

INCLINED PLATFORM LIFT

ANALYSIS FORM A

Email to: engineering@butlermobility.com
or fax to: 717-938-4238

Butler
MOBILITY PRODUCTS

Section 1

Use 2 carpenter's squares

If stairs or treads are not level, hold the carpenter's squares level

If steps are carpeted, firmly compress carpet

Section 2

Important!

Measure risers & treads of **ALL** middle steps, using 2 carpenter's squares. Put measurements in Form C.

Add up dimensions of risers and treads. There is one less tread than risers but include bottom landing "tread" (G)

Risers should add up to H
Treads should add up to L

For H (height of "big" triangle) and L (length of "big" triangle), use a 4' level or laser level for level and plumb

Measure in multiple steps if necessary

Section 3

TOP LANDING

If door at top, fill in dimensions

P Inch

S "

T "

Width at narrowest point

TT "

Width wall to wall

Platform will be 8" narrower than stairway. Clearance will be 1/2" less. Please call if it seems a little too narrow

Section 4

Bottom Landing

Measure to far wall and first obstruction. Also note any other obstructions. **Check Rails Forward in section 5** for door or sharp turn at top landing

Location of Power Unit

Check if Right **U** Sketch any doors that open into bottom landing

Check if Left **V**

To wall

Inch **W**

" **X**

Section 5

Date _____ Quote No. _____

Purchase Order no. or reference _____

Contact name _____

Account _____

Address _____

Ship to address _____

Ship via: Standard Other _____

Rails forward

Pit needed Size _____

Through-wall drive Length _____

Color: Beige Brown Other _____

Capacity: 500 lbs 750 Lbs

