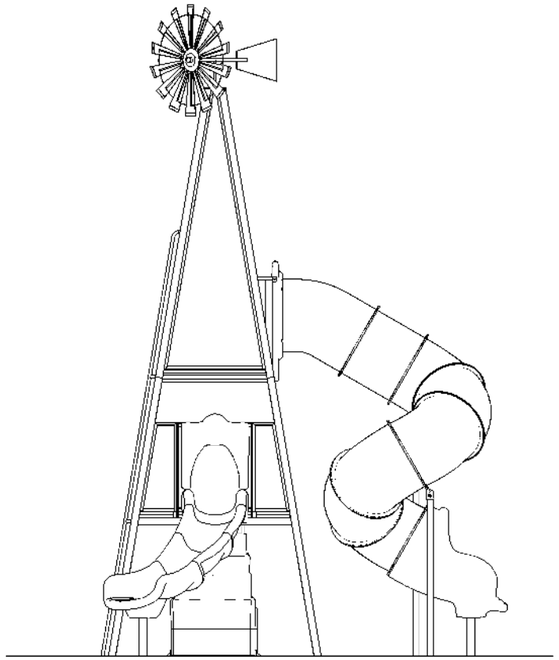
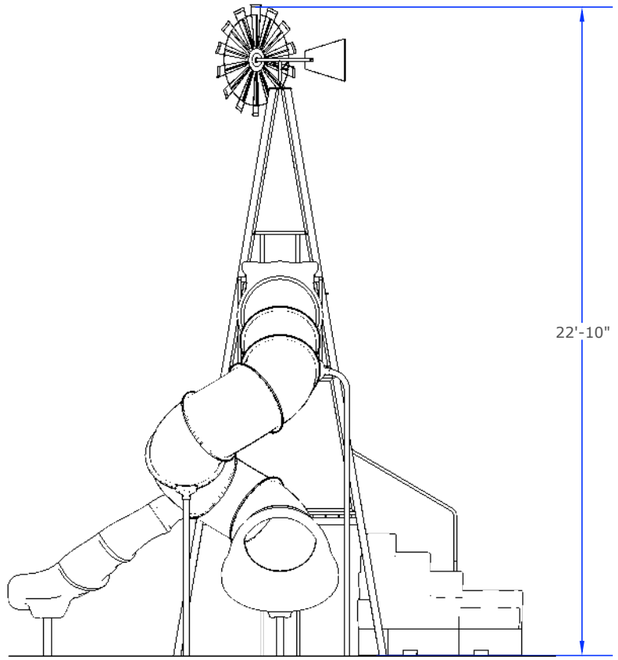
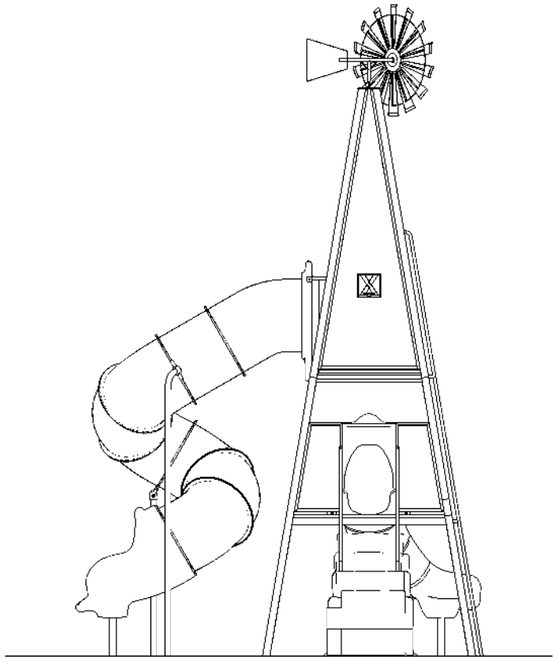
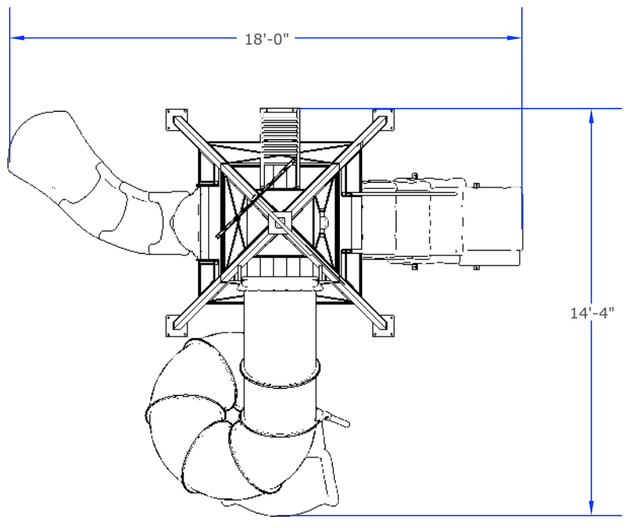
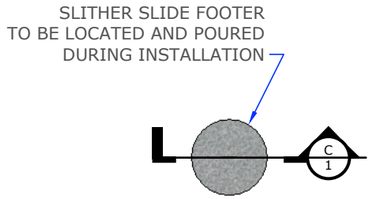


