

Worcester County Fire Training Facility Vehicle Storage Project

Addendum 1

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This addendum must be recognized as received in the final bid submission in the Office of the County Commissioners, Room 1103 – Worcester County Government Center, One West Market Street, Snow Hill, Maryland 21863-1195. All clarifications, specifications and drawings included with this addendum are to be included with the final proposal.

Ring W. Lardner, P.E.
W. Zachary Crouch, P.E.
Michael E. Wheedleton, AIA, LEED GA
Jason P. Loar, P.E.
Jamie L. Sechler, P.E.

**Pre-Bid Meeting Minutes
Worcester County Vehicle Storage Facility
August 25, 2025
DBF # 0085049.B01**

In Attendance:

Name	Organization	Phone	Email
Donna Sanders	Davis Bowen & Friedel	410-543-9091	dls@dbfinc.com
Mike Wheedleton	Davis Bowen & Friedel	410-543-9091	mwh@dbfinc.com
Bill Bradshaw	Worcester County Engineering	410-632-1200	bbradshaw@worcestermd.gov
Matt Owens	Worcester County Fire Marshal	410-632-5666	mowens@worcestermd.gov
Rob Kord, Jr.	Worcester County Fire Marshal	410-632-5666	rkord@worcestermd.gov
Nick Rice	Worcester County Procurement Office	410-632-1194	nrice@worcestermd.gov
Dave Hoffman	Gipe Associates	410-822-8688	dhoffman@gipe.net

Items of Discussion:

I. Nick Rice, County Procurement Officer, discussed the following concerning bidding requirements:

- a. The bid is public. No wage rates are associated with the project.
- b. Any bidder questions during the bid are to be directed to his attention (nrice@worcestermd.gov).
- c. Addenda will be issued by the County Procurement Office.
- d. The last day for questions, in writing, is Monday, September 15.
- e. Bids are due Tuesday, October 7 at the County Administration Building, first floor, no later than 2:30pm.
- f. Bidders are to allow time for the Sheriff's Office checkpoint at the building entry.
- g. All issued addendums are required to be acknowledged on the bid form.
- h. No bids will be accepted after 2:30pm.
- i. Bonding requirements are listed in the specifications.

II. Bill Bradshaw, County Engineer, discussed the following regarding the project:

- a. In addition to the vehicle storage building, the project also includes a water tank/fire pump building.
- b. A training tower will be erected onsite also. Only the foundation work is included in the contract, The training tower will be constructed outside of this contract.
- c. Bidders are asked to pay attention to Alternates 1, 2, and 3 as they include the County during portions of the work.

- d. The County will provide the building permit, other inspections, approvals outside of this, which may have fees that apply.
- e. Permits were reviewed. Worcester County will provide a building permit as Owner and name the successful Contractor on the permit at no charge. The Contractor will coordinate all inspections and maintain site records. The Contractor is responsible for providing trade permits (electrical, plumbing, gas, etc.) and supply inspections per these permit requirements. Third party special inspections including soils, concrete, steel, air barrier, structural are the responsibility of the Contractor.

III. Mike Wheedleton, Architect for Davis, Bowen & Friedel, Inc., issued the following regarding the buildings:

- a. The Vehicle Storage Facility is an 11,800sf pole building. It will have 10 vehicle bays with a 12'x14' sectional overhead door at each bay. Interior height is 16' from slab to ceiling. The attic area has wood trusses with a centrally located walkway. The fire pump room is also a pole building. Both structures will have metal wall and roof panels.
- b. It is important to note that these structures are a category IV essential facility. Codes, such as wind speed, will be stricter. Refer to the structural notes in the bid documents for further information.

IV. Donna Sanders, Landscape Architect for Davis, Bowen & Friedel, Inc., discussed the following with regard to the site:

- a. Demolish part of existing pavement in the location of the new building. Existing fence along the east side to be removed and relocated according to the final layout.
- b. Existing pavement to the north of the new building will be milled and overlaid. New pavement will extend from the new building to the proposed fire tower. The concrete foundation for the proposed fire tower to be constructed according to structural plans while the building will be by others.
- c. There are two submerged gravel wetlands, and both have outfall structures which are piped to the existing stormwater pond.
- d. A sidewalk connects the proposed building to the pump house and sprinkler tank.
- e. Sewer pipe runs between the proposed building and pump house.

V. Dave Hoffman with Gipe Associates discussed the following with regard to the mechanical/electrical/plumbing engineering:

- a. The drawings and specifications detail the system's well. Refer to these.
- b. Systems and equipment include fire alarm, ducts with smoke detectors, ERU-VAU units, unit heaters, fans, infrared heaters, and ATC panels.
- c. Dave also noted for bidders to pay close attention to the Alternates, especially 1, 2, and 3 with regard to the work the County may be doing.

VI. The following notes refer to the questions asked:

- a. There will be no background checks or drug testing required.
- b. This is not a mandatory pre-bid meeting.
- c. The project is slated for 275 days for completion. Refer to Project Milestone dates on Section 001116 of the front-end specifications.
- d. The Erosion & Sediment Control/Stormwater Management Plan also covers the requirements for the Stormwater Pollution Prevention Plan.

- e. The training tower foundation will be constructed first to allow installation of the tower in early 2026.
- f. Pole building design will be supplied by the Contractor and sealed by a Maryland-certified structural engineer.
- g. The Contractor will be responsible to provide builders' risk insurance.
- h. Bidders are encouraged to tour the site.
- i. Existing equipment located onsite is in process of relocation by the County to clear the construction site.
- j. The existing fire tower is planned to be demolished. Some site coordination may be required to facilitate removal of debris, etc.
- k. The site existing training facility will be occupied during construction. Parking and access for employees must be coordinated with the Fire Marshal's office as necessary.
- l. Normal Work Schedule: Monday to Friday, 7:30am-4:00pm, Sunday to Thursday, 4:00pm-12:00am. Saturday schedule is available if coordinated with the building director and County engineer.

SIGN IN SHEET

MEETING:	PRE-BID MEETING
PROJECT NAME:	Worcester County Vehicle Storage Facility
LOCATION:	Worcester County Fire Training Center - 6743 Central Site Lane, Newark, MD 21841
PROJECT NUMBER:	DBF #0085A049.B01
DATE:	August 25, 2025 at 1:00pm

NAME	REPRESENTING	PHONE	E-MAIL
Steve Shoemaker	Scheibel Construction	301-855-7900	bids@scheibelconstruction.com
Eric Butler	Bancroft Construction	410-251-4392	ebutler@bancroftusa.com
Dave Hoffman	Gipe Associates	410-310-6055	dhoffman@gipe.net
Vince Arillo	Worcester County		varillo@worcestermd.gov
John Chamberlain	Beauchamp Construction Services	410-603-6799	john@bbcs.net
Zach Parker	Worcester County	410-251-7352	zparker@co.worcester.md.us
Elizabeth Justis	Keller Brothers	410-726-6041	bids@kellerbrothers.com
Bill Bradshaw	Worcester County Engineering	410-632-1200	bbradhsaw@worcestermd.gov
Nicholas Rice	Worcester County Procurement Office	410-632-1194	nrice@worcestermd.gov
Chris Walls	The Whayland Company	302-875-5445	chris@whayland.com
Jessica Mumbulo	Willow Construction	302-444-2145	jmumbulo@willowconstruction.com sales@willowconstruction.com
David Strauss	Harkins Contracting, Inc.	410-749-3300	dstrauss@harkinscintracting.com
Jeff Dashiell	Henly Construction	410-430-5954	estimating@henlyconstruction.com
Bill Henly	Henly Construction	240-762-1268	estimating@henlyconstruction.com
David Weldon	Harper & Sons, Inc.	410-822-2000	dweldon@harperandson.com
Benson Harper	Harper & Sons, Inc.	410-822-2000	bharper@harperandson.com
Rich Hertzog	Gillis Gilkerson	443-235-2063	rhertzog@ggibuilds.com
Stephan Beachy	Delmarva Buildings	302-482-4826	tephan.beachy@ilovepolebuildings.com
Chris Wilhelm	Pole Building Outfitters	443-375-0497	chrispboutfilters@gmail.com