Keyed controls Side Load Platform

Wheelchair: Width at wheels _____ Height _____

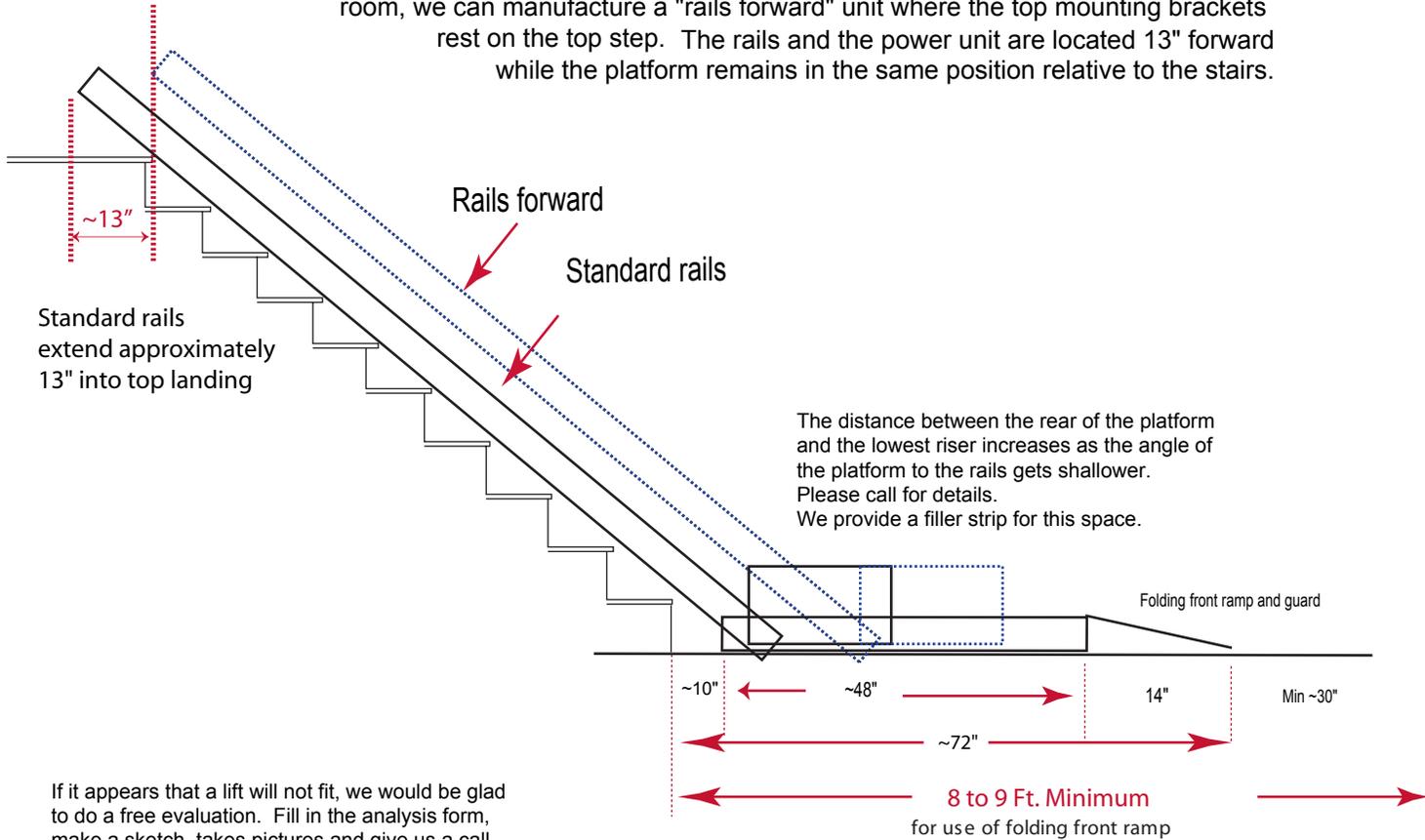
INCLINED PLATFORM LIFT

ANALYSIS FORM B

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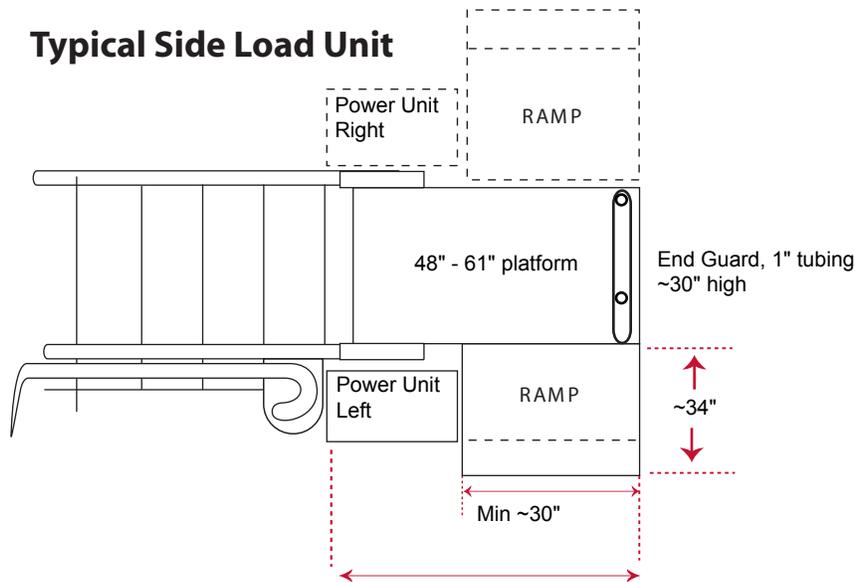


A standard installation requires 13" at the top landing for the rails. If there is not enough room, we can manufacture a "rails forward" unit where the top mounting brackets rest on the top step. The rails and the power unit are located 13" forward while the platform remains in the same position relative to the stairs.



If it appears that a lift will not fit, we would be glad to do a free evaluation. Fill in the analysis form, make a sketch, take pictures and give us a call.

Typical Side Load Unit



- | | |
|--------------------------------------|--------------------------------------|
| Top Landing | Stairs |
| <input type="checkbox"/> Wood | <input type="checkbox"/> Wood |
| <input type="checkbox"/> Tile | <input type="checkbox"/> Tile |
| <input type="checkbox"/> Carpet | <input type="checkbox"/> Carpet |
| <input type="checkbox"/> Concrete | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Other _____ | <input type="checkbox"/> Other _____ |
| Bottom Landing | |
| <input type="checkbox"/> Wood | |
| <input type="checkbox"/> Tile | |
| <input type="checkbox"/> Carpet | |
| <input type="checkbox"/> Concrete | |
| <input type="checkbox"/> Other _____ | |

Between ~60" and 72" needed at bottom landing depending on configuration of stairway and landing

Electrical requirements are a 110V 50 hz 20 Amp separate circuit located near the power unit.

