MAYOR AND COUNCIL MEETING
MONDAY, DECEMBER 02, 2024
6:00 PM
DALTON CITY HALL - COUNCIL CHAMBERS

AGENDA

Call to Order

Pledge of Allegiance

Approval of Agenda

Public Commentary: *(Please Complete Public Commentary Contact Card Prior to Speaking - Limit of 3 Minutes/Person)*

Presentations:

1. Department Head Reports

Minutes:

2. Mayor & Council Regular Meeting Minutes of November 18, 2024

Unfinished Business:

3. Second Reading Ordinance 24-34 To Make Findings of Fact Concerning the Public Use and Necessity of Gravely Street and Erwin Street; To Consider the Vacating and Abandonment of The Public Interest in And to Gravely Street and Erwin Street for Purposes of Public Streets and Transportation; To Declare the Closing of Gravely Street and Erwin Street for Public Use and Transportation; To Authorize Delivery of a Quitclaim Deed of Any Interest of The City of Dalton Except Utility Easements to Adjacent Property Owners; To Establish an Effective Date; And for Other Purposes.

New Business:

4. Resolution 24-17 To Adopt The 2025 Budget for Each Fund of The City of Dalton, Georgia, Appropriating the Amounts Shown in The Following Schedules for Selected Funds; Adopting the Items of Anticipated Revenue Sources; Affirming That Expenditures in Each Fund May Not Exceed Appropriations; And Prohibiting Expenditures from Exceeding Anticipated Funding Sources.

5. Resolution 24-19 To Convey Certain Real Property Owned by The City of Dalton and Operated by Dalton Utilities to The Housing Authority of The City of Dalton.

6. Level 1-A Pipe Lining Project Change Order

7. Decorative Traffic Signal Poles, Mast Arms, and Luminaires Contract with DOT Lighting, LLC

8. Reappointment of Benny Dunn to the Dalton Airport Authority for a 5-year term to expire December 31, 2029.

9. Appointment of Kevin Brunson to the Water Light & Sinking Fund Commission to fill the unexpired 5-year term of Ken White to expire December 31, 2028.

Supplemental Business

Announcements

Adjournment

THE CITY OF DALTON
MAYOR AND COUNCIL MINUTES
NOVEMBER 18, 2024

The Mayor and Council held a meeting this evening at 6:00 p.m. at City Hall. Present were Mayor Annalee Sams, Councilmembers Dennis Mock, Nicky Lama, Tyree Goodlett and Steve Farrow, City Attorney Jonathan Bledsoe and City Administrator Andrew Parker.

CALL TO ORDER
Mayor Sams called the meeting of the Mayor and Council to order.

PLEDGE OF ALLEGIANCE
Councilmember Lama led the audience in the Pledge of Allegiance.

APPROVAL OF AGENDA
On the motion of Councilmember Mock, second Councilmember Goodlett, the Mayor and Council approved the agenda. The vote was unanimous in favor.

PUBLIC HEARING
The Mayor and Council held a Public Hearing at 6:06 p.m. for a presentation of the FY2025 City of Dalton budget. CFO Cindy Jackson presented the proposed 2025 Budgets for the General Fund, Special Revenue Funds, Debt Service Fund, and Capital Improvements Funds. Jackson outlined the FY2025 proposed budget including proposed revenues, expenditures and other financing uses. Jackson further stated the complete budget can be obtained online or in the Finance Office.

There were no comments or questions. The Public Hearing concluded at 6:20 p.m.

The regular meeting resumed.

PUBLIC COMMENTARY
There were no Public Comments.

DEPARTMENT HEAD REPORTS
There were no Department Head Reports.

PROCLAMATIONS
Small Business Saturday - November 30, 2024 - Candace Eaton, DDDA
Mayor Sams presented DDDA Director Candance Eaton with a Small Business Saturday Proclamation. The proclamation proclaimed November 30, 2024 as “Small Business Saturday” in the City of Dalton and urged citizens to support small businesses and merchants on Small Business Saturday.

Eaton announced the following:

- Gratefull will be held in downtown Dalton on Monday November 25, 2024, and asked everyone to attend and enjoy a meal with neighbors
- November 29, 2024 will be the 6th annual tree lighting in Downtown. Kids crafts begin at 5:30 and lighting of the tree by the Mayor begins at 6:00
- November 29, 2024 DDDA is partnering with the CVB to run a Polar Express Trolley that takes citizens to the Freight Depot to see Santa and a mailbox to drop-off letters to him.

MINUTES

The Mayor and Council reviewed the Mayor & Council Work Session Minutes of November 4, 2024. On the motion of Councilmember Mock, second Councilmember Farrow, the minutes were approved. The vote was unanimous in favor.

The Mayor and Council reviewed the Mayor & Council Meeting Minutes of November 4, 2024. On the motion of Councilmember Mock, second Councilmember Farrow, the minutes were approved. The vote was unanimous in favor.

The Mayor and Council reviewed the Special Called Mayor & Council Minutes of November 5, 2024 - 2nd Reading Chapter 6 - Alcohol Beverage. On the motion of Councilmember Mock, second Councilmember Farrow, the minutes were approved. The vote was unanimous in favor.

The Mayor and Council reviewed the Special Called Mayor & Council Minutes of November 5, 2024 - Public Hearing #1 - 2024 Millage Rate Increase. On the motion of Councilmember Mock, second Councilmember Goodlett, the minutes were approved. The vote was unanimous in favor.

The Mayor and Council reviewed the Special Called Mayor & Council Minutes of November 5, 2024 - Public Hearing #2 Millage Rate Increase. On the motion of Councilmember Mock, second Councilmember Farrow, the minutes were approved. The vote was unanimous in favor.

The Mayor and Council reviewed the Special Called Mayor & Council Minutes of November 12, 2024. On the motion of Councilmember Mock, second Councilmember Farrow, the minutes were approved. The vote was unanimous in favor.

AGREEMENT FOR SALE AND PURCHASE OF REAL ESTATE FOR PERMANENT STORMWATER DRAINAGE EASEMENT AT 626 NORTH GLENWOOD AVENUE

Public Works Director Chad Townsend presented an Agreement for Sale and Purchase of Real Estate for Permanent Stormwater Drainage Easement at 626 North Glenwood Avenue (Parcel 12-200-10-014). Townsend stated the acquisition is for a 20-foot permanent easement and temporary construction easement with a fair market value determined by appraisal at $9400.00. On the motion of Councilmember Mock, second Councilmember Goodlett, the Agreement was approved. The vote was unanimous in favor.

