

# SMarT Foundation™ Drawings (U.S. Patent Pending)

**Southwest Windpower Skystream 3.7 and 600 Wind Turbine with Towers up to 21.3 m (70-ft) in Height**  
 Design Wind Speed up to 140-mph (3-sec. gust) Based on Exposure Category C, Structural Class II, Topographic Category 1 per ANSI/TIA-222-G

**AnemErgonics™**

A Colorado Limited Liability Company  
[www.anemergonics.com](http://www.anemergonics.com)

**ATTENTION**

THE FOUNDATION DESIGN ASSUMES THE USE OF FIBER REINFORCED CONCRETE AS SPECIFIED IN THE FIBER REINFORCED CONCRETE NOTES ON PAGE N-2. VERIFICATION SHALL BE MADE IN ACCORDANCE WITH FOUNDATION NOTE 5, PAGE N-1.

MODIFICATIONS TO THE FOUNDATION DESIGN ARE REQUIRED FOR USE IN SEISMIC DESIGN CATEGORIES C, D, E AND F. SEE GENERAL NOTE 1, PAGE N-1.

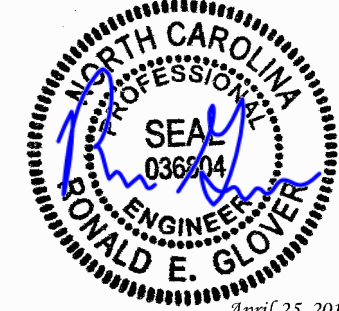
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DESIGNED IN CONFORMANCE WITH THE INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC) 61400-2 ED 3 "DESIGN REQUIREMENTS FOR SMALL WIND TURBINES" AND THE ANSI/TIA-222-G-2-2009 AND THE 2006/2009 INTERNATIONAL BUILDING CODE (IBC)

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*April 25, 2011*



**TOWER ENGINEERING PROFESSIONALS**  
 3703 JUNCTION BOULEVARD  
 RALEIGH, NC 27603-5263  
 (919) 661-6351



**AnemErgonics**  
 (303) 940-7530  
[www.anemergonics.com](http://www.anemergonics.com)

PROJECT INFORMATION:  
**SMarT Foundation**  
 [Simple Modular Technology]  
 Southwest Windpower  
 Skystream 3.7 and 600

14	04-25-11
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SHEET NUMBER: <b>T-1</b>	REVISION: <b>14</b>
TEP #: 110003.02	

## SKYSTREAM 3.7 AND 600 SPECIFICATIONS

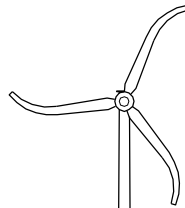
INFORMATION PROVIDED BY SWWP  
 SKYSTREAM 3.7 DIAMETER = 3.66M (12 FT)  
 SKYSTREAM 600 DIAMETER = 4.69M (15.4 FT)

TOWER HEIGHT	PROVIDED MAXIMUM UNFACTORED TOWER-TOP SKYSTREAM 3.7/600 WIND TURBINE LOADING
13.72M (45 FT)	WEIGHT = 1.29 kN (291 LB) THRUST = 4.10 kN (921 LB) MOMENT = 1.73 kN-M (1,272 LB-FT)
15.76M (55 FT)	WEIGHT = 1.20 kN (270 LB) THRUST = 3.72 kN (836 LB) MOMENT = 1.42 kN-M (1,046 LB-FT)
21.34M (70 FT)	WEIGHT = 1.13 kN (253 LB) THRUST = 3.83 kN (860 LB) MOMENT = 1.54 kN (1,132 LB-FT)

### VIBRATION DISCLAIMER

ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCUR IN STRUCTURES OF ALL TYPES. WIND TURBINE SUPPORT STRUCTURES ARE ESPECIALLY VULNERABLE SINCE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES MAKING POTENTIALLY DESTRUCTIVE VIBRATIONS UNPREDICTABLE. FURTHERMORE, SITE TERRAIN INFLUENCES THE POTENTIAL FOR PRODUCING TURBULENCE INDUCING WINDS THAT WHEN INGESTED IN THE TURBINE ROTOR CAN CAUSE VIBRATIONS. THE TURBINE MANUFACTURER RECOMMENDATIONS REGARDING SITE SELECTION SHALL BE FOLLOWED TO MINIMIZE THE POTENTIAL FOR TURBULENCE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. FATIGUE FAILURE OR SIMILAR PHENOMENA RESULTING FROM INDUCED VIBRATION, HARMONIC OSCILLATION OR RESONANCE ASSOCIATED WITH MOVEMENT OF AIR CURRENTS IS TYPICALLY NOT COVERED UNDER THE TOWER MANUFACTURER'S WARRANTY.

TOWER HEIGHT  
TOP OF TOWER



PROPOSED TOWER  
BY SWWP

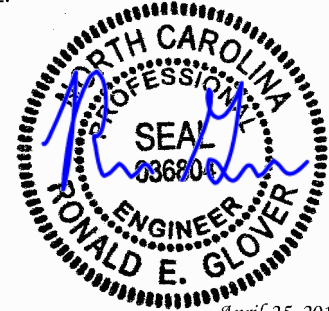
PROPOSED FOUNDATION.  
SEE DETAILS ON SHEETS  
S-2 THRU S-6.

