



**SPECIFICATIONS & CONTRACT DOCUMENTS
COOLING TOWER FILL REPLACEMENT
FOR
WHELAN ENERGY CENTER, UNIT II
PUBLIC POWER GENERATION AGENCY
PPGA Contract No. PPGA 2024-31**

**Sealed Bids must be received no later than
Wednesday, December 18, 2024**

(Bids will be opened and read aloud at 1:30 p.m. on the same day)

Submitted By: _____

Date Submitted: _____

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AT WHELAN ENERGY CENTER, UNIT 2
PUBLIC POWER GENERATION AGENCY
HASTINGS, NEBRASKA
PPGA Formal Contract No. PPGA 2024-31

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NOTICE TO BIDDERS
COOLING TOWER FILL REPLACEMENT
FOR WHELAN ENERGY CENTER, UNIT 2
PUBLIC POWER GENERATION AGENCY
HASTINGS, NEBRASKA
Formal Contract No. PPGA 2024-31

Sealed Proposals will be received by the Public Power Generation Agency (PPGA), 1228 North Denver Avenue, PO Box 398, Hastings, Nebraska 68902 until Wednesday, December 18, 2024, at 1:30pm, at which time they will be opened and read aloud for the Cooling Tower Fill Replacement at Whelan Energy Center, Unit 2, Public Power Generation Agency, Hastings, Nebraska.

Proposals received after the above time and date will be returned unopened to the party submitting the proposal.

Each proposal shall be accompanied by a cashier's check, certified check on a solvent U.S. commercial bank, or a **bid bond in an amount of not less than five percent (5%) of the total bid**. Such check or bid bond shall be contained in a separate envelope attached to bidder's proposal. All proposal and bid bonds shall have original signatures.

The successful bidder will be required to furnish a Performance Bond in the sum of the full amount of the Contract within ten (10) days of the date of award. No additional time will be allowed the Contractor for providing the Performance Bond.

Proposals will be considered only from those bidders who are qualified by previous experience in performing work of this type, scope and complexity specified.

Bidders without previous successful work history with PPGA will be required to pre-qualify by submitting information concerning their organization, experience, and financial status as requested in the bidding instructions.

The PPGA reserves the right to accept the bid which best suits its needs whether the price is the lowest or not, to reject any or all bids, and to waive any informalities.

No proposal may be altered, withdrawn or resubmitted within 60 days after the date set for the opening of proposals.

Prospective bidders may secure a copy of the Proposal Form, including Plans and Specifications, at the office of the PPGA Project Operating Agent, 1228 North Denver Avenue, PO Box 398, Hastings, Nebraska 68902.

FOR THE PUBLIC POWER
GENERATION AGENCY

LEGAL NOTICES:

Notice to Bidders

Tuesday, November 26th, 2024

Tuesday, December 3rd, 2024

Tuesday, December 10th, 2024

Shane Stone
PPGA Operating Agent

INSTRUCTIONS TO BIDDERS

All Proposals shall be submitted on the Proposal forms hereto attached, which shall remain bound with the complete contract documents as originally issued. Copies of addenda, if any, shall be signed and attached to your proposal.

Bidders shall inform themselves of all relevant matters, and, if awarded the contract, shall not be allowed any extra compensation by reason of any matter or thing concerning which such Bidder might not have fully informed himself, prior to the bidding.

The Bidder bidding on the Specifications herein, who has exceptions to those called for in the Specifications, must so state in the space provided below and attach a letter explaining in detail the exceptions taken to those required in the Specifications. This letter of explanation shall become a part of the bid and shall be attached hereto. Failure by the Bidder to outline his exceptions will require the successful Bidder to comply with these Specifications.

EXCEPTIONS TO SPECIFICATIONS:

The Purchaser will not assume obligations resulting from losses or damages until acceptance of the equipment.

Checks of unsuccessful Bidders will be returned when their bids have been rejected and they will not be retained in excess of sixty (60) days from the date bids are opened. The check of the successful Bidder will be retained until performance of the bid is made. Should the successful Bidder fail to perform as the Proposal and Specifications indicate, the PPGA may use the check as liquidated damages within fifteen (15) days after written notice is given to the party who submitted the successful bid.

If any person contemplating submitting a bid for this contract is in doubt as to the true meaning of any part of the Specifications or other proposed contract documents, he may submit to Purchaser a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addendum duly issued or delivered to each person receiving a set of such documents. The Purchaser will not be responsible for any other explanation or interpretation of the proposed documents.



FORMAL CONTRACT NO. PPGA 2024-31
COOLING TOWER FILL REPLACEMENT
AT WHELAN ENERGY CENTER, UNIT 2
FOR PUBLIC POWER GENERATION AGENCY
HASTINGS, NEBRASKA

PLEASE CONTACT:

Derek Pfeifer
Production Engineer
Direct Line: 402-462-3673
Email: dpfeifer@cityofhastings.org

Bruce Perry
Maintenance and Fuel Handling Supervisor
Direct Line: 402-462-3573
Email: bperry@cityofhastings.org

Renaë Griess
PPGA Administrative Assistant
Direct Line: 402-462-3665
Fax: 402-462-3666
Email: rgriess@cityofhastings.org

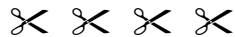
IMPORTANT MAILING INSTRUCTIONS

**PLEASE ADDRESS YOUR RETURN ENVELOPE
AS SHOWN IN THE EXAMPLE BELOW
ALL BIDS MUST BE SEALED IN A
PROPERLY MARKED ENVELOPE**

Your Return Address

PPGA
Attn: Renae Griess
PPGA Administrative Assistant
1228 N. Denver Avenue
PO Box 398
Hastings, NE 68902-0398

**This Information MUST BE typed or written in the lower left hand corner of return envelope
OR SIMPLY CUT OUT AND TAPE ON YOUR RETURN ENVELOPE**



**BID DOCUMENTS ENCLOSED
ATTN: Renae Griess, PPGA Administrative Assistant
Formal Contract No. PPGA 2024-31
WEC2 Cooling Tower Fill Replacement
Bid Opens: Wednesday, December 18, 2024**

If returning overnight or next day air, please enclose your bid in an “inner” envelope which is sealed and properly marked on the outside of BOTH envelopes as shown by the example above.

**FORMAL PROPOSAL
FOR COOLING TOWER FILL REPLACEMENT
AT WHELAN ENERGY CENTER, UNIT 2
PUBLIC POWER GENERATION AGENCY
HASTINGS, NEBRASKA
Formal Contract No. PPGA 2024-31**

Public Power Generation Agency
1228 N. Denver Ave. (68901)
PO Box 398
Hastings, NE 68902

Issue Date: 11/20/2024 Return Date on or Before: 12/18/2024 Wednesday @ 1:30 p.m.

The undersigned bidder, having read and examined the specifications and associated contract documents for the above designated equipment, does hereby propose to furnish the equipment and provide the services set forth in this Proposal.

We, the undersigned, being familiar with all parts of this document, do hereby agree to complete the WEC Unit II Cooling Tower Fill Replacement for the Public Power Generation Agency, Hastings, Nebraska as specified to purchaser for the following firm prices. The items below include all labor, equipment, materials, and freight per the specifications.

BID SECTION I: COOLING TOWER REPAIR – SIX CELLS SPRING OUTAGE

Item No.	Description	Unit Price	Total Price
1	Fill Replacement	<u>LUMP SUM</u>	\$
2	Drift Eliminator Replacement	<u>LUMP SUM</u>	\$
3	Distribution Lateral Replacement	<u>LUMP SUM</u>	\$
4	Partition Walls Replacement	<u>LUMP SUM</u>	\$
5	Sales Tax	*(For Option 1 Contractors only) Sales Tax on materials of the above items.	\$

TOTAL PRICE

\$ _____

(Price In Words)

Project Start Date: 4/9/2025 at 7am

Project Completion Date: 5/9/2025 at 7pm

Liquidated Damages: The Contractor shall pay a fee of \$1,000.00 per working day for failure to perform work within either the specified project period or the contract completion date in accordance with Paragraph GC.36 of the general conditions.

For purposes of sales/use tax, this project falls under Nebraska Sales and Use Tax Regulation 1-017 for Contractors. By definition, a contractor is “any person who repairs property annexed to, or who annexes property to, real estate, including leased property, by attaching building materials to the annexed property or improvement being built or repaired, or who arranges for annexation of property.” Please refer to www.revenue.nebraska.gov/salestax.html for additional information.

For calculating this proposal:

- All contractors are to include sales/use tax on materials in the bidder’s prices.
- **Option 1 contractors must separately state materials, sales tax, labor, and other charges on all invoices for the project. Any invoices submitted that do not include this required breakdown of the charges will not be accepted for payment. (This requirement does not apply to Option 2 or 3 contractors.)**
- The sales/use tax rate on building materials is 7.0% for projects within Hastings’ city limits and 5.5% for projects outside of city limits.
- Contractor labor charges for this proposal are not subject to sales/use tax per the Nebraska Department of Revenue Notice to Contractors effective October 1, 2007.
- In submitting this bid, the bidder certifies that he will comply with all applicable laws, ordinances, and codes of the City of Hastings and the State of Nebraska.

This project is located **OUTSIDE OF CITY LIMITS.**

All contractors are to include the price of freight of materials delivered to site.

What contractor option have you registered with the Nebraska Department of Labor (must select one)?

Please refer to <https://dol.nebraska.gov> for additional information.

Option 1 _____

Option 2 _____

Option 3 _____

Is Nebraska Sales/Use Tax included in the above prices (must select one)?

Yes _____ No _____

In submitting this proposal, it is understood that the right is reserved by the PPGA to reject any or all proposals and it is further understood that this proposal may not be withdrawn for a period of sixty (60) days after proposals are opened. It is further understood that the PPGA reserves the right to select any or all of the items above, as they deem appropriate.

All bid documents, including proposals, etc., must be submitted with original signatures. No copies will be accepted.

OFFICIAL NAME & ADDRESS

_____	_____
Firm Name	Signature
_____	_____
Address	Typed or Printed Name
_____	_____
City, State, Zip	Title
_____	_____
Phone No.	Date
_____	_____
Fax No.	Email Address

AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 20____, by and between the Public Power Generation Agency (PPGA) of Hastings, Nebraska, acting through its Board, Part of the First Part, hereinafter called the "Purchaser" or "PPGA", and

a _____ of (town) _____ in the State of _____, Party of the Second Part, hereinafter called the "Supplier".

WITNESSETH: THAT,

WHEREAS: The Purchaser has caused the necessary contract documents to be prepared for defining material, equipment, and/or labor to be supplied to the Public Power Generation Agency of Hastings, Nebraska and delivered complete as specified in the accompanying contract documents.

WHEREAS: The Purchaser has advertised for bids from Suppliers, has received said bids, analyzed same and duly awarded a contract to the "Supplier", "Party of the Second Part", for material, equipment, and/or labor as hereinafter set forth and as stated more in detail in the Proposal and related contract documents to wit; Notice to Bidders, Instructions to Bidders, Specifications; all of which documents are attached hereto and made a part of this Contract.

NOW, THEREFORE: It is hereby agreed that for the sum of _____
_____ (\$ _____)

to be paid by the Purchaser, within Thirty (30) days after the acceptance of material, equipment, and/or labor by the Purchaser, to the Supplier, the Supplier agrees to furnish all materials, equipment, and/or labor as required by the accompanying specifications, and the aforesaid contract documents, for **Whelan Energy Center Unit 2 Cooling Tower Repair Project PPGA 2024-31.**

All materials, equipment, and/or labor shall be in accordance with the accompanying contract documents and specifications which are as much a part of this Agreement as if repeated verbatim herein.

AGREEMENT

It is further agreed that the Supplier will start work promptly, furnish the necessary drawings promptly and complete the work in the number of days set forth in the Proposal.

IN WITNESS WHEREOF: The Parties of the First and Second Parts have hereto set their hands and seals on the day and year above written.

PUBLIC POWER GENERATION AGENCY
OF HASTINGS, NEBRASKA
Party of the First Part

By _____

Date: _____

SUPPLIER
Party of the Second Part

BY: _____
Signature

Type or Print Name:

TITLE: _____
Title:

DATE: _____

Note: If executed by one other than President, Partner or the individual Owner, a Power-of-Attorney authorizing execution should accompany this Contract.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that we, _____

hereinafter referred to as "Principal", and

a _____ of the State of _____

hereinafter called the Surety, are held and firmly bound unto the PUBLIC POWER GENERATION AGENCY (PPGA), County of Adams, State of Nebraska, hereinafter called the Owner, in the full and just sum of: \$

_____ Dollars, lawful money of the United States, for the payment of which, well and truly to be made, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

The condition of the above obligation is such that,

WHEREAS: The above bounden principal has heretofore on the _____ day of _____ 20____, entered into a certain Contract with the PPGA of Hastings, Nebraska, a copy of which Contract together with its terms, covenants, conditions, and stipulations, is incorporated herein and made a part hereof as fully and amply as if said Contract were recited as length herein.

NOW, THEREFORE, If the above bounden Principal shall well, truly, and faithfully perform said Contract and comply with all the terms and provisions thereof and satisfy all of the obligations of said Principal arising thereunder (including the matter of infringement, if any, of patents and covenant for replacement of defective materials and workmanship for the guaranteed period of one year), and comply with all the covenants therein contained and contained in the specifications and other documents constituting a part of said Contract required to be performed by said Principal in the manner within the time provided in said Contract, and shall fully indemnify and save harmless said PPGA of Hastings, Nebraska, from all costs and damages which said PPGA may suffer by reason of failure so to do, and shall fully reimburse and repay said PPGA all outlay and expense which said PPGA may incur in making good any such default and shall pay all persons who have Contracts directly with the Principal for labor and materials, if any, included in said Contract, then this obligation to be null and void; otherwise to remain in full force and effect.

That the said Surety for value received hereby stipulates and agrees that no change, extension of time, alliteration or addition to the terms of the Contract or to the work to be performed thereunder, or the specifications accompanying the same, shall in any way affect its obligations on this bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract, or to the work or to the specifications.

PERFORMANCE BOND

IN WITNESS WHEREOF, the above named Principal and Surety, have executed these presents
this _____ day of _____, 20_____.

Principal

Its Attorney-in-Fact (Surety)

Resident Agent of Surety

INSURANCE COVERAGE

The undersigned hereby certifies that Workmen's Compensation, Public Liability and Property Damage, and Automobile Liability and Property Damage Insurance is in force and effect in accordance with the requirements contained in "Instruction To Bidders" which is a part of this document "Bid Proposal And Specifications". We further agree to give ten (10) days notice to the Public Power Generation Agency before effective date of cancellation or reduction of any of the above coverage.

This Insurance Coverage applies only to _____

Dated _____

SUPPLIER

By _____

Title _____

Date _____

INSURANCE COMPANY

By _____

Title _____

Address _____

Date _____

A F F I D A V I T

State of Nebraska)
) ss.
County of Adams)

I _____ , _____
Name Title

of _____
Firm Name

do hereby certify that all subcontractors, vendors, persons or firms who have furnished labor or
material for the _____

have been fully paid and that all taxes have been paid.

Signature

Date

Subscribed and sworn to me this _____ day of _____, 20_____

Notary Public

My commission expires _____.

A signed and notarized copy of affidavit must be in Public Power Generation Agency’s file
before final payment may be made.

Copy of forms will be supplied by Public Power Generation Agency prior to final payment.

SECTION 1 - GENERAL CONDITIONS

GENERAL CONDITIONS

GC.1 Contract Documents

It is understood and agreed that the Notice to Bidders, Instructions to Bidders, Proposal, Proposal Data, Contract Agreement, Performance Bond, Payment Bond, General Conditions, Special Conditions, Specifications, Drawings, Addenda, and Change Orders issued by the Purchaser or the Engineer, and specifications and engineering data furnished by the Contractor and accepted by the Purchaser, are each included in this Contract and the work shall be done in accordance therewith.

GC.2 Definitions

Words, phrases, or other expressions used in these contract documents shall have meanings as follows.

1. "Contract" or "contract documents" shall include the items enumerated above under CONTRACT DOCUMENTS.
2. "Purchaser" shall mean the Public Power Generation Agency named and designated in the Contract Agreement as "Party of the First Part," and their duly authorized agents. All notices, letters, and other communication directed to the Purchaser shall be addressed and delivered to:

City of Hastings – Whelan Energy Center
Attention: Derek Pfeifer, Production Engineer
4520 E South Street
Hastings, Nebraska 68901

Or, by email to dpfeifer@cityofhastings.org
3. "Contractor" shall mean the corporation, company, partnership, firm or individual named and designated in the Contract Agreement as the "Party of the Second Part," who has entered into this Contract for the performance of the work covered thereby, and its, his, or their duly authorized representatives.
4. "Subcontractor" shall mean and refer only to a corporation, partnership, or individual having a direct contract with the Contractor for performing work covered by these contract documents.
5. "Engineer" shall also refer to Public Power Generation Agency as the purchaser.
6. "Date of contract," or equivalent words, shall mean the date written in the first paragraph of the Contract Agreement.
7. "Day" or "days," unless herein otherwise expressly defined, shall mean a calendar day or days of 24 hours each.
8. "The work" shall mean the equipment, supplies, materials, labor, and services to be furnished under the contract and the carrying out of all obligations imposed by the contract documents.

SECTION 1 - GENERAL CONDITIONS

9. "Drawings" or "plans" shall mean all (a) drawings furnished by the Purchaser as a basis for proposals, (b) supplementary drawings furnished by the Purchaser to clarify and to define in greater detail the intent of the contract drawings and specifications, (c) drawings submitted by the successful bidder with his proposal, provided such drawings are acceptable to the Purchaser, (d) drawings furnished by the Purchaser to the Contractor during the progress of the work, and (e) engineering data and drawings submitted by the Contractor during the progress of the work, provided such drawings are acceptable to the Engineer.
10. Whenever in these contract documents the words "as ordered," "as directed," "as required," "as permitted," "as allowed," or words or phrases of like import are used, it shall be understood that the order, direction, requirement, permission, or allowance of the Purchaser or Engineer is intended only to the extent of judging compliance with the terms of the contract; none of these terms shall imply that the Purchaser or the Engineer has any authority or responsibility for supervision of the Contractor's forces or construction operations, such supervision and the sole responsibility therefor being strictly reserved for the Contractor.
11. Similarly the words "approved," "reasonable," "suitable," "acceptable," "proper," "satisfactory," or words of like effect and import, unless otherwise particularly specified herein, shall mean approved, reasonable, suitable, acceptable, proper, or satisfactory in the judgment of the Purchaser or Engineer, to the extent provided in (10) above.
12. Whenever in these contract documents the expression "it is understood and agreed" or an expression of like import is used, such expression means the mutual understanding and agreement of the parties executing the Contract Agreement.
13. "Official acceptance" shall mean the Purchaser's written acceptance of all work performed under this Contract, based on the Engineer's final inspection and issuance of a final payment certificate.
14. "Project completion" shall mean that the Cooling Tower is ready for operation. The project completion date is at the end of day, May 9th, 2025.
15. "Final Acceptance" shall mean that all work has been completed in accordance with these specifications, the project has been walked down, punch list items have been completed, and Purchaser is ready to accept the Work as complete.
16. "Stop Work Order" shall mean that the Purchaser will provide a written order to the Contractor requiring the Contractor to stop all, or any part of, the work called for by this Contract, for a time defined by the order. The order shall specify the reasoning for the suspended work, which may include, but are not limited to, engineering considerations, changes to the project scope, safety or environmental concerns, or other issues detrimental to the project. Upon receipt of the order, the Contractor shall

SECTION 1 - GENERAL CONDITIONS

immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order. As soon as practical, the Purchaser and Contractor shall discuss the impacted activities, schedule, materials, labor, and equipment. If applicable, Purchaser and Contractor will seek to negotiate an equitable adjustment in the schedule, Contract price, or both, and the contract shall be modified, or a change order issued, as necessary. Upon any agreement and finalization of commercial conditions, Purchaser to provide written order to cancel the stop work order.

GC.3 Execution of the Contract

Once the bids have been evaluated, the Purchaser will electronically submit the Contract Agreement to the Contractor. The Contractor shall sign the Contract Agreement and return to Purchaser for the final approval process. Upon final approvals, the Contract Agreement will be signed by the Purchaser and electronically returned to the Contractor. Contractor shall then mail one hardcopy of required bonds, one electronic or hardcopy of insurance documents, and one electronic or hardcopy of power of attorney forms to the Purchaser. The date of contract on the bond forms and power of attorney forms shall match the date provided on the Contract Agreement by the Purchaser.

The Purchaser will review the final documents and electronically send a final conformed contract to the Contractor.

GC.4 Legal Addresses

The business address of the Contractor listed in the Proposal is hereby designated as the place to which all notices, letters, and other communication to the Contractor will be mailed or delivered. The address of the Purchaser appearing in section GC.2 is hereby designated as the place to which all notices, letters, and other communication to the Purchaser shall be mailed or delivered. Either party may change his address at any time by an instrument in writing delivered to the Engineer and to the other party.

GC.5 Scope and Intent of Contract Documents

The various parts of the contract documents are intended to supplement but not necessarily duplicate each other. Any work exhibited in one part and not in another shall be executed as if it had been set forth in all parts, so that the work will be performed according to the complete design as determined by the Engineer.

Should anything necessary for a clear understanding of the work be omitted from the contract documents, or should the requirements appear to be in conflict, the Contractor shall secure written instructions from the Engineer before proceeding with the work affected thereby. It is understood and agreed that the work shall be performed according to the true intent of the contract documents.

GC.6 Independent Contractor

The relationship of the Contractor to the Purchaser shall be that of an independent contractor.

SECTION 1 - GENERAL CONDITIONS

GC.7 Assignment

The Contractor shall not assign the work, or any part thereof, without the previous written consent of the Purchaser, nor shall he assign, by power of attorney or otherwise, any of the money payable under this Contract unless written consent of the Purchaser has been obtained. No right under this Contract, nor claim for any money due or to become due hereunder shall be asserted against the Purchaser, or persons acting for the Purchaser, by reason of any so-called assignment of this Contract or any part thereof, unless such assignment has been authorized by the written consent of the Purchaser. In case the Contractor is permitted to assign moneys due or to become due under this Contract, the instrument of assignment shall contain a clause subordinating the claim of the assignee to all prior liens for services rendered or materials supplied for the performance of the work.

GC.8 Oral Statements

It is understood and agreed that the written terms and provisions of this agreement shall supersede all oral statements of representatives of the Purchaser, and oral statements shall not be effective or be construed as being a part of this Contract.

GC.9 Reference Standards

Reference to the standards of any technical society, organization, or association, or to codes of local or state authorities, shall mean the latest standard, code, specification, or tentative standard adopted and published at the date of taking bids, unless specifically stated otherwise.

GC.10 Source of Materials

To the extent possible, materials, and equipment (including components thereof) furnished under these specifications shall be produced, processed, manufactured, and assembled within the United States of America. Substitution of foreign materials for domestic materials will not be permitted unless such substitution is clearly stated in the Proposal and accepted by the Purchaser.

GC.11 Contractor to Check Drawings and Lists

The Contractor shall check all dimensions, elevations, and quantities indicated on the drawings and lists furnished to him by the Engineer. The Contractor shall notify the Engineer of any discrepancy between the drawings and the conditions at the site, or any error or omission in the drawings, or in the layout as given by stakes, points, or instructions, which he may discover in the course of the work. The Contractor will not be allowed to take advantage of any error or omission in the drawings or other contract documents that a reasonable inspection of them by Contractor would reveal. Full instructions will be furnished by the Engineer should such error or omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

GC.12 Figured Dimensions to Govern

Dimensions and elevations indicated on the drawings shall be accurately followed even though different from scaled measurements. No work indicated on the drawings, the dimensions of which are not indicated, shall be executed until necessary dimensions have been obtained from the Engineer.

SECTION 1 - GENERAL CONDITIONS

GC.13 No Waiver of Rights

Neither the inspection by the Purchaser or Engineer or any of their officials, employees, or agents, nor any order by the Purchaser or Engineer for payment of money, or any payment for, or acceptance of, the whole or any part of the work by the Purchaser or Engineer, nor any extension of time, nor any possession taken by the Purchaser or its employees, shall operate as a waiver of any provision of this Contract, or of any power herein reserved to the Purchaser, or any right to damages herein provided, nor shall any waiver of any breach in this Contract be held to be a waiver of any other or subsequent breach.

GC.14 Authority of the Engineer

To prevent delays and disputes, and to discourage litigation, it is agreed by the parties to this Contract that the Engineer shall determine the quantities of work which are to be paid for under the contract and shall resolve all questions in relation to the work.

If, in the opinion of the Contractor or the Purchaser, a decision made by the Engineer is not in accordance with the meaning and intent of the contract, either party may file with the Engineer and the other party to the contract, within 30 days after receipt of the decision, a written objection to the decision. Failure to file an objection within the allotted time will be considered acceptance of the Engineer's decision and the decision shall become final and conclusive.

The Engineer's decision and the filing of the written objection thereto shall be a condition precedent to the right to request arbitration or to start action in court.

It is the intent of this agreement that there shall be no delay in the execution of the work and the decision of the Engineer as rendered shall be promptly observed.

GC.15 Engineering Inspection

The Purchaser may appoint (either directly or through the Engineer) such inspectors as the Purchaser deems proper to inspect the work for compliance with the contract documents. The Contractor shall furnish all reasonable assistance required by the Engineer, or inspectors, for the proper inspection of the work. Should the Contractor object to any interpretation of the contract by an inspector, the Contractor may make written appeal to the Engineer for a decision.

Inspectors shall have the authority to reject work which is unsatisfactory, faulty, or defective or does not conform to the requirements of the contract documents. Inspection shall not relieve the Contractor from any obligation to construct the work strictly in accordance with the contract documents.

Upon the failure of the Contractor or its Subcontractors to comply with any of the requirements of this Contract (but not limited to quality or safety), the Purchaser shall have the authority to stop any portion of the work affected by such failure until such failure is remedied. If the Purchaser issues a Stop Work Order, the Purchaser shall not be liable for any costs or expenses claimed by Contractor arising out of such issuance. The construction schedule shall not be delayed or extended as a result of the Purchaser's issuance of a Stop Work Order.

SECTION 1 - GENERAL CONDITIONS

GC.16 Contractor Default

If the work to be done under this Contract is abandoned by the Contractor; or if this Contract is assigned by him without the written consent of the Purchaser; or if the Contractor is adjudged bankrupt; or if a general assignment of his assets is made for the benefit of his creditors; or if a receiver is appointed for the Contractor or any of his property; or if at any time the Engineer certifies in writing to the Purchaser that the performance of the work under this Contract is being unnecessarily delayed, that the Contractor is violating any of the conditions of this Contract, or that he is executing the same in bad faith or otherwise not in accordance with the terms of said contract; or if the work is not substantially completed within the time named for its completion or within the time to which such completion date may be extended; then the Purchaser may serve written notice upon the Contractor and his surety of the Purchaser's intention to terminate this Contract. Unless within 5 days after the serving of such notice, a satisfactory arrangement is made for continuance, this Contract shall terminate. In the event of such termination, the surety shall have the right to take over and complete the work, provided that if the surety does not commence performance within 30 days, the Purchaser may take over and prosecute the work to completion, by contract or otherwise. The Contractor and his surety shall be liable to the Purchaser for all excess cost sustained by the Purchaser by reason of such prosecution and completion. The Purchaser may take possession of, and utilize in completing the work, all materials, equipment, tools, and plant on the site of the work.

GC.17 Beginning, Progress, and Completion of the Work

The time of completion is a basic consideration of this Contract. Unless otherwise specified in these contract documents or advised by written order of the Purchaser, the Contractor shall begin work within 10 days after the date of contract. The work shall be prosecuted to completion in accordance with the specified schedule, subject to adjustment as provided in these contract documents.

A detailed construction schedule shall be prepared by the Contractor and submitted to the Purchaser for review. The schedule shall contain the various activities required to perform the work and the dates the activities will be started and completed in order to complete the work in accordance with the specified schedule requirements. The Contractor is responsible for determining the sequence and time estimates of the detailed construction activities. However, the Purchaser reserves the right to require the Contractor to modify any portion of the schedule the Purchaser determines to be impracticable or unreasonable; as required to coordinate the Contractor's activities with those of other contractors, if any, engaged in work for the Purchaser on the site; to avoid undue interference with the Purchaser's operations; and to assure completion of the work by the date or dates stipulated. Upon acceptance by the Purchaser of the Contractor's detailed construction schedule, the Contractor will be responsible for maintaining such schedule.

If at any time the Contractor's work is behind schedule, he shall immediately put into effect definite procedures for getting the work back on schedule. The procedures shall be subject to review and modification by the Purchaser.

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GC.18 Hindrances and Delays

The Contractor expressly agrees that in undertaking to complete the work within the time specified, he has made allowances for all hindrances and delays which might usually be expected to occur in performing the work. No claims shall be made by the Contractor for such hindrances and delays.

If the Contractor experiences hindrances and delays which, in his opinion, are not usually to be expected in the performance of the work and which affect the performance of the work, he may request a change in the contract. Such hindrances and delays may include, but not be limited to, acts or failure to act by the Purchaser or other contractors employed by the Purchaser, fires, floods, labor disputes, epidemics, or acts of God. Such hindrances and delays shall not include rain, snow, or other non-severe inclement weather. Claims by the Contractor for any change in the contract due to such hindrances and delays shall be made in accordance with the requirements of Article GC.22, CHANGES TO THE CONTRACT. The Contractor shall use all reasonable means to minimize the extent of the delay.

GC.19 Suspension of Work

The Purchaser reserves the right to suspend and reinstate execution of the whole or any part of the work without invalidating the provisions of the contract. Suspension or reinstatement of the work will be by written notice to the Contractor from the Purchaser.

Suspension of work shall not automatically entitle the Contractor to additional compensation or a change in the contract time; however, the Contractor will be reimbursed for real and unavoidable direct costs incurred by him as a result of such suspension and/or the contract will be extended as required to compensate for any delay due to such suspension. Claims by the Contractor for change of contract time or an adjustment of the contract price, due to work suspensions ordered by the Purchaser shall be made in accordance with the requirements of Article GC.22, CHANGES TO THE CONTRACT. The Contractor shall use all reasonable means to minimize the consequences of such suspension.

GC.20 Cancellation of Work

The Purchaser reserves the right to cancel the unshipped portion of the work by giving written notice to the Contractor. In the event of cancellation, the Purchaser will pay the Contractor reasonable and proper cancellation costs.

Cancellation of the work shall not constitute the basis for a claim for damages or loss of anticipated profits.

The Contractor shall, after consultation with the Purchaser, take all reasonable steps to minimize the costs related to cancellation. The Contractor shall provide the Purchaser with an accounting of costs claimed, including adequate supporting information, and the Purchaser may, at its expense, audit the claimed costs and supporting information.

GC.21 Modifications

The Contractor shall modify the work whenever so ordered by the Purchaser and such modifications shall not affect the validity of the contract. Modifications may involve

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changes in the amount of the work to be performed or changes in the contract time for which appropriate changes to the contract will be made.

Contract changes due to modifications shall be made in accordance with the requirements of Article GC.22, CHANGES TO THE CONTRACT.

GC.22 Changes to the Contract

The contract may be changed only by duly executed change orders issued by the Purchaser.

If, in the opinion of the Purchaser or the Contractor, any event or action by the other party justifies a change in the contract, either party shall initiate with the other party, within 5 days after such event or action, a request for a change to the contract. All documentation required to substantiate the proposed change shall be submitted within a minimum reasonable time after initiating the request for change. Upon the parties reaching agreement regarding the proposed change, the Purchaser will issue a written change order therefor.

Notwithstanding the foregoing provisions requiring duly authorized change orders, in the event agreement has been reached between authorized representatives of the parties regarding the change in the contract pending processing of such change order, the Contractor shall proceed with the work on the basis of written interim authorization from the Purchaser.

If the Contractor claims that any instruction, request, drawing, specifications, or other directive or action of the Purchaser or the Engineer constitutes a change in the contract, but has not been authorized as such by a change order in writing by the Purchaser, the Contractor shall immediately request a written interim authorization and proceed without delay to perform the work in accordance with such authorization. The Contractor shall provide written notice of the claim or dispute to the Engineer and the Purchaser within 5 days of the request for interim authorization. The Contractor's failure to give said written notice within the 5-day period shall constitute a waiver and relinquishment of any such claim or dispute. The Purchaser's written interim authorization shall not constitute approval of the claim for increased or decreased work but shall be a condition precedent to the Contractor's right to receive payment for such work and to the Contractor's right to prosecute or maintain any proceeding to recover for such work.

GC.22.1 Contract Price Changes

The contract price may be changed due to modifications which involve extra work or decreased work; or due to work suspensions, hindrances, and delays over which the Contractor has no control. Claims for changes in the contract price shall conform to the requirements specified herein.

GC.22.1.1 Increased Price

If a change in the contract is required due to work suspensions or hindrances and delays, the contract price will be increased according to agreed lump sums, agreed acceleration costs, or other demonstrable costs submitted by the Contractor and substantiated to the satisfaction of the Purchaser.

If a change in the contract price is required due to a modification which increases the amount of the work, and the added work or any part thereof is of a type and character which can

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properly and fairly be classified under one or more unit price items of the contract, then the contract price will be increased according to the amount actually done and at the applicable unit price. Otherwise, such work shall be paid for as herein-after provided.

Contract price changes for modifications involving extra work will be based on agreed lump sums or on agreed unit prices whenever the Purchaser and the Contractor agree upon such prices before the extra work is started; otherwise, payments for extra work will be based on actual direct cost plus the specified percentage allowance.

For the purpose of determining whether proposed extra work will be authorized, or for determining the payment method for extra work, the Contractor shall submit to the Engineer, upon request, a detailed cost estimate for proposed extra work. The estimate shall indicate itemized quantities and charges for all elements of direct cost. Charges for the Contractor's and subcontractor's extra profit, extra general superintendence, extra field office expense, and extra overheads shall be indicated as a percentage addition to the total estimated direct cost. Unless otherwise agreed upon by the Contractor and the Purchaser, such percentage additions shall be 15 percent for the extra work performed by the Contractor's own forces or 20 percent for extra work performed by a subcontractor.

When payment for extra work is based on actual direct cost, the Contractor will be paid the actual direct cost plus an allowance of 15 percent if the extra work is performed by the Contractor's own forces or 20 percent if the extra work is performed by a subcontractor. The allowance will be paid as full compensation for the Contractor's and sub-contractor's extra profit, extra general superintendence, extra field office expense, extra overheads, and all other elements of extra cost not defined herein as actual direct cost.

The actual direct cost shall include only those extra costs for labor and material expended in direct performance of the extra work and may include the following.

- a. The actual payroll cost of all workmen such as laborers, mechanics, craftsmen, and foremen.
- b. The Contractor's or subcontractor's net cost for materials and supplies.
- c. The rental charge for vehicles and construction equipment.
- d. The transportation charges for equipment.
- e. The charges for extra power, fuel, lubricants, water, and special services.
- f. The charges for extra payroll taxes, bond premiums, and insurance premiums.

The form in which actual direct cost records are kept, the construction methods, and the type and quantity of equipment used shall be acceptable to the Engineer.

Construction equipment which the Contractor has on the jobsite and which is of a type and size suitable for use in performing the extra work shall be used. The hourly rental charges for equipment shall not exceed 1/2 percent of the latest applicable monthly rental rates as published by Dataquest Incorporated in its "Rental Rate Blue Book" and shall apply to only the actual time the equipment is used in performing the extra work.

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When extra work requires the use of equipment which the Contractor does not have on the jobsite, the Contractor shall obtain the concurrence of the Engineer before renting or otherwise acquiring additional equipment. The rental charges for the additional equipment shall not exceed the latest applicable "Rental Rate Blue Book" published rental rates.

GC.22.1.2 Decreased Price

If a change in the contract price is required due to a modification which decreases the amount of work, such decrease shall not constitute the basis for a claim for damages or anticipated profits on work affected by such decrease. Where the value of omitted work is not covered by applicable unit prices, the Engineer shall determine, on an equitable basis, the amount of:

- a. Credit due the Purchaser for contract work deleted as a result of an authorized change,
- b. Allowance to the Contractor for any actual loss incurred in connection with the purchase, delivery, and subsequent disposal of materials or equipment required for use on the work as planned and which could not be used in any part of the work as actually built, and
- c. Any other adjustment of the contract amount where the method to be used in making such adjustment is not clearly defined in the contract documents.

Unless otherwise agreed upon by the Purchaser and the Contractor, the credit due the Purchaser for reductions in the amount of work to be done shall be the estimated direct cost of the deleted work plus an overhead allowance of the following.

- 10 percent of the estimated direct cost if the work was to have been done by the Contractor's own forces, or
- 15 percent of the estimated direct cost if the work was to have been done by a subcontractor.

Direct cost referred to above shall include the category of costs listed as actual direct costs, Items (a) to (f) inclusive of the article entitled Increased Price.

GC.22.2 Contract Time Changes

The contract time may be changed due to work modifications, hindrances and delays, and work suspensions over which the Contractor has no control.

Contract time will not be changed for delays caused by unfavorable weather or unsuitable ground conditions normally incident to the work, inadequate construction force, failure to place timely orders for equipment and materials, or other causes within the control of the Contractor.

GC.23 Step Dispute Resolution

In the event of any controversy, claim or dispute between the Parties arising out of or relating to this Agreement, including its enforcement, such controversy, claim or dispute, including disputes regarded as such by only one of the Parties, the Parties shall negotiate in good faith to resolve such dispute, including third party mediation, if the Parties so agree.

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If no settlement is achieved, either Party may pursue a claim in a federal or state court with competent jurisdiction.

GC.24 Laws and Regulations

The Contractor shall observe and comply with all ordinances, laws, and regulations, and shall protect and indemnify the Purchaser and the Purchaser's officers and agents, including the Engineer, against any claim or liability arising from or based on any violation of the same.

GC.25 Taxes, Permits, and Licenses

The Contractor shall pay all sales, use, and other taxes that are lawfully assessed against the Purchaser or Contractor in connection with the work and shall obtain and pay for all required licenses, permits, and inspections.

The Contractor will be compensated for any increase in tax rates, license fees, and permit fees or any new taxes, licenses, or permits imposed after the date of the Proposal; provided, however, that this provision shall be limited to sales, use, and excise taxes assessed against the completed work and to licenses and permits required specifically for the proposed work.

GC.26 Patents

Royalties and fees for patents covering materials, articles, apparatus, devices, equipment, or processes used in the work shall be included in the contract amount. The Contractor shall satisfy all demands that may be made at any time for such royalties or fees and he shall be liable for any damages or claims for patent infringements. The Contractor shall, at his own cost and expense, defend all suits or proceedings that may be instituted against the Purchaser for alleged infringement of any patents involved in the work and, in case of an award of damages, the Contractor shall pay such award. Final payment to the Contractor by the Purchaser will not be made while any such suit or claim remains unsettled.

GC.27 Materials and Equipment

Unless specifically provided otherwise in each case, all materials and equipment furnished for permanent installation in the work shall conform to applicable standard specifications and shall be new, unused, and undamaged when installed or otherwise incorporated in the work. No such material or equipment shall be used by the Contractor for any purpose other than that intended or specified, unless such use is specifically authorized by the Purchaser in each case.

All required tests in connection with acceptance of source of materials shall be made at the Contractor's expense by a properly equipped laboratory of established reputation whose work and testing facilities are acceptable to the Purchaser. Any change in origin or method of preparation or manufacture of a material being routinely tested will require new tests. Reports of all tests shall be furnished to the Engineer or Purchaser in as many copies as required.

GC.28 Guarantee

The Contractor guarantees that the work herein contracted will be as specified and will be free from defects in design, workmanship, and materials. Contractor does not guarantee or warrant parts subject to normal wear and tear during operation. If within the guarantee period the work fails to meet the provisions of this guarantee, the Contractor shall promptly

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correct any defects, including nonconformance with the contract documents by adjustment, repair, or replacement of all defective parts or materials at the Contractor's option and expense, after consulting with the Purchaser on the proposed remedy plans.

Except as otherwise prescribed by the terms of any special guarantees required by the contract documents, the guarantee period shall begin on the date of final payment and shall end 12 months later.

The cost of all materials, parts, labor, transportation, supervision, special tools, and supplies required for replacement or repair of parts and for correction of defects shall be paid by the Contractor or by the surety.

This guarantee shall be extended to cover all repairs and replacements furnished under the guarantee and the period of the guarantee for each such repair or replacement shall be 1 year after correction of the defect except as otherwise prescribed by the terms of any special guarantees required by the contract documents.

The Contractor will be given an opportunity to confirm the existence of the defect, but he shall not delay the correction while making such determination.

If within 10 days after the Purchaser has notified the Contractor of a defect, failure, or abnormality in the work, the Contractor has not started to make the necessary repairs or adjustments, the Purchaser is hereby authorized to make the repairs or adjustments or to order the work to be done by a third party; the cost of the work to be paid by the Contractor.

In the event of an emergency where, in the judgment of the Purchaser, delay would cause serious loss or damage, repairs or adjustments may be made by the Purchaser or a third party chosen by the Purchaser without advance notice to the Contractor and the cost of the work shall be paid by the Contractor or by the surety.

GC.29 Contractor's Insurance Coverage

The Contractor shall not commence work under this Contract until Contractor has obtained all the insurance required under this article. Furthermore, the Contractor shall not allow any sub-contractor to commence work under this Contract until the sub-contractor has obtained the same insurance as is required of the Contractor. The sub-contractor alone shall be responsible for the sufficiency of its own insurance program.

GC.29.1 Certificates of Insurance

Certificates of Insurance acceptable to the Purchaser shall be filed with the Purchaser prior to commencement of the work. All insurance carried shall conform to the relevant provisions of the respective Project Documents and be with insurance companies which are rated "A, X" or better by Best's Insurance Guide, or other insurance companies of recognized responsibility satisfactory to the Purchaser.

GC.29.2 Proof of Carriage of Insurance. Satisfactory certificates of insurance shall be filed with the Purchaser prior to starting any construction work on this contract. The parties agree

SECTION 1 - GENERAL CONDITIONS

that the requirements with respect to requirements to procure and maintain insurance under this Section is a material part of this Agreement.

GC.29.3 Additional Insureds

Insurance coverages furnished under this Contract, with the exception of Workers' Compensation and Employer's Liability, shall include the City of Hastings and PPGA and their members, directors, officers, agents, and employees as named Additional Insureds on a primary and noncontributory basis, and shall include Products and completed operations with respect to the activities of the Contractor and shall be maintained for the full duration of the project including for a period after completion to include the statute of repose.

Notwithstanding any other provision of these policies, the insurance afforded shall apply separately to each insured, with respect to any claim, suit, or judgment made or brought by or for any other insured, as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount or amounts for which the insurer would have been liable had only one insured been named.

The Purchaser shall not by reason of their inclusion under these policies incur liability to the insurance carrier for payment of premium for these policies.

GC.29.4 Waiver of Subrogation

To the extent permitted by applicable law, the Contractor and their sub-contractor shall require their insurance carriers, with respect to all insurance policies, to waive all rights of subrogation against the Purchaser their partners, directors, officers, agents, and employees.

GC.29.5 Workers' Compensation and Employer's Liability Insurance

The Contractor shall procure, and shall maintain during the life of this Contract, Workers' Compensation Insurance as required by workers' compensation laws of the State of Nebraska and also of the state in which the sub-contractor is domiciled.

The Contractor shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a workers' compensation law. The Employer's Liability Insurance shall contain the following limits of liability:

Bodily Injury by Accident	\$500,000 each accident
Bodily Injury by Disease	\$500,000 each employee
Bodily Injury by Disease	\$500,000 policy limit

GC.29.6 General Liability Insurance

This insurance shall be written per project on an "occurrence" policy form, including coverage for premises/operations, products/completed operations, blanket contractual liability, independent contractors and personal injury, with no exclusions for explosion, sudden and accidental pollution or an absolute or total pollution exclusion, collapse and underground perils. The commercial general liability policy shall also include a severability of interest clause and a cross liability clause in the event more than one entity is "named insured" or "named additional insured" under the liability policy.

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Limits of Insurance shall be as follows:

Each Occurrence Limit	\$1,000,000
Products/Completed Operations	\$2,000,000
General Aggregate Limit	\$2,000,000
Personal and Advertising Injury	\$1,000,000

GC.29.7 Automobile Liability Insurance

This insurance shall be written under a Business Auto Policy and shall protect the Contractor and Additional Insureds against claims arising from injuries to members of the public or damage to property of others arising from the use of automobiles whether such automobiles are owned, non-owned, or hired. Automobile insurance shall include Motor Carrier Endorsement Act MCS 90 and transportation pollution coverage if applicable. If work is being done near a railroad track, the 50' railroad right of way exclusion must be deleted.

Limit of Liability	\$1,000,000 each accident
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GC.29.8 Umbrella Liability Policy

This insurance shall protect the Contractor and the Additional Insureds against all claims in excess of the limits provided under the employer's liability, automobile liability, and general liability policies. The liability limits of the umbrella liability policy shall be not less than \$5,000,000 per occurrence. This policy shall be an "occurrence" type policy. However, Purchaser reserves the right to require higher limits with respect to each project.

GC.29.9 Pollution Liability – Not Applicable

GC.29.10 Riggers Liability – Not Applicable

GC.29.11 Railroad Protective Liability – Not Applicable

GC.29.12 Professional Liability – Not Applicable

GC.29.13 Transportation Insurance – Not Applicable

GC.29.14 Property Insurance A.K.A. Builder's Risk - Not Applicable

GC.30 Indemnification

To the fullest extent permitted by laws and regulations, the Contractor shall defend, indemnify, and hold harmless the Purchaser, their officers, directors, members, consultants, agents, and employees from and against all claims, damages, losses, and expenses, direct, indirect, or consequential (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising out of or resulting from the negligent, wrongful, or defective performance of the work by the Contractor, any sub-contractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work, or anyone for whose acts any of them may

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be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by law and regulations regardless of the negligence of any such party.

In any and all claims against the Purchaser, or of any of their officers, directors, members, consultants, agents, or employees by any employee of the Contractor, any sub-contractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, this indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any such sub-contractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts, nor shall this indemnification obligation be limited in any way by any limitation on the amount or type of insurance coverage provided by the Purchaser, the Contractor, or any of their sub-contractors.

GC.31 Release of Liability

Acceptance by the Contractor of the last payment shall be a release to the Purchaser and every officer and agent thereof, from all claims and liability hereunder for anything done or furnished for, or relating to the work, or for any act or neglect of the Purchaser or of any person relating to or affecting the work.

GC.32 Claims for Labor and Materials

The Contractor shall indemnify and save harmless the Purchaser from all claims for labor and materials furnished under this Contract. When requested by the Purchaser, the Contractor shall submit satisfactory evidence that all persons, firms, or corporations who have done work or furnished materials under this Contract, for which the Purchaser may become legally liable, have been fully paid or satisfactorily secured. In case such evidence is not furnished or is not satisfactory, an amount will be retained from money due the Contractor which, in addition to any other sums that may be retained, will be sufficient, in the opinion of the Purchaser, to liquidate all such claims. Such sum will be retained until the claims as aforesaid are fully settled or satisfactorily secured.

Before final acceptance of the work by the Purchaser, the Contractor shall submit to the Engineer in duplicate a notarized affidavit stating that all subcontractors, vendors, persons, or firms who have furnished labor or materials for the work have been fully paid and that all taxes have been paid. If a performance bond has been executed, a statement from the surety shall also be submitted consenting to the making of the final payment.

GC.33 Final Inspection

When the work has been substantially completed and at a time mutually agreeable to the Purchaser and Contractor, the Purchaser will make a final inspection of the work as to the acceptability and completeness of the work.

GC.34 Payments

Payment will be based on the Contractor's progress payment which he will submit to the Purchaser for approval. The Purchaser will retain 10% of the total contract amount for all work. The Purchaser will reduce the retainage to 5% after the project is 50% complete.

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GC.35 Hazardous Materials

As required under Federal Hazardous Communications Standards and certain state and local laws, the Contractor shall provide Material Safety Data Sheets covering all hazardous materials furnished under or otherwise associated with the work under this Contract. The Contractor shall provide the Purchaser with either copies of the applicable Material Safety Data Sheets or copies of a document certifying that no Material Safety Data Sheets are required under any federal, state, or local law, regulation, statute, or ordinance in effect at the jobsite.

Hazardous materials are defined in the applicable statute which may use the terminology "toxic substances" instead of "hazardous materials." The Contractor is responsible for determining if any substance or material furnished, used, applied, or stored under this Contract is within the provisions of any applicable statute.

If the work under this Contract includes onsite construction or erection, the Contractor shall provide written notice of the presence of hazardous materials to local fire, medical, and law enforcement agencies as required with a copy of such notice to the Purchaser.

The Contractor shall provide labeling of hazardous materials and training of employees in the safe usage of such materials as required under any applicable federal, state, or local law, regulation, statute, or ordinance.

GC.36 Liquidated Damages

Time is a material provision of this Agreement. If the Contractor is unable to meet the agreed upon completion dates, the Contractor shall immediately notify the Purchaser and confirm the notice in writing within ten (10) business days of the delaying event. The notice shall contain detailed information of the delay including Contractor's estimate of the duration of the delay, Contractor's estimate of the delay's impact to Contractor's schedule and Contractor's plan to mitigate the effects of the delay.

Contractor shall be excused for delays in completion of the work only in accordance with GC.18. In the event of any such delay, Contractor shall only be allowed an extension of the date of completion for a period of time reasonably necessary to overcome the effect of the delay. Contractor shall not be entitled to any extra compensation for such delay. Contractor shall promptly notify the Purchaser in writing, with confirmation receipt of notification,

The liquidated damages amount per calendar day specified in the proposal form will be assessed, not as a penalty but as predetermined and agreed liquidated damages. The Purchaser and Contractor specifically agree the per calendar day amount to be assessed as liquidated damages is fair and reasonable and not excessive. The parties further agree that said per calendar day amount accurately reflect the anticipated loss and inconvenience to the public and lost revenue to or use by the Purchaser due to the project not being completed by the end of the project period or the end of the contract completion date.

The Purchaser shall have the right to deduct liquidated damages from any money in its hands, otherwise due, or to become due, to the Contractor; to submit invoice for payment; or to sue

SECTION 1 - GENERAL CONDITIONS

for and recover compensation for damages for nonperformance of this Contract within the time stipulated.

The Liquidated Damages for this project will be \$1,000.00 per calendar day past the project completion date.

GC.37 Consequential Damages

Except for Supplier's third party obligations arising out of or liability for breach of Articles GC.26 and/or GC.30, Purchaser and Supplier will not be liable to each other for loss of profits, loss of use, loss of contracts, or consequential damages arising out of this Contract. This Section will not relieve Supplier of any obligation under GC.36.

GC.38 Limitation of Liability

With the exception of (a) indemnification stated in Article GC.30 and (b) the insurance coverages and limits set forth in Article GC.29, Supplier's total limit of liability on any claim, whether for breach of Contract, breach of warranty, tort, negligence, strict liability, or any other legal theory, for any loss or damage arising out of or connected to, or resulting from this Contract, shall be limited to the purchase price to be paid by Purchaser.

GC.39 Confidentiality

"Confidential Information" means the confidential or proprietary designs, know-how, processes, trade secrets, and other information owned or controlled by Purchaser, Engineer, or Supplier respectively. Supplier agrees to hold any Confidential Information received in the strictest confidence, shall only use the Confidential Information as necessary to perform the work. Purchaser agrees to hold any Confidential Information received in the strictest confidence and shall only use the confidential information as necessary for engineering, construction, start-up, commissioning, maintenance, or other purposes related to the project. Each party shall use the same degree of care as is used for its own information of similar importance, but no less than reasonable care.

GC.40 Work Eligibility Status

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee.

GC.41 Fair Labor Standards

The Contractor agrees to comply with all current applicable State, Federal, and City fair labor standards in the execution of the contract. Pursuant to the Title VI Non-Discrimination Program of the City of Hastings, Contractor agrees to comply with the provisions set forth by CITY's Title VI Non-discrimination Program, if applicable. A copy of said provisions are as follows:

SECTION 1 - GENERAL CONDITIONS

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

- (1) **Compliance with Regulations:** The contractor shall comply with the Regulation relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, and the Federal Highway Administration (hereinafter "FHWA") Title 23, Code of Federal Regulations, Part 200 as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
- (2) **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin, sex, age, and disability/handicap in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by 49 CFR, section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.
- (3) **Solicitations for Subcontractors, Including Procurements of Materials and Equipment:** In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin, sex, age, and disability/handicap.
- (4) **Information and Reports:** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the (Recipient) or the FHWA to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the (Recipient), or the FHWA as appropriate, and shall set forth what efforts it has made to obtain the information.
- (5) **Sanctions for Noncompliance:** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the (Recipient) shall impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
 - (a.) Withholding of payments to the contractor under the contract until the contractor complies, and/or
 - (b.) Cancellation, termination or suspension of the contract, in whole or in part.
- (6) **Incorporation of Provisions:** The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

SECTION 1 - GENERAL CONDITIONS

The contractor shall take such action with respect to any subcontract or procurement as the (Recipient) or the FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the (Recipient) to enter into such litigation to protect the interests of the (Recipient), and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

SECTION 2 - SPECIAL CONDITIONS

SPECIAL CONDITIONS

SC.1 General

These Special Conditions are nontechnical in nature and shall supplement the General Conditions in the administration and regulation of field construction work performed under these specifications.

SC.2 Engineer's Drawings and Specifications

After contract award, the Contractor will be furnished two sets of all drawings including revisions thereto and two working copies of the specifications without charge. Additional sets of drawings and revisions thereto and additional copies of specifications may be obtained by payment of printing, handling, and mailing costs. All drawings and specifications shall be returned to the Purchaser upon completion of the work.

SC.3 Project Management

The coordination of all field construction will be under the direction of the Purchaser, who will be responsible for coordinating work between various contractors and for resolving any conflicts between contractors regarding scheduling or coordination.

The time of completion is a basic consideration of this Contract and the Contractor shall be responsible for performing his work in accordance with the specified construction schedule. If at any time the Contractor's work is behind schedule, the Contractor shall increase his forces, work overtime, or otherwise accelerate his operations to comply with the schedule, and shall put into effect definite procedures for getting the work back on schedule. The proposed procedures shall be subject to the Purchaser's acceptance or modification. The procedures adopted shall be put into effect immediately.

The Purchaser will not be responsible for the assignment of personnel, or for obtaining materials or supplies, or for any other services to the Contractor except the coordination of work between contractors and as specifically set forth in the contract documents.

SC.4 Contractor's Office at Site of Work

Not used.

SC.5 Field Records

The Contractor shall maintain at the project site an orderly and adequate file of up-to-date copies of all Engineer's drawings and specifications, manufacturer's prints and specifications, and other contract documents and supplementary data.

In addition, the Contractor shall maintain a continuous record of all field changes by means of a set of drawings marked to indicate current "as-built" conditions. This "as-built" set of drawings shall be available for check by the Purchaser in order for him to ascertain that it is being kept current. At the conclusion of the work, the "as-built" drawings and other engineering data, accurately and neatly marked with field changes, shall be submitted to the

SECTION 2 - SPECIAL CONDITIONS

Purchaser in the required number of copies. The "as-built" drawings and data shall include all revisions to the work made under this Contract, including those made by subcontractors.

SC.6 Contractor's Supervision at the Site

The Contractor shall furnish adequate management, supervisory, and technical personnel on the site to ensure expeditious and competent handling of the work.

A superintendent experienced in construction of the type specified, knowledgeable in the pertinent industry codes and standards, and who is a permanent member of the Contractor's organization, shall be a resident at the project throughout the construction. The superintendent shall be fully authorized to act for the Contractor and to receive whatever orders or notices may be given for the proper prosecution of the work. Contractor shall provide superintendents resume for approval by Owner.

The Contractor's field organization shall include an experienced staff of qualified technical personnel to handle onsite engineering, planning, and direction of all field work.

The Contractor shall be responsible for complete supervision and control of his subcontractors as though they were his own forces. Notice to the Contractor shall be considered notice to any affected subcontractor.

SC.7 Subcontracts

The Contractor shall perform the majority of the work with his own forces and under the management of his own organization. Specific portions of the work may be subcontracted only by subcontractors who have been listed in the Proposal and who are accepted by the Purchaser as provided in the General Conditions. All subcontractors shall be directly responsible to the Contractor and shall be under his general supervision. All work performed under subcontracts shall be subject to the same contract provisions as the work performed by the Contractor's own forces.

SC.8 Relations with other Contractors

The Contractor shall cooperate with all other contractors who may be performing work in behalf of the Purchaser, and with workmen who may be employed by the Purchaser in the vicinity of the work under this Contract, and he shall conduct his operations to minimize interference with the work of such contractors or workmen. The Contractor shall promptly make good, at his own expense, any injury or damage that may be sustained by other contractors or employees of the Purchaser due to activities associated with this Contract. Any difference or conflict which may arise between the Contractor and other contractor's, or between the Contractor and workmen of the Purchaser, in regard to their work shall be resolved as determined by the Purchaser.