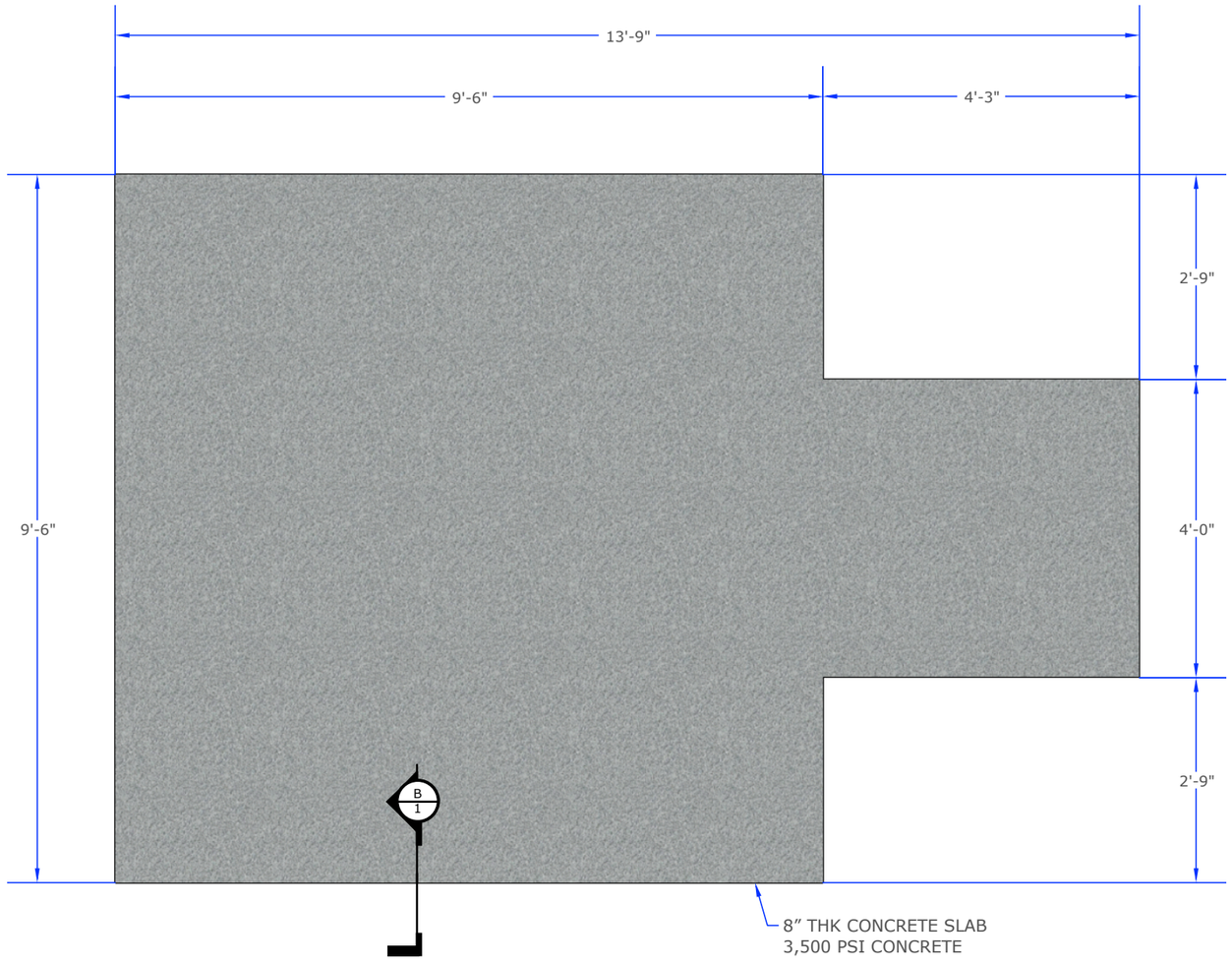


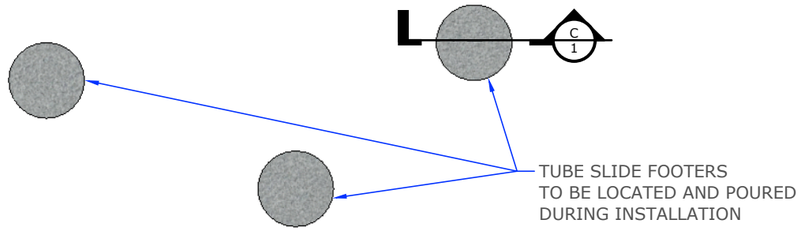




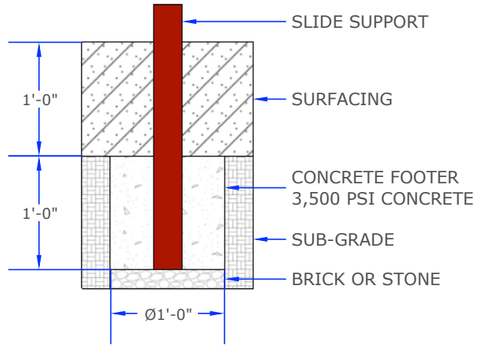
A/2 WINDMILL TOWER
OVERALL DIMENSIONS



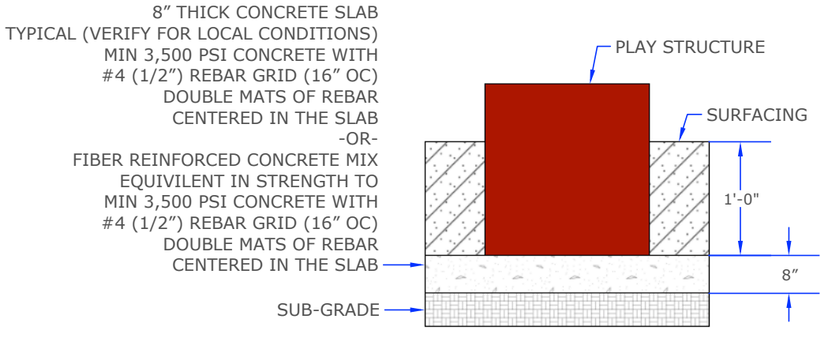




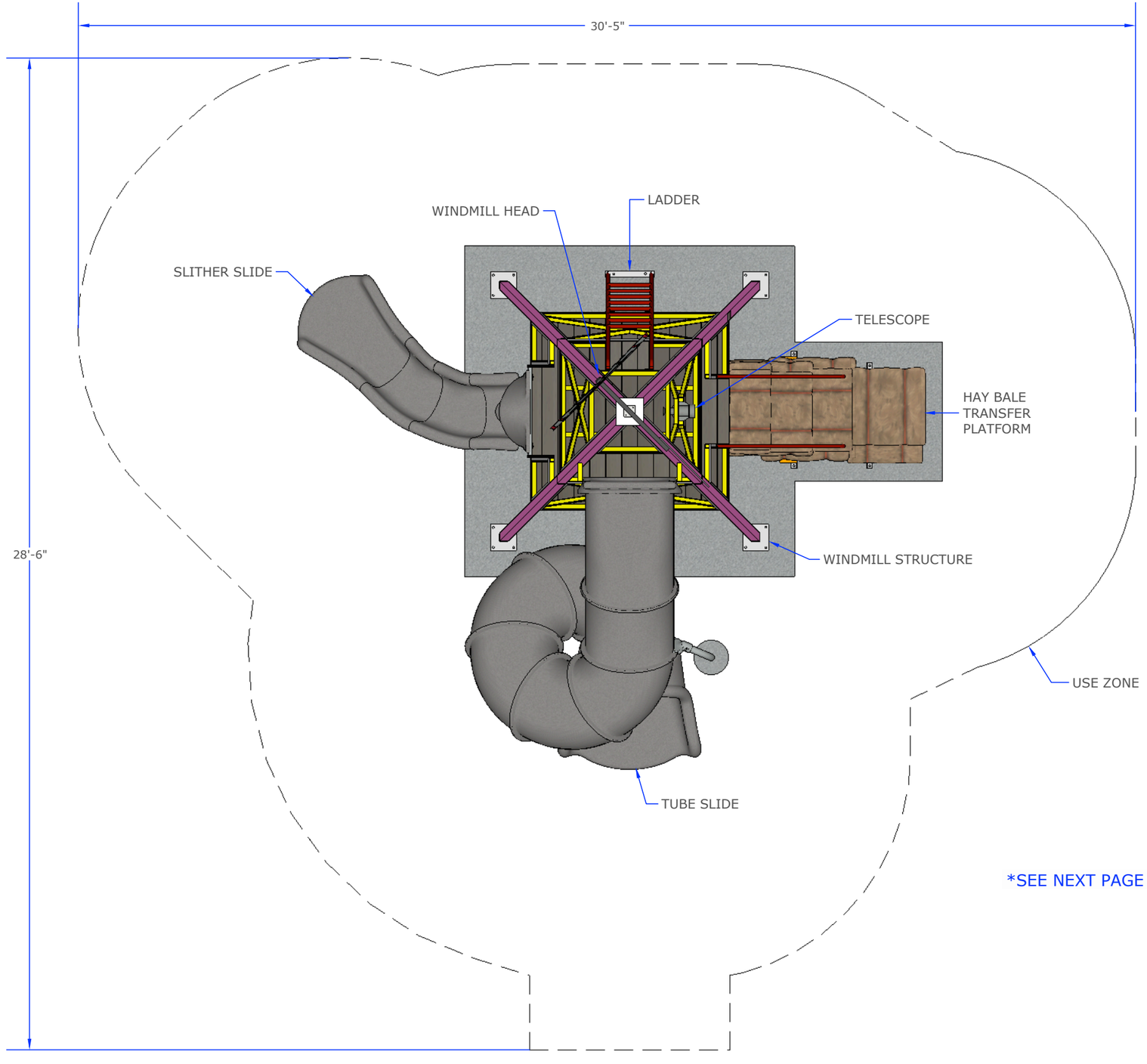
A/3 CONCRETE PLAN VIEW



C/3 CONCRETE FOOTER SECTION ELEVATION



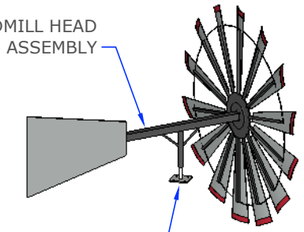
B/3 CONCRETE SLAB SECTION ELEVATION



*SEE NEXT PAGE FOR 3D COMPONENT VIEWS

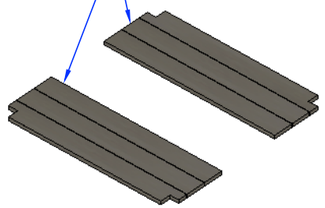
A/4 COMPONENTS & USE ZONE PLAN VIEW

WINDMILL HEAD ASSEMBLY



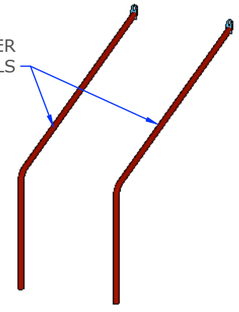
WINDMILL HEAD BASE

WINDMILL TOP LOOSE COMPOSITE

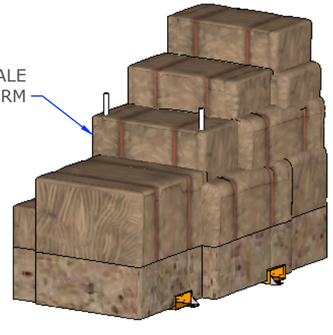


TELESCOPE
PW P/N: ZZUN6327
COLOR: LIGHT GRAY

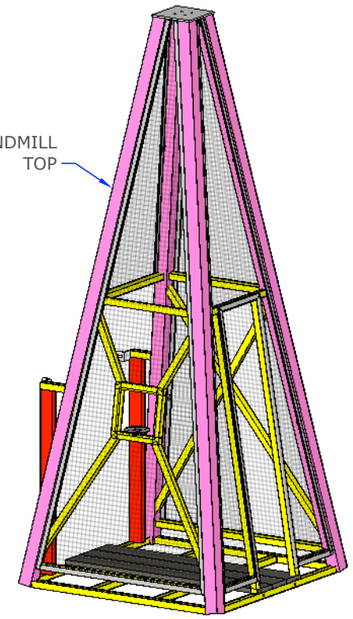
HAY BALE TRANSFER PLATFORM HANDRAILS



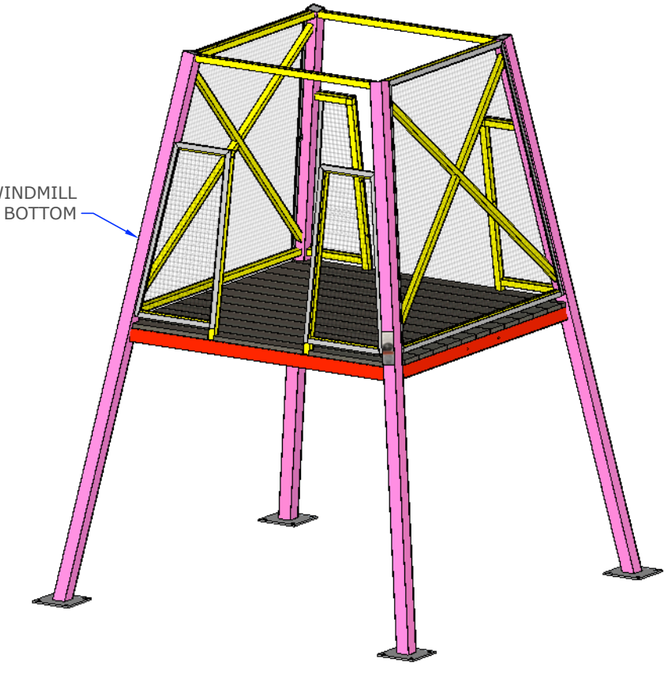
HAY BALE TRANSFER PLATFORM



WINDMILL TOP

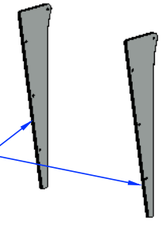


WINDMILL BOTTOM



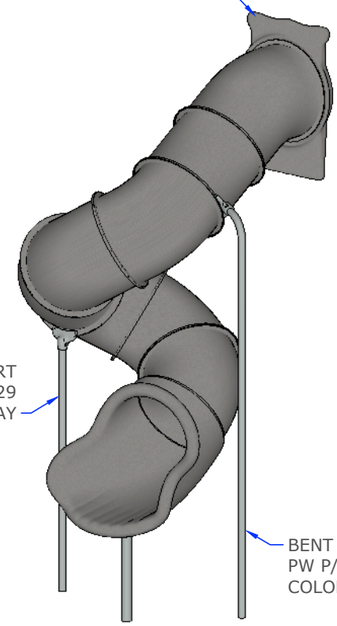
LADDER

HDPE PANELS FOR SLITHER SLIDE



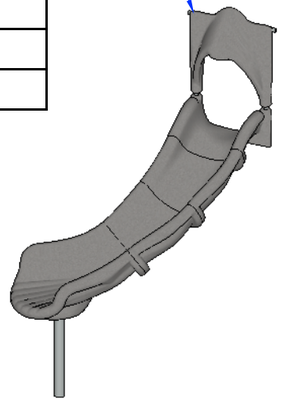
TUBE SLIDE PW P/N IN ORDER FROM TOP TO BOTTOM COLOR: GRAYSTONE	
ZZCH3006	ENTRANCE/EXIT
ZZUN3007	STRAIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZCH3006	ENTRANCE/EXIT