0'-0" (REFERENCE)  
TOP OF BASE PLATE

FOUNDATION  $\phi$   
SEE SHEET S-2

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 DRAWINGS AND INFORMATION SUPPLIED WITH FOUNDATION DETAILS DRAWING  
 CONTACT TOWER ENGINEERING PROFESSIONALS @ 919-661-6351

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 3703 JUNCTION BOULEVARD  
 RALEIGH, NC 27603-5263  
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## SKYSTREAM 3.7 AND 600 SmarT FOUNDATION DESIGN CRITERIA

SWWP TOWER MODEL	TOWER HEIGHT M (FT)	DESIGN WIND SPEED M/S (MPH)	FACTORED VERTICAL LOAD kN (LBS)	FACTORED BASE MOMENT kN-M (FT-LBS)	FACTORED BASE SHEAR kN (LBS)	FOUNDATION DIAMETER M (FT)	FOUNDATION THICKNESS* M (FT)	ANCHOR ROD DIAMETER MM (IN)	ANCHOR ROD LENGTH MM (IN)	ANCHOR ROD GRADE	MIN. ANCHOR ROD EMBEDMENT** MM (IN)
45-19	13.7 (45)	≤ 63 (140)	6.6 (1,483)	146.9 (108,341)	14.4 (3,246)	2.85 (9'-4")	1.08 (3'-6")	M33 (1.25")	940 (37")	F1554 GR. 36	533 (21")
		≤ 54 (120)	6.6 (1,483)	133.4 (98,391)	12.3 (2,776)	2.82 (9'-3")	0.91 (3'-0")	M33 (1.25")	813 (32")	F1554 GR. 36	432 (17")
		≤ 40 (90)	6.6 (1,483)	117.3 (86,546)	9.8 (2,211)	2.69 (8'-10")	0.91 (3'-0")	M33 (1.25")	813 (32")	F1554 GR. 36	406 (16")
55-23	16.8 (55)	≤ 63 (140)	10.6 (2,374)	238.4 (175,833)	22.9 (5,144)	3.35 (11'-0")	1.08 (3'-6")	M33 (1.25")	1,067 (42")	F1554 GR. 55	635 (25")
		≤ 54 (120)	10.6 (2,374)	203.0 (149,739)	18.4 (4,134)	3.43 (11'-3")	0.91 (3'-0")	M33 (1.25")	940 (37")	F1554 GR. 55	508 (20")
		≤ 40 (90)	10.6 (2,374)	160.1 (118,110)	12.9 (2,911)	3.00 (9'-10")	0.91 (3'-0")	M33 (1.25")	813 (32")	F1554 GR. 55	406 (16")
70-23	21.3 (70)	≤ 63 (140)	12.0 (2,707)	290.0 (213,915)	21.3 (4,785)	3.61 (11'-10")	1.08 (3'-6")	M33 (1.25")	1,168 (46")	F1554 GR. 55	737 (29")
		≤ 54 (120)	12.0 (2,707)	249.9 (184,336)	17.3 (3,881)	3.69 (12'-9")	0.91 (3'-0")	M33 (1.25")	1,067 (42")	F1554 GR. 55	584 (23")
		≤ 40 (90)	12.0 (2,707)	201.5 (148,604)	12.4 (2,787)	3.35 (11'-0")	0.91 (3'-0")	M33 (1.25")	940 (37")	F1554 GR. 55	483 (19")

\* EXCAVATION DEPTH SHALL BE EQUAL TO THE FOUNDATION THICKNESS PLUS 152.4mm (6 INCHES).

\*\* SEE DIMENSION ON SHEET S-4 FOR MINIMUM ANCHOR ROD EMBEDMENT DEFINITION.

### NOTES:

1. THE FOUNDATION DESIGNS ARE BASED ON AN IBC CLASS 5 (OR BETTER) SOIL CLASSIFICATION AND AN ALLOWABLE BEARING PRESSURE OF 71.8 kPa (1500 PSF) AND A LATERAL BEARING OF 11.7 kN/M<sup>2</sup> (400 PSF/FT) BELOW GRADE. IT IS THE RESPONSIBILITY OF THE OWNER TO VERIFY BY GEOTECHNICAL INVESTIGATION THAT ACTUAL SOIL PARAMETERS AT THE SITE EQUAL OR EXCEED THOSE GIVEN. IF CONDITIONS OTHER THAN THOSE DESCRIBED ARE ENCOUNTERED A FOUNDATION ANALYSIS SHOULD BE PERFORMED TO DETERMINE THE STRUCTURAL ADEQUACY OF THE SUBSTRUCTURE. INSTALLATION SHALL NOT PROCEED UNTIL STRUCTURAL ADEQUACY HAS BEEN CONFIRMED.
2. IF THE FROST DEPTH IS KNOWN TO BE GREATER THAN THE FOUNDATION THICKNESS PLUS 152.4mm (6 INCHES), THE 76mm (3") ABS PIPE STANCHION SHALL BE LENGTHENED SO THAT ITS BASE IS AT OR BELOW THE FROST DEPTH. THE EXTENDER MAY BE ATTACHED WITH A 76mm (3") ABS COUPLING.
3. INSTALLATION SHALL NOT PROCEED IF THE WATER TABLE IS LESS THAN THE FOUNDATION DEPTH. CONSULT WITH THE DESIGN ENGINEER FOR A FOUNDATION ANALYSIS OR REDESIGN. CONSTRUCTION SHALL NOT PROCEED UNTIL APPROVAL IS OBTAINED FROM THE DESIGN ENGINEER.
4. EACH ANCHOR ROD SHALL BE EMBEDDED WITH AN APPROVED WASHER BETWEEN TWO (2) NUTS SECURED BY DEFORMING THREADS. WASHERS SHALL HAVE A MINIMUM O.D. = 0.75"  $\phi$  [70mm $\phi$ ].