SC.9 Acceptance of Work by Others

If any part of the Contractor's work is dependent upon the quality and completeness of work performed under another contract, the Contractor shall inspect the other contractor's work and promptly report defects therein which render such work unsuitable for the proper execution of the work under this Contract. Failure to report such defects to the Purchaser shall constitute the

SECTION 2 - SPECIAL CONDITIONS

Contractor's acceptance of such work as suitable to receive the Contractor's work; provided, however, that the Contractor shall not be responsible for defects which develop after his inspection and which could not have been reasonably detected or foreseen.

SC.10 Methods of Field Operation

The Contractor shall inform the Purchaser in advance concerning his plans for carrying out each part of the field work. Review by the Purchaser of any plan or method of work proposed by the Contractor shall not relieve the Contractor of any responsibility therefor, and such review shall not be considered as an assumption of any risk or liability by the Purchaser or any officer, agent, or employee thereof. The Contractor shall have no claim because of the failure or inefficiency of any plan or method so reviewed.

Any method of work suggested by the Purchaser, but not specified, shall be used at the risk and responsibility of the Contractor, and the Purchaser will assume no responsibility therefor. The Contractor alone shall be responsible for the safety, adequacy, and efficiency of his construction plant, equipment, and methods.

The Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. The Purchaser's construction review of the Contractor's performance is intended to include review of the adequacy of the Contractor's safety measures in, on, or near the construction site.

Shutdown of valves or equipment will be made only by Owner's personnel. In the event that an emergency condition warrants, the Contractor shall take direct action to make shutdown, but must notify Owner immediately and remain on worksite to demonstrate what has taken place to Owner's personnel.

SC.11 Safety, Health, and Accident Prevention

The Contractor shall conduct all operations under this Contract in a manner to prevent bodily harm and damage to property. The Contractor shall continuously inspect all operations, work, materials, and equipment; shall conduct health surveys of all work areas; and shall be solely responsible for the discovery, determination, and correction of conditions which constitute a risk of bodily harm or property damage.

The Purchaser will resolve conflicts regarding safety and health measures and practices. The Purchaser will monitor the Contractor's safety and health measures, and may require changes in the Contractor's Safety, Health, and Accident Prevention Program during the performance of the work.

The Contractor shall implement and maintain a written Safety, Health, and Accident Prevention Program specifically applicable to the work. The Contractor's program shall meet the requirements of the codes and regulations of federal, state, local, and other authorities having jurisdiction over this work. The Contractor's Safety, Health, and Accident Prevention Program shall include disciplinary procedures and safety orientation training procedures applicable to Contractor and subcontractor personnel.

SECTION 2 - SPECIAL CONDITIONS

The Contractor's Safety, Health, and Accident Prevention Program shall include equipment to be used, sampling strategy and calculations, methods of compliance, and personnel protective equipment. The calibration, sampling, and analytical laboratory procedures used shall be in conformance with OSHA's Industrial Hygiene Field Operations Manual.

The Contractor's Safety, Health, and Accident Prevention Program shall be submitted for review by the Purchaser 30 days prior to the start of the work at the project site. This review will not relieve the Contractor of his responsibility for safety and health, nor shall such review be construed as limiting in any manner the Contractor's obligation to undertake any action which may be necessary or required to establish and maintain safe working conditions respecting his work at the project site. The Purchaser reserves the right to require the Contractor to modify any portion of his Safety, Health, and Accident Prevention Program.

The Contractor shall immediately correct any unsafe conditions identified by the Purchaser. In the event the Contractor fails to immediately correct such unsafe conditions, the Purchaser may either have the unsafe conditions corrected by others at the Contractor's expense, or direct that the work be stopped in the area of the unsafe condition; however, this right to stop the work shall not give rise to any duty on the part of the Purchaser to exercise this right.

The Contractor shall appoint a qualified Safety and Health Representative. The Safety and Health Representative shall attend all project safety and health meetings. The Contractor's Safety and Health Representative shall have the authority to have unsafe conditions corrected and direct that the work be stopped in the area of the unsafe condition, if deemed necessary.

The Contractor shall maintain accurate accident and injury reports.

The Contractor shall hold regular scheduled meetings to instruct his personnel and his subcontractors' personnel in safety and health practices. The Contractor shall furnish safety and health equipment and enforce the use of such equipment by his employees and the employees of his subcontractors.

The Contractor waives the right to bring claim for damages against the Purchaser or Engineer for any cause whatsoever because of any action taken or not taken including but not limited to the correction of unsafe conditions or work stoppages in connection with the Contractor's Safety, Health, and Accident Prevention Program or such program of another contractor. If such a claim against the Purchaser or Engineer is brought by a third party, the Contractor shall indemnify and defend the Purchaser or Engineer against such claim in accordance with the General Conditions article entitled INDEMNIFICATION.

SC.12 Fall Protection

The OSHA Fall Protection Standard 29 CFR 1926 Subpart M shall be strictly adhered to by the Contractor. Fall protection is required for all of Contractor's Work operations one hundred percent of the time, whether climbing, traveling, or working. **No Work operation is exempt from the six (6) foot fall protection requirement.**

SECTION 2 - SPECIAL CONDITIONS

Fall protection body harnesses, lanyards, and lifelines shall be used in accordance with OSHA Standard 1926 Subpart 502D, with the following exceptions:

- Full body harnesses shall be used in lieu of safety belts.
- Only lanyards with shock absorbers and locking type snap hooks shall be used.
- At least two lanyards shall be used to provide one hundred percent fall protection when moving around obstructions, connection points, or other similar items.

Fall protection guardrail systems shall comply with OSHA Standard 1926 Subpart 502(b) except manila, plastic, or synthetic rope shall not be used as guardrails.

Contractor shall provide his own confined space equipment, monitors, and personnel for hole watches.

SC.13 Lines and Grades

Not used

SC.14 Preservation of Monuments and Stakes

Not used

SC.15 Protection of Property and Public Liability

The Contractor shall be accountable for any damages resulting from his operations. He shall be fully responsible for the protection of all persons including members of the public, employees of the Purchaser, employees of the Engineer, and employees of other contractors or subcontractors, and all public and private property including structures, sewers, and utilities above and below ground.

The Contractor shall furnish and maintain all necessary safety equipment, such as barriers, signs, warning lights, and guards, to provide adequate protection of persons and property.

The Contractor shall give reasonable notice to the owners of public or private property and utilities when such property and utilities are liable to injury or damage through the performance of the work and shall make all necessary arrangements with such owners relative to the removal and replacement or protection of such property or utilities.

SC.16 Emergency Protection

Whenever, in the opinion of the Purchaser, the Contractor has not taken sufficient precaution for the safety of the public or the protection of the work to be constructed under this Contract or of adjacent structures or property, and whenever, in the opinion of the Purchaser, an emergency has arisen and immediate action is considered necessary, then the Purchaser, with or without notice to the Contractor, may provide suitable protection by causing work to be done and material to be furnished and placed. The cost of such work and material shall be borne by the Contractor, and if the same is not paid on presentation of the bills therefor, such costs may be deducted from any amounts due or to become due the Contractor. The performance of such emergency work shall not relieve the Contractor of responsibility for any damage which may occur.

SECTION 2 - SPECIAL CONDITIONS

SC.17 Losses from Natural Causes

All loss or damage arising out of the nature of the work, or from the action of the elements, or from floods or overflows, or from ground water, or from any unusual obstruction or difficulty, or any other natural or existing circumstance either known or unforeseen which may be encountered in the prosecution of the work, shall be sustained and borne by the Contractor at his own cost and expense.

SC.18 Qualification of Workers

The Contractor shall employ only workers who are competent to perform the work assigned to them and, in the case of skilled labor, who are adequately trained and experienced in their respective trades and who do satisfactory work.

SC.19 Sunday, Holiday, and Night Work

Working hours will be determined by the contractor to meet the time requirements of the contract. Working hours must be approved by PPGA.

SC.20 Unfavorable Construction Conditions

During periods of unfavorable weather, wet grounds, or other unsuitable construction conditions, the Contractor shall confine his operations to work which will not be adversely affected thereby. No portion of the work shall be constructed under conditions which would adversely affect the quality or efficiency thereof, unless special means or precautions are taken by the Contractor to perform the work in a proper and satisfactory manner.

SC.21 Rejected Work and Materials

The Contractor, upon written notice from the Purchaser, shall remove from the premises all work and materials rejected as defective, unsound, improper, or in any way failing to conform to the requirements of the contract documents. The Contractor shall at his sole expense make good all work damaged by such removal and shall promptly replace materials damaged or improperly worked by him and re-execute his own work in accordance with the contract. This includes re-executing or replacing the work of any other contractor that is in any way affected by the removal of the defective work. The obligations of the Contractor under this article shall not extend to defective materials or equipment supplied by the Purchaser, if any.

If the Contractor does not remove his rejected work and materials within 10 days after written notice, the Purchaser may remove and replace such work and materials at the expense of the Contractor.

SC.22 Placing Work in Service.

If desired by the Purchaser, portions of the work may be placed in service when completed and the Contractor shall provide proper access for this purpose. Such use and operation shall not constitute an acceptance of the work, and the Contractor shall be liable for defects due to faulty construction throughout the duration of this Contract and thereafter as provided under the "Guarantee" provisions of the General Conditions.

SECTION 2 - SPECIAL CONDITIONS

SC.23 Cleanliness

The Contractor shall give special attention to keeping the worksite clean and free from trash and debris.

Trash, debris, and waste materials shall not be allowed to accumulate, but shall be removed from the site and disposed of by and at the Contractor's expense. No on site burning shall be allowed.

Promptly upon completion of the construction work, all Contractor-owned facilities, materials, and construction plant shall be removed from the site. All surfaces damaged by deposits of foreign materials such as oil, grease, weld spatter, and paint shall be restored to their original conditions.

SC.24 Purchase Orders

Submittal of purchase orders shall not be required.

SC.25 Fire Protection

Only work procedures which minimize fire hazards to the extent practicable shall be used. Combustible debris and waste materials shall be collected and removed from the site each day, as provided under CLEANLINESS. Fuels, solvents, and other volatile or flammable materials shall be stored away from the construction and storage areas in well marked, safe containers. Good housekeeping is essential to fire prevention and shall be practiced by the Contractor throughout the construction period. The Contractor shall follow the recommendations of the AGC "Manual of Accident Prevention in Construction" regarding fire hazards and prevention.

The Contractor alone shall be responsible for providing adequate fire protection. Failure of the Contractor to comply with or the Purchaser to enforce, the above requirements shall not relieve the Contractor from any responsibility or obligation under this Contract.

The Contractor shall use and abide by Purchaser's hot work permit procedures.

SC.26 Security

The Contractor shall be responsible for all materials and equipment in his custody or placed in construction by him. Security methods shall be employed as required to ensure the protection of all materials, equipment, and construction work from theft, vandalism, fire, and all other damage and loss.

The Contractor shall cooperate with the Purchaser regarding all security measures instituted at the jobsite.

SC.27 Protection of Work

The Contractor shall be solely responsible for the protection of his work until its final acceptance by the Purchaser.

SECTION 2 - SPECIAL CONDITIONS

The Contractor shall have no claim against the Purchaser or the Engineer because of any damage or loss to the Contractor's work and shall be responsible for the complete restoration of damaged work to its original condition complying with the contract documents.

In the event the Contractor's work is damaged by another party not under his supervision or control, the Contractor shall make his claim directly with the party involved. If a conflict or disagreement develops between the Contractor and one of the other contractors concerning the responsibility for damage or loss to the Contractor's work, the conflict shall be resolved as provided under RELATIONS WITH OTHER CONTRACTORS. Such conflict shall not be cause for delay in the restoration of the damaged work. The Contractor shall restore the work immediately and the cost thereof will be assigned pending the resolution of the conflict.

SC.28 Protection of Concrete Surfaces

Concrete floors and other concrete surfaces shall be protected from chipping, gouging, scratching, staining, and other damage. Damaged sections shall be repaired or removed and replaced subject to the Purchaser's discretion and acceptance.

Heavy planks and mats shall be placed under equipment and materials being stored, moved, assembled, or installed on or above concrete floor surfaces. Nonflammable, oil-resistant coverings shall be used to protect concrete surfaces from staining.

SC.29 Protection of Electrical Raceway, Cable, and Lighting Fixtures

The Contractor shall protect electrical raceway, cable, lighting fixtures, and associated support systems against damage from movement of equipment and materials, welding, flame cutting, and other construction damage. Raceway and supporting structures for raceway and lighting fixtures shall not be used as access scaffolding at any time. Whenever welding or flame cutting operations occur above or near raceways, cables, or lighting fixtures not shielded from such operations by protective covers, the Contractor shall protect the raceways, cables, and lighting fixtures from damage by means of fire-resistant boards or blankets. Damaged materials shall be repaired or replaced subject to the Purchaser's discretion and acceptance.

Where concrete is removed, or holes are filled, the surrounding equipment shall be protected from concrete, water and dust. Where concrete is removed, dust shall be collected.

SC.30 Repair of Damages

The Contractor shall immediately repair any damage which results from this construction or abnormal use, including damage done to the existing facilities. All such repair work shall be acceptable to the Purchaser.

SC.31 Independent Testing Laboratory

Not Used

SC.32 Cooperation with the Purchaser

The performance of construction work which affects the operation of the Purchaser's system facilities shall be scheduled to be performed only at times acceptable to the Purchaser.

SECTION 2 - SPECIAL CONDITIONS

In the event that it is necessary to interrupt the Purchaser's operations or the power supply or to impose abnormal operating conditions on the Purchaser's utility system, such procedure must be acceptable to the Purchaser and a complete understanding and agreement must be reached by all parties concerned well in advance of the time scheduled for such operation, and such understanding shall be definite as to date, time of day, and length of time required. All work shall be scheduled to suit the Purchaser's convenience, taking into consideration the facilities and requirements at all times during construction. The Contractor shall perform work which affects the Purchaser's system facilities at times other than regular working hours if required.

SC.33 Minor Defects

The Contractor shall readjust, straighten, and repair minor defects and fabrication errors which are normally encountered in the Purchaser-furnished equipment and materials. No claims for extra compensation in connection with such work will be considered unless the claim is made in accordance with the applicable provisions in the General Conditions.

When field labor is needed to correct significant errors in the Purchaser-furnished equipment and materials, the Contractor shall furnish such labor when so requested by the manufacturer or by the Purchaser with the consent of the manufacturer. Such labor shall not be included in this Contract, and the Contractor shall obtain payment for the labor from the manufacturer.

SC.34 Checkout and Initial Operation

The Contractor shall render all services and do all work required to place each item of equipment installed by him, including all auxiliaries, piping, and wiring, in operating condition to the satisfaction of the Purchaser. Individual systems and items of equipment shall be completed in a sequence that will permit systematic checkout and trial operation of each such component before it is incorporated in the initial operation.

The Purchaser will furnish operating personnel during checkout and initial operation.

It is anticipated that the startup testing and initial operation will be in progress over extended periods of time.

All regular and overtime payrolls and all other contingencies in connection with the checkout and initial operation of equipment shall be included as a part of the lump sum contract price.

SC.35 Construction Plant and Temporary Facilities

Temporary facilities are defined in Section 3 General Description and Scope of Work

SC.36 Receiving, Handling, and Storage

The Contractor shall receive from carriers at the site, check, unload, handle, and store all materials and equipment which are to be incorporated in the construction under these specifications.

The Contractor shall be responsible for the prompt unloading of materials and equipment and shall pay any demurrage.

SECTION 2 - SPECIAL CONDITIONS

Storage areas on the site shall be limited to those areas so designated by the Purchaser.

SC.37 Equivalent Materials and Equipment

Whenever a material or article is specified or described by using the name of a proprietary product or the name of a particular manufacturer or vendor, the specific item mentioned shall be understood as establishing the type, function, and quality desired. Other manufacturers' products will be accepted provided sufficient information is submitted to allow the Engineer to determine that the products proposed are equivalent to those named.

Requests for review of equivalency will not be accepted from anyone except the Contractor and such requests will not be considered until after the contract has been awarded.

SC.38 Rights of Way

Not used.

SC.38.1 On Private Property

Not used.

SC.39 Fences

Not used.

SC.40 Protection of Public and Private Property

Not used.

SC.41 Maintenance of Traffic

Not used.

SC.42 Barricades and Lights

Not used.

SC.43 Underground Installations

Not used.

SC.44 Land for Construction Purposes

Not used.

SC.45 Energized Facilities

Existing transmission lines, substations, distribution lines, utility lines, telephone lines and other power and signal service lines will be encountered on the site of the work. These service systems will remain energized and functional during construction.

Temporary outages required by the Contractor to perform certain construction activities will be provided by the Purchaser. The Contractor shall give written notice to the Purchaser a minimum of seven days in advance of any requested outages. The Contractor shall recognize that certain outage restrictions may apply that will not allow for an outage, as requested. The

SECTION 2 - SPECIAL CONDITIONS

Contractor's proposed schedule shall account for these outage restrictions. No extension of time or any additional compensation will be given for these outage restrictions.

The Contractor shall be completely responsible for the safety and protection of his personnel and the public on the site of the work and shall employ all methods necessary to achieve such safety and also assure continuity of all service systems encountered. These methods shall include, but not be limited to, providing barriers, guard structures, insulating guards and sleeves, warning signs, and prevention of unauthorized access to substations.

SC.46 Artifacts

Not used.

SC.47 Final Cleanup and Grading

Not used.

SC.48 Dust Control

Not used.

SECTION 3 GENERAL DESCRIPTION AND SCOPE OF WORK

SECTION 3-0 GENERAL DESCRIPTION AND SCOPE OF WORK

3.001 General. PPGA is accepting bids for the cooling tower repair work at Whelan Energy Center, 4520 East South Street in Hastings, Nebraska.

The cooling tower is an EvapTech, 8 cell, counter flow, induced mechanical draft design. Model #EC848-554N. The tower was installed and commissioned in 2011.

The Bidder is highly encouraged to visit the site prior to submitting a bid. The Bidder shall inform their self of all conditions and factors which would affect the execution of the work. No claims for financial compensation or time extension, based on the lack of such prior information (or its effect on the cost of the work) will be permitted by the Owner. Please contact Derek Pfeifer, Production Engineer, at 402-462-3673 if you have any questions about this project or would like to set up a site visit.

3.002 Project Schedule. This project will need to be completed during the spring 2025 outage. The plant will start the outage early morning on April 7th. The tower basin will be drained during the following two days and finish during the day on Wednesday, April 9th. The cooling tower will need to be operational and ready to fill by 7pm on Friday, May 9th.

Bids will close on December 18th. Engineering and Operations Committee to review and provide recommendation on January 6th. PPGA Board to approve and sign the contract agreement on January 16th.

3.003 Scope. The Contractor shall provide all labor, tools, materials, and freight necessary to complete the following scope of work in the allotted time frame. This year's project will focus on six cells – A, C, D, E, F, and G. Cells B and H were completed during the fall 2024 outage.

Fill Replacement – Six (6) Cells:

- Remove the existing fill and place into disposal bins supplied and coordinated by Contractor.
- Supply and install 5'-0" of new Brentwood shockwave MA film fill, equal or better, film-pack, cellular fill. If bidder has different fill offerings available, please provide an adder price in the clarifications section along with associated technical data.
- Fill to be constructed from rigid polyvinyl chloride PVC sheets, be resistant to UV, rot, fungus, organic and inorganic solvents, acids and alkalis, and chemicals normally found in cooling tower circulating water.
- Existing top layer of fill pack is 12" wide x 12" tall x 72" long. Existing bottom layer of fill pack is 12" wide x 48" tall x 72" long.
- New fill shall be manufactured from 10 mil (after forming) nominal gauge PVC sheets mechanically assembled into rigid blocks. Film sheets shall be assembled in an offset flute design to provide resistance to fouling.
- New fill shall be installed on existing joists and joist supports. Should existing joints and joist supports require replacement, they will be handled on a T&M extra work order.

SECTION 3 GENERAL DESCRIPTION AND SCOPE OF WORK

- Supply and install new perimeter sealers
- New materials shall be fire retardant fiberglass reinforced plastic.
- All connecting hardware shall be 304 stainless steel.

Drift Eliminator Replacement – Six Cells:

- Remove the existing drift eliminator modules and place into disposal bins supplied and coordinated by Contractor.
- Supply and install new high efficiency EvapTech DriAir80, Brentwood CF80Max, equal or better, cellular drift eliminators rated with at least a 0.0005% drift factor by the manufacturer.
- Eliminator sheets shall be assembled in a multi-pass wave form, and each pre-assembled unit shall nest together to form a rigid structure.
- Drift Eliminator to be constructed from rigid, corrugated polyvinyl chloride PVC sheets, be resistant to UV, rot, fungus, organic and inorganic solvents, acids and alkalis, and chemicals normally found in cooling tower circulating water.
- Supply and install new perimeter sealers
- New materials shall be fire retardant fiberglass reinforced plastic.
- All connecting hardware shall be 304 stainless steel.

Distribution Lateral Replacement – Six Cells:

- Remove the existing lateral lines and place into disposal bins supplied and coordinated by Contractor.
- Supply and install new 6” diameter SDR 35 PVC laterals, including threaded end caps to allow for cleaning/flushing of the system and new rubber grommets to connect new laterals to the existing 30” FRP header pipe
- Supply and install new EvapJetII, Brentwood Accuspray, equal or better, counter flow nozzles. Nozzles shall be non-clogging.
- Nozzles shall be attached to the lateral lines with a threaded adaptor bonded to the laterals.
- All connecting hardware shall be 304 stainless steel.
- Re-use the existing compression blocks between the lateral supports.

Partition Wall Replacement – Six Cells:

- Remove the existing cement board panels on the cells.
- Replace and install with 12 ounce 7.2 corrugated fire-retardant panel casing (FS<25).
- Re-use the existing vertical mid-bay supports.
- Partition wall to be installed from the bottom of the fan deck joists to 1’ below the top of the cold water basin curb.
- All connecting hardware shall be 304 stainless steel.
- Install caulking for joints and seams

3.004 Craft Labor Hours & Crew Makeup. The Contractor shall work the necessary working days and hours to complete the project on time. The proposed working schedule shall

SECTION 3 GENERAL DESCRIPTION AND SCOPE OF WORK

be submitted to PPGA for review during the project kickoff meeting. The crew make-up shall be determined by the Contractor; however, the Contractor must provide a Foreman or Supervisor that has substantial knowledge of cooling tower construction, safety, and design, and will be the primary onsite point of contact during the duration of construction.

3.005 Drawings and Supporting Information. In Appendix A, the Owner has provided the anticipated necessary drawings and information to bid the project. If additional specific information is necessary, and is not included in the specifications or drawings, Bidder should request this information from the Owner.

3.006 Work Provided by PPGA (Not Contractor's Responsibility):

- A. Owner to drain basin and provide Lock Out Tag Out and Hot Work Permits.
- B. Owner to provide all electrical and instrumentation work, including temporary construction power.
- C. Owner to provide Two (2) 80 ft manlifts, One (1) telehandler, fuel for equipment, and sanitation facilities (three blue rooms and one hand wash station).
- D. Should Contractor prefer to provide their own equipment and fuel, please take exception to line D above and provide clarification in their proposal.
- E. Owner to provide landfill disposal permit and approvals. Cost of disposal to be incurred by the contractor.

3.007 Additional Information.

Table 3.1 – Design Conditions / Physical Size

Circulating Water Flow	105,600 gpm
Hot (Inlet) Water Temperature	110.3°F
Cold (Outlet) Water Temperature	89.0°F
Wet Bulb Temperature	78°F
Fill Height	5 ft
Tower Size (Nominal WxL)	48 ft x 432 ft
Cell Size (Nominal WxL)	48 ft x 54 ft
Cell Quantity	8 (Eight)
Fan Power (AMS)	109.0 HP
Design L/G	1.465
Tower Height (TOBC to Fan Deck)	33 ft – 7 in
Tower Height (TOBC to Fan Stack Top)	47ft – 7 in

- A. No hazardous material, asbestos, or chromium has polluted the cooling tower material. Material can be taken to land fill in raw form or broken down if necessary. Owner will assist in permitting or load manifests with the local landfill.
- B. No confined space permits or hole watch will be required as long as the tower is not in operation.
- C. Access to the tower is much better from the east side. The road on the south side of the tower will need to remain open for haul trucks to access the ponds for material removal.

SECTION 3 GENERAL DESCRIPTION AND SCOPE OF WORK

3.008 Submittal Documentation. Contractor to provide the following submittal documents along with the bid package:

- Cut sheet of proposed fill material
- Cut sheet of proposed drift eliminators
- Cut sheet of counter flow nozzles
- Proposed payment structure for progress payments, if necessary

APPENDIX A

ATTACHMENTS

FOR

FORMAL CONTRACT NO. PPGA 2024-31

COOLING TOWER REPAIR

FOR

WHELAN ENERGY CENTER, UNIT II

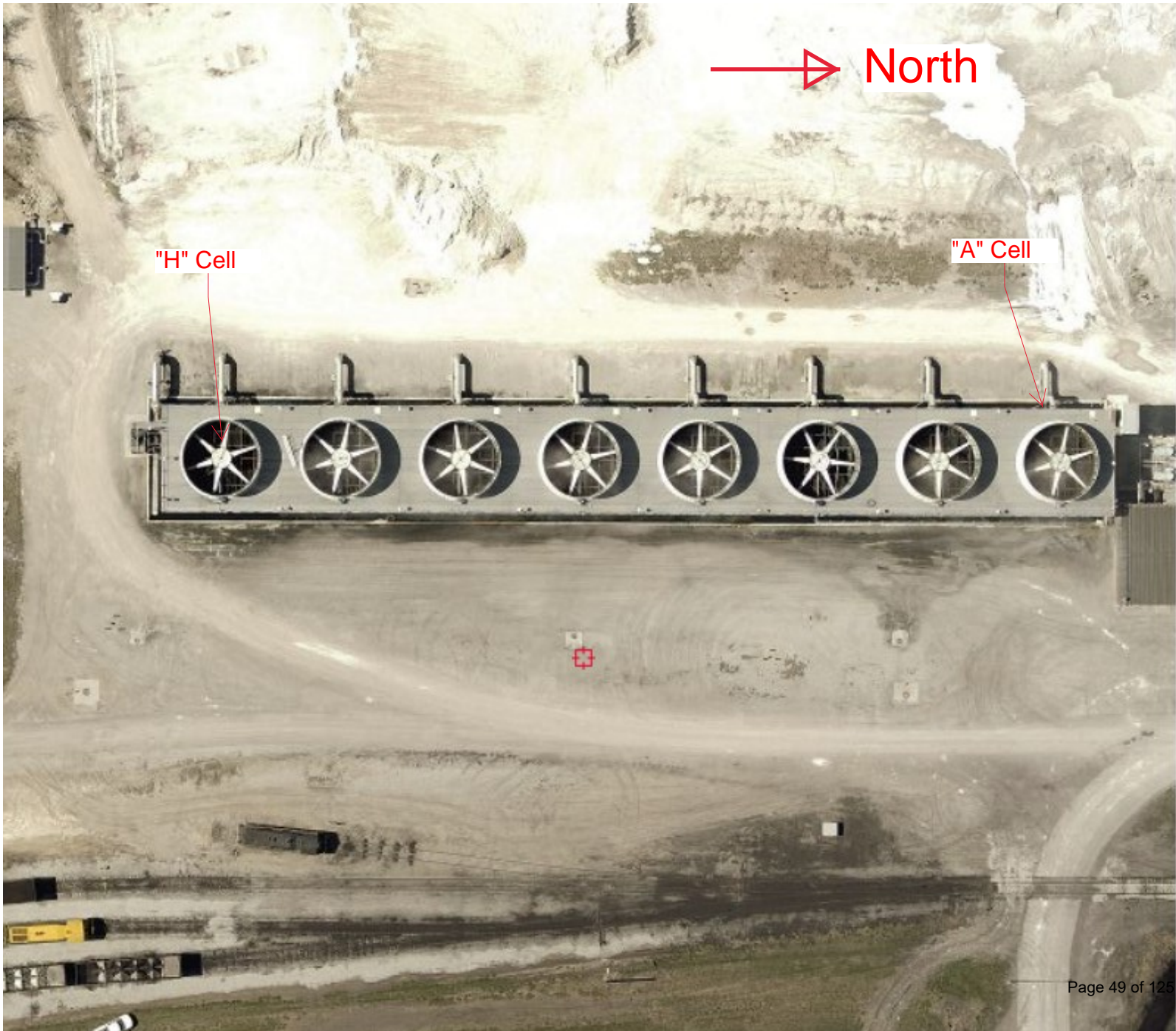
PUBLIC POWER GENERATION

AGENCY

→ North

"H" Cell

"A" Cell



"A" Cell





West Side of Cooling Tower Looking at "H" Cell

West Side of Cooling
Tower Looking North



South Side of Cooling Tower Looking North









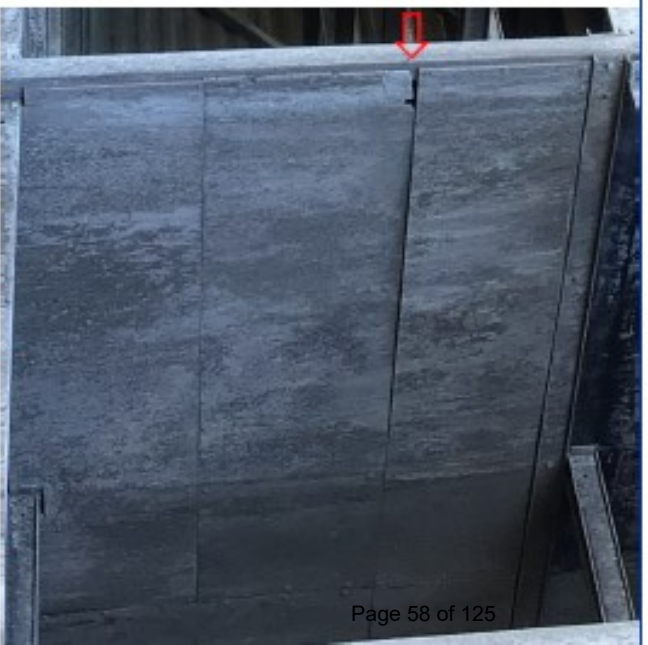
Typical Cement Board
on partition walls

Typical Cement Board on partition walls





Degradation on the top edge of a cement board wall panel.



Degradation on the edge and corner of cement board panel.



Crack on a cement board panel.



Degradation on the edges of the cement board panels.



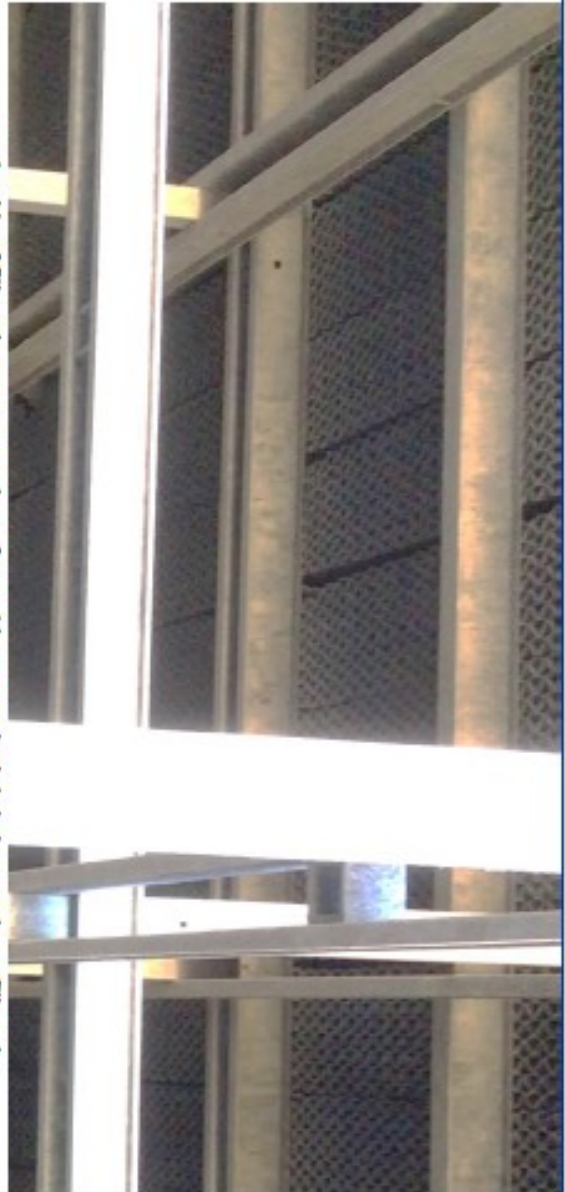
Example of cement board warping at the seams between the supporting structure.



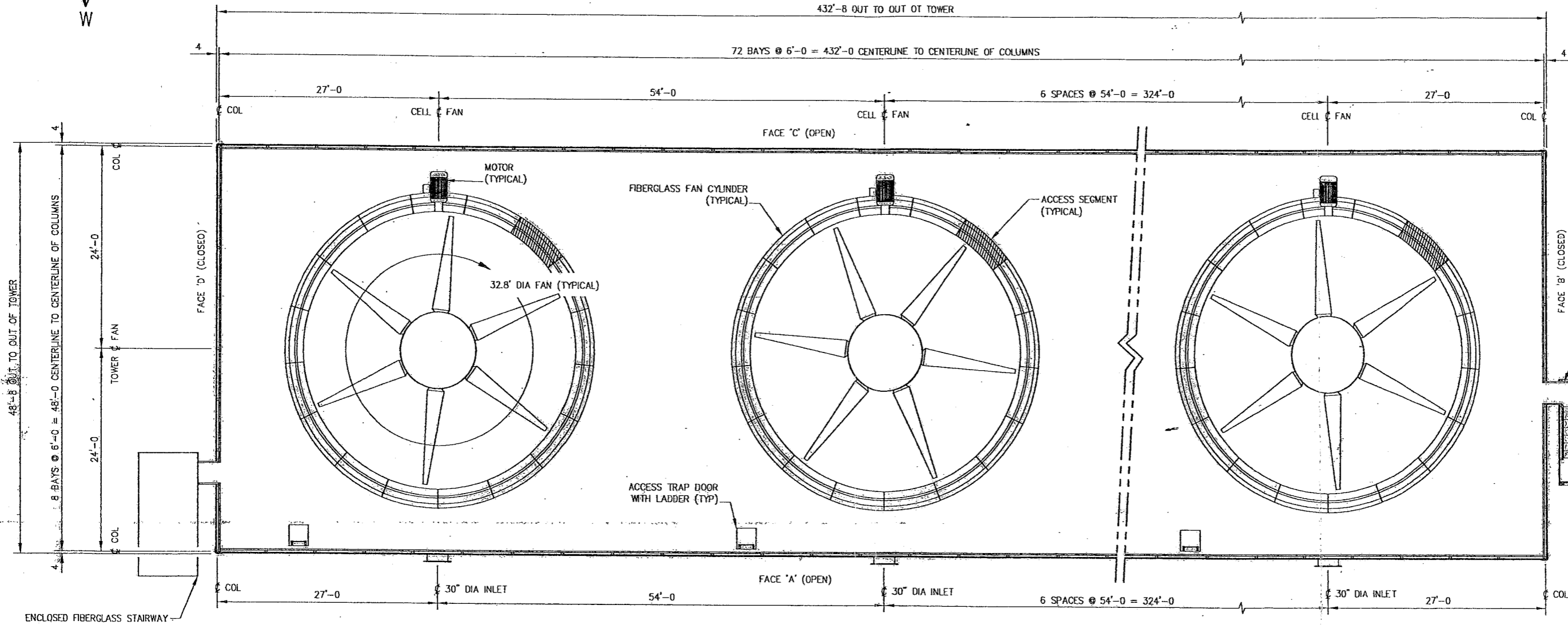
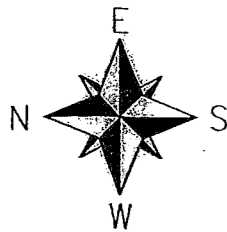
Underside of fill packs. Some gaps have formed between the brittle bottom layer fill packs.



Underside of fill packs. Some gaps have formed between the brittle bottom layer fill packs.



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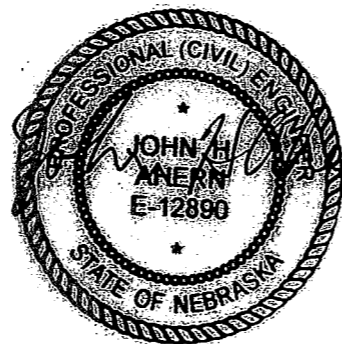
TOWER PLAN VIEW
SEE DRAWING 07-21061 FOR NOTES AND ELEVATION VIEW

Approved For
Construction

By: John Ahern
Further Changes Could Result
In Added Cost And/OR Delays
In Shipment.

Date: 01/10/2008

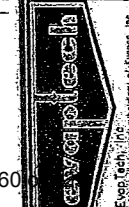
**Certified for
Construction**



John Ahern
4/21/09

PUBLIC POWER GENERATION AGENCY
WHELAN ENERGY CENTER, UNIT #2
COOLING TOWER PO 145300.62.0601
B&V TAG 2HRC-CTW-1
HASTINGS, NE

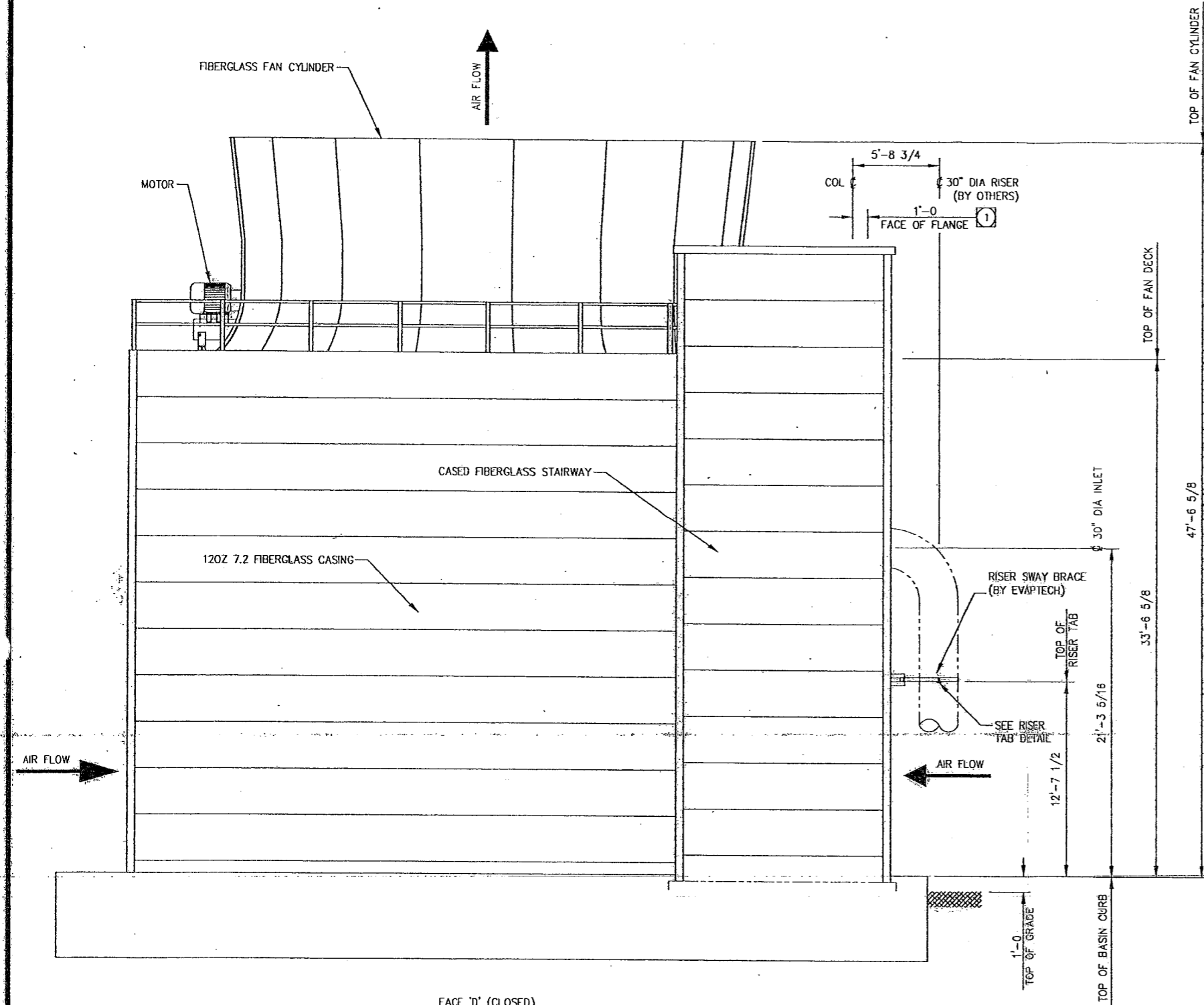
EverTech, Inc.
8331 Nieman Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166



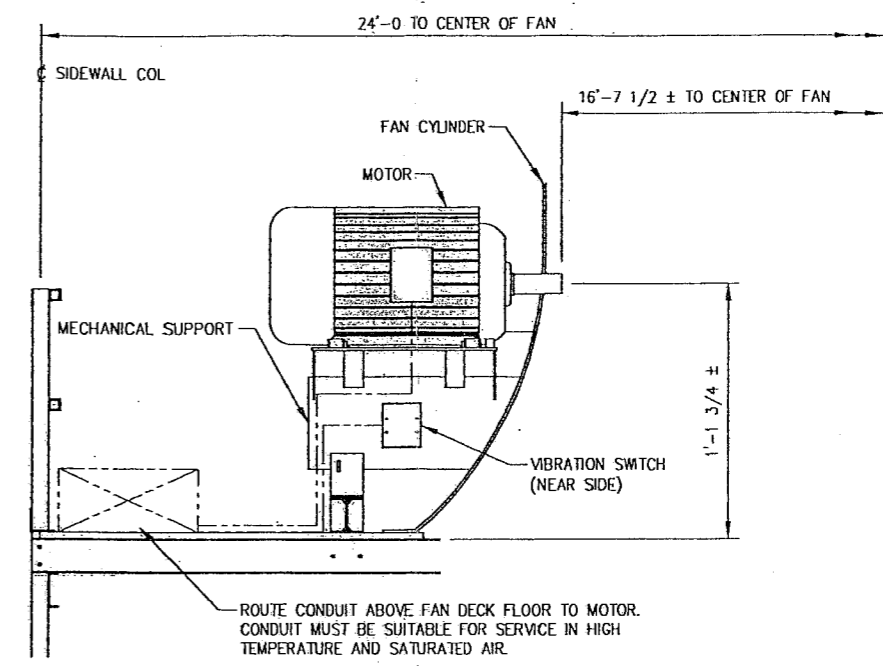
SCHEMATIC PLAN VIEW
MODEL EC848-554M TOWER

REVISIONS	REV. DATE	REV. CHECKED	REV. DATE	REV. CHECKED
1	09/18/2008	SMT	09/18/2008	RDF
2	07-20750	JHA	07-20750	JHA
3	7-320814	JHA	7-320814	JHA
4	1 = 150	JHA	1 = 150	JHA
5	7/27/2007	JHA	7/27/2007	JHA
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15	7/27/2007	JHA	7/27/2007	JHA
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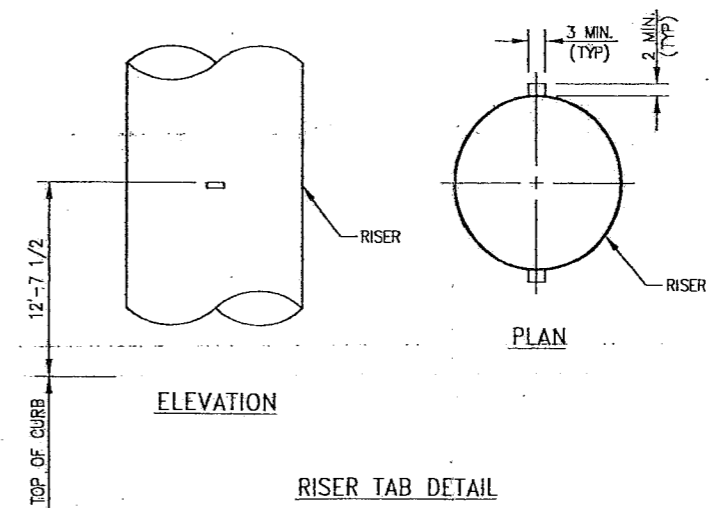




FACE 'D' (CLOSED)
ENDWALL ELEVATION



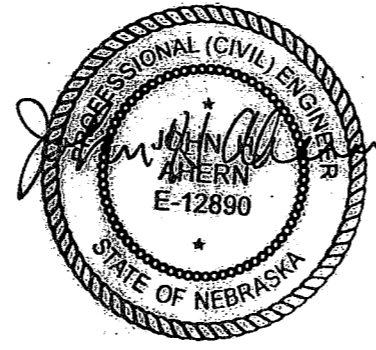
SUGGESTED CONDUIT LOCATION



RISER TAB DETAIL

GENERAL NOTES

- EVAPTECH PIPING STOPS AT FACE OF FRP FLAT FACED FLANGE WHICH IS 2 3/8" (+1/4, -0) THICK. THERE ARE 28 - 1 3/8" DIA. BOLT HOLES ON 36" DIA BOLT CIRCLE. BOLT HOLES STRADDLE CENTERLINES. EVAPTECH PIPE SUPPORTS ARE DESIGNED TO SUPPORT ONLY THE WEIGHT OF PIPE AND WATER WITHIN THE LIMITS OF THE TOWER. THE HYDRAULIC LOADS WILL BE PASSED THROUGH THE TIED EXPANSION JOINT (BY OTHERS) BETWEEN THE RISER PIPING FLANGE AND THE HEADER FLANGE. THE RISER SWAY BRACE IS DESIGNED FOR A 2500 LB HORIZONTAL LOAD IN EACH DIRECTION (PER BLACK AND VEATCH). THE CUSTOMER SUPPLIED RISER IS 30" OD PER ASTM GRADE B, STANDARD WEIGHT 3/8 INCH WALL STEEL PIPE. THE CONNECTION BETWEEN THE RISER AND SWAY BRACE WILL BE DESIGNED WITH A "CLAMP AROUND THE RISER" DETAIL. EVAPTECH TO FURNISH NECESSARY INLET FLANGE GASKET 3/8" THICK FULL FACE SOFT NEOPRENE OF SHORE DURETOMETER 50 ± 5.
- INSTALLER NOTE: CONNECTING PIPE MUST BE PROPERLY ALIGNED AT INSTALLATION TO AVOID DAMAGING OR MOVING THE FRP PIPE WHEN PULLING UP THE FLANGE BOLTS.
- REDUCED WATER FLOW OVER THE COOLING TOWER IN COLD CLIMATES CAN RESULT IN ICE FORMATION IN THE FILL. IF THE CUSTOMER'S APPLICATION REQUIRES A BYPASS SYSTEM, THE DESIGN MUST BE REVIEWED BY EVAPTECH.



Approved For
Construction

By: John Ahern
Further Changes Could Result
In Added Cost And/Or Delays
In Shipment.

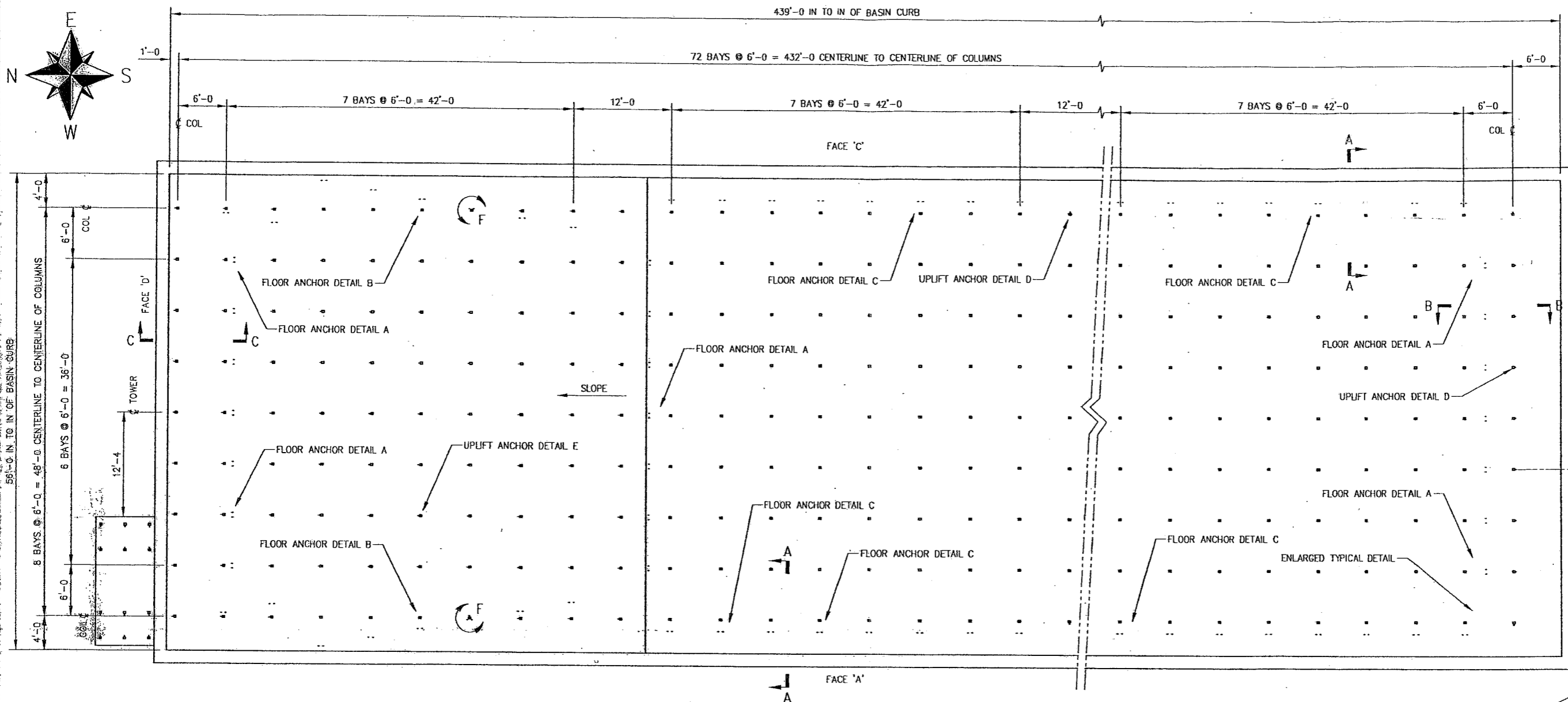
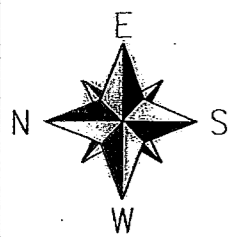
Date: 01/10/2008

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Construction**

PUBLIC POWER GENERATION AGENCY
WHELAN ENERGY CENTER, UNIT #2
COOLING TOWER PO 145300.62.0601
B&V TAG 2HRC-CTW-1
HASTINGS, NE

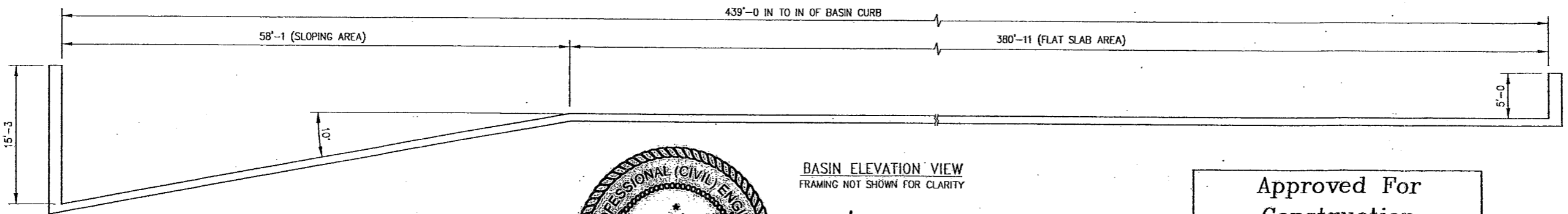
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SCALE: 1 = 96	ORDER NUMBER: 7-320814	SCALE: 1 = 96	ORDER NUMBER: 7-320814
APPROVED BY: JHA	APPROVED BY: JHA	APPROVED BY: JHA	APPROVED BY: JHA
DATE: 10/1/2007	DATE: 10/1/2007	DATE: 10/1/2007	DATE: 10/1/2007
REV: F	REV: F	REV: F	REV: F





BASIN PLAN VIEW

SEE DRAWING 07-21063 & 07-21076 FOR NOTES, SECTIONS, AND DETAILS



BASIN ELEVATION VIEW
FRAMING NOT SHOWN FOR CLARITY



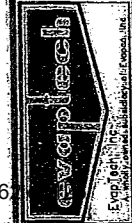
4/21/09

Certified for Construction

Approved For Construction
By: John Ahern
Further Changes Could Result
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In Shipment.
Date: 01/10/2008

PUBLIC POWER GENERATION AGENCY
WHELAN ENERGY CENTER, UNIT #2
COOLING TOWER PO 145300.62.0601
B&V TAG 2HRC-CTW-1
HASTINGS, NE

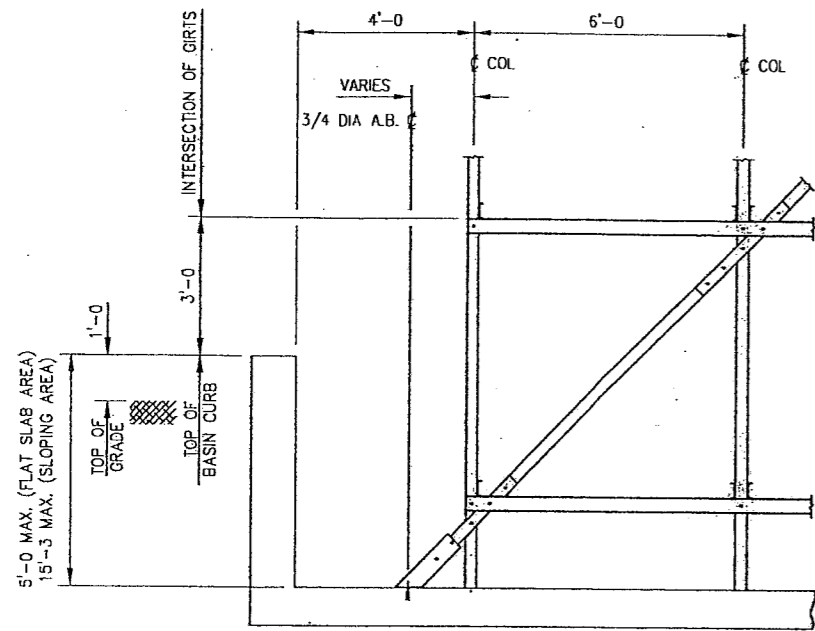
Evaptech, Inc.
8331 N. Neman Road
Lanexa, KS 66214
Ph: (813) 322-5165
Fax: (813) 322-5166



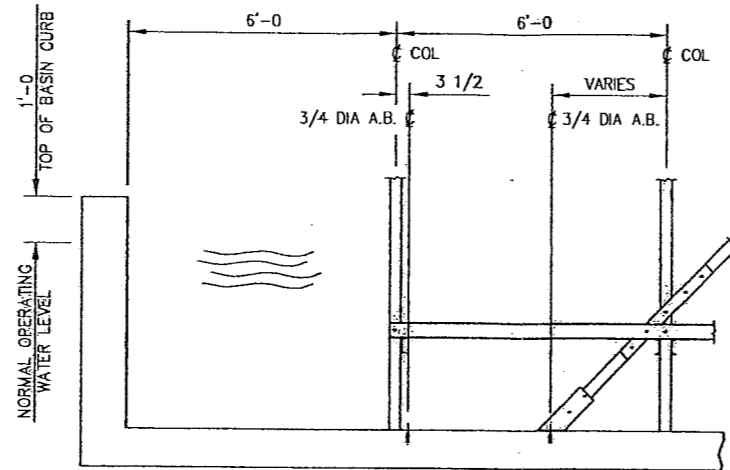
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TADY		SCALE: 1 = 150	DRAWING NUMBER: 07-21062	REV: B	

COLD WATER BASIN PLAN VIEW
MODEL EC848-554M TOWER

CONSENT TO THE PROJECT IS NOT VALID UNLESS IT IS APPROVED BY THE PROJECT AUTHORITY.