Please measure the entire path to the installation location to ensure that there is sufficient clearance to bring in the rails. If yes, check here

If not, we can manufacture "spliced rails." They must be assembled on site by an authorized technician. There is an additional charge for these services

	Risers	Treads	
Top riser	A		B Top tread
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	13		
	14		
	15		
	16		
	17		
	18		
	19		
	20		

J

Number of risers

Bottom riser **D** **E** Bottom tread

G Bottom landing "tread"

Sum of risers Sum of treads

H **L**

Height (from Form A) Length (from Form A)

How to use these analysis forms

The purpose of these forms is to give us a complete and accurate picture of the entire staircase and the top and bottom landings. This will enable us to build a wheel chair lift that will be a perfect fit. In addition to measuring the individual steps, we will ask you to measure the overall staircase (the “big triangle”) and the overall angle of the staircase to verify the individual measurements.

Please pay careful attention to the forms and these instructions to avoid having to go back and re-measure. With correct measurements, we can build a lift that you can install easily, usually in less than one day.

*Please note that it is not unusual to find that the staircase itself is not level. It might slant to one side or the treads may slope from front to back or back to front. The top or bottom landings may not be level. Many basement floors slope toward a drain. If the treads slope from front to back, even by as little as 1/8” per step, it will throw off the sum of the risers. **If the treads are not level front to back, use a torpedo (or other) level to hold the carpenter’s squares level.** See Form A, Section 1.*

Tools

Required:

- 4 foot bubble level or 4 foot straightedge if you have a laser level
- Two 12” x 8” carpenter’s squares
- Tape measure at least 20’ long
- Analysis forms
- Pen or pencil

Highly recommended

- Laser level that can measure the horizontal and vertical
- Protractor: *The type that locks the angle is much easier to read.*
- Clipboard

Optional

- Flashlight
- Torpedo level
- Plumb bob
- 12” ruler
- Pencil and/or post-it notes

We strongly recommend taking some digital pictures (cell phone pictures are fine) and making a sketch

Analysis Form A

Measure wheelchair

In order to ensure that the lift will suite the client’s requirements, measure the width of the wheelchair at the wheels and the height of the headrest or the client’s head, whichever is higher. Put the measurements in section 5 (on the bottom right).

Bottom landing

By convention, when we say left or right, it’s as if we are standing at the bottom landing, looking up.

The power unit goes at the bottom, either on the right or the left. In section 4, check the box U for right or V for left.

Brown or beige are our standard colors or we can provide a custom color. There is an upcharge for a custom color. Enter color into section 5.

If the client wants keyed controls, check the box in section 5.

If the platform must go into a pit at the lower landing, check the box in section 5. The pit depth will be between 2 ½" and 3". We will provide the dimensions and a drawing. Note that the pit must accommodate the power unit.

If the power unit has to go on the other side of a wall, check the box in section 5 and measure the distance through the wall. Standard shaft extensions are 6" or 10" or we can make almost any length. Make a note in section 5. Be sure to note if there are any obstructions, like a building column, that might interfere with the placement of the power unit. Dimensions are on the platform layout drawings.

Carpet

If there is carpet, compress it firmly as you measure. Note it on Form B.

Width of staircase

Generally speaking, we want a minimum width of 36" in order to fit a 28" platform. The wheelchair clearance will be ½" less.

Measure the width of the staircase at several points and put the narrowest value in dimension T. That is from trim to trim. If the staircase is a little too narrow, measure the width from wall to wall and note it in dimension TT. Give us a call, we can discuss notching the stringers or other measures to pick up an inch or so.

Minimum headroom

Find the place that has the lowest headroom and put that in dimension K. We need a minimum of 5'8".

Risers

Count the number of risers (not the number of steps). That is dimension J.

