NOTE: SIDE CARRIAGES MAY
BE HUNG FROM
HEADER OR ATTACHED
TO WALL FRAMING

RISE FROM FINISH
FLOOR TO FIRST TREAD
EQUALS TYPICAL RISE

FINISH FLOOR

SUB FLOOR

HEADER @ END OF STAIR
ROUGH OPENING FOR
MULTIPLE FLIGHTS
OF STAIRS

JOIST HANGER
SUPPORTS
CENTRAL CARRIAGE

LOCATE FLOOR HEADER
TO INTERSECT WITH
BOTTOM OF CARRIAGES

BOTTOM OF CARRIAGE/FLOOR
INTERMEDIATE FLIGHT
CONCRETE PAVER STEPS

- Equally Spaced Risers
- Pressure Treated Riser
- Pavers on Sand Over Gravel
- Compacted Gravel
2 X PRESSURE - TREATED OR DECAY - RESISTANT HEADER RIPPED TO RISER HEIGHT & ATTACHED @ ENDS TO WALLS OR HEADER

BRICK (OR CONCRETE PAVERS)

1 IN. (MAX) SAN SETTING BED

COMPACTED ROCK BASE OR SELF - COMPACTING PEA GRAVEL

DRY - SET EXTERIOR STEPS
BRICK
Equally Space Risers not to exceed 8" (Check Local Code Req.)

DOUBLE 2x6 TREAD RECOMMENDED TO MINIMIZE CUPPING.

1" TO 1 1/2" NOSING

SUBFLOOR

VIRTUAL SUPPORT

RIM JOIST OF DECK

CARRIAGE

EXTERIOR WOOD STAIR
1 1/2" DIA. PIPE RAILING (TYp.)

STL. STRINGER

8" CMU

CONC. SLAB

FIXED LADDER ELEVATION
SEE PARTITION TYPES

GRAB BAR

ATTACH GRAB BAR THRU WALL W. MOUNTING SCREWS TO 2X6 WD. BACKING PLATE SECURELY FASTENED BETWEEN STUDS AS REQUIRED.

GRAB BAR
GRIND ALL WELDS SMOOTH TYPICAL

1 1/4" STEEL PIPE GUARDRAIL

1 1/4" STEEL PIPE HANDRAIL

1 1/2" STEEL PIPE VERTICAL POST WELD TO STRINGER

FINISH FLOOR

TOEGUARD

GUARDRAIL DETAIL

SEE PLANS
1 1/2" DIA. X-STRONG PIPE VERTICAL

6" DIA. GUARD POST (BEYOND)

4" TOE PLATE @ 1/4" CLEAR FROM FLOOR (BEYOND)

TOP OF FLOOR EL. X-Y"

1 PR. CONN. ANGLES L3 x 3 x 1/4 x 0'-6" LG. w/ 4 - 3/4" BOLTS (TYP. EACH STRINGER)

NEW W14 x 30

C12 x 20.7 STRINGER (TYP.)

Handrail Attachment

3/16 TYP.

5 1/2" (VERIFY)

3/16

STRUCTURAL SLAB EDGE (BEYOND)

FULL PENETRATION TYP.
1 1/2" NOMINAL STEEL PIPE HANDRAIL. GRIND ALL WELDS SMOOTH - TYPICAL

NOTE:
FOR TREAD AND RISER DIM'S.
SEE PLANS/SECTIONS

HANDRAIL DETAIL
CORRIDOR WALL

TYPICAL CORRIDOR
DOOR JAMB

CONT. BLOCKING BELOW

RETURN HANDRAIL AT DOORS
AT 45° ANGLE

PLAN

CORRIDOR WALL

CONT. 2 x 6 NAILER
LET-IN TO STUDS

1 5/8" C BIRCH HANDRAIL

WALL BRACKET AT 4'-0" O.C.

2'-5 1/2"
A.F.F.

2'-9"
A.F.F.

HANDRAIL DETAIL

Samples from www.AutoCADDetails.net
3/8" EXP. BOLT @ EA. BRACKET

STL. BRACKET & HANDRAIL

2'-10" TO TREAD OR FIN. FLR.

HANDRAIL MOUNTING DETAIL
Handrail Return Beyond

1 1/2" Diameter Piperrail
(1 1/4" Min. Diameter)

Handrail Support
at Abrasive--Free
Wall Surface

1/8" Min. Radius Edge

1 1/2" (Absolute)

HANDRAIL RETURN AT WALL
RETURN ENDS TO WALL TYPICAL

1 1/2" NOM. PIPE RAIL
WELD CONNECTIONS
AND GRIND SMOOTH

BRACKETS W/ SPACER
SPACE EQUALLY AT 5'-0"
O.C. MAX.

See code requirement

2'-10" A.F.F.