SECTION A-A

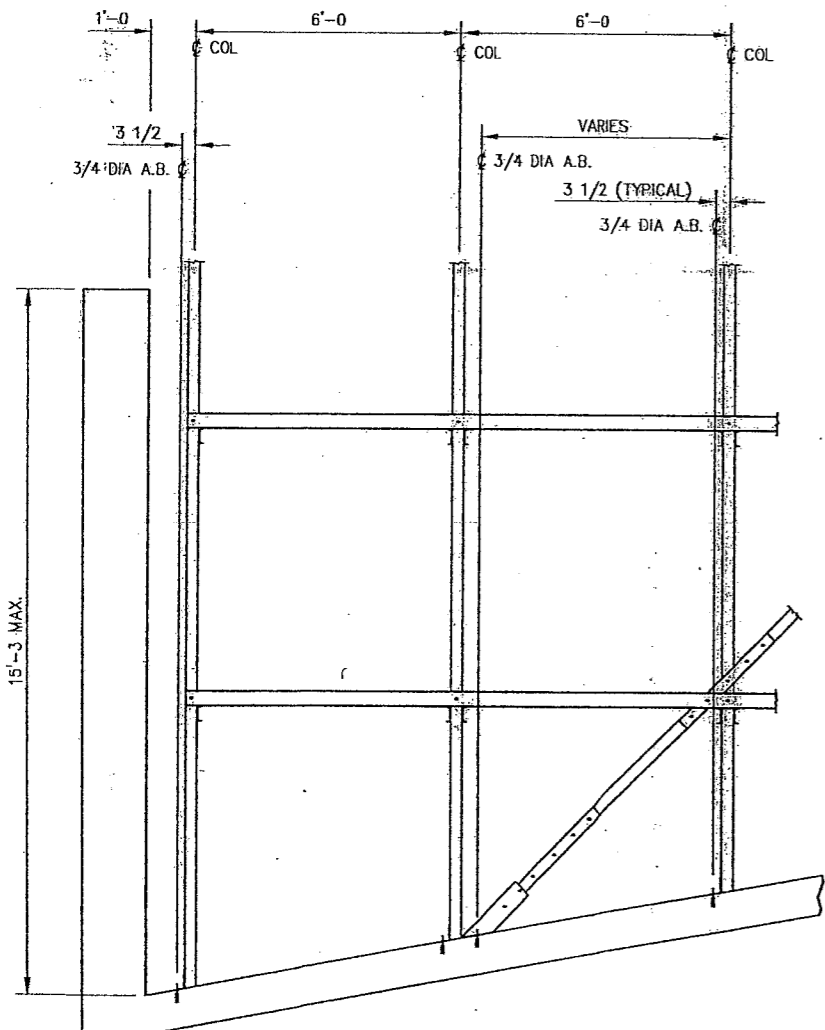


SECTION B-B

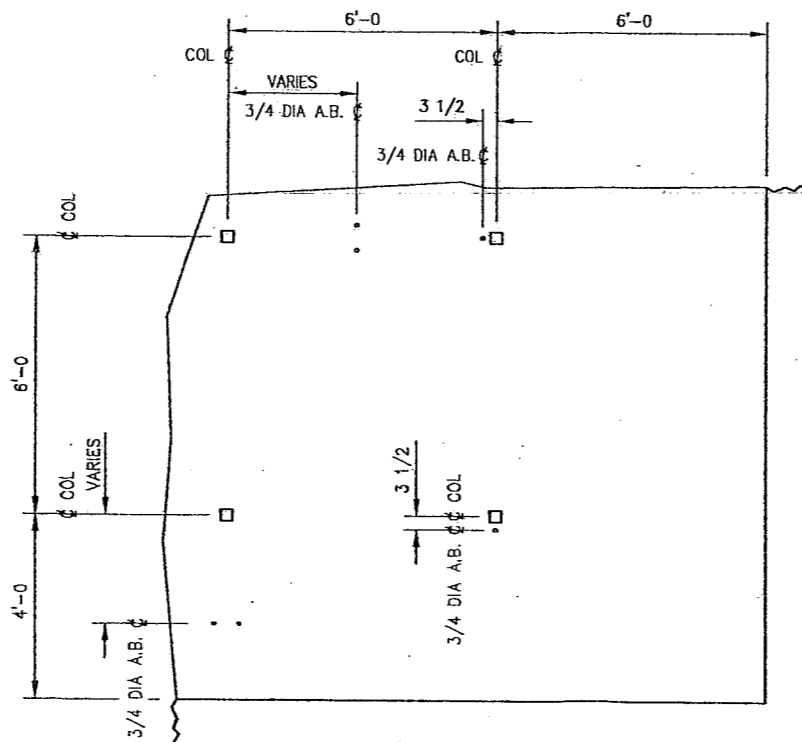
**Approved For
Construction**

By: John Ahern
Further Changes Could Result
In Added Cost And/OR Delays
In Shipment.

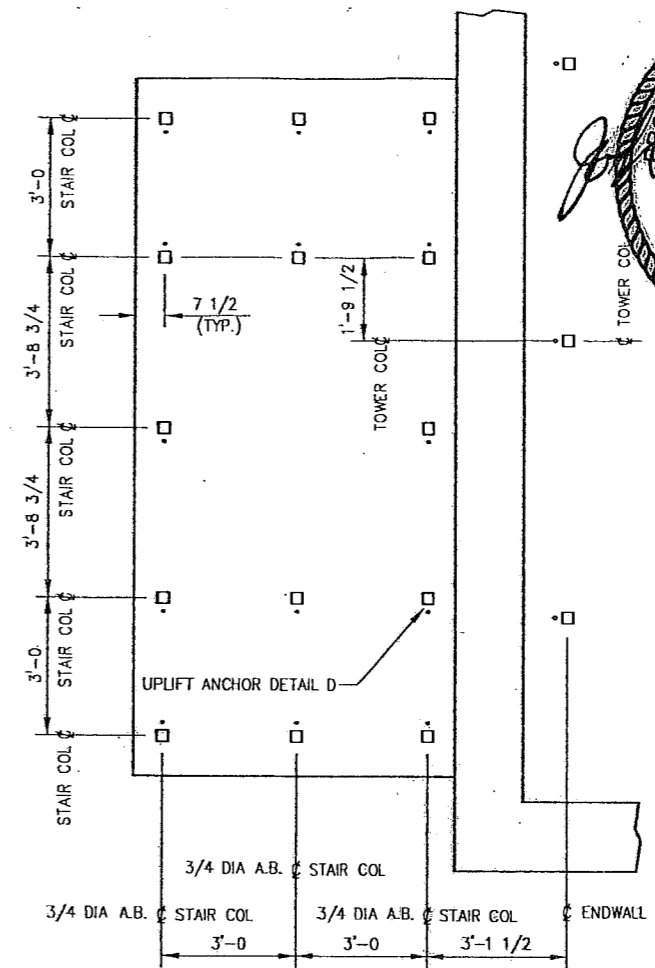
Date: 01/10/2008



SECTION C-C



ENLARGED TYPICAL VIEW

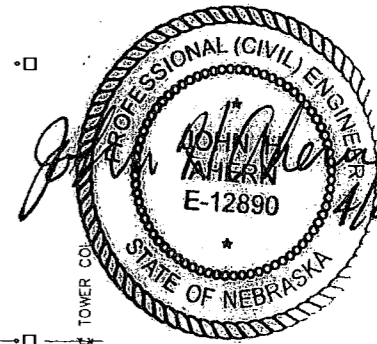


STAIRPAD DETAIL FACE 'D'

TOP OF STAIR PAD TO BE 1'-0" BELOW TOP OF CURB.
THIS ELEVATION IS BASED ON THE TOP OF BASIN CURB BEING 1'-0" ABOVE GRADE.
MAXIMUM DEAD LOAD ON ANY STAIR COLUMN 1200 LBS.
MAXIMUM LIVE LOAD ON ANY STAIR COLUMN 2400 LBS.

GENERAL NOTES

- PURCHASER TO DESIGN, CONSTRUCT AND FURNISH FOUNDATION TO SUIT THE DIMENSIONS OF THESE DRAWINGS. BASIN DESIGNER SHOULD REFER TO TOWER PLAN VIEW AND AVOID LOCATION OF SUMP SCREENS, PUMPS AND ADJACENT EQUIPMENT THAT WILL INTERFERE WITH THE STAIRWAY AND OTHER TOWER EQUIPMENT.
- PURCHASER TO DESIGN, LOCATE AND FURNISH SUMP TO SUIT JOB REQUIREMENTS.
- ALL ANCHOR BOLT LOCATING DIMENSIONS ARE BASED ON A FIBERGLASS STRUCTURE.
- EVAPTECH TO FURNISH AND INSTALL DRILL-IN ANCHORS COMPLETE WITH NUT AND WASHER AT TIME OF TOWER ERECTION. TOWER ANCHORS ARE TO BE 3/4 DIAMETER WITH 5 1/4 MINIMUM EMBEDMENT AND 2 MINIMUM PROJECTION +/- 1/8 ABOVE FINISHED CONCRETE (S11 REQ.) LOCATE ANCHORS TO +/- 1/8 OF DIMENSION SHOWN. ANCHORS TO BE HILTI HY 150 MAX PER CONTRACT.
- UPLIFT ANCHORAGE CAN BE INSTALLED ON ANY FACE OF COLUMN PROVIDED IT DOES NOT INTERFERE WITH DIAGONAL ANCHORAGE AND IS LOCATED WITH THE ANCHOR BOLT A MINIMUM OF 3" FROM ANY CONCRETE EDGE.
- ALL EVAPTECH DRILL-IN ANCHOR CAPACITIES ARE BASED ON A 28 DAY MINIMUM CONCRETE STRENGTH OF $f_c = 4000$ PSI.
- SEE DRAWING 07-21076 FOR FURTHER ANCHORAGE DETAILS.
- UPLIFT ANCHORAGE IN 10° SLOPING AREA MUST BE INSTALLED ON DOWNSTREAM SIDE OF COLUMN EXCEPT AS NOTED.
- SEE DRAWING 07-21076 FOR ADDITIONAL ANCHORAGE DETAILS.
- ALL TOWER STRUCTURAL HARDWARE AND ANCHOR PLATES TO BE A MINIMUM S304 STAINLESS STEEL. MECHANICAL EQUIPMENT SUPPORTS AND BEAMS ARE TO BE HOT DIPPED GALVANIZED.

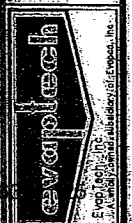


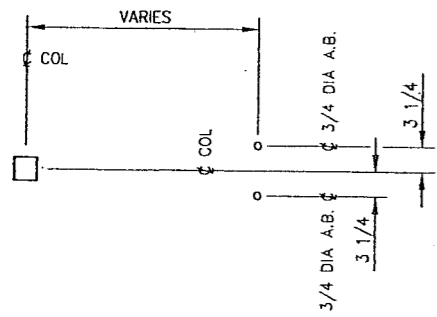
**Certified for
Construction**

REVISED BY	REVISED DATE	REVISED BY	REVISED DATE
TADY	10/1/2007	RDF	09/18/2008
APPROVED BY	JHA	ORDER NUMBER	7-320814
DATE	10/1/2007	SCALE	1 = 48
PROJECT	COLD WATER BASIN SECTIONS AND DETAILS	DRAWING NUMBER	07-21063
MODEL	EC848-554M TOWER	REV. NO.	B

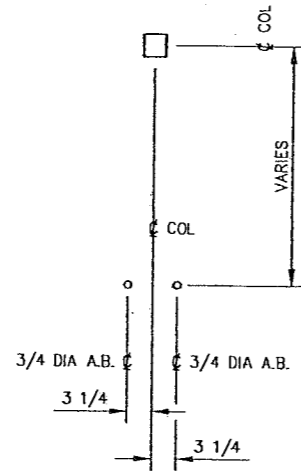
PUBLIC POWER GENERATION AGENCY
WHELAN ENERGY CENTER, UNIT #2
COOLING TOWER PO 145300.62.0601
B&V TAG 2HRC-CTW-1
HASTINGS, NE

EvapTech, Inc.
8351 Nieman Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166

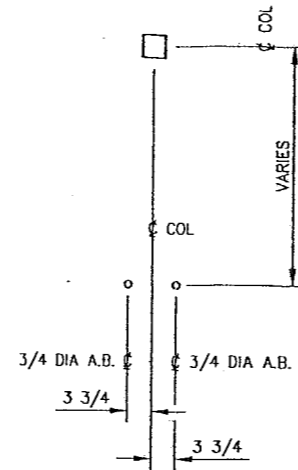




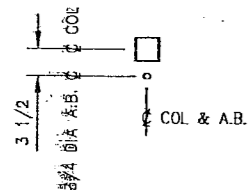
FLOOR ANCHOR DETAIL A
(REQD 63 PLACES)



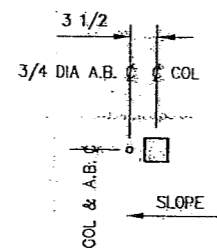
FLOOR ANCHOR DETAIL B
(REQD 14 PLACES)



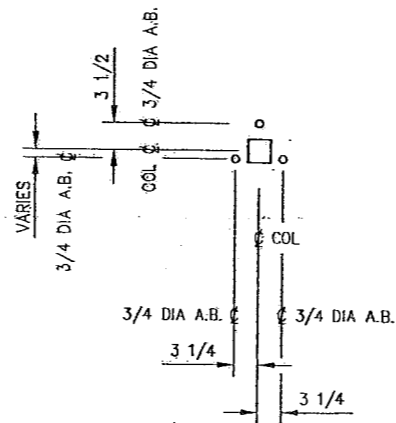
FLOOR ANCHOR DETAIL C
(REQD 112 PLACES)



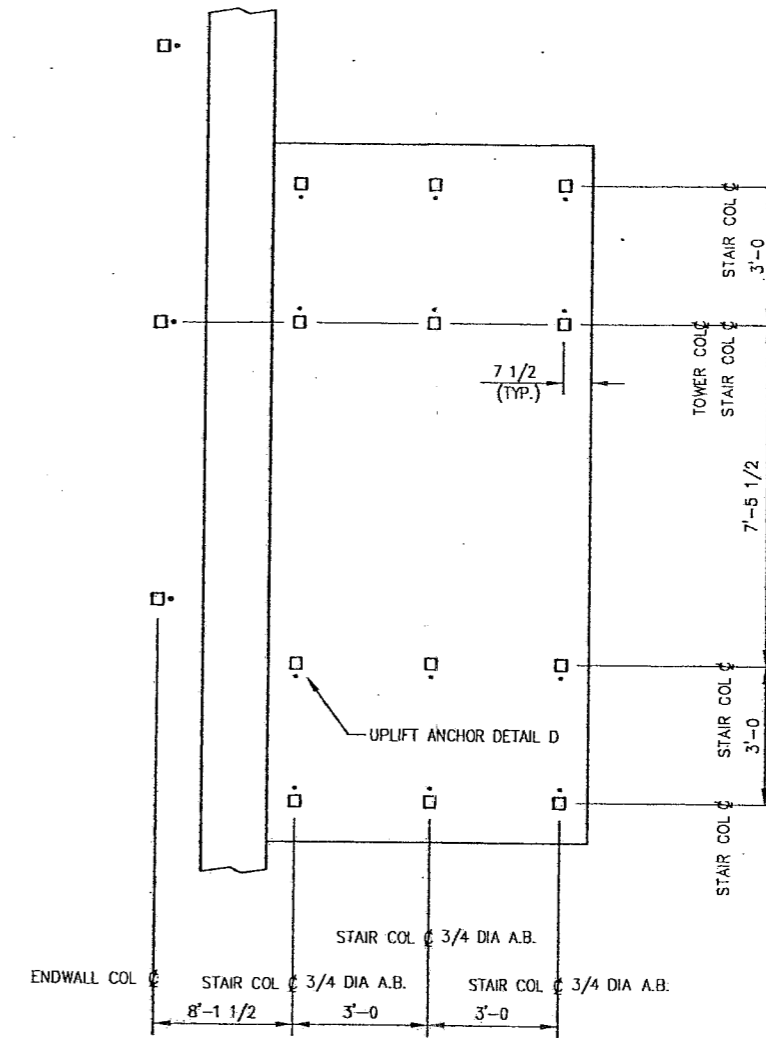
UPLIFT ANCHOR DETAIL D (5)
(REQD 45 PLACES)



UPLIFT ANCHOR DETAIL E (8)
(REQD 82 PLACES)



FLOOR ANCHOR DETAIL F
(REQD 2 PLACES)



STAIRPAD DETAIL FACE 'B'

TOP OF STAIR PAD TO BE 1'-0" BELOW TOP OF CURB.
THIS ELEVATION IS BASED ON THE TOP OF BASIN CURB BEING 1'-0" ABOVE GRADE.
MAXIMUM DEAD LOAD ON ANY STAIR COLUMN 900 LBS.
MAXIMUM LIVE LOAD ON ANY STAIR COLUMN 1800 LBS.

Approved For
Construction

By: John Ahern
Further Changes Could Result
In Added Cost And/Or Delays
In Shipment.

Date: 01/10/2008

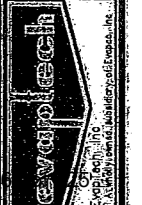
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Construction



4/21/09

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COOLING TOWER PO 145300.62.0601
B&V TAG 2HRC-CTW-1
HASTINGS, NE

Exhibit, Inc.
8331 Nieman Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166



COLD WATER BASIN DETAILS
MODEL EC848-554M TOWER

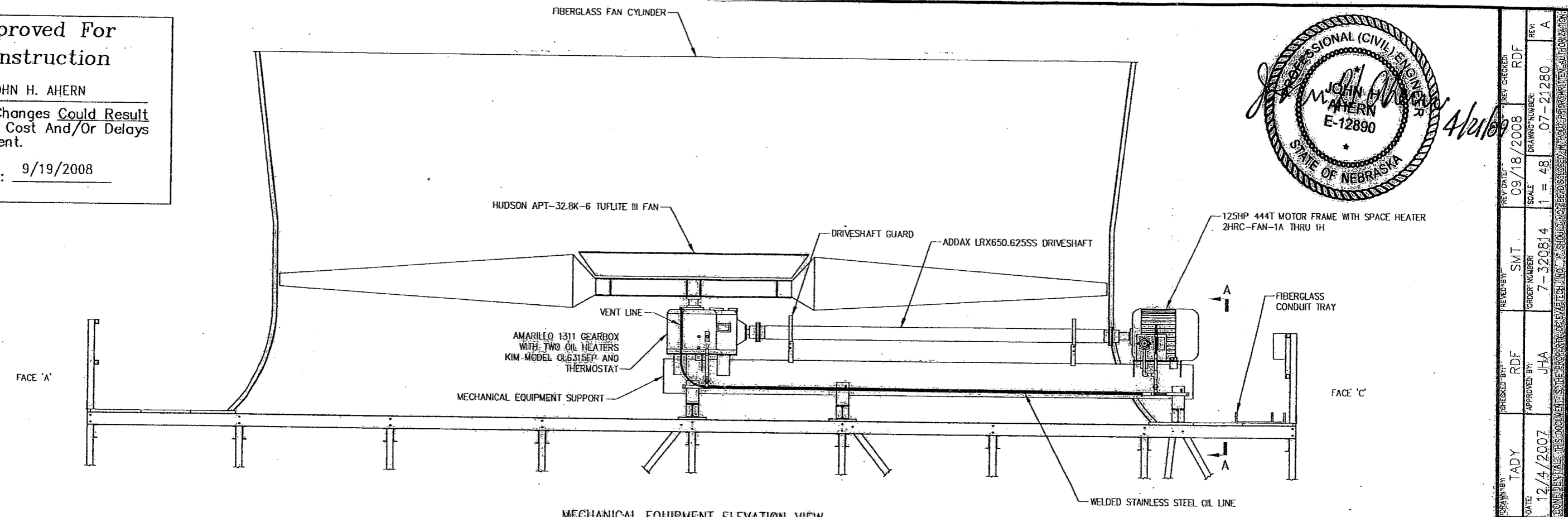
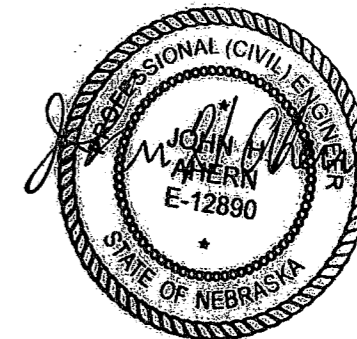
DATE	10/1/2007	APPROVED BY:	JHA	ORDER NUMBER	7-320814	SCALE	1 = 24	DRAWING NUMBER	07-21076	REV.	B
DESIGNED BY:	TADY	CHECKED BY:	RDF	REV'D BY:	SMT	REV'D DATE:	09/18/2008	REV'D BY:	RDF		

5

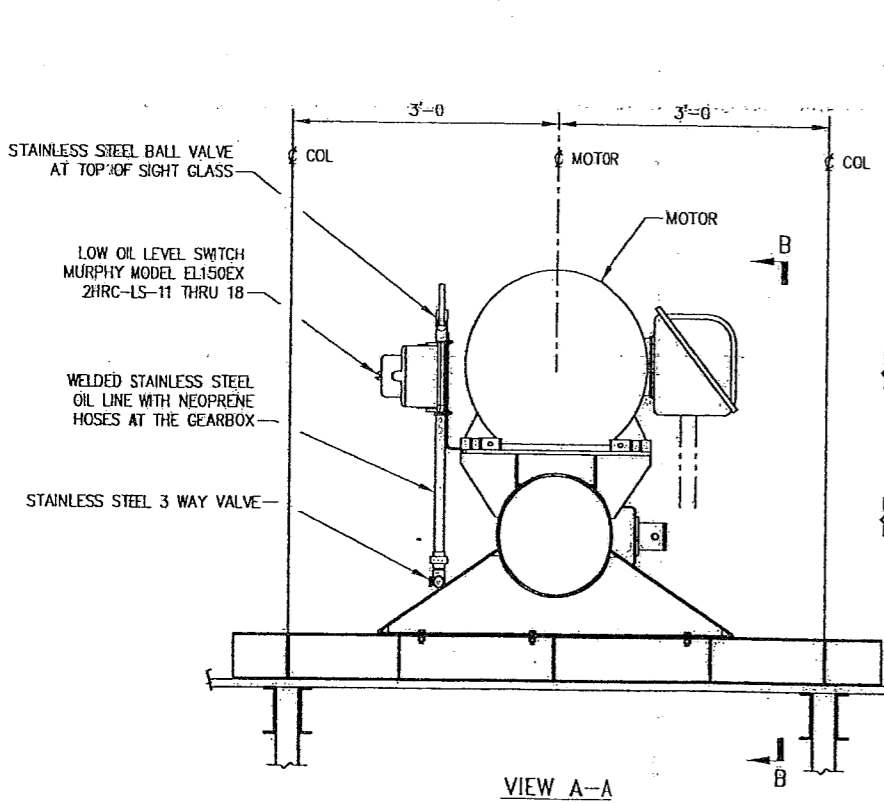
Approved For
Construction

By: JOHN H. AHERN
Further Changes Could Result
In Added Cost And/Or Delays
In Shipment.

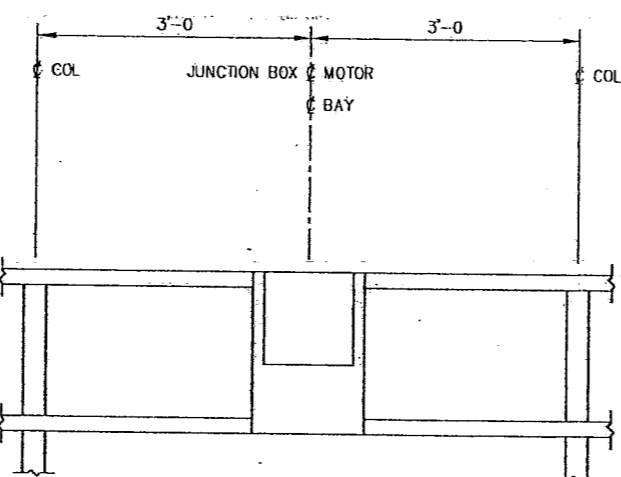
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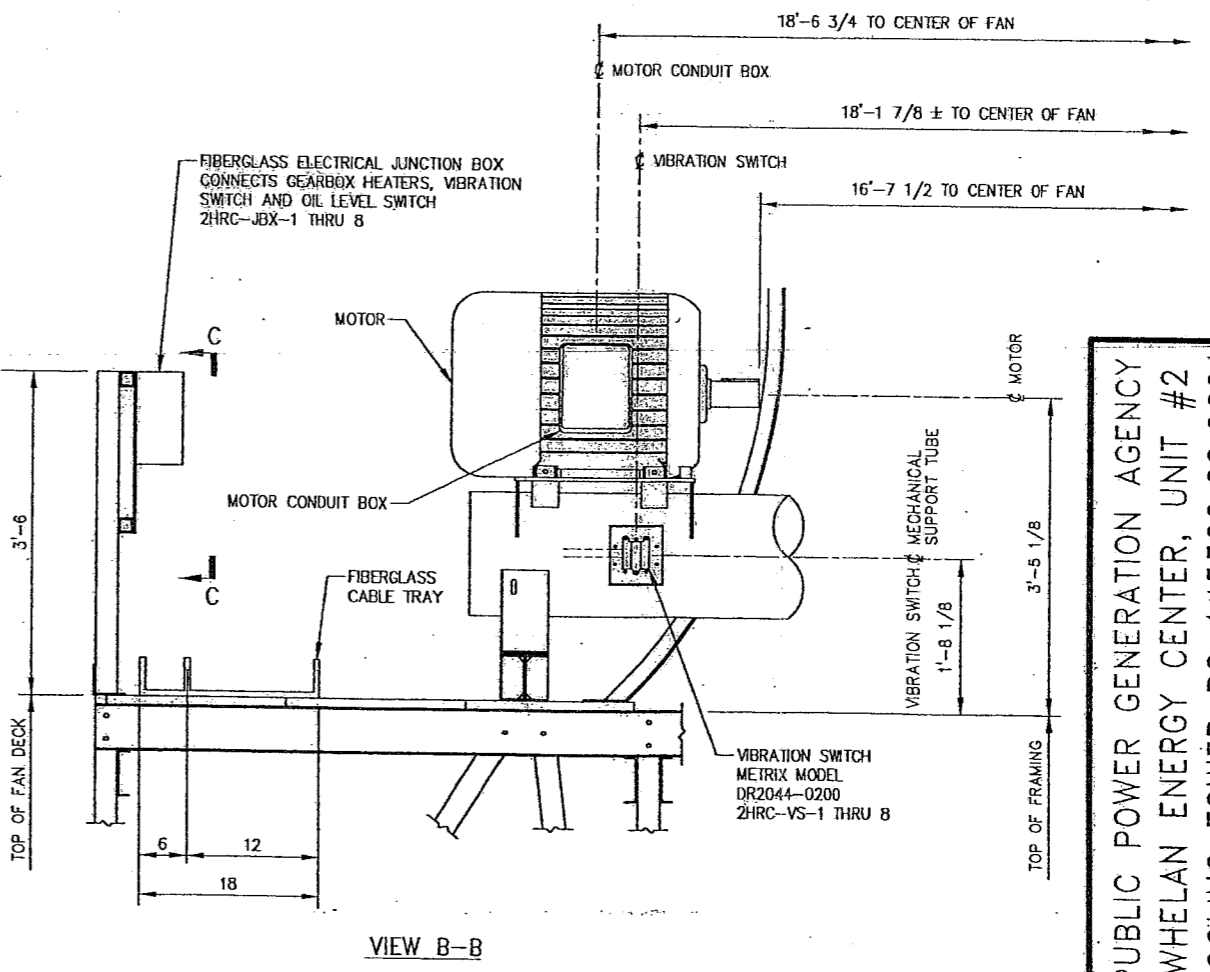
MECHANICAL EQUIPMENT ELEVATION VIEW



VIEW A-A



VIEW C-C



VIEW B-B

Certified for
Construction

DESIGNED BY	TADY	CHECKED BY	RDF	REV'D DATE	09/18/2008	REV'D BY	RDF
DATE	12/4/2007	APPROVED BY	JHA	SCALE	1 = 48	DRAWING NUMBER	7-320814
ORDER NUMBER	7-320814	REV	A	REV	07-21280	REV	A

MECHANICAL EQUIPMENT ARRANGEMENT
MODEL EC848-554M TOWER

PUBLIC POWER GENERATION AGENCY
WHELAN ENERGY CENTER, UNIT #2
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Fax: (913) 322-5166



10

BOLT TORQUE REQUIREMENT

GENERAL NOTES

TIGHTEN BOLTS TO HALF THE REQUIRED TORQUE USING THE SEQUENCES SHOWN BELOW. REPEAT UNTIL REQUIRED TORQUE IS REACHED.

MAXIMUM LISTED TORQUE IS NOT NECESSARY FOR LOW PRESSURE SYSTEMS.

FOLLOW A SIMILAR PATTERN FOR FLANGES WITH A GREATER NUMBER OF BOLTS.

CAUTION:

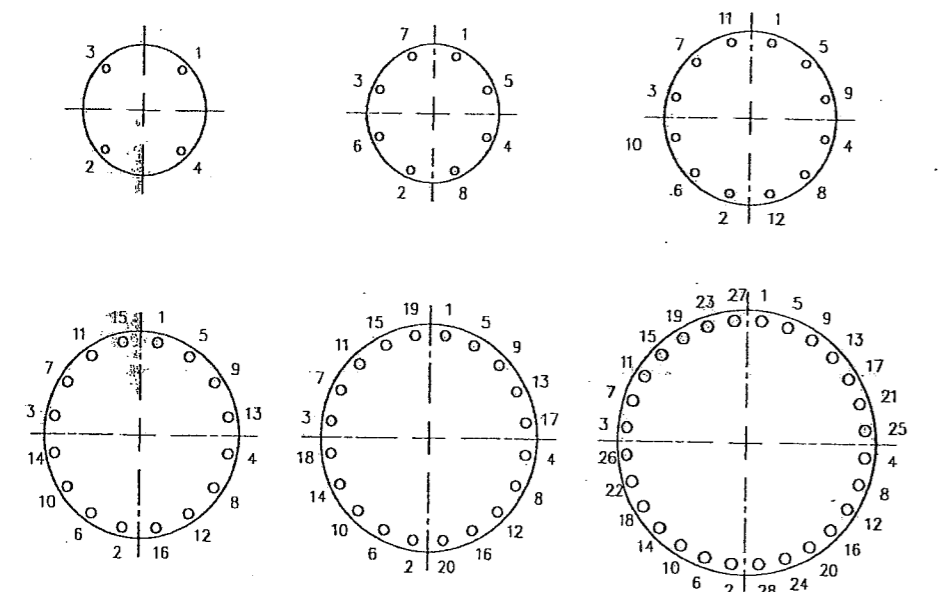
FRP & PVC PIPE MUST BE ALIGNED PROPERLY BEFORE INSTALLATION OF FLANGE BOLTS. ADJUST PIPE SUPPORTS UNTIL ADJACENT FLANGE FACES ARE AS NEARLY PARALLEL AS POSSIBLE AND 1/2" APART. INSTALL GASKET, FLANGE BOLTS, STANDARD CUT WASHERS, AND NUTS TO FINGER TIGHTNESS. MEASURE AND RECORD THE GAP BETWEEN FLANGES EVERY 45°. MAXIMUM VARIATION OF GAP MEASUREMENTS TO BE 1/8". TIGHTEN PAIRS OF FLANGE BOLTS 180° APART, AT THE SAME TIME TO A UNIFORM TORQUE OF 35 FOOT-POUNDS UNTIL ALL FLANGE BOLTS ARE TIGHTENED. **DO NOT OVER TIGHTEN.**

MAXIMUM OPERATING PRESSURE = 5 P.S.I.
MAXIMUM TRANSIENT PRESSURE = 10 P.S.I.

STEEL FLANGE TO STEEL FLANGE

MAX. BOLT TORQUE (FT. LBS.)

PIPE DIAMETER (INCHES)	PRESSURE RATING (INTERNAL)					
	25	50	75	100	125	150
2	25	25	25	25	25	25
3	25	25	25	25	25	25
4	25	25	25	25	25	25
5	25	25	25	25	25	30
6	25	25	25	25	35	40
8	25	25	30	40	50	60
10	25	25	30	40	50	70
12	25	25	35	45	60	80
14	25	30	40	60	75	100
16	25	30	50	70	80	
18	30	35	50	80	100	
20	30	35	60	90		
24	35	40	70	90		
30	40	45	80			
42	50	55				
48	60					



STANDARD ERECTION TOLERANCES FOR FIELD ERECTED TOWERS

TYPICAL TOWER ERECTION BEGINS WITH THE COLD WATER BASIN LAYOUT. EVAPTECH COOLING TOWER BOTTOM COLUMNS AND DIAGONALS ARE FABRICATED A MINIMUM OF 3" LONG FOR FIELD DRILLING AND CUTTING TO FIT THE BASIN. PARTICULAR CARE MUST BE TAKEN IN VERIFYING ALL COLUMN, DIAGONAL AND ANCHOR PLATE LOCATIONS.

THE FOLLOWING TOLERANCES SHALL BE ADHERED ON FIELD ERECTED TOWERS. DEVIATIONS TO BE RECORDED AND REPORTED TO QUALITY ASSURANCE.

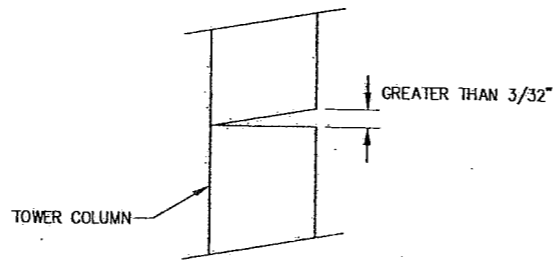
1. MAXIMUM OUT OF PLUMB IS 1/8" FOR EACH STORY OF FRAMING.
2. COLUMN ALIGNMENT AT EACH SPLICE CONNECTION TO BE WITHIN 1/16".
3. GIRT ALIGNMENT AT EACH SPLICE CONNECTION TO BE WITHIN 1/8".
4. COLUMN END CUTS MUST BE SQUARE WITHIN ± 1/16".
5. COLUMN TO BASIN BEARING MUST BE WITHIN 1/8", GAPS IN EXCESS CORRECTED AS FOLLOWS:

FOR COLUMNS GREATER THAN 3/16 BUT LESS THAN 1" ABOVE THE BASIN FLOOR, THE COLUMN IS SHIMMED WITH METAL PLATES (PURCHASED LOCALLY) SUCH THAT REMAINING GAPS ARE A MAXIMUM OF 3/16". APPLY ADHESIVE TO SHIMS TO PREVENT SUPPAGE. METAL PLATES TO BE SAME MATERIAL GRADE AS TOWER HARDWARE.

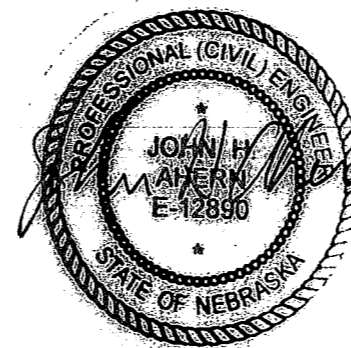
FOR COLUMNS 1" TO 2" ABOVE BASIN FLOOR, THE COLUMN IS GROUTED. THE GROUT PAD SHALL BE A SQUARE TWICE THE SIZE OF THE COLUMN. CONSULT EVAPTECH ENGINEERING FOR APPROVED GROUT PRODUCT.

FOR COLUMNS GREATER THAN 2" ABOVE THE BASIN COLUMN SHALL BE CUT AND A SECTION SPLICED IN TO PROVIDE PROPER BEARING AT THE BASIN FLOOR. ENGINEERING TO BE CONSULTED FOR DETAILS OF SPLICE PROCEDURE.

6. COLUMN TO COLUMN BEARING MUST BE WITHIN 3/32". SHIM AS REQUIRED FOR GAPS LARGER THAN 3/32".



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4/21/09

STANDARD INSTALL AND ERECTION NOTES
 DRAWN BY: TADY
 CHECKED BY: RDF
 DATE: 11/9/2005
 APPROVED BY: JHA
 ORDER NUMBER: 1 = 1
 SCALE: 1 = 1
 DRAWING NUMBER: 05-20662
 REV: 05-20662
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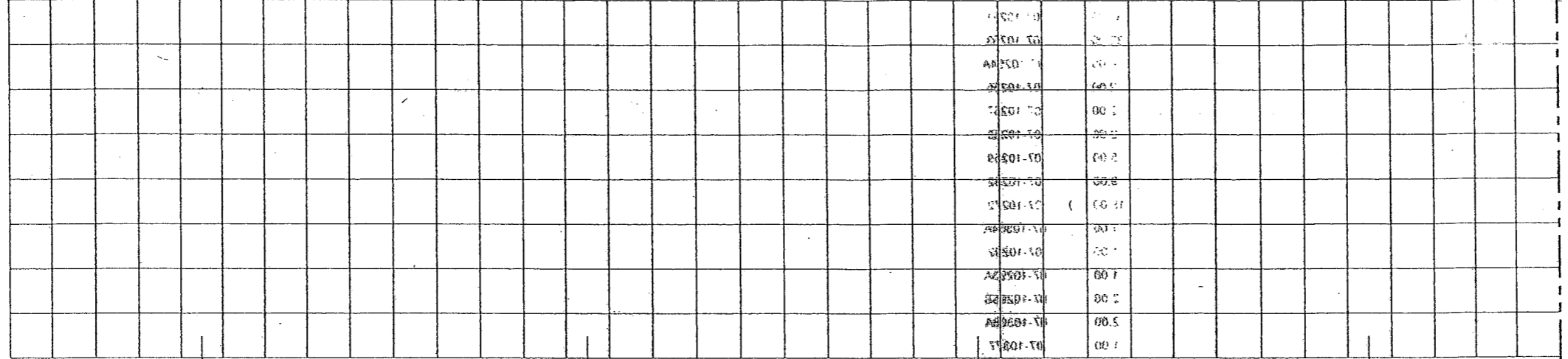
Evaptech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166



LONGITUDINAL BENTS

FACE 'D'

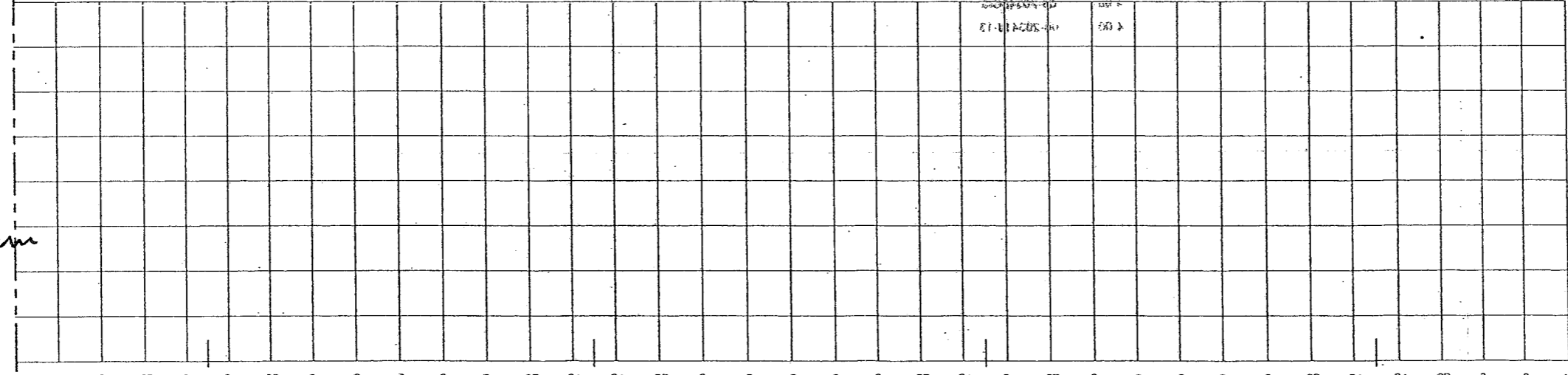
TRANSVERSE BENTS



FACE 'A'
(SEE SCHEMATIC FOR ORIENTATION)

FACE 'C'

MATCH LINE

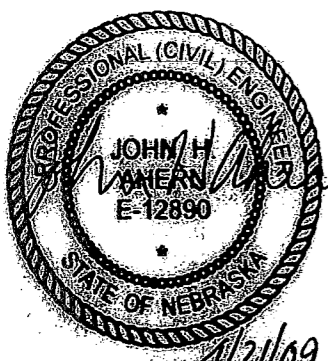


FACE 'A'
(SEE SCHEMATIC FOR ORIENTATION)

LONGITUDINAL BENTS

FACE 'B'

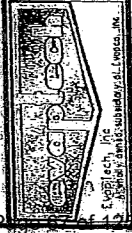
TRANSVERSE BENTS



4/21/09

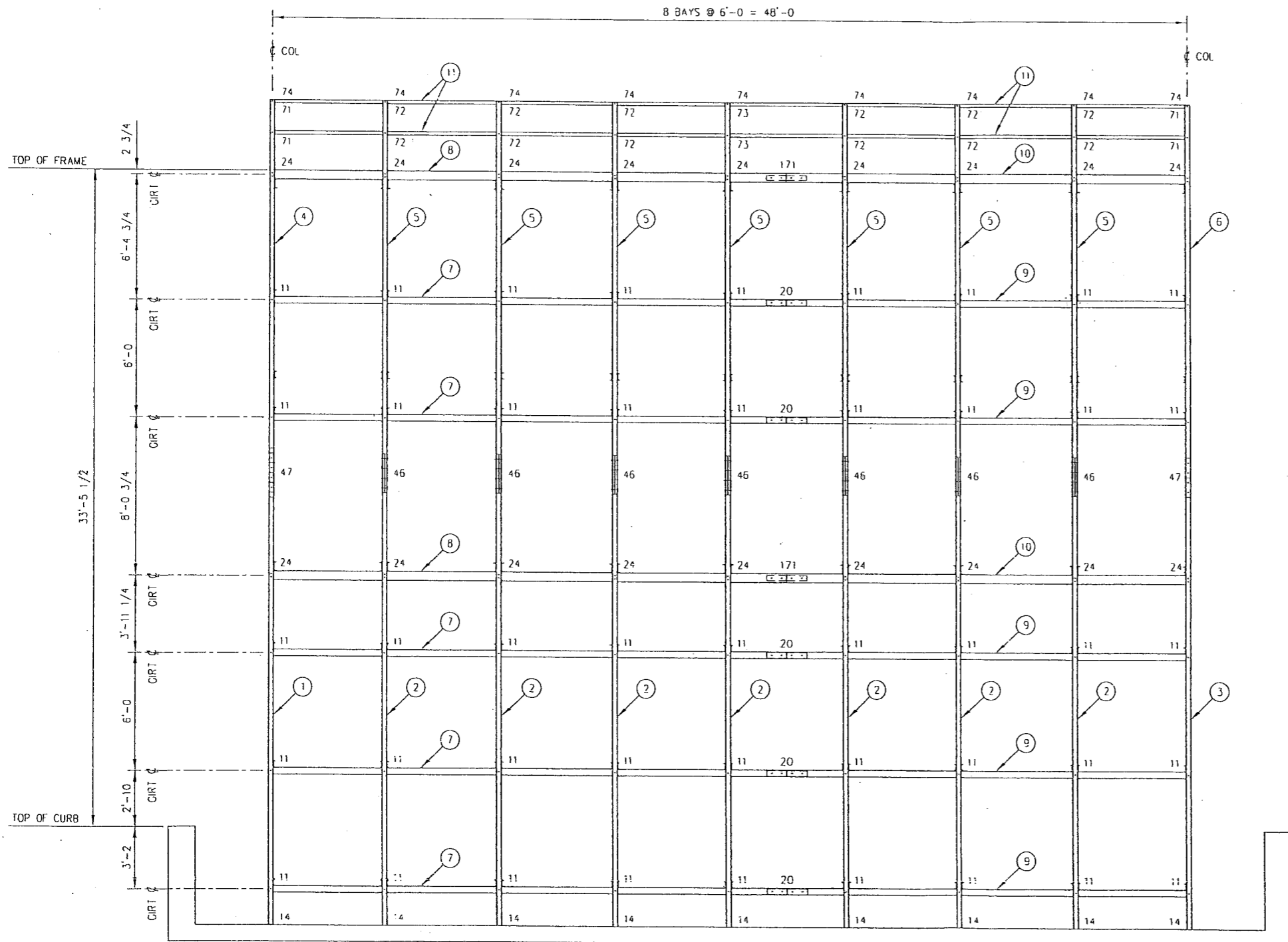
Certified for Construction

BENT LOCATION PLAN
 MODEL EC888544
 DATE: 03/10/2009
 APPROVED BY: J. TRAHAN
 ORDER NUMBER: 09-20369
 SCALE: 1" = 30'-0"
 REVISED: 5/23/2009
 DRAWING NUMBER: 09-20369
 REV: A
 EVAPTECH, INC.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5165



9

Certified for Construction



TRANSVERSE ENDWALL BENT NO. 1
(ALL GRTS FS & SPLICES NS)

REV	DRAWING NO	DESCRIPTION	QTY
0	07-10261	JOINT DETAIL NO 11	45
0	07-10264	JOINT DETAIL NO 14	9
0	07-10270	JOINT DETAIL NO 20	5
0	07-10274	JOINT DETAIL NO 24	18
0	07-10296	JOINT DETAIL NO 46	7
0	07-10297	JOINT DETAIL NO 47	2
0	07-10321	JOINT DETAIL NO 71	4
0	07-10322	JOINT DETAIL NO 72	12
0	07-10323	JOINT DETAIL NO 73	2
0	07-10324	JOINT DETAIL NO 74	9
0	07-10421	JOINT DETAIL NO 171	2
1	09-20236-2	TUBE 3 X 3 X 3/4 X 23'-3	1
2	09-20236-4	TUBE 3 X 3 X 1/4 X 23'-3	7
3	09-20236-3	TUBE 3 X 3 X 1/4 X 23'-3	1
4	09-20236-5	TUBE 3 X 3 X 1/4 X 19'-0 5/8	1
5	09-20236-7	TUBE 3 X 3 X 1/4 X 19'-0 5/8	7
6	09-20236-6	TUBE 3 X 3 X 1/4 X 19'-0 5/8	1
7	05-20699-1	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	5
8	08-20343-1	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	2
9	05-20699-2	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	5
10	08-20341-1	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8	2
11	06-20486-13	TUBE 2 X 2 X 1/4 X 24'-1 3/8	4

REV CHECKED:	REV DATE:	ORDER NUMBER:	SCALE:
JRT		7-320814	1 = 75
CERTIFIED BY:	APPROVED BY:	DATE:	
CFIRTH	JHA	2/3/2009	

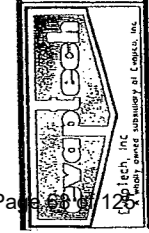
TRANSVERSE ENDWALL BENT NO. 1
MODEL EC848-554M TOWER



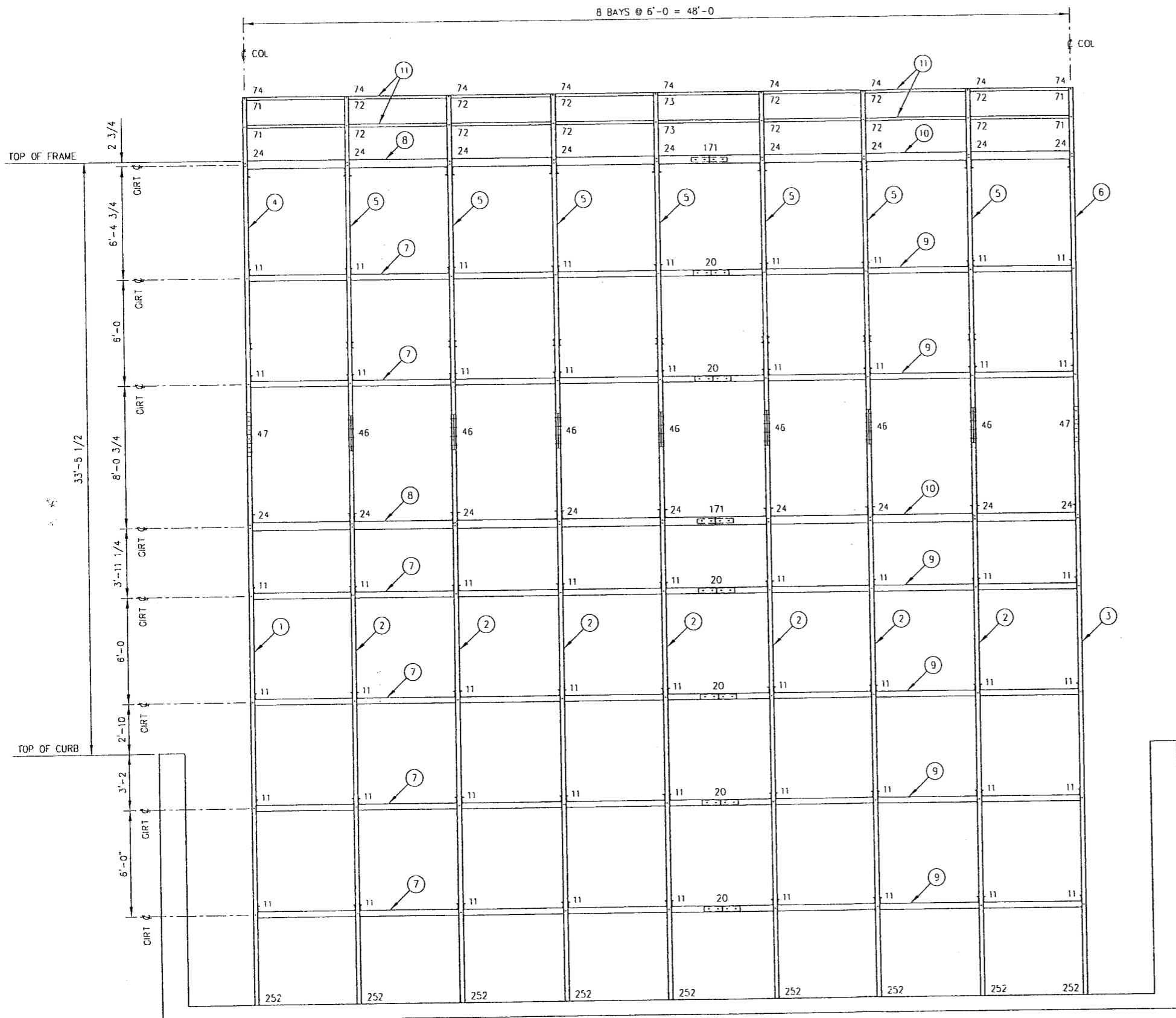
EvapTech, Inc.
8331 Nieman Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166

GENERAL NOTES

- 1 ALL BENTS ARE VIEWED FROM FACE B
- 2 SEE BENT PLAN DRAWING FOR BENT LOCATIONS
- 3 INSTALL ALL COLUMNS WITH ARROW MARK POINTING UP.
- 4 FIELD CUT COLUMNS AS REQD TO FIT BASIN FLOOR.
- 5 SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS



10



TRANSVERSE ENDWALL BENT NO 1A
(ALL GIRTS FS & SPLICES NS)

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10261	JOINT DETAIL NO 11	54
0	07-10702	JOINT DETAIL NO 252	9
0	07-10270	JOINT DETAIL NO 20	6
0	07-10274	JOINT DETAIL NO 24	18
0	07-10296	JOINT DETAIL NO 46	7
0	07-10297	JOINT DETAIL NO 47	2
0	07-10321	JOINT DETAIL NO 71	4
0	07-10322	JOINT DETAIL NO 72	12
0	07-10323	JOINT DETAIL NO 73	2
0	07-10324	JOINT DETAIL NO 74	9
0	07-10421	JOINT DETAIL NO 171	2
1	09-20546-1	TUBE 3 X 3 X 1/4 X 33'-4 1/2	1
2	09-20546-3	TUBE 3 X 3 X 1/4 X 33'-4 1/2	7
3	09-20546-2	TUBE 3 X 3 X 1/4 X 33'-4 1/2	1
4	09-20236-5	TUBE 3 X 3 X 1/4 X 19'-0 5/8	1
5	09-20236-7	TUBE 3 X 3 X 1/4 X 19'-0 5/8	7
6	09-20236-6	TUBE 3 X 3 X 1/4 X 19'-0 5/8	1
7	05-20699-1	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	6
8	08-20343-1	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	2
9	05-20699-2	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	6
10	08-20341-1	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8	2
11	06-20486-13	TUBE 2 X 2 X 1/4 X 24'-1 3/8	4

REV. DATE:	REV. CHECKED:
REV. DATE:	REV. CHECKED:
SCALE: 1" = 75'	DRAWING NUMBER: 09-20229
ORDER NUMBER: 7-320814	DATE: 4/13/2009
DRAWN BY: JTRAHAN	CHECKED BY: JRT
APPROVED BY: JHA	

Certified for Construction



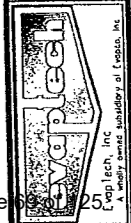
4/21/09

TRANSVERSE ENDWALL BENT NO. 1A
MODEL EC848-554M TOWER

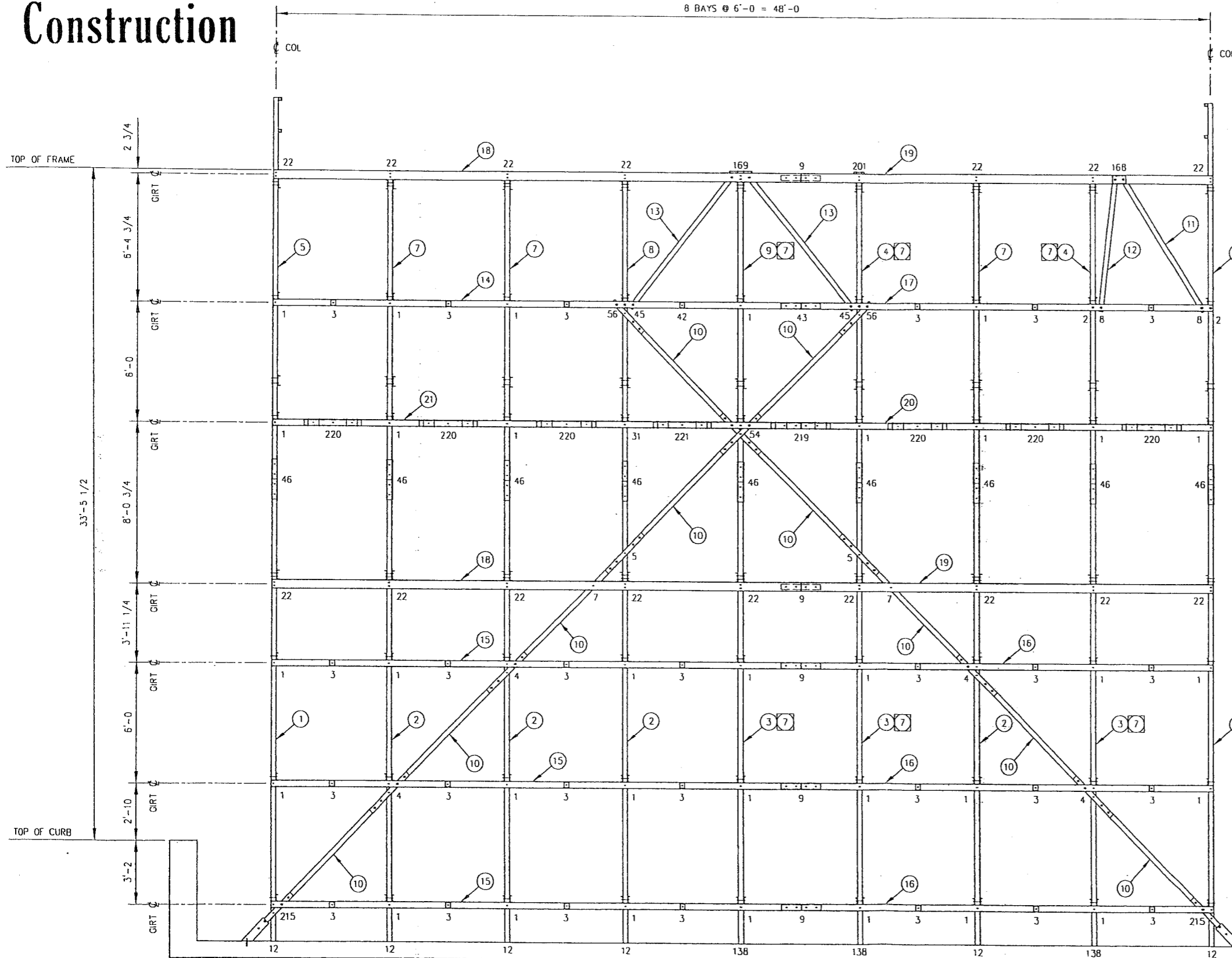
EvapTech, Inc.
8331 Nieman Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166

GENERAL NOTES

1. ALL BENTS ARE VIEWED FROM FACE B.
2. SEE BENT PLAN DRAWING FOR BENT LOCATIONS
3. INSTALL ALL COLUMNS WITH ARROW MARK POINTING UP
4. FIELD CUT COLUMNS AS REQD TO FIT BASIN FLOOR
5. SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS

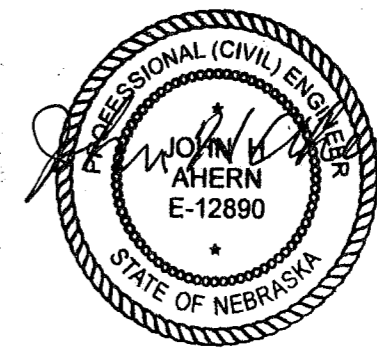


Certified for Construction



TRANSVERSE BRACED BENT NO 2A
(ALL GIRTS NS & FS)

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	33
0	07-10252	JOINT DETAIL NO 2	2
0	07-10253	JOINT DETAIL NO 3	27
0	07-10254	JOINT DETAIL NO 4	4
0	07-10255	JOINT DETAIL NO 5	2
0	07-10257	JOINT DETAIL NO 7	2
0	07-10258	JOINT DETAIL NO 8	2
0	07-10259	JOINT DETAIL NO 9	5
0	07-10262	JOINT DETAIL NO 12	6
0	07-10272	JOINT DETAIL NO 22	16
0	07-10281	JOINT DETAIL NO 31	1
0	07-10292	JOINT DETAIL NO 42	1
0	07-10293	JOINT DETAIL NO 43	1
0	07-10295	JOINT DETAIL NO 45	2
0	07-10296	JOINT DETAIL NO 46	9
0	07-10304	JOINT DETAIL NO 54	1
0	07-10306	JOINT DETAIL NO 56	2
0	07-10388	JOINT DETAIL NO 138	3
0	07-10418	JOINT DETAIL NO 168	1
0	07-10419	JOINT DETAIL NO 169	1
0	07-10451	JOINT DETAIL NO 201	1
0	07-10465	JOINT DETAIL NO 215	2
0	07-10469	JOINT DETAIL NO 219	1
0	07-10470	JOINT DETAIL NO 220	6
0	07-10471	JOINT DETAIL NO 221	1
1	09-20234-2	TUBE 3 X 3 X 1/4 X 23'-3"	2
2	09-20234-1	TUBE 3 X 3 X 1/4 X 23'-3"	4
3	09-20235-1	TUBE 3 X 3 X 3/8 X 23'-3"	3
4	09-20235-3	TUBE 3 X 3 X 3/8 X 15'-5 1/4"	2
5	09-20234-5	TUBE 3 X 3 X 1/4 X 19'-0 5/8"	1
6	09-20234-6	TUBE 3 X 3 X 1/4 X 19'-0 5/8"	1
7	09-20234-3	TUBE 3 X 3 X 1/4 X 15'-5 1/4"	3
8	09-20234-4	TUBE 3 X 3 X 1/4 X 15'-5 1/4"	1
9	09-20235-2	TUBE 3 X 3 X 3/8 X 15'-5 1/4"	1
10	07-20209-18	TUBE 3 X 3 X 1/4 X 8'-2 13/16"	10
11	05-20696-25	TUBE 3 X 3 X 1/4 X 7'-11 3/8"	1
12	06-20312-15	TUBE 3 X 3 X 1/4 X 6'-10 1/4"	1
13	05-20696-26	TUBE 3 X 3 X 1/4 X 8'-7 1/2"	2
14	05-20699-7	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8"	2
15	05-20699-1	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8"	6
16	07-20820-8	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8"	6
17	07-20820-9	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8"	2
18	08-20343-3	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8"	4
19	08-20341-13	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8"	4
20	09-20237-1	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8"	2
21	09-20237-2	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8"	2



- GENERAL NOTES**
- ALL BENTS ARE VIEWED FROM FACE B.
 - SEE BENT PLAN DRAWING FOR BENT LOCATIONS.
 - INSTALL ALL COLUMNS & DIAGONALS WITH ARROW MARK POINTING UP.
 - FIELD CUT COLUMNS & DIAGONALS AS REQD TO FIT BASIN FLOOR.
 - SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS.
 - FIELD FABRICATE BOTTOM END OF DIAGONAL USING ANCHOR PLATE, AS A TEMPLATE.
- 7) 3/8" WALL COLUMN MUST BE USED AT THIS LOCATION.

