#### CODE:

ASTM F2959-21 STANDARD PRACTICE FOR SPECIAL REQUIREMENTS FOR AERIAL ADVENTURE COURSES. 2020 FLORIDA BUILDING CODE (F.B.C.) CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES. CONTRACTOR SHALL NOTIFY STRUCTURAL ENGINEER OF RECORD OF ANY DISCREPANCIES

DESIGN	1.0	nΔ	DS

DESIGN LOADS:	
DECK DEAD LOAD DECK LIVE LOAD ROOF DEAD LOAD ROOF LIVE LOAD	6 PSF 40 PSF 5 PSF 20 PSF
WIND LOADS: ULTIMATE DESIGN WIND SPEED NOMINAL DESIGN WIND SPEED RISK CATEGORY EXPOSURE DESIGN WIND PRESSURE	130 MPH 101 MPH II "C" 62 PSF
EARTHQUAKE DESIGN DATA: RISK CATEGORY	II D 

DEFERRED SUBMITTALS:

DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE BUILDING OFFICIAL WITHIN A SPECIFIED PFRIOD

SUBMITTAL DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD THROUGH THE ARCHITECT AND GENERAL CONTRACTOR WITHIN 6 WEEKS OF AWARD OF CONTRACT TO THE GENERAL CONTRACTOR. ONCE THE SUBMITTAL DOCUMENTS HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS, THE ENGINEER OF RECORDS WILL FORWARD THEM TO THE ARCHITECT WITH A NOTATION INDICATING THAT THEY ARE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE ARCHITECT WILL FORWARD THE DEFERRED SUBMITTAL DOCUMENTS TO THE GENERAL CONTRACTOR WHO WILL MAINTAIN ONE SET ON SITE FOR REFERENCE BY THE CITY INSPECTOR. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

ITEMS THAT ARE SUBMITTED FOR CONSIDERATION AS DEFERRED SUBMITTAL ARE AS FOLLOWS: 1. PONTOON LANDINGS

2. PREMANUFACTURED STEEL SPIRAL STAIRS 3. TERMINATION STRUCTURE FOR CLIFF ZIP, DRAGON ZIP, AND BEACH ZIP.

- PARTICIPANT CONSTRAINTS:
- ZIP LINE PARTICIPANT WEIGHT LIMIT ----- 70 275 LBS
- NO MORE THAN (1) PATRON RIDER PER ZIP LINE OR ELEMENT PARTICIPANT RIDE ENVELOPE





#### FOUNDATIONS:

GEOTECHNICAL CONSULTANT: ENGINEERING & CONSULTING, INC.

REPORT NUMBER: 15391A		ст
SPREAD FOOTINGS	DESIGN SOIL BEARING VALUE	ROC
SPREAD FOOTINGS ON FIRM, UNDISTURBED SOIL	2,000 PSF (UNIFORM PRESSURE)	DE
SPREAD FOOTINGS ON FIRM, UNDISTURBED SOIL	2,500 PSF (ECCENTRICALLY LOADED)	

MINIMUM EXTERIOR FOOTING DEPTH = 18" GEOTECHNICAL ENGINEER TO VERIFY BEARING STRATA, SEE GEOTECHNICAL REPORT AND TYPICAL DETAILS FOR MORE INFORMATION.

#### ANCHOR PULL TESTS

INSTALLED ANCHORS SUCH AS HELICAL PIERS MUST BE PULL TESTED TO A MINIMUM SAFETY FACTOR OF 2.0. BUILT GROUND ANCHORING SYSTEMS (EXAMPLE: DEAD MEN ANCHORS) DO NOT NEED TO BE PULL TESTED.

- A. THE TEST LOAD SHALL BE APPLIED COLLINEAR WITH THE PATH OF THE OPERATIONAL LOAD.
- B. THE TEST LOAD SHALL BE APPLIED FOR A PERIOD OF TIME AT LEAST EQUAL TO THE TIME A RESCUE OPERATION WOULD REQUIRE BUT NOT LESS THAN TEN MINUTES.
- C. THE TEST PROCEDURE OR EQUIPMENT ARRANGEMENT SHALL NOT INFLUENCE THE CAPACITY OF THE ANCHOR.
- D. AN ANCHOR SHALL BE JUDGED ACCEPTABLE IF THE APPLIED LOAD IS HELD FOR THE REQUIRED TIME PERIOD, WITHOUT EXCEEDING THE ALLOWABLE MOVEMENT SPECIFIED BY THE ENGINEER.

E. GROUTED ROCK OR GROUTED SOIL ANCHORS SHALL BE TESTED AND MEASURED FOR ALLOWABLE MOVEMENT IN ACCORDANCE WITH THE LATEST EDITION OF THE POST-TENSIONING INSTITUTE (PTI) "RECOMMENDATIONS FOR PRE-STRESSED ROCK AND SOIL ANCHORS".

#### CONCRETE:

TYPICAL CONCRETE COMPRESSIVE STRENGTHS			
CONCRETE	MINIMUM 28 DAY COMPRESSIVE STRENGTH	SLUMP AT PLACEMENT	
-U.N.O., ALL CONCRETE SHALL BE	4,500 PSI 4	1/2" MAXIMUM	

CONCRETE (CONTINUED...) ALL OTHER JOINTS MAY BE SAW CUT. OR A LITHIUM ADMIXTURE WILL BE REQUIRED.

RECOMMENDATIONS

APPI Y

NORMAL WEIGHT CONCRETE EXPOSED TO FREEZING AND THAWING OR DE-ICING CHEMICALS SHALL BE AIR-ENTRAINED WITH AIR CONTENT INDICATED IN TABLE 4.4.1 OF THE ACI 318-11. TOLERANCE ON AIR CONTENT AS DELIVERED SHALL BE ±1.5%. FOR SPECIFIED COMPRESSIVE STRENGTH F<sub>c</sub> GREATER THAN 5,000 PSI, AIR CONTENT INDICATED MAY BE REDUCED BY 1%.

#### **REINFORCING:**

TYPICAL REINFOR #3 OR LARGER --#2 OR SMALLER -REINFORCING TO B

TYPICAL CLEAR C CONCRETE CAST A

FORMED CONCRETE EXPOSED TO EARTH OR WEATHER ------

WOOD:

SAWN LUMBER:

MEMBER	F <sub>b</sub> (PSI)	F <sub>v</sub> (PSI)	E (PSI)	F <sub>c</sub> (PSI)	SPECIES AND GRADE
JOISTS BEAMS	900	180	1,600,000	1,350	DOUGLAS FIR #2
WIDTH 4" OR LESS	900	180	1,600,000	1,350	DOUGLAS FIR #2
WIDTH GREATER THAN 4"	875	170	1,300,000	600	DOUGLAS FIR #2
POSTS					
4x4 OR 4x6	900	180	– 1,600,000 –	1,350	DOUGLAS FIR #2
6x6 OR LARGER	750	170	1,300,000	700	DOUGLAS FIR #2

NAIL SIZES.

#### STRUCTURAL STEEL:

TYPICAL STEEL STRENGTHS	
PLATES, ANGLES, AND MISC	ASTM A36 (F <sub>y</sub> = 36 KSI) ASTM A325N ASTM A325N ASTM A53 GRADE "B" (Fy = 35 KSI) ASTM A500 GRADE "B" (Fy = 46 KSI)

ALL STEEL SHALL BE GALVANIZED OR PAINTED WITH PAINT APPROVED FOR METAL LATEST AISC AND AWS CODES APPLY. ALL CONSTRUCTION PER LATEST AISC HANDBOOK. ALL EXPANSION BOLTS SHALL HAVE AN ICC RATING FOR MATERIAL INTO WHICH INSTALLATION TAKES PLACE. SEE TYPICAL DETAIL. ALL REFERENCE TO HEADED STUDS SHALL INDICATE AUTOMATIC WELDED HIGH STRENGTH HEADED STUDS (NELSON OR EQUIVALENT). ALL BOLTS, ANCHOR BOLTS, EXPANSION BOLTS, ETC., SHALL BE INSTALLED WITH STEEL WASHERS. ALL HIGH STRENGTH BOLTS SHALL BE TIGHTENED TO THE SNUG -TIGHT CONDITION AS DEFINED BY AISC UNLESS NOTED OTHERWISE. ALL WELDING BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES, CERTIFICATES SHALL BE THOSE ISSUED BY AN ACCEPTED TESTING AGENCY, ALL WELDING DONE BY E70 SERIES LOW HYDROGEN RODS. USE E90 SERIES FOR ASTM A706 REINFORCING BARS. ALL WELDING PER AMERICAN WELDING SOCIETY STANDARDS. ALL WELDS ON DRAWINGS ARE SHOWN AS SHOP WELDS. CONTRACTOR MAY SHOP WELD OR FIELD WELD AT HIS DISCRETION. SHOP WELDS OR FIELD WELDS SHALL BE SHOWN ON SHOP DRAWINGS. ALL COMPLETE PENETRATION WELDS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY. ALL BEAMS SHALL BE ERECTED WITH THE NATURAL CAMBER UPWARDS

#### EEL DECKING:

ROOF DI	COOP DECK.							
DEPTH	WIDTH	GAUGE	MINIMUM YIELD STRESS	MINIMUM +S	MINIMUM I	SPAN MINIMUM	MINIMUM DIAPHRAGM SHEAR CAPACITY	FINISH
1 1/2"	36"	22	50,000 PSI	.176 INCHES*3 PER FOOT OF WIDTH	.178 INCHES*4 PER FOOT OF WIDTH	1 SPAN	250 PLF	GALVANIZED VENTED
		1						
SPAG	CING			ATTACH	DECK TO SUPPOR	RTING MEM	IBERS	
5	5 1/2" DIAMETER OR 3/8" X 1" PUDDLE WELDS PER SHEET AT ENDS, END LAPS AND INTERMEDIATE SUPPORTS.				AND			
24" (	24" O.C. 1/2" DIAMETER OR 3/8" X 1" PUDDLE WELDS AT BEAMS AND OPENING EDGES RUNNING PARALLEL TO THE DECK.				S RUNNING			
24" (	24" O.C. BUTTON PUNCHES AT SIDE SEAM ATTACHMENTS.							
SPAG	CING			ATTACH	DECK TO SUPPOR	RTING MEM	IBERS	
5	5 NO. 12 - 24 X 1 1/4" LONG TEKS/5 HEX WASHER HEAD SCREWS PER SHEET AT ENDS, END LAPS AND INTERMEDIATE SUPPORTS.				AT ENDS, END			
12" (	12" O.C. NO. 12 - 24 X 1 1/4" LONG TEKS/5 HEX WASHER HEAD SCREWS AT BEAMS AND OPENING EDGES RUNNING PARALLEL TO THE DECK.							
24" (	24" O.C. NO. 12 - 14 X 3/4" LONG TEKS/1 HEX WASHER HEAD SCREWS AT SIDE SEAM ATTACHMENTS.							
STEEL ROOF DECK SHALL HAVE CURRENT ICC APPROVAL.								

WASHERS.

\*MAXIMUM WATER/CEMENT RATIO FOR ALL CONCRETE SLABS SHALL BE 0.50 U.N.O. CONCRETE SLABS SHOULD BE ALLOWED TO CURE ADEQUATELY BEFORE APPLYING MOISTURE SENSITIVE MATERIAL. COORDINATE WITH FLOORING MANUFACTURER FOR ALL REQUIREMENTS

CONCRETE CONTAINING SUPERPLASTICIZING ADMIXTURE SHALL HAVE A SLUMP NOT EXCEEDING 3", TO BE FIELD VERIFIED, PRIOR TO ADDING ADMIXTURE, AND NOT EXCEEDING 8" AT PLACEMENT. ADDITION OF WATER TO THE BATCH WILL NOT BE PERMITTED.

MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT THAT SLABS ON GRADE NEED BE VIBRATED ONLY AROUND UNDER-FLOOR DUCTS. ETC. CAST CLOSURE POUR AROUND COLUMNS AFTER DEAD LOAD IS APPLIED. UNLESS APPROVED OTHERWISE IN WRITING BY THE ARCHITECT, ALL CONCRETE SLABS ON GRADE (AND OVER STEEL DECK) SHALL BE BOUNDED BY CONSTRUCTION JOINTS, KEYED OR SAW CUT, AT 10'-0" O.C. MAXIMUM EACH WAY. MAXIMUM RATIO OF SIDES OF THE ENCLOSED AREA SHALL NOT EXCEED 1.5 TO 1. KEYED CONSTRUCTION JOINTS NEED ONLY OCCUR AT EXPOSED EDGES DURING POURING.

ALL AGGREGATE SHALL BE TESTED FOR DELETERIOUS MATERIALS USING PETROGRAPHIC ANALYSIS (ASTM C 292) OR THE RAPID MORTAR BAR TEST (ASTM C 1260). AGGREGATE WHICH SHOWS POTENTIAL FOR DELETERIOUS ALKALI-SILICA REACTION SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD AND MITIGATION METHODS WHICH MAY INCLUDE ADDING EITHER CLASS F FLY ASH

FLY ASH SHALL NOT BE USED IN ARCHITECTURALLY EXPOSED CONCRETE WITHOUT APPROVAL FROM ARCHITECT OF RECORD. CONCRETE PLACEMENT AND CURING SHALL BE IN ACCORDANCE WITH ACI

#### COLD WEATHER PLACEMENT OF CONCRETE:

THE CONTRACTOR SHALL PROVIDE HEATING EQUIPMENT FOR CONCRETE MATERIALS AND PROTECT CONCRETE DURING FREEZING OR NEAR FREEZING WEATHER. ALL CONCRETE MATERIALS. REINFORCEMENT, FORMS, FILLERS AND THE GROUND WITH WHICH THE CONCRETE IS TO COME INTO CONTACT, SHALL BE FREE FROM FROST, FROZEN MATERIALS OR MATERIALS CONTAINING FROST SHALL NOT BE USED. ALL ACI-318 AND F.B.C. PROVISIONS FOR COLD WEATHER PLACEMENT OF CONCRETE SHALL

#### FREEZING AND THAWING EXPOSURE:

RCING BAR STRENGTHS	
BE WELDED	ASTM A615 (GR60) DEFORMED ASTM A615 (GR40) DEFORMED ASTM A706 (GR60) LOW ALLOY, DEFORMED
CONCRETE COVERAGES	
GAINST AND PERMANENTLY EXPOSED TO EA	ARTH 3"
E EXPOSED TO EARTH OR WEATHER	{#6 AND LARGER 2" {#5 AND SMALLER 1 1/2"

ALL REINFORCING TO BE WELDED SHALL BE WELDED IN ACCORDANCE WITH AWS D1.4. NO TACK WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH STRUCTURAL ENGINEER. LATEST ACI CODE AND DETAILING MANUAL APPLY.