AGREEMENT FOR SALE AND PURCHASE OF REAL ESTATE FOR PERMANENT STORMWATER DRAINAGE EASEMENT AT 308 EAST MATILDA STREET

Public Works Director Chad Townsend presented an Agreement for Sale and Purchase of Real Estate for Permanent Stormwater Drainage Easement at 308 East Matilda Street (Parcel 12-201-12-004). Townsend stated the acquisition is for a 20-foot permanent easement and temporary construction easement with a fair market value determined by appraisal at $9400.00. Townsend stated an error in calculations determined that the appraisal should be $9600.00 instead of $9400.00. On the motion of Councilmember Goodlett, second Councilmember Mock, the Agreement was approved with the amended amount of $9600.00. The vote was unanimous in favor.

MEMORANDUM OF UNDERSTANDING WITH THE CARTER HOPE CENTER

City Administrator Andrew Parker presented a Memorandum of Understanding with the Carter Hope Center to the Mayor and Council. Parker stated the scope of the memorandum is to support opioid recovery for local citizens. Parker further stated the City will provide $24,000 in funding or $2000.00 per month to Carter Hope Center to support their ongoing Narcotics Anonymous and other opioid recovery programs for the next 12 months. On the motion of Council member Mock, second Council member Goodlett the MOU was approved. The vote was unanimous in favor.

BURR PARK ROOF EXTENSION DESIGN/BUILD CONTRACT WITH LEONARD BROTHERS CONSTRUCTION

Public Works Director Chad Townsend presented a contract with Leonard Brothers Construction in the amount of $38,300.00 for the Burr Park Roof Extension Design/Build. Townsend stated approximately $13,300 of the contract cost will be covered by Public Works Department Budget and $25,000 of the contact will be funded by the Community Foundation. On the motion of Council member Mock, second Council member Goodlett, the Contract was approved. The vote was unanimous in favor.

RESOLUTION 24-18 TO BECOME A MEMBER OF THE GEORGIA INTERLOCAL RISK MANAGEMENT AGENCY (GIRMA)

Human Resources Director Greg Batts presented Resolution 24-18 to become a member of the Georgia Interlocal Risk Management Agency (GIRMA) and Participate in One or More of GIRMA'S Funds. Batts stated GMA and ACCG has partnered together to provide the City of Dalton with a quote/proposal that satisfies the requirement of House Bill 451 "The Ashley Wilson Act. On the motion of Council member Goodlett, second Council member Farrow, the Mayor and Council agreed to implement the program GIRMA beginning 01-01-2025.

Batts further stated the program fulfills guidelines that requires local governments in the State of Georgia to provide and maintain specific Post-Traumatic Stress Disorder (PTSD) insurance coverages for all eligible first responders with an annual premium of $25,496.00. On the motion of Council member Farrow, second Council member Lama, the Mayor and Council adopted Resolution 24-18.

FIRST READING ORDINANCE 24-34 - VACATING AND ABANDONMENT OF THE PUBLIC INTEREST IN AND TO GRAVELY STREET AND ERWIN STREET

The Mayor and Council held a First Reading Ordinance 24-34 To Make Findings of Fact Concerning the Public Use and Necessity of Gravely Street and Erwin Street; To Consider the Vacating and Abandonment of The Public Interest in And to Gravely Street and Erwin Street for Purposes of Public Streets and Transportation; To Declare the Closing of Gravely Street and Erwin Street for Public Use and Transportation; To Authorize Delivery of a Quitclaim Deed of Any Interest of The City of Dalton Except Utility Easements to Adjacent Property Owners; To Establish an Effective Date; And for Other Purposes.

ADOPTION OF NEW CITY BRANDING BY CONFLUENCE DESIGN

Assistant City Administrator Todd Pangle presented the New City Branding by Confluence Design. Pangle reviewed with the Mayor and Council the Committee members which are:

- Cindy Jackson
- Kim Witherow
- Jackson Shephard
- Allyson Coker
- Luis Prieto

Pangle further explain the process, the design and development and the Concept Overview. Pangle stated the brandmark is a symbol intended to be immediately recognizable as unique and meaningful with the logomark incorporating abstract concepts that infer Dalton's strength of Community as well as its interlaced connection with the Mill industry driving its place as the economic engine of North Georgia. Pangle further read that the textural fabric pattern underscores the interlaced connection of Dalton and the Carpet Mill trade. Pangle continued stating that the interwoven fabric infers strength of community while the "D" created out of negative space symbolizes Dalton; the letter "D" created out of the interweaving of people, cultures and industry comprising the full community. Pangle unveiled the new City of Dalton's brandmark. On the motion of Council member Lama, second Council member Farrow, the Mayor and Council adopted the new City Branding. The vote was unanimous in favor.

EXECUTIVE SESSION – REAL ESTATE AND POTENTIAL LITIGATION

On the motion of Council member Mock, second Council member Farrow, the Mayor and Council adjourned into Executive Session at 6:43 p.m. to discuss Real Estate and Potential Litigation. The vote was unanimous in favor.

ADOURNMENT – EXECUTIVE SESSION

On the motion of Council member Goodlett, second Council member Lama, the Mayor and Council adjourned out of Executive Session at 7:22 p.m. No action was taken

ADJOURNMENT

There being no further business to come before the Mayor and Council, on the motion of Councilmember Farrow, second Councilmember Lama the meeting was adjourned at 7:23 p.m.

_____
Bernadette Chattam
City Clerk

_____
Annalee Sams, Mayor

Recorded
Approved: _____
Post: _____

CITY COUNCIL AGENDA REQUEST

Meeting Type:	Mayor & Council Meeting
Meeting Date:	12-2-24
Agenda Item:	Second Reading Ordinance 24-34 Gravely Street Closing Request
Department:	Administration
Requested By:	Andrew Parker
Reviewed/Approved by City Attorney?	Yes
Cost:	
Funding Source if Not in Budget	

Please Provide A Summary of Your Request, Including Background Information to Explain the Request:

Second Reading Ordinance 24-34 To Make Findings of Fact Concerning the Public Use and Necessity of Gravely Street and Erwin Street; To Consider the Vacating and Abandonment of The Public Interest in And to Gravely Street and Erwin Street for Purposes of Public Streets and Transportation; To Declare the Closing of Gravely Street and Erwin Street for Public Use and Transportation; To Authorize Delivery of a Quitclaim Deed of Any Interest of The City of Dalton Except Utility Easements to Adjacent Property Owners; To Establish an Effective Date; And for Other Purposes.

ORDINANCE 24-34

To Make Findings Of Fact Concerning the Public Use And Necessity Of Gravely Street and Erwin Street; To Consider The Vacating And Abandonment Of The Public Interest In And To Gravely Street and Erwin Street For Purposes Of Public Streets And Transportation; To Declare The Closing Of Gravely Street and Erwin Street For Public Use And Transportation; To Authorize Delivery Of A Quitclaim Deed Of Any Interest Of The City Of Dalton Except Utility Easements To Adjacent Property Owners; To Establish An Effective Date; And For Other Purposes.