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**TOWER ENGINEERING PROFESSIONALS**  
 3703 JUNCTION BOULEVARD  
 RALEIGH, NC 27603-5263  
 (919) 661-6351

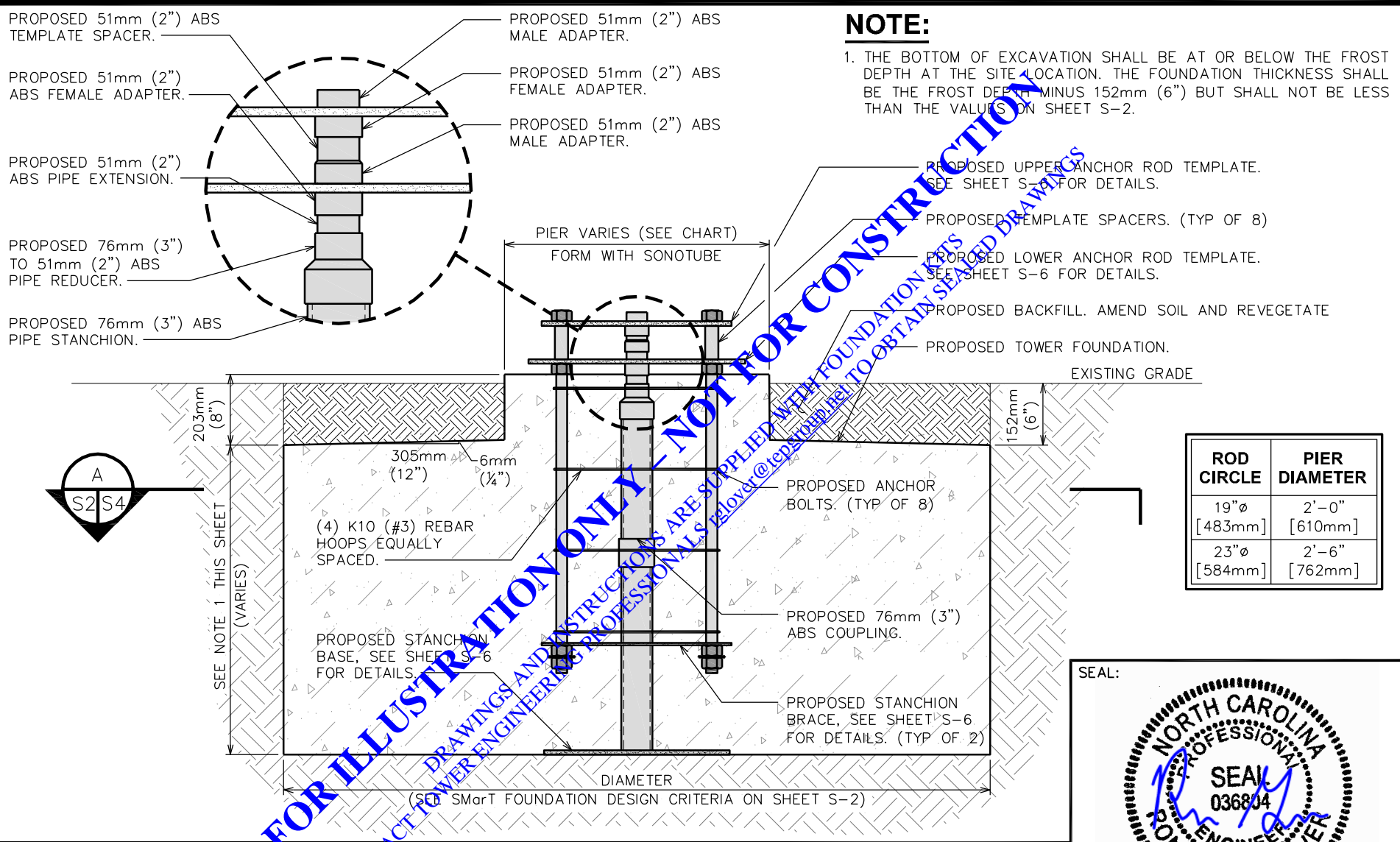
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DRAWN BY: KMM CHECKED BY: REG

SHEET NUMBER: <b>S-2</b>	REVISION: <b>14</b>
	TEP#: 110003.02



**NOTE:**

1. THE BOTTOM OF EXCAVATION SHALL BE AT OR BELOW THE FROST DEPTH AT THE SITE LOCATION. THE FOUNDATION THICKNESS SHALL BE THE FROST DEPTH MINUS 152mm (6") BUT SHALL NOT BE LESS THAN THE VALUES ON SHEET S-2.

ROD CIRCLE	PIER DIAMETER
19"ø [483mm]	2'-0" [610mm]
23"ø [584mm]	2'-6" [762mm]

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**FOUNDATION ELEVATION (ASSEMBLY)**

SCALE: 3/4" (19mm) = 1'-0" (305mm)