#### TYPICAL MINIMUM WOOD PROPERTIES

FRAMING LUMBER SHALL COMPLY WITH THE LATEST EDITION OF THE GRADING RULES OF THE WESTERN WOOD PRODUCTS ASSOCIATION OR THE WEST COAST LUMBER INSPECTIONS BUREAU. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED GRADING AGENCY.

ALL WOOD NOT NATURALLY DECAY RESISTANT SHALL BE TREATED WOOD AND MARKED OR BRANDED BY AN APPROVED AGENCY. DO NOT NOTCH OR DRILL JOIST, BEAMS OR LOAD BEARING STUDS WITHOUT PRIOR APPROVAL OF STRUCTURAL ENGINEER THROUGH DESIGNER.

ALL NAILING SHALL BE ACCORDING TO TABLE 2304.9.1 OF THE CURRENT INTERNATIONAL BUILDING CODE. JOIST HANGERS AND OTHER MISCELLANEOUS FRAMING ANCHORS SHALL BE AS MANUFACTURED BY SIMPSON COMPANY OR OTHER MANUFACTURER WITH ICC APPROVAL. ALL NAIL HOLES IN JOIST HANGERS AND MISCELLANEOUS FRAMING ANCHORS SHALL BE FILLED WITH NAILS PER MANUFACTURER'S PUBLISHED

ALL WELDING SHALL BE PERFORMED BY WELDERS EXPERIENCED IN LIGHT GAUGE STEEL DECK WORK. ALL WELDING DONE BY E60 (MINIMUM) SERIES LOW HYDROGEN RODS.

FASTENERS SHALL BE CADMIUM PLATED, SELF-DRILLING, SELF-TAPPING SCREWS WITH NEOPRENE

THE FIRST SHEET OF STEEL DECK ADJACENT AND PARALLEL TO WALLS, PERIMETER MEMBERS OR MEMBERS IDENTIFIED AS CHORD, COLLECTOR OR DRAG MEMBERS (ON ONE OR BOTH SIDES AS APPLICABLE) SHALL BE FULL PANEL WIDTH SHEETS.

#### DIMENSIONS:

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND ELEVATIONS WITH ABEE/OWNER PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY WITH ABEE/OWNER.

#### STRUCTURAL STEEL WIRE ROPE:

ZIP LINES / BELAY CABLES / GUY WIRES / TENSION CABLES / ELEMENT CABLES / SWING CABLES:

STRAND DIAMETER	STRAND CONSTRUCTION	MIN ULT. TENSILE CAPACITY (LBS		
3/8"	7x19 GAC	15,100		
1/2"	6x26 IWRC (GALVANIZED)	26,600		
1/2"	6x26 IWRC SUPER SWAGED (GALVANIZED)	34,700		

ALL GALVANIZED AIRCRAFT CABLE (GAC) CABLE SHALL CONFORM TO MILITARY SPECIFICATION MIL-W-83420 AND BE OF 7x19 STRAND CONSTRUCTION. ALL INDEPENDENT WIRE ROPE CORE (IWRC) CABLE SHALL CONFORM TO FEDERAL SPECIFICATION RR-W-410E TYPE I CLASS 2. STEEL SHALL BE EXTRA IMPROVED PLOW STEEL (EIPS) AND BE GALVANIZED. WIRE ROPE HARDWARE:

CABLE CLIP SCHEDULE		
WIRE ROPE DIA.	MINIMUM # OF CLAMPS	
3/8"	2	
1/2"	3	

WIRE ROPE CLIPS SHALL BE DROP FORGED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. AT CABLE END CONNECTIONS, U-BOLTS MUST BEAR ON DEAD ENDS OF CABLE. SPACE CABLE CLIPS A MINIMUM OF (6) ROPE DIAMETERS ON CENTER, TYP. ALL HARDWARE SHALL BE HOT DIPPED GALVANIZED. WIRE ROPE CLIPS SHALL CONFORM TO US FEDERAL SPECIFICATION NUMBER FF-C-450 OR EN 13411-5 TYPE B OR EQUIVALENT STANDARD IN THE JURISDICTION OF USE.

COPPER SWAGED FITTINGS SCHEDULE			
WIRE ROPE DIA.	MINIMUM # OF CLAMPS		
3/8"	1		
1/2"	QUANTITY DETERMINED PER SLEEVE AND TO MANUFACTURER'S RECOMMENDATIONS		

WIRE ROPE COPPER SWAGES SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS, CONFORM TO US MILITARY STANDARD MS51844E OR EQUIVALENT AND BE COMPATIBLE WITH THE WIRE ROPE TYPE. AT CABLE END CONNECTIONS, U-BOLTS MUST BEAR ON DEAD ENDS OF CABLE. SPACE SWAGES A MINIMUM OF (6) ROPE DIAMETERS ON CENTER, TYP.

RAPID	LINKS:	

SIZE	ULTIMATE TENSILE LOAD (LBS)
1/2" (12MM)	16,525
5/8" (16MM)	31,950
25/32" (20MM)	44,090

RAPID LINKS SHALL BE MAILLON RAPIDE BRAND BY PEGUET OR APPROVED EQUAL. MINIMUM TENSILE STRENGTH SHALL HAVE THE CAPACITY PRESENTED BELOW. ALL RAPID LINKS SHALL BE ZINC PLATED. CONNECTORS:

HARDWARE	MIN. ULT. TENSILE CAPACITY (LBS)
5/8" OVAL EYE BOLT	13,550
5/8" THIMBLE EYE BOLT	13,550
5/8" ANGLED THIMBLE EYE BOLT	13,550
5/8" NUT EYE BOLT	13,550
5/8" MACHINE BOLT	13,550
3/4" OVAL EYE BOLT	20,050
3/4" THIMBLE EYE BOLT	20,050
3/4" ANGLED THIMBLE EYE BOLT	20,050
3/4" NUT EYE BOLT	20,050
3/4" MACHINE BOLT	20,050

USE A 2 1/4"x2 1/4" MIN. CURVED WASHER AT BACK-END OF ALL THROUGH BOLT AT POLE LOCATIONS, TYP. U.N.O. NUTS SHOULD BE RE-TIGHTENED AFTER INITIAL LOAD. REGULARLY INSPECT AND RE-TIGHTEN BOLTS.

#### **EXPANSION BOLTS / ADHESIVE ANCHORS:**

EXPANSION BOLTS AND ADHESIVE ANCHORS SHALL BE AS SPECIFIED IN TYPICAL DETAILS. ALL CONCRETE OR MASONRY SHALL BE AT ITS SPECIFIED DESIGN STRENGTH AT THE TIME OF INSTALLATION. SPECIAL INSPECTION IS REQUIRED FOR THE INSTALLATION OF EXPANSION BOLTS AND ADHESIVE ANCHORS.

#### **OPERATIONS MANUAL**

RIDE MANUFACTURER: ABEE

OWNER / OPERATOR RESPONSIBILITIES:

STAFF TRAINING: ALL OPERATORS SHOULD RECEIVE ALL APPROPRIATE TRAINING IN THE USE OF ALL EQUIPMENT AND THE SYSTEM AS A WHOLE. UNTRAINED FACILITATORS MAY CAUSE EXTREME INJURY OR DEATH.

DOCUMENT: ---

NSPECTIONS: CHALLENGE COURSES (ESPECIALLY CONNECTIONS) ARE TO BE INSPECTED AT REGULAR INTERVALS BY A QUALIFIED INSPECTOR. THE FOLLOWING INSPECTIONS ARE REQUIRED:

- ACCEPTANCE INSPECTION SHALL BE COMPLETED PRIOR TO COMMISSIONING A NEW ELEMENT OR COURSE. THIS INSPECTION SHALL BE PERFORMED AND DOCUMENTED BY THE INSTALLER OR A QUALIFIED THIRD PARTY. THIS INSPECTION MAY INCLUDE TESTING OF SYSTEMS.
- OPERATIONAL INSPECTION SHALL BE PERFORMED AND DOCUMENTED BY THE OPERATOR PRIOR TO DAILY USE TO MONITOR THE CONDITION OF ALL COMPONENTS. • PROFESSIONAL INSPECTION - SHALL BE COMPLETED ANNUALLY AT MINIMUM BY A QUALIFIED NAARSO
- OR ACCT CERTIFIED CHALLENGE COURSE INSPECTOR OR EQUIVALENT.

5.5.1 OPERATING DOCUMENTS: OWNER / OPERATOR SHALL PREPARE AND MAINTAIN ALL OPERATING DOCUMENTS FOR THE COURSE. THESE MUST INCLUDE A MINIMUM OF THE FOLLOWING:

SPECIFIC OPERATION POLICIES AND PROCEDURES WITH PERTINENT INFORMATION FROM THE MANUFACTURER'S INSTRUCTIONS, INCLUDING, BUT NOT LIMITED TO:

- DESCRIPTION OF THE AERIAL ADVENTURE COURSE OPERATION;
- SPECIFIC DUTIES OF THE ASSIGNED OPERATOR(S) AND ATTENDANT(S) POSITION(S) OF THE AERIAL ADVENTURE COURSE; • GENERAL SAFETY PROCEDURES;
- INSTRUCTIONS ON SPECIFIC PROCEDURES TO FOLLOW IN THE EVENT OF UNUSUAL CONDITIONS OR AN INTERRUPTION OF OPERATION, INCLUDING AN EVACUATION PLAN
- ADDITIONAL INSTRUCTIONS FROM THE OWNER/OPERATOR; AND • THE OWNER/OPERATOR SHALL ALSO CONSIDER ENVIRONMENTAL CONDITION(S) INCLUDING, BUT NOT LIMITED TO, WIND, RAIN, ICE, AND LIGHTNING WHEN DEVELOPING OPERATING PROCEDURES.

5.5.2 EVACUATION PLAN

THE OWNER / OPERATOR SHALL HAVE AND MAINTAIN AN EVACUATION PLAN FOR THE COURSE.

#### **OWNER / OPERATOR RESPONSIBILITIES (CONTINUED...)**

5.5.3 DENYING ENTRY:

THE OWNER / OPERATOR SHALL IMPLEMENT A PLAN TO DENY ENTRY TO PATRONS WITH ABOVE NORMAL EXPOSURE TO RISK OF DISCOMFORT OR INJURY IF THEY ARE TO PARTICIPATE ON THE AERIAL ADVENTURE COURSE OR JEOPARDIZE THE SAFETY OF OTHER PATRONS OR EMPLOYEES. GUIDELINES MAY INCLUDE PATRON SIZE, AND THE SPECIAL CONSIDERATIONS APPLICABLE TO PHYSICALLY DISABLED AND MENTALLY IMPAIRED PATRONS, RELATED TO THEIR PARTICULAR AERIAL ADVENTURE COURSE.

#### 5.5.4 SIGNAGE

SIGNS TO DISPLAY PATRON REQUIREMENTS AND/OR OPERATIONAL INSTRUCTIONS SHALL BE POSTED AT THE WAITING/LOADING AREA AT THE BASE OF THE LAUNCH TOWER STAIRCASE. ADDITIONAL SIGNAGE MAY BE POSTED AT OTHER APPROPRIATE LOCATIONS. SIGNAGE MUST INCLUDE HEIGHT, WEIGHT AND OTHER ESSENTIAL REQUIREMENTS AND OTHER DUTIES AND OBLIGATIONS OF THE PATRONS. SIGNS SHOULD BE PROMINENTLY PLACED AND BOLD IN DESIGN, WITH WORDING SHORT, SIMPLE AND TO THE POINT. SEE OPERATIONS MANUAL FOR SAMPLE SIGNAGE PROVIDED BY MANUFACTURER.

#### TESTING:

PACKET.

ZIP LINE SPEEDS/TENSION TESTING: BEFORE COMMISSIONING, ALL ZIP LINE TENSIONS ARE TO BE TESTED TO CONFIRM THEY ARE WITHIN THE ALLOWABLE TOLERANCE OF ±5% OR 250 LBS, WHICHEVER IS LESS. TEMPERATURE AND TENSION VALUES ARE PROVIDED ON PAGE 7 OF THE STRUCTURAL CALCULATIONS

ZIP LINE SPEED TESTING IS TO BE CONDUCTED TO ENSURE THAT THE SPEEDS ARE WITHIN THE ESTIMATED RANGE PROVIDED ON PAGE 9 OF THE STRUCTURAL CALCULATIONS PACKET. SPECIAL STRUCTURAL TESTING: ANY SPECIAL TESTING SHALL BE CARRIED OUT PER THE F.B.C. AND THE GENERAL STRUCTURAL NOTES AND SHALL BE INCLUDED DURING TESTING.

#### COURSE CONSIDERATIONS:

LIGHTNING PROTECTION: SUSCEPTIBILITY TO LIGHTNING SHOULD BE CONSIDERED BY A LICENSED PROFESSIONAL AND ADDRESSED WITH APPROPRIATE LIGHTNING PROTECTION DETAILS IF NECESSARY. WIND: CEASE COURSE OPERATIONS WHEN GUSTS ABOVE 30 MPH OCCUR.

#### SPECIAL INSPECTIONS:

SPECIAL INSPECTION IS REQUIR	RED DURING THE FOLLOWING OPERATIONS PER F.B.C. SECTION 1704:
EXPANSION BOLTS AND ADHESIVE ANCHORS:	DURING THE DRILLING AND INSTALLATION OF EXPANSION BOLTS AND ADHESIVE ANCHORS.
CONCRETE:	DURING TAKING OF TEST SPECIMENS AND PLACING OF REINFORCED CONCRETE. SEE PROJECT SPECIFICATIONS FOR FREQUENCY OF TESTING AND STRENGTH REQUIREMENTS. NO SPECIAL INSPECTION IS REQUIRED FOR NON-STRUCTURAL SLABS ON GRADE, ISOLATED SPREAD FOOTINGS, OR CONTINUOUS WALL FOOTINGS SUPPORTING LIGHT FRAMED CONSTRUCTION WHERE fc IS 2500 PSI OR LESS.
WELDING:	DURING ALL STRUCTURAL WELDING INCLUDING WELDING OF REINFORCING STEEL.
HIGH STRENGTH BOLTING:	REVIEW OF ALL BOLT INSTALLATIONS TO ENSURE THAT THE PLIES OF THE CONNECTED ELEMENTS HAVE BEEN BROUGHT INTO SNUG CONTACT DURING BOLT INSTALLATIONS AND TIGHTENING OPERATIONS.

