

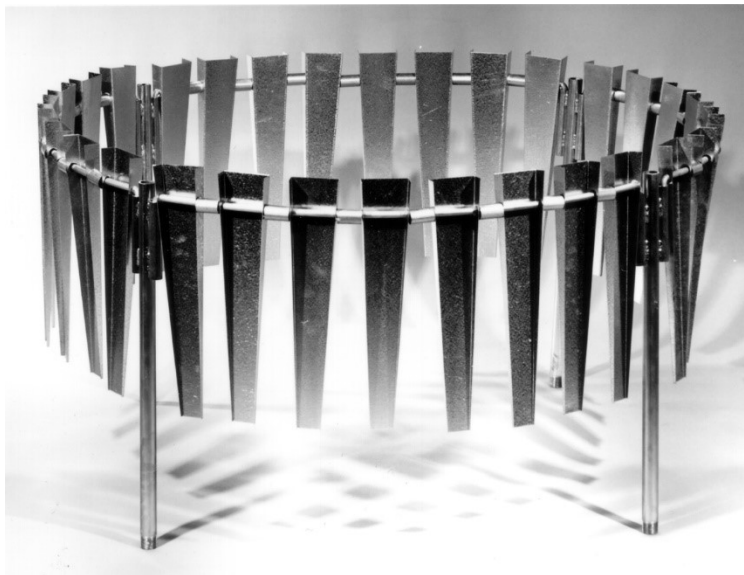
260-95x

User Manual

260-952 Wind Screen (24" tall, 48" diameter)

260-953 Wind Screen (36" tall, 48" diameter)

260-952-64 Wind Screen (24" tall, 64" diameter)



260-952 Wind Screen for Precipitation Gauge

Phone (530) 823-7185

Email nova@novalynx.com **Website** www.novalynx.com

Receiving and Unpacking

Carefully unpack all components and compare to the packing list. Notify NovaLynx Corporation immediately concerning any discrepancy. Inspect equipment to detect any damage that may have occurred during shipment. In the event of damage, any claim for loss must be filed immediately with the carrier by the consignee. Damages to equipment sent via Parcel Post or UPS require the consignee to contact NovaLynx Corporation for instructions.

Returns

If equipment is to be returned to the factory for any reason, call NovaLynx between 8:00 a.m. and 4:00 p.m. Pacific Time to request a Return Authorization Number (RA#). Include with the returned equipment a description of the problem and the name, address, and daytime phone number of the sender. Carefully pack the equipment to prevent damage or additional damage during the return shipment. Call NovaLynx for packing instructions in the case of delicate or sensitive items. If packing facilities are not available take the equipment to the nearest Post Office, UPS, or other freight service and obtain assistance with the packaging. Please write the RA# on the outside of the box.

Warranty

NovaLynx Corporation warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from the date of shipment from the factory. NovaLynx Corporation's obligations under this warranty are limited to, at NovaLynx's option: (i) replacing; or (ii) repairing; any product determined to be defective. In no case shall NovaLynx Corporation's liability exceed product's original purchase price. This warranty does not apply to any equipment that has been repaired or altered, except by NovaLynx Corporation, or that has been subjected to misuse, negligence, or accident. It is expressly agreed that this warranty will be in lieu of all warranties of fitness and in lieu of the warranty of merchantability.