Measure angle of staircase (Dimension AA)

To measure the angle of the staircase, place a corner of your 4' level (or straightedge) on the floor at the bottom landing and lay it across several steps. Put your protractor on the straightedge. Note the angle on the form in dimension AA.

Bottom landing "tread" (Dimension G, section 1)

Place the 4' straightedge across several steps, as above. While you are here, put a pencil mark, a piece of tape or a post-it note at the point where the straightedge meets the floor, you'll use it later. Stand up a carpenter's square on the floor with the wide arm flat on the floor and the narrow arm vertical and against the front edge (or the bullnose) of the lowest tread. Measure the horizontal distance from the 0 point on

the **outside scale** of the carpenter's square to the point where the straightedge meets the floor. Put the measurement into **dimension G**.

How to measure treads and risers (See section 1)

To measure treads and risers, use 2 carpenter's squares. Start at the bottom landing and the lowest riser and work up.

When you lay the squares on the floor and the lowest tread, you have the run and rise of the lowest step. Then put the squares on the lowest tread and the next one up and you have the run and rise of the second step and so on.

Details: Place the wide blade of one square on the landing or a tread with the narrow blade pointing up and against the front edge (or the bullnose) of the next riser. Do the same with the other square on the tread above. Using the **outside scales**, measure the **tread** on the **wide blade** and the **riser** on the **narrow blade**.

If the stairs or the treads are not level front to back, use a level to hold the carpenter's squares level.

Bottom tread and riser (Dimensions D, E and F)

At the bottom landing, put one square on the floor and the other square on the first (lowest) tread. Measure the height of the lowest riser on the narrow blade of the square on the floor and put it into dimension **D**. Measure the length of the lowest tread on the outside scale of the wide blade of the square on that tread. Put that measurement into dimension **E**. Measure the depth of the bullnose and put it in dimension **F**.

The lowest riser, like the top riser, is often different from the intermediate risers.

Intermediate treads and risers

Measure each tread and riser, alternately putting one square after another on the tread above. Put the measurements on form C. Regardless of the number of risers, the **bottom riser is always D**, the **bottom tread is always E** and the apex of the triangle on the bottom landing is always **G**. Be sure the squares are level.

Top tread and riser

Using two carpenter's squares or a carpenter's square and a ruler, measure the height of the top riser and put it in dimension **A**. Using two carpenter's squares, measure the length of the top tread and put it in dimension **B**.

Measure the depth of the overhang (the "bullnose"), put it in dimension **C**.

Top Landing

The layout of the top landing will affect the design of the lift. Normally, the rails extend about 13" into the top landing but they can be manufactured to be flush with the top landing.

If there's a door at the top, enter the measurements into dimensions P and S. Measure the length of the top landing. That goes into dimension I.

If the top landing is shorter than about 3', or if there's a door at the top of the stairs, or if the wheelchair user must make a sharp right or left turn, or if there's a door to the right or left closer than 13", we will make the tops of the rails flush with the top landing. We call this "rails forward." Check the "rails forward" box in section 5. See Analysis Form B.

The "big triangle"

There is a right triangle at the heart of every staircase. To build the lift correctly, we need the dimensions of the triangle: The height, the length and the nose to floor (also called length of run) of the staircase.

Height of staircase (Dimension H)

To measure the height of the staircase, dimension **H**, place your laser level at the top landing and shoot a level horizontal line. You may have to shim the laser level to get it right. Measure down to the bottom landing. It isn't always possible to measure all the way to the bottom, so you may have to break it down into several steps, using post-it notes or pencil marks on the wall. That's especially true if you're using a bubble level, not a laser. Use the level (or a plumb bob) to make sure your vertical lines are plumb. Add up the values. The height, dimension **H**, is the vertical leg of the right triangle. **It should agree closely with the sum of the risers.** See Form C.

Length of staircase (Dimension L)

To measure the length of the staircase, dimension **L**, place your laser level at the top of the staircase and shoot a horizontal line. Measure the distance to the point where the straightedge fell when you measured the length of run (nose to floor). You may have to do this in several steps, using post-it notes or pencil marks. Be careful to keep your tape measure either level or plumb. This is the bottom leg or base of the triangle. **It should agree closely with the sum of the treads.**

Run of staircase (nose to floor) (Dimension R)

To measure length of run, also called nose to floor, measure from the nose of the top landing to the apex of the triangle on the bottom landing. If you previously marked that point, great. If not, place your straightedge or four foot level across several steps at the bottom of the stairs, touching the floor. Have someone hold the tang of the tape exactly on the nose of the top landing and measure to the point at which the straightedge meets (or met) the floor.