- BEARING CAPACITY OF SOIL STRATA, EXCAVATION DEPTH AND BEARING

MATERIAL, CLASSIFICATION AND TESTING OF FILL MATERIAL, COMPACTION,

SOILS:-----

	AND SUBGRADE PREPARATION.
SHE	ET INDEX:
S1.1	GENERAL STRUCTURAL NOTES
S1.2	GENERAL STRUCTURAL NOTES
S2.1	TYPICAL DETAILS
S3.1	ZIP LAYOUT
S3.2	CABLE LAYOUT/ FOUNDATION
S4.1	PLATFORM FRAMING PLAN
S5.1	ELEVATIONS
S5.2	ELEVATIONS
S5.3	ELEVATIONS
S5.4	ELEVATIONS
S5.5	ELEVATIONS
S5.6	ELEVATIONS
S5.7	ELEVATIONS
S6.1	FOUNDATION DETAILS
S7.1	FRAMING DETAILS
S7.2	FRAMING DETAILS CON.
S8.1	WEDDING ZIP LINE PROFILE
S8.2	JORDAN ZIP LINE PROFILE
S8.3	START ZIP LINE PROFILE
S8.4	CLIFF ZIP LINE PROFILE
S8.5	MOUNTAIN ZIP LINE PROFILE
S8.6	DRAGON ZIP LINE PROFILE
S8.7	BEACH ZIP LINE PROFILE



PROJECT SITE -

#### APPROX. RIDE AREA



С Ш Ц Ц Ц Ц Ц Ц Ц Ц	No 81	HUBBAR
, , ,	OF LENG	1 623 n. first st., ste. 201 Flagstaff, arizona 86004-5028
	Store ER *	Phone: (928) 526-6174



DRAWN BY VICTOR WING

JOB ORDER #: 22704

DATE: 12/08/2023 SCALE: AS NOTED REVISION:

SHEET NUMBER:





VICINITY MAP PROJECT COORDINATES LAT: 29° 41'22.04" N LONG: 82° 34'02.82" W

v	л	ı	N

Μ	I	Ν

2018 IBC - TABLE 1705.3	
EQUIRED VERIFICATION AND INSPECTION OF	
CONCRETE CONSTRUCTION	

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION				
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD <sup>a</sup>	IBC REFERENCE
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.		Х	ACI 318: 3.5, 7.1-7.7	1910.4
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 2b.			AWS D1.4 ACI 318: 3.5.2	
3. INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.		Х	ACI 318: 8.1.3, 21.2.8	1908.5, 1909.1
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS <sup>b</sup> .		х	ACI 318: 3.8.6, 8.1.3, 21.2.8	1909.1
5. VERIFYING USE OF REQUIRED DESIGN MIX.		х	ACI 318: Ch. 4, 5.2-5.4	1904.2, 1910.2, 1910.3
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X		ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1910.10
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	х		ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		х	ACI 318: 5.11- 5.13	1910.9
9. INSPECTION OF PRESTRESSED CONCRETE: a. APPLICATION OF PRESTRESSING	х		ACI 318: 18.20	
FORCES. b. GROUTING OF BONDED PRE-STRESSING TENDONS IN THE SEISMIC FORCE-RESISTING SYSTEM.	х		ACI 318:18.18.4	
10. ERECTION OF PRECAST CONCRETE MEMBERS.		Х	ACI 318: Ch.16	
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST- TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.		Х	ACI 318: 6.2	-
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		x	ACI 318: 6.1.1	

FOR SI: 1"=25.4 MM. <sup>a</sup> WHERE APPLICABLE, SEE ALSO SECTION 1705.11, SPECIAL INSPECTION FOR SEISMIC RESISTANCE.

<sup>D</sup> SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH ACI 355.2 OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.

> 2018 IBC - SECTION 1705 **REQUIRED VERIFICATION AND INSPECTION OF EXPANSION BOLTS AND ADHESIVE ANCHORS**

DURING THE DRILLING AND INSTALLATION OF EXPANSION BOLTS AND ADHESIVE ANCHORS.

	N0.4-1 1 HR
	0 -
	P -
WEL	DING PROCEDUR
MAN	UFACTURER CER
MATI	ERIAL IDENTIFICA
WEL	DER IDENTIFICAT
FIT-L	JP OF GROOVE W JOINT PREPARA
•	DIMENSIONS (A
•	TACKING (TACK
•	BACKING TYPE
CON	FIGURATION AND
FIT-U	JP OF FILLET WEL
•	CLEANLINESS (4
•	TACKING (TACK
	CK WELDING EQU
WH	O HAS WELDED
LO۱	N-STRESS TYPE.
USE 001	OF QUALIFIED W
USE	OF QUALIFIED W
000	
CON	TROL AND HANDI PACKAGING
CON •	TROL AND HANDI PACKAGING EXPOSURE CON
NO V	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C
NO V ENVI	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W
	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION
NO V ENVI WPS	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W
NO V ENVI	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED
NO V ENVI WPS	TROL AND HAND PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS
WPS	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI
WPS	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI
VPS WPS	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI
WPS WEL	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS AND EACH PASS WIT
VPS	TROL AND HAND PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COU WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS AND EACH PASS WIT EACH PASS MEI
VPS	TROL AND HAND PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS AND EACH PASS WIT EACH PASS MEI
VPS	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS AND EACH PASS WIT EACH PASS MEI
VVEL	TROL AND HAND PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS ANE EACH PASS WIT EACH PASS MEI
VPS	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS AND EACH PASS WIT EACH PASS MEI
VWEL SIZE	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS AND EACH PASS WIT EACH PASS MEI
VVEL SIZE WEL	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS AND EACH PASS WIT EACH PASS MEI
VVEL SIZE	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS ANI EACH PASS WIT EACH PASS MEI DING TECHNIQUE INTERPASS ANI EACH PASS MEI DING TECHNIQUE INTERPASS ANI EACH PASS MEI
VVEL SIZE WEL	TROL AND HAND PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS ANE EACH PASS WIT EACH PASS MEI DS CLEANED LENGTH AND LC DS MEET VISUAL CRACK PROHIB WELD/BASE-ME CRATER CROSS
VVEL SIZE	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS AND EACH PASS WIT EACH PASS WIT EACH PASS MEI DING TECHNIQUE INTERPASS AND EACH PASS WIT EACH PASS MEI DING TECHNIQUE INTERPASS AND EACH PASS MEI DING TECHNIQUE INTERPASS AND EACH PASS MEI CRACK PROHIB WELD/BASE-ME CRATER CROSS WELD PROFILES
WEL SIZE WEL	TROL AND HANDI PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COI WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPLI INTERPASS TEM PROPER POSITI DING TECHNIQUE INTERPASS ANE EACH PASS WIT EACH PASS WIT EACH PASS MEI DS CLEANED LENGTH AND LC DS MEET VISUAL CRACK PROHIB WELD/BASE-ME CRATER CROSS WELD PROFILES WELD SIZE UNDERCUT
VVEL SIZE WEL	TROL AND HAND PACKAGING EXPOSURE CON VELDING OVER C RONMENTAL COU WIND SPEED W PRECIPITATION FOLLOWED SETTINGS ON W TRAVEL SPEED SELECTED WEL SHIELDING GAS PREHEAT APPL INTERPASS TEN PROPER POSITI DING TECHNIQUE INTERPASS ANI EACH PASS WIT EACH PASS WIT EACH PASS MEI DING TECHNIQUE INTERPASS ANI EACH PASS MEI DING TECHNIQUE INTERPASS ANI EACH PASS MEI DING TECHNIQUE CRACK PROHIB WELD/BASE-ME CRATER CROSS WELD PROFILES WELD SIZE UNDERCUT POROSITY

⊀-AREA<sup>1</sup> BACKING REMOVED AND REPAIR ACTIVITIES

#### ANSI/AISC 360-16 MINIMUM REQUIREMENTS FOR INSPECTION OF STRUCTURAL STEEL BUILDINGS

TASKS IN TABLES N5.4-1 THROUGH N5.4-3 AND TABLES N5.6-1 THROUGH N5.6-3 LISTED FOR QC/QA ARE THOSE INSPECTIONS PERFORMED BY THE QCI/QAI TO ENSURE THAT THE WORK IS PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. JM, WELDING INSPECTION TASKS SHALL BE IN ACCORDANCE WITH TABLES JGH N5.4-3. IN THESE TABLES , THE INSPECTION TASKS ARE AS FOLLOWS: BSERVE THESE ITEMS ON A RANDOM BASIS. PERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. ERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.

> TABLE N5.4-1 INSPECTION TASKS PRIOR TO WELDING INSPECTION TASKS PRIOR TO WELDING QC QA SPECIFICATIONS (WPSs) AVAILABLE РР FICATIONS FOR WELDING CONSUMABLES AVAILABLE P P ION (TYPE/GRADE) 0 0 ON SYSTEM<sup>1</sup> 0 0 LDS (INCLUDING JOINT GEOMETRY) 0 0 GNMENT, ROOT OPENING, ROOT FACE, BEVEL) ONDITION OF STEEL SURFACES) VELD QUALITY AND LOCATION) ND FIT (IF APPLICABLE) INISH OF ACCESS HOLES 0 0 0 0 GNMENT. GAPS AT ROOT) ONDITION OF STEEL SURFACES) ELD QUALITY AND LOCATION 0 ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE

TABLE N5.4-2 INSPECTION TASKS DURING WELDING		
INSPECTION TASKS DURING WELDING	QC	QA
DERS	0	0
G OF WELDING CONSUMABLES	0	0
OL		
CKED TACK WELDS	0	0
TIONS IN LIMITS D TEMPERATURE	0	0
DING EQUIPMENT	0	0
IG MATERIALS PE/FLOW RATE		
RATURE MAINTAINED (MIN./MAX.) (F, V, H, OH)		
NAL CLEANING I PROFILE LIMITATIONS 3 QUALITY REQUIREMENTS	0	0
TABLE N5.4-3 INSPECTION TASKS AFTER WELDING		
INSPECTION TASKS AFTER WELDING	QC	QA
	0	0
TION OF WELDS	Р	Р
CEPTANCE CRITERIA )N _ FUSION ECTION	Ρ	Ρ
	Р	Р
	Р	Р
WELD TABS REMOVED (IF REQUIRED)	Р	Р

DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER

P | P <sup>1</sup>WHEN WELDING DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED ON THE & -AREA, VISUALLY INSPECT THE WEB & -AREA FOR CRACKS WITHIN 3 IN. (75MM) OF THE WELD.

P P

#### TABLE N5.6-1 INSPECTION TASKS PRIOR TO BOLTING INSPECTION TASKS PRIOR TO BOLTING QC QA MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS Р FASTENER MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS 0 0 PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF 0 0 THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE) PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL 0 CONNECTING ELEMENTS. INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION 0 AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS TABLE N5.6-2 **INSPECTION TASKS DURING BOLTING** INSPECTION TASKS DURING BOLTING QC QA FASTENER ASSEMBLIES. OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING 0 OPERATION FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING 0 0 FASTENER ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, 0 0 PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES

#### TABLE N5.6-3 **INSPECTION TASKS AFTER BOLTING** INSPECTION TASKS AFTER BOLTING

QC

P P

QA

DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS

#### 2018 IBC - TABLE 1705.6 REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
<ol> <li>VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.</li> </ol>		Х
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTHS AND HAVE REACHED PROPER MATERIAL.		X
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.		x
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	Х	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		Х

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

- 1. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. 2. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND TO THE
- ENGINEER OR ARCHITECT OF RECORD. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE DESIGN AUTHORITY AND THE BUILDING OFFICIAL
- 3. UPON COMPLETION OF THE ASSIGNED WORK, THE ENGINEER OR ARCHITECT SHALL COMPLETE AND SIGN A FINAL REPORT CERTIFYING THAT TO THE BEST OF HIS KNOWLEDGE, THE WORK IS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.
- DUTIES AND RESPONSIBILITIES OF THE CONTRACTOR:
- 1. FOR INSPECTION OF CONCRETE, BOLTS IN CONCRETE, REINFORCING STEEL, EXPANSION BOLTS, ADHESIVE ANCHORS, AND STRUCTURAL MASONRY, NOTIFY THE SPECIAL INSPECTOR THAT WORK IS READY FOR INSPECTION AT LEAST ONE WORKING DAY (24 HOURS MINIMUM) BEFORE SUCH INSPECTION IS REQUIRED

#### SPECIAL INSPECTIONS (CONTINUED...)

- 2. FOR INSPECTION OF WELDING AND CAISSONS NOTIFY THE SPECIAL INSPECTOR FROM THE RESPONSIBLE MATERIALS TESTING LAB THAT WORK IS READY FOR INSPECTION AT LEAST ONE WORKING DAY (24 HOURS MINIMUM) BEFORE SUCH INSPECTION IS REQUIRED.
- 3. ALL WORK REQUIRING SPECIAL STRUCTURAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL IT IS OBSERVED BY THE SPECIAL STRUCTURAL INSPECTOR.

#### SHOP DRAWINGS:

SHOP DRAWINGS SHALL BE SUBMITTED AS REQUIRED BY THE SPECIFICATIONS.

THE GENERAL CONTRACTOR WILL REVIEW AND STAMP ALL SHOP DRAWINGS AND PRODUCT DATA FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMISSION. ANY SHOP DRAWINGS OR PRODUCT DATA NOT REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR WILL BE RETURNED WITHOUT REVIEW. ITEMS NOT IN ACCORDANCE WITH THE CONTRACT DRAWINGS SHALL BE SO NOTED UPON THE CONTRACTORS REVIEW.

ANY SHOP DRAWING NOT CHECKED AND INITIALED BY THE SUPPLIER/DETAILER PRIOR TO SUBMITTING FOR ARCHITECTURAL AND ENGINEERING REVIEW, WILL BE RETURNED WITHOUT REVIEW. ANY CHANGES FROM THE ORIGINAL DRAWINGS SHALL BE NOTED BY THE SUBMITTING PARTY. ANY

CHANGES NOT CALLED OUT SHALL BE CONSIDERED NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS UNLESS SPECIFICALLY NOTED OTHERWISE.