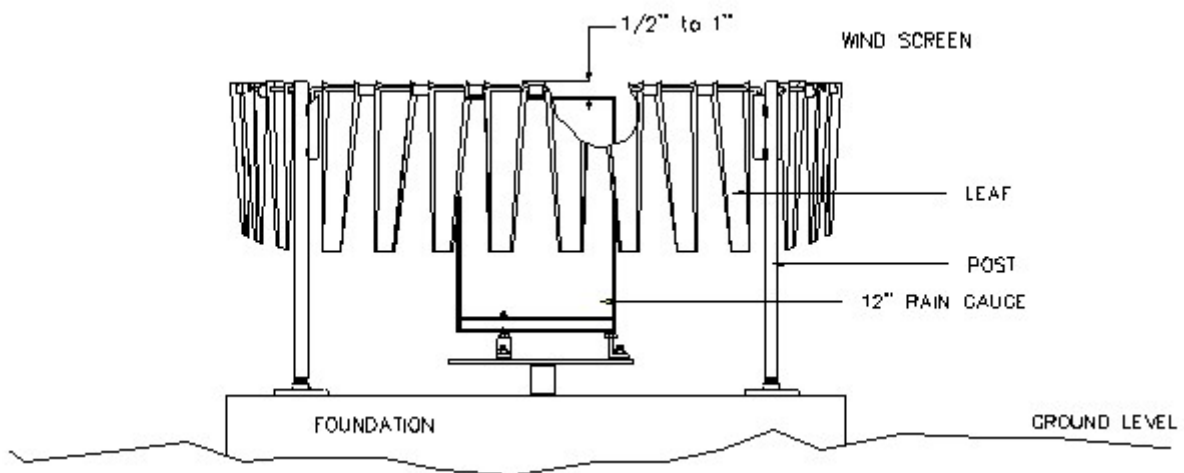
Address

NovaLynx Corporation
431 Crown Point Circle, Suite 120
Grass Valley, CA 95945-9531 USA
Phone: (530) 823-7185
Email: nova@novalynx.com
Website: www.novalynx.com

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1 FORWARD

Thank you for purchasing NovaLynx products. NovaLynx has been designing and manufacturing weather instruments since 1988. NovaLynx represents several well-known brands of quality manufacturers, including Gill Instruments, RM Young, Kipp & Zonen, and Vaisala. It is our hope that our products will meet all your monitoring requirements.

2 INTRODUCTION

The NovaLynx Alter style **260-95x Wind Screen** improves precipitation gauge measurements by reducing wind-induced updrafts around the gauge. The free-swinging leaves create air turbulence across the top of the gauge to help capture precipitation rather than being blown past the gauge. Significant increases in the gauge catch are noted when rain droplets are very small.

Wind effects on catch losses are even more pronounced during snow storms. Where snowfall constitutes more than 80% of annual precipitation, and in areas that are open with no nearby structures, a wind screen is recommended to minimize wind effects.

The screen consists of free-swinging metal leaves evenly spaced around the support ring. The ring is divided into four quadrants, one of which swings open to permit access to the rain gauge.

The four posts that support the wind screen are threaded at the lower ends (3/4" NPT), making it easy to extend the legs or install floor flanges. The support posts are 24 inches tall. Extension nipples and couplers are included with Model 260-953 to increase the height to 36 inches.

3 SPECIFICATIONS

Wind Screen			
Type	Alter		
Materials	Zinc plated and galvanized steel		
Compliance	RoHS		
Model	260-952	260-953	260-952-64
Installed Diameter	48 inches (122 cm)	48 inches (122 cm)	64 inches (163 cm)
Installed Height	24" (61 cm)	36" (91 cm)	24" (61 cm)
Shipping Weight	47 lbs (21 kg)	53 lbs (24 kg)	75 lbs (34 kg)

4 ACCESSORIES

The overall height of the wind screen depends mainly on the maximum snow depth expected. Select a model of wind screen / leg extension kit that will keep the top of the rain gauge above snow level.

- **260-952** Wind Screen = ~24" overall height (0.61 m)
- **260-953** Wind Screen = ~36" overall height (0.91 m)

- **260-952-64** Wind Screen = ~24" overall height (0.61 m)
- **260-952-64** Wind Screen + **260-954** Leg Kit = ~36" overall height (0.91 m)

Once you have determined the height, consider the mounting methods illustrated in **Appendix B**. Determine whether you need the 260-955 mounting kit, which includes floor flanges that fit ¾" pipe.

Accessories		
260-954	Leg Extender Kit	3/4" x 12" nipples (x4), 3/4" couplers (x4)
260-955	Wind Screen Mounting Kit	3/4" floor flanges (x4), wood screws (x16)

5 SAFETY PRECAUTIONS

WARNING – TURN OFF THE POWER TO A HEATED RAIN GAUGE. Never work on or near an electrically heated rain gauge unless the power to the rain gauge has been disconnected.