BE IT ORDAINED by the Mayor and Council of the City of Dalton and by authority of the same **IT IS HEREBY ORDAINED** as follows:

-1-

Upon investigation and inquiry, the Mayor and Council find that Gravely Street and Erwin Street (the "Property") in the City of Dalton, Whitfield County, Georgia, which are more particularly described in Exhibit A and made a part hereof, are no longer needed by the public for street or transportation purposes, and no substantial public purpose is served by said Property. See also Exhibit B attached hereto and incorporated by reference a plat showing said Property.

-2-

Notifications to property owners located on the property described above to be closed have been given by certified mail-return receipt requested based on records of the Tax Assessor of Whitfield County, Georgia.

-3-

Gravely Street and Erwin Street shall no longer be a part of the municipal street system of the City of Dalton and the rights of the public in and to those sections for public street, road and transportation purposes shall cease upon the effective date of this Ordinance.

-4-

This Ordinance shall become effective following publishing in two (2) public places within the City of Dalton for five (5) consecutive days following its enactment by the Mayor and Council.

-5-

The Mayor and City Clerk are authorized to make and enter in the name and on behalf of the City of Dalton a quitclaim deed of all interest, except for utility easements, of the City of Dalton in and to the section to be closed to those contiguous owners or their successors in title.

-6-

All ordinances or parts of ordinances in conflict herewith are hereby repealed to the extent of such conflict.

SO ORDAINED this ____ day of _____, 2024.

The foregoing Ordinance received its first reading on _____ and a second reading on _____. Upon second reading a motion for passage of the ordinance was made by Councilmember _____, second by Councilmember_____ and upon the question the vote is ____ ayes, ___ nays and the Ordinance is adopted.

ATTEST: _____
MAYOR/MAYOR PRO TEMPORE

_____
CITY CLERK

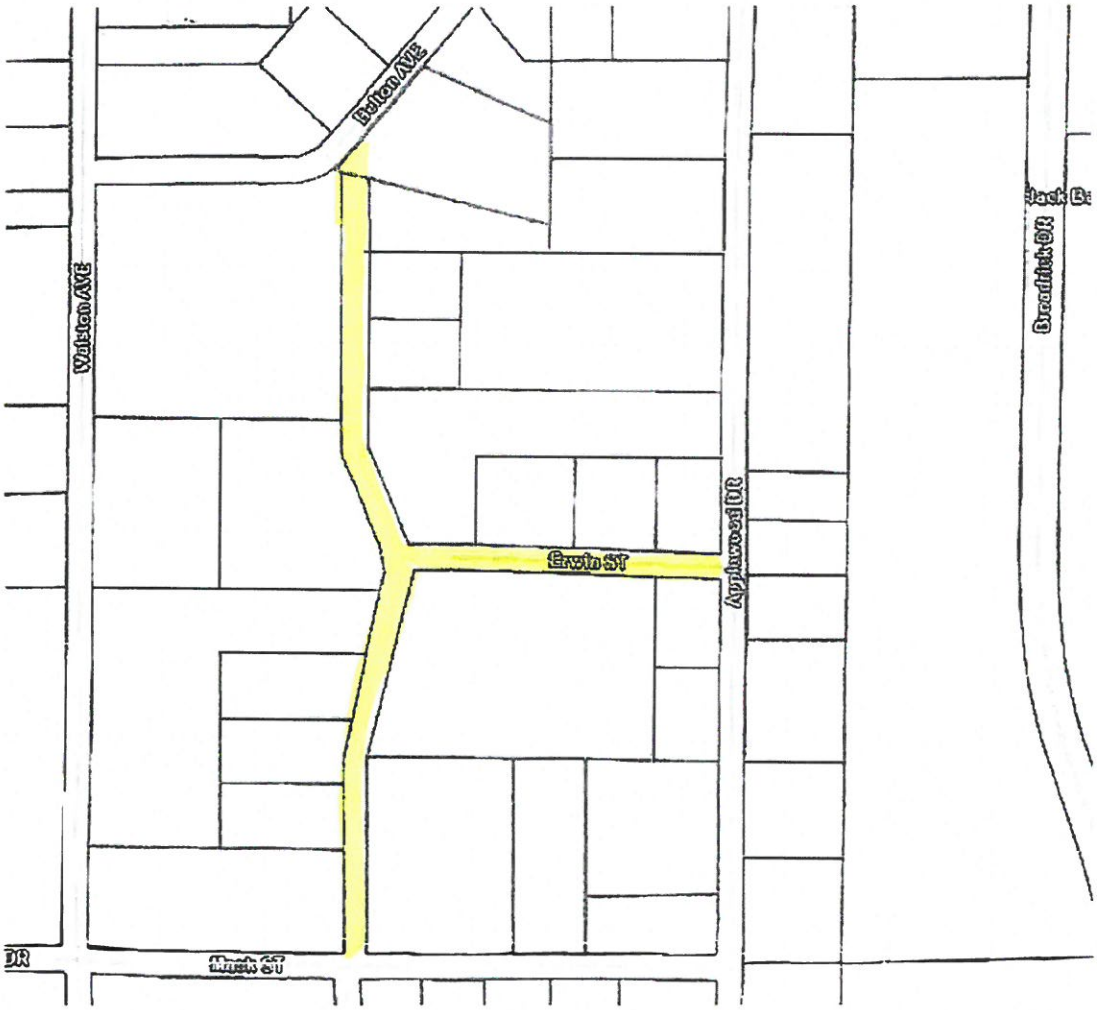
A true copy of the foregoing Ordinance has been published in two public places within the City of Dalton for five (5) consecutive days following passage of the above-referenced Ordinance as of _____.

_____
CITY CLERK
CITY OF DALTON

Exhibit A

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia described as Gravely Street and Erwin Street of the R.R. Burleyson Subdivision, which is more particularly described according to a plat of survey of said subdivision recorded in Plat Book 1 Page 220 (Plat Cabinet A Slide 54), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

EXHIBIT B



PETITION TO CLOSE A PORTION OF GRAVELY STREET AND FOR A QUITCLAIM DEED

COMES NOW, ANTHONY ROSS GAMBLIN as Administrator of the Estate of BRENDA JOYCE GAMBLIN, DEWAYNE LEWALLEN, and DONNIE LEWALLEN, "Petitioners" and hereby petition the City of Dalton ("City") to close, abandon, and convey to Petitioners by quitclaim deed that portion of Gravely Street as is more fully described on Exhibit A attached hereto, hereinafter referred to as the "Property" and in support thereof shows the City the following:

-1-

The Petitioners are the owners of the real property and improvements that adjoin that portion of the unopened right of way of Gravely Street and being more particularly described as Whitfield County Tax Parcel No. 12-184-01-011 and is more particularly shown on a plat prepared by Martin Smith, Georgia Registered Land Surveyor No. 2649 dated May 15, 2024 and amended July 3, 2024 and contains 1.03 acres and the plat is recorded in Plat Book F page 1004 in the office of the Clerk of the Superior Court of Whitfield County, Georgia, and a copy of said plat is attached hereto as Exhibit B.