TRANSVERSE BRACED BENT 2A
MODEL E0848-554M

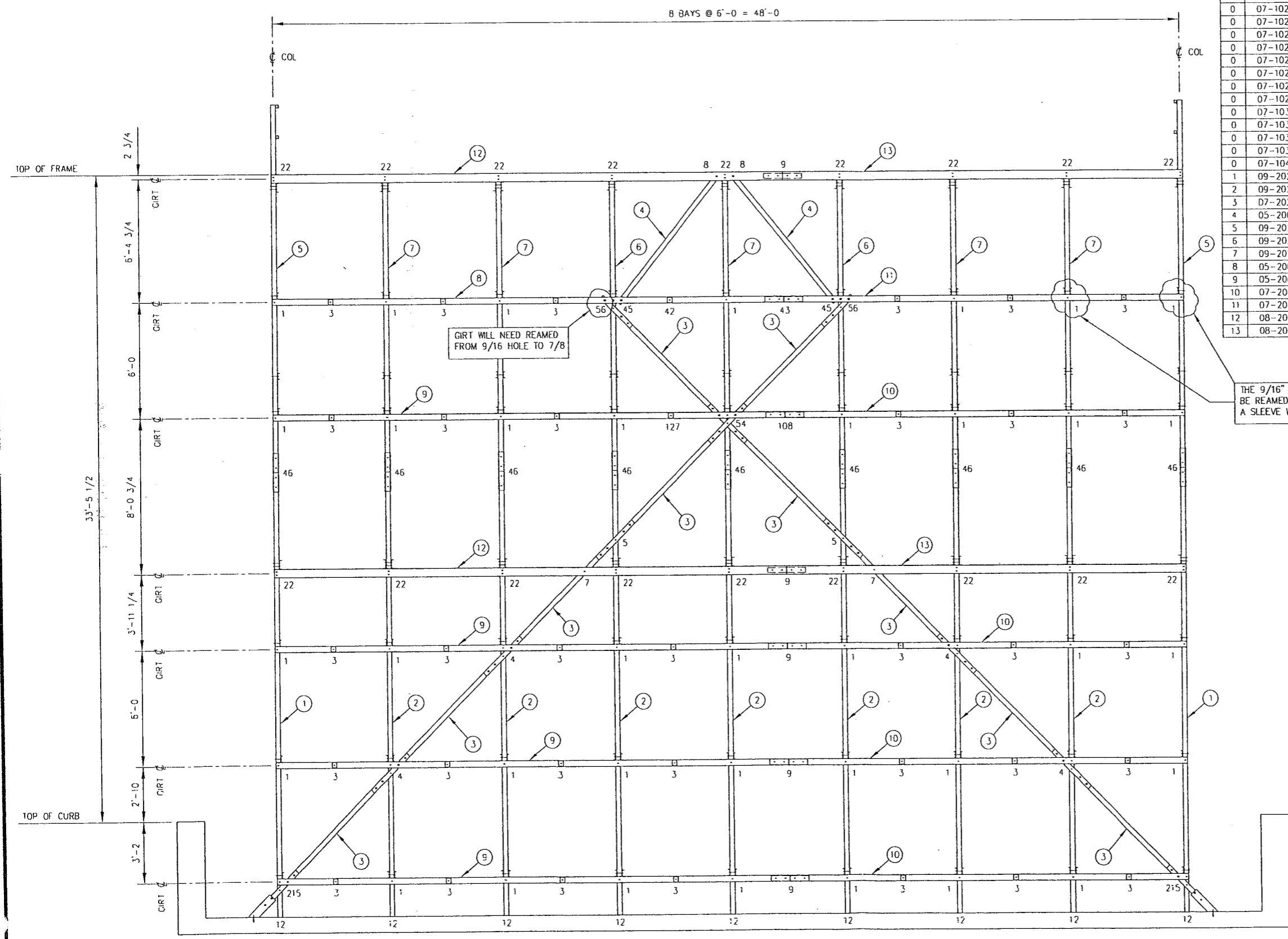
EvapTech, Inc.
8331 Nilman Road
Lanaxo, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166

DATE: 2/5/2009
APPROVED BY: JHA
CFIRTH
JRT
7-320814
SCALE: 1 = 64
DRAWING NUMBER: 09-20211
REV: 09-20211

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13

17



FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	36
0	07-10253	JOINT DETAIL NO 3	33
0	07-10254	JOINT DETAIL NO 4	4
0	07-10255	JOINT DETAIL NO 5	2
0	07-10257	JOINT DETAIL NO 7	2
0	07-10258	JOINT DETAIL NO 8	2
0	07-10259	JOINT DETAIL NO 9	5
0	07-10262	JOINT DETAIL NO 12	9
0	07-10272	JOINT DETAIL NO 22	18
0	07-10292	JOINT DETAIL NO 42	1
0	07-10293	JOINT DETAIL NO 43	1
0	07-10295	JOINT DETAIL NO 45	2
0	07-10296	JOINT DETAIL NO 46	9
0	07-10304	JOINT DETAIL NO 54	1
0	07-10306	JOINT DETAIL NO 56	2
0	07-10358	JOINT DETAIL NO 108	1
0	07-10377	JOINT DETAIL NO 127	1
0	07-10465	JOINT DETAIL NO 215	2
1	09-20234-2	TUBE 3 X 3 X 1/4 X 23'-3	2
2	09-20234-1	TUBE 3 X 3 X 1/4 X 23'-3	7
3	07-20209-18	TUBE 3 X 3 X 1/4 X 8'-2 13/16	10
4	05-20696-26	TUBE 3 X 3 X 1/4 X 8'-7 1/2	2
5	09-20234-7	TUBE 3 X 3 X 1/4 X 19'-0 5/8	2
6	09-20234-9	TUBE 3 X 3 X 1/4 X 15'-5 1/4	2
7	09-20234-8	TUBE 3 X 3 X 1/4 X 15'-5 1/4	5
8	05-20699-7	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	2
9	05-20699-1	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	8
10	07-20820-8	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	8
11	07-20820-9	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	2
12	08-20343-3	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	4
13	08-20341-13	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8	4

THE 9/16" HOLE IN THE COLUMN WILL NEED TO BE REAMED OUT 7/8" IN THESE TWO LOCATIONS. A SLEEVE WILL THEN NEED TO BE INSERTED.

GIRT WILL NEED REAMED FROM 9/16 HOLE TO 7/8

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GENERAL NOTES

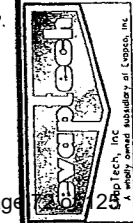
1. ALL BENTS ARE VIEWED FROM FACE B
2. SEE BENT PLAN DRAWING FOR BENT LOCATIONS
3. INSTALL ALL COLUMNS & DIAGONALS WITH ARROW MARK POINTING UP.
4. FIELD CUT COLUMNS & DIAGONALS AS REQ TO FIT BASIN FLOOR
5. SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS
6. FIELD FABRICATE BOTTOM END OF DIAGONAL USING ANCHOR PLATE AS A TEMPLATE.

TRANSVERSE BRACED BENT NO 2B
(ALL GIRTS NS & FS)

REV. DATE:	04/02/2009	REV. CHECKED BY:	JRT
SCALE:	1" = 64'	DRAWING NUMBER:	09-20212
ORDER NUMBER:	7-320814	APPROVED BY:	JHA
DATE:	2/9/2009	DRAWN BY:	CFIRTH

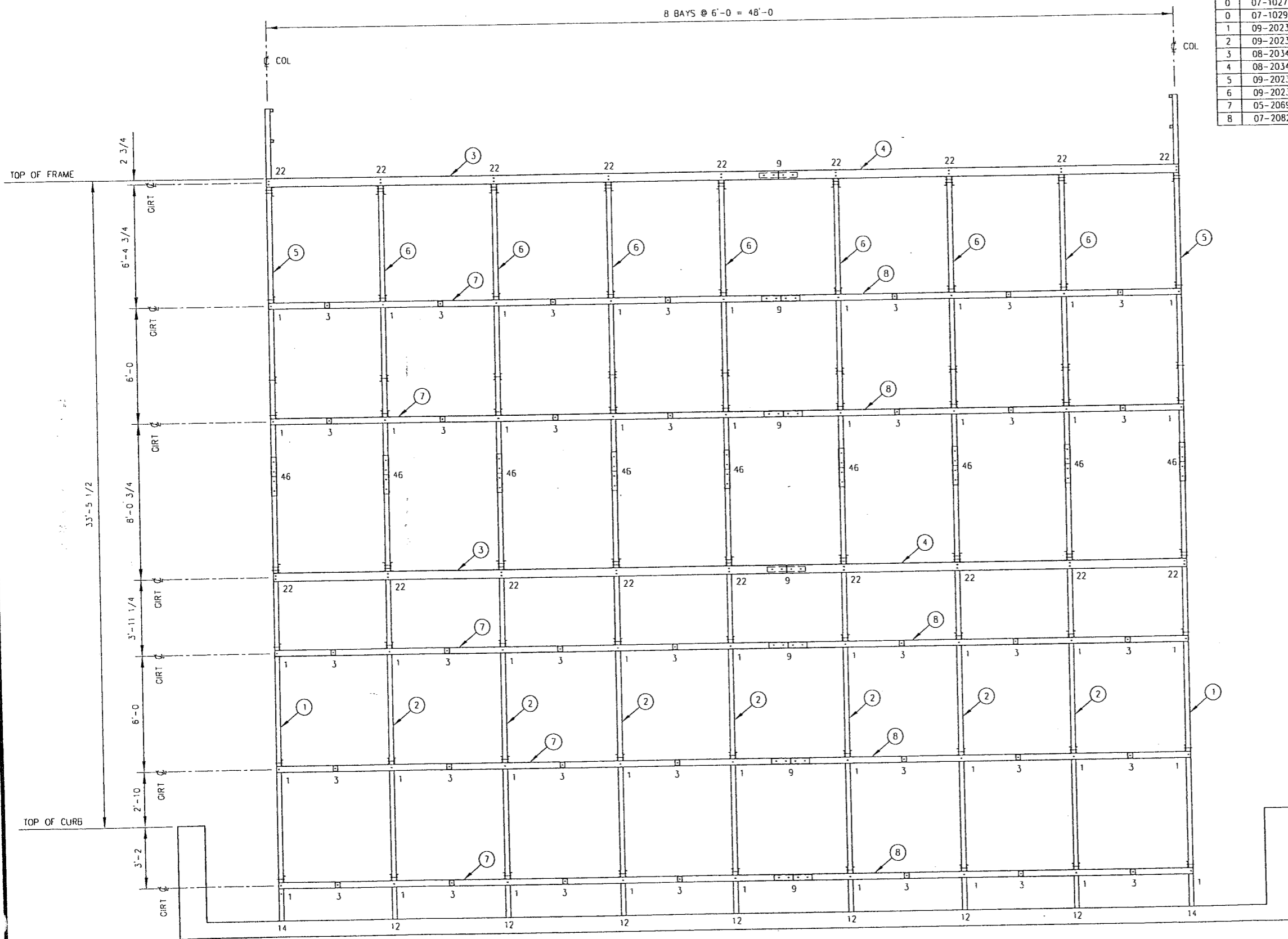
TRANSVERSE BRACED BENT 2B
MODEL EC848-554M

EvapTech, Inc.
8331 Niemon Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166



15

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	45
0	07-10253	JOINT DETAIL NO 3	35
0	07-10259	JOINT DETAIL NO 9	7
0	07-10262	JOINT DETAIL NO 12	7
0	07-10264	JOINT DETAIL NO 14	2
0	07-10272	JOINT DETAIL NO 22	18
0	07-10296	JOINT DETAIL NO 46	9
1	09-20234-2	TUBE 3 X 3 X 1/4 X 23'-3"	2
2	09-20234-1	TUBE 3 X 3 X 1/4 X 23'-3"	7
3	08-20343-3	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8"	4
4	08-20341-13	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8"	4
5	09-20234-7	TUBE 3 X 3 X 1/4 X 19'-0 5/8"	2
6	09-20236-1	TUBE 3 X 3 X 1/4 X 15'-5 1/4"	7
7	05-20699-1	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8"	10
8	07-20820-8	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8"	10



Certified for Construction



4/21/09

TRANSVERSE PARTITION BENT NO 3
(ALL GIRTS NS & FS)

GENERAL NOTES

1. ALL BENTS ARE VIEWED FROM FACE B.
2. SEE BENT PLAN DRAWING FOR BENT LOCATIONS
3. INSTALL ALL COLUMNS & DIAGONALS WITH ARROW MARK POINTING UP.
4. FIELD CUT COLUMNS & DIAGONALS AS REQ TO FIT BASIN FLOOR.
5. SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS
6. FIELD FABRICATE BOTTOM END OF DIAGONAL USING ANCHOR PLATE AS A TEMPLATE.

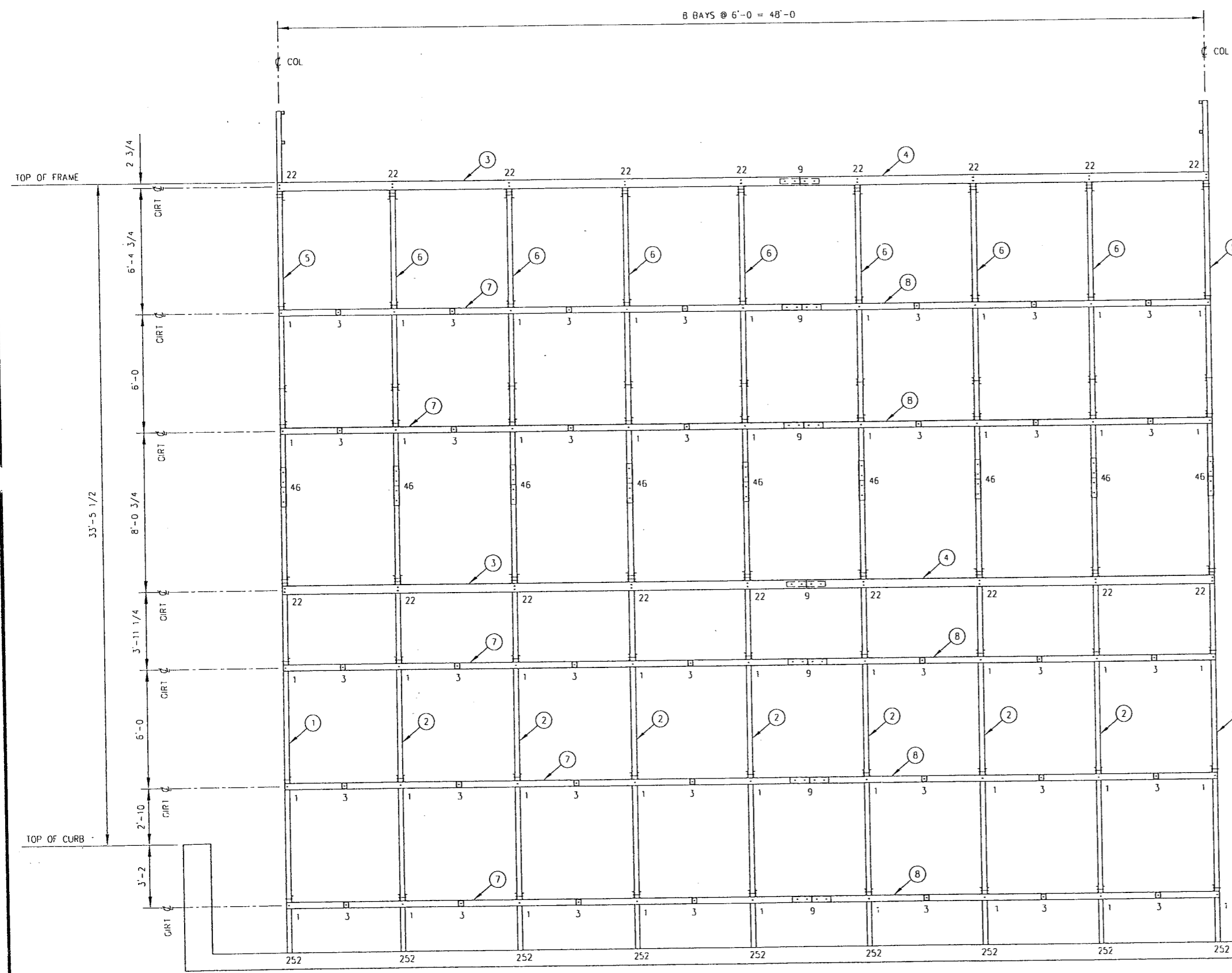
DRAWN BY: JRT
 CHECKED BY: JRT
 REVISED BY: JRT
 DATE: 2/9/2009
 ORDER NUMBER: 7-320814
 APPROVED BY: JHA
 REV. DATE: 4/21/2009
 REV. CHECKED: JRT
 DRAWING NUMBER: 09-20220
 SCALE: 1 = 64
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TRANSVERSE PARTITION BENT 3
 MODEL EC848-554M

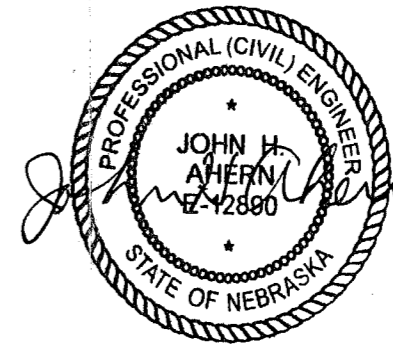
EvapTech, Inc.
 8351 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166

Page 25

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	45
0	07-10253	JOINT DETAIL NO 3	35
0	07-10259	JOINT DETAIL NO 9	7
0	07-10272	JOINT DETAIL NO 22	18
0	07-10296	JOINT DETAIL NO 46	9
0	07-10702	JOINT DETAIL NO 252	9
1	09-20507-2	TUBE 3 X 3 X 1/4 X 23'-10	2
2	09-20507-1	TUBE 3 X 3 X 1/4 X 23'-10	7
3	08-20343-3	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	4
4	08-20341-13	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8	4
5	09-20234-7	TUBE 3 X 3 X 1/4 X 19'-0 5/8	2
6	09-20236-1	TUBE 3 X 3 X 1/4 X 15'-5 1/4	7
7	05-20699-1	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	10
8	07-20820-8	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	10



Certified for Construction



REVISED BY: JRT
 CHECKED BY: J. TRAHAN
 DRAWN BY: J. TRAHAN
 DATE: 2/9/2009
 ORDER NUMBER: 7-320814
 SCALE: 1 = 64
 DRAWING NUMBER: 09-20221
 REV: 1
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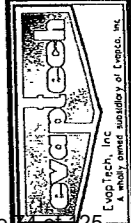
TRANSVERSE PARTITION BENT 3A
 MODEL EC848-554M

EvoPTech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166

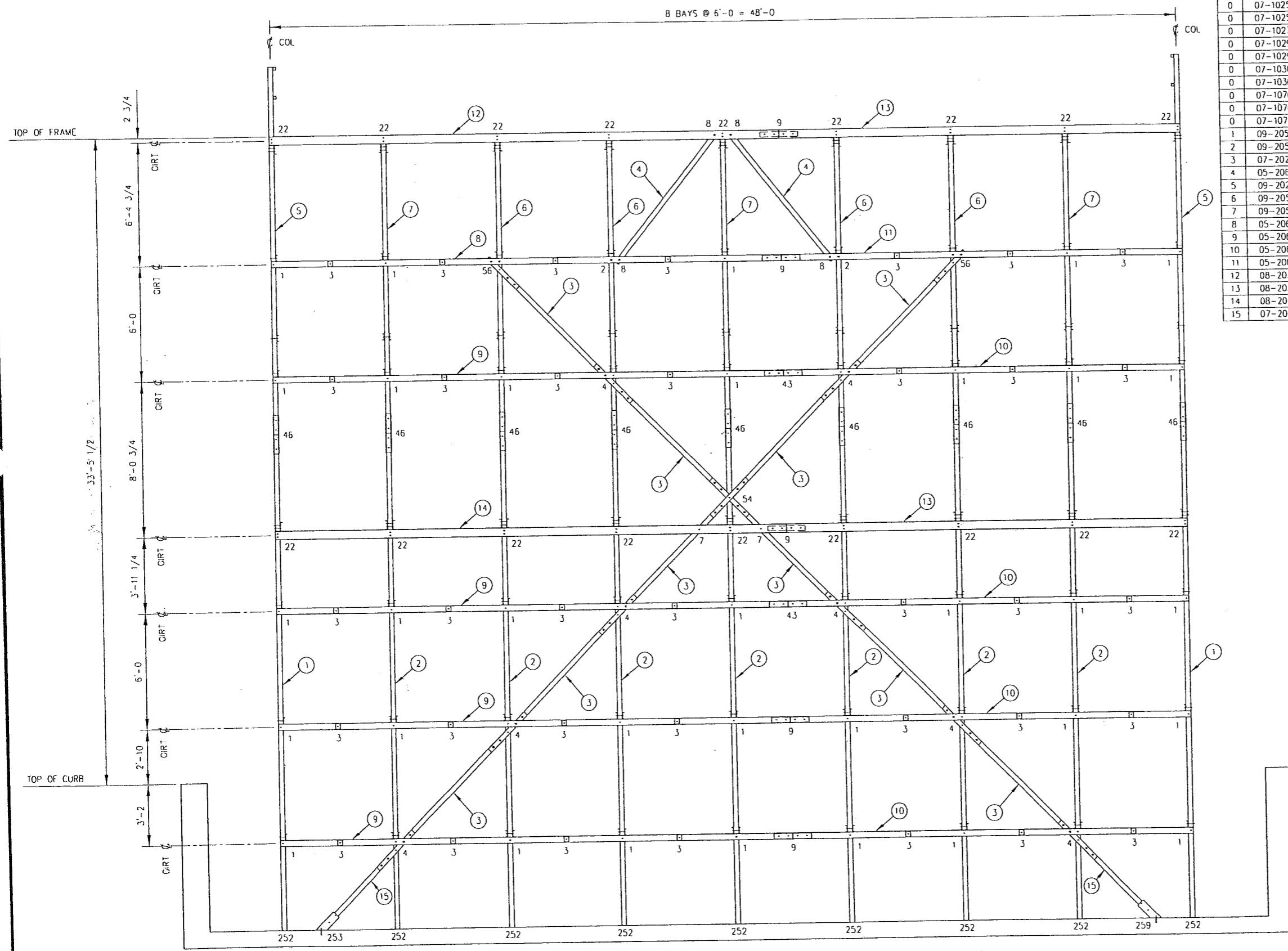
GENERAL NOTES

- ALL BENTS ARE VIEWED FROM FACE B.
- SEE BENT PLAN DRAWING FOR BENT LOCATIONS
- INSTALL ALL COLUMNS & DIAGONALS WITH ARROW MARK POINTING UP.
- FIELD CUT COLUMNS & DIAGONALS AS READ TO FIT BASIN FLOOR
- SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS
- FIELD FABRICATE BOTTOM END OF DIAGONAL USING ANCHOR PLATE AS A TEMPLATE

TRANSVERSE PARTITION BENT NO 3A
 (ALL GIRTS NS & FS)



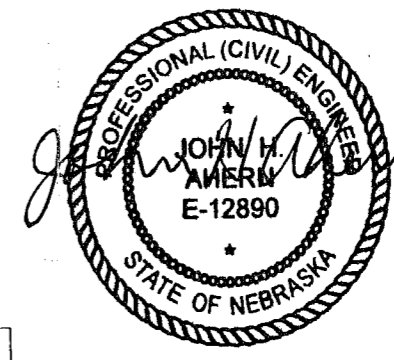
18



FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	33
0	07-10252	JOINT DETAIL NO 2	2
0	07-10253	JOINT DETAIL NO 3	35
0	07-10254	JOINT DETAIL NO 4	8
0	07-10257	JOINT DETAIL NO 7	2
0	07-10258	JOINT DETAIL NO 8	4
0	07-10259	JOINT DETAIL NO 9	5
0	07-10272	JOINT DETAIL NO 22	18
0	07-10293	JOINT DETAIL NO 43	2
0	07-10296	JOINT DETAIL NO 46	9
0	07-10304	JOINT DETAIL NO 54	1
0	07-10306	JOINT DETAIL NO 56	2
0	07-10702	JOINT DETAIL NO 252	9
0	07-10703	JOINT DETAIL NO 253	1
0	07-10709	JOINT DETAIL NO 259	1
1	09-20521-4	TUBE 3 X 3 X 1/4 X 26'-0	2
2	09-20521-3	TUBE 3 X 3 X 1/4 X 26'-0	7
3	07-20209-18	TUBE 3 X 3 X 1/4 X 8'-2 13/16	10
4	05-20696-26	TUBE 3 X 3 X 1/4 X 8'-7 1/2	2
5	09-20234-7	TUBE 3 X 3 X 1/4 X 19'-0 5/8	2
6	09-20581-2	TUBE 3 X 3 X 1/4 X 15'-5 1/4	4
7	09-20581-1	TUBE 3 X 3 X 1/4 X 15'-5 1/4	3
8	05-20699-8	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	2
9	05-20699-1	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	8
10	05-20699-2	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	8
11	05-20699-9	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	2
12	08-20343-3	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	2
13	08-20341-13	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8	4
14	08-20343-8	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	2
15	07-20482-4	TUBE 3 X 3 X 1/4 X 4'-0	2

REV CHECKED: JRT
 SCALE: 1" = 64'
 DRAWING NUMBER: 7-320814
 ORDER NUMBER: 7-320814
 DATE: 2/16/2009
 APPROVED BY: JHA
 CHECKED BY: J. TRAHAN
 DRAWN BY: JRT
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Certified for Construction



4/21/09

TRANSVERSE BRACED BENT 2D
 MODEL EC848-554M

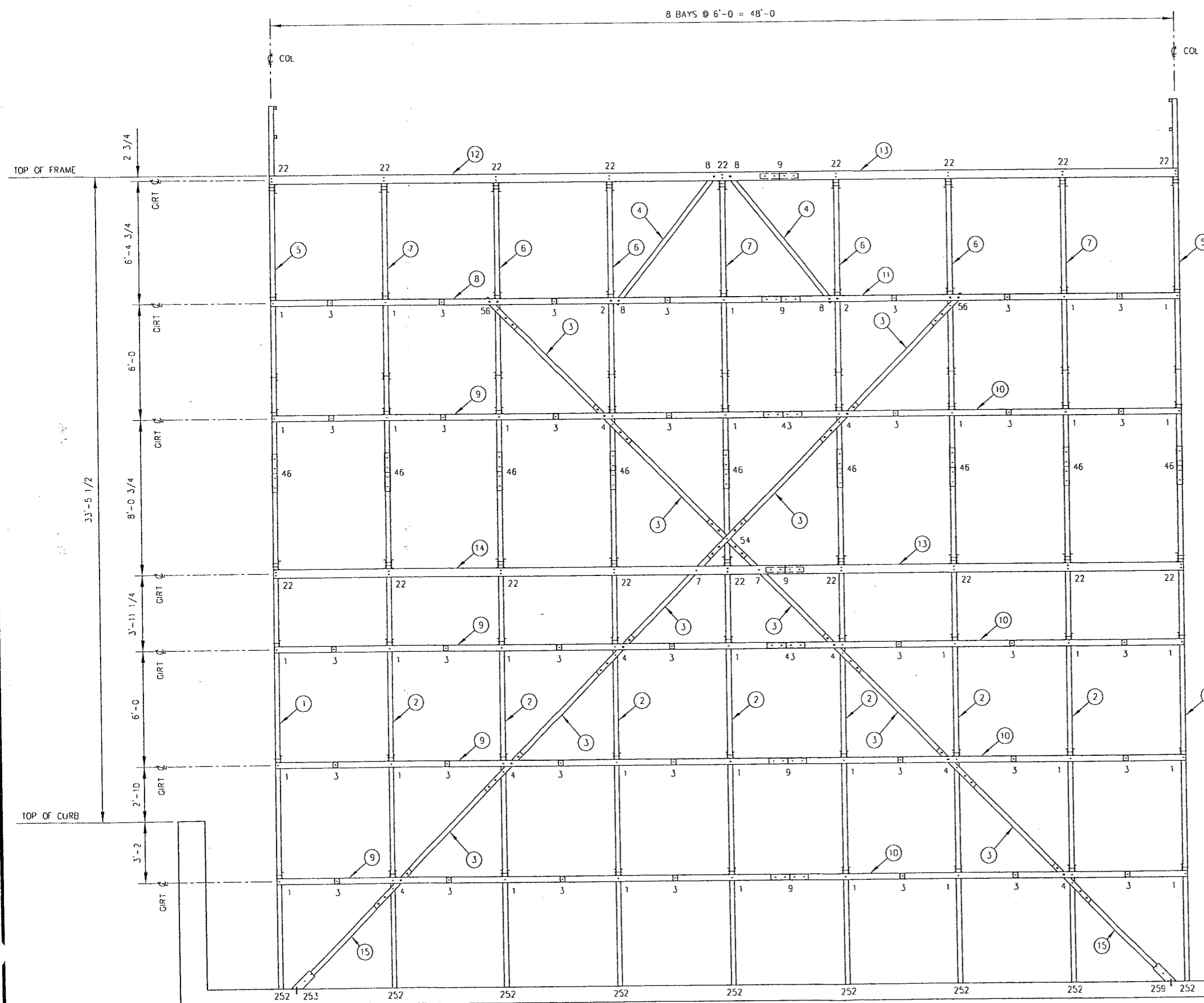
Evoptech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166

GENERAL NOTES

- ALL BENTS ARE VIEWED FROM FACE B
- SEE BENT PLAN DRAWING FOR BENT LOCATIONS.
- INSTALL ALL COLUMNS & DIAGONALS WITH ARROW MARK POINTING UP.
- FIELD CUT COLUMNS & DIAGONALS AS REED TO FIT BASIN FLOOR
- SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS.
- FIELD FABRICATE BOTTOM END OF DIAGONAL USING ANCHOR PLATE AS A TEMPLATE.

TRANSVERSE BRACED BENT NO 2D
 (ALL GIRTS NS & FS)

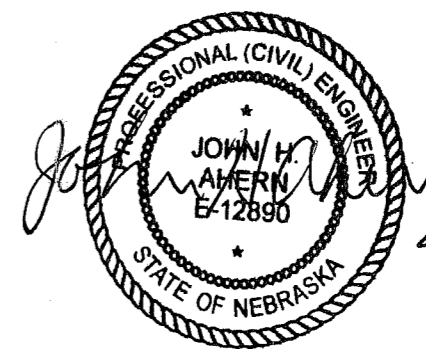
19



FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	33
0	07-10252	JOINT DETAIL NO 2	2
0	07-10253	JOINT DETAIL NO 3	35
0	07-10254	JOINT DETAIL NO 4	8
0	07-10257	JOINT DETAIL NO 7	2
0	07-10258	JOINT DETAIL NO 8	4
0	07-10259	JOINT DETAIL NO 9	5
0	07-10272	JOINT DETAIL NO 22	18
0	07-10293	JOINT DETAIL NO 43	2
0	07-10296	JOINT DETAIL NO 46	9
0	07-10304	JOINT DETAIL NO 54	1
0	07-10306	JOINT DETAIL NO 56	2
0	07-10702	JOINT DETAIL NO 252	9
0	07-10703	JOINT DETAIL NO 253	1
0	07-10709	JOINT DETAIL NO 259	1
1	09-20507-8	TUBE 3 x 3 x 1/4 x 27'-0"	2
2	09-20507-7	TUBE 3 x 3 x 1/4 x 27'-0"	7
3	07-20209-18	TUBE 3 x 3 x 1/4 x 8'-2 13/16	10
4	05-20696-26	TUBE 3 x 3 x 1/4 x 8'-7 1/2	2
5	09-20234-7	TUBE 3 x 3 x 1/4 x 19'-0 5/8	2
6	09-20507-5	TUBE 3 x 3 x 1/4 x 15'-5 1/4	4
7	09-20507-6	TUBE 3 x 3 x 1/4 x 15'-5 1/4	3
8	05-20699-8	CHAN 4 x 1 1/8 x 1/4 x 27'-1 3/8	2
9	05-20699-1	CHAN 4 x 1 1/8 x 1/4 x 27'-1 3/8	8
10	05-20699-2	CHAN 4 x 1 1/8 x 1/4 x 21'-1 3/8	8
11	05-20699-9	CHAN 4 x 1 1/8 x 1/4 x 21'-1 3/8	2
12	08-20343-3	CHAN 5 1/2 x 1 1/2 x 1/4 x 27'-1 3/8	2
13	08-20341-13	CHAN 5 1/2 x 1 1/2 x 1/4 x 21'-1 3/8	4
14	08-20343-8	CHAN 5 1/2 x 1 1/2 x 1/4 x 27'-1 3/8	2
15	07-20482-11	TUBE 3 x 3 x 1/4 x 7'-6"	2

REV CHECKED: JRT
 REV DATE: 2/16/2009
 ORDER NUMBER: 7-320814
 SCALE: 1 = 64
 DRAWING NUMBER: 09-20224
 APPROVED BY: JHA
 DRAWN BY: J. TRAHAN

Certified for Construction



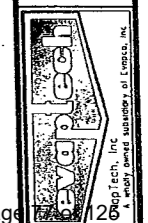
GENERAL NOTES

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- FIELD FABRICATE BOTTOM END OF DIAGONAL USING ANCHOR PLATE AS A TEMPLATE.

TRANSVERSE BRACED BENT NO 2E
 (ALL GIRTS NS & FS)

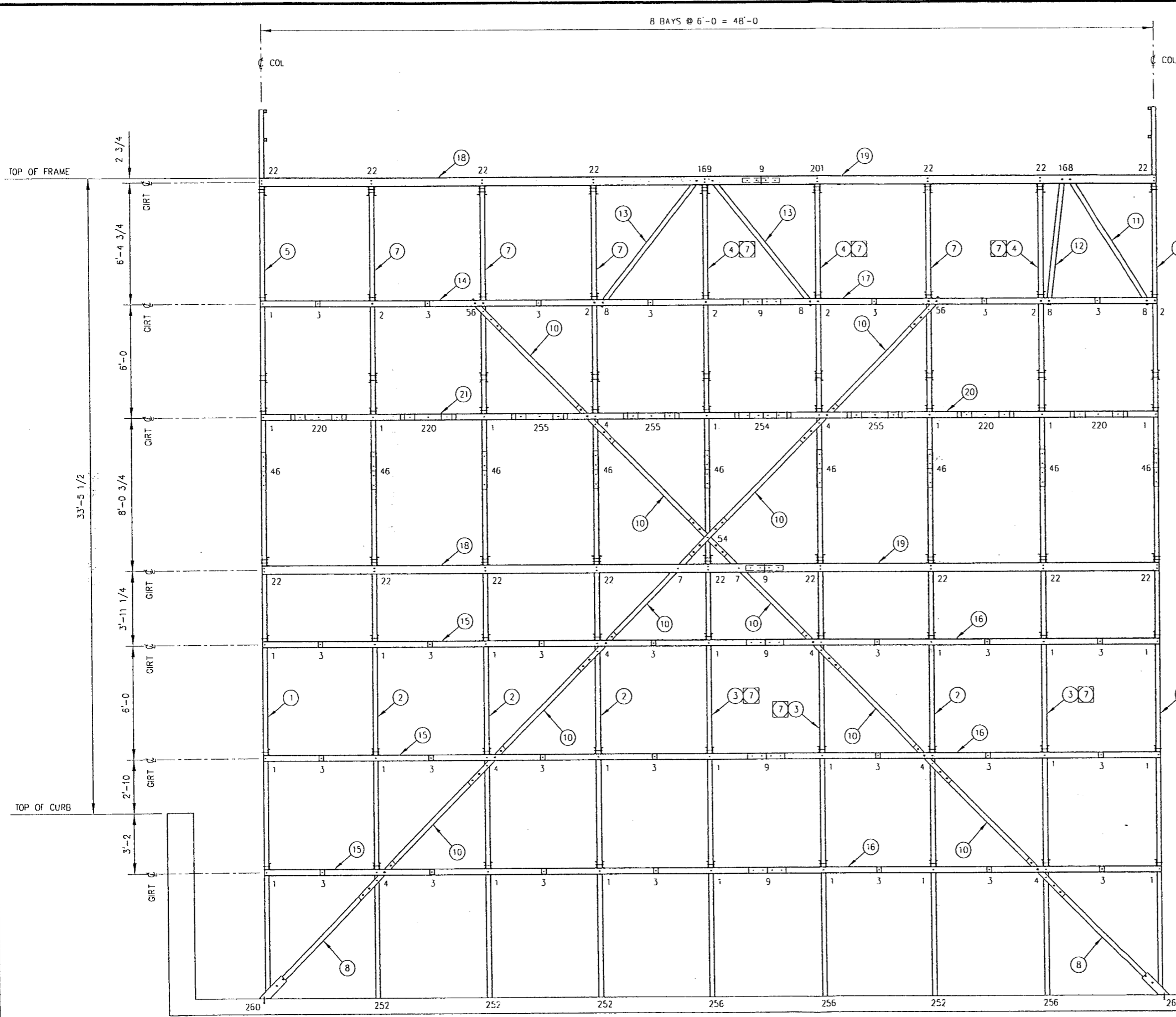
TRANSVERSE BRACED BENT 2E
 MODEL EC848-554M

EvapTech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166



70

8 BAYS @ 6'-0" = 48'-0"



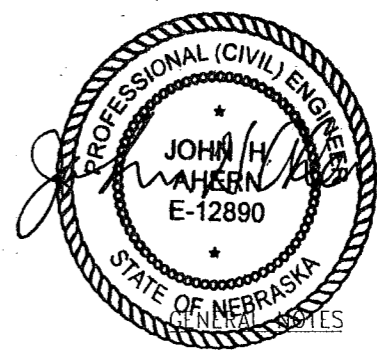
TRANSVERSE BRACED BENT NO 2F
(ALL GIRTS NS & FS)

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	29
0	07-10252	JOINT DETAIL NO 2	6
0	07-10253	JOINT DETAIL NO 3	28
0	07-10254	JOINT DETAIL NO 4	8
0	07-10257	JOINT DETAIL NO 7	2
0	07-10258	JOINT DETAIL NO 8	4
0	07-10259	JOINT DETAIL NO 9	6
0	07-10272	JOINT DETAIL NO 22	16
0	07-10296	JOINT DETAIL NO 46	9
0	07-10304	JOINT DETAIL NO 54	1
0	07-10306	JOINT DETAIL NO 56	2
0	07-10418	JOINT DETAIL NO 168	1
0	07-10419	JOINT DETAIL NO 169	1
0	07-10451	JOINT DETAIL NO 201	1
0	07-10470	JOINT DETAIL NO 220	4
0	07-10704	JOINT DETAIL NO 254	1
0	07-10705	JOINT DETAIL NO 255	3
0	07-10706	JOINT DETAIL NO 256	3
0	07-10710	JOINT DETAIL NO 260	1
0	07-10711	JOINT DETAIL NO 261	1
1	09-20529-2	TUBE 3 X 3 X 1/4 X 28'-1	2
2	09-20529-1	TUBE 3 X 3 X 1/4 X 28'-1	4
3	09-20530-1	TUBE 3 X 3 X 3/8 X 28'-1	3
4	09-20235-4	TUBE 3 X 3 X 3/8 X 15'-5 1/4	3
5	09-20234-5	TUBE 3 X 3 X 1/4 X 19'-0 5/8	1
6	09-20234-6	TUBE 3 X 3 X 1/4 X 19'-0 5/8	1
7	09-20531-1	TUBE 3 X 3 X 1/4 X 15'-5 1/4	4
8	07-20482-12	TUBE 3 X 3 X 1/4 X 8'-0	2
9	--	-- DELETED --	--
10	07-20209-18	TUBE 3 X 3 X 1/4 X 8'-2 13/16	10
11	05-20696-25	TUBE 3 X 3 X 1/4 X 7'-11 3/8	1
12	06-20312-15	TUBE 3 X 3 X 1/4 X 6'-10 1/4	1
13	05-20696-26	TUBE 3 X 3 X 1/4 X 8'-7 1/2	2
14	07-20720-6	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	2
15	05-20699-1	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	6
16	05-20699-2	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	6
17	07-20820-10	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	2
18	08-20343-8	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	4
19	08-20341-13	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8	4
20	09-20237-4	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	2
21	09-20237-3	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	2

REV CHECKED:	REV DATE:	REV BY:
DRAWING NUMBER:	SCALE:	CHECKED BY:
09-20225	1 = 64	JRT
ORDER NUMBER:	APPROVED BY:	JTRAHAN
7-320814	JHA	DATE:
	4/08/2009	

TRANSVERSE BRACED BENT 2F
MODEL EC848-554M

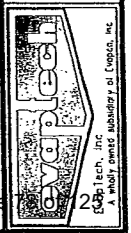
Certified for Construction

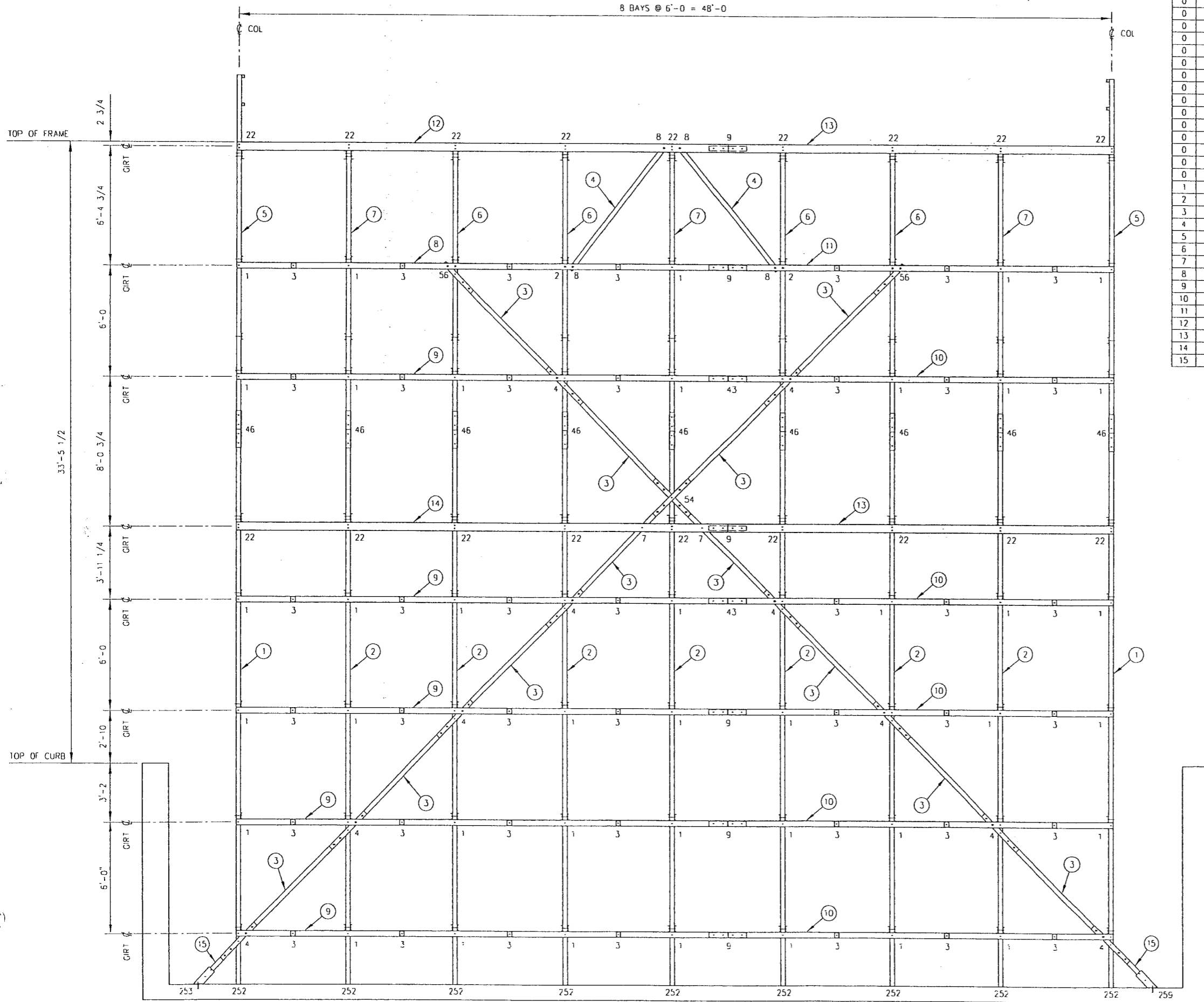


4/21/09

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- SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS
- FIELD FABRICATE BOTTOM END OF DIAGONAL USING ANCHOR PLATE AS A TEMPLATE.
- 3/8" WALL COLUMN MUST BE USED AT THIS LOCATION.

EvapTech, Inc.
8331 Nieman Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166

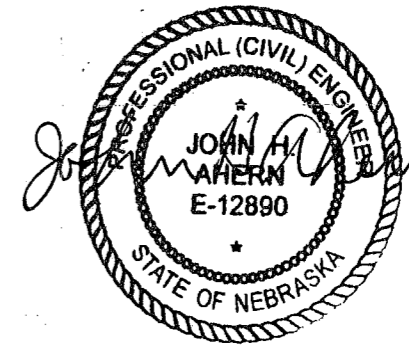




FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	40
0	07-10252	JOINT DETAIL NO 2	2
0	07-10253	JOINT DETAIL NO 3	42
0	07-10254	JOINT DETAIL NO 4	10
0	07-10257	JOINT DETAIL NO 7	2
0	07-10258	JOINT DETAIL NO 8	4
0	07-10259	JOINT DETAIL NO 9	6
0	07-10272	JOINT DETAIL NO 22	18
0	07-10293	JOINT DETAIL NO 43	2
0	07-10296	JOINT DETAIL NO 46	9
0	07-10304	JOINT DETAIL NO 54	1
0	07-10306	JOINT DETAIL NO 56	2
0	07-10702	JOINT DETAIL NO 252	9
0	07-10703	JOINT DETAIL NO 253	1
0	07-10709	JOINT DETAIL NO 259	1
1	09-20521-2	TUBE 3 X 3 X 1/4 X 30'-2	2
2	09-20521-1	TUBE 3 X 3 X 1/4 X 30'-2	7
3	07-20209-18	TUBE 3 X 3 X 1/4 X 8'-2 13/16	12
4	05-20696-26	TUBE 3 X 3 X 1/4 X 8'-7 1/2	2
5	09-20234-7	TUBE 3 X 3 X 1/4 X 19'-0 5/8	2
6	09-20507-5	TUBE 3 X 3 X 1/4 X 15'-5 1/4	4
7	09-20507-6	TUBE 3 X 3 X 1/4 X 15'-5 1/4	3
8	05-20699-8	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	2
9	05-20699-1	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	10
10	05-20699-2	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	10
11	05-20699-9	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	2
12	08-20343-3	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	2
13	08-20341-13	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8	4
14	08-20343-8	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	2
15	07-20482-3	TUBE 3 X 3 X 1/4 X 3'-6	2

DRAWN BY: J. TRAHAN
 DATE: 4/07/2009
 CHECKED BY: JRT
 APPROVED BY: JHA
 ORDER NUMBER: 7-320814
 SCALE: 1 = 64
 DRAWING NUMBER: 09-20227
 REV:

Certified for Construction



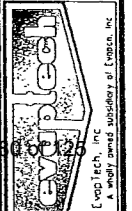
Joan A. Mahern 4/21/09

GENERAL NOTES

- ALL BENTS ARE VIEWED FROM FACE B.
- SEE BENT PLAN DRAWING FOR BENT LOCATIONS.
- INSTALL ALL COLUMNS & DIAGONALS WITH ARROW MARK POINTING UP.
- FIELD CUT COLUMNS & DIAGONALS AS NEEDED TO FIT BASIN FLOOR.
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TRANSVERSE BRACED BENT 2H
 MODEL EC848-554M

EvopTech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166



22

Bill of Material

Item Number A015986

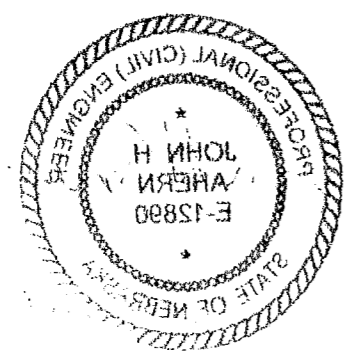
Drawing No 09-20227

Description INSTALL TRANSVERSE BENT NO 2H

Text MODEL EC848-554M TOWER

Find No	Item Number	Description	Qty	Drawing Number
0	A001798	PLN-AS JOINT DETAIL NO 2 S304	2.00	07-10252
0	A001805	PLN-AS JOINT DETAIL NO 9 S304	6.00	07-10259
0	A001818	PLN-AS JOINT DETAIL NO 22 S304	18.00	07-10272
0	A003065	PLN-AS JOINT DETAIL NO 54 S304	1.00	07-10304A
0	A003083	PLN-AS JOINT DETAIL NO 43 S304	2.00	07-10293A
0	A003086	PLN-AS JOINT DETAIL NO 46 S304	9.00	07-10296
0	A001131	PLN-AS JOINT DETAIL NO 56 S304	2.00	07-10306A
0	A001803	PLN-AS JOINT DETAIL NO 7 S304	2.00	07-10257
0	A015946	PLN-AS JOINT DETAIL NO 253 S304	1.00	07-10703
0	A001804	PLN-AS JOINT DETAIL NO 8 S304	4.00	07-10258
0	A001799	PLN-AS JOINT DETAIL NO 3 S304	42.00	07-10253
0	A001797	PLN-AS JOINT DETAIL NO 1 S304	40.00	07-10251
0	A015940	PLN-AS JOINT DETAIL NO 252 S304	9.00	07-10702
0	A015945	PLN-AS JOINT DETAIL NO 259 S304	1.00	07-10709
0	A001800	PLN-AS JOINT DETAIL NO 4 S304	10.00	07-10254A
1	A015919	PULTR TUBE 3 X 3 X 1/4 X 30'-2 FR	2.00	09-20521-2
2	A015918	PULTR TUBE 3 X 3 X 1/4 X 30'-2 FR	7.00	09-20521-1
3	A015286	PULTR TUBE 3 X 3 X 1/4 X 8'-2 13/16 FR	10.00	07-20209E-18
4	A010076	PULTR TUBE 3 X 3 X 1/4 X 8'-7 1/2 FR	2.00	05-20696K-26
5	A015301	PULTR TUBE 3 X 3 X 1/4 X 19'-0 5/8 FR	2.00	09-20234-7
6	A015914	PULTR TUBE 3 X 3 X 1/4 X 15'-5 1/4 FR	4.00	09-20507-5
7	A015915	PULTR TUBE 3 X 3 X 1/4 X 15'-5 1/4 FR	3.00	09-20507-6
8	A015902	PULTR CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8 FR	2.00	05-20699C-8
9	A003161	PULTR CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8 FR	10.00	05-20699C-1
10	A003163	PULTR CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8 FR	10.00	05-20699C-2
11	A015903	PULTR CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8 FR	2.00	05-20699C-9
12	A014597	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8 FR	2.00	08-20343D-3
13	A015278	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8 FR	4.00	08-20341J-13
14	A015279	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8 FR	2.00	08-20343D-8
15	A006518	PULTR TUBE 3 X 3 X 1/4 X 3'-6 FR	2.00	07-20482A-3

Certified for Construction



8 BAYS @ 6'-0" = 48'-0"

TOP OF FRAME

TOP OF CURB

33'-5 1/2"

2'-3/4"

6'-4 3/4"

6'-0"

8'-0 3/4"

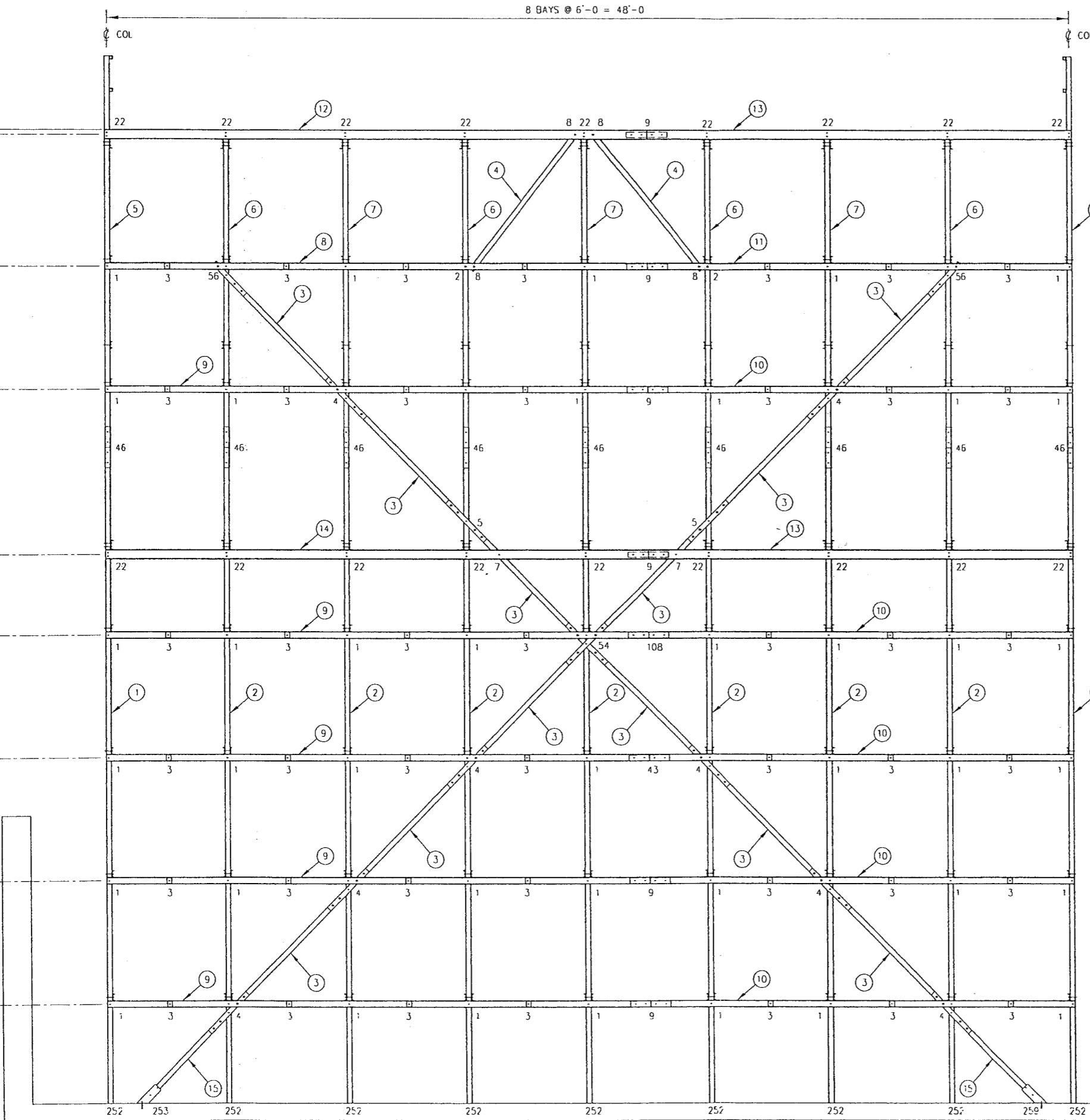
3'-11 1/4"

6'-0"

2'-10"

3'-2"

6'-0"



FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	40
0	07-10252	JOINT DETAIL NO 2	2
0	07-10253	JOINT DETAIL NO 3	41
0	07-10254	JOINT DETAIL NO 4	8
0	07-10255	JOINT DETAIL NO 5	2
0	07-10257	JOINT DETAIL NO 7	2
0	07-10258	JOINT DETAIL NO 8	4
0	07-10259	JOINT DETAIL NO 9	6
0	07-10272	JOINT DETAIL NO 22	18
0	07-10293	JOINT DETAIL NO 43	1
0	07-10296	JOINT DETAIL NO 46	9
0	07-10304	JOINT DETAIL NO 54	1
0	07-10306	JOINT DETAIL NO 56	2
0	07-10358	JOINT DETAIL NO 108	1
0	07-10377	JOINT DETAIL NO 127	1
0	07-10702	JOINT DETAIL NO 252	9
0	07-10703	JOINT DETAIL NO 253	1
0	07-10709	JOINT DETAIL NO 259	1
1	09-20538-2	TUBE 3 X 3 X 1/4 X 32'-4	2
2	09-20538-1	TUBE 3 X 3 X 1/4 X 32'-4	7
3	07-20209-18	TUBE 3 X 3 X 1/4 X 8'-2 13/16	12
4	05-20696-26	TUBE 3 X 3 X 1/4 X 8'-7 1/2	2
5	09-20234-7	TUBE 3 X 3 X 1/4 X 19'-0 5/8	2
6	09-20234-4	TUBE 3 X 3 X 1/4 X 15'-5 1/4	4
7	09-20234-3	TUBE 3 X 3 X 1/4 X 15'-5 1/4	3
8	05-20699-10	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	2
9	05-20699-1	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	10
10	05-20699-2	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	10
11	07-20820-11	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	2
12	08-20343-3	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	2
13	08-20341-7	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8	4
14	08-20343-9	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	2
15	07-20482-8	TUBE 3 X 3 X 1/4 X 6'-0	2

REV: 09-20228
 DRAWING NUMBER: 7-320814
 SCALE: 1" = 6'
 ORDER NUMBER: 4/13/2009
 DATE: 4/13/2009
 APPROVED BY: JHA
 CHECKED BY: JRT
 DRAWN BY: JTRAHAN
 RECEIVED BY: JTRAHAN
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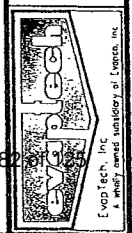
GENERAL NOTES

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3. INSTALL ALL COLUMNS & DIAGONALS WITH ARROW MARK POINTING UP.
4. FIELD CUT COLUMNS & DIAGONALS AS REQ'D TO FIT BASIN FLOOR.
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6. FIELD FABRICATE BOTTOM END OF DIAGONAL USING ANCHOR PLATE AS A TEMPLATE.