4' STRAIGHT SUPPORT
PW P/N: ZZUN3029
COLOR: LIGHT GRAY



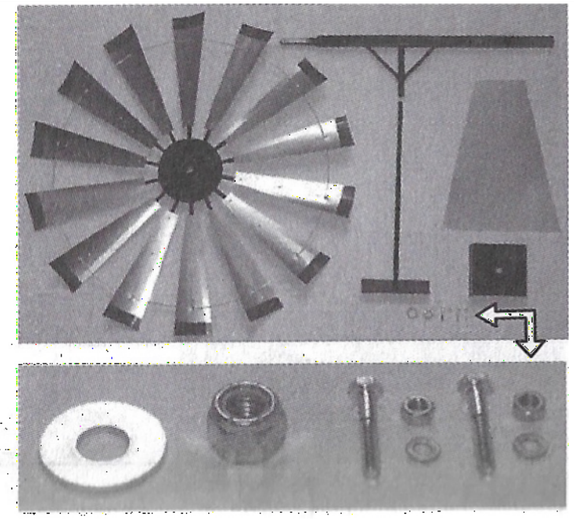
BENT SUPPORT
PW P/N: ZZUN3019
COLOR: LIGHT GRAY

SLITHER SLIDE PW P/N IN ORDER FROM TOP TO BOTTOM COLOR: GRAYSTONE	
ZZCH3206	ENTRANCE/EXIT
ZZUN3208	RIGHT SECTION
ZZUN3208	RIGHT SECTION
ZZCH3206	ENTRANCE/EXIT



USE CAUTION WHEN HANDLING AND ASSEMBLING THE WINDMILL HEAD.

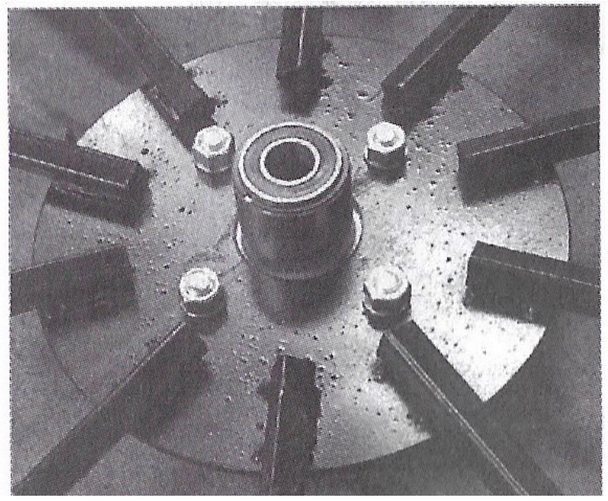
Lay out the head components. Note: the ¾ inch rod and metal top cap were used during assembly of the stand. If the fan is unassembled, a bag of screws will be included for attaching the fan blades.



STEP 1

Windmill Head Assembly

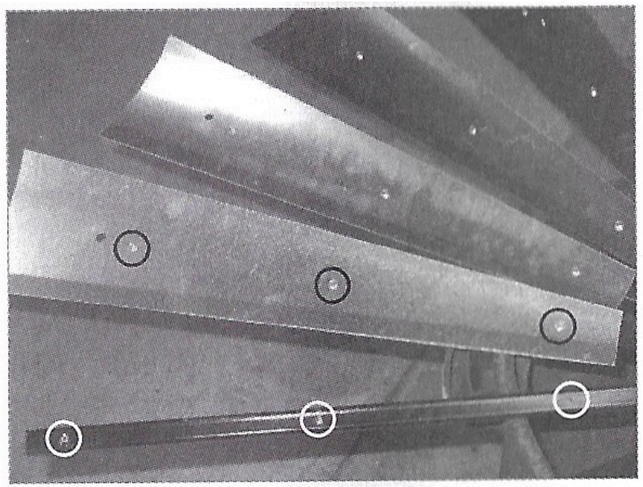
If unassembled, attach the hub to the fan frame with the washers and nuts, and tighten.



STEP 2

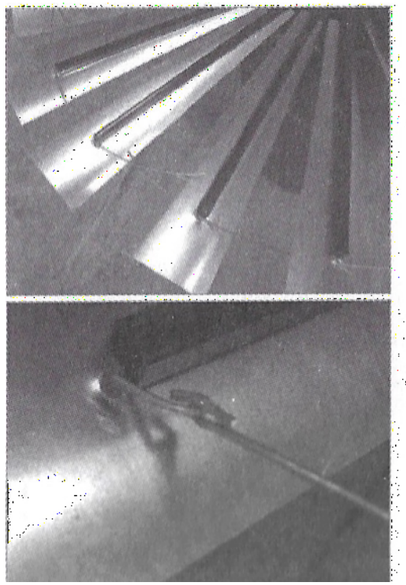
Windmill Head Assembly

With the curved side of the blade facing upwards, position the small hole on the blade (near the large hole) over the marked dot on the fan frame. Attach the fan blades to the fan frame using the 1/2" self-drilling screws provided.



STEP 3

Windmill Head Assembly



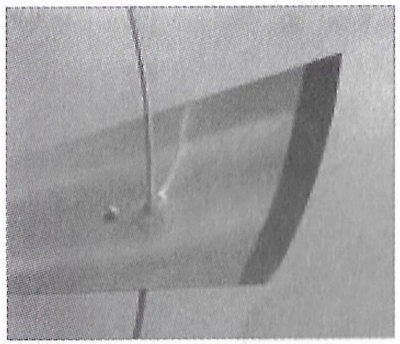
If unassembled, thread the wire ring through the outermost hole of each fan blade.