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 RALEIGH, NC 27603-5263  
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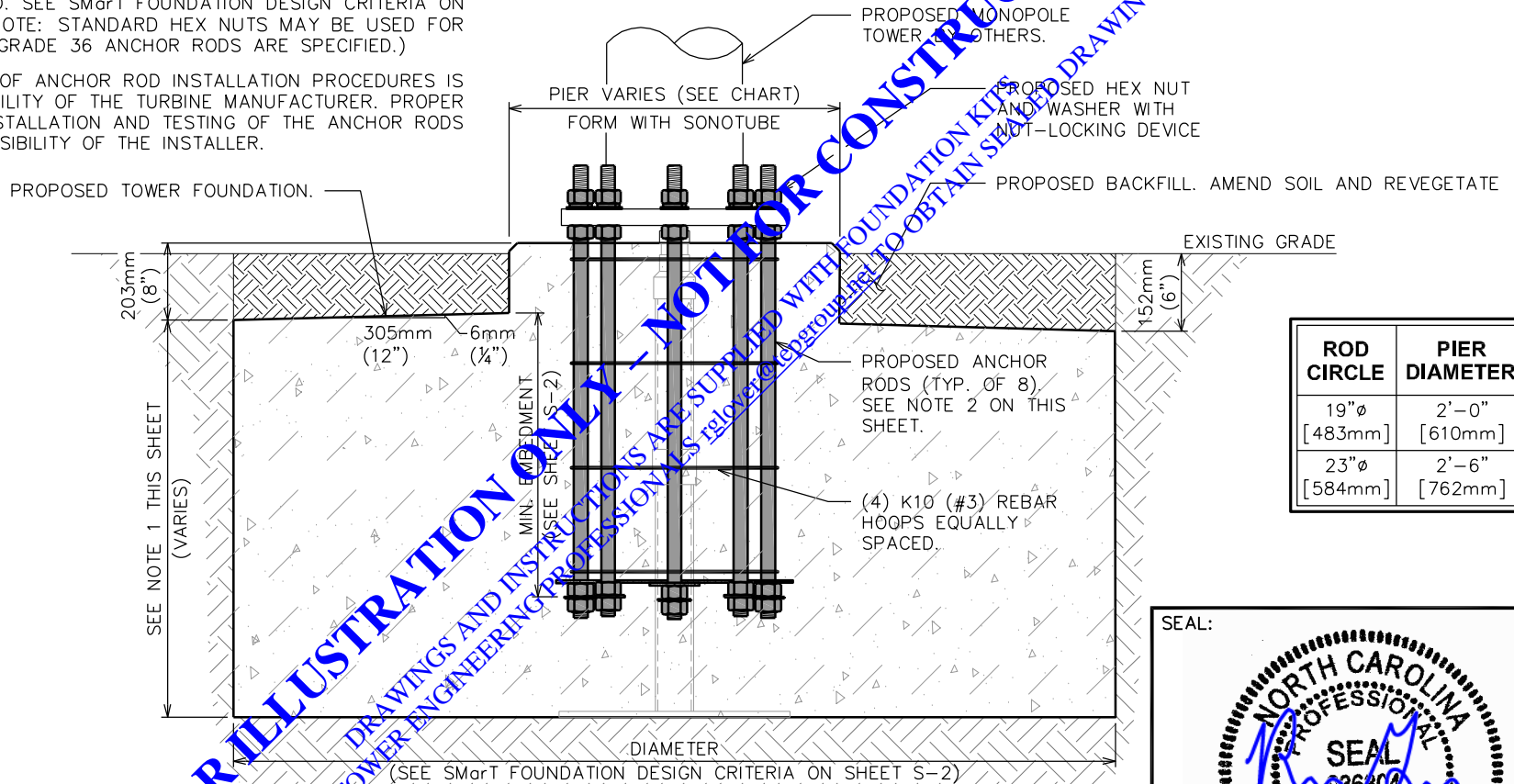
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SHEET NUMBER: **S-3** REVISION: **14**

TEP#: 110003.02

# NOTES:

1. THE BOTTOM OF EXCAVATION SHALL BE AT OR BELOW THE FROST DEPTH AT THE SITE LOCATION. THE FOUNDATION THICKNESS SHALL BE THE FROST DEPTH MINUS 152mm (6") BUT SHALL NOT BE LESS THAN THE VALUES ON SHEET S-2.
2. ANCHOR RODS, HEAVY HEX NUTS, AND WASHERS SUPPLIED WITH ANEMERGONICS SMarT FOUNDATIONS KIT ARE PRE-APPROVED. SEE SMarT FOUNDATION DESIGN CRITERIA ON SHEET S-2. (NOTE: STANDARD HEX NUTS MAY BE USED FOR CASES WHERE GRADE 36 ANCHOR RODS ARE SPECIFIED.)
3. SPECIFICATION OF ANCHOR ROD INSTALLATION PROCEDURES IS THE RESPONSIBILITY OF THE TURBINE MANUFACTURER. PROPER INSPECTION, INSTALLATION AND TESTING OF THE ANCHOR RODS IS THE RESPONSIBILITY OF THE INSTALLER.



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SEAL:

SEAL  
036809  
ENGINEER  
RONALD E. GLOVER  
April 25, 2011

## FOUNDATION ELEVATION (FINISHED)

SCALE: 3/4" (19mm) = 1'-0" (305mm)