TRANSVERSE BRACED BENT NO 21
 (ALL GIRTS NS & FS)

TRANSVERSE BRACED BENT 21
 MODEL EC848-554M

EvapTech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166



(73)

Bill of Material

Item Number A015991

Drawing No 09-20228

Description INSTALL TRANSVERSE BENT NO 21

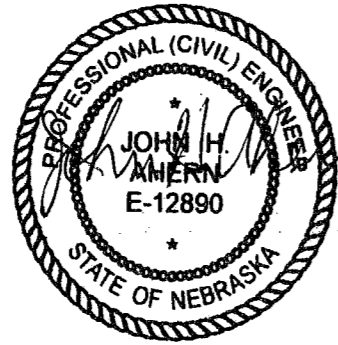
Text MODEL EC848-554M TOWER

Find No	Item Number	Description	Qty	Drawing Number
0	A007095	PLN-AS JOINT DETAIL NO 127 S304	1.00	07-10377
0	A001797	PLN-AS JOINT DETAIL NO 1 S304	40.00	07-10251
0	A001798	PLN-AS JOINT DETAIL NO 2 S304	2.00	07-10252
0	A001799	PLN-AS JOINT DETAIL NO 3 S304	41.00	07-10253
0	A001800	PLN-AS JOINT DETAIL NO 4 S304	8.00	07-10254A
0	A001801	PLN-AS JOINT DETAIL NO 5 S304	2.00	07-10255
0	A001803	PLN-AS JOINT DETAIL NO 7 S304	2.00	07-10257
0	A001804	PLN-AS JOINT DETAIL NO 8 S304	4.00	07-10258
0	A001805	PLN-AS JOINT DETAIL NO 9 S304	6.00	07-10259
0	A001818	PLN-AS JOINT DETAIL NO 22 S304	18.00	07-10272
0	A003065	PLN-AS JOINT DETAIL NO 54 S304	1.00	07-10304A
0	A003083	PLN-AS JOINT DETAIL NO 43 S304	1.00	07-10293A
0	A003086	PLN-AS JOINT DETAIL NO 46 S304	9.00	07-10296
0	A001131	PLN-AS JOINT DETAIL NO 56 S304	2.00	07-10306A
0	A006114	PLN-AS JOINT DETAIL NO 108 S304	1.00	07-10358
0	A015946	PLN-AS JOINT DETAIL NO 253 S304	1.00	07-10703
0	A015945	PLN-AS JOINT DETAIL NO 259 S304	1.00	07-10709
0	A015940	PLN-AS JOINT DETAIL NO 252 S304	9.00	07-10702
1	A015928	PULTR TUBE 3 X 3 X 1/4 X 32'-4 FR	2.00	09-20538-2
2	A015927	PULTR TUBE 3 X 3 X 1/4 X 32'-4 FR	7.00	09-20538-1
3	A015286	PULTR TUBE 3 X 3 X 1/4 X 8'-2 13/16 FR	12.00	07-20209E-18
4	A010076	PULTR TUBE 3 X 3 X 1/4 X 8'-7 1/2 FR	2.00	05-20696K-26
5	A015301	PULTR TUBE 3 X 3 X 1/4 X 19'-0 5/8 FR	2.00	09-20234-7
6	A015296	PULTR TUBE 3 X 3 X 1/4 X 15'-5 1/4 FR	4.00	09-20234-4
7	A015295	PULTR TUBE 3 X 3 X 1/4 X 15'-5 1/4 FR	3.00	09-20234-3
8	A015904	PULTR CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8 FR	2.00	05-20699C-10
9	A003161	PULTR CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8 FR	10.00	05-20699C-1
10	A003163	PULTR CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8 FR	10.00	05-20699C-2
11	A015906	PULTR CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8 FR	2.00	07-20820E-11
12	A014597	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8 FR	2.00	08-20343D-3
13	A015992	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8 FR	4.00	08-20341J-7
14	A015464	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8 FR	2.00	08-20343D-9
15	A006771	PULTR TUBE 3 X 3 X 1/4 X 6'-4 1/2 FR	2.00	07-20482A-8



Certified for Construction

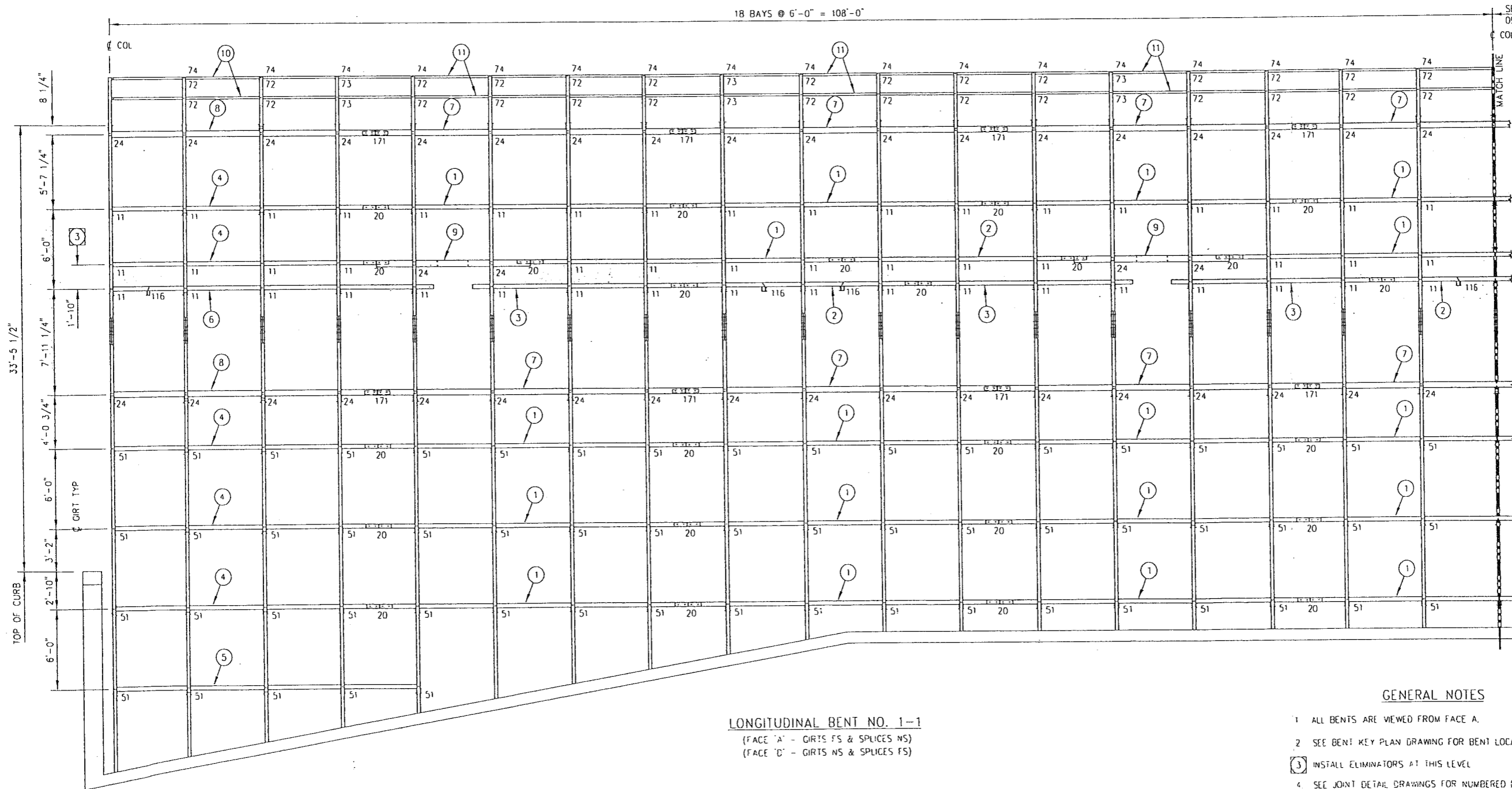
Certified for Construction



4/21/09

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10261	JOINT DETAIL NO. 11	50
0	07-10270	JOINT DETAIL NO. 20	24
0	07-10274	JOINT DETAIL NO. 24	40
0	07-10301	JOINT DETAIL NO. 51	59
0	07-10322	JOINT DETAIL NO. 72	28
0	07-10323	JOINT DETAIL NO. 73	6
0	07-10324	JOINT DETAIL NO. 74	17
0	07-10366	JOINT DETAIL NO. 116	4
0	07-10421	JOINT DETAIL NO. 171	8

FIND NO	DRAWING NO	DESCRIPTION	QTY
1	05-20118-7	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	18
2	08-20278-1	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4	3
3	06-20269-10	CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8	3
4	05-20699-2	CHAN 4 X 1 1/8 X 1/4 X 21'-11 3/8	5
5	09-20490-2	CHAN 4 X 1 1/8 X 1/4 X 24'-3	1
6	06-20269-8	CHAN 4 X 1 1/8 X 1/4 X 25'-7 1/2	1
7	08-20342-9	CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4	8
8	08-20341-14	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-11 3/8	2
9	08-10093-3	CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8	2
10	06-20486-15	TUBE 2 X 2 X 1/4 X 17'-8 1/8	2
11	06-20486-8	TUBE 2 X 2 X 1/4 X 29'-11 3/4	6

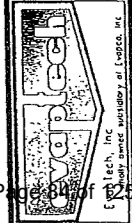


LONGITUDINAL BENT NO. 1-1
 (FACE 'A' - GIRTS FS & SPLICES NS)
 (FACE 'D' - GIRTS NS & SPLICES FS)

GENERAL NOTES

- ALL BENTS ARE VIEWED FROM FACE A.
- SEE BENT KEY PLAN DRAWING FOR BENT LOCATIONS.
- INSTALL ELIMINATORS AT THIS LEVEL
- SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS

DRAWN BY: J. TRAHAN DATE: 3/31/2009	CHECKED BY: JRT APPROVED BY: JHA	ORDER NUMBER: 7-320814 SCALE: 1 = 96	DRAWING NUMBER: 09-20397 REV: 09-20397
LONGITUDINAL SIDEWALL BENT NO 1-1 MODEL EC848-554M TOWER			
EvapTech, Inc. 8331 Nieman Road Lenexa, KS 66214 Ph: (913) 322-5165 Fax: (913) 322-5166			



47

Item Number A015694

Drawing No 09-20397

Description INSTALL LONG SW BT 1-1 EC848-554M

Text S304

Ind No	Item Number	Description	Qty	Drawing Number
0	A006430	PLN-AS JOINT DETAIL NO 116 S304	4.00	07-10366
0	A003155	PLN-AS JOINT DETAIL NO 51 S304	59.00	07-10301
0	A003992	PLN-AS JOINT DETAIL NO 72 S304	28.00	07-10322
0	A003993	PLN-AS JOINT DETAIL NO 73 S304	6.00	07-10323A
0	A001807	PLN-AS JOINT DETAIL NO 11 S304	50.00	07-10261
0	A001820	PLN-AS JOINT DETAIL NO 24 S304	40.00	07-10274
0	A001816	PLN-AS JOINT DETAIL NO 20 S304	24.00	07-10270
0	A003994	PLN-AS JOINT DETAIL NO 74	17.00	07-10324
0	A010103	PLN-AS JOINT DETAIL NO 171 S304	8.00	07-10421
1	A003334	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	18.00	05-20118A-7
2	A010088	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	3.00	08-20278C-1
3	A010108	PULTR CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8 FR	3.00	06-20269C-10
4	A003163	PULTR CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8 FR	5.00	05-20699B-2
5	A015690	PULTR CHAN 4 X 1 1/8 X 1/4 X 24'-3 FR	1.00	09-20490-2
6	A010106	PULTR CHAN 4 X 1 1/8 X 1/4 X 25'-7 1/2 FR	1.00	06-20269C-8
7	A015455	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	8.00	08-20342D-9
8	A015693	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8 FR	2.00	08-20341J-14
9	A015463	PULTR CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8 FR	2.00	08-10093B-3
10	A004473	PULTR TUBE 2 X 2 X 1/4 X 17'-8 1/8 FR	2.00	06-20486D-15
11	A004469	PULTR TUBE 2 X 2 X 1/4 X 29'-11 3/4 FR	6.00	06-20486D-8



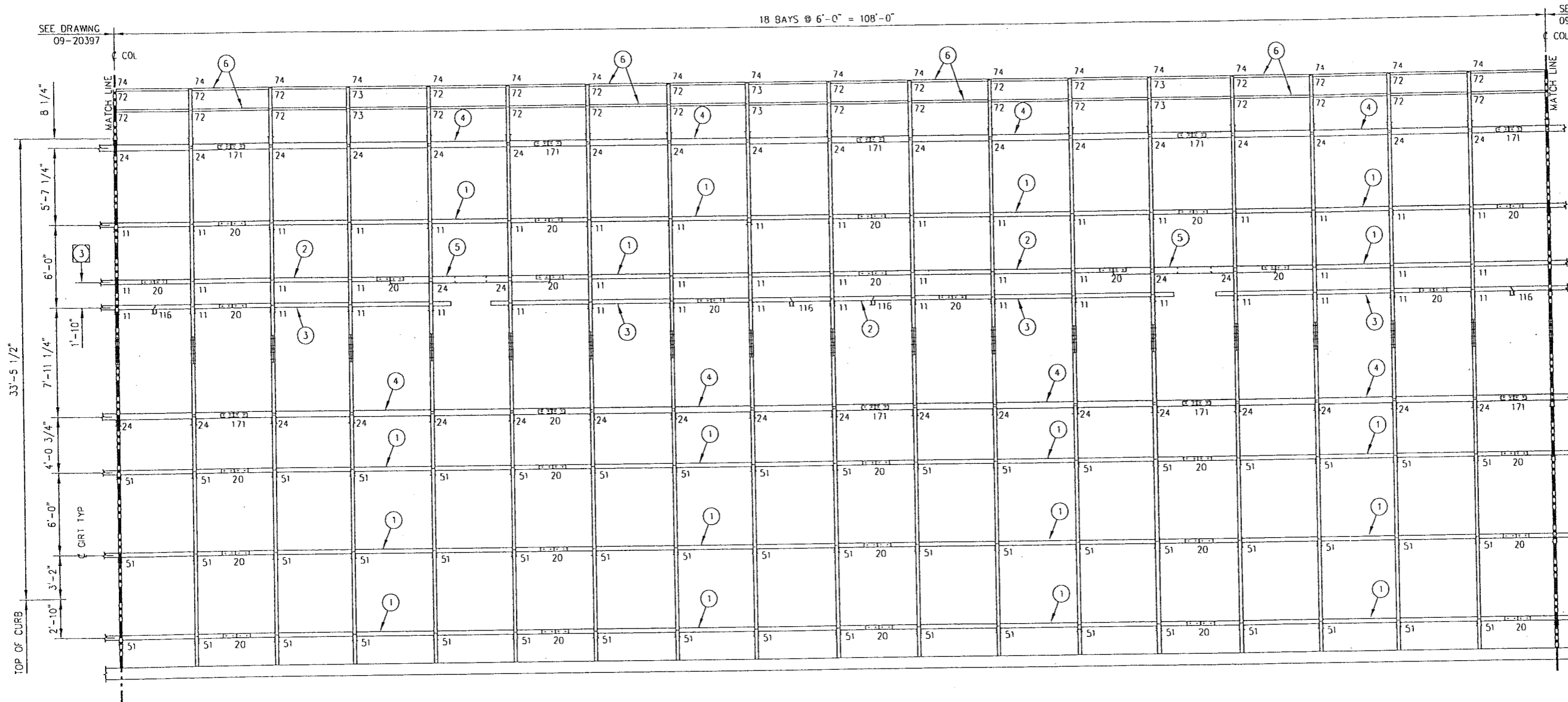
Certified for Construction

Certified for Construction

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10261	JOINT DETAIL NO 11	50
0	07-10270	JOINT DETAIL NO 20	31
0	07-10274	JOINT DETAIL NO 24	40
0	07-10301	JOINT DETAIL NO 51	54
0	07-10322	JOINT DETAIL NO 72	30
0	07-10323	JOINT DETAIL NO 73	6
0	07-10324	JOINT DETAIL NO 74	18
0	07-10366	JOINT DETAIL NO 116	4
0	07-10421	JOINT DETAIL NO 171	9

FIND NO	DRAWING NO	DESCRIPTION	QTY
1	05-20118-7	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	18
2	08-20278-1	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4	3
3	06-20269-10	CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8	4
4	08-20342-9	CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4	8
5	08-10093-3	CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8	2
6	06-20486-8	TUBE 2 X 2 X 1/4 X 29'-11 3/4	4

18 BAYS @ 6'-0" = 108'-0"



LONGITUDINAL BENT NO. 1-2
 (FACE 'A' - GIRTS FS & SPLICES NS)
 (FACE 'D' - GIRTS NS & SPLICES FS)



GENERAL NOTES

- ALL BENTS ARE VIEWED FROM FACE A.
- SEE BENT KEY PLAN DRAWING FOR BENT LOCATIONS
- INSTALL ELIMINATORS AT THIS LEVEL
- SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS

DRAWN BY: J. TRAHAN
 CHECKED BY: JRT
 DATE: 3/31/2009
 APPROVED BY: JHA
 ORDER NUMBER: 7-320814
 SCALE: 1 = 96
 DRAWING NUMBER: 09-20398
 REV: 09-20398
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EvapTech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 372-5165
 Fax: (913) 372-5166

LONGITUDINAL SIDEWALL BENT NO 1-2
 MODEL EC848-554M TOWER

75

Item Number A015695

Drawing No 09-20398

Description INSTALL LONG SW BT 1-2 EC848-554M

Text S304

Find No	Item Number	Description	Qty	Drawing Number
0	A010103	PLN-AS JOINT DETAIL NO 171 S304	9.00	07-10421
0	A006430	PLN-AS JOINT DETAIL NO 116 S304	4.00	07-10366
0	A003994	PLN-AS JOINT DETAIL NO 74	18.00	07-10324
0	A003993	PLN-AS JOINT DETAIL NO 73 S304	6.00	07-10323A
0	A003992	PLN-AS JOINT DETAIL NO 72 S304	30.00	07-10322
0	A003155	PLN-AS JOINT DETAIL NO 51 S304	54.00	07-10301
0	A001820	PLN-AS JOINT DETAIL NO 24 S304	40.00	07-10274
0	A001816	PLN-AS JOINT DETAIL NO 20 S304	31.00	07-10270
0	A001807	PLN-AS JOINT DETAIL NO 11 S304	50.00	07-10261
1	A003334	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	18.00	05-20118A-7
2	A010088	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	3.00	08-20278C-1
3	A010108	PULTR CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8 FR	4.00	06-20269C-10
4	A015455	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	8.00	08-20342D-9
5	A015463	PULTR CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8 FR	2.00	08-10093B-3
6	A004469	PULTR TUBE 2 X 2 X 1/4 X 29'-11 3/4 FR	4.00	06-20486D-8

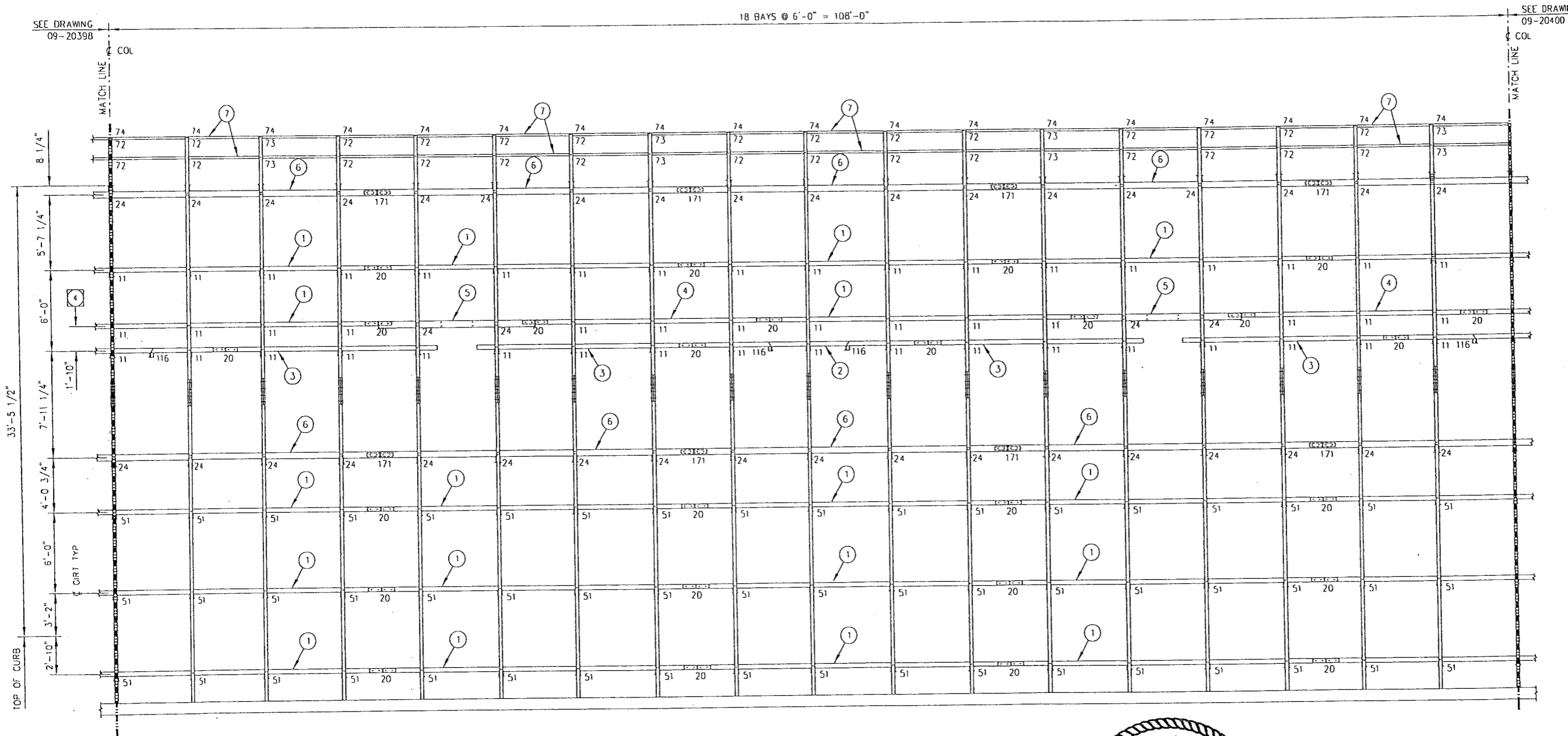
Construction Certified for



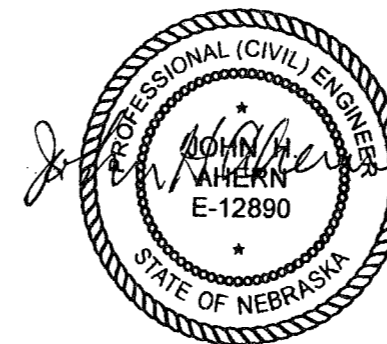
Certified for Construction

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10261	JOINT DETAIL NO. 11	50
0	07-10270	JOINT DETAIL NO. 20	26
0	07-10274	JOINT DETAIL NO. 24	40
0	07-10301	JOINT DETAIL NO. 51	54
0	07-10322	JOINT DETAIL NO. 72	28
0	07-10323	JOINT DETAIL NO. 73	8
0	07-10324	JOINT DETAIL NO. 74	18
0	07-10366	JOINT DETAIL NO. 116	4
0	07-10421	JOINT DETAIL NO. 171	8

FIND NO	DRAWING NO	DESCRIPTION	QTY
1	05-20118-7	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	18
2	08-20278-1	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4	1
3	06-20269-10	CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8	4
4	03-20278-5	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4	2
5	08-10093-3	CHAN 5 X 1 5/8 X 1/4 X 11'-11 7/8	2
5	08-20342-9	CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4	8
7	05-20486-8	TUBE 2 X 2 X 1/4 X 29'-11 3/4	8



LONGITUDINAL BENT NO. 1-3
 (FACE 'A' - GIRTS FS & SPLICES NS)
 (FACE 'D' - GIRTS NS & SPLICES FS)



GENERAL NOTES

- ALL BENTS ARE VIEWED FROM FACE A.
- SEE BENT KEY PLAN DRAWING FOR BENT LOCATIONS.
- INSTALL ALL DIAGONALS WITH ARROW MARK POINTING UP
- INSTALL ELIMINATORS AT THIS LEVEL
- FIELD CUT BOTTOM DIAGONALS AS READ TO FIT BASIN FLOOR.
- SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS.

DRAWN BY: J. TRAHAN
 CHECKED BY: JRT
 REVISED BY: JHA
 DATE: 3/18/2009
 ORDER NUMBER: 7-320814
 SCALE: 1 = 96
 DRAWING NUMBER: 09-20399
 REV. DATE: 09-20399
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LONGITUDINAL SIDEWALL BENT NO 1-3
 MODEL ECB48-554M TOWER

EvapTech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5165

210

Item Number A015465

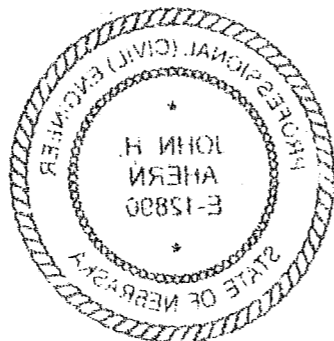
Drawing No 09-20399

Description INSTALL LONG SW BT 1-3 EC848-554M

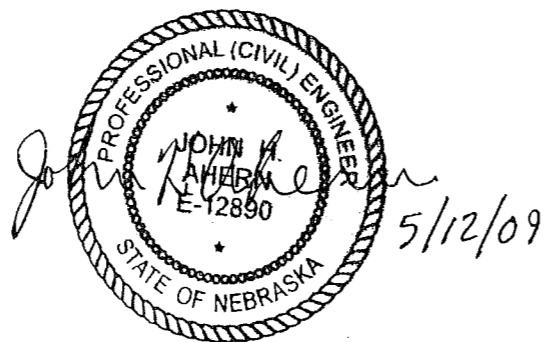
Text S304

Find No	Item Number	Description	Qty	Drawing Number
0	A003994	PLN-AS JOINT DETAIL NO 74	18.00	07-10324
0	A001816	PLN-AS JOINT DETAIL NO 20 S304	26.00	07-10270
0	A001820	PLN-AS JOINT DETAIL NO 24 S304	40.00	07-10274
0	A003155	PLN-AS JOINT DETAIL NO 51 S304	54.00	07-10301
0	A003992	PLN-AS JOINT DETAIL NO 72 S304	28.00	07-10322
0	A001807	PLN-AS JOINT DETAIL NO 11 S304	50.00	07-10261
0	A003993	PLN-AS JOINT DETAIL NO 73 S304	8.00	07-10323A
0	A006430	PLN-AS JOINT DETAIL NO 116 S304	4.00	07-10366
0	A010103	PLN-AS JOINT DETAIL NO 171 S304	8.00	07-10421
1	A003334	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	19.00	05-20118A-7
2	A010088	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	1.00	08-20278C-1
3	A010108	PULTR CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8 FR	4.00	06-20269C-10
4	A011662	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	2.00	08-20278B-5
5	A015463	PULTR CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8 FR	2.00	08-10093B-3
6	A015455	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	8.00	08-20342D-9
7	A004469	PULTR TUBE 2 X 2 X 1/4 X 29'-11 3/4 FR	8.00	06-20486D-8

Construction Certified for



Certified for Construction



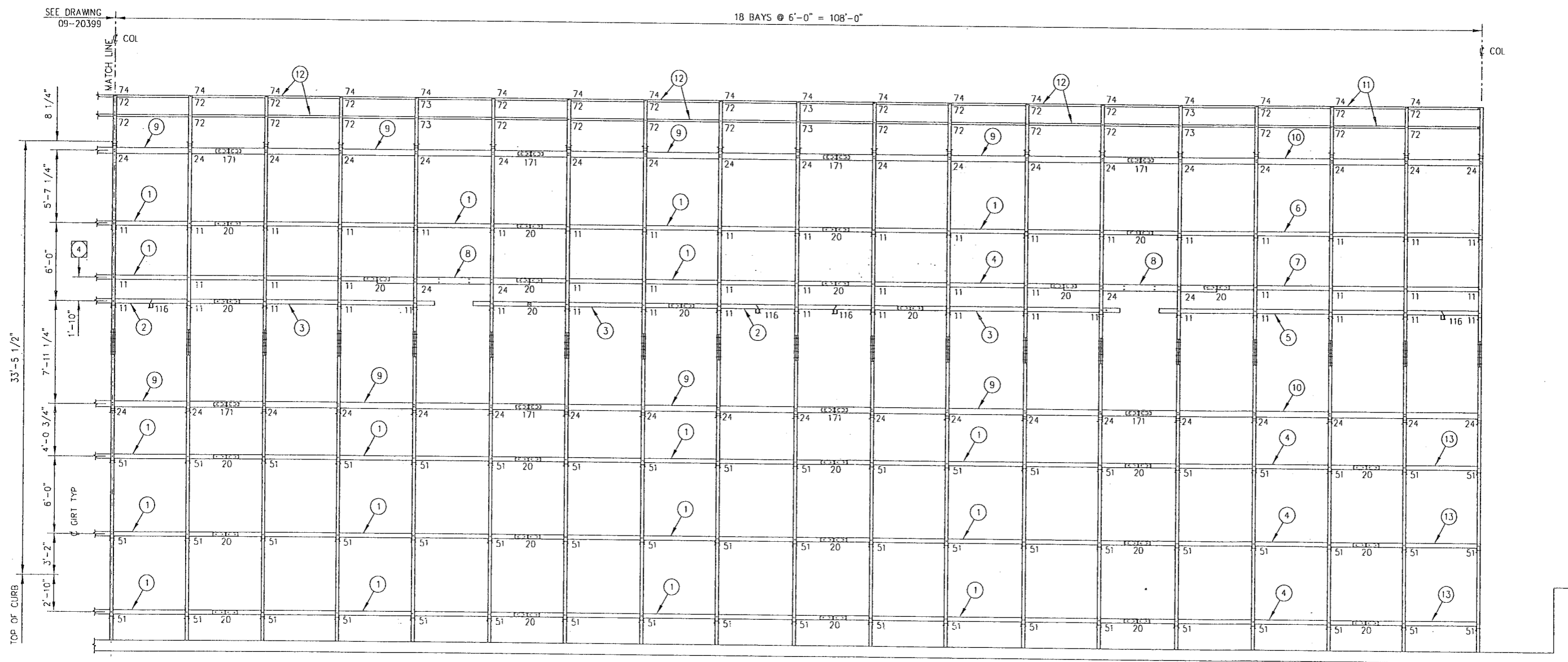
FIND NO	DRAWING NO	DESCRIPTION	QTY
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0	07-10270	JOINT DETAIL NO. 20	28
0	07-10274	JOINT DETAIL NO. 24	42
0	07-10301	JOINT DETAIL NO. 51	58
0	07-10322	JOINT DETAIL NO. 72	30
0	07-10323	JOINT DETAIL NO. 73	6
0	07-10324	JOINT DETAIL NO. 74	18
0	07-10366	JOINT DETAIL NO. 116	4
0	07-10421	JOINT DETAIL NO. 171	8

FIND NO	DRAWING NO	DESCRIPTION	QTY
1	05-20118-7	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	17
2	08-20278-1	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4	2
3	06-20269-10	CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8	3
4	08-20278-5	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4	4
5	06-20269-8	CHAN 4 X 1 1/8 X 1/4 X 25'-7 1/2	1
6	05-20699-7	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	1
7	07-20820-8	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	1
8	08-10093-3	CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8	2
9	08-20342-9	CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4	8
10	08-20343-6	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	2
11	06-20486-4	TUBE 2 X 2 X 1/4 X 23'-8 1/8	2
12	06-20486-8	TUBE 2 X 2 X 1/4 X 29'-11 3/4	6
13	07-21147-2	CHAN 4 X 1 1/8 X 1/4 X 9'-1 3/8	3

REV. DATE:	5/12/2009	REV. CHECKED BY:	JRT
SCALE:	1" = 96"	DRAWING NUMBER:	7-320814
ORDER NUMBER:	7-320814	APPROVED BY:	JHA
DATE:	3/18/2009	DRAWN BY:	J. TRAHAN

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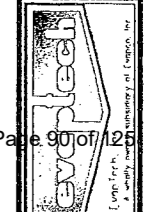
LONGITUDINAL BENT NO. 1-4
 (FACE 'A' - GIRTS FS & SPLICES NS)
 (FACE 'C' - GIRTS NS & SPLICES FS)

GENERAL NOTES

- ALL BENTS ARE VIEWED FROM FACE A
- SEE BENT KEY PLAN DRAWING FOR BENT LOCATIONS
- INSTALL ALL DIAGONALS WITH ARROW MARK POINTING UP
- INSTALL ELIMINATORS AT THIS LEVEL
- FIELD CUR BOTTOM DIAGONALS AS FLD TO 1.0 BASIS FLOOR
- SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS

LONGITUDINAL SIDEWALL BENT NO 1-4
 MODEL EC848-554M TOWER

EvapTech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166



Bill of Material

Item Number - A015467

Drawing No 09-20400A

Description INSTALL LONG SW BT 1-4 EC848-554M

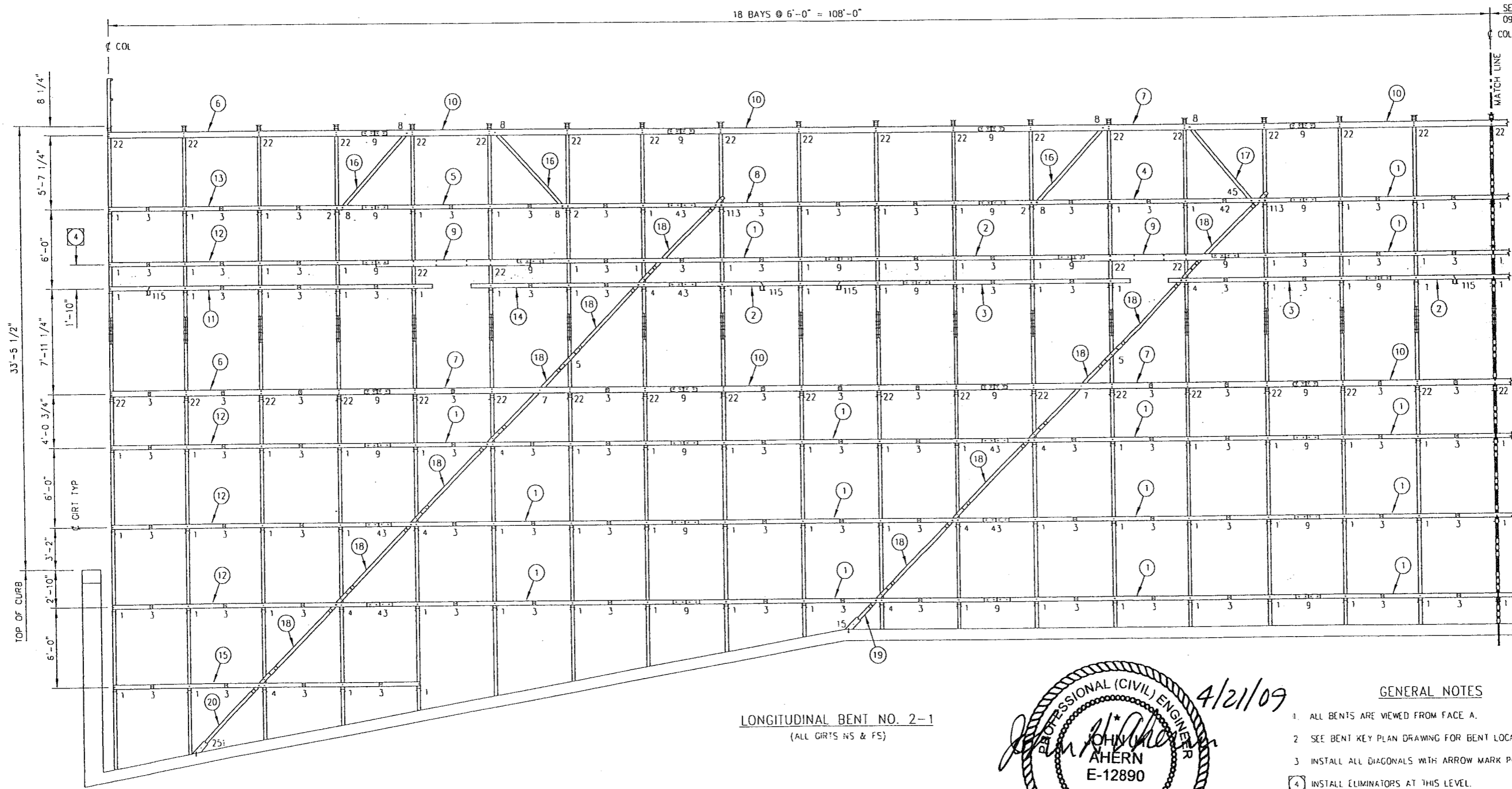
Text S304

<u>Find No</u>	<u>Item Number</u>	<u>Description</u>	<u>Qty</u>	<u>Drawing Number</u>
0	A010103	PLN-AS JOINT DETAIL NO 171 S304	8.00	07-10421
0	A003992	PLN-AS JOINT DETAIL NO 72 S304	30.00	07-10322
0	A003993	PLN-AS JOINT DETAIL NO 73 S304	6.00	07-10323A
0	A003994	PLN-AS JOINT DETAIL NO 74	18.00	07-10324
0	A001820	PLN-AS JOINT DETAIL NO 24 S304	42.00	07-10274
0	A001807	PLN-AS JOINT DETAIL NO 11 S304	53.00	07-10261
0	A001816	PLN-AS JOINT DETAIL NO 20 S304	28.00	07-10270
0	A006430	PLN-AS JOINT DETAIL NO 116 S304	4.00	07-10366
0	A003155	PLN-AS JOINT DETAIL NO 51 S304	58.00	07-10301
1	A003334	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	17.00	05-20118A-7
2	A010088	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	2.00	08-20278B-1
3	A010108	PULTR CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8 FR	3.00	06-20269C-10
4	A011662	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	4.00	08-20278C-5
5	A010106	PULTR CHAN 4 X 1 1/8 X 1/4 X 25'-7 1/2 FR	1.00	06-20269C-8
6	A015284	PULTR CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8 FR	1.00	05-20699C-7
7	A015276	PULTR CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8 FR	1.00	07-20820E-8
8	A015463	PULTR CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8 FR	2.00	08-10093B-3
9	A015455	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	8.00	08-20342D-9
10	A015468	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8 FR	2.00	08-20343D-6
11	A006453	PULTR TUBE 2 X 2 X 1/4 X 23'-8 1/8 FR	2.00	06-20486D-4
12	A004469	PULTR TUBE 2 X 2 X 1/4 X 29'-11 3/4 FR	6.00	06-20486D-8
13	A008328 *	PULTR CHAN 4 X 1 1/8 X 1/4 X 9'-1 3/8 FR	3.00	07-21147-2

Certified for Construction

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	101
0	07-10252	JOINT DETAIL NO 2	3
0	07-10253	JOINT DETAIL NO 3	91
0	07-10254	JOINT DETAIL NO 4	9
0	07-10255	JOINT DETAIL NO 5	2
0	07-10257	JOINT DETAIL NO 7	2
0	07-10258	JOINT DETAIL NO 8	7
0	07-10259	JOINT DETAIL NO 9	26
0	07-10265	JOINT DETAIL NO 15	1
0	07-10272	JOINT DETAIL NO 22	42
0	07-10292	JOINT DETAIL NO 42	1
0	07-10293	JOINT DETAIL NO 43	6
0	07-10295	JOINT DETAIL NO 45	1
0	07-10363	JOINT DETAIL NO 113	2
0	07-10365	JOINT DETAIL NO 115	4
0	07-10701	JOINT DETAIL NO 251	1

FIND NO	DRAWING NO	DESCRIPTION	QTY
1	05-20118-7	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	30
2	08-20278-1	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4	6
3	06-20269-10	CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8	4
4	09-20392-4	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	2
5	09-20392-5	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	2
6	08-20341-14	CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8	4
7	09-20420-1	CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4	6
8	09-20392-3	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	2
9	08-10093-3	CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8	4
10	08-20342-9	CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4	10
11	06-20269-8	CHAN 4 X 1 1/8 X 1/4 X 25'-7 1/2	2
12	05-20699-2	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	8
13	09-20490-3	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	2
14	09-20490-1	CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8	2
15	09-20490-2	CHAN 4 X 1 1/8 X 1/4 X 24'-3	2
16	05-20696-28	TUBE 3 X 3 X 1/4 X 8'-0 5/16	3
17	09-20396-2	TUBE 3 X 3 X 1/4 X 7'-8 1/16	1
18	09-20396-1	TUBE 3 X 3 X 1/4 X 8'-2 13/16	11
19	07-20482-3	TUBE 3 X 3 X 1/4 X 3'-6	1
20	07-20482-12	TUBE 3 X 3 X 1/4 X 8'-0	1



LONGITUDINAL BENT NO. 2-1
(ALL GIRTS IN S & FS)



GENERAL NOTES

1. ALL BENTS ARE VIEWED FROM FACE A.
2. SEE BENT KEY PLAN DRAWING FOR BENT LOCATIONS.
3. INSTALL ALL DIAGONALS WITH ARROW MARK POINTING UP.
4. INSTALL ELIMINATORS AT THIS LEVEL.
5. FIELD CUT BOTTOM DIAGONALS AS REOD TO FIT BASIN FLOOR.
6. SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS.

DRAWN BY: J. TRAHAN
 CHECKED BY: JRT
 DATE: 3/25/2009
 APPROVED BY: JHA
 ORDER NUMBER: 7-320814
 SCALE: 1" = 96'
 DRAWING NUMBER: 09-20401
 REV. DATE: REV. CHECKED:

LONGITUDINAL BRACED BENT NO 2-1
 MODEL EC848-554M TOWER

EvapTech, Inc.
 8331 N. Main Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166

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28

Item Number A015696

Drawing No 09-20401

Description INSTALL LONG BRCD BT 2-1 EC848-554M

Text QUANTITY PER BENT: S304

Find No	Item Number	Description	Qty	Drawing Number
0	A003082	PLN-AS JOINT DETAIL NO 42 S304	3.00	07-10292
0	A001803	PLN-AS JOINT DETAIL NO 7 S304	2.00	07-10257
0	A001797	PLN-AS JOINT DETAIL NO 1 S304	101.00	07-10251
0	A006428	PLN-AS JOINT DETAIL NO 115 S304	4.00	07-10365
0	A001800	PLN-AS JOINT DETAIL NO 4 S304	9.00	07-10254A
0	A006260	PLN-AS JOINT DETAIL NO 113 S304	2.00	07-10363A
0	A001801	PLN-AS JOINT DETAIL NO 5 S304	2.00	07-10255
0	A003083	PLN-AS JOINT DETAIL NO 43 S304	6.00	07-10293A
0	A001799	PLN-AS JOINT DETAIL NO 3 S304	91.00	07-10253
0	A001818	PLN-AS JOINT DETAIL NO 22 S304	42.00	07-10272
0	A001798	PLN-AS JOINT DETAIL NO 2 S304	3.00	07-10252
0	A015658	PLN-AS JOINT DETAIL NO 251 S304	1.00	07-10701
0	A001811	PLN-AS JOINT DETAIL NO 15 S304	1.00	07-10265
0	A001805	PLN-AS JOINT DETAIL NO 9 S304	26.00	07-10259
0	A001804	PLN-AS JOINT DETAIL NO 8 S304	7.00	07-10258
0	A003085	PLN-AS JOINT DETAIL NO 45 S304	3.00	07-10295B
1	A003334	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	30.00	05-20118A-7
2	A010088	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	6.00	08-20278C-1
3	A010108	PULTR CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8 FR	4.00	06-20269C-10
4	A015459	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392-4
5	A015460	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392-5
6	A015693	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 21'-1 3/8 FR	4.00	08-20341J-14
7	A015461	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	6.00	09-20420A-1
8	A015458	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392-3
9	A015463	PULTR CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8 FR	4.00	08-10093B-3
10	A015455	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	10.00	08-20342D-9
11	A010106	PULTR CHAN 4 X 1 1/8 X 1/4 X 25'-7 1/2 FR	2.00	06-20269C-8
12	A003163	PULTR CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8 FR	8.00	05-20699B-2
13	A015697	PULTR CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8 FR	2.00	09-20490-3
14	A015689	PULTR CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8 FR	2.00	09-20490-1
15	A015690	PULTR CHAN 4 X 1 1/8 X 1/4 X 24'-3 FR	2.00	09-20490-2
16	A010078	PULTR TUBE 3 X 3 X 1/4 X 8'-0 5/16 FR	3.00	05-20696K-28
17	A015502	PULTR TUBE 3 X 3 X 1/4 X 7'-8 1/16 FR	1.00	09-20396A-2
18	A015462	PULTR TUBE 3 X 3 X 1/4 X 8'-2 13/16 FR	11.00	09-20396A-1
19	A006518	PULTR TUBE 3 X 3 X 1/4 X 3'-6 FR	1.00	07-20482-3
20	A010678	PULTR TUBE 3 X 3 X 1/4 X 8'-0 FR	1.00	07-20482A-12

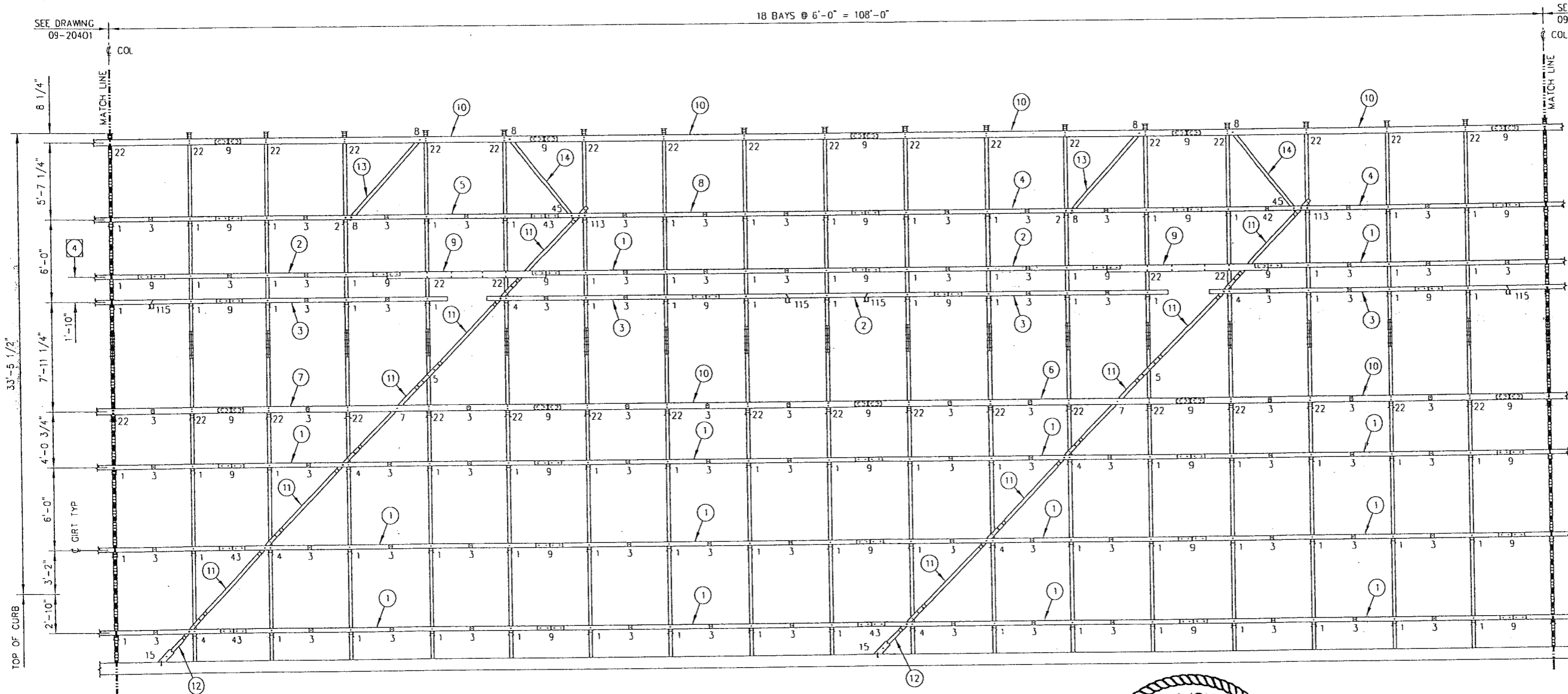
Certified for Construction



Certified for Construction

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	92
0	07-10252	JOINT DETAIL NO 2	2
0	07-10253	JOINT DETAIL NO 3	80
0	07-10254	JOINT DETAIL NO 4	8
0	07-10255	JOINT DETAIL NO 5	2
0	07-10257	JOINT DETAIL NO 7	2
0	07-10258	JOINT DETAIL NO 8	6
0	07-10259	JOINT DETAIL NO 9	36
0	07-10265	JOINT DETAIL NO 15	2
0	07-10272	JOINT DETAIL NO 22	40
0	07-10292	JOINT DETAIL NO 42	1
0	07-10293	JOINT DETAIL NO 43	4
0	07-10295	JOINT DETAIL NO 45	2
0	07-10363	JOINT DETAIL NO 113	2
0	07-10365	JOINT DETAIL NO 115	4

FIND NO	DRAWING NO	DESCRIPTION	QTY
1	05-20118-7	CHAN 4 x 1 1/8 x 1/4 x 23'-11 3/4"	28
2	08-20278-1	CHAN 4 x 1 1/8 x 1/4 x 17'-11 3/4"	6
3	06-20269-10	CHAN 4 x 1 1/8 x 1/4 x 16'-5 7/8"	8
4	09-20392-6	CHAN 4 x 1 1/8 x 1/4 x 23'-11 3/4"	4
5	09-20392-5	CHAN 4 x 1 1/8 x 1/4 x 23'-11 3/4"	2
6	09-20420-2	CHAN 5 1/2 x 1 1/2 x 1/4 x 23'-11 3/4"	2
7	09-20420-1	CHAN 5 1/2 x 1 1/2 x 1/4 x 23'-11 3/4"	2
8	09-20392-3	CHAN 4 x 1 1/8 x 1/4 x 23'-11 3/4"	2
9	08-10093-3	CHAN 6 x 1 5/8 x 1/4 x 11'-11 7/8"	4
10	08-20342-9	CHAN 5 1/2 x 1 1/2 x 1/4 x 23'-11 3/4"	12
11	09-20396-1	TUBE 3 x 3 x 1/4 x 8'-2 13/16"	10
12	07-20482-3	TUBE 3 x 3 x 1/4 x 3'-6"	2
13	05-20696-28	TUBE 3 x 3 x 1/4 x 8'-0 5/16"	2
14	09-20396-2	TUBE 3 x 3 x 1/4 x 7'-8 1/16"	2



LONGITUDINAL BENT NO. 2-2
(ALL GIRTS NS & FS)

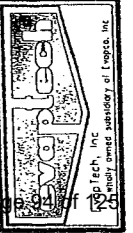


4/21/09

GENERAL NOTES

1. ALL BENTS ARE VIEWED FROM FACE A.
2. SEE BENT KEY PLAN DRAWING FOR BENT LOCATIONS.
3. INSTALL ALL DIAGONALS WITH ARROW MARK POINTING UP.
4. INSTALL ELIMINATORS AT THIS LEVEL.
5. FIELD CUT BOTTOM DIAGONALS AS REQD TO FIT BASIN FLOOR.
6. SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS.

