS & 40 P.S.F. ON LANDING.
   B. SPECIAL LOADS:
      HANDRAIL AND GUARDRAIL: 200 LB. IN ANY DIRECTION.
      INTERMEDIATE RAILS: 50 LB ON ONE SQ.FT.
   C. SNOW LOADS
      P_g = 40 P.S.F. GROUND SNOW LOAD
      $P_f = 0.7\ C_e\ C_t\ I\ P_g = 0.7(0.9)(1.2)(40) = 40$ P.S.F.
      C_e = 1.2 SHELTERED (MOST SEVERE FACTOR)
      C_t = 1.2 UNHEATED (MOST SEVERE FACTOR)
      I = 1.0 (OCCUPANCY CATEGORY: I OR II)
   D. WIND DESIGN DATA
      BASIC WIND SPEED: 110 M.P.H. (3-SECOND GUST) AT 30' ABOVE GRADE.
      I_w = 1.0
      EXPOSURE: 'C'
      INTERNAL PRESSURE COEFFICIENT: N/A
      COMPONENTS AND CLADDING: N/A
      NOTE: WHEN STAIRWAY IS USED ON EXTERIOR OF BUILDING, IT SHALL NOT BE LOCATED NEAR HILLS, RIDGES, OR ESCARPMENTS.
   E. EARTHQUAKE DESIGN DATA
      I_E = 1.0 (OCCUPANCY CATEGORY I OR II)
      S_s = 2.20g
      S_1 = 1.00g
      SITE CLASS: D
      S_{DS} = 1.00g
      S_{D1} = 1.00g
      SEISMIC DESIGN CATEGORY: E
      SEISMIC FORCE RESISTING SYSTEM: ORDINARY MOMENT FRAME.
      DESIGN BASE SHEAR: $V = 0.3 S_{DS} I_E (W_s D_L)$ AT 50 FT. ABOVE GRADE.
      C_s = 0.333
      R = 2.0
      ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE.
23. ADDITIONAL REQUIREMENTS:
   A. PLASMA CUT TREAD SHALL HAVE A SOLID SURFACE. OMIT
   B. RISER SHALL HAVE SPACE REDUCTION BAR PER DETAIL 23 OR EQUAL.
   C. OUTDOOR STAIRWAYS SHALL BE CONSTRUCTED SO THAT WATER WILL NOT ACCUMULATE ON WALKING SURFACES. 2% MAXIMUM SLOPE.
   D. WALKING SURFACES SHALL BE SOLID SURFACES.
   E. USEABLE SPACE UNDER STAIRS SHALL NOT BE ENCLOSED.

GENERAL NOTES 5A

L.A. CITY
STANDARD PLAN #111
L.A. CITY LICENSED
FABRICATOR #1150
CITY OF SAN DIEGO
STANDARD
MASTER PLAN #25
PTS PROJECT: #161221

APPROVED STANDARD PLAN
ACCEPTED BY
DATE
APPROVAL STAMP

REVISIONS	BY
8-18-08	
9-22-08	

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SPIRAL STAIRWAY

MODEL NO.: STANDARD #111

THIS PLAN IS VALID ONLY WITH WET SEAL & SIGNATURE OF ENGINEER.

DRAWN: K. MOURA
CHECKED: R.M. WO.
DATE: 5-16-08
SCALE: AS SHOWN
FILE NO.: 05-82
SHEET: 1 OF 1 SHEETS