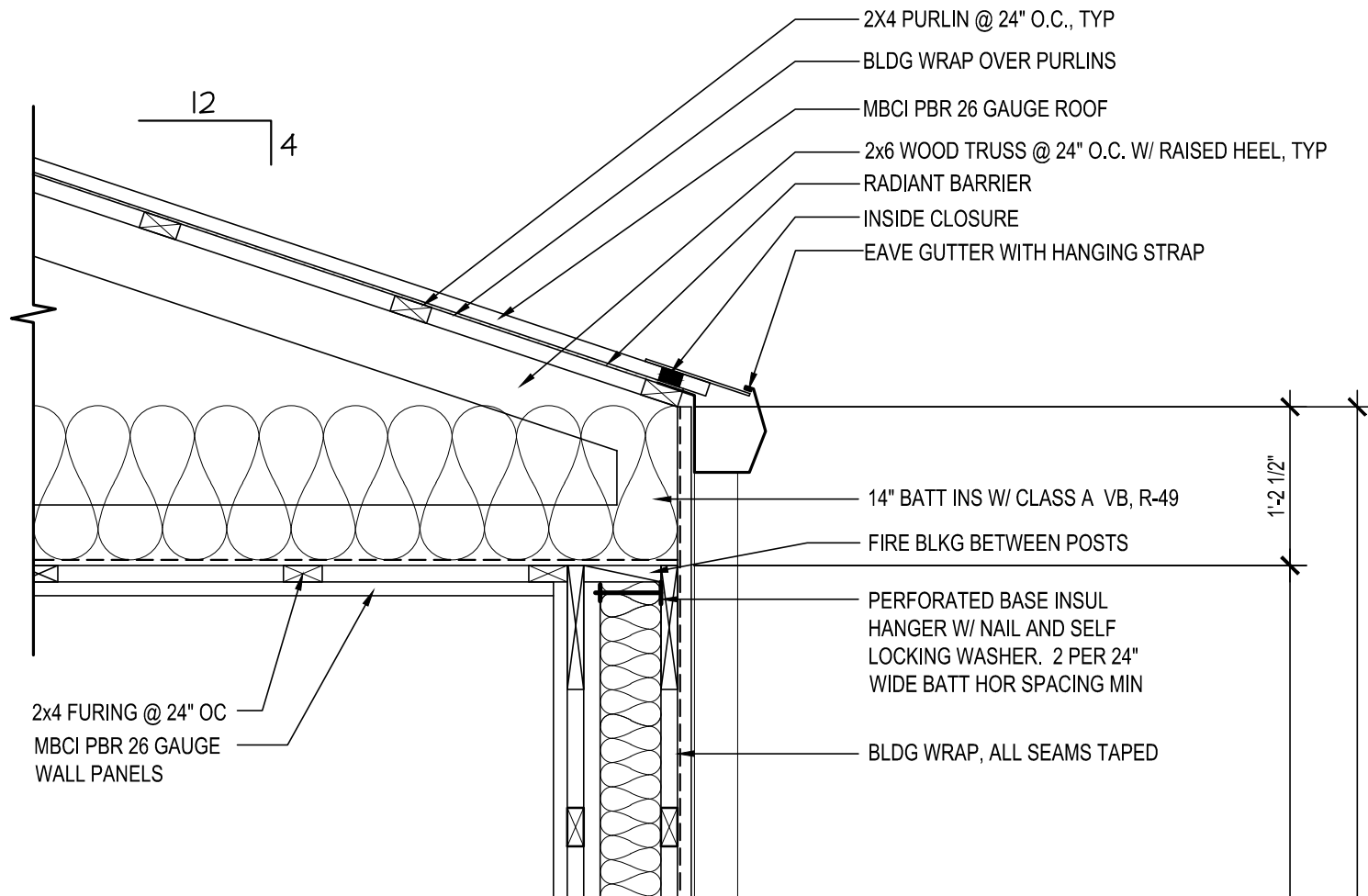
Worcester County Fire Training Facility Vehicle Storage Project

Addendum 1 Supplemental Questions:

The supplemental questions and responses based on received questions as of 8/26/25:


1. Are there foundation designs for either the fire pump building or the prefabricated fire training tower? *A: The fire pump building is a pole structure and foundation design will be by the supplier/installer. The pre-fabricated training tower foundation is included in the bid drawings listed as S0 and S1 on the drawing index.*
2. Time of Completion is detailed on page 2 of specification 001116 Invitation to Bid. You're also asking us to list the calendar days on the bid form. Please clarify. *A: Please enter the duration to complete the work to confirm the total number of days in section 001116. If different then take exception on the bid forms as necessary.*
3. Several details on drawing S1 refer to Behlen drawings. Please clarify what the Behlen drawings are. *A: The Behlen drawings are anchor bolts for the pre-fabricated training tower. See attached drawings for clarification. These anchor bolts and hardware shall be supplied by the foundation contractor.*

Revised - Drawing A-302 Wall Section Note update

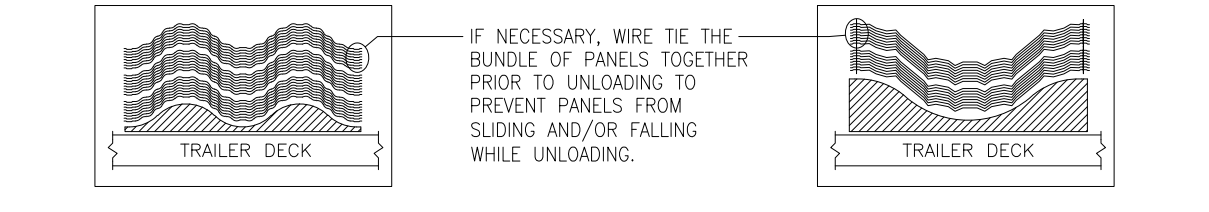


*NOTE: 1 – 10,000 lb CAPACITY NYLON SLING REQUIRED FOR UNLOADING
3" x 3" BLOCKING OR (2 – PLY 2x4) AS REQUIRED


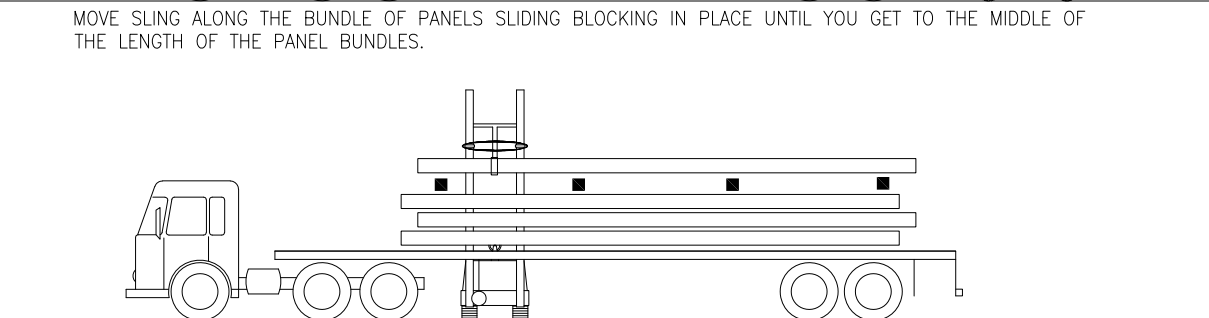
PANELS WILL BE STAGGERED OFF THE MILL IN APPROXIMATELY 5000lb LIFTS THUS ARRIVING ON ONSITE
STAGGERED FOR EASY UNLOADING.