DRAWN BY: J. TRAHAN
 CHECKED BY: JRT
 DATE: 3/18/2009
 APPROVED BY: JHA
 ORDER NUMBER: 7-320814
 SCALE: 1" = 96'
 REV: 09-20402
 LONGITUDINAL BRACED BENT NO 2-2
 MODEL EC848-554M TOWER
 EvapTech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166



79

Item Number A015698

Drawing No 09-20402

Description INSTALL LONG BRCD BT 2-2 EC848-554M

Text QUANTITY PER BENT, S304

Find No	Item Number	Description	Qty	Drawing Number
0	A006428	PLN-AS JOINT DETAIL NO 115 S304	4.00	07-10365
0	A001798	PLN-AS JOINT DETAIL NO 2 S304	2.00	07-10252
0	A001799	PLN-AS JOINT DETAIL NO 3 S304	80.00	07-10253
0	A001800	PLN-AS JOINT DETAIL NO 4 S304	8.00	07-10254A
0	A001801	PLN-AS JOINT DETAIL NO 5 S304	2.00	07-10255
0	A001803	PLN-AS JOINT DETAIL NO 7 S304	2.00	07-10257
0	A001804	PLN-AS JOINT DETAIL NO 8 S304	6.00	07-10258
0	A001805	PLN-AS JOINT DETAIL NO 9 S304	36.00	07-10259
0	A001811	PLN-AS JOINT DETAIL NO 15 S304	2.00	07-10265
0	A001818	PLN-AS JOINT DETAIL NO 22 S304	40.00	07-10272
0	A003082	PLN-AS JOINT DETAIL NO 42 S304	1.00	07-10292
0	A003083	PLN-AS JOINT DETAIL NO 43 S304	4.00	07-10293A
0	A003085	PLN-AS JOINT DETAIL NO 45 S304	2.00	07-10295B
0	A001797	PLN-AS JOINT DETAIL NO 1 S304	92.00	07-10251
0	A006260	PLN-AS JOINT DETAIL NO 113 S304	2.00	07-10363A
1	A003334	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	28.00	05-20118A-7
2	A010088	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	6.00	08-20278C-1
3	A010108	PULTR CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8 FR	8.00	06-20269C-10
4	A015692	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	4.00	09-20392A-6
5	A015460	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392-5
6	A015687	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	2.00	09-20420A-2
7	A015461	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	2.00	09-20420A-1
8	A015458	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392-3
9	A015463	PULTR CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8 FR	4.00	08-10093B-3
10	A015455	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	12.00	08-20342D-9
11	A015462	PULTR TUBE 3 X 3 X 1/4 X 8'-2 13/16 FR	10.00	09-20396A-1
12	A006518	PULTR TUBE 3 X 3 X 1/4 X 3'-6 FR	2.00	07-20482-3
13	A010078	PULTR TUBE 3 X 3 X 1/4 X 8'-0 5/16 FR	2.00	05-20696K-2B
14	A015502	PULTR TUBE 3 X 3 X 1/4 X 7'-8 1/16 FR	2.00	09-20396A-2

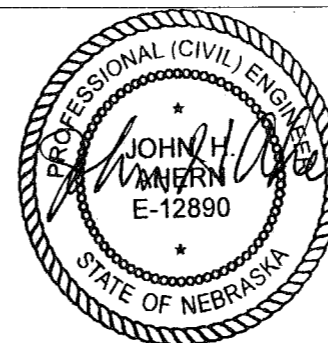
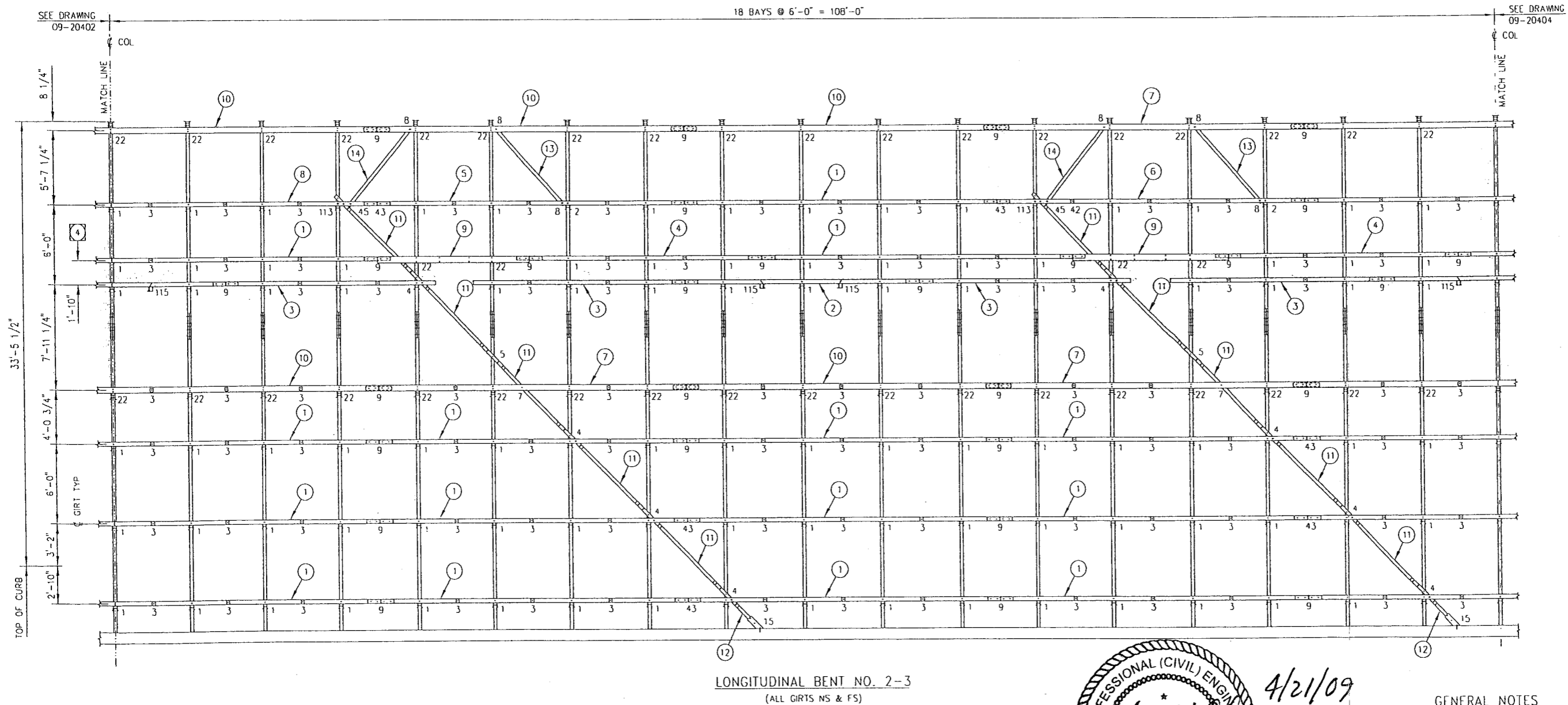
not certified
noitcurtanoJ



Certified for Construction

FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO 1	92
0	07-10252	JOINT DETAIL NO 2	2
0	07-10253	JOINT DETAIL NO 3	85
0	07-10254	JOINT DETAIL NO 4	8
0	07-10255	JOINT DETAIL NO 5	2
0	07-10257	JOINT DETAIL NO 7	2
0	07-10258	JOINT DETAIL NO 8	6
0	07-10259	JOINT DETAIL NO 9	28
0	07-10265	JOINT DETAIL NO 15	2
0	07-10272	JOINT DETAIL NO 22	40
0	07-10292	JOINT DETAIL NO 42	1
0	07-10293	JOINT DETAIL NO 43	6
0	07-10295	JOINT DETAIL NO 45	2
0	07-10363	JOINT DETAIL NO 113	2
0	07-10365	JOINT DETAIL NO 115	4

FIND NO	DRAWING NO	DESCRIPTION	QTY
1	05-20118-7	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4"	30
2	08-20278-1	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4"	2
3	06-20269-10	CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8"	8
4	08-20278-5	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4"	4
5	09-20392-5	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4"	2
5	09-20392-4	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4"	2
7	09-20420-1	CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4"	6
8	09-20392-3	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4"	2
9	08-10093-3	CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8"	4
10	08-20342-9	CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4"	10
11	09-20396-1	TUBE 3 X 3 X 1/4 X 8'-2 13/16"	10
12	07-20482-3	TUBE 3 X 3 X 1/4 X 3'-6"	2
13	05-20696-28	TUBE 3 X 3 X 1/4 X 8'-0 5/16"	2
14	09-20396-2	TUBE 3 X 3 X 1/4 X 7'-8 1/16"	2



4/21/09

GENERAL NOTES

- ALL BENTS ARE VIEWED FROM FACE A.
- SEE BENT KEY PLAN DRAWING FOR BENT LOCATIONS
- INSTALL ALL DIAGONALS WITH ARROW MARK POINTING UP
- INSTALL ELIMINATORS AT THIS LEVEL
- FIELD CUT BOTTOM DIAGONALS AS REQD TO FIT BASIN FLOOR.
- SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS.

EvapTech, Inc.
 8331 Niemon Road
 Lenexa, KS 66214
 PH: (913) 322-5165
 FAX: (913) 322-5166

DRAWN BY: J. TRAHAN
 DATE: 3/18/2009
 CHECKED BY: JRT
 APPROVED BY: JHA
 ORDER NUMBER: 7-320814
 SCALE: 1" = 96'
 DRAWING NUMBER: 09-20403
 REV: A
 REV DATE: 03/24/2009
 REV CHECKED BY: JRT

LONGITUDINAL BRACED BENT NO 2-3
 MODEL EC848-554M TOWER

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Item Number A015469

Drawing No 09-20403A

Description INSTALL LONG BRCD BT 2-3 EC848-554M

Text QUANTITY PER BENT, S304

Find No	Item Number	Description	Qty	Drawing Number
0	A006428	PLN-AS JOINT DETAIL NO 115 S304	4.00	07-10365
0	A001798	PLN-AS JOINT DETAIL NO 2 S304	2.00	07-10252
0	A001799	PLN-AS JOINT DETAIL NO 3 S304	85.00	07-10253
0	A001800	PLN-AS JOINT DETAIL NO 4 S304	8.00	07-10254A
0	A001801	PLN-AS JOINT DETAIL NO 5 S304	2.00	07-10255
0	A001803	PLN-AS JOINT DETAIL NO 7 S304	2.00	07-10257
0	A001804	PLN-AS JOINT DETAIL NO 8 S304	6.00	07-10258
0	A001805	PLN-AS JOINT DETAIL NO 9 S304	28.00	07-10259
0	A001811	PLN-AS JOINT DETAIL NO 15 S304	2.00	07-10265
0	A001818	PLN-AS JOINT DETAIL NO 22 S304	40.00	07-10272
0	A003082	PLN-AS JOINT DETAIL NO 42 S304	1.00	07-10292
0	A003083	PLN-AS JOINT DETAIL NO 43 S304	6.00	07-10293A
0	A003085	PLN-AS JOINT DETAIL NO 45 S304	2.00	07-10295B
0	A001797	PLN-AS JOINT DETAIL NO 1 S304	92.00	07-10251
0	A006260	PLN-AS JOINT DETAIL NO 113 S304	2.00	07-10363A
1	A003334	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	30.00	05-20118A-7
2	A010088	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	2.00	08-20278C-1
3	A010108	PULTR CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8 FR	8.00	06-20269C-10
4	A011662	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	4.00	08-20278B-5
5	A015460	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392-5
6	A015459	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392-4
7	A015461	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	6.00	09-20420A-1
8	A015458	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392-3
9	A015463	PULTR CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8 FR	4.00	08-10093B-3
10	A015455	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	10.00	08-20342D-9
11	A015462	PULTR TUBE 3 X 3 X 1/4 X 8'-2 13/16 FR	10.00	09-20396A-1
12	A006518	PULTR TUBE 3 X 3 X 1/4 X 3'-6 FR	2.00	07-20482-3
13	A010078	PULTR TUBE 3 X 3 X 1/4 X 8'-0 5/16 FR	2.00	05-20696K-28
14	A015502	PULTR TUBE 3 X 3 X 1/4 X 7'-8 1/16 FR	2.00	09-20396A-2

Construction
Certified for

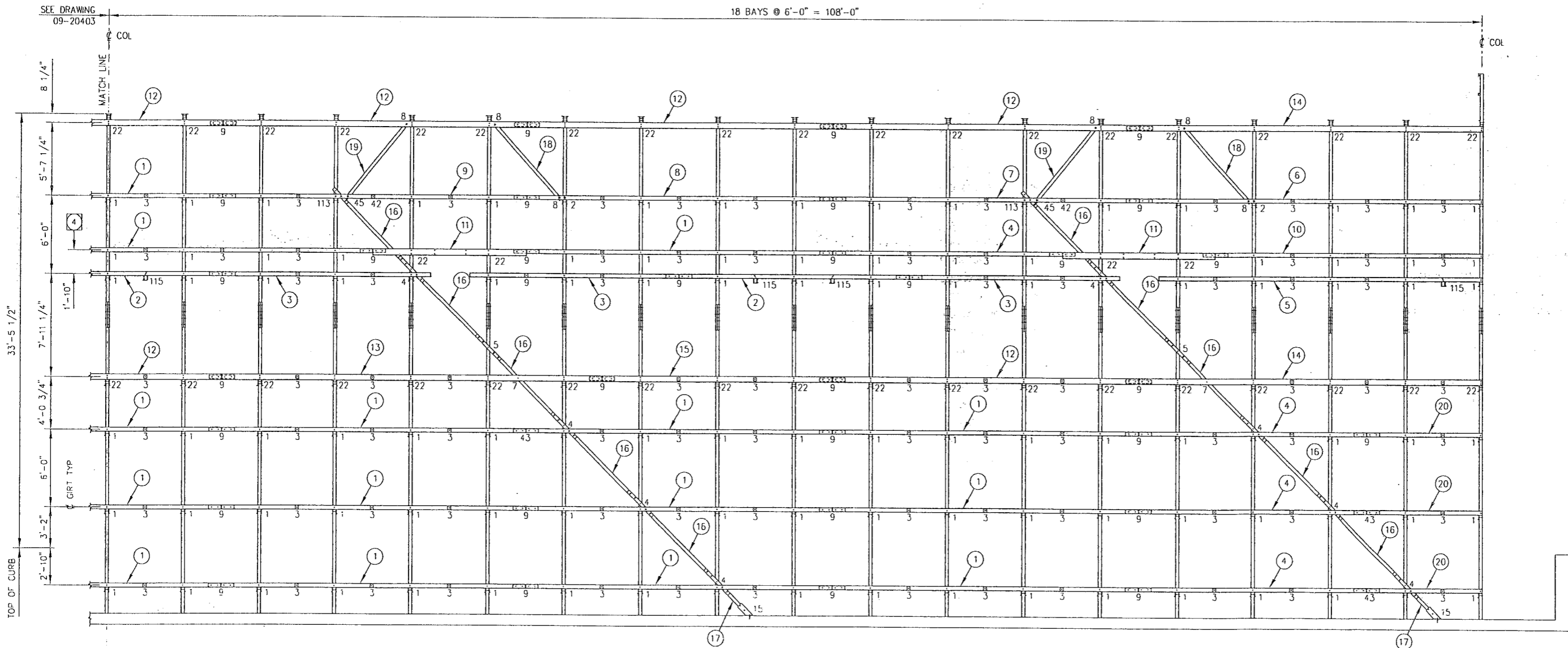


Certified for Construction



FIND NO	DRAWING NO	DESCRIPTION	QTY
0	07-10251	JOINT DETAIL NO. 1	99
0	07-10252	JOINT DETAIL NO. 2	2
0	07-10253	JOINT DETAIL NO. 3	84
0	07-10254	JOINT DETAIL NO. 4	8
0	07-10255	JOINT DETAIL NO. 5	2
0	07-10257	JOINT DETAIL NO. 7	2
0	07-10258	JOINT DETAIL NO. 8	6
0	07-10259	JOINT DETAIL NO. 9	33
0	07-10265	JOINT DETAIL NO. 15	2
0	07-10272	JOINT DETAIL NO. 22	42
0	07-10292	JOINT DETAIL NO. 42	2
0	07-10293	JOINT DETAIL NO. 43	3
0	07-10295	JOINT DETAIL NO. 45	2
0	07-10363	JOINT DETAIL NO. 113	2
0	07-10365	JOINT DETAIL NO. 115	4

FIND NO	DRAWING NO	DESCRIPTION	QTY
1	05-20118-7	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	28
2	08-20278-1	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4	4
3	06-20269-10	CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8	6
4	08-20278-5	CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4	8
5	06-20269-8	CHAN 4 X 1 1/8 X 1/4 X 25'-7 1/2	2
6	05-20699-7	CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8	2
7	09-20392-1	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	2
8	09-20392-3	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	2
9	09-20392-2	CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4	2
10	07-20820-8	CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8	2
11	08-10093-3	CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8	4
12	08-20342-9	CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4	12
13	08-20660-7	CHAN 5 1/2 X 1 1/2 X 1/4 X 29'-11 3/4	2
14	08-20343-6	CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8	4
15	08-20946-1	CHAN 5 1/2 X 1 1/2 X 1/4 X 17'-11 3/4	2
16	09-20396-1	TUBE 3 X 3 X 1/4 X 8'-2 13/16	10
17	07-20482-3	TUBE 3 X 3 X 1/4 X 3'-6	2
18	05-20696-28	TUBE 3 X 3 X 1/4 X 8'-0 5/16	2
19	09-20396-2	TUBE 3 X 3 X 1/4 X 7'-8 1/16	2
20	07-21147-2	CHAN 4 X 1 1/8 X 1/4 X 9'-1 3/8	6



LONGITUDINAL BENT NO. 2-4
(ALL GIRTS NS & FS)

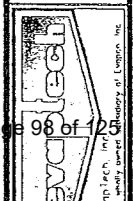
GENERAL NOTES

- ALL BENTS ARE VIEWED FROM FACE A.
- SEE BENT KEY PLAN DRAWING FOR BENT LOCATIONS.
- INSTALL ALL DIAGONALS WITH ARROW MARK POINTING UP.
- INSTALL ELIMINATORS AT THIS LEVEL.
- FIELD CUT BOTTOM DIAGONALS AS REQ'D TO FIT BASIN FLOOR.
- SEE JOINT DETAIL DRAWINGS FOR NUMBERED DETAILS.

REV DATE:	REV CHECKED:	REV DATE:	REV CHECKED:
05/12/2009	JRT	05/12/2009	JRT
SCALE:	DRAWING NUMBER:	SCALE:	DRAWING NUMBER:
1 = 96	09-20404	1 = 96	09-20404
ORDER NUMBER:	APPROVED BY:	ORDER NUMBER:	APPROVED BY:
7-320814	JHA	7-320814	JHA
DATE:	DRAWN BY:	DATE:	DRAWN BY:
3/18/2009	J. TRAHAN	3/18/2009	J. TRAHAN

LONGITUDINAL BRACED BENT NO 2-4
MODEL EC848-554M TOWER

EvapTech, Inc.
8331 Nieman Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166



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Bill of Material

Item Number A015470

Drawing No 09-20404B

Description INSTALL LONG BRCD BT 2-4 EC848-554M

Text QUANTITY PER BENT; S304

<u>Find No</u>	<u>Item Number</u>	<u>Description</u>	<u>Qty</u>	<u>Drawing Number</u>
0	A001798	PLN-AS JOINT DETAIL NO 2 S304	2.00	07-10252
0	A001801	PLN-AS JOINT DETAIL NO 5 S304	2.00	07-10255
0	A001803	PLN-AS JOINT DETAIL NO 7 S304	2.00	07-10257
0	A001804	PLN-AS JOINT DETAIL NO 8 S304	6.00	07-10258
0	A001805	PLN-AS JOINT DETAIL NO 9 S304	33.00	07-10259
0	A001811	PLN-AS JOINT DETAIL NO 15 S304	2.00	07-10265
0	A001818	PLN-AS JOINT DETAIL NO 22 S304	42.00	07-10272
0	A003082	PLN-AS JOINT DETAIL NO 42 S304	2.00	07-10292
0	A003083	PLN-AS JOINT DETAIL NO 43 S304	3.00	07-10293A
0	A003085	PLN-AS JOINT DETAIL NO 45 S304	2.00	07-10295B
0	A006260	PLN-AS JOINT DETAIL NO 113 S304	2.00	07-10363A
0	A006428	PLN-AS JOINT DETAIL NO 115 S304	4.00	07-10365
0	A001797	PLN-AS JOINT DETAIL NO 1 S304	99.00	07-10251
0	A001800	PLN-AS JOINT DETAIL NO 4 S304	8.00	07-10254A
0	A001799	PLN-AS JOINT DETAIL NO 3 S304	84.00	07-10253
1	A003334	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	28.00	05-20118A-7
2	A010088	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	4.00	08-20278B-1
3	A010108	PULTR CHAN 4 X 1 1/8 X 1/4 X 16'-5 7/8 FR	6.00	06-20269C-10
4	A011662	PULTR CHAN 4 X 1 1/8 X 1/4 X 17'-11 3/4 FR	8.00	08-20278C-5
5	A010106	PULTR CHAN 4 X 1 1/8 X 1/4 X 25'-7 1/2 FR	2.00	06-20269C-8
6	A015284	PULTR CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8 FR	2.00	05-20699C-7
7	A015456	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392A-1
8	A015458	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392A-3
9	A015457	PULTR CHAN 4 X 1 1/8 X 1/4 X 23'-11 3/4 FR	2.00	09-20392A-2
10	A015276	PULTR CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8 FR	2.00	07-20820E-8
11	A015463	PULTR CHAN 6 X 1 5/8 X 1/4 X 11'-11 7/8 FR	4.00	08-10093B-3
12	A015455	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 23'-11 3/4 FR	12.00	08-20342D-9
13	A015466	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 29'-11 3/4 FR	2.00	08-20660D-7
14	A015468	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 27'-1 3/8 FR	4.00	08-20343D-6
15	A011948	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 17'-11 3/4 FR	2.00	08-20946-1
16	A015462	PULTR TUBE 3 X 3 X 1/4 X 8'-2 13/16 FR	10.00	09-20396A-1
17	A006518	PULTR TUBE 3 X 3 X 1/4 X 3'-6 FR	2.00	07-20482A-3
18	A010078	PULTR TUBE 3 X 3 X 1/4 X 8'-0 5/16 FR	2.00	05-20696K-28
19	A015502	PULTR TUBE 3 X 3 X 1/4 X 7'-8 1/16 FR	2.00	09-20396A-2
20	A008328	PULTR CHAN 4 X 1 1/8 X 1/4 X 9'-1 3/8 FR	6.00	07-21147-2

FIND NO	DRAWING NO	DESCRIPTION	QTY
1	06-20294-5	FRC FLAT 1/2 X 23 15/16 X 96	60
2	07-20035-5	FRC FLAT 1/2 X 23 15/16 X 68 1/4	16
3	06-20294-3	FRC FLAT 1/2 X 23 15/16 X 96	32
4	06-20294-4	FRC FLAT 1/2 X 23 15/16 X 96	16
5	08-20335-1	FRC FLAT 1/2 X 23 15/16 X 96	8
6	08-20335-2	FRC FLAT 1/2 X 23 15/16 X 96	4
7	06-20294-6	FRC FLAT 1/2 X 20 X 96	36
8	08-20336-1	FRC FLAT 1/2 X 23 15/16 X 96	8
9	08-20336-2	FRC FLAT 1/2 X 23 15/16 X 96	4
10	08-20335-3	FRC FLAT 1/2 X 18 1/2 X 96	12
11	08-21615-1	FRC FLAT 1/2 X 25 15/16 X 96	8
12	08-21615-2	FRC FLAT 1/2 X 25 15/16 X 96	4
13		TUBE 3 X 3 X 1/4 X 20'-8	4
14		TUBE 3 X 3 X 1/4 X 18'-0	4
15		TUBE 3 X 3 X 1/4 X 2'-0	16
16		TUBE 3 X 3 X 1/4 X 1'-0	48
17		ANGLE 2 X 2 X 1/4 X 0'-4 3/4	96
18		ANGLE 2 X 2 X 1/4 X 0'-3 1/4	192
19		SCREW #14 X 4 W/#3 SQUARE DRIVE	64
20		SCREW #12 X 1 1/4 HWH SELF-DRILLING	720
21		SCREW #12 X 1 1/4 W/1 1/8" SW HWH SELF-DRILLING	1700
22	06-20542-6	FRC FLAT 1/2 X 18 X 96	12

REV	NO	DATE	DESCRIPTION
1	80	08-21616	
2	80	12/15/2008	

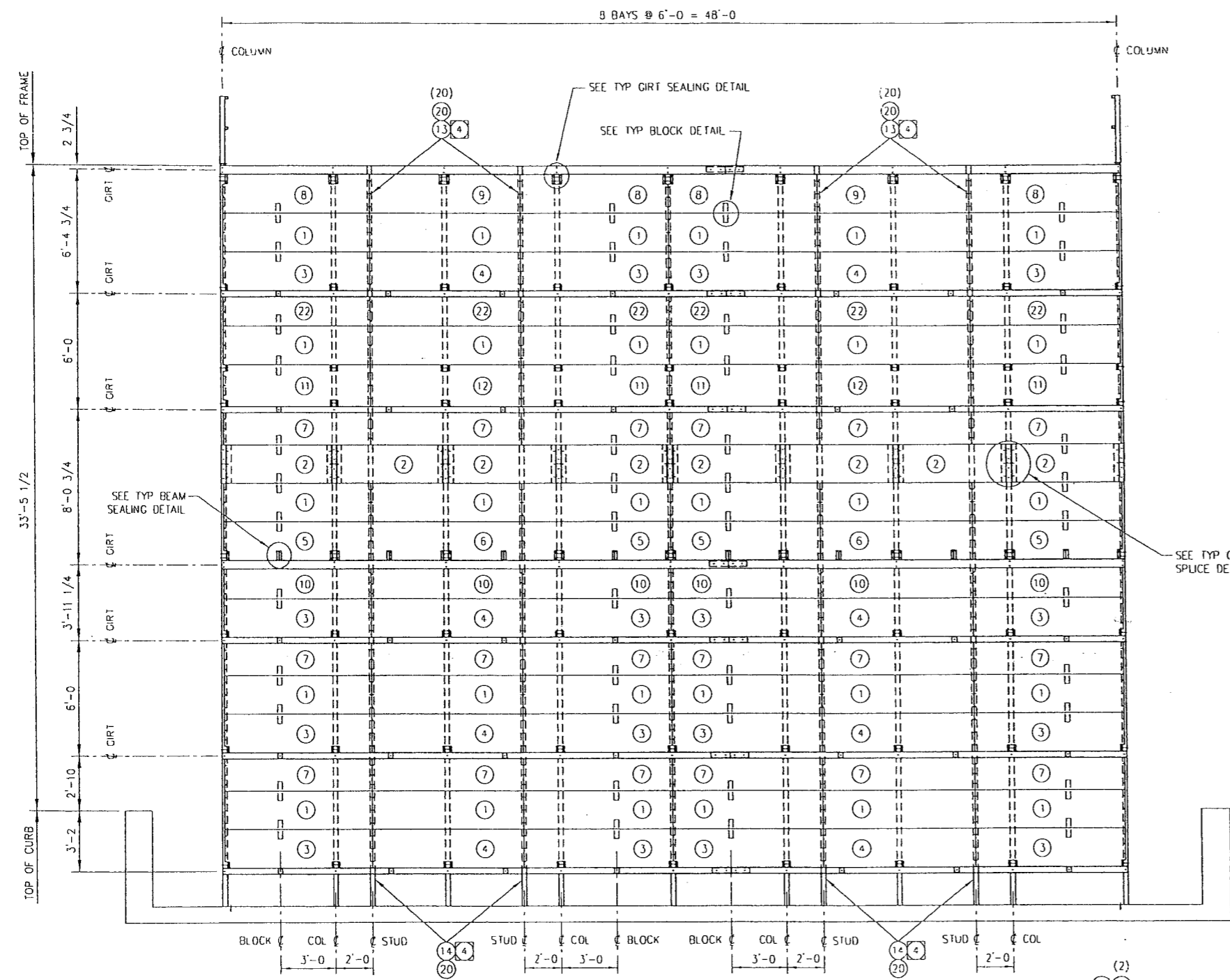
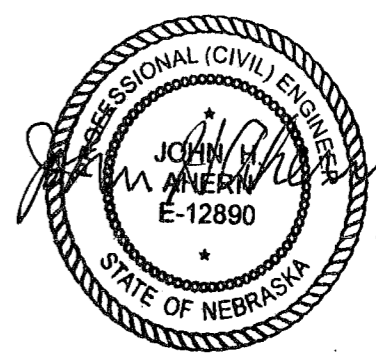
DRAWN BY: BARTKOSKI
 CHECKED BY: BARTKOSKI
 DATE: 12/15/2008
 APPROVED BY: JHA
 ORDER NUMBER: JHA
 CONFIDENTIAL: THIS DOCUMENT IS THE PROPERTY OF EVAPTECH, INC. IT SHOULD NOT BE DISCLOSED WITHOUT PRIOR WRITTEN AUTHORIZATION.

EvapTech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166

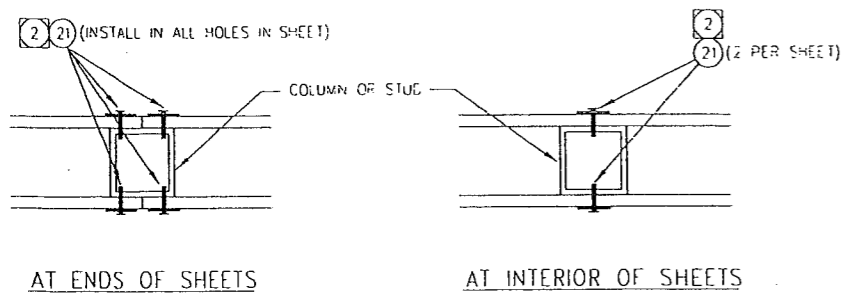
Certified for Construction

GENERAL NOTES

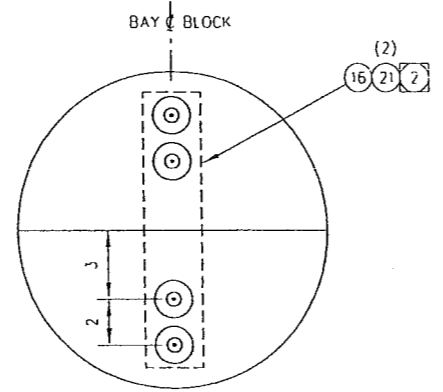
1. SHEETS TO BE INSTALLED ON TRANSVERSE PARTITION BENT. SEE BENT PLAN DRAWING FOR BENT LOCATIONS.
2. CAUTION TO AVOID CRACKING SHEETS DO NOT OVERTIGHTEN SCREWS
3. CUT BOTTOM STUDS TO FIT BASIN FLOOR.
4. USE 2 SCREWS PER GIRT PER STUD.



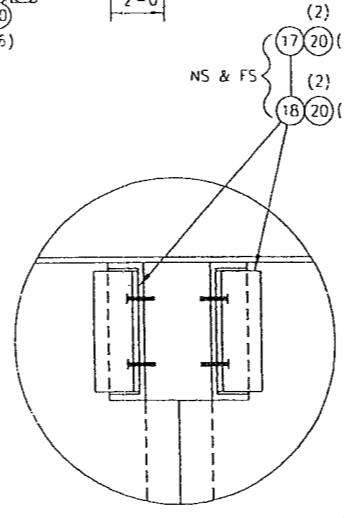
TRANSVERSE PARTITION ELEVATION
(ALL SHEETS NS & FS)



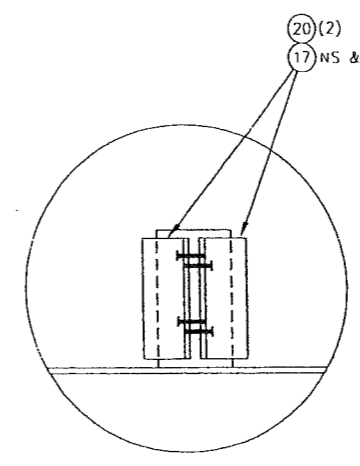
TYPICAL SHEET CONNECTION DETAILS



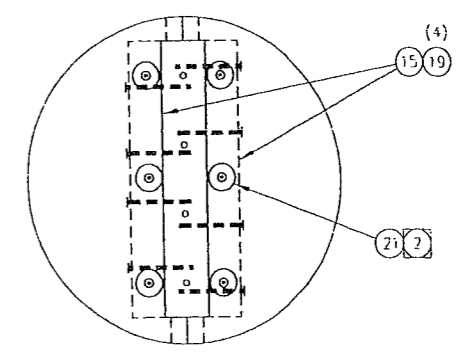
TYPICAL BLOCK DETAIL



TYPICAL GIRT SEAL DETAIL



TYPICAL BEAM SEAL DETAIL



TYPICAL COLUMN SPLICE DETAIL

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Bill of Material

Item Number A014397

Drawing No 08-21616

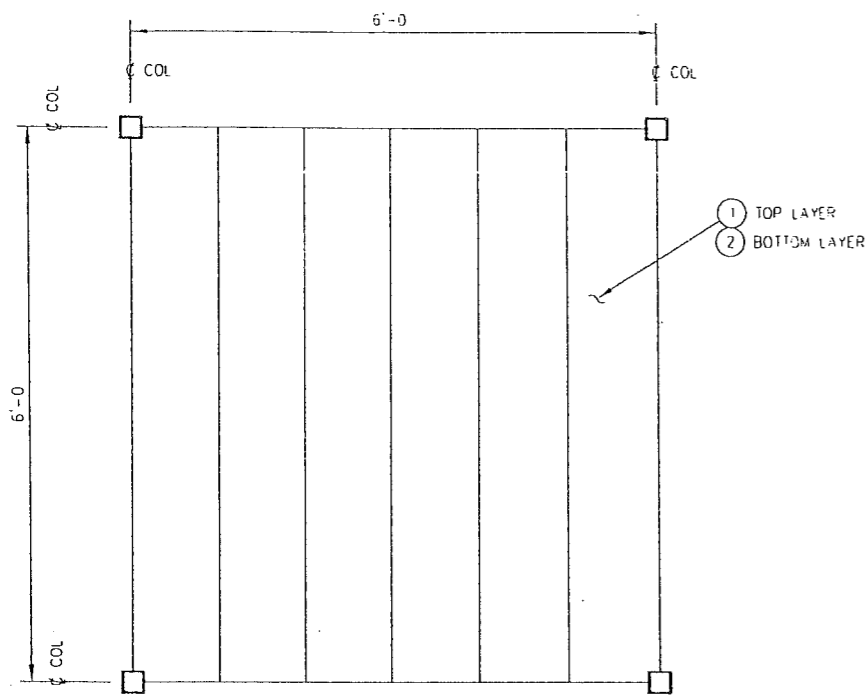
Description INSTALL TRANS FIREWALL PARTITION EC848-554M

Text 1/2" FRC, S304, QTY PER PARTITION

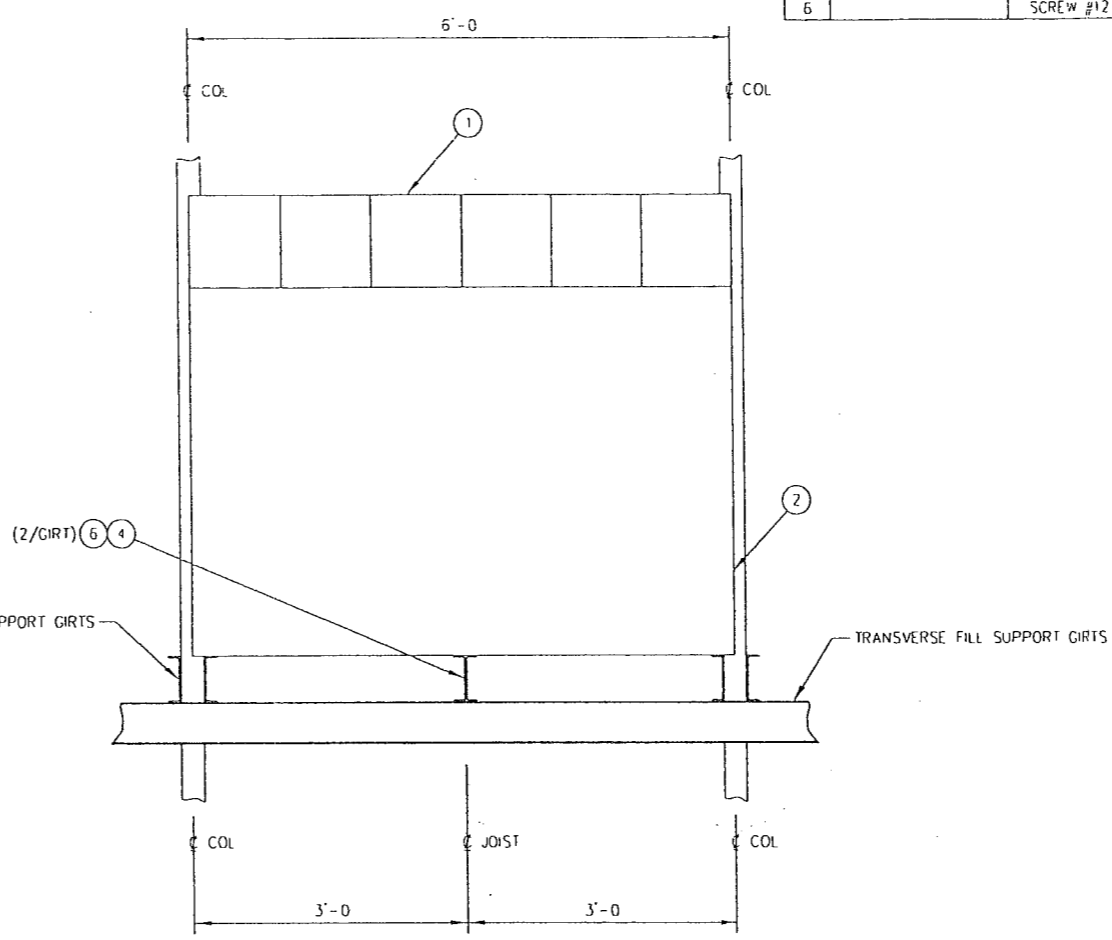
Find No	Item Number	Description	Qty	Drawing Number
1	A003681	FRC FLAT 1/2 X 23 15/16 X 96	60.00	06-20294-5
2	A005645	FRC FLAT 1/2 X 23 15/16 X 68 1/4	16.00	07-20035-6
3	A003675	FRC FLAT 1/2 X 23 15/15 X 96	32.00	06-20294-3
4	A003676	FRC FLAT 1/2 X 23 15/16 X 96	16.00	06-20294-4
5	A009892	FRC FLAT 1/2 X 23 15/16 X 96	8.00	08-20335-1
6	A009893	FRC FLAT 1/2 X 23 15/16 X 96	4.00	08-20335-2
7	A003682	FRC FLAT 1/2 X 20 X 96	36.00	06-20294-6
8	A009899	FRC FLAT 1/2 X 23 15/16 X 96	8.00	08-20336-1
9	A009900	FRC FLAT 1/2 X 23 15/16 X 96	4.00	08-20336-2
10	A009909	FRC FLAT 1/2 X 18 1/2 X 96	12.00	08-20335-8
11	A014398	FRC FLAT 1/2 X 25 15/16 X 96	8.00	08-21615-1
12	A014399	FRC FLAT 1/2 X 25 15/16 X 96	4.00	08-21615-2
13	A014400	PULTR TUBE 3 X 3 X 1/4 X 2'-8 FR	4.00	
14	A011325	PULTR TUBE 3 X 3 X 1/4 X 1'-6 FR	4.00	
15	A003672	PULTR TUBE 3 X 3 X 1/4 X 2'-0 FR	16.00	
16	A001360	PULTR TUBE 3 X 3 X 1/4 X 1'-0 FR	48.00	
17	A002949	PULTR ANGLE 2 X 1 X 1/4 X 0'-3/4 FR	96.00	
18	A003679	PULTR ANGLE 2 X 2 X 1/4 X 0'-3 1/4 FR	192.00	
19	A004270	SCREW S316 #14 X 4 W/ #3 SQUARE DRIVE BUGLE HEAD	64.00	
20	A005493	SCREW S304 #12 X 1 1/4 HWH SELF-DRILLING	720.00	
21	A001361	SCREW SS #12 X 1 1/4 W/ 1 1/8" SW HWH SELF-DRILLING	1,700.00	
22	A004253	FRC FLAT 1/2 X 18 X 96	12.00	06-20542-6



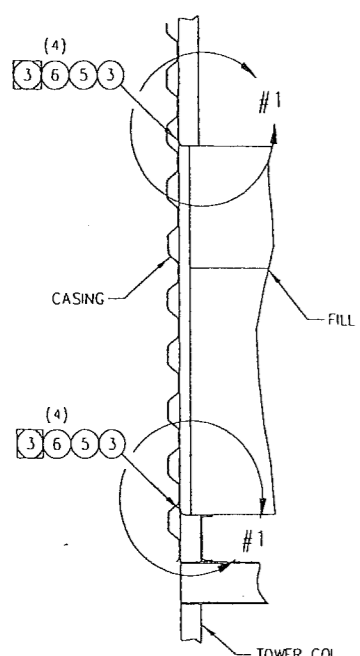
FIND NO	DRAWING NO	DESCRIPTION	QTY/BAY	QTY/2 BAY	QTY/SW BAY
1		FILL PACK 12" WIDE X 12" TALL X 72" LONG	6	-	-
2		FILL PACK 12" WIDE X 43" TALL X 72" LONG	5	-	-
3	05-29050-1	FILL SEAL 5'-0" LONG	-	2	2
4		PULTR I-BEAM 5 1/2" X 2 1/2" X 1/4" X 24'-0"	25	-	-
5		SEALER POLYURETHANE 10.3 OZ TUBE	-	1	1
6		SCREW #12 X 1 1/4" HWW SELF DRILLING	4	8	8



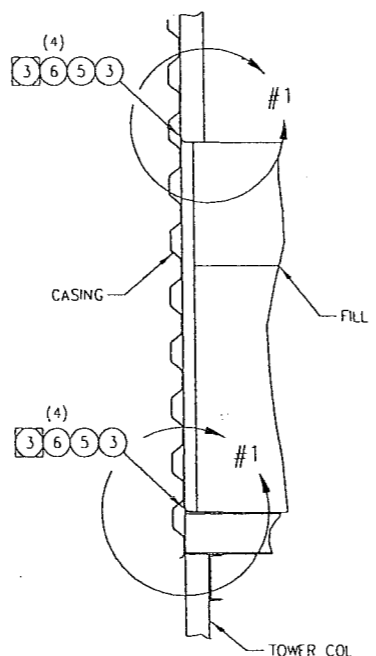
PLAN VIEW
(TYP BAY)



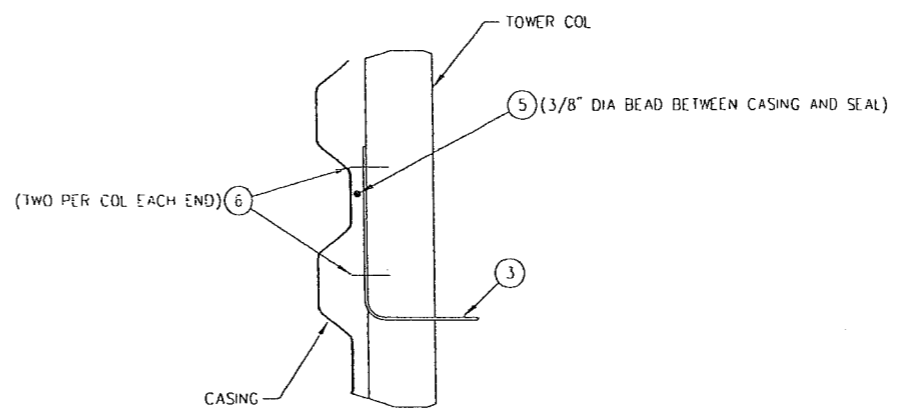
ELEVATION VIEW
(TYP BAY)



SIDEWALL SEAL DETAIL



ENDWALL SEAL DETAIL



DETAIL #1

Certified for Construction



REV CHECKED: []
 REV DATE: []
 CHECKED BY: BAM
 ORDER NUMBER: JHA
 DATE: 4/18/2008
 DRAWING NUMBER: 08-20435
 SCALE: 1" = 24"

6'-0 BAYS - 5 1/2" FILL SUPPORTS

5'-0 FILL INSTALLATION
FIBERGLASS COUNTERFLOW TOWERS

Evaptech, Inc.
8331 Niemen Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5165

GENERAL NOTES

- FIELD CUT AND FIT FILL PACKS AROUND COLUMNS AND DIAGONALS FOR A CRUSH FIT.
- FOR FILL PACK SHEET THICKNESS SEE CONTRACT PURCHASE ORDER.
- INSTALL SEAL BETWEEN CASING AND TOWER COLUMNS AND APPLY SEALER BETWEEN FILL SEAL AND CASING

(33)

Bill of Material

Item Number A014447

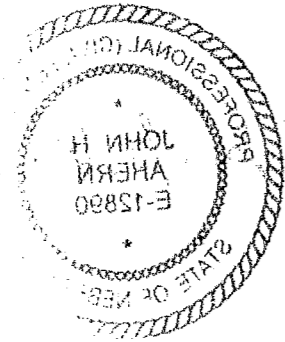
Drawing No 08-20435

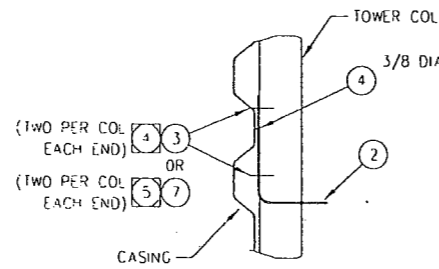
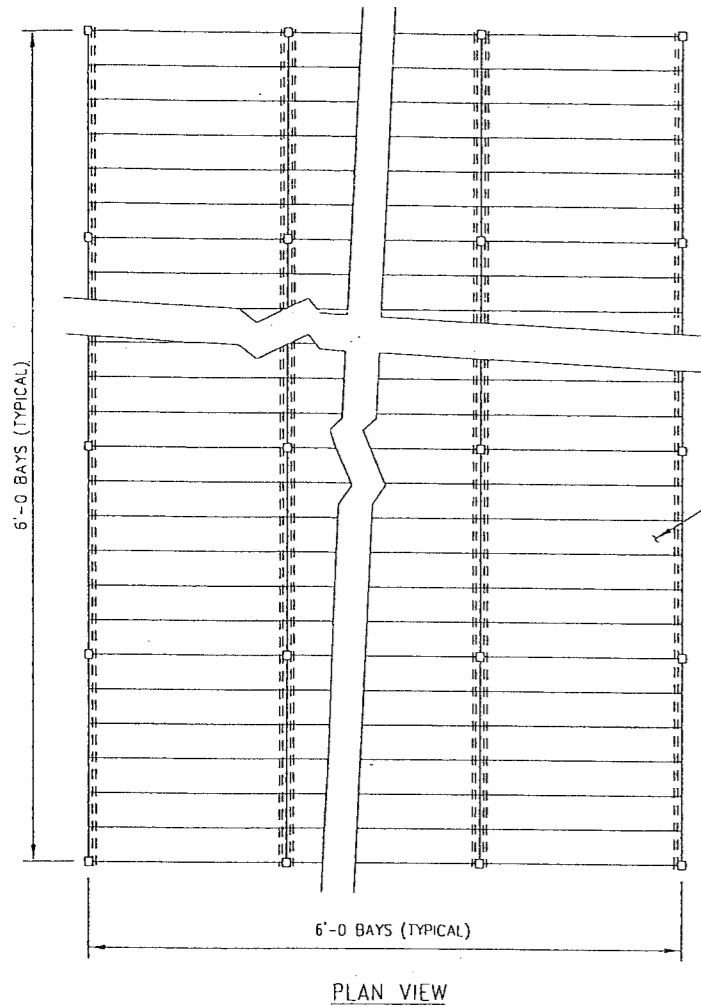
Description INSTALL FILL EC 48 X 54 8-CELL, 5'-0 VERTICLEAN

Text 5'-0 AT; VERTICLEAN FILL 15MIL; SS HDWE; 5 1/2" FILL SUPPORTS

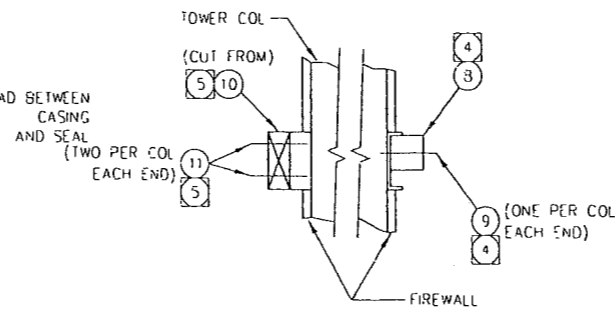
<u>Find No</u>	<u>Item Number</u>	<u>Description</u>	<u>Qty</u>	<u>Drawing Number</u>
0	A014446	PLN-AS FILL VERTICLEAN; 5'-0 AT; 15 MIL; 6'X6' BAY	576.00	
0	A001280	PLN-AS FILL SEAL INSTALL 6'-0 BAY ONE SIDE, SS HDWE	160.00	
4	A011175	PULTR I-BEAM 5 1/2" X 1 1/2" X 1/4" X 24'0" LF	144.00	
6	A001253	SCREW SS #12 X 1 1/4" HW SELF-DRILLING	2,304.00	

Construction

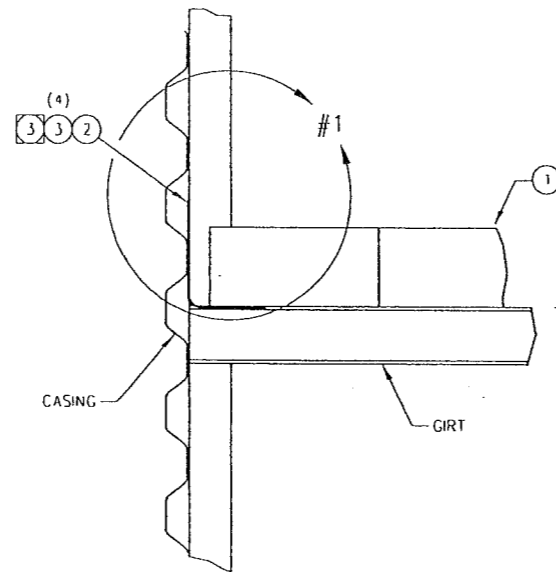




DETAIL #1

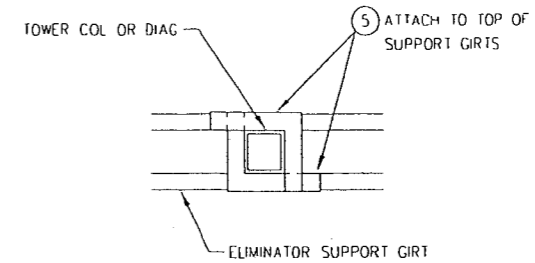
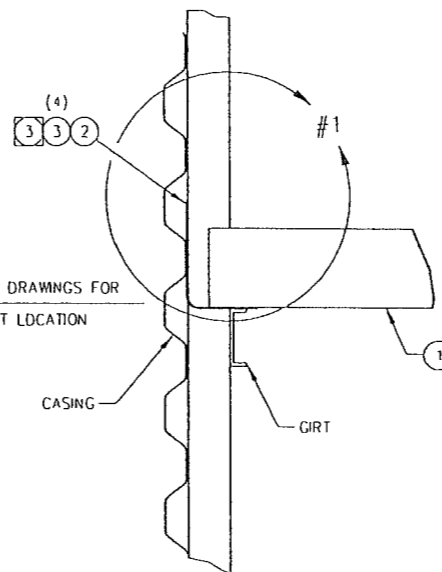


DETAIL #2
(TYPICAL BOTH SIDES PARTITION MATERIALS PER TOWER DESIGN)

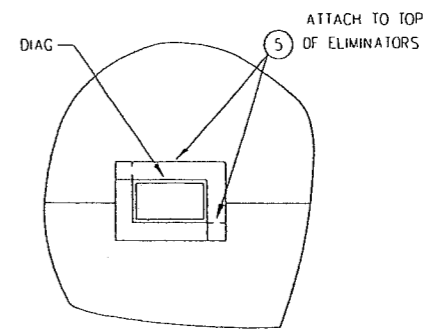


PERIMETER SEAL DETAIL

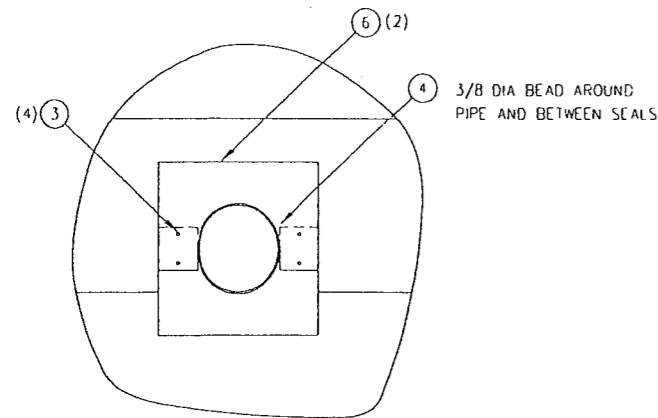
SEE LONGITUDINAL FRAMING DRAWINGS FOR ELIMINATOR SUPPORT GIRTS LOCATION



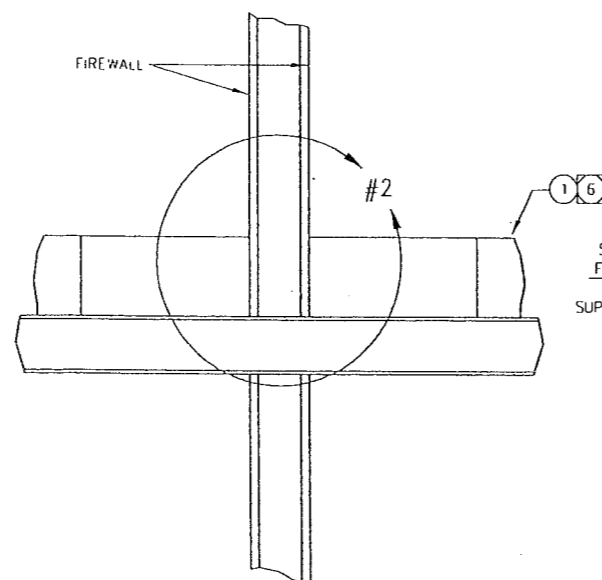
COL OR DIAG SEAL DETAIL
(FIELD TRIM SEALS AT ENDWALLS AND SIDEWALLS)



DIAG SEAL WITHOUT SUPPORT GIRTS DETAIL
(USE THIS DETAIL WHEN THERE ARE NO SUPPORTS UNDER PACKS)

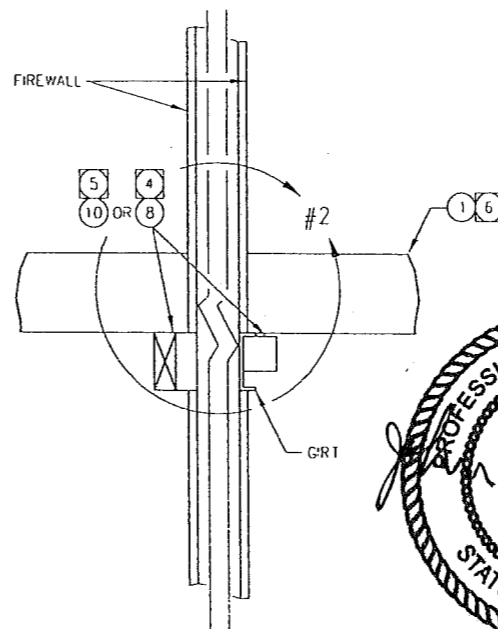


VENT PIPE SEAL DETAIL



FIREWALL SEAL DETAIL

SEE LONGITUDINAL FRAMING DRAWINGS FOR ELIMINATOR SUPPORT GIRTS LOCATION



REV NO	DRAWING NO	DESCRIPTION	QTY/BAY	QTY/EW BAY	QTY/SW BAY	QTY/COL OR DIAG	QTY/VENT
1		ELIM PACK 5 1/2 X 12 X 72	5	-	-	-	-
2	05-20050-1	SEAL 6'-0 LONG	2	1	1	-	-
3		SCREW #12 X 1 1/4 HWH SELF DRILLING	-	4	4	-	4
4		SEALER POLYURETHANE 10 3 OZ TUBE	-	5	5	-	5
5	07-10603-1	NEOPRENE PAD 1/8 X 5 1/2 X 6 3/4 PSOS	-	-	-	2	-
6	07-10604-1	SHEET 1/8 X 7 50 X 12 00	-	-	-	-	2
7		NAIL 1 1/2	-	4	4	-	-
8		TUBE 2 X 2 X 1/4 X 5'-10	2	-	-	-	-
9		SCREW #12 X 3 HWH SELF DRILLING	4	-	-	-	-
10		FIR 2 X 4 X 12'-0	1	-	-	-	-
11		NAIL 3 1/2	8	-	-	-	-

REV	DATE	BY	CHKD BY	APP'D BY
B	07-20793	JHA	BAM	BAM
1	8/1/2007	JHA	BAM	BAM
1	4/16/2008	JHA	BAM	BAM

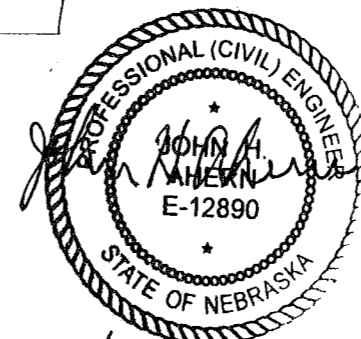
DRI AIR 80 ELIMINATOR INSTALLATION FOR EC & ECW COOLING TOWERS

Evaptech, Inc.
8331 Nieman Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166

Certified for Construction

GENERAL NOTES

- CAUTION: FIELD CUT AND FIT ELIMINATOR PACKS AROUND COLUMNS, DIAGONALS AND VENT PIPE FOR A CRUSH FIT.
- FOR ELIMINATOR PACK SHEET THICKNESS SEE CONTRACT PURCHASE ORDER
- INSTALL SEAL BETWEEN CASING AND TOWER COLUMNS
- USE ON FIBERGLASS TOWERS
- USE ON WOOD TOWERS
- FIELD CUT ELIM PACKS FOR CRUSH FIT AT FIREWALL FACE



4/21/09

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Bill of Material

Item Number A014448

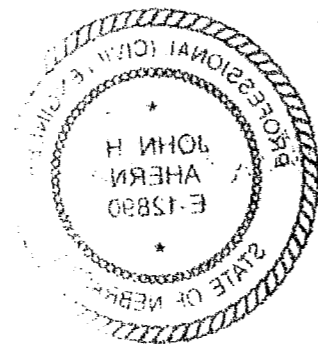
Drawing No 07-20793B

Description INSTALL ELIM EC 48 X 54 8-CELL; DRI AIR 80 13/25MIL; SS HDWE

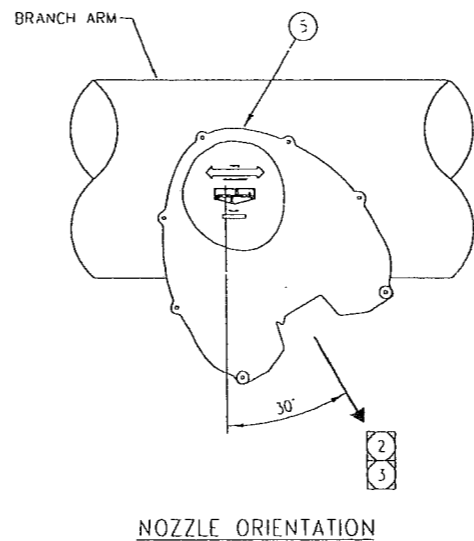
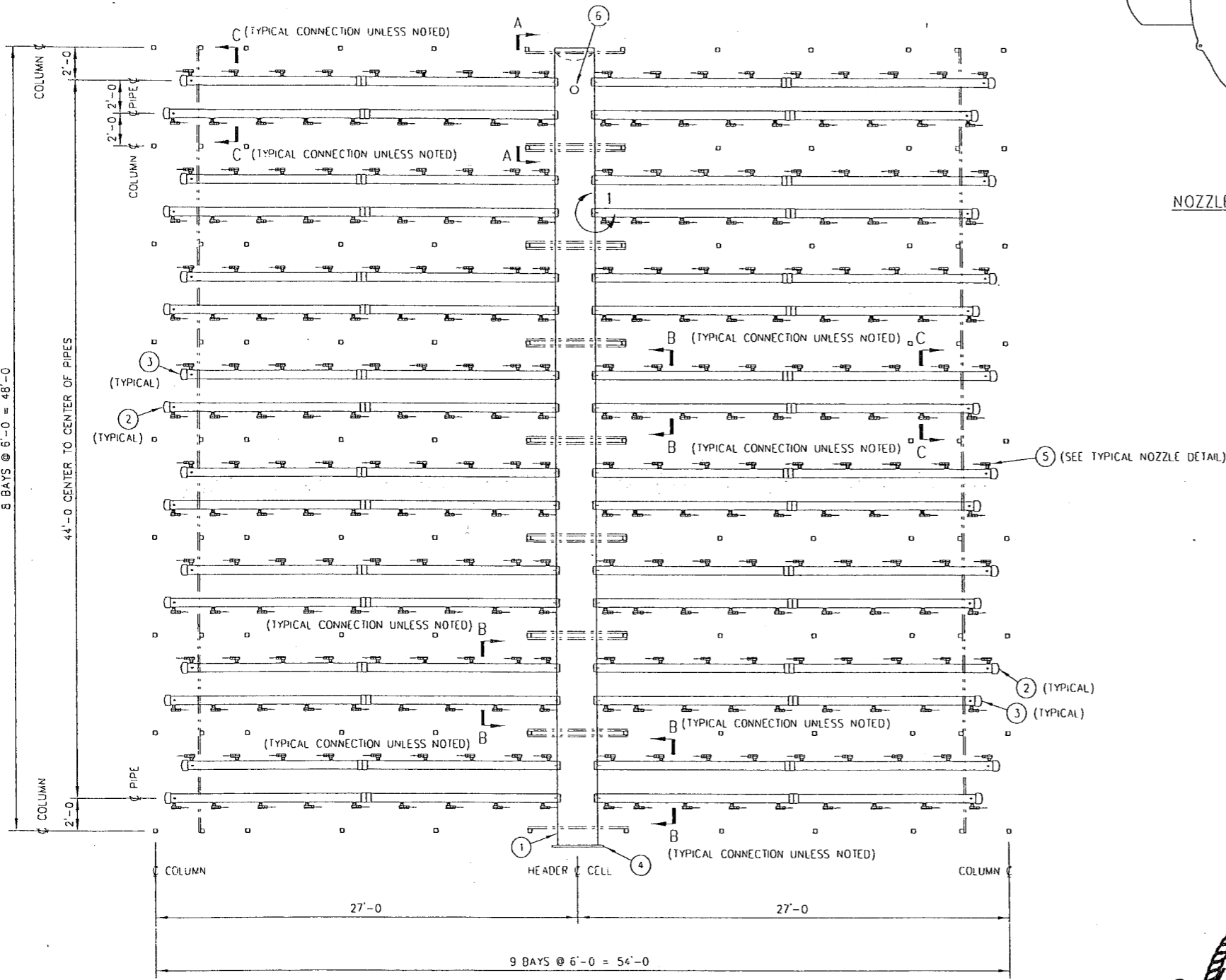
Text

<u>Find No</u>	<u>Item Number</u>	<u>Description</u>	<u>Qty</u>	<u>Drawing Number</u>
0	A007378	PLN-AS ELIM SEAL AT COL & DIAG	841.00	07-20793B
0	A007377	PLN-AS ELIM SEAL AT VENT PIPE; SS HDWE	8.00	07-20793B
0	A007376	PLN-AS ELIM SEAL; 6'-0 BAY; ONE SIDE; SS HDWE (FIBERGLASS)	160.00	07-20793B
0	A007375	PLN-AS ELIM 6'X6' BAY; 1'X6' PACKS; DRI AIR 80 13/25MIL	576.00	

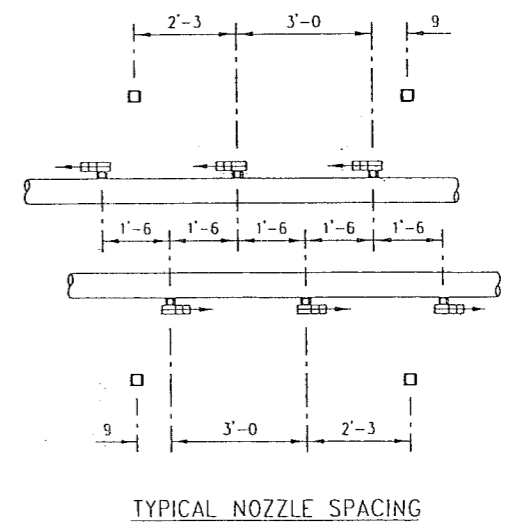
Construction
Certified for



Certified for Construction



ITEM NO.	DRAWING NO.	DESCRIPTION	QTY
1	08-21597	RTR PIPE 30 DIA X 49'-1	1
2	07-20461-17	PVC PIPE ASSY 6 DIA X 25'-4 5/8	16
3	07-20789-17	PVC PIPE ASSY 6 DIA X 24'-3 3/8	16
4	06-10001-11	GASKET 30 DIA X 3/8 THICK	1
5	06-20833-1	EVAPJET II NOZZLE 1.81 DIA INLET ORIFICE	288
6	06-10004-1	PVC PIPE 6 DIA X 10'-0	2
7		FTG PVC 6 DIA COUPLING	1
8	05-20491-7	U-BOLT 1/4 X 2'-2 1/2	64
9		WASHER OSC 1/4	192
10		WASHER LOCK 1/4	192
11		NUT 1/4	192
12		SCREW #12 X 1 1/4 HWH SELF-DRILLING	6
13		ANGLE 4 X 4 X 3/16 X 6'-6	2
14		FTG PVC 3 DIA MALE PLUG	1
15		GROMMET 6 DIA	33
16		MB 1/2 X 9 1/2	1
17		MB 1/2 X 8	1
18		WASHER SC 1/2	3
19		WASHER SEALING 1/2 X 1 3/16 OD	1
20		WASHER LOCK 1/2	2
21		NUT 1/2	2
22		FTG PVC 6 DIA 45 DEG ELBOW	2
23		PVC PIPE PRIMER 1 QT	.33
24		PVC PIPE CEMENT 1 QT	.66



CAUTION: NOZZLE ORIENTATION IS CRITICAL TO PROPER TOWER PERFORMANCE. CONSULT EVAPTECH ENGINEERING IF ORIENTATION IS NOT AS SHOWN.