CAUTION – ALWAYS WEAR GLOVES WHEN HANDLING THE WIND SCREEN. The leaves and other parts of the wind screen have sharp edges. Be careful when working around the wind screen to avoid cuts to your hands or arms.

CAUTION – GET ASSISTANCE WHILE ASSEMBLING THE WIND SCREEN. The four segments are difficult to handle safely without assistance. To avoid injury, two people, wearing thick leather gloves, may safely place the segments on the posts.

6 SITE SELECTION

The location of the rain gauge is very important to the successful operation of the instrument. The most accurate measurements are made in relatively sheltered areas protected from gusts and turbulent wind. Open spaces between buildings and trees offer some shelter from wind effects; however, the rain gauge should be situated at least twice the distance from such objects as their height.

In locations with heavy snowfall, the gauge should be mounted well above the average local snow level. If a heated version rain gauge is used, keep in mind that a power source is required.

Good locations do not always remain obstruction free. Vegetation can grow quickly, changing an excellent exposure into a poor one. Sites should be inspected regularly in order to properly maintain the exposure of the gauge.

7 INSTALLATION

IMPORTANT: For best results, the top of the rain gauge must be ½" to 1" below the top of the wind screen when the installation is finished. Make sure your rain gauge mounting hardware will support the rain gauge at the proper height. Two methods are suggested in **Appendix C**.

Refer to **Appendix A** for suggested dimensions for 48" or 64" diameter wind screens. Plan the location of the Gate Segment so that it will swing open freely to allow entry for maintenance purposes. Clear away any vegetation that might get entangled in the windscreen or interfere with opening the gate segment. Level the soil or import gravel if needed to make a firm base for the concrete pad or wooden platform.

Determine where the rain gauge output cable will run, and if needed route conduit for the cable. If the rain gauge is heated, run separate conduit for the heater circuit, according to local electrical code.

7.1 Wooden Platform

NovaLynx recommends the **260-955 Wind Screen Mounting Kit** (sold separately), which includes 3/4" flanges for mounting the wind screen posts to wooden structures.

Use pressure treated lumber or composite decking material to construct a platform at least 48" square (64" square for model 260-952-64). Place the platform on the site and level it using a carpenter's level.

1. Install all hardware needed for mounting the rain gauge in the center of the platform before installing the wind screen. It will be much easier (and safer) to work around the rain gauge without the hazard of contacting the sharp edges of the wind screen leaves.
2. Apply Teflon tape or other sealant to the support posts and thread a flange onto each.
3. Locate the posts on the platform according to the diagram in **Appendix A** (pay special attention to the location of the Gate Post). Please note that the length of individual quadrant segments may vary slightly and it may be necessary to relocate a flange for best fit. Secure the flanges to the platform using wood screws.
4. **CAUTION – ALWAYS WEAR GLOVES WHEN HANDLING THE WIND SCREEN.** Locate the Gate Segment. With the help of an assistant, install it on the side where the Gate Post is located. The short pin on the segment should drop into the socket that has the 45° angle "cutout". Install the remaining segments. *Note: the flat side of the leaves face the rain gauge in the center.*
5. Place a long straight-edged board across the top of the wind screen and verify that the top of the rain gauge is ½" to 1" below the top surface of the wind screen. Adjust the height of the rain gauge as necessary.
6. Test the operation of the Gate Segment to ensure it swings open for access to the rain gauge.
7. While wearing gloves, tap each leaf in turn to ensure it swings freely. Adjust as necessary.

7.2 Concrete Slab Platform

The NovaLynx **260-95x Wind Screen** may be mounted to a concrete foundation in a variety of ways. Floor flanges can be screwed onto the wind screen posts, then fastened to the foundation with masonry bolts (not supplied). Other methods require pouring in-place to either embed the assembly in concrete, or to leave threaded inserts embedded in the concrete (**Appendix B**).