A line drawing of a flatbed truck. The truck has a cab on the left and a long flatbed trailer. On the flatbed, four long, rectangular panels are stacked horizontally on top of each other. The panels are staggered, meaning they are not perfectly aligned, with some offset towards the front and some towards the back. The truck has multiple axles with wheels, and a single vertical support leg is visible under the flatbed.

A FULL LENGTH SCRAP PANEL IS LAID ON THE DECK OF THE TRAILER FOR PROTECTION. FOR PAINTED PANELS AN ADDITIONAL FULL LENGTH PANEL FOR A COVER SHEET WILL BE USED UNDER EVERY LIFT.



LIFT CORNER EDGE OF THE FIRST BUNDLE AND GET A SLING IN UNDERNEATH THE BUNDLE OF PANELS. IF REQUIRED USE A LINING BAR AND SMALL BLOCK TO SEPARATE PANELS ENOUGH TO GET THE TIP OF THE FORK LIFT BETWEEN PANELS TO INSERT STRAPS. USE STRAP IN BASKET CONFIGURATION. LIFT SLIGHTLY AND SLIDE BLOCKING IN UNDER THE PANELS

A line drawing of a truck with a flatbed trailer. A forklift is positioned at the rear of the trailer, lifting a bundle of three long, tapered panels. An arrow points upwards from the forklift's forks, indicating the lifting action. The panels are stacked on the trailer, and the forklift is positioned behind them.

UNLOADING PROCEDURES

NOTE:
REFER TO SHEET 101 AND THE FIRETOWER STANDARD DETAILS
FOR RECOMMENDED STORAGE GUIDELINES FOR PANELS.

DRAWING SCHEDULE			
SHT #	DRAWING TITLE	REV.	REVISION YY/MM/DD
100	DRAWING SCHEDULE	A	25/06/06
101	GENERAL INFORMATION AND CONFORMANCE	A	25/06/06
102	ANCHOR BOLT PLAN	A	25/06/06
103	ANCHOR BOLT DETAILS	A	25/06/06
104	ANCHOR BOLT REACTIONS	A	25/06/06

CONSTRUCTION DRAWINGS TRANSMITTAL	
ATTENTION:	JIM BELISLE, SAM CROSS, JOE KIRCHNER, STEVE JAHNKE COLBY DeLUNA, KAYLA MOORE
PHONE:	(913) 385-3663
EMAIL:	jimb@trainingtowers.com samc@trainingtowers.com joe_kirchner@trainingtowers.com steve_jahnke@trainingtowers.com colbyd@trainingtowers.com kaylam@trainingtowers.com

PREPARED BY:	LB
ORIGINATOR:	TV

EMAIL:	N/A
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REQUEST FOR RE-SUBMITTAL OF APPROVAL DRAWINGS IS SUBJECT TO ADDITIONAL CHARGES.

Late Response WILL Affect Your Schedule.

Date:

- ROOF PANELS -N/A
- WALL PANELS -STONE GREY
- WALL FLASHINGS -STONE GREY
- RIGIDIZED PANELS -STONE GREY
- CORNER PANELS -MELCHER'S GREEN
- WEAR PLATES (166816) -MELCHER'S GREEN
- GABLE COVERS -MELCHER'S GREEN
- EAVE FLASHINGS -MELCHER'S GREEN
- CAP FLASHINGS -MELCHER'S GREEN
- FRAMED OPENINGS -MELCHER'S GREEN
- SHUTTERS -MELCHER'S GREEN
- BALCONY COMPONENTS -MELCHER'S GREEN

SEE STANDARD DETAIL BOOKLET FOR ALL STANDARD DETAILS.
THE DETAILS WITHIN THE BOOKLET COVER A WIDE RANGE OF CIRCUMSTANCES.
IF THERE IS A DISCREPANCY BETWEEN THE BOOKLET AND THE CONSTRUCTION
DRAWINGS, PLEASE USE THE DETAIL FROM THE CONSTRUCTION DRAWINGS.



				CUSTOMER: WORCESTER COUNTY FIRE DEPT.	PROJECT: FIRE TRAINING SIMULATOR	SHEET 100
				DEALER: WHP – TRAININGTOWERS	LOCATION: WORCESTER COUNTY, MD	ISSUE A
				DRAWING SCHEDULE	BEHLEN	
A	FOR CONSTRUCTION	TV	25/06/06			
ISSUE	DESCRIPTION	NAME	YY/MM/DD	SALES ORDER: 118854	927 DOUGLAS STREET, BRANDON, MANITOBA, R7A 7B3, 204-728-1188 605 SHELTON DRIVE, CAMBRIDGE, ONTARIO, N1T 2K1, 519-620-6003	

CERTIFICATE OF DESIGN AND MANUFACTURING CONFORMANCE

This certificate is to confirm that all components of the steel building system described below have been or will be designed and fabricated in accordance with the standards and loads listed below

1. DESCRIPTION

House Order Number:	118854		
Building Type:	FIRE TRAINING TOWER		
Building I Size:	21'-11" X 21'-11" X 43'-6" TOWER / STAIR TOWER		
Building II Size:	21'-11" X 35'-0" X 23'-6" RESIDENTIAL		
Building III Size:	21'-11" X 14'-6" X 9'-4 1/4" ANNEX		
Intended Use and Occupancy:	UTILITY		
Site Location:	WORCESTER COUNTY, MD		
Builder's Name and Address:	WHP – TRAININGTOWERS	GRANDVIEW, MO	
Owner's Name and Address:	WORCESTER COUNTY FIRE DEPT.	WORCESTER COUNTY, MD	

2. DESIGN CRITERIA

Building Code	ASCE7-16 / IBC 2021
Roof Live	100 psf
Floor Live	100 psf
Attic Live	100 psf
Collateral	5 psf
Dead	5 psf
4" Concrete Slab	38 psf
Padgenite	9 psf
Bar Grating (1"x1/8")	5 psf
Risk Category	II
Wind Load V_Ult	125 mph
Wind Load V_Asd	96.8 mph
Wind Exposure	C
Seismic Site Class	D
Seismic Design Cat	A
Seismic Importance	1
Seismic Coef – Ss	0.087
Seismic Coef – S1	0.036

DESIGN IS IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE SPECIFICATIONS: 2016 15th EDITION AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS – ALLOWABLE STRESS DESIGN"

2016 AISI – "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS"

GENERAL

THIS DRAWING INCLUDING INFORMATION HEREIN, REMAINS THE PROPERTY OF BEHLEN INDUSTRIES. IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE PURCHASE ORDER AND SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF BEHLEN INDUSTRIES.

THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE, GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN CONFORMANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION INCLUDING THE PROPER USE OF TEMPORARY BRACING. BEHLEN INDUSTRIES IS NOT RESPONSIBLE FOR ERRORS, OMISSIONS OR DAMAGES INCURRED IN THE ERECTION OF THE COMPONENTS SHOWN ON THIS DRAWING, NOR FOR THE INSPECTION OF ERECTED COMPONENTS TO DETERMINE SAME.

THIS CERTIFICATION AND ENGINEERING SEAL APPLIES ONLY TO PRODUCTS DESIGNED AND FABRICATED BY BEHLEN INDUSTRIES FOR THE LOADING CONDITIONS DESIGNATED ON THESE DRAWINGS. CONCRETE FOUNDATIONS, STEEL COMPONENTS BY OTHERS AND ERECTION SUPERVISION ARE NOT THE RESPONSIBILITIES OF BEHLEN INDUSTRIES OR THE CERTIFYING ENGINEER.

ANCHOR BOLTS

ANCHOR BOLTS ARE NOT FURNISHED AS PART OF DRAWING PACKAGE.

ANCHOR BOLT DIAMETERS ARE DETERMINED IN ACCORDANCE WITH THE AISC MANUAL USING Fy = 36 KSI. ANCHOR BOLT LENGTHS AND LOAD TRANSFER TO THE FOUNDATION ARE TO BE DETERMINED BY OTHERS.

FOUNDATION MUST BE LEVEL, SQUARE AND SMOOTH. ANCHOR BOLTS MUST BE PLACED IN ACCORDANCE WITH THE DRAWINGS. PLACEMENT MUST NOT EXCEED 1/8", IN ANY DIRECTION, FROM THE DIMENSIONS SHOWN ON THE DRAWINGS.

THE CONCRETE CROSS SECTIONS SHOW SOME RECOMMENDED MINIMUMS BUT IS NOT MEANT TO BE USED AS A FINAL DESIGN. THE CONCRETE FOUNDATION THAT IS USED IN THIS BUILDING SHOULD BE IN ACCORDANCE WITH LOCAL PRACTICES, AND SATISFY THE LOCAL BUILDING CODES.

ALL DIMENSIONS SHOWN ARE TO THE BUILDING CONCRETE LINE.

FINISHED FLOOR ELEVATION IS 99'-6" UNLESS NOTED, UNDERSIDE OF FOOTING CHANNEL AND UNDERSIDE OF BASE PLATE ARE AS NOTED.

ERECTION

THE ERECTOR MUST PROVIDE SAFE WORKING CONDITIONS AND PRACTICES CONFORMING TO ALL SAFETY REGULATIONS. ALL LIFTING DEVICES ARE TO BE SPECIFICALLY DESIGNED TO LIFT THE VARIOUS BUILDING COMPONENTS. SLINGS AND SPREADER BARS ARE TO BE USED TO PREVENT PERMANENT DEFORMATION OF ALL STRUCTURAL COMPONENTS.

ERECTION SHOULD START AT ONE ENDWALL. ERECT FIRST SIDEWALL PANEL WITH CORNER PANEL, USE TEMPORARY BRACING AS REQUIRED TO ENSURE STABILITY OF THE PANELS. RAISE FIRST CEILING PANEL AND MISCELLANEOUS ENDWALL PANELS, LEAVING ENDWALL PARTIALLY OPEN TO MINIMIZE WIND PRESSURE. CONTINUE ERECTION, INSTALLING SIDEWALL AND CEILING PANELS, GUSSETS AND STRUTS, ROOF PANELS, BOLTS AND SEALANTS AS SPECIFIED ON THE ERECTION DRAWINGS, AND THE BEHLEN ERECTION PROCEDURES MANUAL.

ERECTION PROCEDURES MUST INCLUDE PROVISIONS TO MONITOR THE WIDTH OF ALL PANELS TO ENSURE 41" (1041mm) WIDE PANEL INCREMENTS ARE MAINTAINED THROUGHOUT THE BUILDING CONSTRUCTION.

ENSURE THE STRUCTURE REMAINS PLUMB AND SQUARE. ERECTION TOLERANCES SHALL NOT EXCEED 1:300.

ALL PRE PUNCHED HOLES TO BE BOLTED UNLESS OTHERWISE SPECIFIED.

ERECTION OF STRUCTURAL STEEL SHOULD START AT THE SAME ENDWALL. ERECT AND TEMPORARILY SUPPORT FRAMES. USE TEMPORARY BRACING AS REQUIRED TO ENSURE STABILITY OF THE FRAMES. PLUMB AND SQUARE FRAMES. INSTALL ALL FINAL BRACING.

FASTEN FOOTING CHANNEL OF STUB WALL PANELS TO TOP OF STRUCTURAL STEEL BY PUDDLE WELDING PLATE WASHERS AT 20 1/2" AS SPECIFIED ON THE ERECTION DRAWINGS.

PANEL STORAGE

GALVANIZED, ALUMINIZED, AND COLORED MATERIALS ARE SUBJECT TO CORROSION AND DISCOLORATION IF THEY ARE IMPROPERLY STORED. THESE MATERIALS MUST BE KEPT DRY AT ALL TIMES. PROTECTION FROM RAINFALL ALONE IS OFTEN INADEQUATE. HUMID AIR COMBINED WITH TEMPERATURE CHANGES MAY CAUSE CONDENSATION, WHICH CAN CAUSE MOISTURE TO FORM BETWEEN THE PANELS. TO AVOID DAMAGE, THE MATERIALS MUST BE SEPARATED TO ALLOW AIR FLOW ON ALL SURFACES.

PREPAINTED AND ALUMINIZED PANELS ARE SUPPLIED WITH A PROTECTIVE PLASTIC FILM. STORAGE EXCEEDING 30 DAYS FROM DATE OF SHIPMENT REQUIRES MATERIAL BUNDLES TO BE OPENED AND STRIPPABLE PROTECTIVE FILM BE REMOVED AS THE FILM CAN BECOME DIFFICULT TO REMOVE. FAILURE TO REMOVE FILM MAY RESULT IN EXCESSIVE FILM ADHESION, FILM BREAKDOWN OR ADHESIVE RESIDUE. RESIDUE ISSUES RESULTING FROM FAILURE TO REMOVE PROTECTIVE FILM ARE NOT CLAIMABLE.

BEHLEN INDUSTRIES SHALL NOT BE HELD RESPONSIBLE FOR MATERIALS WHICH ARE IMPROPERLY PROTECTED AFTER DELIVERY.

STRUCTURAL BOLTS

ALL CONNECTION BOLTS SHALL BE BROUGHT TO A "SNUG-TIGHT" CONDITION WHICH IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. "SNUG-TIGHT" CONDITION IS ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A PERSON USING A SPUD WRENCH.

BOLTS IN CONNECTIONS SUBJECT TO TENSION LOADS SHALL BE BROUGHT TO A "SNUG-TIGHT" CONDITION AND THEN TIGHTENED ADDITIONALLY BY THE APPLICABLE NUT ROTATION GIVEN IN THE TABLE BELOW, WITH TIGHTENING PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID PART OF THE CONNECTION TO THE FREE EDGES. DURING THE OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH.

BOLT LENGTH (MEASURED FROM UNDERSIDE OF THE HEAD TO THE EXTREME END OF POINT)	TURN
UP TO AND INCLUDING 4 DIAMETERS	1/3
OVER 4 DIAMETERS AND NOT EXCEEDING 8 DIAMETERS OR 8 INCHES	1/2
EXCEEDING 8 DIAMETERS OR 8 INCHES	2/3

NOTE: NUT ROTATION IS ROTATION RELATIVE TO A BOLT REGARDLESS THE NUT OR BOLT BEING TURNED. TOLERANCE ON ROTATION: 30° OVER OR UNDER.