**TOWER ENGINEERING PROFESSIONALS**  
3703 JUNCTION BOULEVARD  
RALEIGH, NC 27603-5263  
(919) 661-6351

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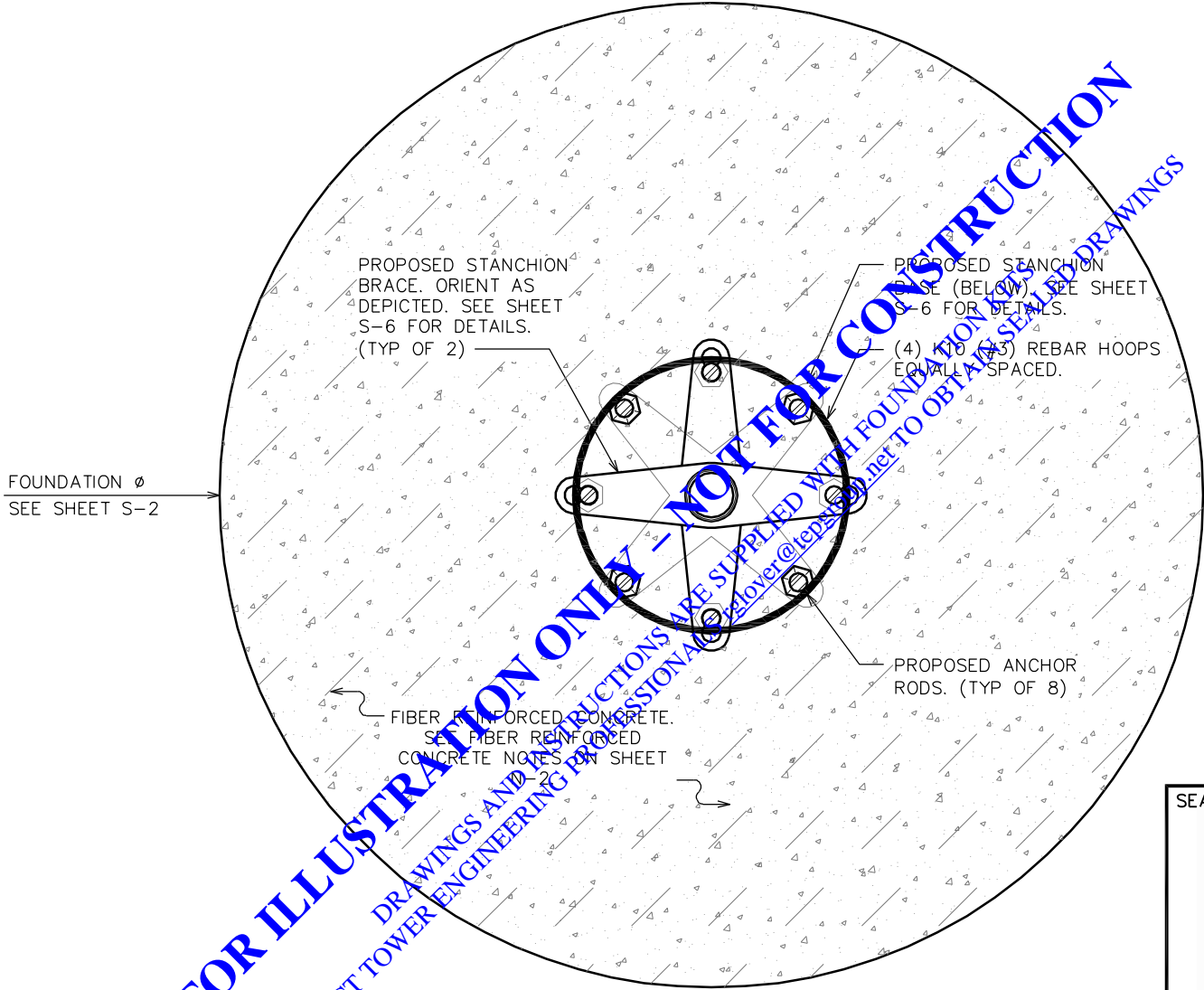
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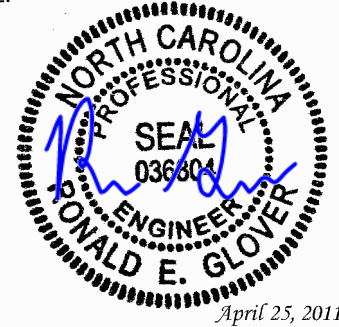


**SECTION**

SCALE: 1" (25mm) = 1'-0" (305mm)



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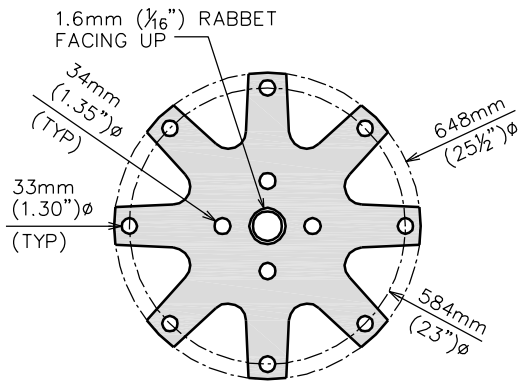
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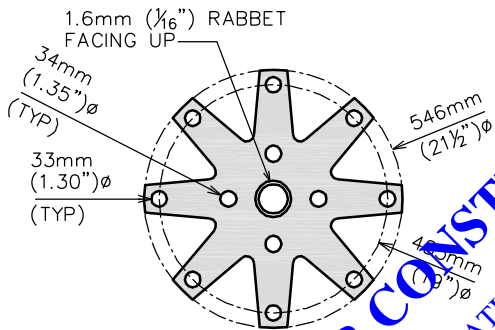
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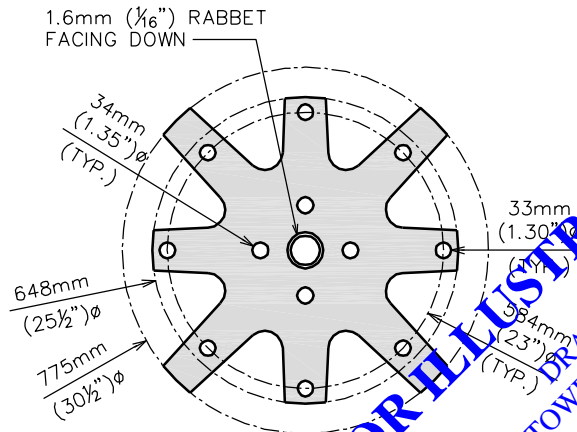
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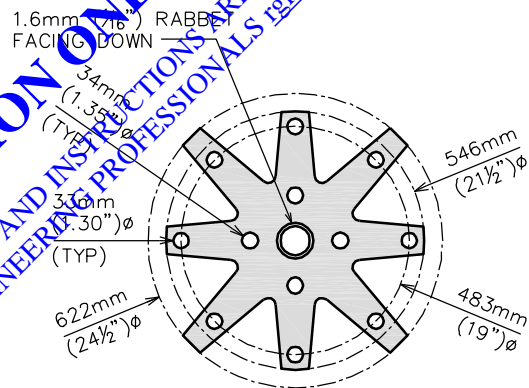
**SWWP 55-23 & 70-23 TOWERS  
UPPER ANCHOR ROD TEMPLATE**