Hook the ends of the wire ring together using a set of pliers, and cut off the excess wire. To conceal this connection, position the hooked ends behind the fan blade as shown in the figure.

STEP 4

Windmill Head Assembly

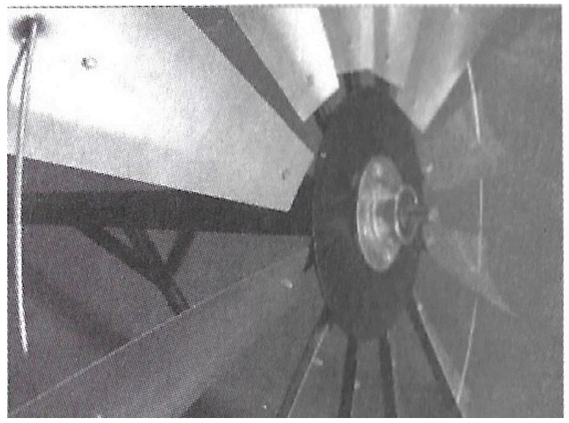
USE THREAD LOCK ON ALL FASTENERS



If desired, attach the vinyl tips. First, clean the tip of each fan blade using a soft cloth. Then carefully remove the backing from the vinyl tip, and apply the vinyl tip to the fan blade. Trim any excess vinyl that is not adhered to the fan blade.

STEP 5

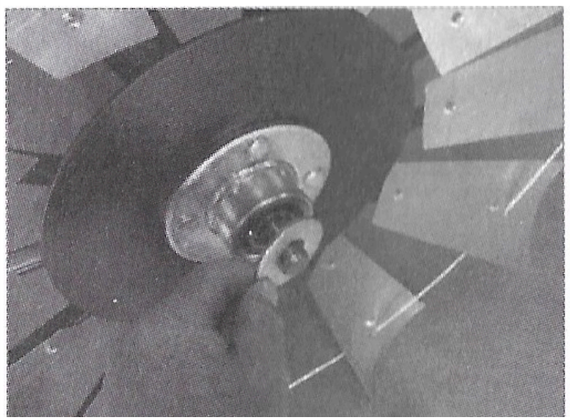
Windmill Head Assembly



Assemble windmill head by sliding fan onto axle.

STEP 6

Windmill Head Assembly

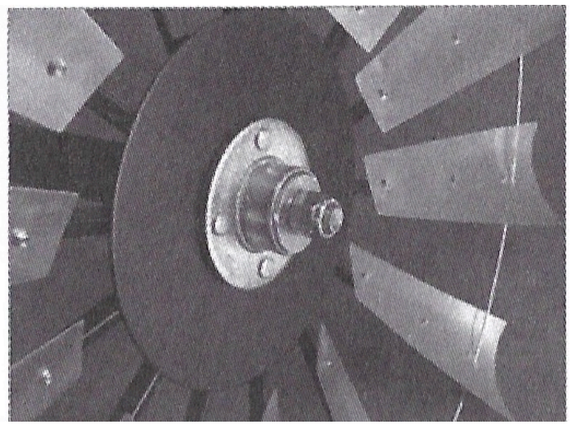


Slide flat washer onto shaft.

STEP 7

Windmill Head Assembly

Screw lock nut onto shaft and tighten. Loosen lock nut until fan spins freely. Note: this model does not require grease.

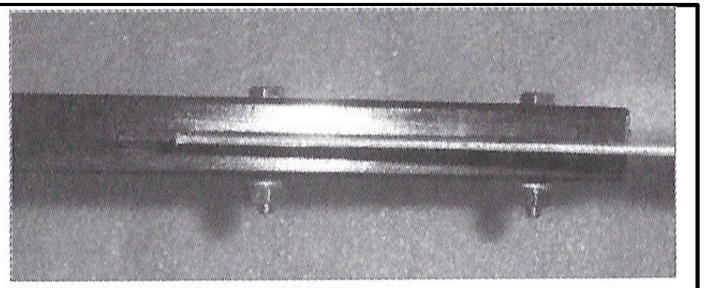


STEP 8

Windmill Head Assembly

USE THREAD LOCK ON ALL FASTENERS

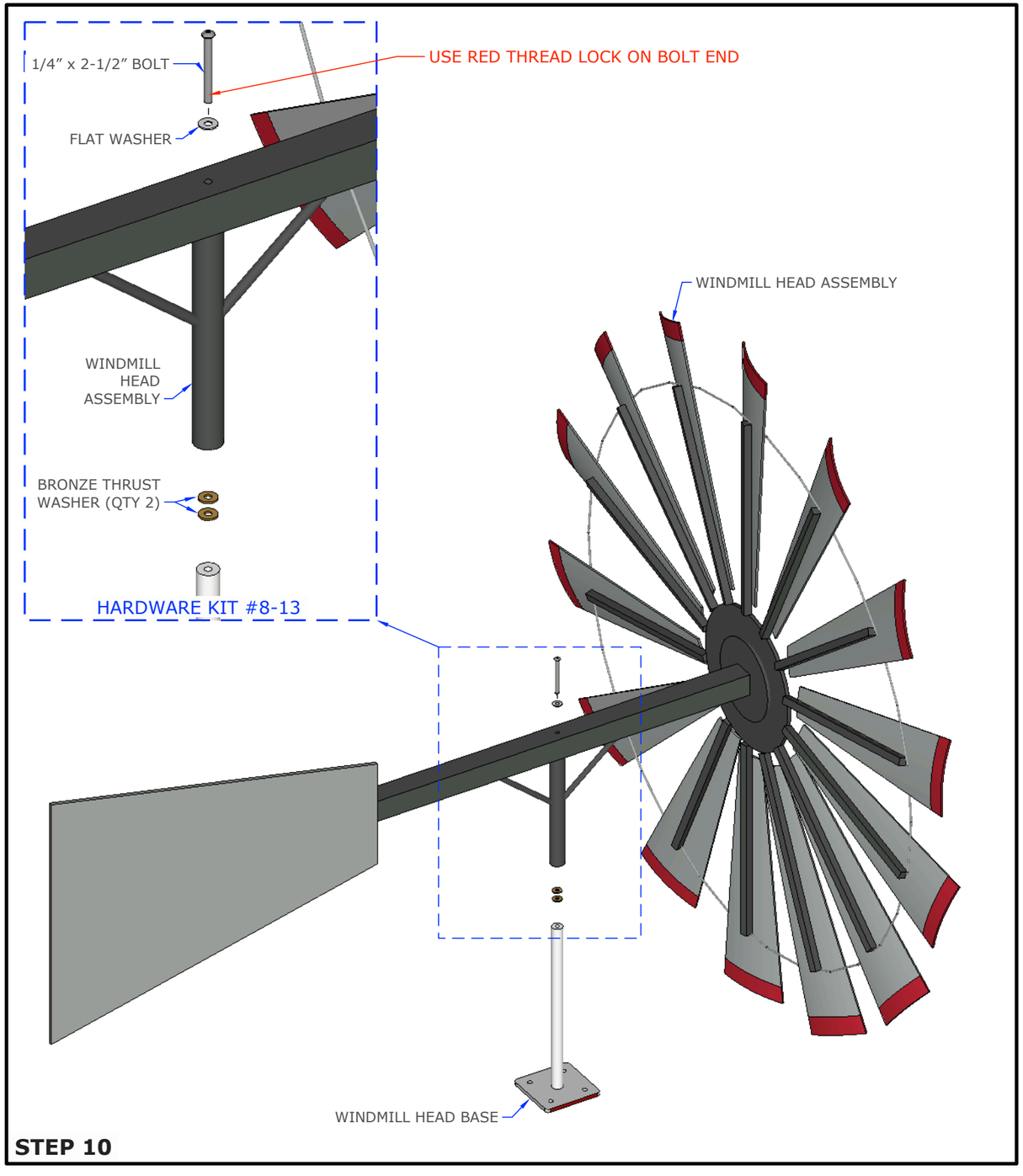
Attach tail by sliding the rudder into the slit on the support. Slide the bolts through one side of the support, attach washers and nuts on the other side, and then tighten. The figure shows a top view of the tail assembly.



This completes the head assembly.