INSPECTION OF THE SIDES OF BOLTS OR NUTS SNUG-TIGHTENED USING AN IMPACT WRENCH WILL APPEAR SLIGHTLY PEENED AS A RESULT OF THE TIGHTENING PROCESS. NO FURTHER INSPECTION IS NECESSARY FOR BOLTS IN "BEARING-TYPE" CONNECTIONS AS PERFORMANCE IS INDEPENDENT OF INITIAL PRETENSION.

MATERIAL SPECIFICATIONS

MATERIAL	SPECIFICATION	GRADE	COATING
ROLLED L, S & C SECTIONS	CSA G40.21 ASTM A572 CSA G40.21 ASTM A992	44W (300W) GRADE 42 50W (350W) GRADE 50	
ROLLED W SECTIONS	CSA G40.21 CLASS C ASTM A500 CLASS C	50W (350W) 50	
HSS SECTIONS	ASTM A53	GRADE B	
PIPE SECTIONS	CSA G40.21 / ASTM A529, A572, A1011	50W (350W)	
PLATE (FLANGES & WEBS)	CSA G40.21 / ASTM A529, A572, A1011		
SHOP PRIMER	CGSB 1-GP-40M		
DIAGONAL BRACE ROD	CSA G40.21 ASTM A572	44W (300W) GRADE 42	
DIAGONAL BRACE CABLE	ASTM A475	EXTRA HIGH STRENGTH	
CORRUGATED PANELS			
GALVANIZED	ASTM A653 SQ	40 MIN	Z275 ZINC
GALVALUME	ASTM A792 SQ	40 MIN	AZ165 AL. ZINC
PAINTED	ASTM A653 SQ	40 MIN	Z275 ZINC
LIGHT GAUGE SECTIONS	ASTM A653 HSLA-F SQ	33 MIN & 55 CL1	Z275 ZINC
BOLTS LARGER THAN 1/2" Ø	ASTM F3125	A325 OR A490	
1/2" Ø BOLTS	SAE	5 OR 8.2	ELECTROPLATE ZINC
3/8" Ø BOLTS	AISI C1018/1020	2, 5 OR 8.2	DT1500 OR JS500
SEALANTS	CGSB 19-GP-14M		

PARTITION WALLS

THE ROOF SYSTEM WILL DEFLECT UNDER LIVE LOAD AND WITH TEMPERATURE VARIANCES. INTERIOR PARTITION WALLS MUST BE CONSTRUCTED WITH A SUFFICIENT SPACE BETWEEN THE TOP OF WALL AND THE UNDERSIDE OF CEILING SO THAT NO CONTACT IS MADE UNDER MAXIMUM DEFLECTION. FAILURE TO DO SO WILL CREATE EXCESSIVE STRESSES IN THE ROOF SYSTEM. CONSULT FACTORY FOR DEFLECTION SPECIFICATIONS AND/OR CONNECTION DETAILS.

ALL WALL PANELS ARE 18GA 4 1/2 UNLESS NOTED OTHERWISE
ALL ROOF PANELS ARE 13GA 7 1/2 UNLESS NOTED OTHERWISE
ALL FLOOR JOISTS ARE 10 C 14 (10" DEEP, 14 GA.) UNLESS NOTED OTHERWISE
ALL VERTICALS ARE 4 1/2 C 12 (4 1/2" DEEP, 12GA.) UNLESS NOTED OTHERWISE
ALL DECKING IS ELITE RIB 24GA GALVANIZED UNLESS NOTED OTHERWISE
ALL STAMPED LOUVERS ARE FACTORED INTO DESIGN.

SHOP PRIMER

BEHLEN'S RED AND GREY PRIMER PROVIDES TEMPORARY PROTECTION AGAINST RUST DURING TRANSPORTATION AND WHILE THE BUILDING IS BEING ERECTED AND IS NOT DESIGNED FOR LONG TERM EXPOSURE TO THE ELEMENTS. IT IS THE ERECTORS RESPONSIBILITY TO PROTECT THE STEEL IF IT IS TO BE STORED ON SITE FOR ANY LENGTH OF TIME. PRIMARY STEEL SHOULD BE COVERED AND SAFELY STACKED IN AN UP-RIGHT POSITION. WATER THAT IS ALLOWED TO POND ON FLANGES OR WEBS CAN CAUSE THE PRIMER TO LIFT AND FLAKE-OFF THE STEEL OVER TIME. BEHLEN WILL NOT BE HELD RESPONSIBLE FOR PAINT DAMAGE BY PONDING WATER. IT IS THE ERECTORS RESPONSIBILITY TO TOUCH-UP SHOP PRIMER THAT HAS BEEN DAMAGED DURING ERECTION

FIELD MODIFICATIONS

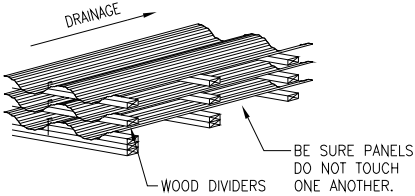
ANY FIELD MODIFICATION OF BUILDING STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN CONSENT OF BEHLEN INDUSTRIES LP WILL VOID THE CERTIFICATION AND WARRANTY.

FASTENER SCHEDULE

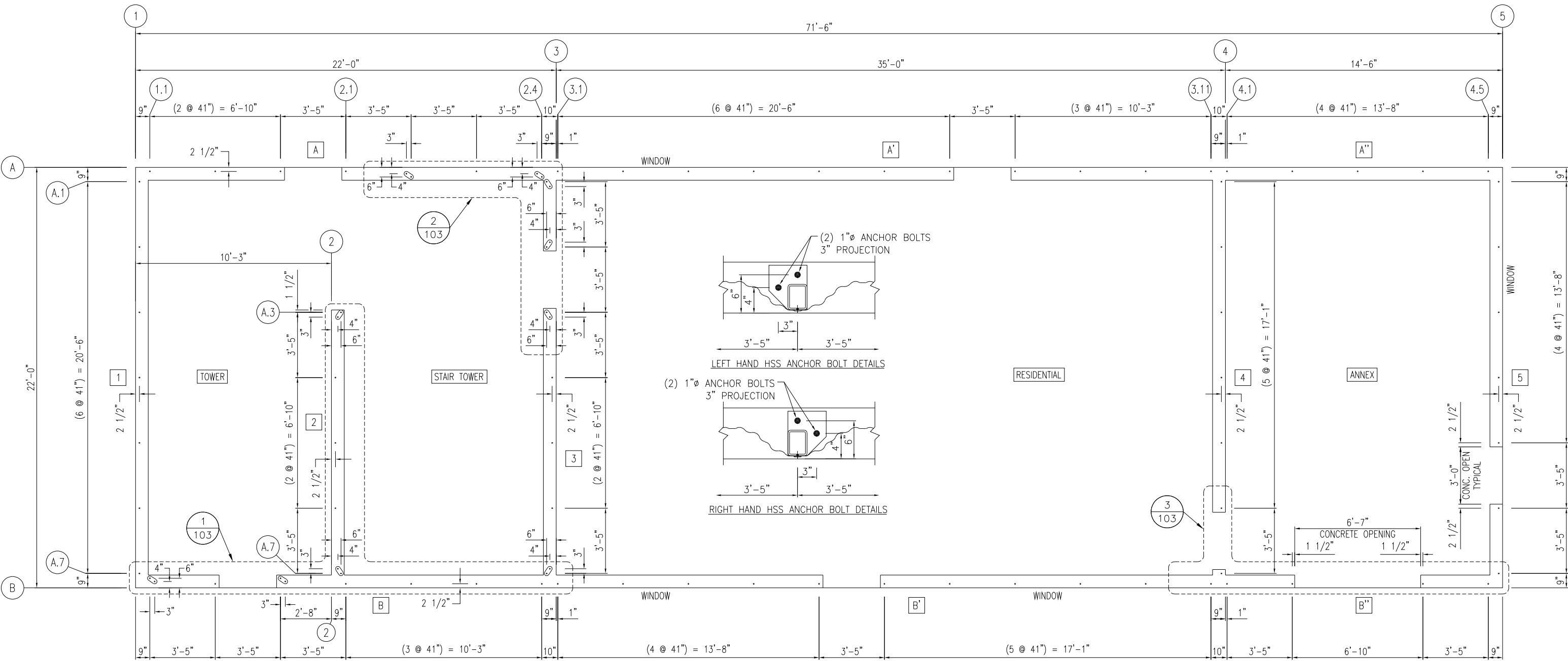
LOCATION	PART NO.	DESCRIPTION	GRADE/TYPE	COLOR
ROOF & WALL PANEL	999875305	PHILLIPS KIT 750 – 3/8" x 1 1/4"	2 DT1500	STONE GREY
CORNER PANEL	999875307	PHILLIPS KIT 750 – 3/8" x 1 1/4"	2 DT1500	MELCHER'S GREEN
ACCESSORIES FRAMES RWF WEAR PLATES FLOORS	TS0307121500 TS0305121500 TS0307121500 TS0001121000	TEK SCREW 12-14 x 1 1/2" TEK SCREW 12-14 x 1 1/2" TEK SCREW 12-14 x 1 1/2" TEK SCREW 12-14 x 1"	-- -- -- --	MELCHER'S GREEN STONE GREY MELCHER'S GREEN GALV.