SHOP DRAWINGS SHALL NOT REPLACE THE CONTRACT DRAWINGS. ITEMS OMITTED OR SHOWN INCORRECTLY AND NOT NOTED BY THE REVIEWER ARE NOT TO BE CONSIDERED CHANGES TO THE CONTRACT DRAWINGS. REVIEWING IS INTENDED AS AN AID TO THE CONTRACTOR IN OBTAINING CORRECT SHOP DRAWINGS. IT IS THE CONTRACTORS RESPONSIBILITY TO ASSURE THAT ITEMS ARE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

ANY ENGINEERING DESIGN PERFORMED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR A SEAL OF AN ENGINEER REGISTERED IN THE APPROPRIATE JURISDICTION AND DISCIPLINE. THE ADEQUACY OF DESIGNS AND LAYOUTS PERFORMED BY OTHERS RESTS WITH THE DESIGNING OR SUBMITTING PARTY. THE CONSTRUCTION DOCUMENTS MAY NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS.

#### GENERAL:

THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, VANDALISM, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS. CONTRACTOR IS RESPONSIBLE FOR ALL O.S.H.A. REQUIREMENTS, NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES AND/OR CONFLICTS.

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

DO NOT PENETRATE ANY STRUCTURAL ELEMENTS (BEAMS, COLUMNS, WALLS, SLABS, ETC.) WITHOUT PRIOR WRITTEN APPROVAL OF STRUCTURAL ENGINEER. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND

TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.

TYPICAL DETAILS ARE NOT CUT ON DRAWINGS, BUT APPLY UNLESS NOTED OTHERWISE. WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND

SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF

A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED. DO NOT SCALE DRAWINGS.

#### TYPICAL DETAILS NOTE

TYPICAL DETAILS NOT CUT ON DRAWINGS. THEY ARE DETAILS THAT ARE COMMON TO STRUCTURAL CONSTRUCTION. IN SOME CASES THERE MAY BE DETAILS THAT ARE NOT USED, BUT ARE PROVIDED TO ACCOMMODATE POSSIBLE CONSTRUCTION CONDITIONS.

#### TYPICAL NOTES

- . FOR APPLICABLE CODES AND STANDARDS, MATERIAL STRENGTHS AND CONSTRUCTION
- REQUIREMENTS, SEE GENERAL STRUCTURAL NOTES AND SPECIFICATIONS. 2. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION -
- RESOLVE ANY DISCREPANCY WITH ARCHITECT. DO NOT SCALE DRAWINGS. 3. FOR CLARITY, ALL EXTERIOR SLABS AND SIDEWALKS MAY NOT BE SHOWN. FOR EXACT DIMENSIONS, LOCATIONS, JOINTS, AND SCORE LINES, SEE ARCHITECTURAL DRAWINGS.
- . FOR CLARITY, ALL ROOF, FLOOR, AND WALL OPENINGS MAY NOT BE SHOWN ON STRUCTURAL
- DRAWINGS. FOR EXACT SIZE, NUMBER, AND LOCATION OF OPENINGS, SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. FOR FRAMING AT OPENINGS, SEE TYPICAL
- STRUCTURAL DETAILS. VERIFY ALL SIZES, WEIGHTS, AND LOCATIONS OF MECHANICAL AND ELECTRICAL EQUIPMENT, DUCTS, ETC. WITH MECHANICAL AND ELECTRICAL ENGINEERS THROUGH ARCHITECT. 5. DETAILS MARKED "TYPICAL DETAIL" MAY OR MAY NOT BE CUT ON PLANS, BUT SHALL APPLY UNLESS NOTED OTHERWISE.

	STRUCTURAL ABBREVIATIONS					
AFF	ABOVE FINISHED FLOOR	К	KIP(S)			
A.B. ACI AISC	ANCHOR BOLT(S) AMERICAN CONCRETE INSTITUTE AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LBS LLV LSV	POUNDS LONG LEG VERTICAL LONG SIDE VERTICAL			
AISI AITS	AMERICAN IRON AND STEEL INSTITUTE AMERICAN INSTITUTE OF TIMBER	MAX MCJ MIN	MAXIMUM MASONRY CONTROL JOINT MINIMUM			
APA ASD	CONSTRUCTION AMERICAN PLYWOOD ASSOCIATION ALLOWABLE STRESS DESIGN	N.I.C. NTS	NOT IN CONTRACT NOT TO SCALE			
ASTM AWS	AMERICAN SOCIETY FOR TESTING & MATERIALS AMERICAN WELDING SOCIETY	O.C. OPP OSB	ON CENTER OPPOSITE ORIENTED STRAND BOARD			
CJ CLR CMU CONT. CRSI CTJ	CONSTRUCTION JOINT CLEAR CONCRETE MASONRY UNIT CONTINUOUS CONCRETE REINFORCING STEEL INSTITUTE CONTROL JOINT	PCI PL PRE-ENG PCF PLF PSF PSI P.T.	PRESTRESSED CONCRETE INSTITUTE PLATE PRE-ENGINEERED POUNDS PER CUBIC FOOT POUNDS PER LINEAR FOOT POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PRESSURE TREATED			
a DF DIA.	DOUGLAS FIR-LARCH DIAMETER	PTI REINF. RS	POST-TENSIONING INSTITUTE REINFORCING ROUGH SAWN			
EQ EOR	EQUAL ENGINEER OF RECORD	SIM	SIMILAR			
FFE	FINISHED FLOOR ELEVATION	SPF	SPRUCE PINE FIR			
GLB GSN	GLUED-LAMINATED BEAM GENERAL STRUCTURAL NOTES	SSV STD	SHORT SIDE VERTICAL STANDARD			
HF HSA HSS	HEM FIR HEADED STUD ANCHOR TUBE SECTION	T&G TOB TOC	TONGUE AND GROOVE TOP OF BEAM TOP OF COLUMN			
IBC ICC ICF	INTERNATIONAL BUILDING CODE INTERNATIONAL CODE COUNSEL INSULATED CONCRETE FORM	TOP TOW TYP	TOP OF PARAPET TOP OF WALL TYPICAL			
IPC	INTERNATIONAL PLUMBING CODE	U.N.O.	UNLESS NOTED OTHERWISE			
JB	JOIST BEARING	WWF	WELDED WIRE FABRIC			

PLAN LEGEND							
SYMBOL	DESCRIPTION	LOCATION					
202	DETAIL CUT SHOWN ON PLAN	SEE S6 SERIES SHTS. FOR FOUND. DTLS. SEE S7 SERIES SHTS. FOR FRMG DTLS.					
23	TYPICAL DETAIL	SEE S2 SERIES SHTS. FOR TYPICAL DTLS.					
6	PLAN NOTE	SEE PLAN NOTES ON EACH PLAN SHEET					
$\square$	OPENING IN FLOOR OR ROOF	SEE PLAN NOTES ON EACH PLAN SHEET					
77777777	CMU WALL U.N.O.						
	CMU WALL BENEATH						
	CAST-IN-PLACE CONCRETE WALL U.N.O.						
	SHEAR WALL						
	EXISTING FOOTING, WALL, ETC						
	2x WOOD STUD WALL, U.N.O.						
	BEARING WALL ON FRAMING / FOUNDATION	SEE FOUNDATION/FRAMING PLAN SHEETS					
	NON-BEARING WALL ON FRAMING / FOUNDATION						
	BEARING WALL BENEATH						
	NON-BEARING WALL BENEATH						
	COLUMN FROM ABOVE ON FRAMING / FOUNDATION						
	TOP OF COLUMN BENEATH						
	KINGPOST						
	STEP IN FOUNDATION / FLOOR FRAMING / ROOF FRAMING						
ר ר	HANGER						
A	MECHANICAL UNIT	SEE FRAMING PLANS AND MECHANICAL EQUIPMENT SCHEDULE					
⊢⊢►→	MOMENT CONNECTION	SEE FRAMING PLANS					
B1	BEAM DESIGNATION						
C1	COLUMN DESIGNATION						
CB1	CONCRETE BEAM DESIGNATION						
CC1	CONCRETE COL. DESIGNATION						
CF1	CAISSON FTG. DESIGNATION						
CW1	CONCRETE WALL REINFORCING DESIGNATION						
F1	FOOTING DESIGNATION						
G1	GRADE BEAM DESIGNATION						
H1	HEADER DESIGNATION						
J1	JOIST DESIGNATION	SEE FOUNDATION/FRAMING PLANS AND APPLICABLE SCHEDULES					
L1	LEDGER DESIGNATION						
LT1	LINTEL DESIGNATION						
M1	MASONRY COL. DESIGNATION						
P1	PIER DESIGNATION						
W1	WALL REINFORCING DESIGNATION						
I WSW1	WOOD STUD WALL DESIGNATION						









#### PLAN NOTES

1/2" DIA. SUPER SWAGED ZIP CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS.

 $\langle 2 \rangle$  BRIDGE ELEMENT BETWEEN TOWERS PER <u>DETAIL A/ S7.2</u>.

(3) 1/2" DIA. SUPER SWAGED BRAKE ZIP CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2'-0" ABOVE ZIP CABLE

 $\langle 4 \rangle$  PHASE 2 - FUTURE CONSTRUCTION

#### TYPICAL DIMENSION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.

NOTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.