STEP 9

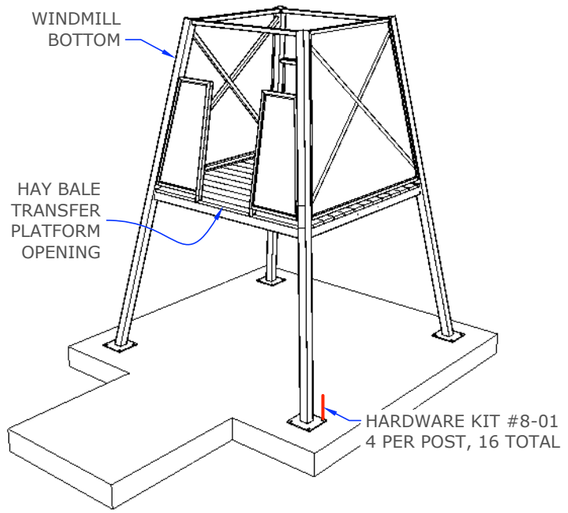
Windmill Head Assembly

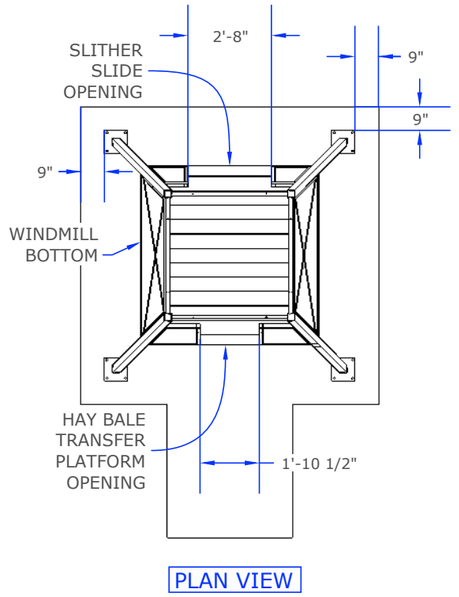


STEP 10

Assemble the Windmill Head Assembly to the Windmill Head Base using hardware kit #8-13 (1 place).

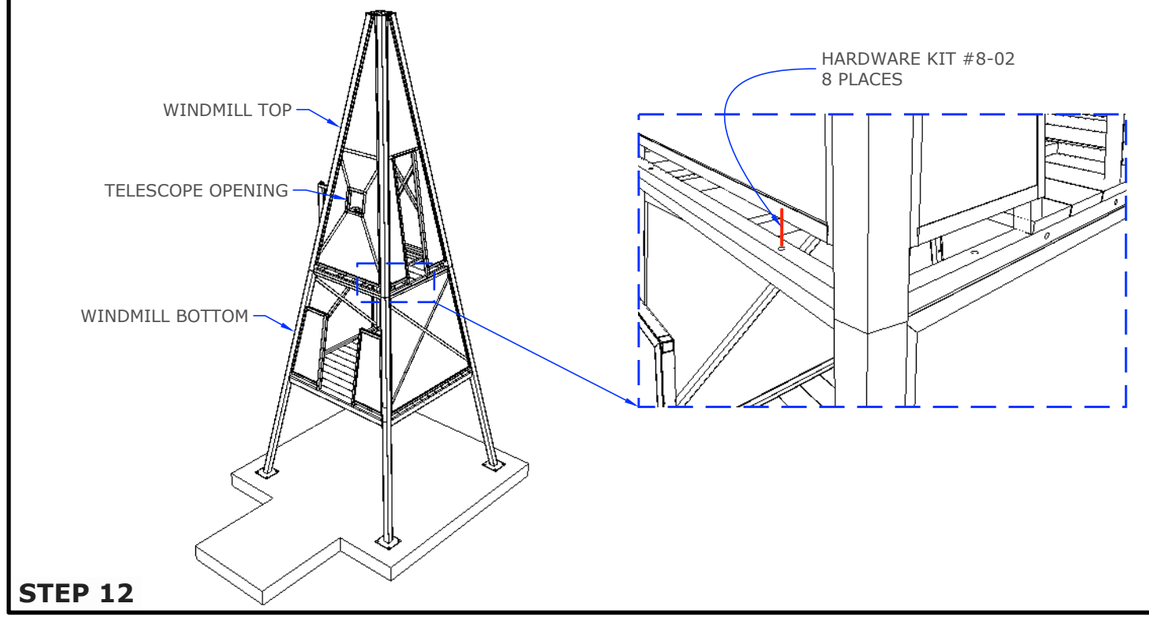
USE THREAD LOCK ON ALL FASTENERS





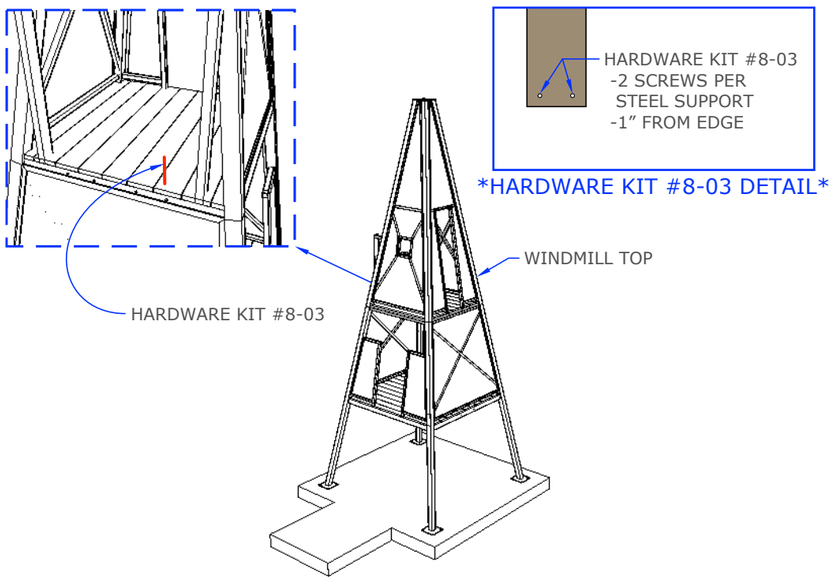
STEP 11

Locate and install the Windmill Bottom. Center the Windmill Bottom on the concrete slab. Note the orientation of the Hay Bale Transfer Platform opening, see above. Fasten to the concrete using hardware kit #8-01 (4 per post, 16 total).



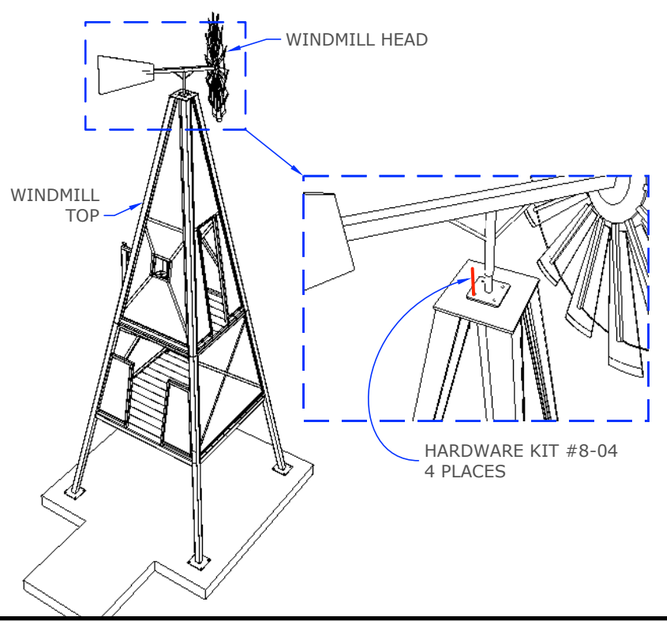
STEP 12

Locate and place the Windmill Top on top of the Windmill Bottom. Note: The Telescope opening should be on the same side as the Hay Bale Transfer Platform opening see above. Fasten together using hardware kit #8-02 (8 places).



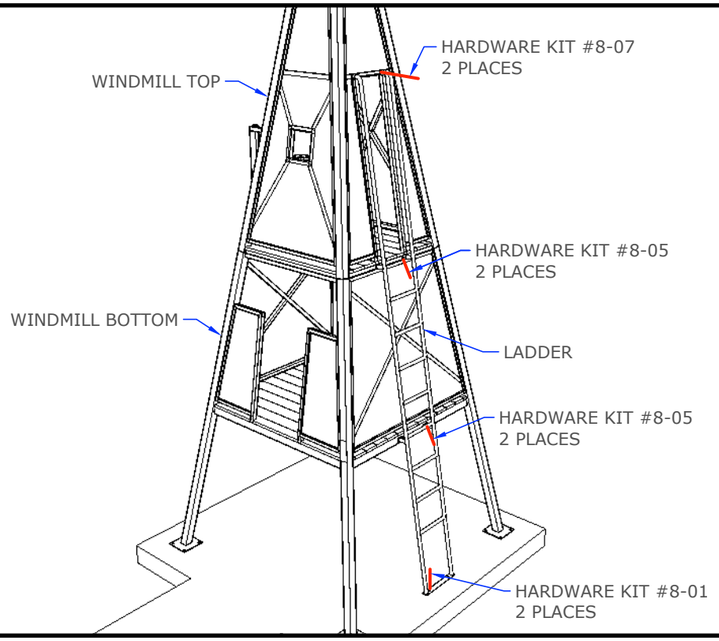
STEP 13

Install the Composite on the Windmill Top Deck. Space Composite 1/8" apart and fasten to the frame using hardware kit #8-03. Use 2 screws per steel support and spaced 1" from the edge.