-2-

Gravely Street which is shown on the above referenced plat is a 40 foot right of way and has never been opened or maintained by the City of Dalton but is a city street as shown on a plat of the R.R. Burleyson Subdivision. The plat attached as Exhibit B discloses that a portion of the home located on the property owned by Petitioners encroaches into the right of way of Gravely Street. The portion of Gravely Street that Petitioners request to be closed and abandoned has never been needed for any public purpose.

-3-

The Property is comprised of 3,617 square feet and is 0.08 acres as shown on the plat of said portion of Gravely Street attached hereto as Exhibit A. The abandonment and closing of the portion of Gravely Street as requested by Petitioners will not be a detriment to the public good or harm the public in any matter

whatsoever.

-4-

The owners of all the property that adjoins the property of the Petitioners is owned by the following individuals and attached to this petition is the consent of each individual to the Petitioners' request to close and abandon a portion of Gravely Street: Armida C. Virgen, Anita Holland, and Don W. Adcock.

Wherefore, Petitioners respectfully request that the City:

(a) Publish this request for two consecutive weeks in the legal organ of Whitfield County; and

(b) Make a determination thereafter that the Property has ceased to be used by the public to the extent that no substantial public purpose is served by it and that it is no longer needed for the public purpose for which it was initially acquired by the City, or for any public purpose and that portion of Gravely Street as requested herein be abandoned; and

(c) That the City execute a quitclaim deed conveying the Property to Petitioners.

This _____ day of July, 2024.

The Ward Firm, LLC
225 W King Street
Dalton, GA 30720
706-278-5211

J. Tracy Ward
Attorney for Petitioners

Anthony Ross Gamblin as Administrator of the Estate of Brenda Gamblin

Dewayne Lewallen

Donnie Lewallen, EXECUTOR

Exhibit A

Legal description for the portion of Gravely Street to be closed

All that tract or parcel of land lying and being in Land Lot 184 of the 12th District and 3rd Section of Whitfield County Georgia and being shown on a plat prepared by Martin Smith, Georgia Registered Land Surveyor No. 2649 dated May 15, 2024 and amended July 3, 2024 and recorded in Plat Book F page 1004 in the office of the Clerk of the Superior Court of Whitfield, Georgia and being more particularly described as follows:

To arrive at the **TRUE POINT OF BEGINNING** begin at the intersection of the east right of way of Belton Avenue (40 foot right of way) with the west right of way of Applewood Drive; thence run in a southerly direction along the east right of way of Belton Avenue 531 feet to a concrete monument; thence continuing along said right of way south 40 degrees 43 minutes 45 seconds west 89.08 feet to a concrete monument which is the point of beginning of the portion of Gravely Street described herein and the **TRUE POINT OF BEGINNING**; thence south 7 degrees 42 minutes 16 seconds west 122.02 feet to a point; thence north 79 degrees 56 minutes 12 seconds west 40.03 feet to the east right of way of Gravely Street; (40 foot right of way Unopened Street); thence along the easterly right of way of Gravely Street north 7 degrees 42 minutes 16 seconds east 58.84 feet to a point on the east right of way of Belton Avenue; thence north along the east right of way of Belton Avenue north 40 degrees 43 minutes 45 seconds east to the **TRUE POINT OF BEGINNING.**

The undersigned, who are the adjoining property owners of the parcel identified in the attached petition to close a portion of Gravely Street consent to the City of Dalton closing that portion of Gravely Street as described in the attached Petition.

Witnessed this 20 day of July, 2024.

Witness

Armida C. Virgen

Witnessed this 19th day of July, 2024.

Witness

Anita Holland

Witnessed this 21 day of July, 2024.

Witness

Don W. Adcock

RESPONSE TO PETITION TO CLOSE A PORTION OF GRAVELY STREET AND FOR A QUIT CLAIM DEED

Comes now, Hamilton Medical Center, Inc. ("Hamilton"), and responds to the Petition to Close a Portion or Gravely Street and for a Quit Claim Deed filed by Anthony Ross Gamblin as Administrator of the Estate of Brenda Joyce Gamblin, Dewayne Lewallen and Donnie Lewallen (the "Petition") and responds thereto as follows:

1. Hamilton is the owner of real estate contiguous and abutting portions of Gravely Street and Erwin Street, and being more particularly described as Whitfield County Tax Parcels: 12-184-01-109, 12-184-01-087, 12-184-01-080, 12-184-01-095, 12-184-01-019, 12-184-01-103, 12-184-01-018, 12-184-01-077, 12-184-01-069, 12-184-01-027, and shown in yellow on the attached drawing attached hereto as Exhibit "A."

2. Erwin Street is also shown as a 40 foot right of way and has never been opened or maintained by the City of Dalton but is a city street as shown on a plat of the R.R. Burleyson Subdivision.

3. Hamilton requests that all of Gravely Street and Erwin Street be closed and abandoned since they have never been open to the public and are not needed for any public purpose and no substantial purpose is served by said roads.

4. The abandonment and closing of Gravely Street and Erwin Street will not be a detriment to the public good or harm the public in any matter whatsoever.

5. The Mayor and Council of the City of Dalton, Georgia has authority pursuant to O.C.G.A. § 32-7-2 (b) to declare said road abandoned for public purposes and to certify upon its minutes accompanied by a plat of the sketch of the road after notice to property owners located thereon that said road is no longer a part of the City of Dalton road system and the rights of the public in and to said section of road as public road shall cease.

WHEREFORE, Hamilton requests that any notice as required by law issued to property owners located on said road and that the public be notified of the said petition as amended by this response; that the Mayor and Council of the City of Dalton, Georgia proceed to declare said road no longer a part of the City of Dalton road system and to certify the abandonment thereon upon its minutes accompanied by a plat or sketch of the section of the road to be closed; that the rights of the public in and to said section of road as a public road cease; and that a deed for said road to be delivered to the adjoining property owners.

This 31st day of October, 2024.