PLAN NOTES         1)       1/2* DIA SUPER SWAGED ZIP CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS.         2)       1/2* DIA SUPER SWAGED OUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12* OF ZIP CABLE AND AT 45* ANGLE TO POLIC.         3)       DEAD MAN ANCHOR PER DETAIL 101, AT CONTRACTORS OPTION, PROVIDE HELICAL PER PER DETAIL 109 AND PULL TEST TO 28,000 LBS. SEE GSN'S FOR PULL TEST INFORMATION.         4)       1/2* DIA SUPER SWAGED OUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2/0* ABOVE ZIP CABLE         5)       1/2* DIA SUPER SWAGED OUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2/0* ABOVE ZIP CABLE         6)       1/2* DIA SUPER SWAGED OUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2/0* ABOVE ZIP CABLE         7)       STAIRS / STAIR LANDINGS PER DETAIL 4/55.6 AND DETAIL 5/55.7         8)       STAIRS / STAIR LANDINGS PER DETAIL 10/2 AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PER DETAIL 105.6         9)       STAIRS / STAIR LANDINGS PER DETAIL 10/2 AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PER DETAIL 10/2 AND PULL TEST TO 9.200 LBS. SEE GSN'S FOR PULL TEST INFORMATION CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 20* OF BIDGE DELICAL PIER PER DETAIL 10/2 AND PULL TEST TO 9.200 LBS. SEE GSN'S FOR PULL TEST INFORMATION CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 20* OF BIDGE DELICAL PIER PER DETAIL 10/2 AND PULL TEST TO 9.200 LBS. SEE GSN'S FOR PULL TEST INFORMATION CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12* O							
PLAN NOTES         1       1/2* DIA. SUPER SWAGED ZIP CABLE/CRITICAL LIFE SAFETY SYSTEMS PER GSNS WITH CONNECTONS PER TYPICAL DETAILS. INSTALL WITHIN 12* OF ZIP CABLE AND AT 45* ANGLE TO POLE.         2       1/2* DIA. SUPER SWAGED CUV CABLE / ACTIVITY SUPPORT SYSTEMS PER GSNS WITH CONNECTONS PER TYPICAL DETAILS. INSTALL WITHIN 12* OF ZIP CABLE AND AT 45* ANGLE TO POLE.         3       DEAD MAN ANCHOR PER <u>DETAIL 101</u> , AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PER DETAIL 03 AND PULL TEST TO 28,000 LBS. SEE GSNS FOR PULL TEST INFORMATION.         4       1/2* DIA. SUPER SWAGED CUV CABLE / ACTIVITY SUPPORT SYSTEMS PER GSNS WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL ALL WITHIN 0* OF ZIP CABLE AND AT 45* ANGLE TO POLE.         5       1/2* DIA. SUPER SWAGED DETAIL 4/55.6 AND DETAIL 5/55.7.         6       STAIRS / STAIR LANDINGS PER <u>DETAIL 102</u> AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PRO <u>DETAIL 1055.5.</u> 7       DEAD MAN ANCHOR PER <u>DETAIL 102</u> AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PRO <u>DETAIL 1055.5.</u> 8       STAIRS / STAIR LANDINGS PER <u>DETAIL 102</u> AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PRO <u>DETAIL 105 AND PULL TEST TO 3200 LBS. SEE GSNS FOR PULL TEST INFORMATION CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2* OF SHIDDE BELAY CABLE AND AT CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2* OF SPIENS PER GSNS WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2* OF SPIENS PER GSNS WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2* OF CONSTRUCTION PRO <u>DETAIL 110 AND PULL TEST TO 3200 LBS. SEE GSNS FOR PULL TEST INFORMATION CONSTRUCTION JOINT AT RAMPS PER <u>DETAIL 110.10* THEOR MATOR AND AT 70* ANGLE CONSTRUCTION JOINT AT RAMPS PER <u>DETAIL 111.10* 10* 07* DE</u></u></u></u>							
PLAN NOTES           1         1:27 DIA SUPER SWAGED ZIP CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS.           1:27 DIA SUPER SWAGED GUY CABLE/ ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12' OF ZIP CABLE AND AT 45' ANGLE CONNECTIONS PER TYPICAL DETAILS.           3:         DEAD MAN ANCHOR PER DETAIL 101. AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PER DETAIL 109 AND PULL TEST TO 28.000 LBS. SEE GSN'S FOR PULL TEST INFORMATION.           4:         12' DIA SUPER SWAGED BRAKE CABLE/ ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL AUL WITHIN 6' OF BRAKE CABLE.           5:         12' DIA SUPER SWAGED BRAKE CABLE/ ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6' OF ZIP CABLE AND AT 45' ANGLE CONNECTIONS PER TYPICAL DETAIL.SINSTALL WITHIN 6' OF ZIP CABLE AND AT 45' ANGLE CONNECTIONS PER TYPICAL DETAIL 10: SISTIL Z'' OF MARKE CABLE.           6:         12' DIA SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAIL 2:55.5           7:         STAIRS / STAIR LANDINGS PER DETAIL 102 AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PER DETAIL 108 AND PULL TEST TO 3:200 LBS. SEE GSN'S FOR PULL TEST INFORMATION           10:         DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 108 AND PULL TEST TO 3:200 LBS. SEE GSN'S FOR PULL TEST INFORMATION           11:         DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 108 AND PULL TEST TO 3:200 LBS. SEE GSN'S GOTON TEST INFORMATION           12:							
PLAN NOTES         1)       1/27 DIA. SUPER SWAGED ZIP CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS.         2)       1/27 DIA. SUPER SWAGED GUY CABLE/ ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12' OF ZIP CABLE AND AT 45' ANGLE         3)       DEAD MAN ANCHORP PER DETAIL 101. AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PER DETAIL 109 AND PULL TEST TO 28.000 LBS. SEE GSN'S FOR PULL TEST INFORMATION.         4)       1/2? DIA. SUPER SWAGED GUY CABLE/ ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2-0' BROVE ZIP CABLE         5)       1/2? DIA. SUPER SWAGED GUY CABLE/ ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2-0' BROVE ZIP CABLE         6)       1/2? DIA. SUPER SWAGED GUY CABLE/ ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2-0' BROVE ZIP CABLE         7)       STAIRS / STAIR LANDINGS PER DETAIL 4/55.6 AND DETAIL 5/55.7.         (4)       STAIRS / STAIR LANDINGS PER DETAIL 1/25.5.5.         (7)       STAIRS / STAIR LANDINGS PER DETAIL 1/25.5.5.         (7)       DEDAMA ANCHORP PER DETAIL 100 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 109 AND PULL TEST TO 16.000 LBS. SEE GSNE FOR PULL TEST INFORMATION         (7)       1/2' DLA SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2-0' OF BRIGGE BELAY CABLE AND AT 45' ANGE TO POLE.         (7)       1/2' DLA SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER G					7		
1         1/2* DIA. SUPER SWAGED ZIP CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS.           21         1/2* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12* OF ZIP CABLE AND AT 45* ANGLE TO POLE.           3         DEAD MAN ANCHOR PER <u>DETAIL 101</u> . AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PER <u>DETAIL. 109</u> AND PULL TEST TO 28,000 LBS. SEE GSNs FOR PULL TEST INFORMATION.           41         1/2* DIA. SUPER SWAGED BUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL ALL WITHIN 6* OF BRAKE CABLE.           5         1/2* DIA. SUPER SWAGED BUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2*0* ABOVE ZIP CABLE 6* 1/2* DIA. SUPER SWAGED BUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAIL. SINSTALL WITHIN 6* OF ZIP CABLE AND AT 45* ANGLE TO POLE.           6* STAIRS / STAIR LANDINGS PER <u>DETAIL 105 ACTIVITY</u> SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER <u>DETAIL 109</u> AND PULL TEST TO 9.000 LBS. SEE GSNs FOR PULL TEST INFORMATION           (1)         DEAD MAN ANCHOR PER <u>DETAIL 102</u> AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER <u>DETAIL 109</u> AND PULL TEST TO 9.000 LBS. SEE GSNs FOR PULL TEST INFORMATION           (1)         DEAD MAN ANCHOR PER <u>DETAIL 102</u> AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER <u>DETAIL 109</u> AND PULL TEST TO 9.000 LBS. SEE GSNs FOR PULL TEST INFORMATION           (1)         DEAD MAN ANCHOR PER <u>DETAIL 102</u> TO 9.000 STRUCTON, PROVIDE HELICAL PIER PER <u>DETAIL 109</u> AND PULL TEST TO 9.000 LBS. SEE GSNS		PLA	N NOTES				
1/2* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH             CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12* DF ZIP CABLE AND AT 45* ANGLE             ON POLE.                  3) DEAD MAN ANCHOR PER DETAIL 101 AT CONTRACTORS OPTION, PROVIDE HELICAL PIER             PER DETAIL 109 AND PULL TEST TO 28,000 LBS. SEE GSN'S FOR PULL TEST INFORMATION.                 4) 12* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH             CONNECTIONS PER TYPICAL DETAILS. INSTALL 20* ABUE 2                 6) 12* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH             CONNECTIONS PER TYPICAL DETAILS. INSTALL 20* ABUE 2                 6) 12* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH             CONNECTIONS PER TYPICAL DETAILS. INSTALL 20* ABUE 2                 6) 12* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH             CONNECTIONS PER TYPICAL DETAILS. INSTALL 20* ABUE 2                 7) STAIRS / STAIR LANDINGS PER DETAIL 2/S5.5.                 6) DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER             PER DETAIL 102 AND PULL TEST TO 18,000 LBS. SEE GSNS FOR PULL TEST INFORMATION                 10* DAA MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER             PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER             PER DETAIL 102 AND PULL TEST TO 18,000 LBS. SEE GSNS FOR PULL TEST INFORMATION                 10* DAA MANCHOR PER DETAIL 103 AT CONTRACTOR'S OPTION, PROVIDE HELICAL P	1/2" DIA CONNE	SUPER SWAGED ZIP CABLE/ CR CTIONS PER TYPICAL DETAILS.	RITICAL LIFE SAFETY SYSTEMS PE	R GSN'S WITH			
3       DEAD MAN ANCHOR PER DETAIL 101. AT CONTRACTORS OPTION, PROVIDE HELICAL PIER PER DETAIL 103 AND PULL TEST TO 28,000 LBS. SEE GSNs FOR PULL TEST INFORMATION.         4       1/2* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2:0* ABOVE 2/P CABLE         5       1/2* DIA. SUPER SWAGED OLY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2:0* ABOVE 2/P CABLE         6       1/2* DIA. SUPER SWAGED OLY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2:0* ABOVE 2/P CABLE AND AT 45* ANGLE TO POLE.         7       STAIRS / STAIR LANDINGS PER DETAIL 4/S5.6 AND DETAIL 5/S5.7.         8       STAIRS / STAIR LANDINGS PER DETAIL 2/S5.5.         9       STAIRS / STAIR LANDINGS PER DETAIL 12/S5.5.         10       DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 103 AND CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 103 AND CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 103 AND CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 103 AND PULL TEST TO 5.200 LBS. SEE GSNS FOR PULL TEST INFORMATION         10       DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 103 AND CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 103 AND CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 103 AND CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 104 AND PULL TEST TO 5.200 LBS. SEE GSNS FOR PULL TEST INFORMATION         10       DEAD MAN ANCHOR PER DETAIL 103 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 104 AND PULL TEST TO 5.200 LBS. SE	2 1/2" DIA CONNE TO POL	SUPER SWAGED GUY CABLE / A CTIONS PER TYPICAL DETAILS. II .E.	ACTIVITY SUPPORT SYSTEMS PEF NSTALL WITHIN 12" OF ZIP CABLE	R GSN'S WITH AND AT 45° ANGLE			
(4)       1/2* DIA SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL ALL WITHIN 6* OF BRAKE CABLE.         (5)       1/2* DIA. SUPER SWAGED BRAKE CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2*0* ABOVE 2/P CABLE and the connections per typical details. INSTALL 2*0* ABOVE 2/P CABLE AND AT 45* ANGLE TO POLE.         (6)       1/2* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6* OF ZIP CABLE AND AT 45* ANGLE TO POLE.         (7)       STAIRS / STAIR LANDINGS PER DETAIL 1/25.5.         (9)       STAIRS / STAIR LANDINGS PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 108 AND PULL TEST TO 18,000 LBS. SEE GSNs FOR PULL TEST INFORMATION         (11)       DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 109 AND PULL TEST TO 18,000 LBS. SEE GSNs FOR PULL TEST INFORMATION         (12)       1/2* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2*0* OF BRIDGE BELAY CABLE AND AT 45* ANGLE TO POLE.         (13)       6* THICK CONCRETE SLAB ON GRADE OVER 4* A.B.C. FILL WITH #3 BARS AT 9* O.C. EACH WAY CENTERED IN SLAB. COORDINATE CONCRETE SLAB CONTROL/CONSTRUCTION JOINTS WITH OWNER: SEE GENERAL STRUCTURAL NOTES FOR MAXIMUM SPACING OF JOINT'S SEE DETAILS FOR ADDITIONAL SLAB AND JOINT INFORMATION. PROVIDE CONSTRUCTION JOINT AT RAMPS PER DETAIL 111.1         (14)       1/2* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6* OF ZIP CABLE AND AT 7	3 DEAD M PER DE	IAN ANCHOR PER <u>DETAIL 101</u> . AT TAIL 109 AND PULL TEST TO 28,0	CONTRACTORS OPTION, PROVIE 00 LBS. SEE GSNs FOR PULL TES	DE HELICAL PIER T INFORMATION.			
(5)       1/2" DIA. SUPER SWAGED BRAKE CABLE/ CRITICAL LIFE SAFETY SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL 2-0" ABOVE 2/P CABLE AND AT 45" ANGLE TO POLE.         (6)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 0" OF 2/P CABLE AND AT 45" ANGLE TO POLE.         (7)       STAIRS / STAIR LANDINGS PER DETAIL 4/S5.6 AND DETAIL 5/S5.7.         (8)       STAIRS / STAIR LANDINGS PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 102 AND PULL TEST TO 18,000 LBS. SEE GSNs FOR PULL TEST INFORMATION         (10)       DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 100 AND PULL TEST TO 18,000 LBS. SEE GSNs FOR PULL TEST INFORMATION         (11)       DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 110 AND PULL TEST TO 9,200 LBS. SEE GSNs FOR PULL TEST INFORMATION         (12)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2"O" OF BRIDGE BELAY CABLE AND AT 45" ANGLE TO POLE.         (13)       6" THICK CONCRETE SLAB ON GRADE OVER 4" A. B.C. FILL WITH #3 BARS AT 9" O.C. EACH WAY CENTRED IN SLB. COORDINATE CONCRETE SLAB CONTROLOWING SPACING OF JOINT SYSTEMS PER GSN'S WITH CONNECTIONS JOINT AT RAMPS PER DETAIL 111.         (14)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS JOINT AT RAMPS PER DETAIL 111.         (14)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTION SPER TYPICAL DETAILS. INSTALL WITHIN 12" OF Z	4 1/2" DIA CONNE	SUPER SWAGED GUY CABLE / A CTIONS PER TYPICAL DETAILS. II	ACTIVITY SUPPORT SYSTEMS PEF NSTALL ALL WITHIN 6" OF BRAKE	R GSN'S WITH CABLE.			
(6)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 45" ANGLE TO POLE.         (7)       STAIRS / STAIR LANDINGS PER DETAIL 4/55.6 AND DETAIL 5/55.7.         (8)       STAIRS / STAIR LANDINGS PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 108 AND PULL TEST TO 18,000 LBS. SEE GSNs FOR PULL TEST INFORMATION         (11)       DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 110 AND PULL TEST TO 9,000 LBS. SEE GSNs FOR PULL TEST INFORMATION         (12)       DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 110 AND PULL TEST TO 9,000 LBS. SEE GSNs FOR PULL TEST INFORMATION         (12)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2-0" OF BRIDGE BELAY CABLE AND AT 45" ANGLE TO POLE.         (13)       6" THICK CONCRETE SLAB ON GRADE OVER 4" A.B.C. FILL WITH #3 BARS AT 9" O.C. EACH WAY CENTERCE IN SLAB. COORDINATE CONTRUCTONAL DOTA TA RAMPS PER DETAIL 111.         (14)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTION TA T RAMPS PER DETAIL 111.         (14)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 70" ANGLE TO POLE.         (15)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70" ANGLE TO POLE.         (15)<	5 1/2" DIA CONNE	SUPER SWAGED BRAKE CABLE CTIONS PER TYPICAL DETAILS. II	/ CRITICAL LIFE SAFETY SYSTEMS NSTALL 2'-0" ABOVE ZIP CABLE	S PER GSN'S WITH			
7       STAIRS / STAIR LANDINGS PER DETAIL 4/S5.6 AND DETAIL 5/S5.7.         8       STAIRS PER DETAIL 1/S5.5.         9       STAIRS / STAIR LANDINGS PER DETAIL 2/S5.5.         10       DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 108 AND PULL TEST TO 18,000 LBS. SEE GSNs FOR PULL TEST INFORMATION         11       DEAD MAN ANCHOR PER DETAIL 103 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 104 AND PULL TEST TO 9,200 LBS. SEE GSNs FOR PULL TEST INFORMATION         12       DEAD MAN ANCHOR PER DETAIL 103 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 104 AND PULL TEST TO 9,200 LBS. SEE GSNs FOR PULL TEST INFORMATION         11       DEAD MAN ANCHOR PER DETAIL 103 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2-0° OF BRIDGE BELAY CABLE AND AT 45° ANGLE TO POLE.         12       1/2° DIA. SUPER SWAGGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 2° OF ZIP CABLE AND AT 70° ANGLE TO POLE.         13       6°T HICK CONCRETE SLAB ON GRADE OVER 4" A B.C. FILL WITH #3 BARS AT 9" O.C. EACH WAY CENTERCION JOINT AT RAMPS PER DETAIL 111.         14       1/2° DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         15       1/2° DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         16       1/2° DIA. SUPER SWAG	6 1/2" DIA CONNE TO POL	SUPER SWAGED GUY CABLE / A CTIONS PER TYPICAL DETAILS. II E.	ACTIVITY SUPPORT SYSTEMS PER NSTALL WITHIN 6" OF ZIP CABLE A	R GSN'S WITH AND AT 45° ANGLE			
(8)       STAIRS PER DETAIL 1/S5.5.         (9)       STAIRS / STAIR LANDINGS PER DETAIL 2/S5.5.         (10)       DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 108 AND PULL TEST TO 18,000 LBS. SEE GSNs FOR PULL TEST INFORMATION         (11)       DEAD MAN ANCHOR PER DETAIL 103 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 110 AND PULL TEST TO 9,200 LBS. SEE GSNs FOR PULL TEST INFORMATION         (12)       1/2" DIA. SUPER SWAGGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2-0" OF BRIDGE BELAY CABLE AND AT 45° ANGLE TO POLE.         (13)       6" THICK CONCRETE SLAB ON GRADE OVER 4" A.B.C. FILL WITH #3 BARS AT 9" O.C. EACH WAY CENTERED IN SLAB. COORDINATE CONCRETE SLAB CONTROL/CONSTRUCTION JOINTS. SEE DETAILS FOR ADDITIONAL SLAB AND JOINT INFORMATION. PROVIDE CONSTRUCTION JOINT AT RAMPS PER DETAIL 111.         (14)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (15)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (15)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (15)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.	$\langle 7 \rangle$ STAIRS	/ STAIR LANDINGS PER <u>DETAIL 4</u>	/S5.6 AND DETAIL 5/S5.7.		(10)		
④       STAIRS / STAIR LANDINGS PER DETAIL 2/55.5.         10)       DEAD MAN ANCHOR PER DETAIL 102 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 108 AND PULL TEST TO 18,000 LBS. SEE GSNs FOR PULL TEST INFORMATION         11)       DEAD MAN ANCHOR PER DETAIL 103 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 110 AND PULL TEST TO 9,200 LBS. SEE GSNs FOR PULL TEST INFORMATION         11)       DEAD MAN ANCHOR PER DETAIL 103 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER PER DETAIL 110 AND PULL TEST TO 9,200 LBS. SEE GSNs FOR PULL TEST INFORMATION         12)       1/2" DIA. SUPER SWAGGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2'-0" OF BRIDGE BELAY CABLE AND AT 45" ANGLE TO POLE.         13)       6" THICK CONCRETE SLAB ON GRADE OVER 4" A.B.C. FILL WITH #3 BARS AT 9" O.C. EACH WAY CENTRERED IN SLAB. COORDINATE CONCRETE SLAB CONTROL/CONSTRUCTION JOINTS WITH OWNER. SEE GENERAL STRUCTURAL NOTES FOR MAXIMUM SPACING OF JOINTS. SEE DETAILS FOR ADDITIONAL SLAB AND JOINT INFORMATION. PROVIDE CONSTRUCTION JOINT AT RAMPS PER DETAIL 111.         14)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 70" ANGLE TO POLE.         15)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70" ANGLE TO POLE.         16)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70" ANGLE TO POLE.         122       DIAC		PER DETAIL 1/S5.5.					
Image: Non-Section Section Sect	9 STAIRS	/ STAIR LANDINGS PER <u>DETAIL 2</u>	<u>2/S5.5</u> .				
11       DEAD MAN ANCHOR PER DETAIL 103 AT CONTRACTOR'S OPTION, PROVIDE HELICAL PIER         11       PER DETAIL 110 AND PULL TEST TO 9,200 LBS. SEE GSNs FOR PULL TEST INFORMATION         112       1/2" DIA. SUPER SWAGGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH         112       CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2'-0" OF BRIDGE BELAY CABLE AND AT 45" ANGLE TO POLE.         113       6" THICK CONCRETE SLAB ON GRADE OVER 4" A.B.C. FILL WITH #3 BARS AT 9" O.C. EACH WAY CENTERED IN SLAB. COORDINATE CONCRETE SLAB CONTROL/CONSTRUCTION JOINTS WITH OWNER. SEE GENERAL STRUCTURAL NOTES FOR MAXIMUM SPACING OF JOINTS. SEE DETAILS FOR ADDITIONAL SLAB AND JOINT INFORMATION. PROVIDE CONSTRUCTION JOINT AT RAMPS PER <u>DETAIL 111.</u> 114       (12) I/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         115       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         115       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         116       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         117       DIAL SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.	10 DEAD M	1AN ANCHOR PER <u>DETAIL 102</u> AT <u>TAIL 108</u> AND PULL TEST TO 18,0	CONTRACTOR'S OPTION, PROVIE 00 LBS. SEE GSNs FOR PULL TES	DE HELICAL PIER T INFORMATION			
1/2*       1/2* DIA. SUPER SWAGGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS INSTALL WITHIN 2'-0" OF BRIDGE BELAY CABLE AND AT 45° ANGLE TO POLE.         (13)       6" THICK CONCRETE SLAB ON GRADE OVER 4" A.B.C. FILL WITH #3 BARS AT 9" O.C. EACH WAY CENTERED IN SLAB. COORDINATE CONCRETE SLAB CONTROL/CONSTRUCTION JOINTS WITH OWNER. SEE GENERAL STRUCTURAL NOTES FOR MAXIMUM SPACING OF JOINTS. SEE DETAILS FOR ADDITIONAL SLAB AND JOINT INFORMATION. PROVIDE CONSTRUCTION JOINT AT RAMPS PER DETAIL 111.         (14)       1/2* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (15)       1/2* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (16)       1/2* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (15)       1/2* DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         COLUMN (C) SCHEDULE         MARK         TYPE & SIZE         BASE CONNECTION         REMARKS         C1       PIPE 6, SCH. 40       SEE DETAIL 107       NONE         COLUMN (C) SCHEDULE         COLUMN (C) SEE DETAIL 107 <td>11 DEAD M</td> <td>IAN ANCHOR PER <u>DETAIL 103</u> AT TAIL <u>110</u> AND PULL TEST TO 9,20</td> <td>CONTRACTOR'S OPTION, PROVIE 0 LBS. SEE GSNs FOR PULL TEST</td> <td>DE HELICAL PIER</td> <td></td>	11 DEAD M	IAN ANCHOR PER <u>DETAIL 103</u> AT TAIL <u>110</u> AND PULL TEST TO 9,20	CONTRACTOR'S OPTION, PROVIE 0 LBS. SEE GSNs FOR PULL TEST	DE HELICAL PIER			
(13)       6" THICK CONCRETE SLAB ON GRADE OVER 4" A.B.C. FILL WITH #3 BARS AT 9" O.C. EACH WAY CENTERED IN SLAB. COORDINATE CONCRETE SLAB CONTROL/CONSTRUCTION JOINTS WITH OWNER. SEE GENERAL STRUCTURAL NOTES FOR MAXIMUM SPACING OF JOINTS. SEE DETAILS FOR ADDITIONAL SLAB AND JOINT INFORMATION. PROVIDE CONSTRUCTION JOINT AT RAMPS PER DETAIL 111.         (14)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (15)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (15)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (15)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (15)       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         (16)       NONE         (17)       NORE         (18)       COLUMN (C) SCHEDULE         MARK       TYPE & SIZE       BASE CONNECTION       REMARKS         (21)       PIPE 6, SCH. 40       SEE DETAIL 107       NONE         (22)       PIPE 10, SCH. 80       SEE DETAIL 105       NONE	(12) 1/2" DIA CONNE 45° ANO	SUPER SWAGGED GUY CABLE / CTIONS PER TYPICAL DETAILS IN GLE TO POLE.	ACTIVITY SUPPORT SYSTEMS PENSTALL WITHIN 2'-0" OF BRIDGE B	ER GSN'S WITH ELAY CABLE AND AT			
14       Other Swaged Guy Cable / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 6" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         15       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         15       1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.         COLUMN (C) SCHEDULE         MARK         TYPE & SIZE         BASE CONNECTION         REMARKS         C1       PIPE 6, SCH. 40         SEE DETAIL 107         NONE         C2         PIPE 10, SCH. 40         SEE DETAIL 114         NONE         C4         PIPE 6, SCH. 40         SEE DETAIL106         NONE         C5	(13) 6" THIC WAY CE JOINTS JOINTS CONST	K CONCRETE SLAB ON GRADE O ENTERED IN SLAB. COORDINATE WITH OWNER. SEE GENERAL ST . SEE DETAILS FOR ADDITIONAL RUCTION JOINT AT RAMPS PER D	VER 4" A.B.C. FILL WITH #3 BARS / CONCRETE SLAB CONTROL/CON RUCTURAL NOTES FOR MAXIMUN SLAB AND JOINT INFORMATION. F	AT 9" O.C. EACH STRUCTION // SPACING OF PROVIDE			
1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLECOLUMN (C) SCHEDULEMARKTYPE & SIZEBASE CONNECTIONREMARKSC1PIPE 6, SCH. 40SEE DETAIL 107NONEC2PIPE 10, SCH. 40SEE DETAIL 114NONEC3PIPE 10, SCH. 80SEE DETAIL 105NONEC4PIPE 6, SCH. 80SEE DETAIL 106NONEC5PIPE 6, SCH. 40SEE DETAIL 104NONE	(14) 1/2" DIA CONNE TO POL	SUPER SWAGED GUY CABLE / A CTIONS PER TYPICAL DETAILS. II .E.	ACTIVITY SUPPORT SYSTEMS PER NSTALL WITHIN 6" OF ZIP CABLE A	R GSN'S WITH AND AT 70° ANGLE	AN		
COLUMN (C) SCHEDULEMARKTYPE & SIZEBASE CONNECTIONREMARKSC1PIPE 6, SCH. 40SEE DETAIL 107NONEC2PIPE 10, SCH. 40SEE DETAIL 114NONEC3PIPE 10, SCH. 80SEE DETAIL 105NONEC4PIPE 6, SCH. 80SEE DETAIL 106NONEC5PIPE 6, SCH. 40SEE DETAIL 104NONE	1/2" DIA. SUPER SWAGED GUY CABLE / ACTIVITY SUPPORT SYSTEMS PER GSN'S WITH CONNECTIONS PER TYPICAL DETAILS. INSTALL WITHIN 12" OF ZIP CABLE AND AT 70° ANGLE TO POLE.						
MARKTYPE & SIZEBASE CONNECTIONREMARKSC1PIPE 6, SCH. 40SEE DETAIL 107NONEC2PIPE 10, SCH. 40SEE DETAIL 114NONEC3PIPE 10, SCH. 80SEE DETAIL 105NONEC4PIPE 6, SCH. 80SEE DETAIL106NONEC5PIPE 6, SCH. 40SEE DETAIL104NONE	COLUMN (C) SCHEDULE						
C1PIPE 6, SCH. 40SEE DETAIL 107NONEC2PIPE 10, SCH. 40SEE DETAIL 114NONEC3PIPE 10, SCH. 80SEE DETAIL 105NONEC4PIPE 6, SCH. 80SEE DETAIL106NONEC5PIPE 6, SCH. 40SEE DETAIL104NONE	MARK TYPE & SIZE BASE CONNECTION REMARKS						
C2         PIPE 10, SCH. 40         SEE DETAIL 114         NONE           C3         PIPE 10, SCH. 80         SEE DETAIL 105         NONE           C4         PIPE 6, SCH. 80         SEE DETAIL 106         NONE           C5         PIPE 6, SCH. 40         SEE DETAIL 104         NONE	C1	C1         PIPE 6, SCH. 40         SEE DETAIL 107         NONE					
C3         PIPE 10, SCH. 80         SEE DETAIL 105         NONE           C4         PIPE 6, SCH. 80         SEE DETAIL106         NONE           C5         PIPE 6, SCH. 40         SEE DETAIL104         NONE	C2	C2         PIPE 10, SCH. 40         SEE DETAIL 114         NONE					
C4         PIPE 6, SCH. 80         SEE DETAIL106         NONE           C5         PIPE 6, SCH. 40         SEE DETAIL104         NONE	C3	C3         PIPE 10, SCH. 80         SEE DETAIL 105         NONE					
C5 PIPE 6, SCH. 40 SEE <u>DETAIL104</u> NONE	C4	PIPE 6, SCH. 80	SEE <u>DETAIL106</u>	NONE			
	C5	PIPE 6, SCH. 40	SEE <u>DETAIL104</u>	NONE			