1. Prepare the site by clearing vegetation, leveling the soil surface, and installing conduit for the sensor cable and a separate conduit for the power cable if the rain gauge is heated.
2. Install the rain gauge support hardware (typically NovaLynx 260-950 8" Rain Gauge mounting plate or NovaLynx 260-950-12 12" Rain Gauge mounting plate) in the center of the site.
3. Build a form at least 48" square (64" square for model 260-952-64) using 2x4 or 2x6 lumber centered on the mounting plate. Level the form.
4. Assemble floor flanges to the wind screen mounting posts. The flanges will ensure the posts will not pull out of the cured concrete and will help with leveling the structure.
5. **CAUTION – ALWAYS WEAR GLOVES WHEN HANDLING THE WIND SCREEN. You will need several assistants to do the following steps safely.**
6. Locate the Gate Segment and Gate Post. Slip the short pin of the Gate Segment into the socket that has the 45° angle "cutout". Place a Standard Post on the other end of the segment. Carry the assembly to the form and stand it upright on the side where the gate is to be located. Have two assistants hold the segment, while other assistants assemble the remaining segments to

complete the circle. Have an assistant remain at each of the 4 posts to ensure the whole assembly does not collapse while the next adjustments are made.

7. Make sure the assembly is reasonably centered on the rain gauge.
8. Visually align the posts vertically. If the circle does not appear reasonably "round", then measure across the diameter from post to post in two directions and compare measurements. Adjust the location of the posts until the diagonal measurements are equal.
9. Use a carpenter's level from post to post in each direction and raise any posts that are too low.
Tip: Push loose gravel under the flange to raise any post that is too low.
10. Place a long straight-edged board across the top of the wind screen and measure down to the rain gauge support platform. Verify that the top of the rain gauge will be ½" to 1" below the top surface of the wind screen when the rain gauge is installed later. If there is not enough adjustment in the mounting support of the rain gauge, you may need to adjust the height of the wind screen before pouring the concrete.
11. WARNING – Install temporary braces tied to the four support posts to ensure that the wind screen is stable. Do not work on or around the wind screen unless it is secure, especially while working the cement.
12. Test the operation of the Gate Segment to ensure it is not binding.
13. Pour cement and smooth it around the rain gauge support, conduit, and legs of the wind screen per normal practice. Avoid leaving low places or "pockets" in the cement near the legs or water could collect and corrode the legs.
14. After the cement has cured, remove the braces and forms.
15. While wearing gloves, tap each leaf in turn to ensure it swings freely. Adjust as necessary.

7.3 Concrete (Post Hole) Foundation

In remote locations it may be difficult to transport the amount of cement required for a slab type platform. Much less material is required to construct the foundation by embedding each leg in its own separate pocket filled with concrete.

1. Select a level area, and prepare the site by removing vegetation and stones.
2. Install conduit for later wiring, if needed.
3. Dig one post hole in the center of the site. Make the hole deep enough to ensure the rain gauge support post will remain vertical, and also that the overall height when the rain gauge is mounted will bring the top of the rain gauge ½" to 1" inch below the top of the wind screen.
4. Install the rain gauge support post in the central hole and brace it with stakes. Pour cement to secure the post.
5. Mark the locations for the wind screen mounting posts, and dig shallow holes at each location. Make the holes roughly 6" in diameter by 6" deep (15 x 15 cm). If the soil is loose or marshy a broader hole may be needed for stability.

6. Place 2" (5 cm) of gravel in the bottom of each hole. More gravel may be added later when levelling the wind screen.
7. Assemble and install the wind screen according to instructions 4 thru 15 of **Section 7.2**. Pour sufficient concrete to fill each post hole.
8. Prevent vegetation from growing under the wind screen by placing a layer of black plastic on the soil. Cover the plastic with loose gravel to hold it in place.