GENERAL NOTES

- SEE DRAWING 09-20311 FOR SECTIONS AND DETAILS NOT SHOWN
- ARROWS INDICATE DIRECTION OF WATER DISCHARGE FROM NOZZLE
- NOZZLES MUST BE INSTALLED ON BRANCH ARMS PRIOR TO INSERTING INTO HEADER



DRAWN BY: REA
 CHECKED BY: BAM
 DATE: 12/22/2008
 APPROVED BY: JHA
 ORDER NUMBER: 7-320814
 SCALE: 1 = 96
 DRAWING NUMBER: 08-21636
 REV: 08-21636
 CONFIDENTIAL: THIS DOCUMENT IS THE PROPERTY OF EVAPTECH, INC. IT SHOULD NOT BE DISCLOSED WITHOUT PRIOR WRITTEN AUTHORIZATION.

EvapTech, Inc.
 8331 Niemon Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166

EvapTech
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35

Bill of Material

Item Number A013231

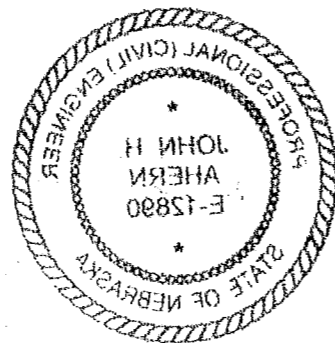
Drawing No 08-21636

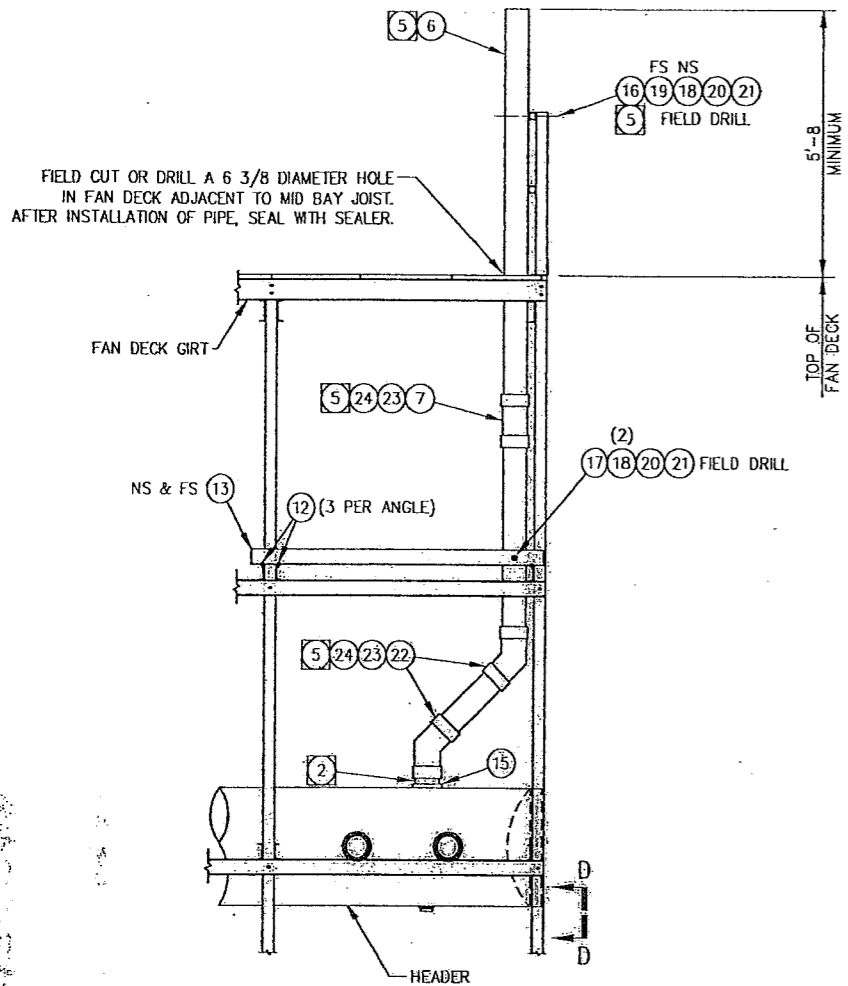
Description INSTALL SPRAY SYSTEM PIPING

Text 48 X 54 EC TOWER W/ 30" DIA RTR HEADER & 6" DIA PVC SDR35 BRANCH ARMS; EVAPJET II NOZZLES - 3'-0 SPACING; SPECIAL U-BOLT BRANCH ARM TIE-DOWNS

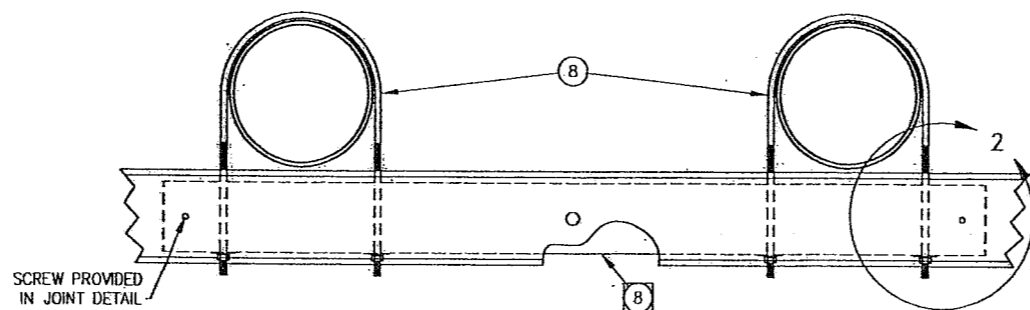
Certified for Construction

Ind No	Item Number	Description	Qty	Drawing Number
1	A013547	PIPE RTR 30" DIA X 49'-1	1.00	08-21597
2	A006659	ASSY PVC BRANCH ARM 6 DIA X 25'-4 5/8 SDR 35	16.00	07-20461-17
3	A006924	ASSY PVC BRANCH ARM 6 DIA X 24'-3 3/8 SDR 35	16.00	07-20789-17
4	A003317	GASKET 30 DIA FULL FACED 3/8 NEOPRENE	1.00	06-10001-11
5	A005239	NOZZLE EVAPJET II 0.94 DIA EXIT ORIF; 1.81 DIA INLET ORIF	288.00	06-20833-1
6	A006552	PIPE PVC 6 DIA X 10'-0 SDR 35	2.00	06-10004
7	A013429	FTG PVC COUPLING 6 DIA SOCKET TYPE SDR 35	1.00	
8	A013391	U-BOLT S304 1/4 DIA X 2'-2 1/2	64.00	05-20491-7
9	A000302	WASHER S304 OSC 1/4	192.00	
10	A000292	WASHER S304 LOCK 1/4	192.00	
11	A000228	NUT S304 1/4	192.00	
12	A001253	SCREW SS #12 X 1 1/4 HWH SELF-DRILLING	6.00	
13	A007536	PULTR ANGLE 4 X 4 X 3/16 X 6'-6 FR	2.00	
14	A004242	FTG PVC 3 DIA MALE PLUG NPT	1.00	
15	A001066	GROMMET 6 DIA MISSION-TITE SW6 XH	33.00	
16	A000174	MB S304 1/2 X 9 1/2	1.00	
17	A000171	MB S304 1/2 X 8	1.00	
18	A000311	WASHER S304 SC 1/2	3.00	
19	A000317	WASHER S304 SEALING 1/2 X 1 3/16 OD	1.00	
20	A000291	WASHER S304 LOCK 1/2	2.00	
21	A000225	NUT S304 1/2	2.00	
22	A006551	FTG PVC 6 DIA 45 DEG ELBOW SOCKET TYPE SDR 35	2.00	
23	A000747	GLUE PVC PIPE PRIMER NO P-70 PURPLE 1QT CONTAINER	0.33	
24	A000746	GLUE PVC PIPE CEMENT NO 717 1QT CONTAINER	0.66	

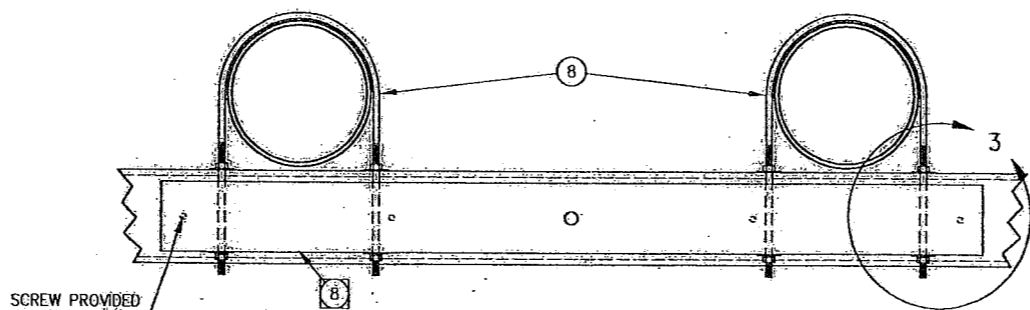




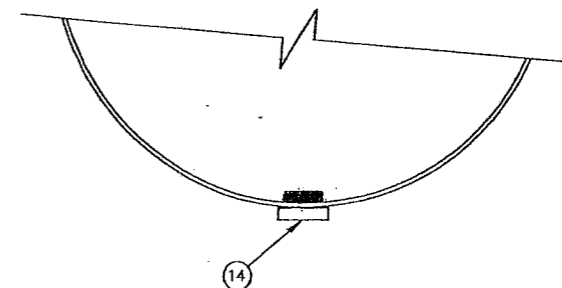
SECTION A-A
(STAND PIPE THROUGH FAN DECK)
(SUPPORT SLINGS AND BLOCKS NOT SHOWN)



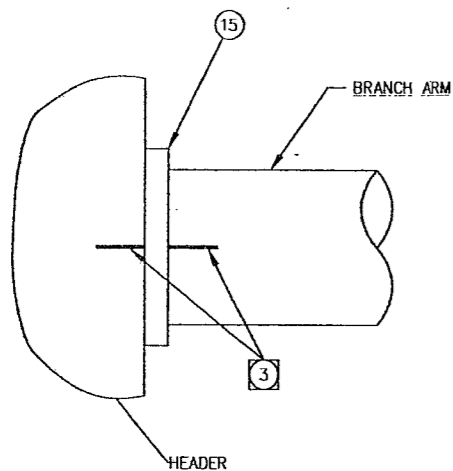
SECTION B-B (6)
(TYPICAL CONNECTION ADJACENT TO HEADER)



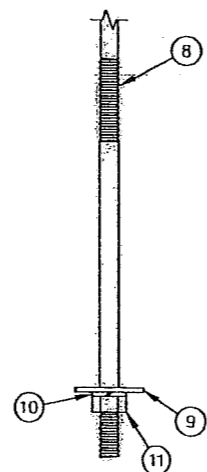
SECTION C-C (7)
(TYPICAL CONNECTION AT BRANCH ARM ENDS)



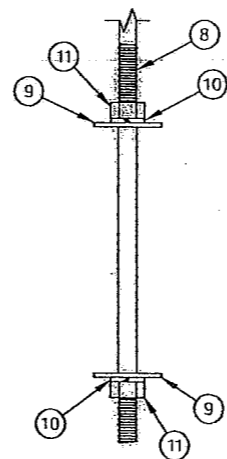
SECTION D-D
(TYPICAL AT END OF HEADER ON BOTTOM OF PIPE)



DETAIL NO 1
(TYPICAL BRANCH ARM CONNECTION)



DETAIL 2 (6)
(GIRT AND TUBE NOT SHOWN FOR CLARITY)



DETAIL 3 (7)
(GIRT AND TUBE NOT SHOWN FOR CLARITY)



4/21/09

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Construction**

GENERAL NOTES

1. FIELD FABRICATE ALL MATERIAL AS REQD FOR PROPER INSTALLATION.
2. INSERT STANDPIPE INTO HEADER UNTIL MATCH MARK IS FLUSH WITH GROMMET FACE.
3. INSERT BRANCH ARM PIPE INTO FRP HEADER UNTIL MATCH MARK IS FLUSH WITH GROMMET FACE.
4. SEE SPRAY SYSTEM PIPING DRAWING FOR SECTION AND DETAIL LOCATIONS.
5. CUT STANDPIPE (FIND NO. 6) AND ROUTE THROUGH FAN DECK TO GIVEN HEIGHT USING THE PROVIDED FITTINGS.
6. SECTION B-B CONNECTIONS ARE TO BE TIGHTENED SECURELY, IN SUCH A WAY AS TO RESTRICT MOVEMENT. DO NOT OVERTIGHTEN AND DEFORM BRANCH ARM PIPING.
7. SECTION C-C CONNECTIONS ARE TO BE LOOSE TO ALLOW MOVEMENT OF PIPING.
8. SECTION D-D LOCATION TUBES AND ITS ASSOCIATED HARDWARE ARE PROVIDED VIA FRAMING JOINT DETAIL NO. 219 (SPLICE) AND FRAMING JOINT DETAIL NO. 220 (TYPICAL COMPRESSION BLOCK LOCATIONS). PIPING SUPPORT DRAWING 08-21637 PROVIDES TUBES AND HARDWARE FOR SECTION C-C LOCATIONS.

DRAWN BY: REA CHECKED BY: B.A.M. DATE: 2/27/2009 APPROVED BY: J.H.A.	ORDER NUMBER: SCALE: 1 = 96 DRAWING NUMBER: 09-20311 REV:	REV CHECKED: REV DATE:
- EC TOWERS - 6" DIA. BRANCH ARMS - SPRAY SYSTEM PIPING SECTIONS AND DETAILS		
Evaptech, Inc. 8331 Nieman Road Lenexa, KS 66214 Ph: (913) 322-5165 Fax: (913) 322-5166		

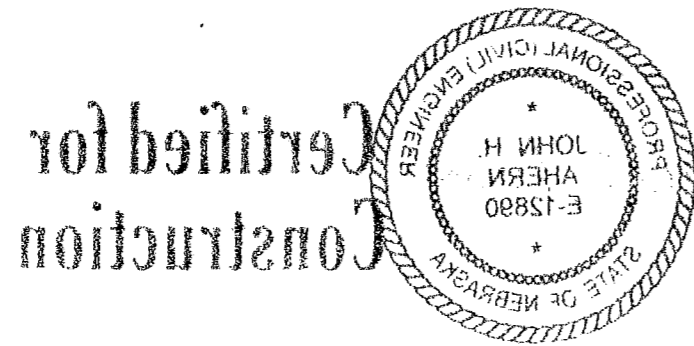
Item Number A013431

Description INSTALL SPRAY SYSTEM SUPPORT EC TOWER

Text 48' X 54' CELL, 30" DIA RTR HEADER, 6" SDR35 BRANCH ARMS SECURED WITH U-BOLTS; S304

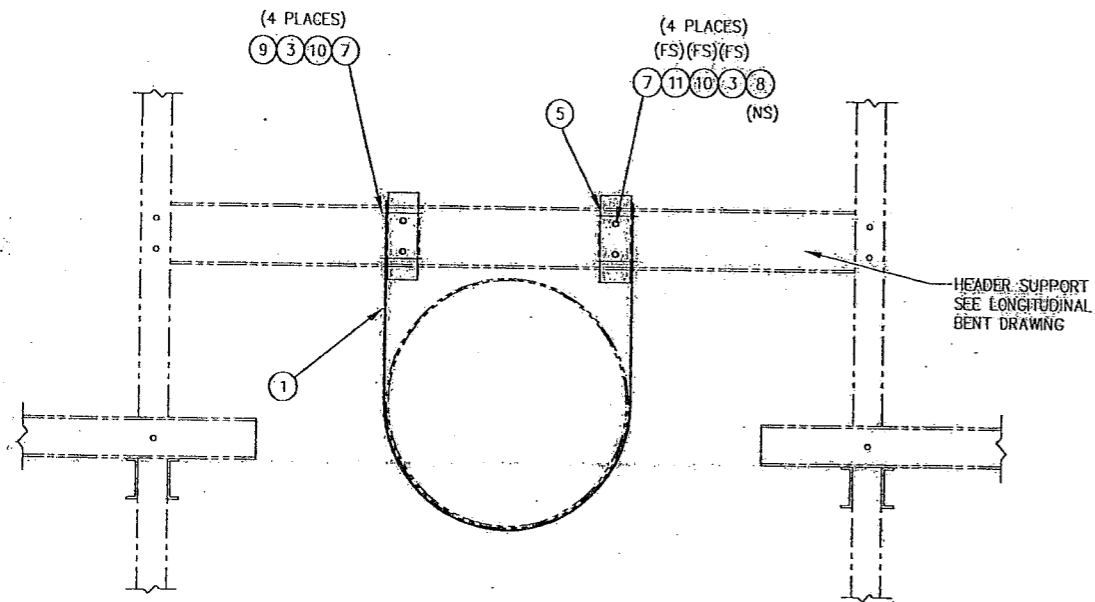
Drawing No 08-21637B

Find No	Item Number	Description	Qty	Drawing Number
1	A014460	SHEET S304 14GA X 3.00 X 95.47 - (ASTM A240)	9.00	08-21624A
2	A015275	PULTR CHAN 4 X 1 1/8 X 1/4 X 27'-1 3/8 FR	2.00	09-20237-2
3	A000225	NUT S304 1/2	94.00	
4	A007948	PULTR TUBE 3 X 3 X 3/8 X 0'-8 1/2 FR	14.00	07-21001-1
5	A007949	PULTR TUBE 3 X 3 X 3/8 X 0'-8 1/2 FR	4.00	07-21001-2
6	A000163	MB S304 1/2 X 4 1/2	50.00	
7	A000161	MB S304 1/2 X 4	44.00	
8	A001243	WASHER S304 POCKET 1/2	8.00	
9	A000301	WASHER S304 OSC 1/2	58.00	
10	A000291	WASHER S304 LOCK 1/2	94.00	
11	A000311	WASHER S304 SC 1/2	86.00	
12	A015274	PULTR CHAN 4 X 1 1/8 X 1/4 X 21'-1 3/8 FR	2.00	09-20237-1
13	A013392	PULTR TUBE 3 X 3 X 1/4 X 3'-0 FR	14.00	08-10566A-3
14	A010611	PULTR TUBE 3 X 3 X 1/4 X 3'-0 FR	2.00	08-10566A-4
15	A001253	SCREW SS #12 X 1 1/4 HWH SELF-DRILLING	28.00	

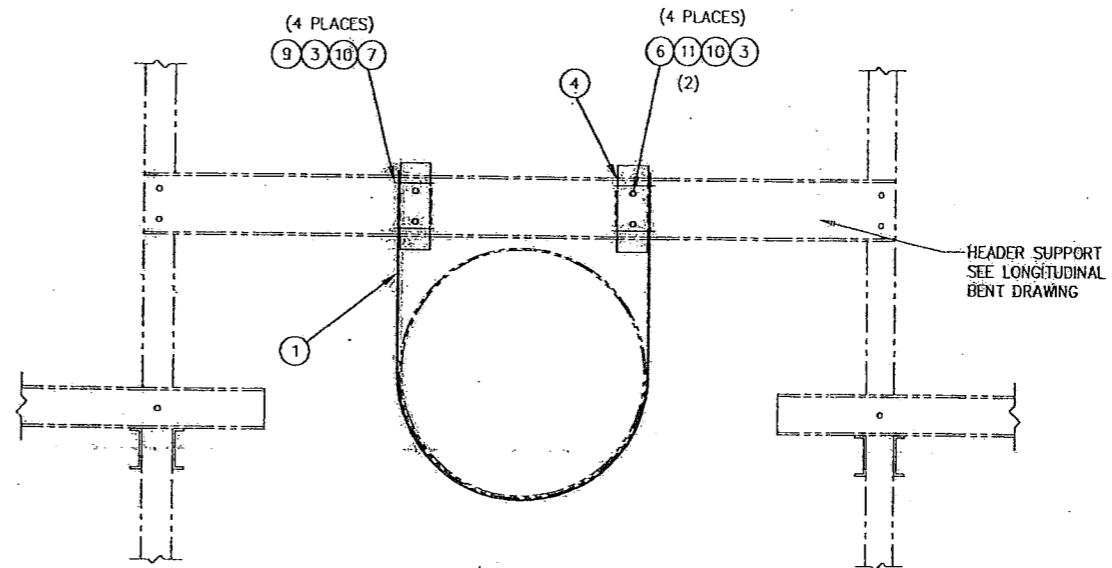


Construction Certified for

Certified for Construction



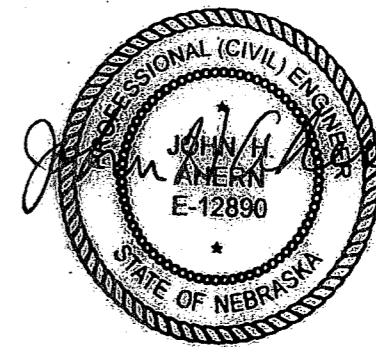
SECTION A-A
(TYPICAL SIDEWALL CONNECTION)



SECTION B-B
(TYPICAL INTERIOR CONNECTION)

GENERAL NOTES

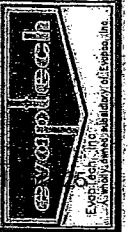
1. SEE SPRAY SYSTEM SUPPORT INSTALLATION DRAWING FOR SECTION AND DETAIL LOCATIONS, AND BILL OF MATERIAL.



CHECKED BY: REA ORDER NUMBER: 7/10/2008	CHECKED BY: BAM APPROVED BY: JHA	REV'D DATE: 11/20/2008 SCALE: 1 = 18	REV'D BY: BAM DRAWING NUMBER: 08-20801	REV: A
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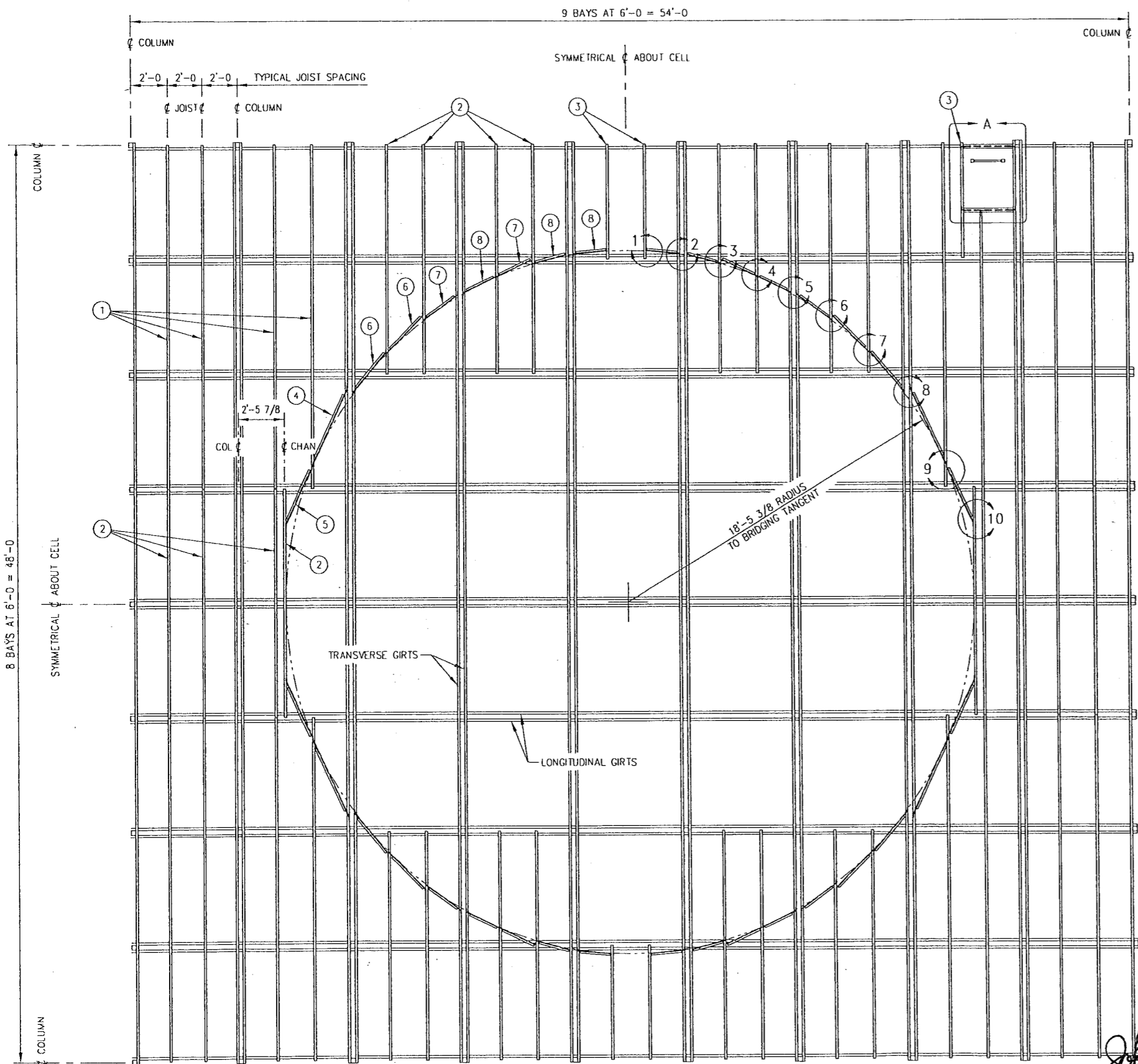
SPRAY SYSTEM SUPPORT SECT & DET

Evaportech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 PH: (913) 322-5165
 FAX: (913) 322-5166



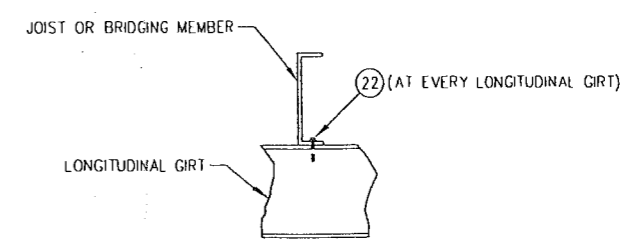
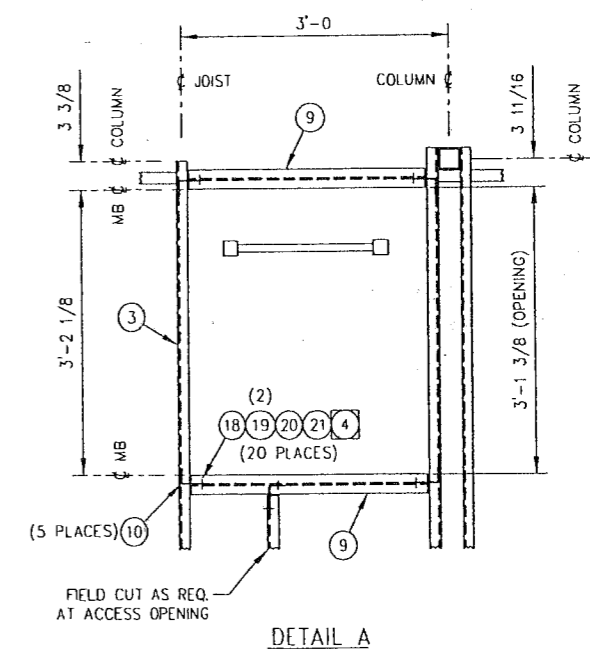
(38)

39



PLAN VIEW
(TYPICAL CELL)

FIND NO	DRAWING NO	DESCRIPTION	QTY /CELL
1		CHAN 5 1/2 X 1 1/2 X 1/4 X 18'-0	16
2		CHAN 5 1/2 X 1 1/2 X 1/4 X 12'-0	24
3		CHAN 5 1/2 X 1 1/2 X 1/4 X 6'-0	5
4		CHAN 5 1/2 X 1 1/2 X 1/4 X 3'-7	4
5		CHAN 5 1/2 X 1 1/2 X 1/4 X 2'-10	4
6		CHAN 5 1/2 X 1 1/2 X 1/4 X 2'-4	8
7		CHAN 5 1/2 X 1 1/2 X 1/4 X 1'-10	8
8		CHAN 5 1/2 X 1 1/2 X 1/4 X 1'-7 1/2	12
9	08-10505-1	I-BEAM 5 1/2 X 2 1/2 X 1/4 X 2'-7 13/16	2
10	05-10094-1	SHEET 16 GA X 2.75 X 5.51	5
11	06-10080-1	SHEET 16 GA X 2.75 X 11.00	12
12	06-10079-1	SHEET 16 GA X 2.75 X 11.00	8
13	06-10078-1	SHEET 16 GA X 2.75 X 11.00	8
14	06-10136-1	SHEET 16 GA X 2.75 X 11.00	12
15	06-10129-1	SHEET 16 GA X 2.75 X 11.00	4
16	06-10131-1	SHEET 16 GA X 2.75 X 11.00	8
17	06-10132-1	SHEET 16 GA X 2.75 X 11.00	8
18		MB 1/4 X 1 1/2 ALL THD	20
19		WASHER SC 1/4	40
20		WASHER LOCK 1/4	20
21		NUT 1/4	20
22		SCREW #12 X 1 1/4 HWH SELF DRILLING	228
23		SCREW #12 X 1 1/4 W/ 1 1/8 HWH SELF DRILLING	240



TYPICAL JOIST & BRIDGING CONNECTION DETAIL

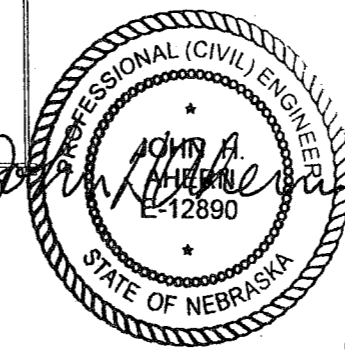
4/21/09 GENERAL NOTES

- 1 FIELD FABRICATE ALL MATERIAL AS REQUIRED FOR PROPER INSTALLATION
- 2 FOR NUMBERED DETAILS SEE DRAWING 09-20504
- 3 SEE SALES DRAWINGS FOR LOCATION OF INTERIOR LADDER IN EACH CELL
- 4 FIELD DRILL GIRTD OR JOIST USING STEEL CLIP AS TEMPLATE

REV CHECKED BY: JAR
 DRAWING NUMBER: 09-20503
 SCALE: 1" = 72"
 ORDER NUMBER: JHA
 DATE: 4/2/09
 APPROVED BY: JHA
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10M DIA MIDWEST STACK - 100 PSF FAN DECK LOAD -
 JOIST AND BRIDGING INSTALLATION
 48 X 54 CELL FIBERGLASS TOWER

EvapTech, Inc.
 8331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166



Certified for
Construction

Bill of Material

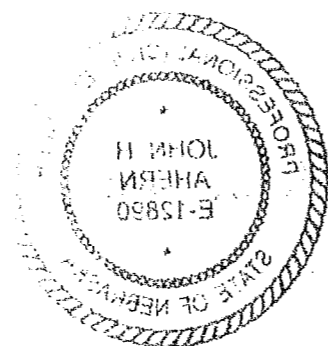
Item Number A015736

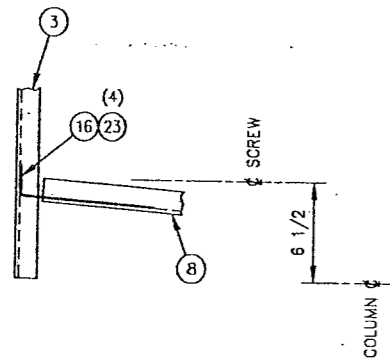
Drawing No 09-20503

Description INSTALL JOIST AND BRIDGING EC 48 X 54 CELL

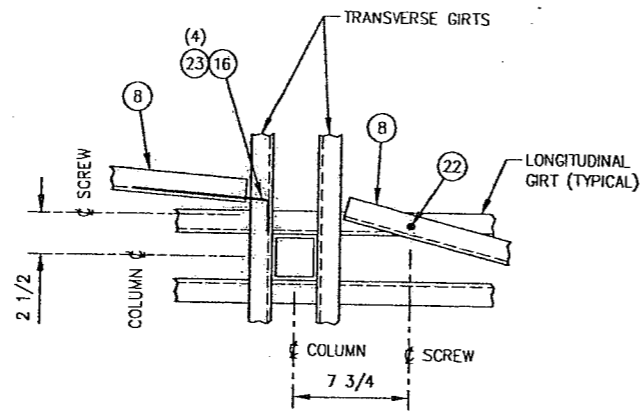
Text 10M DIA MIDWEST FAN STACK (100 PSF FAN DECK LOAD - JOIST ON 2'-0 CENTERS)

Find No	Item Number	Description	Qty	Drawing Number
1	A005864	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 18'-0 FR	16.00	
2	A001167	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 12'-0 FR	24.00	
3	A009202	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 6'-0 FR	5.00	
4	A011701	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 3'-7 FR	4.00	
5	a010295	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 2'-10 FR	4.00	
6	A005870	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 2'-4 FR	8.00	
7	A010844	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 1'-10 FR	8.00	
8	A009830	PULTR CHAN 5 1/2 X 1 1/2 X 1/4 X 1'-7 1/2 FR	12.00	
9	A010298	PULTR I-BEAM 5 1/2 X 2 1/2 X 1/4 X 2'-7 13/16 FR	2.00	08-10505-1
10	A003125	SHEET S304 16GA X 2.75 X 5.51	5.00	05-10094-1
11	A004518	SHEET S304 16GA X 2.75 X 11.00	12.00	06-10080-1
12	A004516	SHEET S304 16GA X 2.75 X 11.00	8.00	06-10079-1
13	A004514	SHEET S304 16GA X 2.75 X 11.00	8.00	06-10078-1
14	A005031	SHEET S304 16GA X 2.75 X 11.00	12.00	06-10136-1
15	A005871	SHEET S304 16GA X 2.75 X 11.00	4.00	06-10129-1
16	A006292	SHEET S304 16GA X 2.75 X 11.00	8.00	06-10131-1
17	A006293	SHEET S304 16GA X 2.75 X 11.00	8.00	06-10132-1
18	A000028	MB S304 1/4 X 1 1/2	20.00	
19	A000312	WASHER S304 SC 1/4	40.00	
20	A000292	WASHER S304 LOCK 1/4	20.00	
21	A000228	NUT S304 1/4	20.00	
22	A001253	SCREW SS #12 X 1 1/4 HWH SELF-DRILLING	228.00	
23	A001361	SCREW SS #12 X 1 1/4 W/ 1 1/8" SW HWH SELF-DRILLING	240.00	

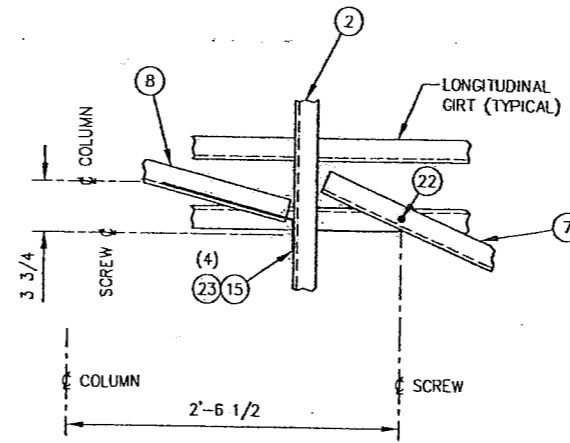




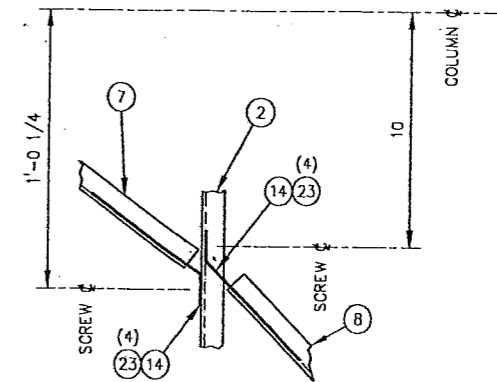
DETAIL 1
(4 PLACES)



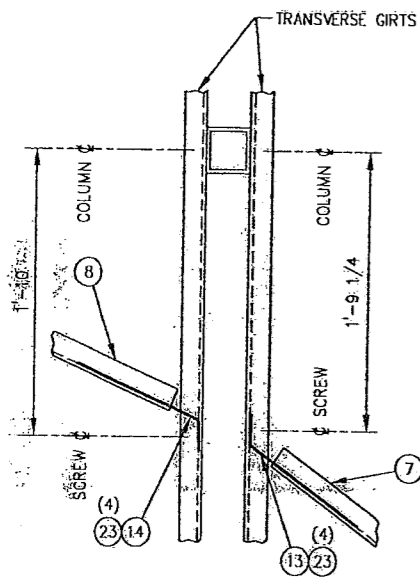
DETAIL 2
(4 PLACES)



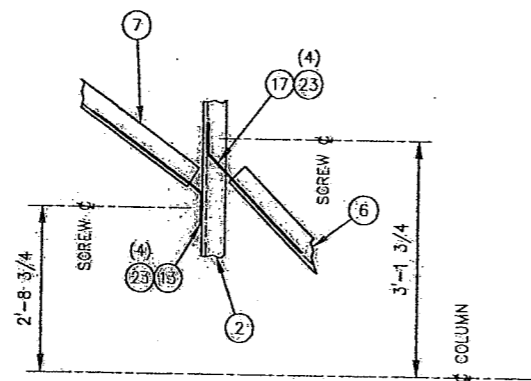
DETAIL 3
(4 PLACES)



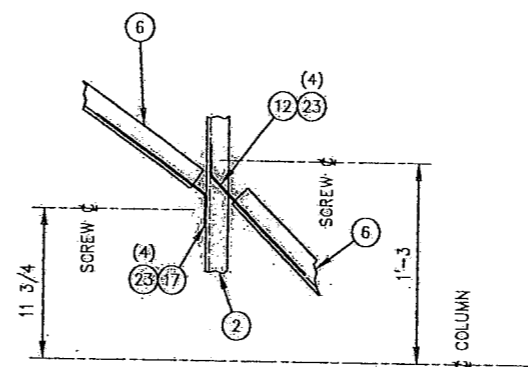
DETAIL 4
(4 PLACES)



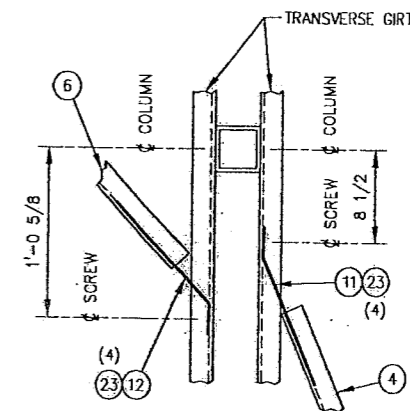
DETAIL 5
(4 PLACES)



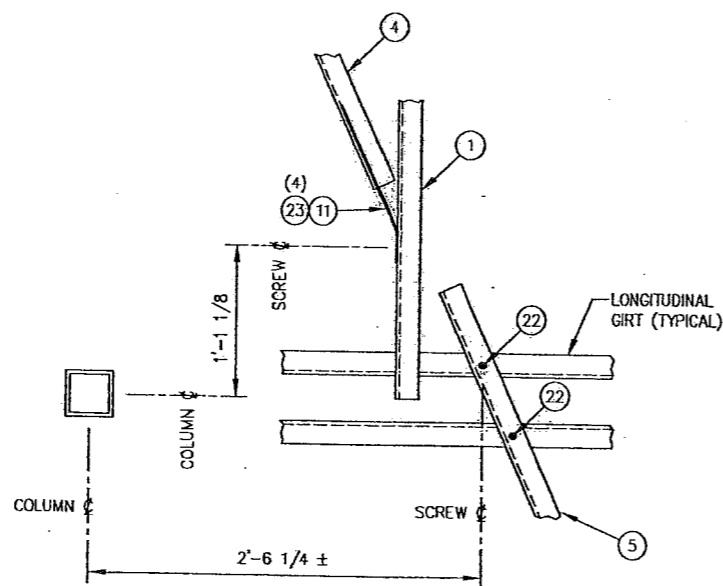
DETAIL 6
(4 PLACES)



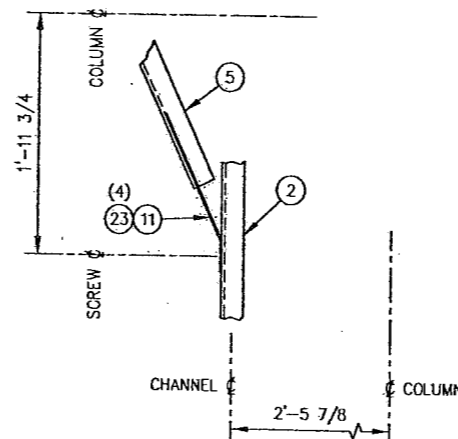
DETAIL 7
(4 PLACES)



DETAIL 8
(4 PLACES)



DETAIL 9
(4 PLACES)



DETAIL 10
(4 PLACES)

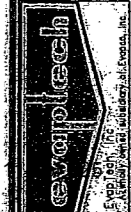
**Certified for
Construction**



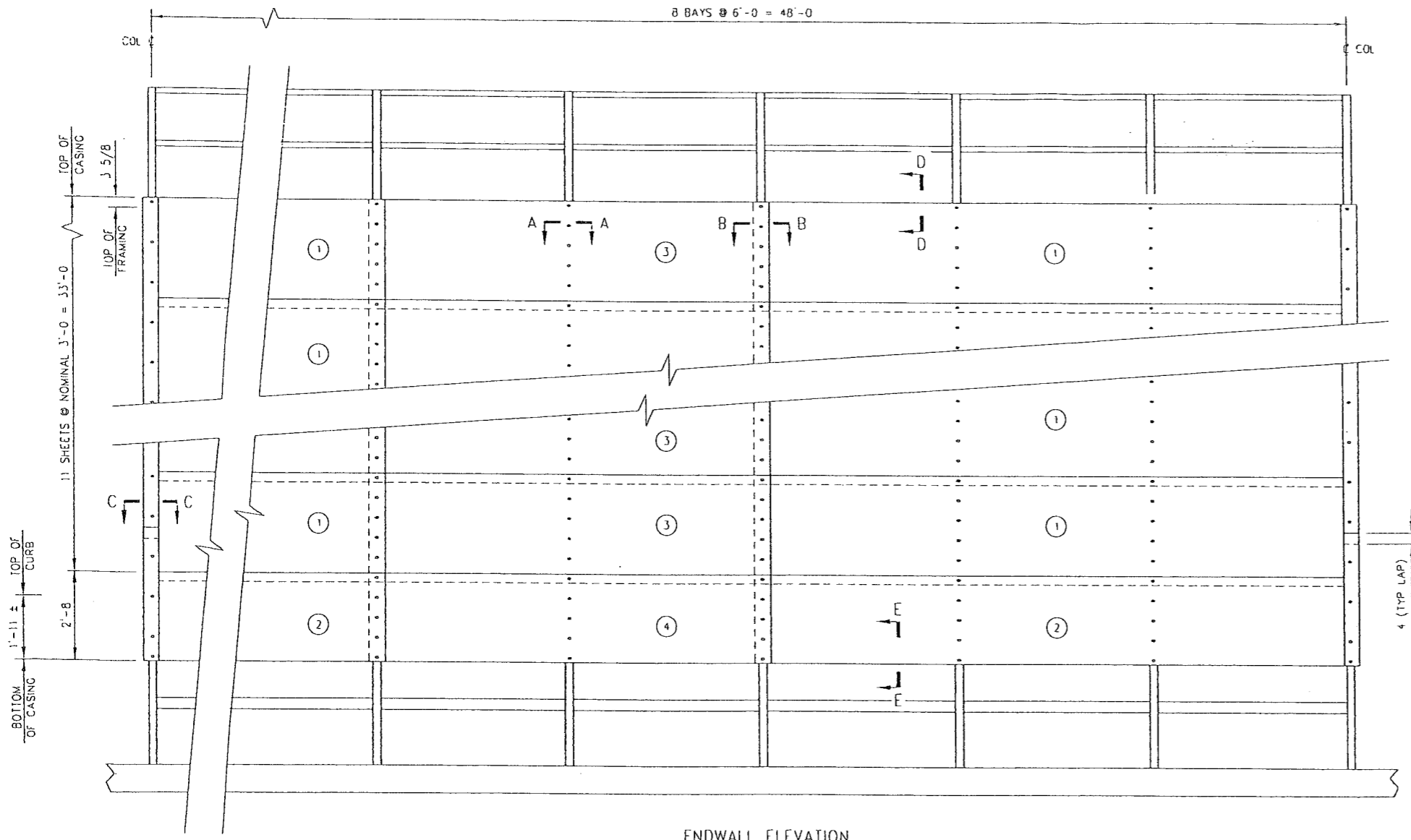
GENERAL NOTES

1. FIELD FABRICATE ALL MATERIAL AS REQUIRED FOR PROPER INSTALLATION.
2. FOR PLAN VIEW AND BILL OF MATERIAL SEE DRAWING 09-20503.

10M DIA. MIDWEST FAN STACK - 100LBS. PAN DECK LOAD		REV. DATE	REV. CHECKED
CHECKED BY: JAR	BAM	ORDER NUMBER	09-20504
DATE: 4/2/09	JHA	SCALE	1 = 12
JOIST AND BRIDGING DETAILS		DRAWING NUMBER	09-20504
EC 48' X 54' CELL - 10M FAN		REV.	