FOOTING (F) SCHEDULE							
3	FOR CONSTRUCTION ABOVE FOOTINGS, SEE DETAILS "T" 3" CLR. 						
MARK DIMENSIONS FOOTING REINFORCING REM							
F1	F1 4'-0" x 4'-0" 18"		(4) #5 BARS EACH WAY TOP AND BOTTOM	SEE DETAILS			
F2	5'-0"x5'-0"	18"	#5 BARS @ 9" O.C. EACH WAY TOP AND BOTTOM	SEE DETAILS			
F3	2'-6"xCONTI.	24"	#5 BARS @ 6" O.C. EACH WAY TOP AND BOTTOM	SEE <u>DETAIL 113</u>			
F4	8'-0"x5'-0"	24"	#5 BARS @ 6" O.C. EACH WAY TOP AND BOTTOM	SEE DETAILS			
F5	PER PLAN	24"	#5 BARS @ 6" O.C. EACH WAY TOP AND BOTTOM	SEE DETAILS			
F6	4'-6"x15'-0"	24"	#5 BARS @ 6" O.C. EACH WAY TOP AND BOTTOM	SEE DETAILS			
F7 6'-0"x6'-0" 18" #5 BARS @ 9" O.C. EACH WAY SEE DETAILS							
F8	F8         5'-6"x5'-6"         18"         #5 BARS @ 9" O.C. EACH WAY TOP AND BOTTOM         SEE DETAI						







SECTION

209

- B1, TYP.

— B1 (LOW), TYP. $^{\setminus}$ 





SCALE: 1/4" = 1'-0"

# LAUNCH PLATFORM ELEVATION

#### DUAL ZIP LAUNCH PLATFORM ELEVATION SCALE: 1/4" = 1'-0"



NOTE: PROVIDE 3/16 FILLET WELD ALL AROUND EACH OF ALL MEMBERS U.N.O.

NOTE: PROVIDE 3/16 FILLET WELD ALL AROUND EACH END OF ALL MEMBERS U.N.O.

B1 (HIGH) -

B1 (LOW)

B1, TYP.

TYP.

C2 -

C2 –

\_/

- R1

B1 (HIGH) B1 (LOW)

— B1, TYP.

TYF

— B1

10'-0"

#### PLAN NOTES

 $\langle 1 \rangle$  METAL ROOFING PER GSN'S.

 $\langle$  2  $\rangle$  MEZZANINE DECKING BY OTHERS. WELD TO SUPPORTS PER MANUFACTURER'S RECOMMENDATIONS.

 $\langle$  3  $\rangle$  RAILING PER TYPICAL DETAIL.

 $\langle 4 \rangle$  PIPE COLLAR PER SCHEDULE.

#### TYPICAL DIMENSION NOTE

CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ABEE. PRIOR TO CONSTRUCTION.

	BEAM (B) SCHEDULE								
MARK	SIZE / TYPE	CAMBER AT MIDSPAN	END CONNECTION REM						
B1	L4x4x1/4	NONE	SEE DETAILS	NONE					
B2	HSS4x2x1/4	NONE	SEE DETAILS	NONE					

COLUMN (C) SCHEDULE							
MARK	TYPE & SIZE	BASE CONNECTION	REMARKS				
C1	PIPE 6, SCHEDULE 40	SEE DETAILS	NONE				

	KICKER (K) SCHEDULE								
MARK	SIZE / TYPE	CAMBER AT MID SPAN	END CONNECTION	REMARKS					
K1	L4x4x1/4	NONE	SEE DETAILS	NONE					
K2	HSS 4x2x1/4, LSV	NONE	SEE DETAILS	NONE					

PIPE COLLAR SCHEDULE			
ZIPLINE	SIZE / TYPE		
WEDDING	PIPE 12 SCHEDULE 40		
CLIFF	PIPE 12 SCHEDULE 40		
BEACH/START	PIPE 12 SCHEDULE 40		
DRAGON	PIPE 12 SCHEDULE 40		
MOUNTAIN	PIPE 12 SCHEDULE 40		



# HUBBARD MERRELL ENGINEERING 204





# THIS DRAWING IS THE PROPERTY OF HME. THE USE OF THIS DRAWING IS LIMITED TO THE ORIGINAL SITE IT WAS PREPARED FOR AND SHALL BE EXPRESSLY LIMITED TO SUCH USE. ANY CHANGES TO THE ORIGINAL DRAWINGS ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD. REUSE, REPRODUCTION, OR PUBLICATIONS BY ANY METHOD IS NOT PERMITTED WITHOUT WRITTEN CONSENT OF HME.