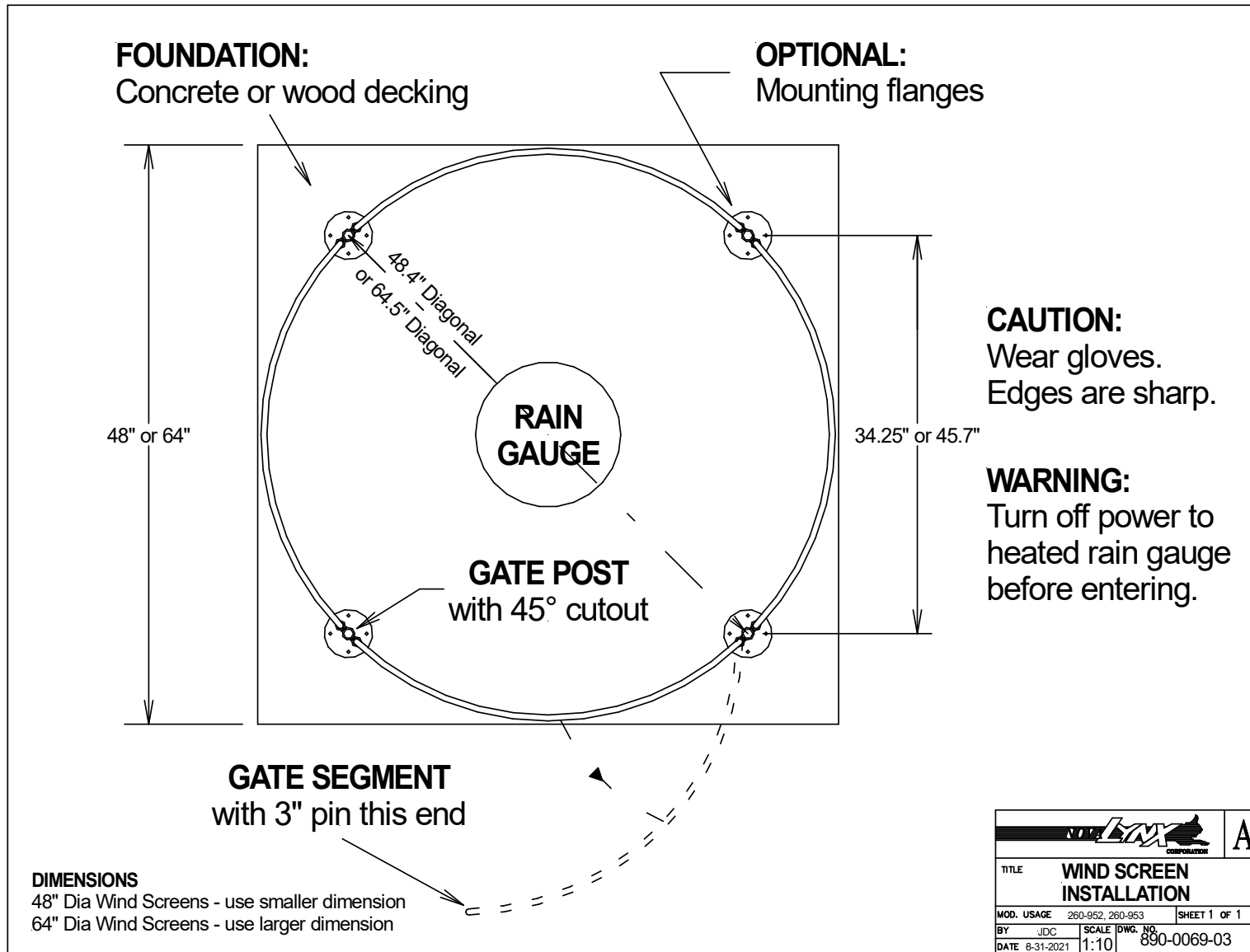
8 GATE OPERATION

One segment of the wind screen is designed to function as a gate to provide access to the rain gauge. The Gate Segment has a shorter "pin" on one end which fits into the 45° angle "cutout" on the Gate Post. When assembled, the end with the short pin can be lifted and swung outward while the segment pivots on the longer pin at the other end.