ALL FASTENERS LISTED ARE TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS.

THIS METHOD OF STACKING FRAMELESS PANELS IS DESIRABLE INDOORS, AND ABSOLUTELY NECESSARY WHEN STACKED OUTDOORS.



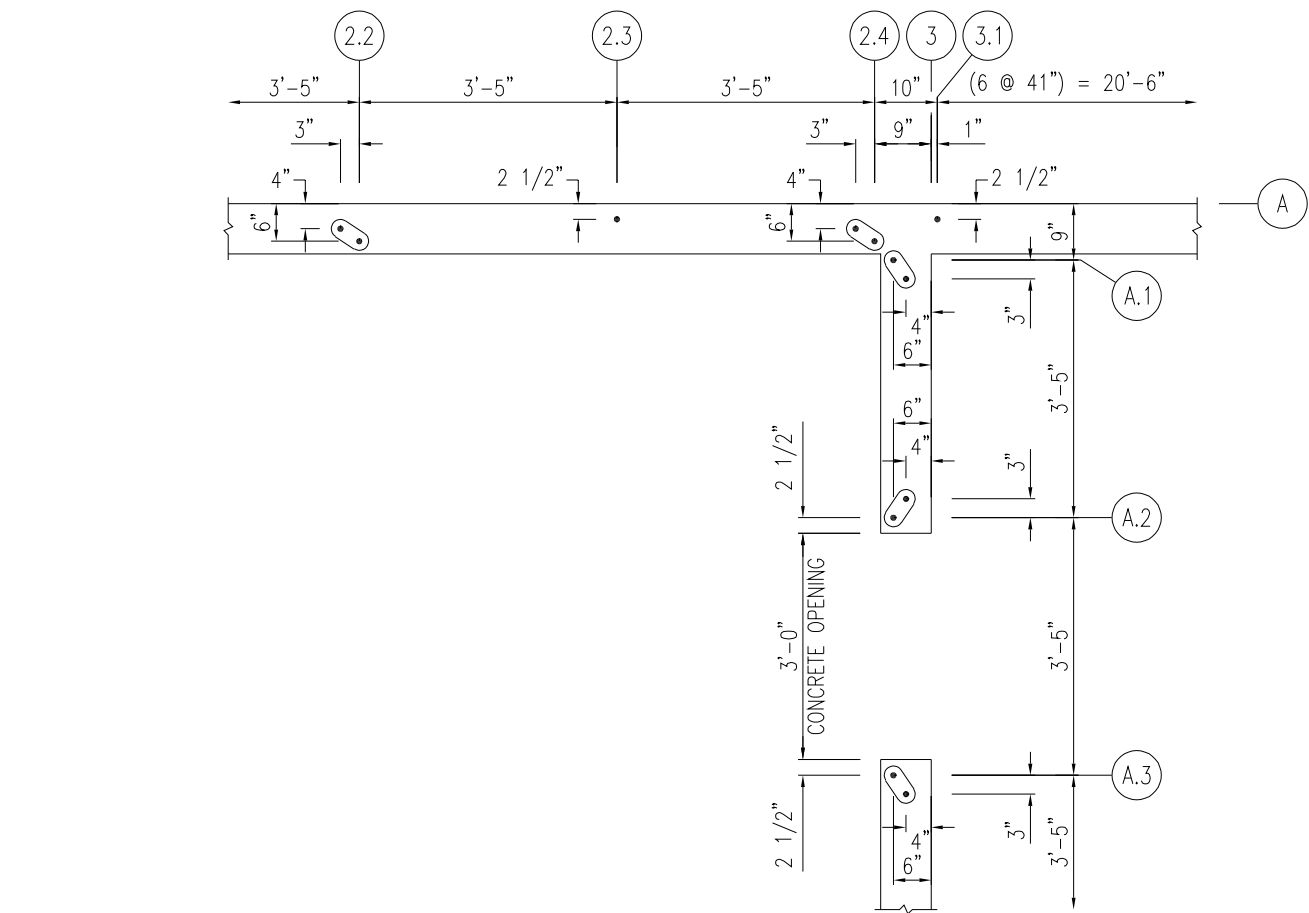
				CUSTOMER: WORCESTER COUNTY FIRE DEPT.	PROJECT: FIRE TRAINING SIMULATOR	SHEET 101
				DEALER: WHP – TRAININGTOWERS	LOCATION: WORCESTER COUNTY, MD	ISSUE A
				GENERAL INFORMATION AND CONFORMANCE	<div>BEHLEN</div>	
A	FOR CONSTRUCTION	TV	25/06/06			
ISSUE	DESCRIPTION	NAME	YY/MM/DD	SALES ORDER: 118854	927 DOUGLAS STREET, BRANDON, MANITOBA, R7A 7B3, 204-728-1188 605 SHELTON DRIVE, CAMBRIDGE, ONTARIO, N1T 2K1, 519-620-6003	