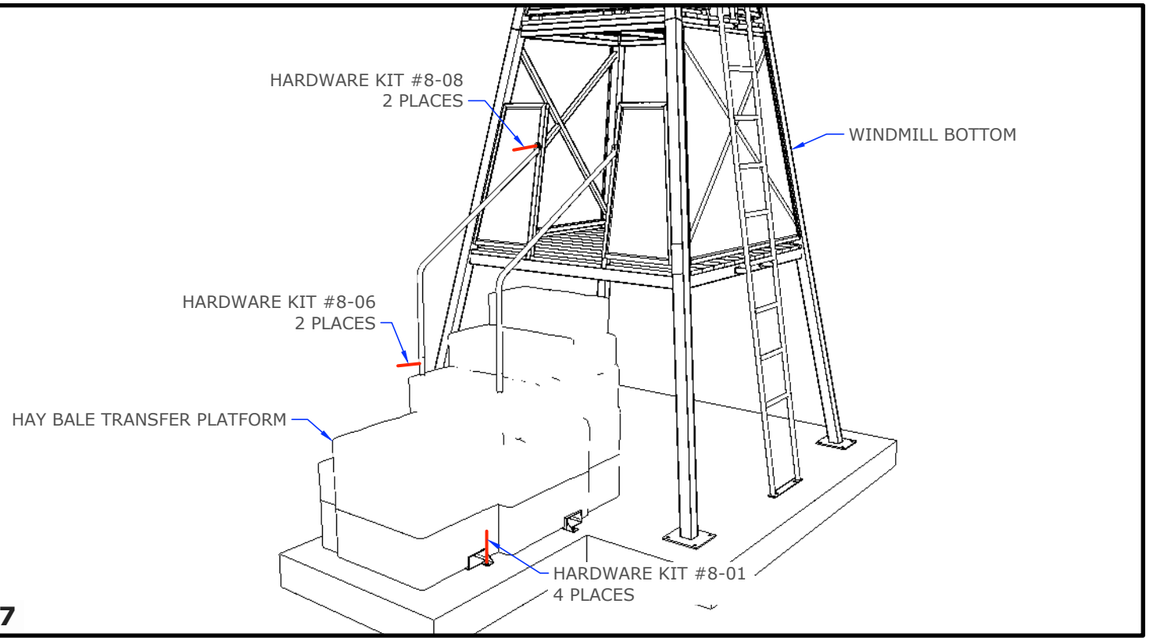
STEP 14

Install the Windmill Head to the top of the Windmill Top. Fasten together using hardware kit #8-04 (4 places).



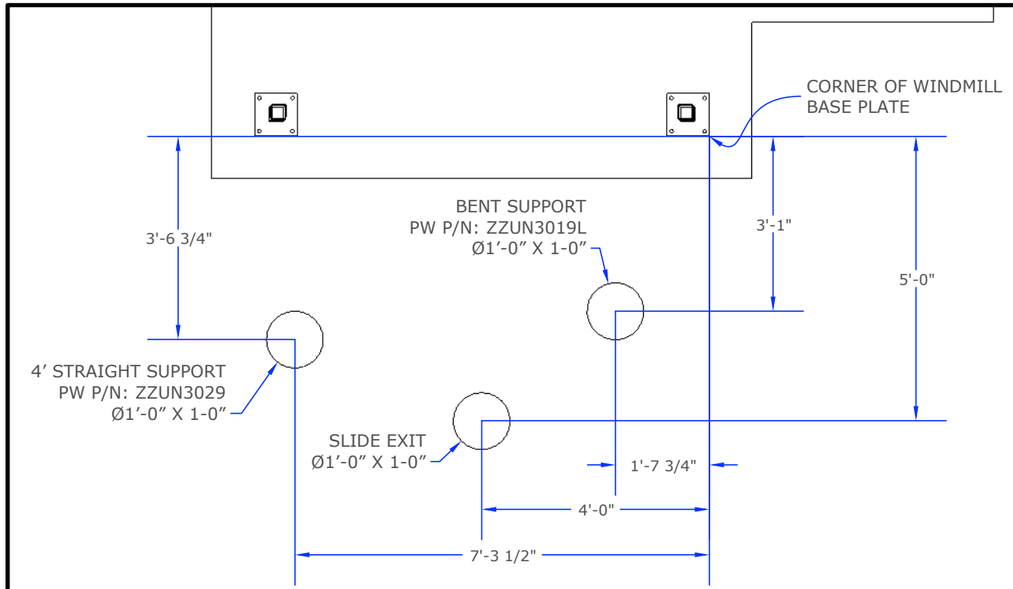
STEP 16

Locate and install the Ladder. Fasten the Ladder to the Windmill Bottom using hardware kit #8-05 (2 places). Fasten the Ladder to the Windmill Top using hardware kit #8-05 (2 places) and #8-07 (2 places). Then fasten the Ladder to the concrete using hardware kit #8-01 (2 places).



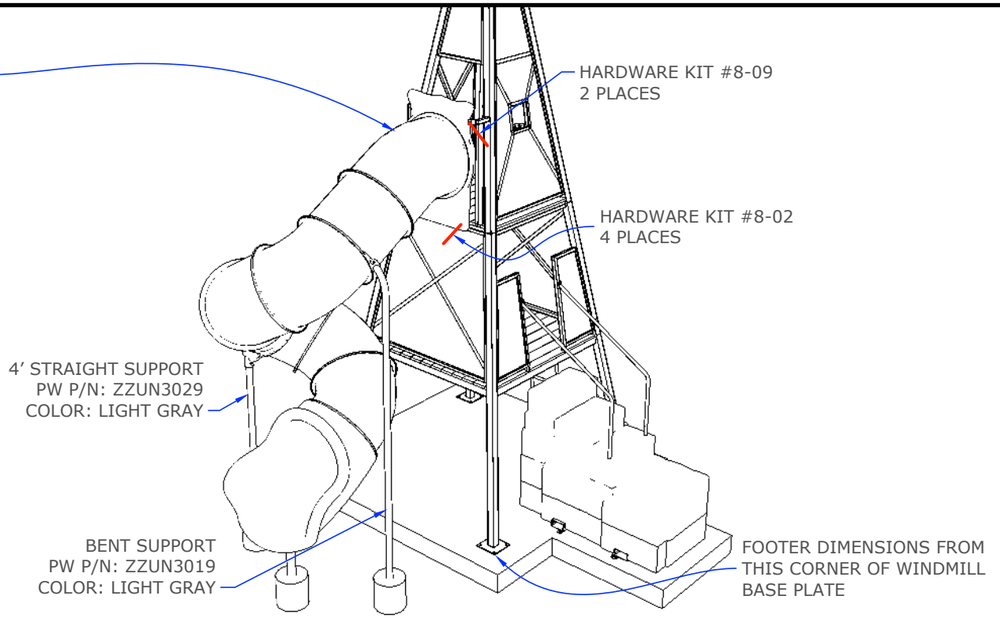
STEP 17

Locate and place the Hay Bale Transfer Platform next the the Windmill Bottom. Slide the Handrails over the Hay Bale Transfer frame. Adjust the position of the Hay Bale Transfer to line up the Handrails to the frame. Fasten the Handrails to the frame using hardware kit #8-08 (2 places). Fasten the Handrails to the Hay Bale Transfer frame using hardware kit #8-06 (2 places). Then fasten to the concrete using hardware kit #8-01 (4 places).