2x4 WOOD BLOCKING
BETWEEN STUDS

2"

90 DEG. ELBOW TO WALL
AT EACH END

2 1/2"

HANDRAIL WHERE CONTINUOUS
AROUND PARTITION

(SECTION)

(PLAN)

HANDRAIL DETAIL

Samples from www.AutoCADDetails.net
WOOD HANDRAIL

1 1/2" x 3/4" CONT. CHANNEL - PLUG WELDED TO BALLUSTERS

1" SQ. STEEL BARS AT 10" O.C. MAX. - PLUG WELDED TO PLATE FROM UNDERSIDE (WELD NOT EXPOSED)

GRIND SURFACE FLUSH

3/16" x 3 1/4" CONT. PLATE

PLUG WELD LOCATED BETWEEN EVERY OTHER BALLUSTER

TYPICAL STRINGER AND PLATE

Handrail Detail
NOTE:
FOR TREAD AND RISER DIM'S.
SEE PLANS/SECTIONS

1 1/2" NOMINAL STEEL PIPE
HANDRAIL. GRIND ALL WELDS
SMOOTH - TYPICAL

REFER TO STRUCTURAL
DRAWINGS FOR CONCRETE
DIMENSIONS AND REQUIRED
REINFORCING

SET POSTS IN SLEEVES W/
NON-SHRINK GROUT

ABRASIVE CAST SAFETY
NOSING (TYPICAL)

LANDING AT CONCRETE STAIR
1 1/2"

MC 12\times10.6

3" CONCRETE FILL

3"x3"x1/4" STEEL ANGLE
CONT. BETWEEN C3x4.1
CHANNELS. WELD TOP
AND BOTTOM

C3x4.1 CHANNELS AT
1'-0" O.C.. WELD ALL
EDGES OF CHANNELS
AT EACH END

LANDING AT STEEL STAIR
SECTION
METAL STAIR- PAN TYPE

STEEL SUBTREAD AND RISER WITH FORMED NOSING
POURED IN PLACE CONCRETE TREADS
STEEL ANGLES
STEEL CHANNEL STRINGER
E HANDRAIL AT 5'-0" O.C.
LS SECTIONS
OVABLE SOCKET L.
3/8 x 8 x Pl.
W/2-
HORS

TOE PL. 1/4" x 4" x CONT.
HOLD 1/2" ABOVE FLOORING

3" CONC. TOPPING OVER
12" PRECAST CONC. PLANK

WWF 6 x 6 x W1.4 x W1.4
(10 GA.)

1 1/2" STD. PIPE HANDRAIL
W/ VERTICALS AT 5'-0" O.C.
MAX. HANDRAILS SECTIONS
SHALL BE REMOVABLE

1 1/2" CLEAR

2"x 8" LG. PIPE SOCKET
WELDED TO PL. 3/8 x 8 x
0'-8". ANCHOR PL. W/ 2 -
3/4" EXP. ANCHORS

1 - #4 TOP AND BOTTOM
CONT.

#4 @ 12" O.C.
2'-0"

PIECE RAILING
REMOVABLE RAILING
SECTIONS - 1 1/2"
STD. PIPE HANDRAIL

CONT. 1/4" x 3 1/2"
HIGH TOE PL.

2 1/2" CONC. OVER
1 1/2" METAL DECK

CONT. 1/8" EDGE
CLOSURE PLATE -
WELD TO BEAM

2" x 4" LG. PIPE
SOCKET WELDED TO
PLATE

BEAM - SEE STRUCT.
DRAWINGS

RAILING
Riser & Tread

TREAD WIDTH
SEE SECTION

2

RISER HGT.
SEE SECTION

C12 x 20.7 STRINGER
(TYPICAL)

3/16" x 1 1/4"
FLAT BAR WELDED
TO STRINGER

12 GA. CONCRETE
FILLED STEEL PAN
Minimum Requirements

Baluster spacing (clear) 4" max.
Clearance above nosing 6'6" min.
Landing length & width equal to stair width.
Landing railing 36 to 42" above landing.
Nosing 1 1/8".
Rise 8" maximum.
Stair railing 30 to 34" above nosing.
Tread 9" min.
Width of stairs 36" min.

Handrail

2 x 2 balusters
Turned or fluted

1 x shoe rail for
balusters

Nosing of
Tread

Provide Min. 36" clear
width at stairways

4" maximum
10" (-min. 9")

1/2" Plywood
Risers

(3) 2 x 12 Stringers

1/8" Part. Bd. Bullnose Treads
Glued & Screwed

5/8" Type "X" Gypsum Bd.
Typ. Under Stairs

STAIR DETAIL
1-1/2" CLEAR

1/8" MAX. GAP

12 GAUGE 4" WIDE BACKING PLATE- FASTEN AT BOTH ENDS TO STUDS

5/8" GYP. BD.

1-1/2" O.D. PIPE HANDRAIL

HANDRAIL SUPPORT FASTENED TO BACKING PLATE METAL FLANGE

STAIR HANDRAIL - PLAN
1-1/2" CLEAR

1-1/2" O.D. PIPE HANDRAIL

HANDRAIL SUPPORT FASTENED

METAL FLANGE

12 GAUGE 4" WIDE BACKING PLATE FASTENED AT BOTH ENDS TO STUDS

5/8" GYP. BD.