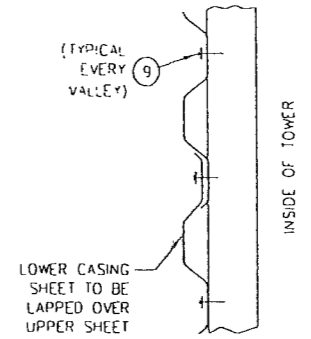
610



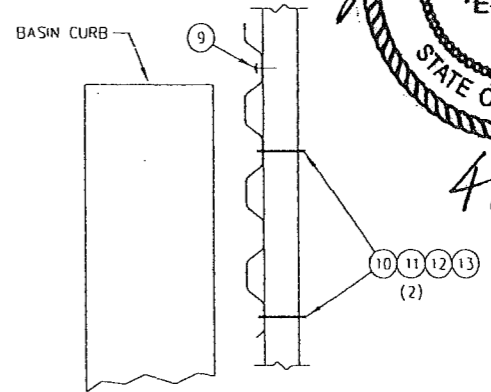
ENDWALL ELEVATION
(BASIN CURB NOT SHOWN FOR CLARITY)

REV. NO.	DESCRIPTION	QTY/ EW
1	FRP 3/4 x 1/4 x 72 x 18'-4	22
2	FRP 3/2 x 72 x 18'-4	2
3	FRP 3/4 x 72 x 12'-4	11
4	FRP 3/2 x 72 x 12'-4	1
5	FRP CMR ROLL 120Z x 6 x 6 x 8'-0	9
6	CLOSURE STRIP 1 1/2 WIDE x 72 x 3'-0	96
7	SEALER POLYURETHANE 10 JOZ TUBE	66
8	SCREW #12 x 3 W/1 1/8 SW HMW SD	80
9	SCREW #12 x 1 1/4 W/1 1/8 SW HMW SD	660
10	MB 1/4 x 4	18
11	WASHER OSC 1/4	36
12	WASHER LOCK 1/4	18
13	NUT 1/4	18

REV. DATE	REV. CHECKED	SCALE	DRAWING NUMBER	REV.
		1 = 48	08-21631	



TYPICAL LAP



SECTION E-E
TYPICAL BOTTOM CASING
BOLTED CONNECTION

Certified for Construction



4/21/09

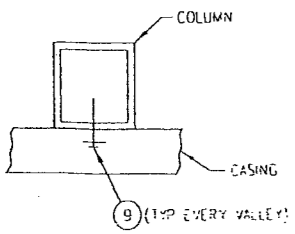
ENDWALL CASING INSTALLATION
MODEL EC 8-48-554M

EvapTech, Inc.
8331 Nieman Road
Lenexa, KS 66214
Ph: (913) 322-5165
Fax: (913) 322-5166

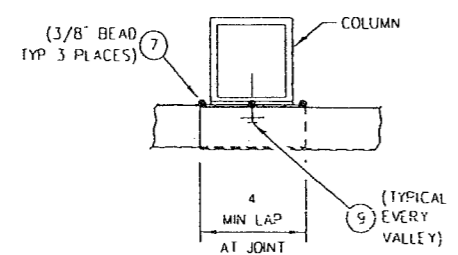
LIBERAL USE OF SEALER IS ESSENTIAL
FOR A WATERTIGHT INSTALLATION

GENERAL NOTES

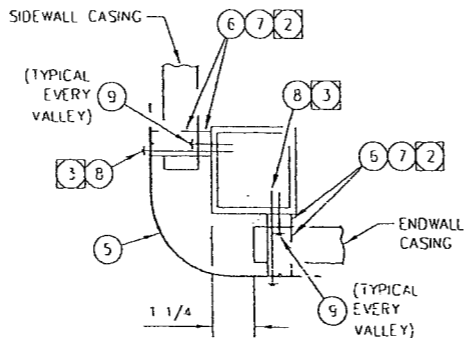
- FIELD FABRICATE ALL MATERIAL AS RECD FOR PROPER INSTALLATION
- INSTALL SEAL STRIP NEAR SIDE & FAR SIDE OF CASING SHEET AT CORNER ROLL. APPLY A CONTINUOUS 3/8 DIA BEAD OF CAULKING BETWEEN SEAL STRIP & CASING SHEET, BETWEEN SEAL STRIP & CORNER ROLL AND BETWEEN SEAL STRIP & COLUMN
- INSTALL GAE AT CORNER ROLL END, LAP, AND APPROX 2'-0" CENTERS



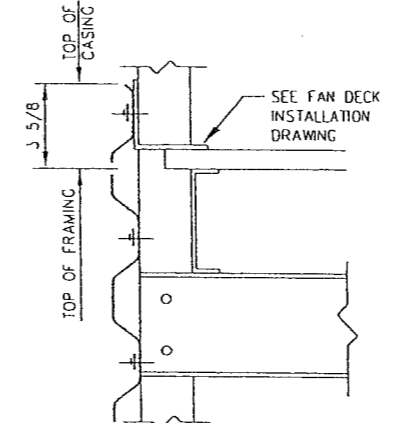
SECTION A-A
(TYPICAL CONNECTION)



SECTION B-B
(TYPICAL LAP)



SECTION C-C
CORNER TRIM CONNECTION



SECTION D-D

55

Item Number A014450

Drawing No 08-21631

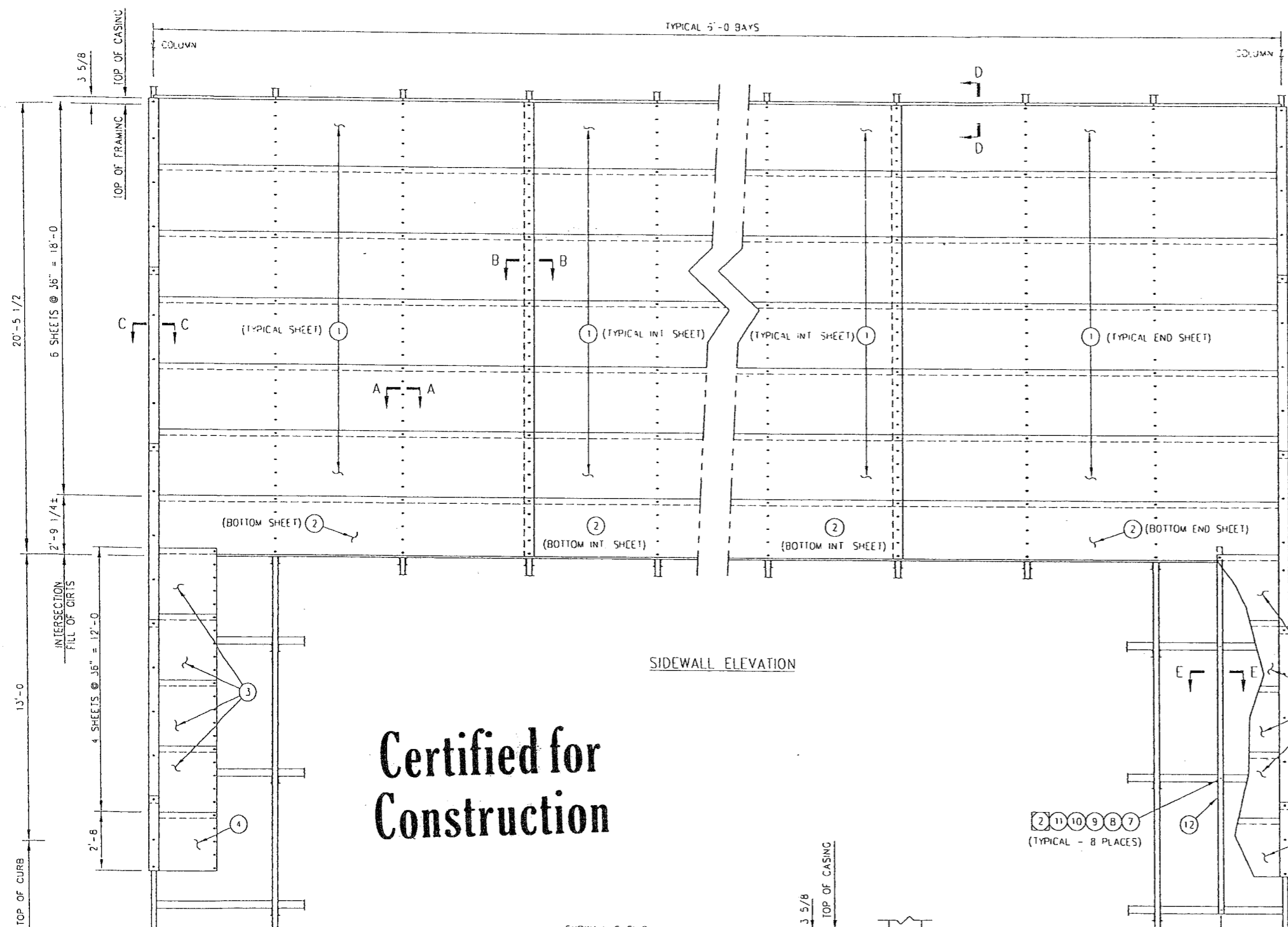
Description INSTALL EW CASING EC848-554M FULL HEIGHT

Text CLOSED ENDWALL - QTY PER ENDWALL; S304 HDWE; 13' AIH; 12' PLENUM, CASED CORNERS ON SW

Find No	Item Number	Description	Qty	Drawing Number
1	A001372	FRP25 12OZ X 39 1/4 X 7.2 X 18'-4		
2	A001373	FRP25 12OZ X 32 X 7.2 X 18'-4	22.00	
3	A001366	FRP25 12OZ X 39 1/4 X 7.2 X 12'-4	2.00	
4	A001368	FRP25 12OZ X 32 X 7.2 X 12'-4	11.00	
5	A000339	FRP25 CNR ROLL 12OZ X 6 X 6 X 8'-0	1.00	
6	A000338	CLOSURE STRIP 1 WIDE X 1 1/2 X 7.2 X 3'-0	9.00	
7	A000259	SEALER POLYURETHANE SIKA 201 10.3OZ TUBE	96.00	
8	A000252	SCREW SS 3/8 X 3 W/ #78 SW HWH SELF-DRILLING	66.00	
9	A001361	SCREW SS 1/2 X 1 1/4 W/ #14 SW HWH SELF-DRILLING	80.00	
10	A000035	MB S304 1/4	660.00	
11	A000302	WASHER S304 OSC 1/4	18.00	
12	A000292	WASHER S304 W/ LOCK 1/4	36.00	
13	A000228	NUT S304 1/4	18.00	
			18.00	

Consolidated
Certified

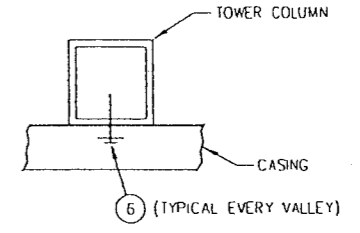




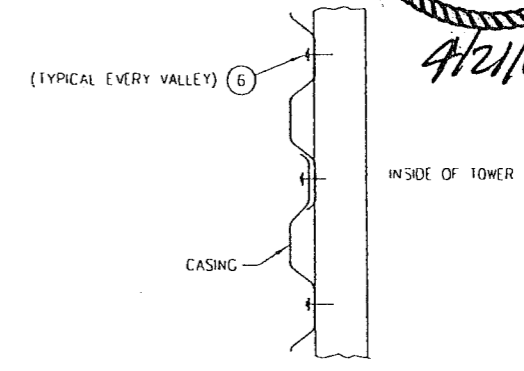
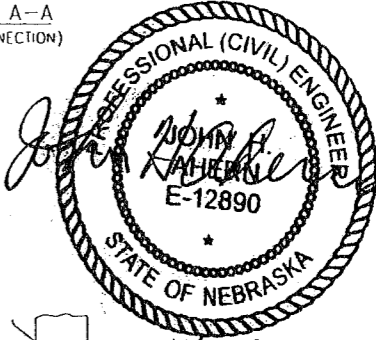
SIDEWALL ELEVATION

Certified for Construction

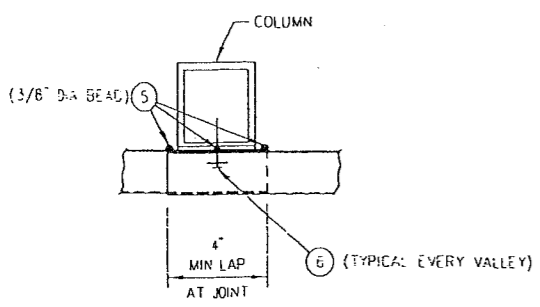
REV. NO	DRAWING NO	DESCRIPTION	DATE
1		FRP 3/4 x 7/2 x 18'-4	
2		FRP 3/2 x 7/2 x 18'-4	
3		FRP 3/4 x 7/2 x 3'-1 1/2	
4		FRP 3/2 x 7/2 x 3'-1 1/2	
5		SEALER POLYURETHANE 10.5 OZ TUBE	
6		SCREW #12 x 1 1/4 W/1 1/8 SW FWH SELF-DRILLING	
7		MB 1/2 x 4	
8		WASHER POCKET 1/2	
9		WASHER LOCK 1/2	
10		WASHER SC 1/2	
11		NUT 1/2	
12	20-20717-8	TUBE 3 x 3 x 1/4 x 16'-5 1/2	



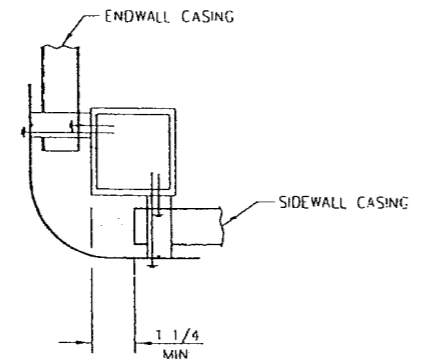
SECTION A-A
(TYPICAL CONNECTION)



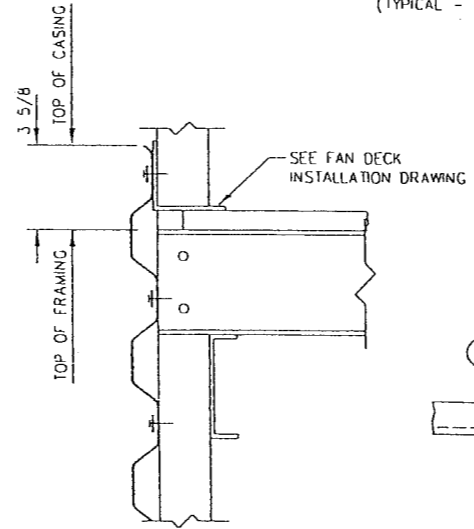
TYPICAL LAP



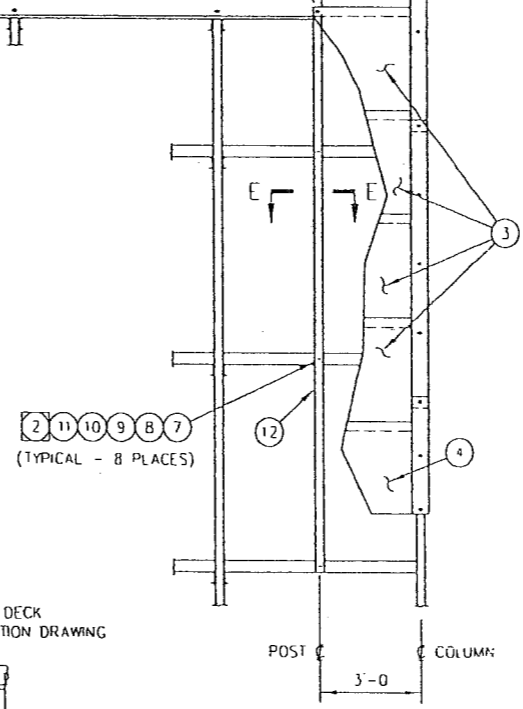
SECTION B-B
(TYPICAL LAP)



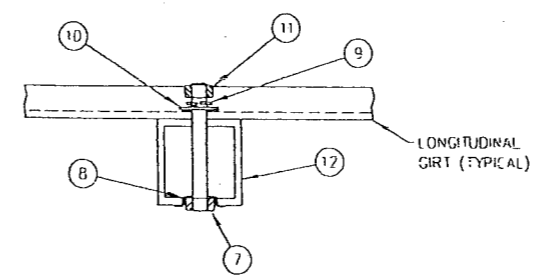
SECTION C-C
(SEE ENDWALL CASING INSTALLATION FOR ITEMS NOT NOTED)



SECTION D-D



SECTION E-E
(TYPICAL 8 PLACES)



- GENERAL NOTES**
- FIELD FABRICATE ALL MATERIAL AS REQUIRED FOR PROPER INSTALLATION
 - FIELD DRILL GIRTS IF REQUIRED USE POST AS TEMPLATE WITH ARROW POINTING UP
 - SEE BILL OF MATERIAL FOR QUANTITIES

DRAWN BY: REA
 CHECKED BY: BAM
 DATE: 1/5/2009
 APPROVED BY: JHA
 ORDER NUMBER: 09-20002
 SCALE: 1 = 64
 REV. DATE: 3
 REV. CHECKED:

EvapTech, Inc.
 8331 Niemon Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166

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60

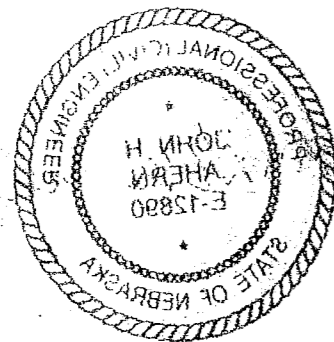
Item Number A013859

Drawing No 09-20002

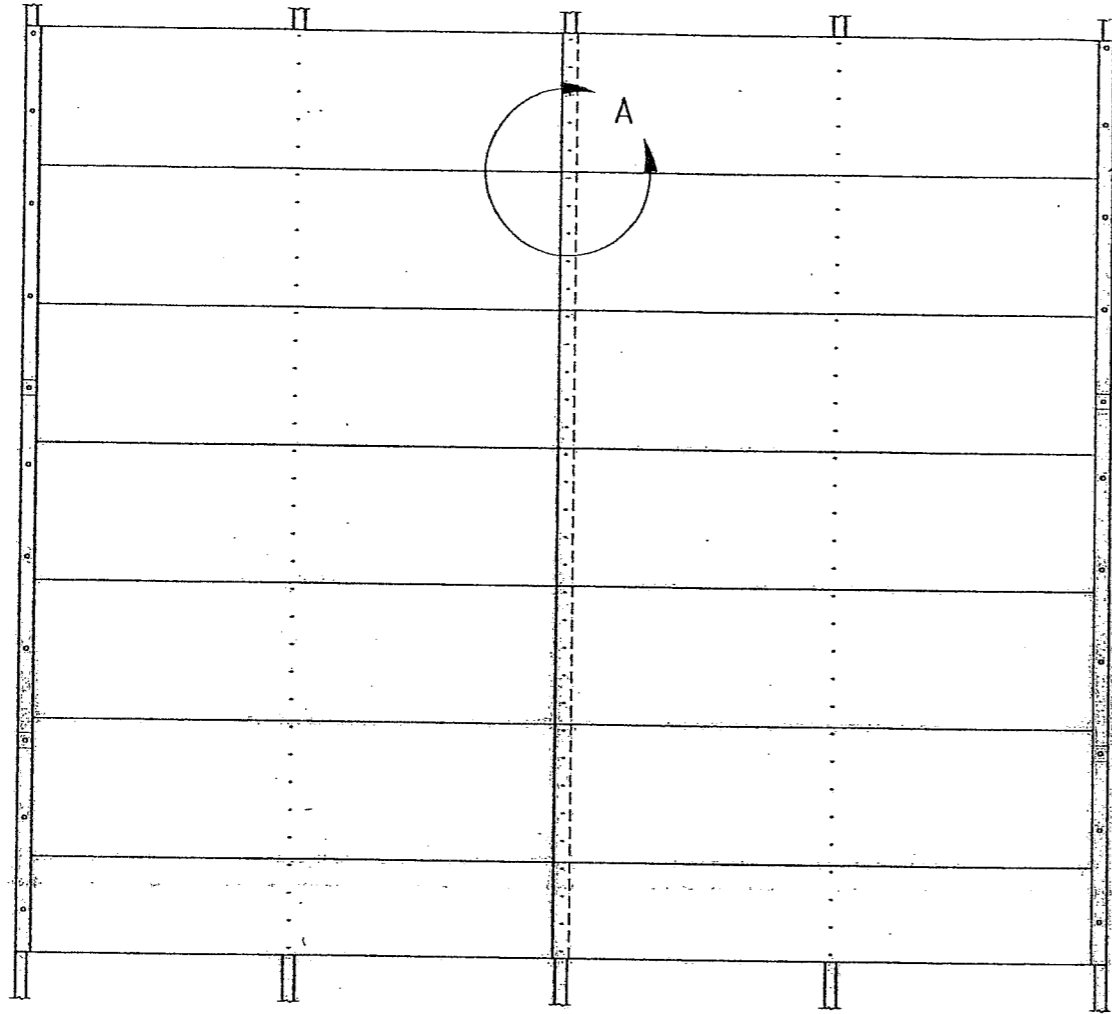
Description INSTALL SW CASING MODEL EC848-554M TOWER

Text CASED CORNERS, CLOSED EW, 13'-0 AIH, QTY/ SW; S304 HDWE

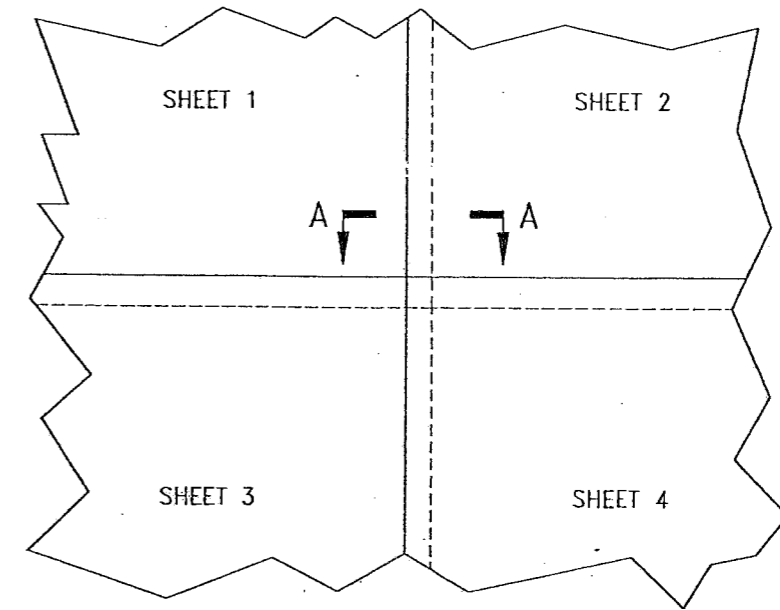
Find No	Item Number	Description	Qty	Drawing Number
1	A001372	FRP25 12OZ X 39 1/4 X 7.2 X 18'-4	144.00	
2	A001373	FRP25 12OZ X 32 X 7.2 X 18'-4	24.00	
3	A003236	FRP25 12OZ X 39 1/4 X 7.2 X 3'-1 1/2	8.00	
4	A003421	FRP25 12OZ X 32 X 7.2 X 3'-1 1/2	2.00	
5	A000259	SEALER POLYURETHANE SIKA 201 10.3OZ TUBE	118.00	
6	A001361	SCREW SS #12 X 1 1/4 W/ 1 1/8" SW HWH SELF-DRILLING	2,535.00	
7	A000161	MB S304 1/2 X 4	8.00	
8	A001243	WASHER S304 POCKET 1/2	8.00	
9	A000291	WASHER S304 LOCK 1/2	8.00	
10	A000311	WASHER S304 SC 1/2	8.00	
11	A000225	NUT S304 1/2	8.00	
12	A014138	PULTR TUBE 3 X 3 X 1/4 X 16'-5 1/2 FR	2.00	07-20717A-B



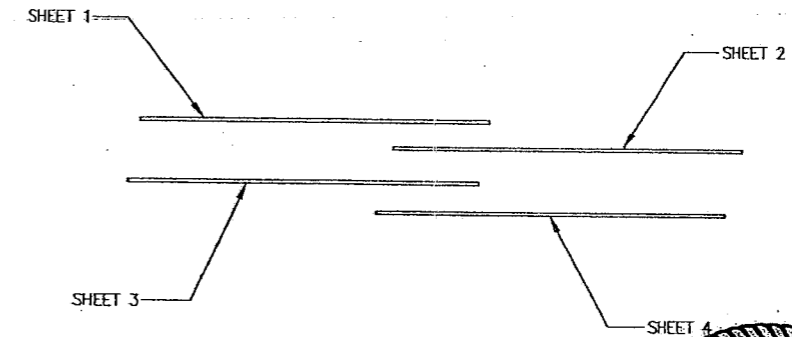
Certified for
Construction



TYPICAL CASING ELEVATION



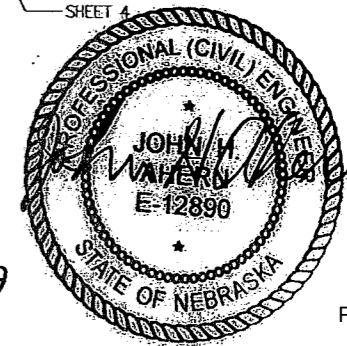
DETAIL A
(TYPICAL CORNER LAP)



SECTION A-A
(TYPICAL CORNER LAP)

**Certified for
Construction**

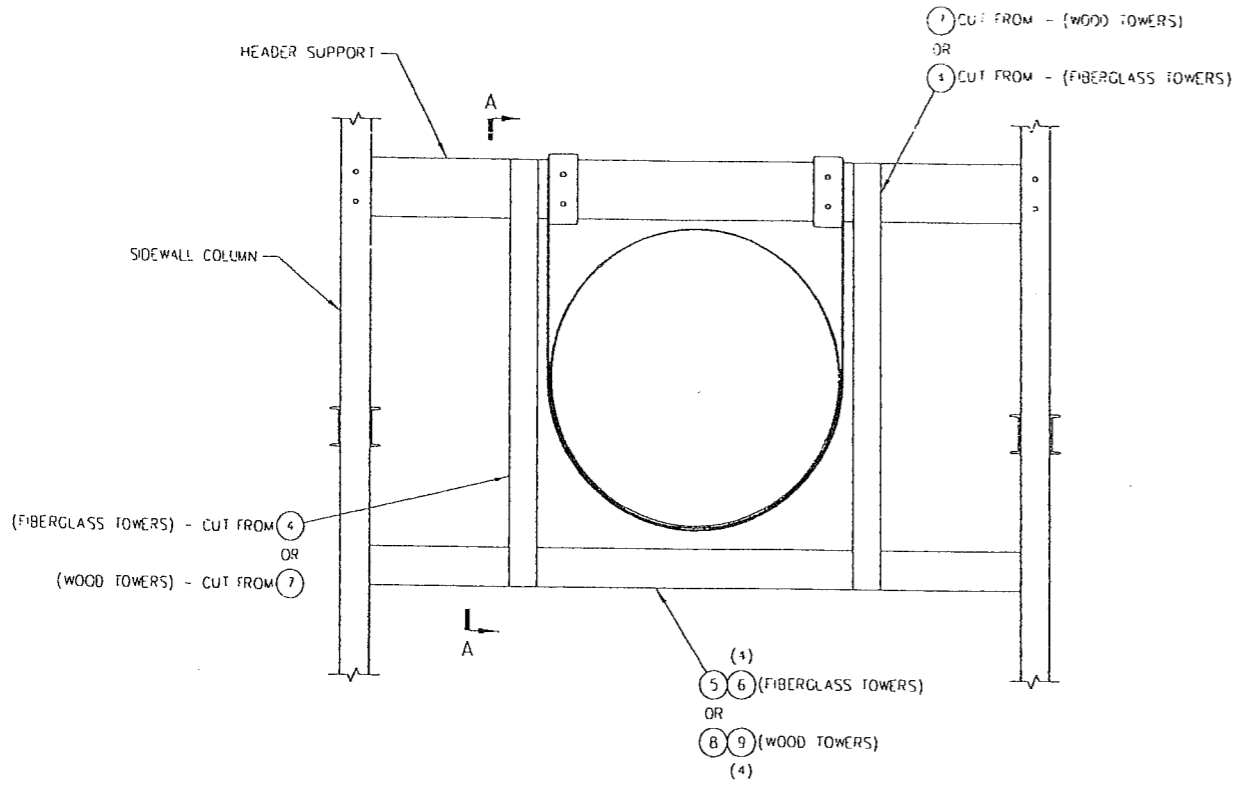
4/21/09



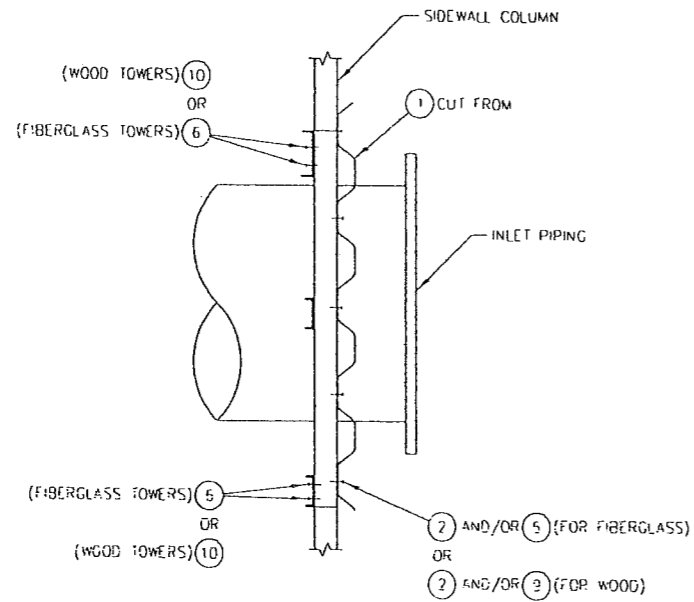
DRAWN BY: EIS DATE: 09/11/2008 CHECKED BY: RDF APPROVED BY: RDF REVISIONS: 1 = 48 ORDER NUMBER: 08-21013 DRAWING NUMBER: 08-21013 REV:	TYPICAL CASING SHEET CORNER LAP DETAIL EvapTech, Inc. 8331 Neman Road Lenexa, KS 66214 Ph: (913) 322-5165 Fax: (913) 322-5166
---	--



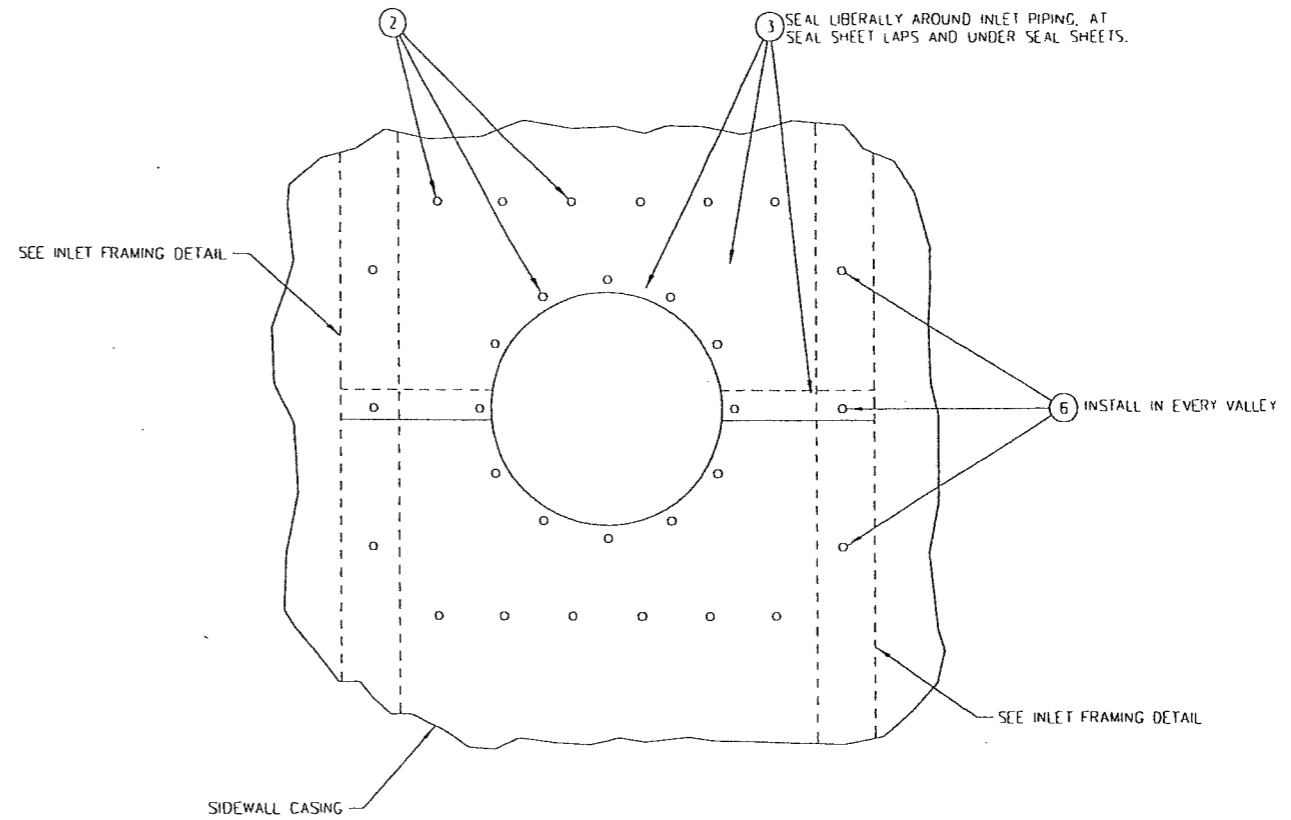
FIND NO	DRAWING NO	DESCRIPTION	QTY FIBERGLASS	QTY WOOD
1		FRP 3/4 x 72 x 4'-0	2	2
2		FASTENER SIDE LAP 53-2	25	25
3		SEALER POLYURETHANE SIKA 201 10 3 02 TUBE	2	2
4		TUBE 3 x 3 x 1/4 x 10'-0	1	
5		CHAN 4 x 11/8 x 1/4 x 6'-3	1	
6		SCREW #12 x 1 1/4 w/1 1/8 SW SELF-DRILLING	25	
7		2 x 2 x 10'-0		1
8		2 x 4 x 6'-3 1/2		1
9		NAIL 1 1/2 x 135 DIA w/1 1/8 SW		12
10		NAIL 3 1/2 x 135 DIA		12



TYPICAL INLET FRAMING DETAIL
(CASING NOT SHOWN)

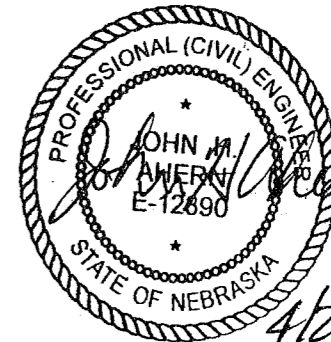


SECTION A-A



TYPICAL INLET SEALING DETAIL
(PIPE NOT SHOWN FOR CLARITY)

**Certified for
Construction**



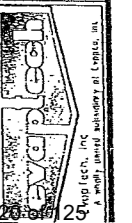
GENERAL NOTES

1. FIELD FABRICATE ALL MATERIAL AS REQUIRED FOR PROPER INSTALLATION

REVISED BY: MAE
 CHECKED BY: MELTON
 DATE: 5/24/2005
 DRAWING NO: 05-2049
 ORDER NUMBER: 8
 SCALE: 1 = 8
 REV: A
 DATE: 1/02/2008
 CHECKED BY: BAM
 DRAWING NO: 05-2049
 ORDER NUMBER: 8
 SCALE: 1 = 8
 REV: A
 DATE: 1/02/2008

SIDEWALL INLET SEAL INSTALLATION
 COUNTERFLOW COOLING TOWER

EvapTech, Inc.
 6331 Nieman Road
 Lenexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5166



Item Number A002031

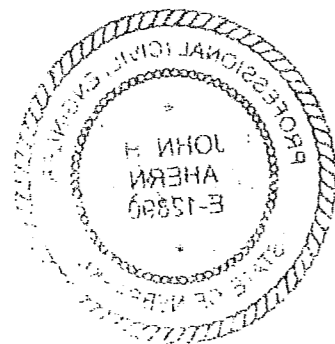
Description INSTALL SIDEWALL INLET SEAL PER INLET

Drawing No 05-20459A

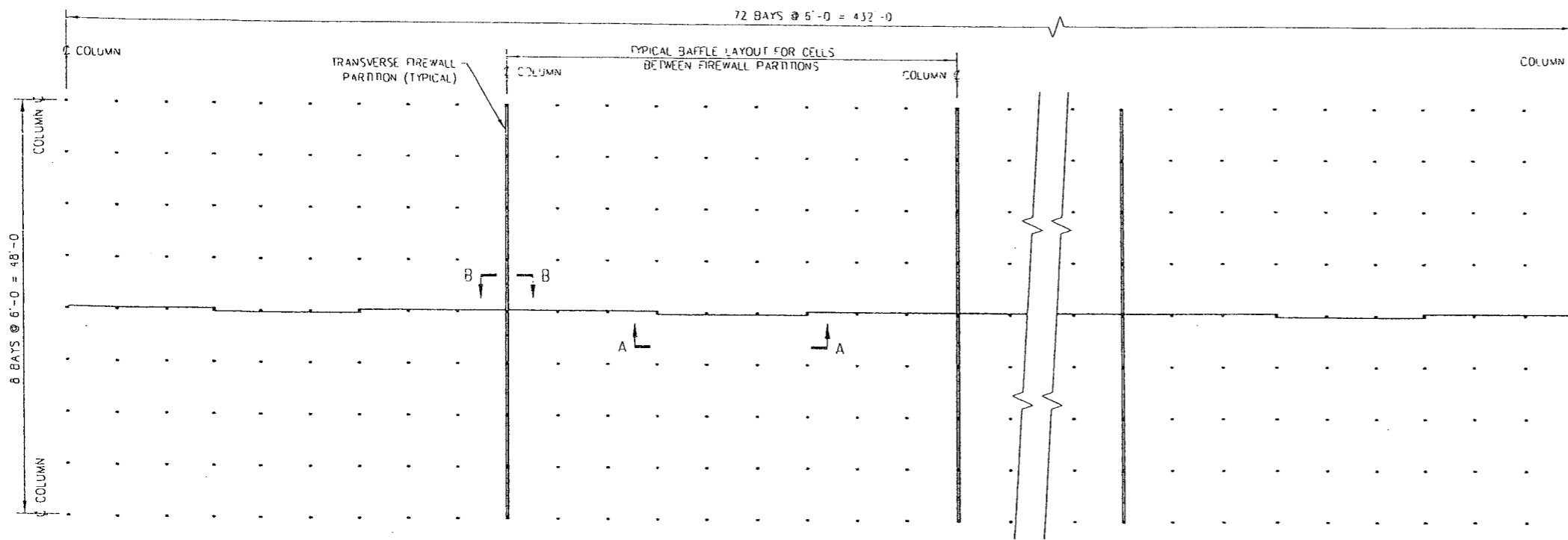
Text FIBERGLASS COUNTERFLOW COOLING TOWER

Find No	Item Number	Description
1	A002145	FRP25 12OZ X 39 1/4 X 7.2 X 4'-0
2	A000341	HDWE SIDELAP SB-2 FASTENER SS 100/PKG
3	A000259	SEALER POLYURETHANE SIKA 201 10.3OZ TUBE
4	A004095	PULTR TUBE 3 X 3 X 1/4 X 10'-0 FR
5	A003911	PULTR CHAN 4 X 1 1/8 X 1/4 X 6'-3 FR
6	A001361	SCREW SS #12 X 1 1/4 W/ 1 1/8" SWHWH SELF-DRILLING

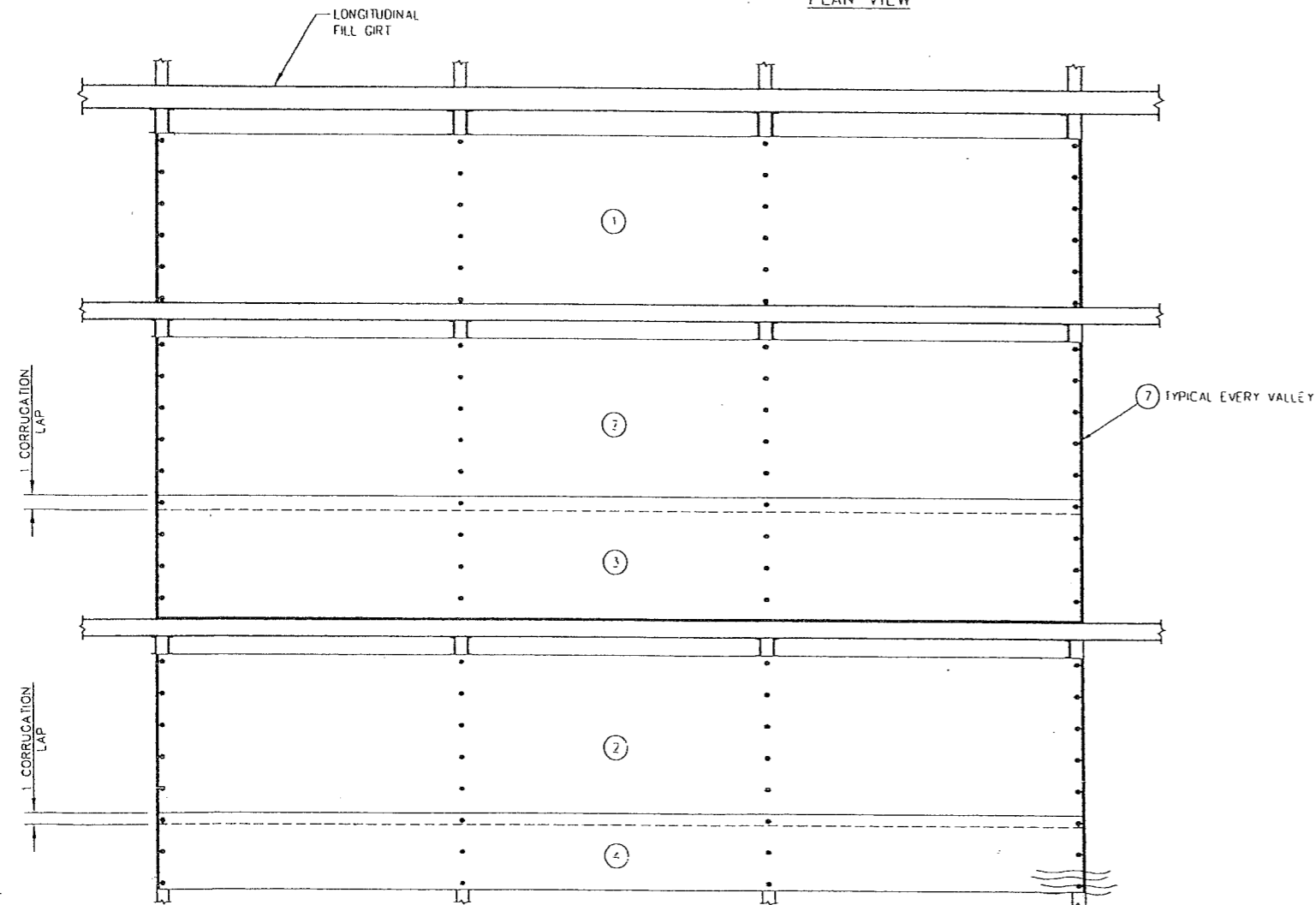
Qty	Drawing Number
2.00	
0.25	
2.00	
1.00	
1.00	
24.00	



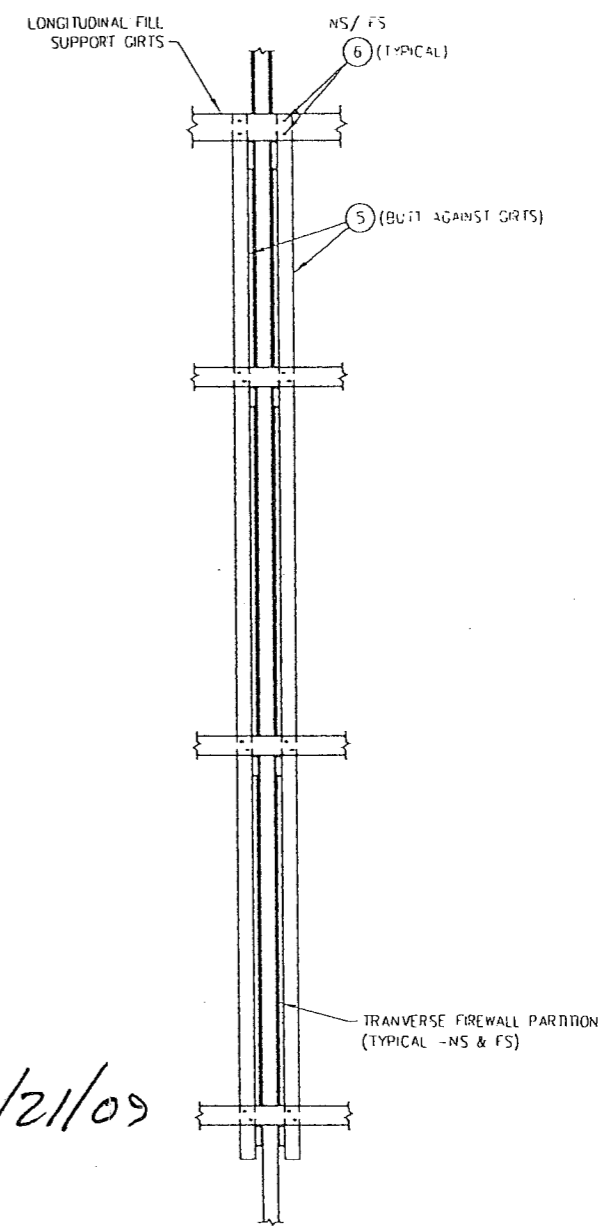
Construction
Certified for



FACE A
PLAN VIEW



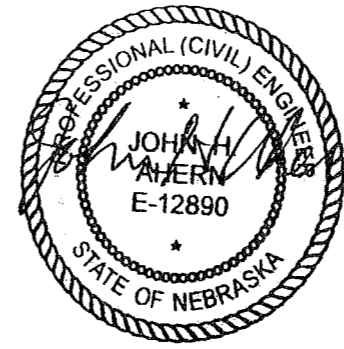
SECTION A-A
(TYPICAL SHEET ARRANGEMENT)



SECTION B-B
(CASING NOT SHOWN FOR CLARITY)

FIND NO	DRAWING NO	DESCRIPTION	QTY
1		FRP 3/8 X 7 2 X 18 -2	24
2		FRP 3/8 1/4 X 7 2 X 18 -2	48
3		FRP 2/8 X 7 2 X 18 -2	24
4		FRP 1 1/2 X 7 2 X 18 -2	24
5		TUBE 3 X 3 X 1/4 X 17'-0	14
6		SCREW #12 X 1 1/4 HMM SELF-DRILLING	224
7		SCREW #12 X 1 1/4 HMM W/ 1/8 SW SELF-DRILLING	2208

REV. DATE: 09-20007
 SCALE: 1 = 36
 DRAWING NUMBER: 09-20007
 CHECKED BY: B.A.M.
 APPROVED BY: J.H.A.
 DATE: 1/5/2009
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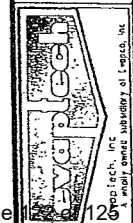
4/21/09

Certified for Construction

GENERAL NOTES

- 1 FIELD FABRICATE ALL MATERIAL AS REQUIRED FOR PROPER INSTALLATION
- 2 SEE BILL OF MATERIALS FOR QUANTITIES

EvapTech, Inc.
 8331 Nieman Road
 Lanexa, KS 66214
 Ph: (913) 322-5165
 Fax: (913) 322-5165



59

Item Number A008501

Description INSTALL WIND BAFFLE MODEL EC848-554M

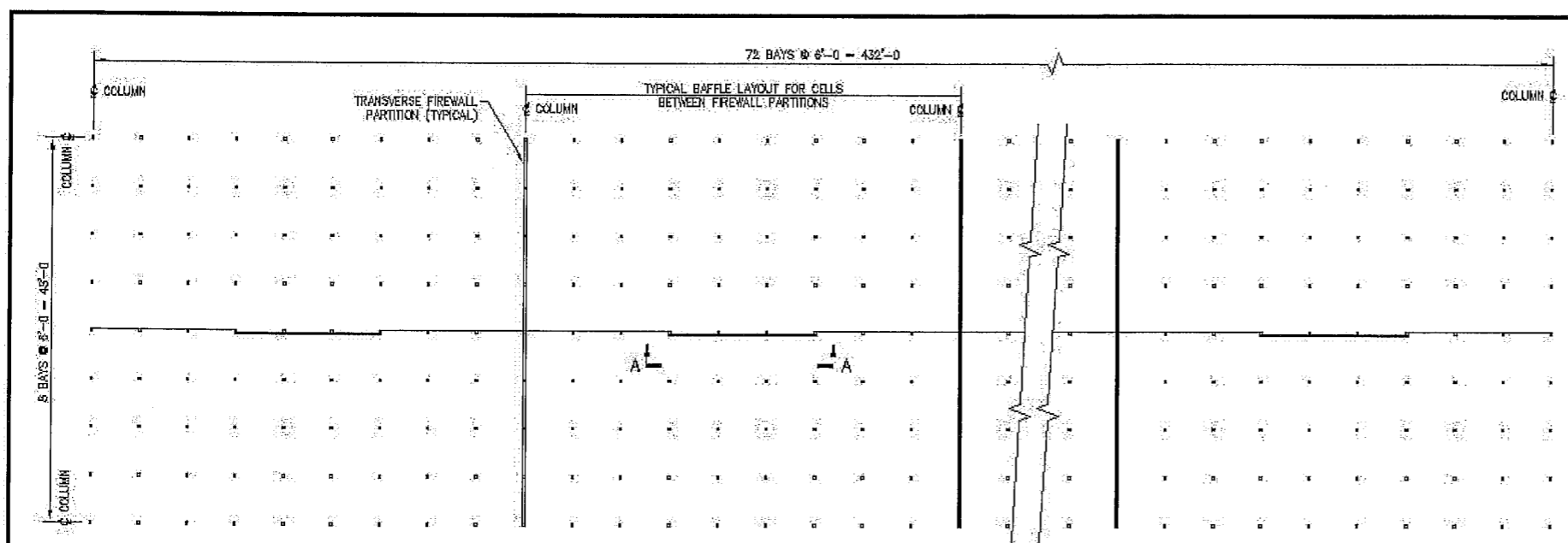
Drawing No 09-20007

Text 13'-0" AIH; CLOSED EW, CASED CORNERS; S304 HDWE

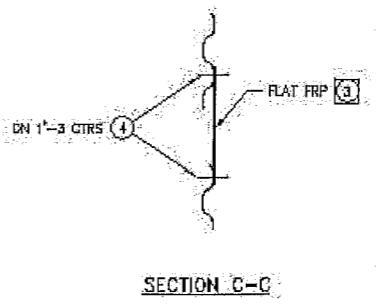
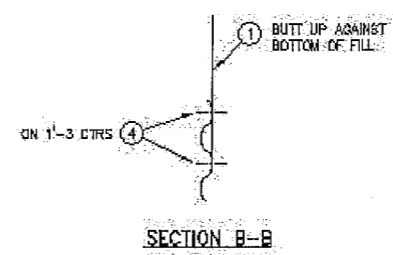
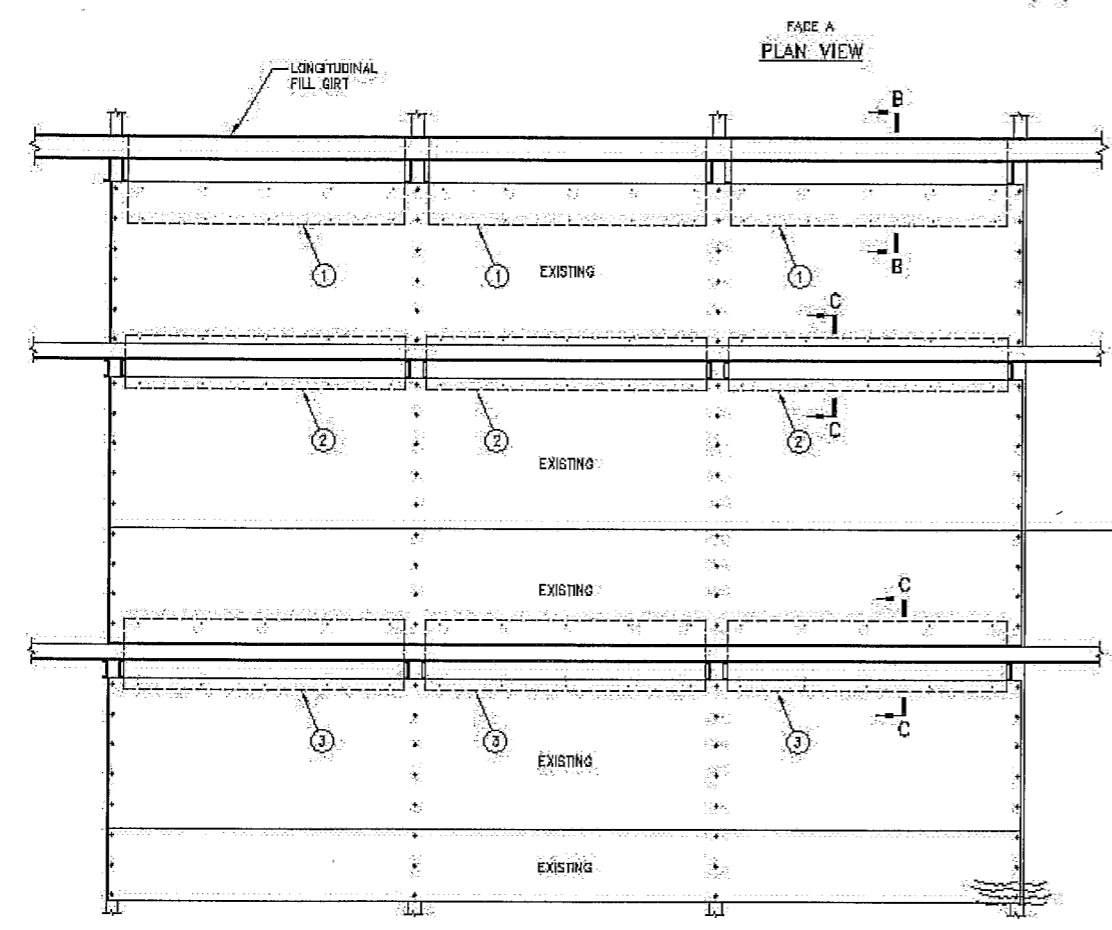
Find No	Item Number	Description	Qty	Drawing Number
1	A001884	FRP25 12OZ X 38 X 7.2 X 18'-2		
2	A000414	FRP25 12OZ X 39 1/4 X 7.2 X 18'-2	24.00	
3	A000413	FRP25 12OZ X 28 X 7.2 X 18'-2	48.00	
4	A014391	FRP25 12OZ X 17 1/2 X 7.2 X 18'-2	24.00	
5	A008402	PULTR TUBE 3 X 3 X 1/4 X 17'-0 FR	24.00	
6	A001253	SCREW SS #12 X 1 1/4 HWH SELF-DRILLING	14.00	
7	A001361	SCREW SS #12 X 1 1/4 W/ 1 1/8" SW HWH SELF-DRILLING	224.00	
			2,208.00	



Construction
Certified for



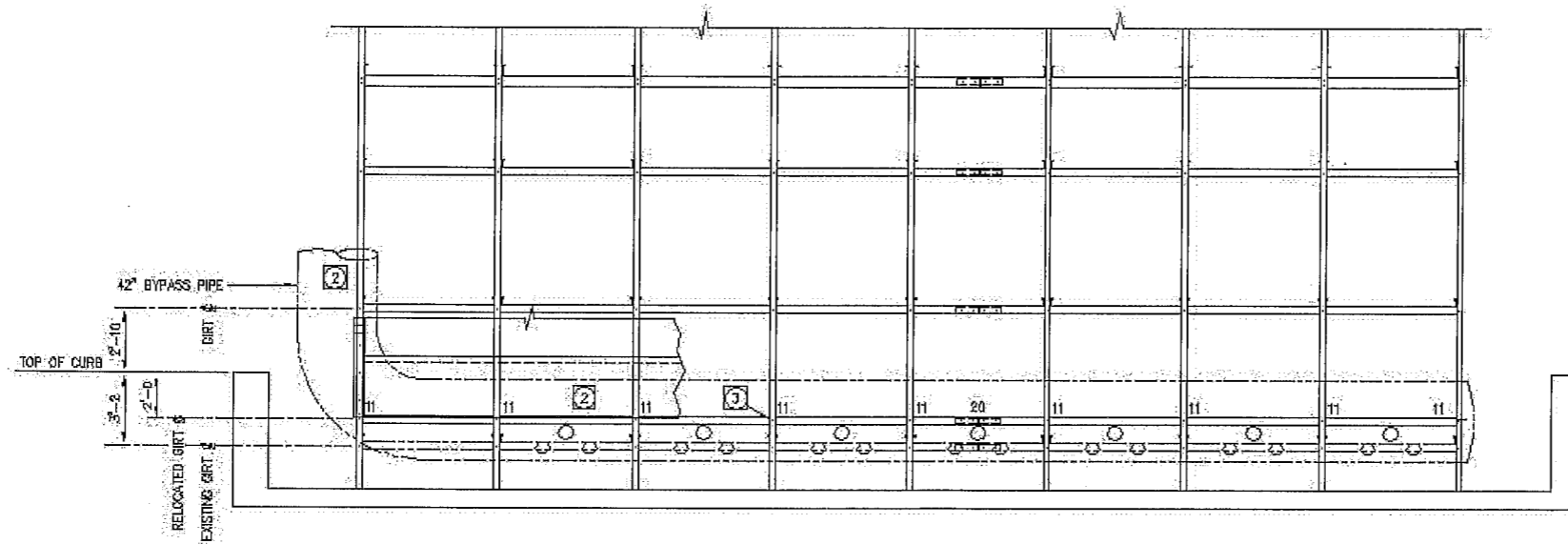
ITEM NO.	DRAWING NO.	DESCRIPTION	QTY
1		FRP FLAT 1/8 X 20 7/8 X 66 3/4	72
2		FRP FLAT 1/8 X 12 5/8 X 66 1/2	72
3		FRP FLAT 1/8 X 18 1/2 X 66 1/2	72
4		SIDLAP SB-2 FASTENER	2160



"AS BUILT"

- FIELD FABRICATE ALL MATERIAL AS REQUIRED FOR PROPER INSTALLATION.
- SEE DRAWING 02-20706 FOR ADDITIONAL DETAILS AT LONGITUDINAL PARTITIONS.
- FILL GAPS BETWEEN EXISTING WINDBAFFLE SHEETS WITH FLAT FRP.

DRAWN BY: SRH DATE: 9/21/2009 CHECKED BY: PILH APPROVED BY: JHA	PROJECT NUMBER: 09-21381 SCALE: 1 = 36 CONFIDENTIAL THIS DOCUMENT IS THE PROPERTY OF EXAPTCH, INC. IT SHOULD NOT BE DISCLOSED WITHOUT PRIOR WRITTEN AUTHORIZATION.
WIND BAFFLE MODIFICATION MODEL EC848-554M TOWER	
Exaptch, Inc. 8331 N. Main Road Lewisville, TX 75044 Ph: (913) 322-5195 Fax: (913) 322-5196	



TRANSVERSE ENDWALL BENT NO. 1

"AS BUILT"

REV NO	DRAWING NO	DESCRIPTION	QTY/ EW
D		SCREW #12 X 3 W/1 1/8 SW HHW SD	16
D		SCREW #12 X 1 1/4 W/1 1/8 SW HHW SD	46
D	07-10261	JOINT DETAIL NO. 11	9
D		SEALER PLYURETHANE 10.3 OZ TUBE	2


PAGE 78

TRANSVERSE ENDWALL BENT NO. 1
GIRT RELOCATION AT BYPASS PIPE

DRAWN BY: SRH
 DATE: 9/03/2009
 CHECKED BY: PLH
 APPROVED BY: JHA
 PROJECT NUMBER: 7-320814
 SHEET NUMBER: 1 OF 75
 REV. DATE: 09-21-09
 REV. DESCRIPTION:

ExpoTach, Inc.
 8231 Norman Road
 Lakewood, CO 80214
 Ph: (313) 332-5185
 Fax: (313) 332-5166

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- GENERAL NOTES**
- SEE BENT PLAN DRAWING FOR BENT LOCATIONS.
 - REMOVE AND REUSE EXISTING PANELS, CORNER ROLLS, & CLOSURE STRIPS AS NECESSARY TO RELOCATE BIRT.
 - FIELD DRILL COLUMN AT NEW LOCATION OF GIRT.