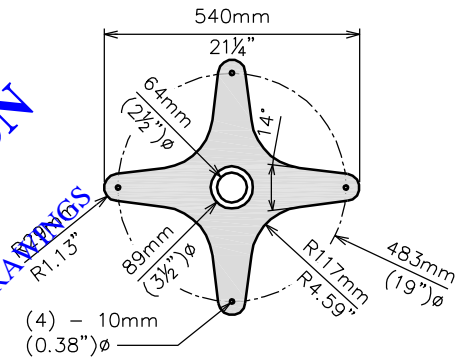
**SWWP 45-19 TOWERS  
UPPER ANCHOR ROD TEMPLATE**



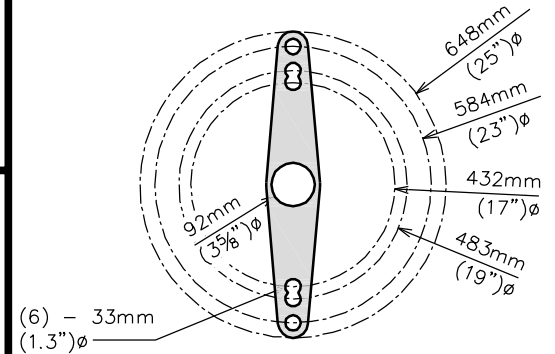
**SWWP 55-23 & 70-23 TOWERS  
LOWER ANCHOR ROD TEMPLATE**



**SWWP 45-19 TOWERS  
LOWER ANCHOR ROD TEMPLATE**

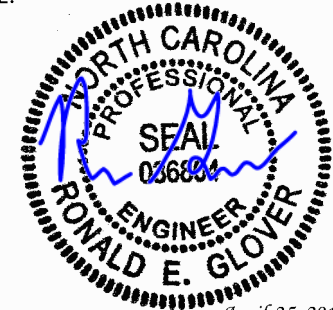


**ALL TOWERS  
STANCHION BASE SUPPORT**



**ALL TOWERS  
STANCHION BRACE**

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**S-6**

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**GENERAL NOTES:**

1. FOUNDATIONS CONSTRUCTED USING FIBER REINFORCED CONCRETE ARE NOT ALLOWED IN REGIONS ASSIGNED SEISMIC DESIGN CATEGORIES C, D, E, OR F. CONTACT TOWER ENGINEERING PROFESSIONALS AT (919) 661-6351 FOR AN ALTERNATE DESIGN.

**FOUNDATION NOTES:**

**GENERAL NOTES:**

1. FOUNDATION INSTALLATION SHALL BE SUPERVISED BY PERSONNEL KNOWLEDGEABLE AND EXPERIENCED WITH THE PROPOSED FOUNDATION TYPE. CONSTRUCTION SHALL BE IN ACCORDANCE WITH GENERALLY ACCEPTED PRACTICES AND IN A GOOD AND WORKMANLIKE MANNER.
2. FOUNDATION DESIGN ASSUMES LEVEL GRADE AT THE SITE.
3. THE FOUNDATION DESIGN IS IN ACCORDANCE WITH GENERALLY ACCEPTED PROFESSIONAL ENGINEERING PRINCIPLES AND PRACTICES WITHIN THE LIMITS OF THE ASSUMED SUBSURFACE DATA.
4. FOUNDATION DESIGN MODIFICATIONS MAY BE REQUIRED IN THE EVENT THE DESIGN PARAMETERS ARE NOT APPLICABLE FOR THE SUBSURFACE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.
5. THE FOUNDATION DESIGN ASSUMES INSPECTIONS WILL BE PERFORMED TO VERIFY THAT CONSTRUCTION MATERIALS, INSTALLATION METHODS, AND ASSUMED DESIGN PARAMETERS ARE ACCEPTABLE BASED ON THE CONDITIONS AT THE SITE.
6. THE FOUNDATION DESIGN ASSUMES NO CONSTRUCTION JOINTS.