STAIR HANDRAIL- SECTION
NOTE:
1 1/2" NOMINAL STEEL PIPE HANDRAIL. GRIND ALL WELDS SMOOTH - TYPICAL

MC12x10.6 STEEL CHANNEL BEYOND AT WALL FACE
MC12x10.6 STEEL CHANNEL HEADER AT LANDING COVER PLATE - EXTEND TO WALL
3/16" DIAMOND PL. STEEL DECK (WELD TO PURLINS)

6x8.2 STEEL CHANNEL PURLINS AT 1'-0" O.C. MAX.

3/16" DIAMOND PL. PREFORMED STEEL TREADS AND RISERS W/ 3/16"x1 1/4"x14" STL. STRAP FORMED TO BOTTOM OF TREADS/RISERS. WELD CONT. TO STRINGER, RISER, AND TREAD (TYPICAL)

MC12x10.6 STL. CHANNEL STRINGER

NOTE:
FOR TREAD AND RISER DIM'S. SEE PLANS/SECTIONS

STAIR LANDING AT STEEL
WALL LINE

MC 12x10.6 STEEL CHANNEL

3/16" DIAMOND PLATE STEEL DECK. WELD TO PURLINS

6x8.2 STEEL CHANNEL PURLINS AT 1'-0" O.C. MAX.

2"x2"x1/8" STEEL SUPPORT ANGLE CONT. - WELD TO DECK AND WALL CHANNEL

STAIR LANDING AT STEEL PLATE STAIR - SECTION
STEEL STAIRS

1 1/2" SCH. 40 GALV. PIPE HANDRAIL AND INTERMEDIATES W/ 1 1/2"DIA. SCH. 80 GALV. PIPE VERTICALS

C10 x 15.3 GALV. STRINGER

1 1/4" GALV. GRATING

1 1/4" GALV. STD. PIPE COL.

1/4" GALV. GRATING STAIR TREAD

1/4" CAP PLATE

L1 x 1 x 1/8 x 0'-10" L.G.
BOLT TO STRINGER AND WELD TREAD TO ANGLE

2"DIA. GALV. STD. PIPE COL.

1 1/4" GALV. GRATING STAIR TREAD

BASE PL. 1/4" x 4"

x 0'-0" W/ 2 - 1/2"DIA.

x 3" L.G. EXP. ANCHOR

4T @ 9 1/2" = 3'-2"

1/4" CLOSURE PLATE

1/4" CLOSURE PLATE

L6 x 3 1/2 x 5/16 x 0'-3"

L.G. W/ 1/2"DIA. x 3" L.G. EXP. ANCHOR (EA. STRINGER)
1 1/2" STD. PIPE HANDBRAIL

1/4" CLOSURE PLATE

3" CONC. TOPPING OVER 12" PRECAST CONC. PLANK

WWF 6 x 6 x W1.4 x W1.4 (10 GA.)

SPECIFIED FIGERGLAS GRATE STAIR TREAD W/ ABRASIVE NOSING

C12 x 20.7 STRINGER

PL. 3/8" x 6" HIGH x CONT. W/ 3/4" EXP. BOLTS AT 8" O.C.

L1 1/2" x 1 1/2" x 3/16 (TYPICAL)

1 - #4 TOP & BOTTOM CONT.

#4 @ 12" O.C. 2'-0"

STEEL STRINGER
COPE STRINGER AT DOORWAY

FIRST FLOOR EL. 0'-0"

L3 x 3 x 1/4 BRACKET - FULLY WELDED

H.M. FRAME AND DOOR

4" CONC. TOPPING OVER STRUCT. SLAB

16" CONC. FOUN. WALL

3 - 3/4" EXP. BOLTS PER BRACKET

Stringer At Doors
C12 x 20.7
STRINGER - TYP.

SPECIFIED FIBERGLASS
GRATE STAIR TREAD w/ ABRASIVE NOSING - TYPICAL

L1 1/2 x 1 1/2
x 3/16 - TYP.

1/4" STEEL CLOSURE PLATE BETWEEN STRINGERS

SPECIFIED 1 1/2" FIBERGLASS GRATING w/ ABRASIVE NOSING

(2) - 3/4" BOLTS

L1 1/2 x 1 1/2 x 3/16

C8 x 11.5 HEADER

L3 x 3 x 1/4 x 6" LG.
CLIP ANGLE

3/16"
TYP. 3 SIDES

STRINGER
TYPICAL CONCRETE STAIR

EARTH

6"x6"W1.4xW1.4 W.W.F.

1/4" SLOPE

1/4" EA. TREAD/RISER

SAFETY NOSING

1/2" EXPANSION JOINT

CONCRETE WALK

5 1/4"
Wooden Handrail

TYPICAL

WOOD HANDRAIL

1 1/2" x 3/4" CONT. CHANNEL

HANDRAIL WALL BRACKET
(JULIUS BLUM #385 FLAT)
MOUNT AT 4'-0" O.C. AND
NOT MORE THAN 1'-0"
FROM END

Wooden Handrail