Nose to nose (Dimension N)

Measure from the nose of the top landing to the nose of the bottom tread. This dimension enables us to calculate (or verify) the "bottom landing tread" (the base of the the apex of the triangle, dimension G). Put the nose to nose measurement in **dimension N**.

Complete the bottom landing

The size and shape of the lower landing affects the design of the lift. We need at least 8 or 9 feet for a standard front-load platform (measured from the lowest riser to the wall) or about 5 feet for a side-load.

Measure the distance from the lowest riser to the first obstruction, like a door opening into the space, a support column or post, etc. (if there is one) and put that into dimension W.

Measure to the wall and put that into dimension X.

Make a note of any special circumstances and be sure to take pictures and/or make a sketch. If the distance from the bottom riser to the wall is less than 8 or 9 feet, we may need a side load platform. Check the checkbox in section 5

Take careful note of the path for bringing in the lift. Remember that the rails will be about 2' longer than the nose-to-floor measurement (dimension R) and they don't bend.

Analysis Form B

A standard front-load platform is 48" long and the folding front ramp and guard is 14" long. There will be a gap of at least 10" from the lowest riser to the rear of the platform. (We will provide a filler strip for this space) The total length is about 72" (6') and the user will need about 3' enter and exit the platform.

So a front-load platform needs about 8-9' at the lower landing before any wall.

A side load platform must have an opening of at least 30" - 32" for the wheelchair to turn and enter or exit. The standard platform is 48" and a longer platform (special length platform) may be needed, depending on the placement of the power unit, if it's a "rail forward" unit and other considerations.

A Butler IPL does not mount to the wall. The rails have mounting brackets at top and bottom and are fastened to the top landing (or top step if rails forward) and bottom landing. Note the materials you will be anchoring the lift to.

Confirm the power requirements and location. (110 Volts 20 Amp.) Installer is responsible to make sure there is an outlet close to the power unit. We (and some jurisdictions) require a separate circuit. Some jurisdictions require a separate disconnect.

If there does not seem to be enough clearance for a lift, fill out the analysis forms, make a sketch, take pictures and send (mail, fax or scan and email) to us for a free evaluation. Email to engineering@buttermobility.com or fax to 717-938-4238.