J. Tom Mincey, IV as Attorney for Hamilton Medical Center, Inc.

Georgia, Whitfield County

The undersigned, being the person owning or having any interest in the lands through which Gravely Street and Erwin Street passes, as set forth in a Notice or Hearing pending before the Mayor and Council of the City of Dalton, Georgia hereby acknowledges personal service of the Response to the Petition to Close a Portion or Gravely Street and for a Quit Claim Deed, and hereby waives any and all further service and notice, and offer no objection to said portions of said road being discontinued or abandoned.

This 5TH day of November, 2024.

Hamilton Medical Center, Inc.

By: Sandy McKenzie
Title: President & CEO
w/ express permission
of Valerie Brantley
Chief Legal Officer

Georgia, Whitfield County

The undersigned, being the person owning or having any interest in the lands through which Gravely Street and Erwin Street passes, shown as Whitfield County Tax Parcel: 12-184-01-007, and as set forth in a Notice or Hearing pending before the Mayor and Council of the City of Dalton, Georgia hereby acknowledges personal service of the Response to the Petition to Close a Portion or Gravely Street and for a Quit Claim Deed, and hereby waives any and all further service and notice, and offer no objection to said portions of said road being discontinued or abandoned.

This 30 day of Oct., 2024.

Alice Yim

Georgia, Whitfield County

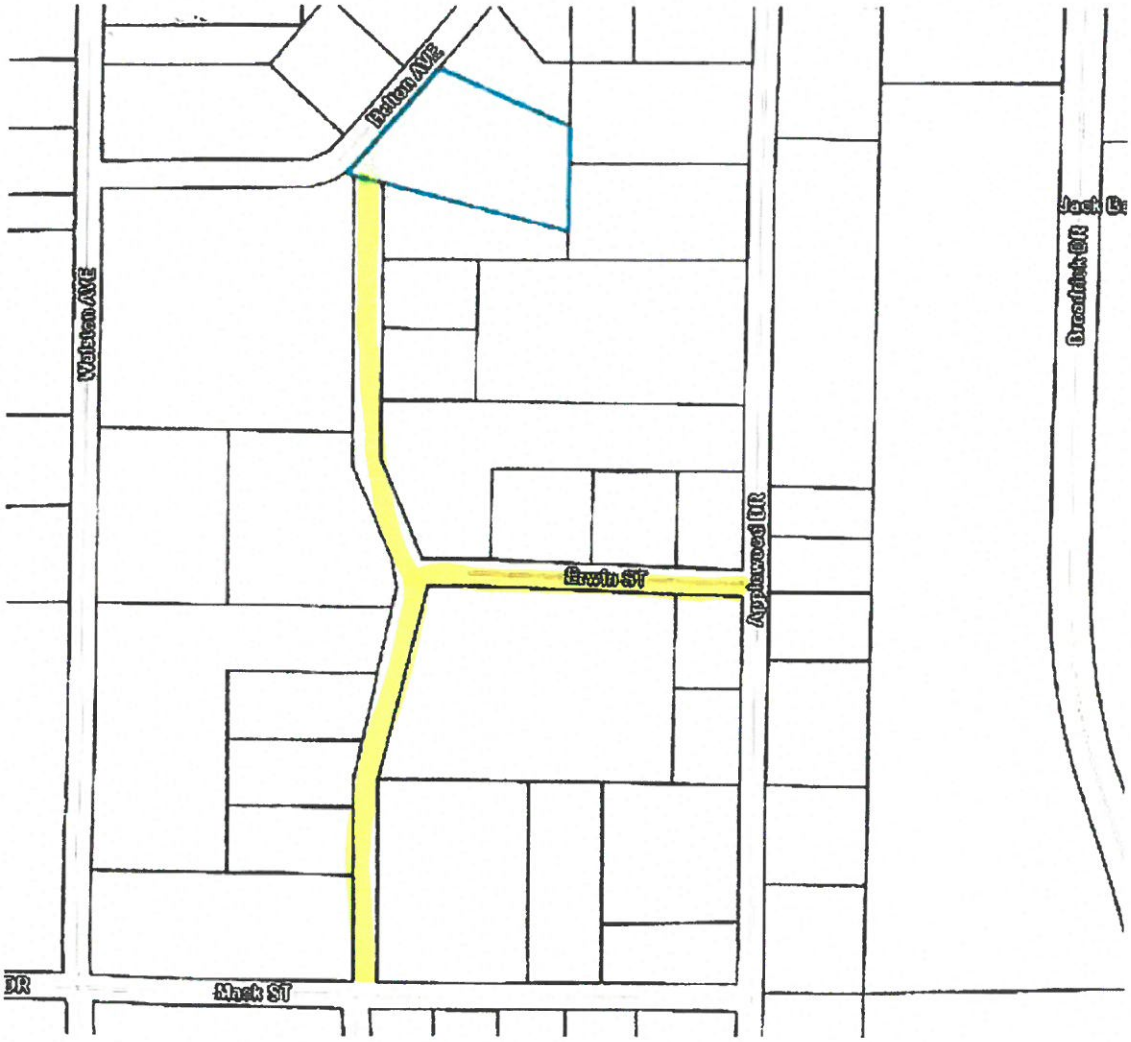
The undersigned, being the person owning or having any interest in the lands through which Gravely Street and Erwin Street passes, shown as Whitfield County Tax Parcel: 12-184-01-058, and as set forth in a Notice or Hearing pending before the Mayor and Council of the City of Dalton, Georgia hereby acknowledges personal service of the Response to the Petition to Close a Portion or Gravely Street and for a Quit Claim Deed, and hereby waives any and all further service and notice, and offer no objection to said portions of said road being discontinued or abandoned.

This 10th day of October, 2024.

Don W. Adcock

Don W. Adcock

EXHIBIT "A"



CITY ADMINISTRATION
P.O. Box 1205 Dalton, GA 30722-1205
Phone: 706-278-9500 Fax: 706-278-8245