HME PROJECT MANAGER: DAVE MERRELL

HME PROJECT ENGINEER: SABRINA BALLARD

DRAWN BY: VICTOR WING

JOB ORDER #: 22704

DATE: 12/08/2023 SCALE: AS NOTED REVISION:









![](_page_7_Figure_1.jpeg)

![](_page_8_Figure_0.jpeg)

![](_page_9_Figure_0.jpeg)

![](_page_9_Picture_4.jpeg)

![](_page_10_Figure_0.jpeg)

J.J ELEVATIONS

![](_page_11_Figure_0.jpeg)

![](_page_11_Figure_1.jpeg)

NOTE: OTHER FRAMING NOT SHOWN FOR CLARITY.

![](_page_11_Figure_3.jpeg)

![](_page_12_Figure_81.jpeg)

![](_page_12_Picture_82.jpeg)

![](_page_13_Figure_0.jpeg)

![](_page_14_Figure_0.jpeg)

![](_page_15_Figure_0.jpeg)

![](_page_15_Picture_1.jpeg)

![](_page_15_Picture_2.jpeg)

![](_page_16_Figure_0.jpeg)

![](_page_16_Figure_1.jpeg)

### ZIP LINE ESTIMATED SPEED ENVELOPE

ESTIMATED RIDER VELOCITY PARAMETERS

MAXIMUM SPEED = 26.88 MPH

MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER = 7.62 MPH

MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER = 23.41 MPH

NOTES:

- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM
- THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE.
- VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

ALL VALUES SHOWN ON THIS SHEET ARE BASED ON PRINCIPLES OF ENGINEERING AND ARE BASED ON THE VALUES AND INFORMATION PROVIDED TO HUBBARD MERRELL ENGINEERING BY EQUIPMENT MANUFACTURERS OR THROUGH TESTING. THE VALUES ON THIS SHEET SHOULD BE CONSIDERED ESTIMATES TO BE USED FOR DESIGN PURPOSES. UNMANNED TESTING SHOULD OCCUR PRIOR TO USE TO VERIFY VALIDITY OF ESTIMATES. NOTIFY HUBBARD MERRELL ENGINEERING OF ANY DISCREPANCY. OWNER SHALL FOLLOW ALL MAINTENANCE PROCEDURES TO AVOID INJURY OR DEATH.

#### Installation Tension:

To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

of measurement.						
Temperature	Tension (High End)	Tension (Low End)				
30°F	7298 - 8066 lbf	7265 - 8030 lbf				
37°F	7205 - 7963 lbf	7172 - 7927 lbf				
44°F	7112 - 7861 lbf	7079 - 7825 lbf				
51°F	7020 - 7759 lbf	6987 - 7723 lbf				
58°F	6928 - 7657 lbf	6895 - 7621 lbf				
65°F	6837 - 7556 lbf	6804 - 7520 lbf				
72°F	6746 - 7456 lbf	6713 - 7420 lbf				
79°F	6655 - 7356 lbf	6623 - 7320 lbf				
86°F	6566 - 7257 lbf	6533 - 7221 lbf				
93°F	6476 - 7158 lbf	6444 - 7122 lbf				
100°F	6388 - 7060 lbf	6355 - 7024 lbf				

![](_page_16_Figure_19.jpeg)

![](_page_16_Picture_20.jpeg)

![](_page_16_Picture_21.jpeg)

# THIS DRAWING IS THE PROPERTY OF HME. THE USE OF THIS DRAWING IS LIMITED TO THE ORIGINAL SITE IT WAS PREPARED FOR AND SHALL BE EXPRESSLY LIMITED TO SUCH USE. ANY CHANGES TO THE ORIGINAL DRAWINGS ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD. REUSE, REPRODUCTION, OR PUBLICATIONS BY ANY METHOD IS NOT PERMITTED WITHOUT WRITTEN CONSENT OF HME.

HME PROJECT MANAGER: DAVE MERRELL

HME PROJECT ENGINEER: SABRINA BALLARD

DRAWN BY: VICTOR WING

JOB ORDER #: 22704

DATE: 12/08/2023 SCALE: AS NOTED REVISION:

![](_page_16_Picture_29.jpeg)

![](_page_17_Figure_0.jpeg)

![](_page_17_Figure_1.jpeg)

![](_page_17_Figure_3.jpeg)

# ZIP LINE ESTIMATED SPEED ENVELOPE

#### ESTIMATED RIDER VELOCITY PARAMETERS

#### MAXIMUM SPEED = 19.84 MPH

#### MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER = 8.07 MPH

MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER = 17.85 MPH

#### NOTES:

- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM
- THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE.
- VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

ALL VALUES SHOWN ON THIS SHEET ARE BASED ON PRINCIPLES OF ENGINEERING AND ARE BASED ON THE VALUES AND INFORMATION PROVIDED TO HUBBARD MERRELL ENGINEERING BY EQUIPMENT MANUFACTURERS OR THROUGH TESTING. THE VALUES ON THIS SHEET SHOULD BE CONSIDERED ESTIMATES TO BE USED FOR DESIGN PURPOSES. UNMANNED TESTING SHOULD OCCUR PRIOR TO USE TO VERIFY VALIDITY OF ESTIMATES. NOTIFY HUBBARD MERRELL ENGINEERING OF ANY DISCREPANCY. OWNER SHALL FOLLOW ALL MAINTENANCE PROCEDURES TO AVOID INJURY OR DEATH.

#### Installation Tension:

To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

er medearenne	or measurement						
Temperature	Tension (High End)	Tension (Low End)					
30°F	4618 - 5104 lbf	4603 - 5087 lbf					
37°F	4527 - 5004 lbf	4512 - 4986 lbf					
44°F	4437 - 4904 lbf	4421 - 4887 lbf					
51°F	4347 - 4805 lbf	4332 - 4788 lbf					
58°F	4258 - 4707 lbf	4243 - 4690 lbf					
65°F	4171 - 4610 lbf	4155 - 4592 lbf					
72°F	4084 - 4514 lbf	4068 - 4496 lbf					
79°F	3998 - 4419 lbf	3982 - 4401 lbf					
86°F	3913 - 4325 lbf	3897 - 4308 lbf					
93°F	3829 - 4232 lbf	3813 - 4215 lbf					
100°F	3746 - 4141 lbf	3731 - 4123 lbf					

![](_page_17_Figure_20.jpeg)

![](_page_17_Picture_21.jpeg)

Ŋ Ш N **N** R U 4 4 ß רי ш 4

# THIS DRAWING IS THE PROPERTY OF HME. THE USE OF THIS DRAWING IS LIMITED TO THE ORIGINAL SITE IT WAS PREPARED FOR AND SHALL BE EXPRESSLY LIMITED TO SUCH USE. ANY CHANGES TO THE ORIGINAL DRAWINGS ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD. REUSE, REPRODUCTION, OR PUBLICATIONS BY ANY METHOD IS NOT PERMITTED WITHOUT WRITTEN CONSENT OF HME.

HME PROJECT MANAGER: DAVE MERRELL

HME PROJECT ENGINEER: SABRINA BALLARD

DRAWN BY: VICTOR WING

JOB ORDER #: 22704

Date: 12/08/2023 SCALE: AS NOTED REVISION:

![](_page_17_Picture_30.jpeg)

![](_page_18_Figure_0.jpeg)

<u>SCALE</u>: HORIZONTAL: 1" = 50'-0"

VERTICAL: 1" = 20'-0"

![](_page_18_Figure_1.jpeg)

![](_page_18_Figure_2.jpeg)

### ZIP LINE ESTIMATED CABLE POSITION

												:
	· · ·		: : :				•					
											· · · · · · · · · · · · · · · · · · ·	
				• • • • • • • • • • • • • • • • • • • •			•••••	•••••		• • • • • • • • •	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
	: UNLOADED CA	BLE SAG					.   .					
			· · ·							•		:
/	: · · · · - · - · · · · · -		:	:								<u>:</u>
/		ST CABLE POST	HT RIDER				<b> </b>	•••••	•••••		· · · · · · · · · · · · · · · · · · ·	
/	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·				:  :					; ;
							<u> </u>				· · · · · · · · · · · · · · · · · · ·	· · · · ·
				:								
		· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·					94.4	
\	:		: 	<u> </u>							2.41	<u> </u>
											34	
	· · · · · · · · · · · · · · · · · ·										· · ·	· · ·
	÷ 8' CLEARANCE ⊥LOWEST CABL	FROM E POSITION	· · · · · · · · · · · · · · · · · · ·				· · · · · ·	• • • • • • • •	• • • • • • • • •	· · · · · · · · · · · · · · · · · · ·		
	:		:				. I	N		•		:
								——е	BRAKE LC		N	
	· · ·		:		/		•					:
					/			•••••		• • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·	
				L.	•		•					
ERLE	VEL											
	<u>:</u>				GROUNE	) ELEVATION, CTOR TO VERIE	Y —				· · ·	
	· · · · · · · · · · · · · · · · · · ·						• • • • • • • • • •	•••••	•••••		· · · · · · · · · · · · · · · · · · ·	
	:		:							•		
			: :							•		:
			· · ·				- - -			• • •	· · ·	
											· · · · · · · · · · · · · · · · · · ·	
	:		:									
	:		:				- - -				· · ·	
			· · ·							· · · · · · · · · · · · · · · · · · ·		
<u>3</u>	 00	 <b>۵</b> (	 00	۲ ۲۵	)0		 )()	• • • • • • • • •			)0	۰۰۰۰۰۰ ۶۵C
0						00					~~	000

RELATIVE DISTANCE IN FEET

# ZIP LINE ESTIMATED SPEED ENVELOPE

#### ESTIMATED RIDER VELOCITY PARAMETERS

MAXIMUM SPEED = 23.79 MPH

#### MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER = 5.24 MPH

MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER = 19.91 MPH

NOTES:

- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM
- THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE.
- VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

ALL VALUES SHOWN ON THIS SHEET ARE BASED ON PRINCIPLES OF ENGINEERING AND ARE BASED ON THE VALUES AND INFORMATION PROVIDED TO HUBBARD MERRELL ENGINEERING BY EQUIPMENT MANUFACTURERS OR THROUGH TESTING. THE VALUES ON THIS SHEET SHOULD BE CONSIDERED ESTIMATES TO BE USED FOR DESIGN PURPOSES. UNMANNED TESTING SHOULD OCCUR PRIOR TO USE TO VERIFY VALIDITY OF ESTIMATES. NOTIFY HUBBARD MERRELL ENGINEERING OF ANY DISCREPANCY. OWNER SHALL FOLLOW ALL MAINTENANCE PROCEDURES TO AVOID INJURY OR DEATH.

#### Installation Tension:

To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

Temperature	Tension (High End)	Tension (Low End)
30°F	4518 - 4993 lbf	4496 - 4969 lbf
37°F	4437 - 4904 lbf	4415 - 4880 lbf
44°F	4358 - 4817 lbf	4336 - 4792 lbf
51°F	4280 - 4730 lbf	4258 - 4706 lbf
58°F	4203 - 4645 lbf	4181 - 4621 lbf
65°F	4127 - 4561 lbf	4105 - 4537 lbf
72°F	4052 - 4478 lbf	4030 - 4454 lbf
79°F	3978 - 4397 lbf	3956 - 4373 lbf
86°F	3906 - 4317 lbf	3884 - 4293 lbf
93°F	3835 - 4238 lbf	3813 - 4214 lbf
100°F	3765 - 4161 lbf	3743 - 4137 lbf

![](_page_18_Figure_21.jpeg)

![](_page_18_Picture_22.jpeg)

Ŋ N 7 **N** R U 4 4 ß רי ш 4 -----

# THIS DRAWING IS THE PROPERTY OF HME. THE USE OF THIS DRAWING IS LIMITED TO THE ORIGINAL SITE IT WAS PREPARED FOR AND SHALL BE EXPRESSLY LIMITED TO SUCH USE. ANY CHANGES TO THE ORIGINAL DRAWINGS ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD. REUSE, REPRODUCTION, OR PUBLICATIONS BY ANY METHOD IS NOT PERMITTED WITHOUT WRITTEN CONSENT OF HME.

HME PROJECT MANAGER: DAVE MERRELL

HME PROJECT ENGINEER: SABRINA BALLARD

DRAWN BY: VICTOR WING

JOB ORDER #: 22704

Date: 12/08/2023 SCALE: AS NOTED REVISION:

![](_page_18_Picture_31.jpeg)

![](_page_19_Figure_0.jpeg)

ESTIMATED RIDER VELOCITY PARAMETERS

MAXIMUM SPEED = 26.18 MPH

MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER = 6.21 MPH

MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER = 22.49 MPH

NOTES:

- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM
- THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE.
- VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

ALL VALUES SHOWN ON THIS SHEET ARE BASED ON PRINCIPLES OF ENGINEERING AND ARE BASED ON THE VALUES AND INFORMATION PROVIDED TO HUBBARD MERRELL ENGINEERING BY EQUIPMENT MANUFACTURERS OR THROUGH TESTING. THE VALUES ON THIS SHEET SHOULD BE CONSIDERED ESTIMATES TO BE USED FOR DESIGN PURPOSES. UNMANNED TESTING SHOULD OCCUR PRIOR TO USE TO VERIFY VALIDITY OF ESTIMATES. NOTIFY HUBBARD MERRELL ENGINEERING OF ANY DISCREPANCY. OWNER SHALL FOLLOW ALL MAINTENANCE PROCEDURES TO AVOID INJURY OR DEATH.

nstallation	Tension:
-------------	----------

To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time

of measurement.							
Temperature	Tension (High End)	Tension (Low End)					
<b>30°</b> F	6194 - 6846 lbf	6164 - 6813 lbf					
<b>3</b> 7°F	6106 - 6748 lbf	6076 - 6716 lbf					
<b>4</b> 4°F	6018 - 6652 lbf	5989 - 6619 lbf					
<b>51°</b> F	5932 - 6556 lbf	5902 - 6524 lbf					
58°F	5846 - 6461 lbf	5816 - 6429 lbf					
65°F	5761 - 6367 lbf	5731 - 6334 lbf					
72°F	5676 - 6274 lbf	5647 - 6241 lbf					
79°F	5592 - 6181 lbf	5563 - 6148 lbf					
86°F	5509 - 6089 lbf	5480 - 6057 lbf					
93°F	5427 - 5999 lbf	5398 - 5966 lbf					
100°F	5346 - 5909 lbf	5317 - 5876 lbf					

![](_page_19_Figure_17.jpeg)

![](_page_19_Picture_18.jpeg)

Ŋ Ш N 7 **N** Ľ ß Ш 4

# THIS DRAWING IS THE PROPERTY OF HME. THE USE OF THIS DRAWING IS LIMITED TO THE ORIGINAL SITE IT WAS PREPARED FOR AND SHALL BE EXPRESSLY LIMITED TO SUCH USE. ANY CHANGES TO THE ORIGINAL DRAWINGS ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD. REUSE, REPRODUCTION, OR PUBLICATIONS BY ANY METHOD IS NOT PERMITTED WITHOUT WRITTEN CONSENT OF HME.