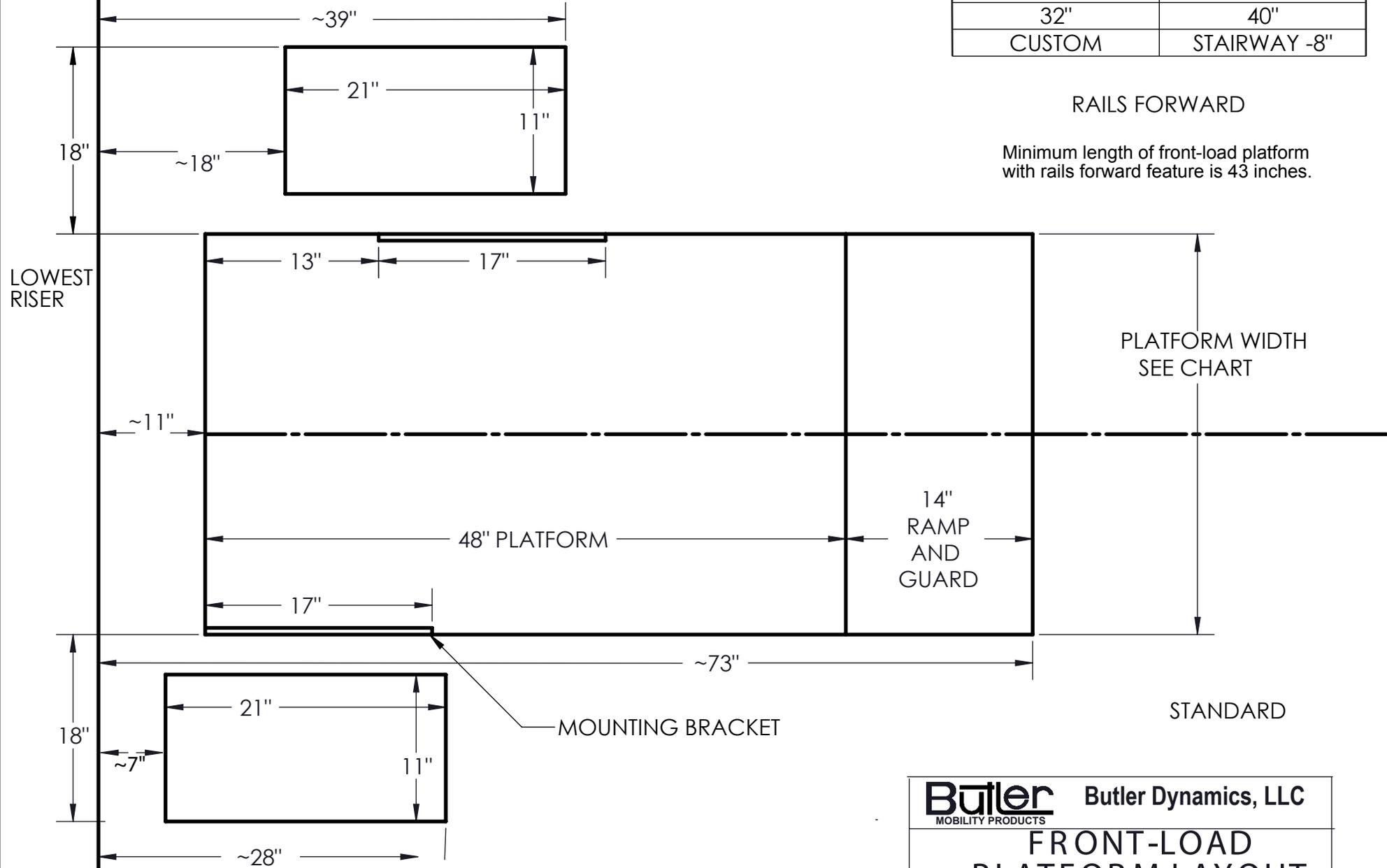
Analysis Form C

1. Enter the number of risers (that's dimension J on Analysis Form A) into J on this form
2. Starting at the top riser, enter the measurements into the boxes for risers and treads. The top riser is dimension A and the top tread is dimension B
 - Note that the treads are measured from a vertical dropped from the bullnoses, not from the risers.
3. Enter the height of the bottom riser into dimension D
4. Enter the length of the lowest tread into dimension E
5. Enter the length of the apex of the triangle, the "bottom landing tread" into dimension G
 - Note that the lowest riser (D) is **below** the lowest tread (E) but **above** the "bottom landing tread (G).
6. The risers should add up to dimension H.
7. The treads should add up to dimension L

PLATFORM WIDTH	STAIRWAY WIDTH
28"	36"
30"	38"
32"	40"
CUSTOM	STAIRWAY -8"

RAILS FORWARD

Minimum length of front-load platform with rails forward feature is 43 inches.



NOTE: All dimensions are approximate. Distance of rear of platform from lowest riser varies with angle of platform to rails and can change other dimensions