TO: **LISA ADAMS - DAILY CITIZEN NEWS LEGAL AD DEPARTMENT**
FROM: **KIMBERLEY WITHEROW**
DATE: **NOVEMBER 7, 2024**

NOTICE OF ROAD CLOSURE

Notice is hereby given that Anthony Ross Gamblin as Administrator of the Estate of Brenda Joyce Gamblin, Dewayne Lewallen and Donnie Lewallen, as Petitioner and Hamilton Medical Center, Ins. as respondent have applied to the Mayor and Council of the City of Dalton, Georgia for the discontinuance and abandonment of a portion of Gravely Street and Erwin Street, lying and being in Land Lot No. 184 in the 12th District and 3rd Section of Whitfield County, Georgia, and now running through lands located within the R.R. Burleyson subdivision, and running generally between Belton Avenue, Mack Street and Applewood Road. A full and complete description of said road sought to be abandoned and closed to the public is filed with said petition and the public is referred to said Petition and legal description and plat attached thereto which is available for inspection during regular business hours at the offices of the Mayor and Council of the City of Dalton, Georgia. Said Petition will be heard at the Mayor and Council Meeting at 6:00PM at Dalton City Hall on November 18, 2024 and December 2, 2024. Unless good cause is shown or valid objection made thereto, said road will be decreed discontinued and abandoned as a portion or section of the City road system and so certified upon the minutes of the Mayor and Council of the City of Dalton, Georgia declaring that said roads are not and never have been a part of the City road system and that the rights of the public in and to said road, to the extent said roads are a public road, shall cease. All persons having any objections to the vacating and abandonment of said property are hereby notified to be present and make known such objections. Unless good cause is shown or valid objection made thereto, Gravely Street and Erwin Street will be decreed discontinued and abandoned as a portion of the city road system and a Quit Claim Deed issued and so certified upon the minutes so the Mayor and Council of the City of Dalton, Georgia.

DATES AD TO RUN IN NEWSPAPER:

Friday, November 15, 2024
Friday, November 22, 2024

Kim Witherow

From: Alex Rice
Sent: Wednesday, November 13, 2024 10:44 AM
To: Kim Witherow
Subject: RE: Gravely Street

Posted this morning

Alex Rice
City of Dalton Public Works
Traffic Division Supervisor
Email: arice@daltonga.gov
Office: 706-278-7077
Direct: 706-226-0848
Cell:706-270-1271

MEMORANDUM

TO: **Chad Townsend, Public Works Director**
Cliff Cason, Police Chief
Matt Daniel, Fire Chief
Jonathan Bledsoe, City Attorney
John Thomas, Dalton Utilities

CC: **Andrew Parker, City Administrator**
Todd Pangle, Asst. City Administrator

FROM: **Kimberley Witherow**

RE: **Street Closing/Quit Claim Request**
An Unopened Portion of Gravely Street

DATE: **August 21, 2024**

Enclosed for your consideration is a Street Closing request from Anthony Ross Gamblin for the discontinuance and abandonment of a portion of Gravely Street, lying and being in Land Lot 184 of the 12th District and 3rd Section of Whitfield County Georgia, beginning at the intersection of the east right-of-way of Belton Avenue with the west right-of-way of Applewood Drive.

Please review the enclosed documents and return written comments stating approval and/or concerns to this office within ten (10) days. The property in question will be posted and a public notice advertised beginning August 23, 2024. A first reading on the closing request will be held at the September 3, 2024 Mayor and Council meeting followed by a second reading on September 16, 2024.

Thank you for your assistance in this process and please contact me should you have any questions.

Dalton
UTILITIES

August 29, 2024

Mrs. Annalee Sams
Mayor, City of Dalton
Post Office Box 1205
Dalton, Georgia 30722-1205

RE: Street Closing/Quit Claim Request
An Unopened Portion of Gravely Street

Dear Mayor Sams:

As requested in your August 21, 2024, memorandum, Dalton Utilities has reviewed the street closing/quit claim request for an unopened section of Gravely Street. It is our understanding that this road was platted, but has never previously been constructed or existed. After review of our GIS mapping system, it appears that Dalton Utilities has no known utilities in the area proposed for street closing. Accordingly, Dalton Utilities fully supports closure of this abandoned road.

We appreciate the opportunity to provide feedback regarding this road closure request and trust that this response is helpful to your review of this closure request. If you need additional information regarding this matter please don't hesitate to contact me at (706) 529-1011 or mbuckner@dutil.com.

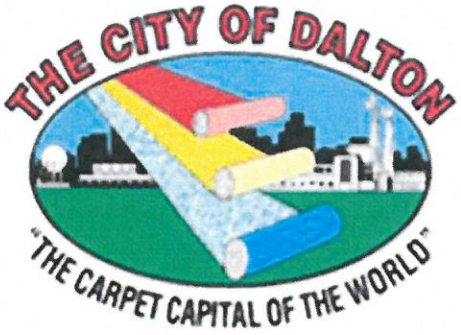
Sincerely,

Mark Buckner

PUBLIC WORKS DEPARTMENT

CHAD TOWNSEND, DIRECTOR
ctownsend@daltonga.gov

535 N. Elm Street
P.O. Box 1205
Dalton, GA 30722-1205
Office: (706) 278-7077
FAX: (706) 278-1847



MEMORANDUM

TO: KIMBERLEY WITHEROW

CC: ANDREW PARKER, CITY ADMINISTRATOR

FROM: CHAD TOWNSEND, PUBLIC WORKS DIRECTOR

RE: STREET CLOSING/QUIT CLAIM REQUEST
AN UNOPENED PORTION OF GRAVELY STREET

DATE: AUGUST 21, 2024

Please be advised that the Public Works Department has no objections to the closing and quit claim of the unopened portion of Gravely Street located on parcel 12-184-01-011 as requested by Anthony Ross Gamblin.

MATT DANIEL
Fire Chief
Telephone 706-278-7363
Fax 706-272-7107
mdaniel@daltonga.gov

DALTON FIRE DEPARTMENT

404 School Street
Dalton, GA 30720

Tuesday, August 22, 2024

RE: Street Closing Request of a Portion of Gravely Street

The Dalton Fire Department has no objection and approves the Street Closing request from Anthony Ross Gamblin for the discontinuance and abandonment of a portion of Gravely Street, lying and being in Land Lot 184 of the 12th District and 3rd Section of Whitfield County Georgia, beginning at the intersection of the east right-of-way of Belton Avenue with the west right-of-way of Applewood Drive.

Matt Daniel

Fire Chief

William C Cason III
Chief of Police
CCason@daltonga.gov
www.daltonga.gov

DALTON POLICE DEPARTMENT

301 Jones Street, Dalton, Georgia 30720
Phone: 706-278-9085

Date: August 22, 2024

To: Chief Cliff Cason

From: Lieutenant Matthew Locke

RE: Street Closing – Quit Claim Request

Chief Cason:

I have visited this site and reviewed the request for the street closing of a section of Gravely Street that was never opened or maintained by the City of Dalton. The de-annexation of this property will have no impact on Dalton Police Department's ability to provide law enforcement services in this area.

Sincerely,

Lieutenant Matthew Locke
Operations Patrol Division

[Space above this line for recording data.]