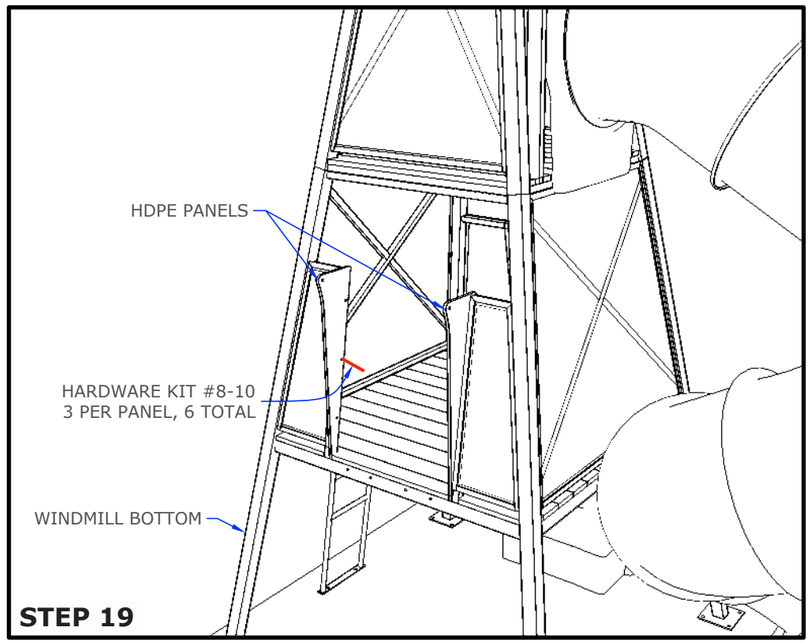


STEP 18

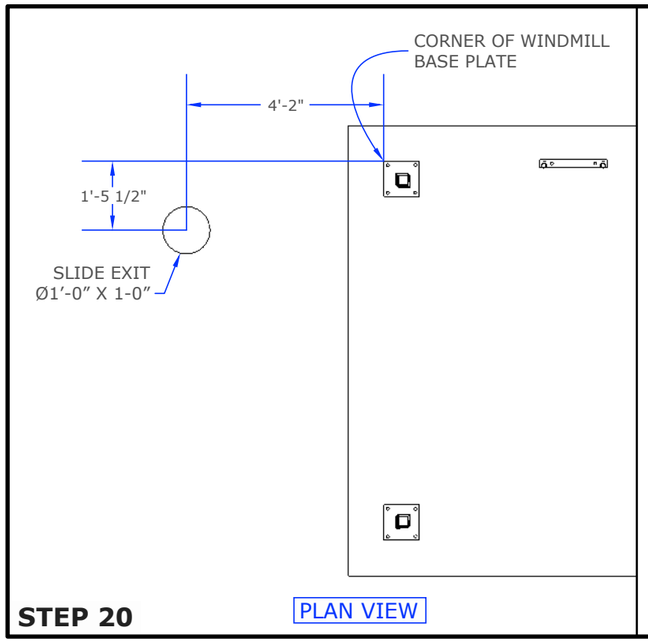
TUBE SLIDE PW P/N IN ORDER FROM TOP TO BOTTOM COLOR: GRAYSTONE	
ZZCH3006	ENTRANCE/EXIT
ZZUN3007	STRAIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZUN3009	RIGHT SECTION
ZZCH3006	ENTRANCE/EXIT



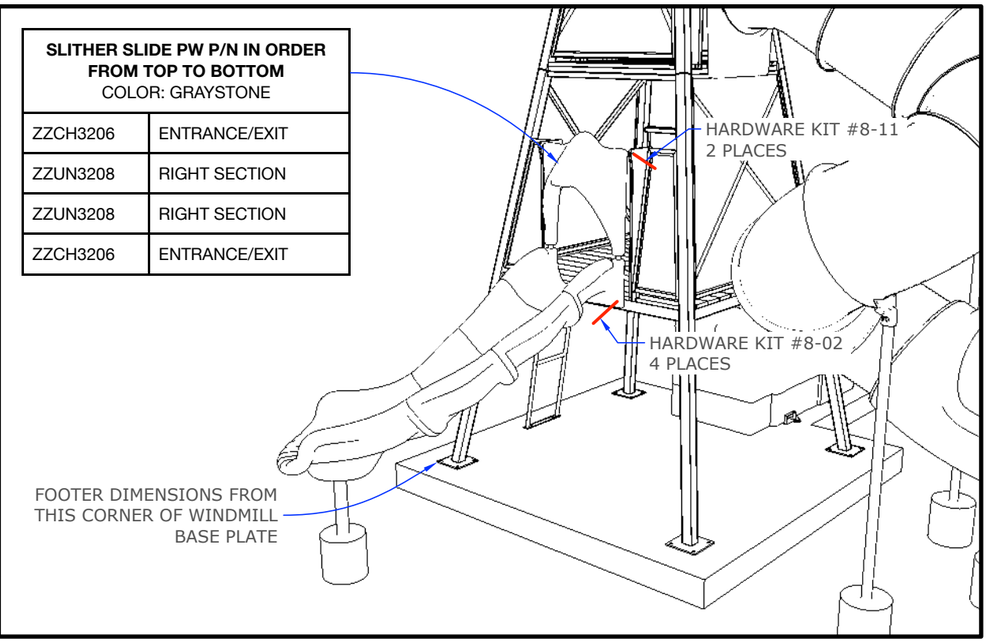
Dig the footers for the Tube Slide Supports per dimensions above. Fasten the Slide Entrance Panel to the Windmill Top using hardware kit #8-09 (2 places) and hardware kit #8-02 (4 places). Install the rest of the slide per Playworld instructions. Hint: Bolt 3 sections together on the ground, then lift into place to assemble.



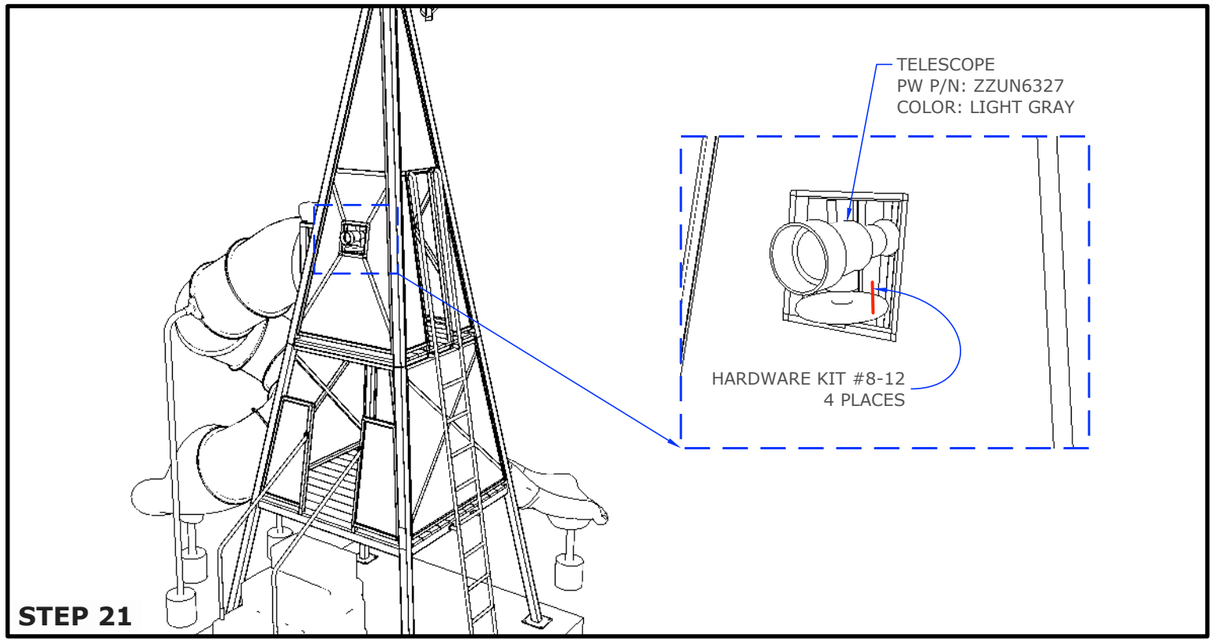
Locate and install the HDPE Panels in the Slither Slide opening of the Windmill Bottom. Fasten to the frame using hardware kit #8-10 (3 per Panel, 6 total).



SLITHER SLIDE PW P/N IN ORDER FROM TOP TO BOTTOM COLOR: GRAYSTONE	
ZZCH3206	ENTRANCE/EXIT
ZZUN3208	RIGHT SECTION
ZZUN3208	RIGHT SECTION
ZZCH3206	ENTRANCE/EXIT



Dig the footer for the Slither Slide Support per dimensions above. Fasten the Slide Entrance Panel to the HDPE Panels using hardware kit #8-11 (2 places) and to the Windmill Bottom using hardware kit #8-02 (4 places). Install the rest of the slide per Playworld instructions.



Locate and install the Telescope (PW P/N: ZZUN6327). Fasten to the Windmill Top using hardware kit #8-12 (4 places).

THIS SPACE INTENTIONALLY LEFT BLANK.