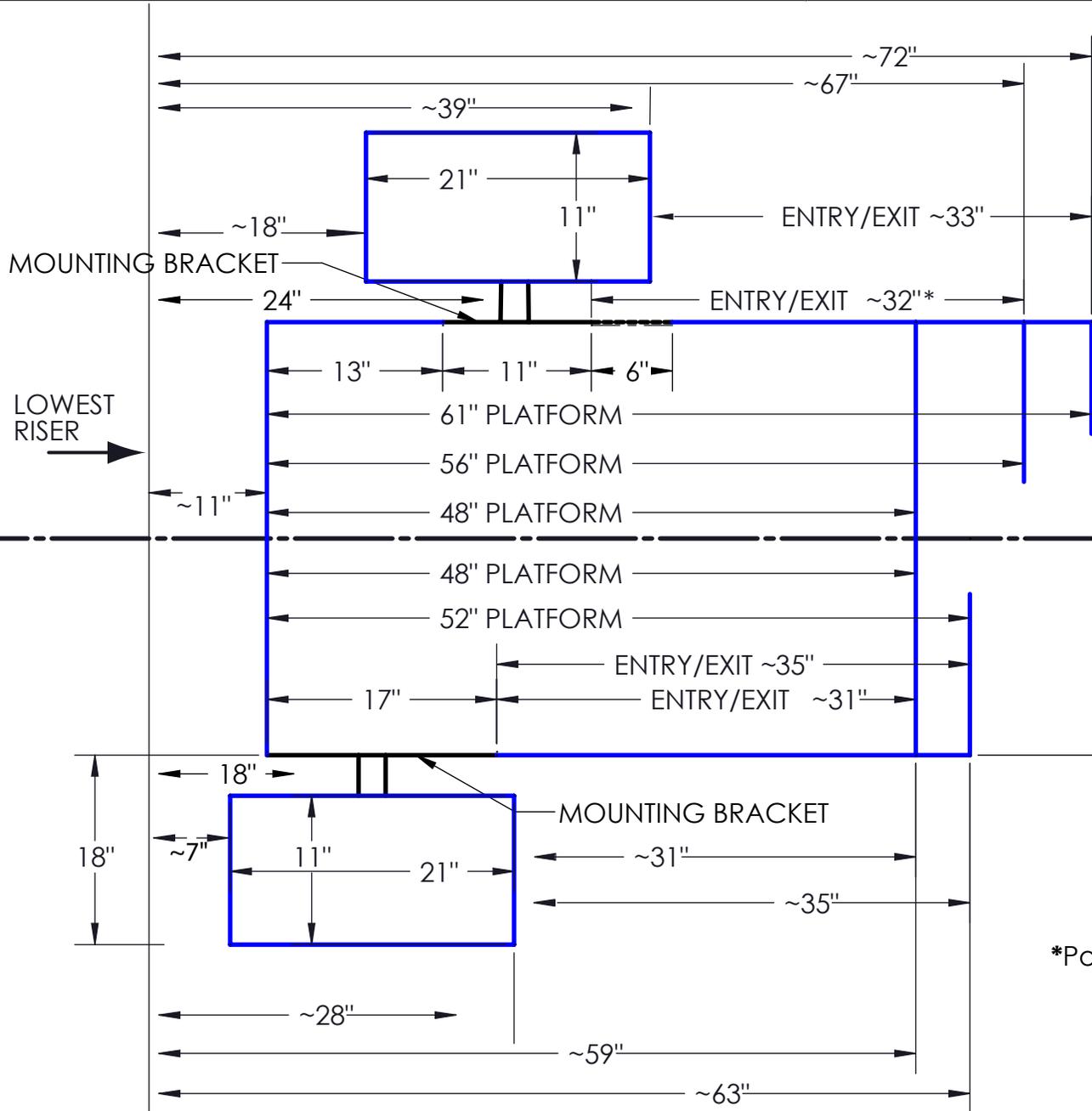
Butler Mobility Products **Butler Dynamics, LLC**

FRONT-LOAD PLATFORM LAYOUT

SIZE A	FSCM NO. 21302	Drawing not to scale	
SCALE	MODEL	SHEET	1 OF 1



PLATFORM WIDTH	STAIRWAY WIDTH
28"	36"
30"	38"
32"	40"
CUSTOM	STAIRWAY -8"



RAILS FORWARD
SIDE LOAD
PLATFORM

PLATFORM WIDTH
SEE CHART

STANDARD
SIDE LOAD
PLATFORM

LOWEST
RISER

*Power Unit on opposite side of entry/exit

NOTE: All dimensions are approximate. Distance of rear of platform from lowest riser varies with angle of platform to rails and can change other dimensions

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MOBILITY PRODUCTS

SIDE LOAD PLATFORM LAYOUT

SIZE A	FSCM NO. 21302	Not drawn to scale	
SCALE	MODEL	-	SHEET 1 OF 1