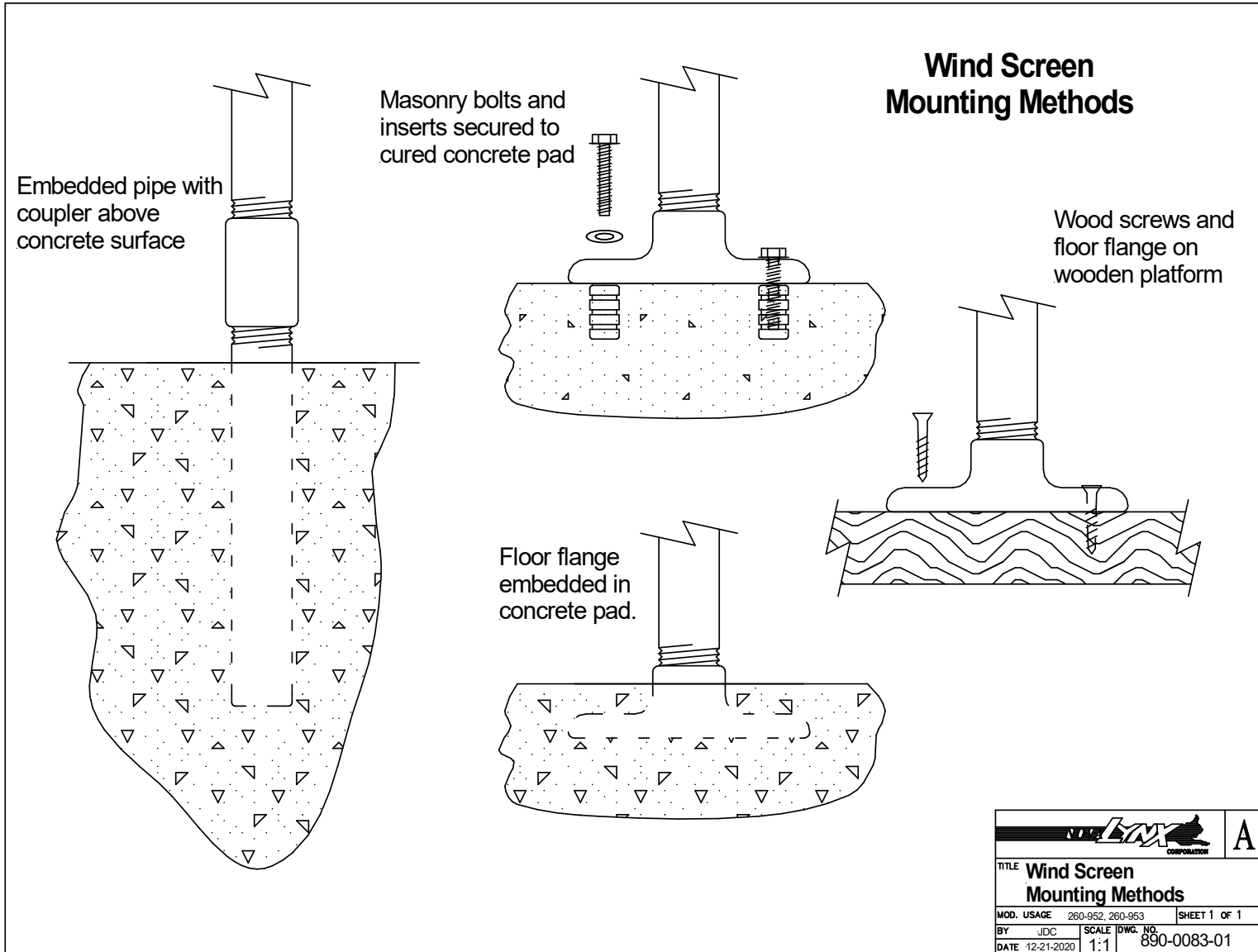
9 MAINTENANCE

Routine maintenance includes removing weeds and debris that would otherwise prevent the free movement of the leaves around the wind screen. Tap the leaves to ensure they swing freely, and adjust as needed. The entire windscreen is zinc plated to prevent rust. Over years of service the zinc plating will gradually be consumed. To prevent rusting, the unit can be wire-brushed and cold-galvanized or spray painted.

APPENDIX A WIND SCREEN PLAN VIEW



APPENDIX B WIND SCREEN MOUNTING METHODS



APPENDIX C RAIN GAUGE MOUNTING METHODS