HARDWARE

HARDWARE KIT 8-01
5/8" X 4" TAPCON LDT CONCRETE FASTENER	X22

HARDWARE KIT 8-02
3/8" X 3 3/4" BUTTON HEAD, PIN-IN, SS BOLT	X14
3/8" FLAT WASHER, SS	X28
3/8" SPLIT LOCK WASHER, SS	X14
3/8" NYLOCK NUT, SS	X14

HARDWARE KIT 8-03
#12-24 X 2" SELF DRILL FH SQUARE SCREW	X50

HARDWARE KIT 8-04
1/4" X 3/4" BUTTON HEAD, PIN-IN, SS BOLT	X4
1/4" FLAT WASHER, SS	X4
1/4" SPLIT LOCK WASHER, SS	X4

HARDWARE KIT 8-05
3/8" X 2 1/2" BUTTON HEAD, PIN-IN, SS BOLT	X4
3/8" FLAT WASHER, SS	X8
3/8" SPLIT LOCK WASHER, SS	X4
3/8" NYLOCK NUT, SS	X4

HARDWARE KIT 8-06
1/8" X 5/8" ALUMINUM RIVET	X2

HARDWARE KIT 8-07
3/8" X 2 3/4" BUTTON HEAD, PIN-IN, SS BOLT	X2
3/8" FLAT WASHER, SS	X4
3/8" SPLIT LOCK WASHER, SS	X2
3/8" NYLOCK NUT, SS	X2

HARDWARE KIT 8-08
3/8" X 2" BUTTON HEAD, PIN-IN, SS BOLT	X2
3/8" FLAT WASHER, SS	X2
3/8" SPLIT LOCK WASHER, SS	X2
3/8" BARREL NUT, SS	X2

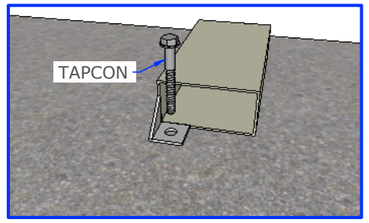
HARDWARE KIT 8-09
3/8" X 1 1/4" BUTTON HEAD, PIN-IN, SS BOLT	X2
3/8" FLAT WASHER, SS	X2
3/8" SPLIT LOCK WASHER, SS	X2

HARDWARE KIT 8-10
3/8" X 3" BUTTON HEAD, PIN-IN, SS BOLT	X6
3/8" FLAT WASHER, SS	X12
3/8" SPLIT LOCK WASHER, SS	X6
3/8" NYLOCK NUT, SS	X6

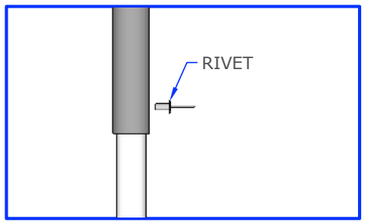
HARDWARE KIT 8-11
3/8" X 1 3/4" BUTTON HEAD, PIN-IN, SS BOLT	X2
3/8" FLAT WASHER, SS	X2
3/8" SPLIT LOCK WASHER, SS	X2

HARDWARE KIT 8-12
1/4" X 1" BUTTON HEAD, PIN-IN, SS BOLT	X4
1/4" FLAT WASHER, SS	X8
1/4" NYLOCK NUT, SS	X4

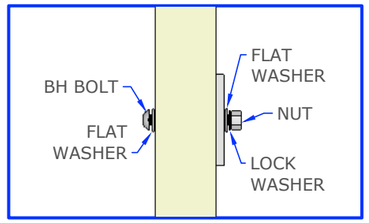
HARDWARE KIT 8-13
1/4" X 2-1/2" BUTTON HEAD, PIN-IN, SS BOLT	X1
1/4" FLAT WASHER, SS	X1
1/4" X 5/8" X 1/16" BRONZE THRUST WASHER	X2
LOCTITE, 1/2 OZ TUBE	X1



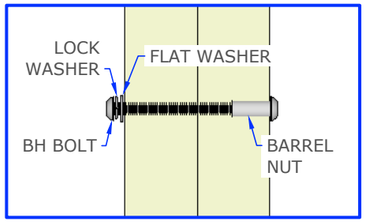
HARDWARE KIT #8-01
CONCRETE ANCHOR DETAIL



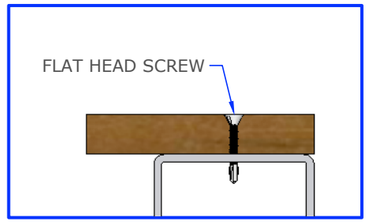
HARDWARE KIT #8-06
RIVET APPLICATION



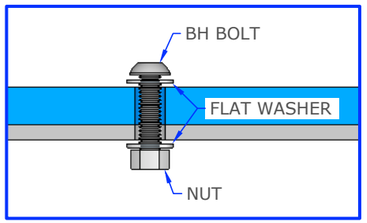
HARDWARE KIT #8-02, 05, 07, 10
THROUGH BOLT APPLICATION



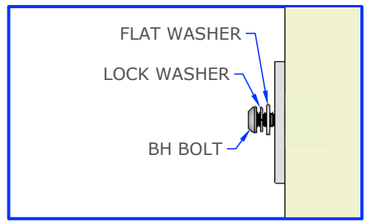
HARDWARE KIT #8-08
THROUGH BOLT APPLICATION



HARDWARE KIT #8-03
FLAT HEAD SCREW APPLICATION



HARDWARE KIT #8-12
TELESCOPE DETAIL



HARDWARE KIT #8-04, 09, 11
INSERT APPLICATION

*******IMPORTANT NOTES*******

USE THREAD LOCK ON ALL FASTENERS
CUT ANY AND ALL BOLT ENDS WITH MORE THAN 2 THREADS EXPOSED
PAINT ALL EXPOSED STEEL FROM CUTTING OR DRILLING

RED HEAD® CONCRETE ANCHORING SPECIALISTS

Submittal Information

Large Diameter Tapcon (LDT) Self-threading

SPECIFIED FOR ANCHORAGE INTO CONCRETE

The LDT anchor is a high performance anchor that cuts its own threads into concrete.

Anchor bodies are made of hardened carbon steel and zinc plated. **Grade 5**

The anchors shall have a finished hex washer head with anti-rotation serrations to prevent anchor back-out. The head of the anchor is stamped with a length identification code for easy inspection.

The anchor shall be installed with carbide tipped hammer drill bits made in accordance to ANSI B212.15-1994.

LDT 3/8" and 1/2" are available with EnvireX coating

1,000 hours salt spray ASTM B117. Approved for use in ACQ and MCQ lumber*

*Excessive content of copper in the ACQ and MCQ lumber may affect the anchor finish.

LENGTH INDICATION CODE*

CODE	LENGTH OF ANCHOR In. (mm)
A	1-1/2 < 2 (38.1 < 50.8)
B	2 < 2-1/2 (50.8 < 63.5)
C	2-1/2 < 3 (63.5 < 76.2)
D	3 < 3-1/2 (76.2 < 88.9)
E	3-1/4 < 4 (88.9 < 101.6)
F	4 < 4-1/2 (101.6 < 114.3)
G	4-1/2 < 5 (114.3 < 127.0)
H	5 < 5-1/2 (127.0 < 139.7)

* Located on top of anchor for easy inspection.

INSTALLATION STEPS

Installation Steps for Concrete, Lightweight Concrete and Metal Deck

1. Using the proper size carbide bit (see chart) drill a pilot hole at least 1" deeper than anchor embedment.

2. Using an **electric impact wrench**, or socket wrench (hand install) insert anchor into hole and tighten anchor until fully seated. (see chart for socket size) (do not over tighten).

Installation Steps for Hollow or Grout-Filled CMU
(3/8" and 1/2" diameter)

1. Using a 5/16" (for 3/8" LDT) or 7/16" (for 1/2" LDT) carbide tipped bit, drill a pilot hole at least 1" deeper than anchor embedment.

2. Using a socket wrench insert anchor into hole and hand tighten (only) anchor until fully seated. (9/16" socket for 3/8" and 3/4" socket for 1/2") (do not over tighten).

LDT's can be installed by hand or with an impact wrench

Installation by hand—is easy, simply using a socket wrench

Installation by impact wrench—is recommended for faster installations or for high volume projects. Installation with impact wrench—is ***not*** recommended for hollow block.

Selection Chart

LDT Size	ANSI Standard Drill Bit Diameter	Ⓐ Anchor Head (Socket Size) Diameter	Washer Diameter	Ⓑ Minimum Embedment	Ⓒ Hole Depth	USE IN		
						Concrete	CMU Hollow	CMU Grout-filled
LDT 3/8"	5/16"	9/16"	13/16"	1-1/2"	2-1/2"	YES	YES	YES
LDT 1/2"	7/16"	3/4"	1"	2-1/2"	3-1/2"	YES	NO	YES
LDT 5/8"	1/2"	13/16"	1-3/16"	2-3/4"	3-3/4"	YES	NO	YES
LDT 3/4"	5/8"	15/16"	1-5/16"	3-1/4"	4-1/4"	YES	NO	YES

Ⓒ See catalog for effective lengths and length indication code.