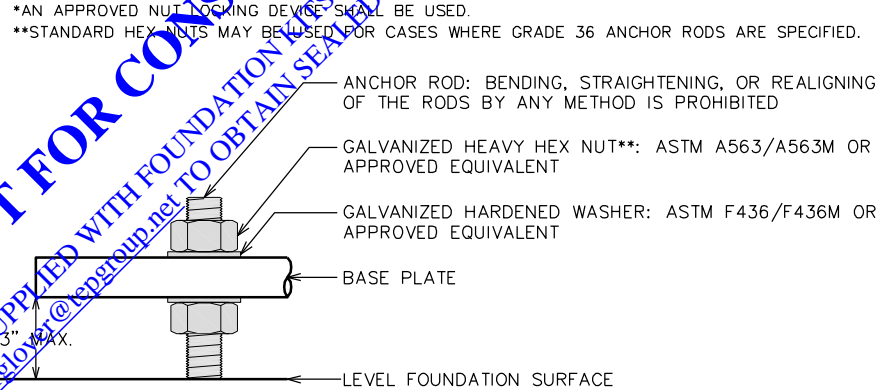
**EXCAVATION & GRADING:**

1. WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND SAFETY REGULATIONS. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION, AND UTILITIES SHALL BE ESTABLISHED AND PERFORMED PRIOR TO BEGINNING WORK.
2. ALL CUT AND FILL SLOPES SHALL BE 3:1 MAXIMUM, UNLESS OTHERWISE NOTED.
3. ALL EXCAVATIONS ON WHICH CONCRETE IS TO BE PLACED SHALL BE SUBSTANTIALLY HORIZONTAL ON UNDISTURBED AND UNFROZEN SOIL AND BE FREE FROM LOOSE MATERIAL AND EXCESS GROUND WATER. DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED IF REQUIRED.
4. ANY EXCAVATION OVER THE REQUIRED DEPTH SHALL BE FILLED WITH EITHER MECHANICALLY COMPACTED GRANULAR MATERIAL OR CONCRETE OF THE SAME QUALITY SPECIFIED FOR THE FOUNDATION. CRUSHED STONE MAY BE USED TO STABILIZE THE BOTTOM OF THE EXCAVATION. STONE, IF USED, SHALL NOT BE USED AS COMPRISING CONCRETE THICKNESS.
5. THE BOTTOM OF THE EXCAVATION SHOULD BE APPROXIMATELY LEVEL. LOOSE MATERIAL SHALL BE REMOVED BEFORE PLACING CONCRETE AND THE STANCHION SHOULD BE CENTERED IN THE BOTTOM OF THE EXCAVATION.
6. AFTER COMPLETION OF THE FOUNDATION AND BEFORE BACKFILLING, ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, ETC.
7. BACKFILLING SHALL:
  - A. USE APPROVED MATERIALS CONSISTING OF EARTH, LOAM, SANDY CLAY, SAND, AND GRAVEL OR SOFT SHALE.
  - B. BE FREE FROM CLODS OR STONES OVER 64mm (2-1/2") MAXIMUM DIMENSIONS.
  - C. BE PLACED IN LAYERS OF 152mm (6") MAXIMUM AND COMPACTED.
8. FILL MATERIAL AND BACKFILL SHALL BE PLACED IN LAYERS, MAXIMUM 152mm (6") DEEP BEFORE COMPACTION. EACH LAYER SHALL BE SPRINKLED IF REQUIRED AND COMPACTED BY HAND OR MACHINE TAMPERS TO 90% OF MAXIMUM DRY DENSITY. AT THE OPTIMUM MOISTURE CONTENT ± 5% AS DETERMINED BY ASTM DESIGNATION D-698, UNLESS OTHERWISE APPROVED. SUCH BACKFILL SHALL NOT BE PLACED WITHIN 3 DAYS OF CONCRETE PLACEMENT.

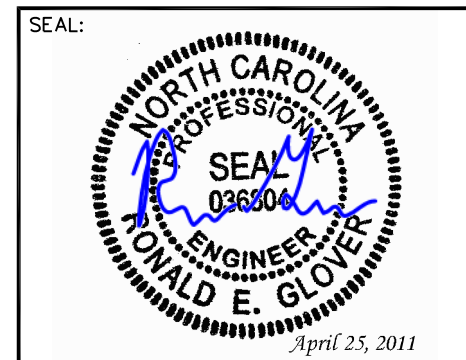
**CONNECTION NOTES:**

1. OVERSIZED (ROUND) BASE PLATE HOLES SHALL HAVE APPROVED F436 (F436M FOR METRIC) WASHERS INSTALLED, BOTH ABOVE AND BELOW THE BASE PLATE, ON EACH ANCHOR.
2. SLOTTED BASE PLATE HOLES SHALL HAVE EITHER APPROVED F436 (F436M FOR METRIC) WASHERS, OR APPROVED PLATE WASHERS INSTALLED, BOTH ABOVE AND BELOW THE BASE PLATE, ON EACH ANCHOR. WASHERS SHALL BE SIZED TO COVER THE ENTIRE SLOTTED HOLES.
3. AN APPROVED NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL BASE PLATE BOLTED CONNECTIONS TO PREVENT NUT LOOSENING.

**BASE PLATE INSTALLATION DETAIL:**



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## REINFORCING STEEL NOTES:

1. ANY REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615, GRADE 60. IT SHALL BE DEFORMED AND SPLICES SHALL NOT BE ALLOWED UNLESS OTHERWISE NOTED.
2. FIELD WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
3. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, SECTION 7.7.1, "CAST-IN-PLACE CONCRETE (NONPRESTRESSED)." CONCRETE COVER SHALL BE AS FOLLOWS:
  - A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ..... 76mm (3 IN.) MINIMUM COVER
  - B. CONCRETE EXPOSED TO EARTH OR WEATHER:
    - NO. 6 BARS THROUGH NO. 18 BARS ..... 51mm (2 IN.) MINIMUM COVER
    - NO. 6 BARS AND SMALLER ..... 38mm (1-1/2 IN.) MINIMUM COVER