Please Record and Return To:

Jonathan L. Bledsoe
The Minor Firm
P.O. Box 2586
Dalton, GA 30722-2586

QUIT CLAIM DEED

Georgia, Whitfield County

THIS INDENTURE made this _____ day of _____, 2024, between the **City of Dalton, Georgia,** a municipal corporation of the State of Georgia Grantor, and **Brenda Joyce Gamblin, DeWayne Lewallen and Donnie Lewallen**, Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

THE GRANTOR, for and in consideration of the sum of one dollar and other valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell, convey, remise, release and forever quit claim unto the said Grantee, all the right, title, interest, claim or demand which the Grantor may have in and to the land as more particularly described in Exhibit "A" attached hereto, reference to which is hereby made and incorporated herein by reference.

TO HAVE AND TO HOLD the said tract of land, with all and singular the rights, members, and appurtenances thereof, to the same being, belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee so that neither Grantor nor any other person claiming under him shall at any time, claim or demand any right, title or interest to the said tract of land, or its appurtenances.

IN WITNESS WHEREOF, this deed has been duly executed and sealed by Grantor the day and year first above written.

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public

My commission expires:

[Notarial Seal]

City of Dalton, Georgia

By:_____
Mayor

Attest:_____
Clerk

EXHIBIT "A"

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the east half of Gravely Street adjacent to Lot Nos. 63, 64, 65 and 66 of Block C of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 1 Page 220 (Plat Cabinet A Slide 54), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

[Space above this line for recording data.]

Please Record and Return To:

Jonathan L. Bledsoe
The Minor Firm
P.O. Box 2586
Dalton, GA 30722-2586

QUIT CLAIM DEED

Georgia, Whitfield County

THIS INDENTURE made this _____ day of _____, 2024, between the **City of Dalton, Georgia,** a municipal corporation of the State of Georgia Grantor, and **Hamilton Medical Center, Inc.,** a Georgia not for profit corporation, Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

THE GRANTOR, for and in consideration of the sum of one dollar and other valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell, convey, remise, release and forever quit claim unto the said Grantee, all the right, title, interest, claim or demand which the Grantor may have in and to the land as more particularly described in Exhibit "A" attached hereto, reference to which is hereby made and incorporated herein by reference.

TO HAVE AND TO HOLD the said tract of land, with all and singular the rights, members, and appurtenances thereof, to the same being, belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee so that neither Grantor nor any other person claiming under him shall at any time, claim or demand any right, title or interest to the said tract of land, or its appurtenances.

IN WITNESS WHEREOF, this deed has been duly executed and sealed by Grantor the day and year first above written.

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public

My commission expires:

[Notarial Seal]

City of Dalton, Georgia

By:_____
Mayor

Attest:_____
Clerk

EXHIBIT "A"

Tract No. 1:

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the east half of Gravely Street adjacent to Lot Nos. 92, 93, 94, 98 and 103 and of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 5 Page 9 (Plat Cabinet A Slide 164), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

Tract No. 2:

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the west half of Gravely Street adjacent to Lot Nos. 78, 79, 81 and 82 of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 5 Page 9 (Plat Cabinet A Slide 164), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

Tract No 3:

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the north half of Ervin Street adjacent to Lot Nos. 98, 99, 100 and 101 of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 5 Page 9 (Plat Cabinet A Slide 164), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

Tract No 4:

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the south half of Ervin Street adjacent to Lot Nos. 103, 104, 105, 106 and 107 of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 5 Page 9 (Plat Cabinet A Slide 164), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

[Space above this line for recording data.]

Please Record and Return To:

Jonathan L. Bledsoe
The Minor Firm
P.O. Box 2586
Dalton, GA 30722-2586

QUIT CLAIM DEED

Georgia, Whitfield County

THIS INDENTURE made this _____ day of _____, 2024, between the **City of Dalton, Georgia,** a municipal corporation of the State of Georgia Grantor, and **Don W. Adcock**, Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

THE GRANTOR, for and in consideration of the sum of one dollar and other valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell, convey, remise, release and forever quit claim unto the said Grantee, all the right, title, interest, claim or demand which the Grantor may have in and to the land as more particularly described in Exhibit "A" attached hereto, reference to which is hereby made and incorporated herein by reference.

TO HAVE AND TO HOLD the said tract of land, with all and singular the rights, members, and appurtenances thereof, to the same being, belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee so that neither Grantor nor any other person claiming under him shall at any time, claim or demand any right, title or interest to the said tract of land, or its appurtenances.

IN WITNESS WHEREOF, this deed has been duly executed and sealed by Grantor the day and year first above written.

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public

My commission expires:

[Notarial Seal]

City of Dalton, Georgia

By:_____
Mayor

Attest:_____
Clerk

EXHIBIT "A"

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the east half of Gravely Street adjacent to Lot Nos. 59, 60, 61 and 62 of Block C of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 1 Page 220 (Plat Cabinet A Slide 54), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

[Space above this line for recording data.]

Please Record and Return To:

Jonathan L. Bledsoe
The Minor Firm
P.O. Box 2586
Dalton, GA 30722-2586

QUIT CLAIM DEED

Georgia, Whitfield County

THIS INDENTURE made this _____ day of _____, 2024, between the **City of Dalton, Georgia,** a municipal corporation of the State of Georgia Grantor, and **Alice Yim**, Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

THE GRANTOR, for and in consideration of the sum of one dollar and other valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell, convey, remise, release and forever quit claim unto the said Grantee, all the right, title, interest, claim or demand which the Grantor may have in and to the land as more particularly described in Exhibit "A" attached hereto, reference to which is hereby made and incorporated herein by reference.

TO HAVE AND TO HOLD the said tract of land, with all and singular the rights, members, and appurtenances thereof, to the same being, belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee so that neither Grantor nor any other person claiming under him shall at any time, claim or demand any right, title or interest to the said tract of land, or its appurtenances.

IN WITNESS WHEREOF, this deed has been duly executed and sealed by Grantor the day and year first above written.

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public

My commission expires:

[Notarial Seal]

City of Dalton, Georgia

By:_____
Mayor

Attest:_____
Clerk

EXHIBIT "A"

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the west half of Gravely Street adjacent to Lot No. 1 of Block F of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 1 Page 220 (Plat Cabinet A Slide 54), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

[Space above this line for recording data.]

Please Record and Return To:

Jonathan L. Bledsoe
The Minor Firm
P.O. Box 2586
Dalton, GA 30722-2586

QUIT CLAIM DEED

Georgia, Whitfield County

THIS INDENTURE made this _____ day of _____, 2024, between the **City of Dalton, Georgia,** a municipal corporation of the State of Georgia Grantor, and **Larry Cope and Joe M. Wise**, Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

THE GRANTOR, for and in consideration of the sum of one dollar and other valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell, convey, remise, release and forever quit claim unto the said Grantee, all the right, title, interest, claim or demand which the Grantor may have in and to the land as more particularly described in Exhibit "A" attached hereto, reference to which is hereby made and incorporated herein by reference.