HME PROJECT MANAGER: DAVE MERRELL

HME PROJECT ENGINEER: SABRINA BALLARD

DRAWN BY: VICTOR WING

JOB ORDER #: 22704

DATE: 12/08/2023 SCALE: AS NOTED REVISION:

![](_page_19_Picture_27.jpeg)

![](_page_20_Figure_1.jpeg)

						))	
	:		:				
	-						
• • • • • • • • • • • • • • • • • • • •	••••••				•••••		
							:
	·····	·····					
							:
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		·····	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·
							ION
	·····	·····		····		· · · · · · · · · · · · · · · · · · ·	
PROFILE OF 70 POU			· · · ·				
		<u> </u>					
		· · · · · · · · · · · · · · · · · · ·					
	<u> </u>						;
							:
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·					
PROFILE OF 275 PO			<u> </u>				:
			<u>:</u>				; ;
	•		•				

JTE: CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, AND GROUND
CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES.

#### ESTIMATED RIDER VELOCITY PARAMETERS

MAXIMUM SPEED = 30.39 MPH

#### MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER = 3.75 MPH

MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER = 24.85 MPH

NOTES:

·/--- · 99' ·

- 87'

1200

- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE. - VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A

NOMINAL BREAKING STRENGTH OF 17.4 TONS.

ALL VALUES SHOWN ON THIS SHEET ARE BASED ON PRINCIPLES OF ENGINEERING AND ARE BASED ON THE VALUES AND INFORMATION PROVIDED TO HUBBARD MERRELL ENGINEERING BY EQUIPMENT MANUFACTURERS OR THROUGH TESTING. THE VALUES ON THIS SHEET SHOULD BE CONSIDERED ESTIMATES TO BE USED FOR DESIGN PURPOSES. UNMANNED TESTING SHOULD OCCUR PRIOR TO USE TO VERIFY VALIDITY OF ESTIMATES. NOTIFY HUBBARD MERRELL ENGINEERING OF ANY DISCREPANCY. OWNER SHALL FOLLOW ALL MAINTENANCE PROCEDURES TO AVOID INJURY OR DEATH.

#### Installation Tension:

To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement

or measurement.							
Temperature	Tension (High End)	Tension (Low End)					
30°F	7758 - 8575 lbf	7715 - 8527 lbf					
37°F	7668 - 8476 lbf	7625 - 8428 lbf					
44°F	7579 - 8377 lbf	7536 - 8330 lbf					
51°F	7491 - 8279 lbf	7448 - 8232 lbf					
58°F	7402 - 8182 lbf	7360 - 8134 lbf					
65°F	7315 - 8085 lbf	7272 - 8037 lbf					
72°F	7228 - 7989 lbf	7185 - 7941 lbf					
79°F	7141 - 7893 lbf	7098 - 7845 lbf					
86°F	7055 - 7798 lbf	7012 - 7750 lbf					
93°F	6970 - 7704 lbf	6927 - 7656 lbf					
100°F	6885 - 7610 lbf	6842 - 7562 lbf					

![](_page_20_Figure_18.jpeg)

STATE OF

ONAL

ſ, N **N** R U 4 ß Ш 4 \_

# THIS DRAWING IS THE PROPERTY OF HME. THE USE OF THIS DRAWING IS LIMITED TO THE ORIGINAL SITE IT WAS PREPARED FOR AND SHALL BE EXPRESSLY LIMITED TO SUCH USE. ANY CHANGES TO THE ORIGINAL DRAWINGS ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD. REUSE, REPRODUCTION, OR PUBLICATIONS BY ANY METHOD IS NOT PERMITTED WITHOUT WRITTEN CONSENT OF HME.

HME PROJECT MANAGER: DAVE MERRELL

HME PROJECT ENGINEER: SABRINA BALLARD

DRAWN BY: VICTOR WING

JOB ORDER #: 22704

Date: 12/08/2023 SCALE: AS NOTED REVISION:

![](_page_20_Picture_27.jpeg)

![](_page_21_Figure_0.jpeg)

![](_page_21_Figure_1.jpeg)

HORIZONTAL: 1" = 50'-0" VERTICAL: 1" = 5 MPH

<u>NOTE:</u> CONTRACTOR SHALL VERIFY ALL ELEVATIONS, ZIP LINE LENGTHS, CLEARANCES PER PLAN. NOTIFY ENGINEER OF RECORD OF ANY DISCR
ESTIMATED RIDER VELOCITY PARAMETERS
MAXIMUM SPEED = 31.7 MPH
MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER = 24.27
MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER = 0.81 M

# ZIP LINE ESTIMATED CABLE POSITION

60	00 7	8 00	300 9	900	100	00	110	00
		: 	· · · · · · · · · · · · · · · · · · ·	:				
					•			
	· · · · · · · · · · · · · · · · · · ·	:		:	:			
			:		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
		:						
					•		· · · · · · · · · · · · · · · · · · ·	
• • • • • • • • • • • • • • • • • • • •		<u>.</u>	······	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			
	· · · · · · · · · · · · · · · · · · ·	: :	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	•			
	•	·   · · · · · · · · · · · · · · · · · ·	•	•				
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·						
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	•				· · ·	
		; 		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
	· · · · · · · · · · · · · · · · · · ·	· · ·		• • •				
		·		•	•		•	
······ /····· /······					· · · · · · · · · · · · · · · · · · ·			
	·	:	•	•	•		•	
		RIDER	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·			
	· · · · · · · · · · · · · · · · · · ·	•	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		• • • • • • • • • • • • • • • • • • •	
	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·				
	· · · · · · · · · · · · · · · · · · ·		• •	•	· · · · · · · · · · · · · · · · · · ·			
	•		•	•	•			
	· · · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·				
	· · · · · · · · · · · · · · · · · · ·	;	·		· · · · · · · · · · · · · · · · · · · ·			
							•	
	CITY PROFILE OF 275 POUND							
	:	:	:	:	:		:	

# AND GROUND REPANCIES. 7 MPH MPH

#### NOTES:

- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE. - VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A NOMINAL BREAKING STRENGTH OF 17.4 TONS.

ALL VALUES SHOWN ON THIS SHEET ARE BASED ON PRINCIPLES OF ENGINEERING AND ARE BASED ON THE VALUES AND INFORMATION PROVIDED TO HUBBARD MERRELL ENGINEERING BY EQUIPMENT MANUFACTURERS OR THROUGH TESTING. THE VALUES ON THIS SHEET SHOULD BE CONSIDERED ESTIMATES TO BE USED FOR DESIGN PURPOSES. UNMANNED TESTING SHOULD OCCUR PRIOR TO USE TO VERIFY VALIDITY OF ESTIMATES. NOTIFY HUBBARD MERRELL ENGINEERING OF ANY DISCREPANCY. OWNER SHALL FOLLOW ALL MAINTENANCE PROCEDURES TO AVOID INJURY OR DEATH.

![](_page_21_Figure_14.jpeg)

![](_page_21_Picture_15.jpeg)

ſ, N **N** Ľ ß 4 \_

# THIS DRAWING IS THE PROPERTY OF HME. THE USE OF THIS DRAWING IS LIMITED TO THE ORIGINAL SITE IT WAS PREPARED FOR AND SHALL BE EXPRESSLY LIMITED TO SUCH USE. ANY CHANGES TO THE ORIGINAL DRAWINGS ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD. REUSE, REPRODUCTION, OR PUBLICATIONS BY ANY METHOD IS NOT PERMITTED WITHOUT WRITTEN CONSENT OF HME.

HME PROJECT MANAGER: DAVE MERRELL

HME PROJECT ENGINEER: SABRINA BALLARD

DRAWN BY: VICTOR WING

JOB ORDER #: 22704

Date: 12/08/2023 SCALE: AS NOTED REVISION:

![](_page_21_Picture_24.jpeg)

![](_page_22_Figure_1.jpeg)

	60	00	7	00	8	00	90	00	10	000		110	00
		: 		• • •						: 			
				• • •		• • •				<u> </u>			
				•		• •				. I :			
		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		; ; ;			
		• • •		•		• • •		• • •		]	$\square$		
		· ·		· ·		· · ·						· · · · · · · · · · · · · · · · · · ·	
				•		•		•				:	
		: : :		:		•				:   :			
		: 		; 		:							
				· · ·		• • •				· · · · · · · · · · · · · · · · · · ·		:	
		· :		•						:  :		BRAKE L( :	DCATION_
		· ·		:						·			
										I	<b>.</b>	: 	•••••
				-				· · · · · · · · · · · · · · · · · · ·					
										:  :			
		• • •		•		• • •		• • •		: :		· · · · · · · · · · · · · · · · · · ·	
										: : · · · · · · · · · · · · · · · ·			•••••
	OF 70 POUND R	: RIDER		· · ·		• • •		• • •		: 		· · · · · · · · · · · · · · · · · · ·	
				•		•		· • •					
		•		• • • •		•		• • •		i i l		· · · · · · · · · · · · · · · · · · ·	
										: 			
				· ·		• • •		• • •			$\vdash$		
		•		•		•		•					
		•				•							
<del>. /</del> .		••••••••••••••••••••••••••••••••••••••		······································		· · · · · · · · · · · · · · · · · · ·		• • • • • • • • • • • • • • • • • • •		;  :		······································	•••••
		•		•		• • •				<u> </u>		:	
	CITY PROFILE	OF 275 POUND	RIDER ———	• • •		• • •		• • •		: :			
				•		•		· · ·		: 			
		:		:		· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·		:	

#### ESTIMATED RIDER VELOCITY PARAMETERS

MAXIMUM SPEED = 30.73 MPH

#### MINIMUM SPEED AT BRAKE LOCATION - 70 POUND RIDER = 2.68 MPH

MAXIMUM SPEED AT BRAKE LOCATION - 275 POUND RIDER = 25.26 MPH

NOTES:

- SPEEDS INCLUDE A 5 MPH SUSTAINED WIND SPEED APPLIED TO THE HEAVY RIDER'S BACK AND THE LIGHT RIDER'S FRONT.
- SPEED BASED ON A TROLLEY COEFFICIENT OF .035. CONTACT MANUFACTURER TO CONFIRM
- THIS VALUE OR AT INSTALLERS OPTION. TROLLEY SHOULD BE TESTED TO VERIFY THIS VALUE. HUBBARD MERRELL ENGINEERING CAN PROVIDE TESTING AS AN ADDITIONAL SERVICE. - VALUES BASED ON 1/2" DIA. 6x26 SUPER SWAGED IWRC GALVANIZED STEEL CABLE WITH A
- NOMINAL BREAKING STRENGTH OF 17.4 TONS.

ALL VALUES SHOWN ON THIS SHEET ARE BASED ON PRINCIPLES OF ENGINEERING AND ARE BASED ON THE VALUES AND INFORMATION PROVIDED TO HUBBARD MERRELL ENGINEERING BY EQUIPMENT MANUFACTURERS OR THROUGH TESTING. THE VALUES ON THIS SHEET SHOULD BE CONSIDERED ESTIMATES TO BE USED FOR DESIGN PURPOSES. UNMANNED TESTING SHOULD OCCUR PRIOR TO USE TO VERIFY VALIDITY OF ESTIMATES. NOTIFY HUBBARD MERRELL ENGINEERING OF ANY DISCREPANCY. OWNER SHALL FOLLOW ALL MAINTENANCE PROCEDURES TO AVOID INJURY OR DEATH.

#### Installation Tension:

To utilize the estimates provided in this report, the cable should be installed (and maintained) at the following tensions relating directly to the temperature at the time of measurement.

of medoarement.								
Temperature	Tension (High End)	Tension (Low End)						
30°F	7200 - 7958 lbf	7157 - 7911 lbf						
37°F	7115 - 7864 lbf	7072 - 7816 lbf						
44°F	7030 - 7770 lbf	6987 - 7723 lbf						
51°F	6946 - 7677 lbf	6903 - 7630 lbf						
58°F	6863 - 7585 lbf	6820 - 7538 lbf						
65°F	6780 - 7493 lbf	6737 - 7446 lbf						
72°F	6698 - 7403 lbf	6655 - 7355 lbf						
79°F	6616 - 7313 lbf	6573 - 7265 lbf						
86°F	6535 - 7223 lbf	6492 - 7176 lbf						
93°F	6455 - 7135 lbf	6412 - 7087 lbf						
100°F	6376 - 7047 lbf	6333 - 6999 lbf						

![](_page_22_Figure_20.jpeg)

![](_page_22_Picture_21.jpeg)

![](_page_22_Figure_22.jpeg)

# THIS DRAWING IS THE PROPERTY OF HME. THE USE OF THIS DRAWING IS LIMITED TO THE ORIGINAL SITE IT WAS PREPARED FOR AND SHALL BE EXPRESSLY LIMITED TO SUCH USE. ANY CHANGES TO THE ORIGINAL DRAWINGS ARE FORBIDDEN WITHOUT THE WRITTEN CONSENT OF THE ENGINEER OF RECORD. REUSE, REPRODUCTION, OR PUBLICATIONS BY ANY METHOD IS NOT PERMITTED WITHOUT WRITTEN CONSENT OF HME.

HME PROJECT MANAGER: DAVE MERRELL

HME PROJECT ENGINEER: SABRINA BALLARD

DRAWN BY: VICTOR WING

JOB ORDER #: 22704

Date: 12/08/2023 SCALE: AS NOTED REVISION:

![](_page_22_Picture_30.jpeg)

![](_page_22_Figure_31.jpeg)

![](_page_22_Figure_32.jpeg)