## CONCRETE NOTES:

1. WORK SHALL BE IN ACCORDANCE WITH ACI 318-05 OR 318-08, AS APPLICABLE, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE."
2. THE CONCRETE SHALL BE APPROPRIATELY VIBRATED DURING CONSTRUCTION.
3. ALL CONCRETE SHALL BE PROPORTIONED TO DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 20.7MPa (3000PSI) IN 28-DAYS FOR WORKABILITY; HOWEVER, THE FOUNDATIONS HAVE BEEN DESIGNED BASED ON THE USE OF 17.2MPa (2500PSI) IN 28-DAYS (NO SPECIAL INSPECTIONS REQUIRED FOR MIX). A HIGHER MINIMUM COMPRESSIVE STRENGTH, UP TO 31.0MPa (4500PSI) IN 28-DAYS, SHALL BE USED IN LOCATIONS WITH MODERATE TO SEVERE SULFATE EXPOSURE, OR AS REQUIRED FOR LOCAL DURABILITY REQUIREMENTS (SEE NOTE 4), UNLESS OTHERWISE REQUIRED BY THE LOCAL JURISDICTION.
4. THE CONCRETE SHALL BE REINFORCED IN ACCORDANCE WITH THE ASTM C1116 STANDARD SPECIFICATION FOR FIBER REINFORCED CONCRETE. SEE NOTES ON THIS PAGE.
5. PROPORTIONS OF CONCRETE MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION METHOD UTILIZED AND SHALL RESULT IN DURABLE CONCRETE FOR RESISTANCE TO LOCAL ANTICIPATED AGGRESSIVE ACTIONS. THE DURABILITY REQUIREMENTS OF ACI 318 SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE.
6. CONCRETE SHALL BE PLACED IN A MANNER THAT WILL PREVENT SEGREGATION OF CONCRETE MATERIALS, INFILTRATION OF WATER OR SOIL, AND OTHER OCCURRENCES THAT MAY DECREASE THE STRENGTH OR DURABILITY OF THE FOUNDATION.
7. FREE FALL CONCRETE MAY BE USED PROVIDED FALL IS VERTICAL DOWN MINIMIZING CONTACT WITH THE SIDES OF THE EXCAVATION. UNDER NO CIRCUMSTANCES SHALL CONCRETE FALL THROUGH WATER.
8. THE TOP OF THE FOUNDATION SHALL BE SLOPED TO DRAIN WITH A FLOATED FINISH.
9. THE EXPOSED EDGES OF THE CONCRETE SHALL BE CHAMFERED (19mm x 19mm (3/4" x 3/4")).

## FIBER REINFORCED CONCRETE (FRC) NOTES:

1. FRC SHALL BE PROPORTIONED TO PROVIDE A SUSTAINED MINIMUM RESIDUAL STRENGTH,  $f_{600} = 108$  PSI IN ACCORDANCE WITH THE ASTM C 1609, STANDARD TEST METHOD FOR FLEXURAL PERFORMANCE OF FIBER REINFORCED CONCRETE (USING BEAM WITH THIRD POINT LOADING).
2. PRE-APPROVED FIBERS AND DOSAGES PER CUBIC YARD OF CONCRETE (PCY) ARE AS FOLLOWS:
  - TUF MAX DOT SYNTHETIC FIBERS AT 4 PCY BY ABC POLYMER INDUSTRIES, (205) 620-9889, [INFO@ARCFIBERS.COM](mailto:INFO@ARCFIBERS.COM)
  - NOVOMESH 950 SYNTHETIC FIBERS AT 6 PCY BY PROPEX CONCRETE SOLUTIONS, (800) 621-1272, [ORDEREXPRESS@PROPEX.COM](mailto:ORDEREXPRESS@PROPEX.COM)
  - DRAMIX RC-80, (C)-BN STEEL FIBERS AT 22 PCY BY BEKAERT CORPORATION, (770) 514-2295 [SUSAN.KRAUSM@BEKAERT.COM](mailto:SUSAN.KRAUSM@BEKAERT.COM)
  - BASF MASTERFIBER F83 STEEL FIBERS AT 22 PCY BY MACAFERRI, INC., (301) 223-6910, [WWW.MACAFERRI-USA.COM](http://WWW.MACAFERRI-USA.COM)
3. SELECTED FIBERS SHALL BE DESIGNED TO PROVIDE ADEQUATE AND APPROPRIATE CONCRETE DUCTILITY FOR THIS APPLICATION.
4. FIBERS SHALL BE UNIFORMLY BLENDED WITH FRESH CONCRETE MIX TO ENSURE A HOMOGENOUS MIXTURE.
5. FIBER LENGTH SHALL BE CONTROLLED TO PREVENT WORKABILITY PROBLEMS AND TO PREVENT "BALLING UP" IN THE MIX.
6. FIBER SUBSTITUTIONS SHALL NOT BE ALLOWED FROM THOSE STATED ABOVE.
7. MIX SUPPLIER SHALL PROVIDE DOCUMENTATION TO THE CONTRACTOR INDICATING THE TYPE AND GEOMETRY OF FIBERS USED, METHOD OF MIXING, AND THE CONCRETE MIX PROPORTIONS SUPPLIED.
8. ALL INSTRUCTIONS PROVIDED BY BOTH THE MANUFACTURER AND ANEMERGONICS, LLC SHALL BE FOLLOWED.

FOR ILLUSTRATION ONLY - NOT FOR CONSTRUCTION

DRAWINGS AND INSTRUCTIONS ARE SUPPLIED WITH UPDATES TO OBTAIN SEALED DRAWINGS

CONTACT TOWER ENGINEERING PROFESSIONALS AT [rglover@towereng.com](mailto:rglover@towereng.com)

SEAL:

April 25, 2011

**TOWER ENGINEERING PROFESSIONALS**  
 3703 JUNCTION BOULEVARD  
 RALEIGH, NC 27603-5263  
 (919) 661-6351

**AnemErgonics**  
 (303) 940-7530  
[www.anemergonics.com](http://www.anemergonics.com)

PROJECT INFORMATION:  
**SmarT Foundation**  
 [Simple Modular Technology]  
 Southwest Windpower  
 Skystream 3.7 and 600

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