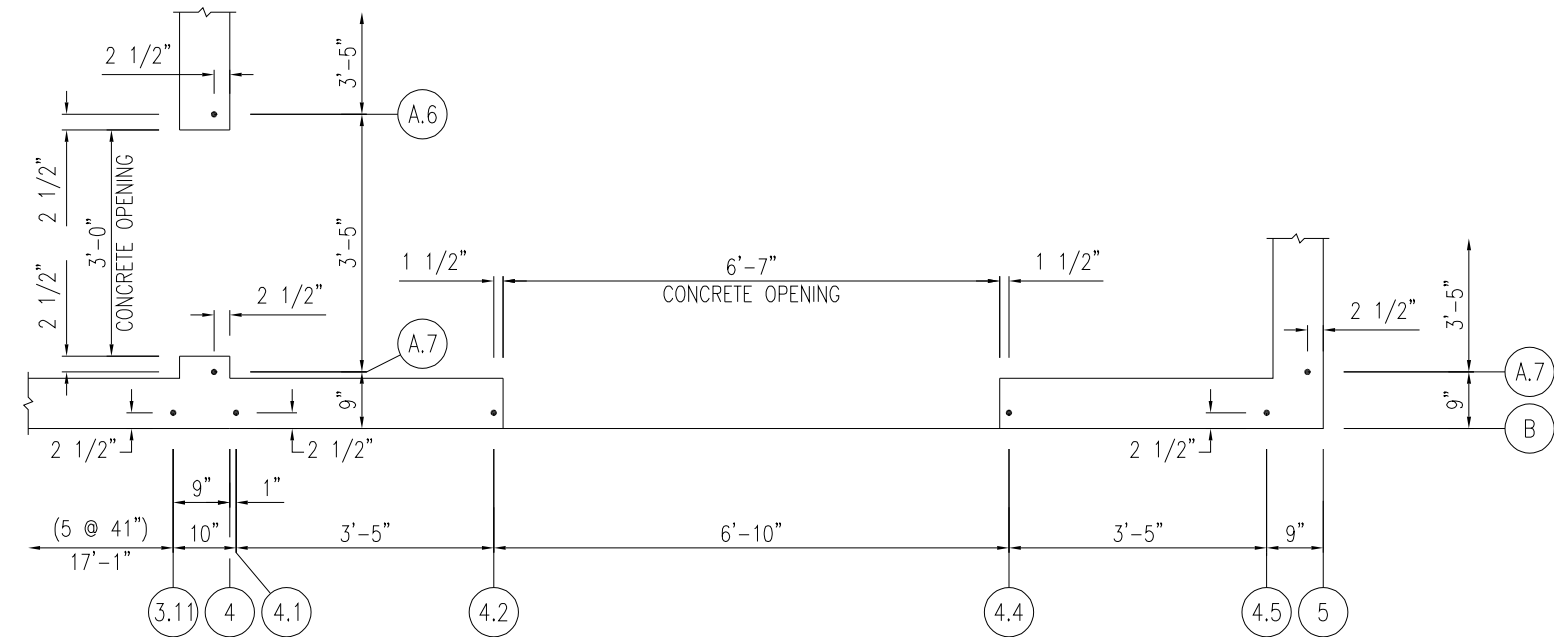
A ~ TYPICAL WALL MARK INDICATOR, SEE SCHEDULE ON SHEET 104

1.1 ~ TYPICAL GRIDLINE AT 41" INCREMENTS

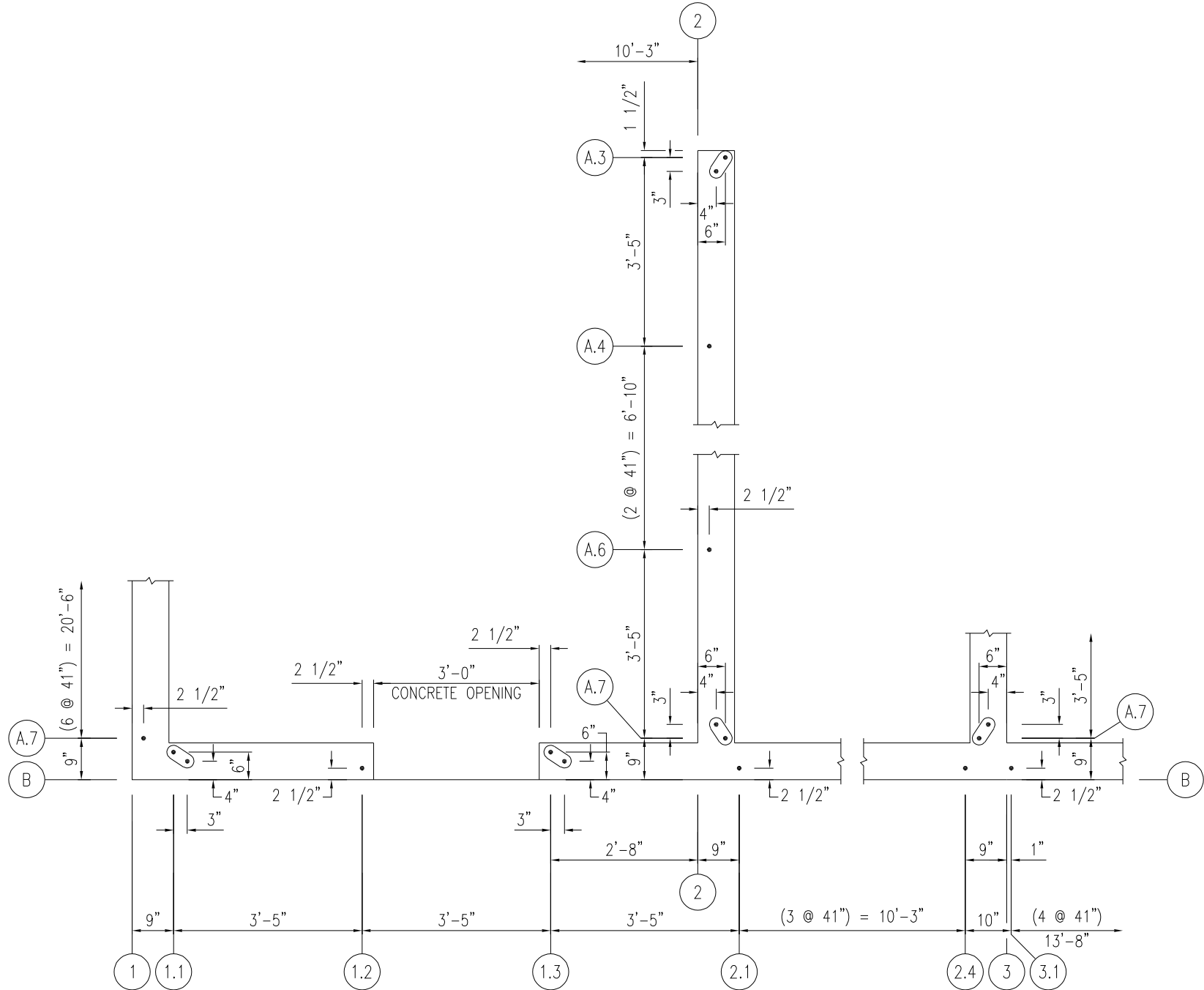
				CUSTOMER: WORCESTER COUNTY FIRE DEPT.	PROJECT: FIRE TRAINING SIMULATOR	SHEET 102
				DEALER: WHP – TRAININGTOWERS	LOCATION: WORCESTER COUNTY, MD	ISSUE A
				ANCHOR BOLT PLAN	BEHLEN	
A	FOR CONSTRUCTION	TV	25/06/06			
ISSUE	DESCRIPTION	NAME	YY/MM/DD	SALES ORDER: 118854		
				927 DOUGLAS STREET, BRANDON, MANITOBA, R7A 7B3, 204-728-1188 605 SHELTON DRIVE, CAMBRIDGE, ONTARIO, N1T 2K1, 519-620-6003		



DETAIL 2
102



DETAIL 3
102



DETAIL 1
102

				CUSTOMER: WORCESTER COUNTY FIRE DEPT.	PROJECT: FIRE TRAINING SIMULATOR	SHEET 103
				DEALER: WHP - TRAININGTOWERS	LOCATION: WORCESTER COUNTY, MD	ISSUE A
				ANCHOR BOLT DETAILS	<div>BEHLEN</div>	
A	FOR CONSTRUCTION	TV	25/06/06			
ISSUE	DESCRIPTION	NAME	YY/MM/DD			SALES ORDER: 118854

DESIGN LOADS (ASCE7-16 / IBC 2021)	
ROOF LIVE	100 psf
FLOOR LIVE	100 psf
ATTIC LIVE	100 psf
COLLATERAL	5 psf
DEAD	5 psf
4" CONCRETE SLAB	38 psf
PADGENITE	9 psf
BAR GRATING (1"x1/8")	5 psf
RISK CATEGORY	II
WIND LOAD V_ULT	125 mph
WIND LOAD V_ASD	96.8 mph
WIND EXPOSURE	C
SEISMIC SITE CLASS	D
SEISMIC DESIGN CAT	A
SEISMIC IMPORTANCE	1
SEISMIC COEF - SS	0.087
SEISMIC COEF - S1	0.036
ROOF JOISTS SPAN	N-S
ROOF TRUSSES SPAN	N-S
ROOF PANELS SPAN	N-S
FLOOR JOISTS SPAN	
STAIR TOWER INT. LANDINGS	E-W
ALL OTHER FLOORS	N-S

TOWER / STAIR TOWER	
BUILDING SPAN	21'-11"
BUILDING LENGTH	21'-11"
BUILDING HEIGHT	43'-6"
RESIDENTIAL	
BUILDING SPAN	21'-11"
BUILDING LENGTH	35'-0"
BUILDING HEIGHT	23'-6"
ANNEX	
BUILDING SPAN	21'-11"
BUILDING LENGTH	14'-6"
BUILDING HEIGHT	9'-4 1/4"

WALL ID	ANCHOR BOLTS	GRAVITY LOADS		WIND SHEAR (lbs)	CONCENTRATED REACTIONS			
		DEAD (lbs/ft)	LIVE (lbs/ft)		GRIDLINE	R_dead (kips)	R_live (kips)	R_wind (kips)
A	1"	2500	4384	11088	1.1	----	----	±6.06
					1.3	4.27	7.49	±6.06
					2.1	4.27	7.49	±6.06
					2.2 **	0.14	1.40	----
					2.4	----	----	±6.06
A'	1"	1360	3288		2.4 **	0.14	1.40	----
					3.1	----	----	±6.06
					3.2	2.32	5.62	±6.06
					3.3	2.32	5.62	±6.06
					3.7	2.32	5.62	±6.06
A''	3/4"	209	1096	3.8	2.32	5.62	±6.06	
				3.11	----	----	±6.06	
				4.3 **	0.24	2.35	----	
				4.4 **	0.24	2.35	----	
				B	1"	2500	4384	1.1
1.2	4.27	7.49	±7.16					
1.3	4.27	7.49	±7.16					
2.4	----	----	±7.16					
B'	1"	1360	3288					3.1
				3.2	2.32	5.62	±7.16	
				3.3	2.32	5.62	±7.16	
				3.5	2.32	5.62	±7.16	
				3.6	2.32	5.62	±7.16	
B''	3/4"	209	1096	3.8	2.32	5.62	±7.16	
				3.9	2.32	5.62	±7.16	
				3.11	----	----	±7.16	
				4.2	0.72	3.74	----	
				4.4	0.72	3.74	----	
1	1"	228	400	5292	A.1	----	----	±6.26
					A.1 **	0.54	5.44	----
					A.2 **	0.54	5.44	----
					A.6 **	0.54	5.44	----
					A.7	----	----	±6.26
2	1"	1284	2252	11088	A.7 **	0.54	5.44	----
					A.3	3.01	5.28	±19.68
					A.4	5.47	9.60	----
					A.7	----	----	±19.68
					3	1"	1180	2152
A.2	2.02	3.68	±19.46					
A.3	5.03	8.96	±19.46					
A.4	5.47	9.60	----					
A.7	----	----	±19.46					
4	1"	143	400	12116	A.1	----	----	±11.74
					A.6	0.24	0.68	±11.74
					A.7	0.24	0.68	----
5	3/4"	19	100	875	A.1	----	----	±0.64
					A.2	0.03	0.17	±0.64
					A.3	0.03	0.17	±0.64
					A.5	0.03	0.17	±0.64
					A.6	0.03	0.17	±0.64
					A.7	----	----	±0.64

- NOTES:
1.

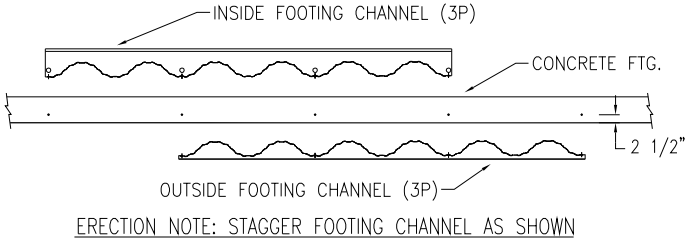
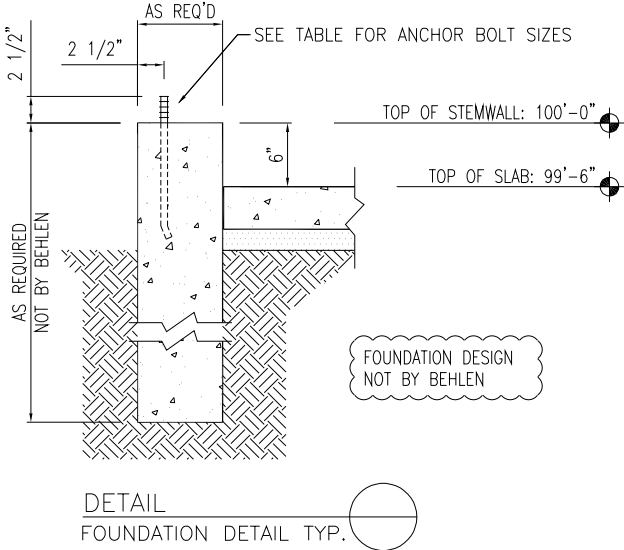
ALL GRID LINES INDICATE CONCRETE LINES.
2.

WIND LOAD REACTIONS ARE BASED ON 0.6*W, PER ASCE 7-16.
3.

SHEAR LOADS & UPLIFT REACTIONS HAVE NOT BEEN REDUCED FOR COUNTERACTING LOADS.
+ DOWNWARD, - UPLIFT
4.

SHEAR LOADS MAY REVERSE.
5.

** DENOTES REACTIONS FROM EXTERIOR STAIRS/PLATFORMS.



				CUSTOMER: WORCESTER COUNTY FIRE DEPT.	PROJECT: FIRE TRAINING SIMULATOR	SHEET 104
				DEALER: WHP – TRAININGTOWERS	LOCATION: WORCESTER COUNTY, MD	ISSUE A
				ANCHOR BOLT REACTIONS	<div>BEHLEN</div>	
A	ISSUED FOR CONSTRUCTION	TV	25/06/06			
ISSUE	DESCRIPTION	NAME	YY/MM/DD	SALES ORDER: 118854		
				927 DOUGLAS STREET, BRANDON, MANITOBA, R7A 7B3, 204-728-1188 605 SHELTON DRIVE, CAMBRIDGE, ONTARIO, N1T 2K1, 519-620-6003		