TO HAVE AND TO HOLD the said tract of land, with all and singular the rights, members, and appurtenances thereof, to the same being, belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee so that neither Grantor nor any other person claiming under him shall at any time, claim or demand any right, title or interest to the said tract of land, or its appurtenances.

IN WITNESS WHEREOF, this deed has been duly executed and sealed by Grantor the day and year first above written.

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public

My commission expires:

[Notarial Seal]

City of Dalton, Georgia

By:_____
Mayor

Attest:_____
Clerk

EXHIBIT "A"

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the west half of Gravely Street adjacent to Lot No. 87 of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 5 Page 9 (Plat Cabinet A Slide 164), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

[Space above this line for recording data.]

Please Record and Return To:

Jonathan L. Bledsoe
The Minor Firm
P.O. Box 2586
Dalton, GA 30722-2586

QUIT CLAIM DEED

Georgia, Whitfield County

THIS INDENTURE made this _____ day of _____, 2024, between the **City of Dalton, Georgia,** a municipal corporation of the State of Georgia Grantor, and **James L. Harris**, Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

THE GRANTOR, for and in consideration of the sum of one dollar and other valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell, convey, remise, release and forever quit claim unto the said Grantee, all the right, title, interest, claim or demand which the Grantor may have in and to the land as more particularly described in Exhibit "A" attached hereto, reference to which is hereby made and incorporated herein by reference.

TO HAVE AND TO HOLD the said tract of land, with all and singular the rights, members, and appurtenances thereof, to the same being, belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee so that neither Grantor nor any other person claiming under him shall at any time, claim or demand any right, title or interest to the said tract of land, or its appurtenances.

IN WITNESS WHEREOF, this deed has been duly executed and sealed by Grantor the day and year first above written.

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public

My commission expires:

[Notarial Seal]

City of Dalton, Georgia

By:_____
Mayor

Attest:_____
Clerk

EXHIBIT "A"

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the north half of Ervin Avenue adjacent to Lot No. 102 of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 5 Page 9 (Plat Cabinet A Slide 164), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

[Space above this line for recording data.]

Please Record and Return To:

Jonathan L. Bledsoe
The Minor Firm
P.O. Box 2586
Dalton, GA 30722-2586

QUIT CLAIM DEED

Georgia, Whitfield County

THIS INDENTURE made this _____ day of _____, 2024, between the **City of Dalton, Georgia,** a municipal corporation of the State of Georgia Grantor, and **Carolyn B. Isaacs,** Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

THE GRANTOR, for and in consideration of the sum of one dollar and other valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell, convey, remise, release and forever quit claim unto the said Grantee, all the right, title, interest, claim or demand which the Grantor may have in and to the land as more particularly described in Exhibit "A" attached hereto, reference to which is hereby made and incorporated herein by reference.

TO HAVE AND TO HOLD the said tract of land, with all and singular the rights, members, and appurtenances thereof, to the same being, belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee so that neither Grantor nor any other person claiming under him shall at any time, claim or demand any right, title or interest to the said tract of land, or its appurtenances.

IN WITNESS WHEREOF, this deed has been duly executed and sealed by Grantor the day and year first above written.

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public

My commission expires:

[Notarial Seal]

City of Dalton, Georgia

By:_____
Mayor

Attest:_____
Clerk

EXHIBIT "A"

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the west half of Gravely Street adjacent to Lot No. 80 of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 5 Page 9 (Plat Cabinet A Slide 164), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

[Space above this line for recording data.]

Please Record and Return To:

Jonathan L. Bledsoe
The Minor Firm
P.O. Box 2586
Dalton, GA 30722-2586

QUIT CLAIM DEED

Georgia, Whitfield County

THIS INDENTURE made this _____ day of _____, 2024, between the **City of Dalton, Georgia,** a municipal corporation of the State of Georgia Grantor, and **Ryan P. King and Kenneth A. King**, Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

THE GRANTOR, for and in consideration of the sum of one dollar and other valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell, convey, remise, release and forever quit claim unto the said Grantee, all the right, title, interest, claim or demand which the Grantor may have in and to the land as more particularly described in Exhibit "A" attached hereto, reference to which is hereby made and incorporated herein by reference.

TO HAVE AND TO HOLD the said tract of land, with all and singular the rights, members, and appurtenances thereof, to the same being, belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee so that neither Grantor nor any other person claiming under him shall at any time, claim or demand any right, title or interest to the said tract of land, or its appurtenances.

IN WITNESS WHEREOF, this deed has been duly executed and sealed by Grantor the day and year first above written.

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public

My commission expires:

[Notarial Seal]

City of Dalton, Georgia

By:_____
Mayor

Attest:_____
Clerk

EXHIBIT "A"

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the west half of Gravely Street adjacent to Lot No. 83 of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 5 Page 9 (Plat Cabinet A Slide 164), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

[Space above this line for recording data.]

Please Record and Return To:

Jonathan L. Bledsoe
The Minor Firm
P.O. Box 2586
Dalton, GA 30722-2586

QUIT CLAIM DEED

Georgia, Whitfield County

THIS INDENTURE made this _____ day of _____, 2024, between the **City of Dalton, Georgia,** a municipal corporation of the State of Georgia Grantor, and **Stanely & Bivens Investments, LLC,** a Georgia limited liability company, Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

THE GRANTOR, for and in consideration of the sum of one dollar and other valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell, convey, remise, release and forever quit claim unto the said Grantee, all the right, title, interest, claim or demand which the Grantor may have in and to the land as more particularly described in Exhibit "A" attached hereto, reference to which is hereby made and incorporated herein by reference.

TO HAVE AND TO HOLD the said tract of land, with all and singular the rights, members, and appurtenances thereof, to the same being, belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee so that neither Grantor nor any other person claiming under him shall at any time, claim or demand any right, title or interest to the said tract of land, or its appurtenances.

IN WITNESS WHEREOF, this deed has been duly executed and sealed by Grantor the day and year first above written.

Signed, sealed and delivered
in the presence of:

_____
Unofficial Witness

_____
Notary Public

My commission expires:

[Notarial Seal]

City of Dalton, Georgia

By:_____
Mayor

Attest:_____
Clerk

EXHIBIT "A"

All that tract or parcel of land lying and being in Land Lot Nos. 183 and 184 in the 12th District and 3rd Section of Whitfield County, Georgia and the east half of Gravely Street adjacent to Lot No. 22 of Block D of the R.R. Burleyson Subdivision, and being more particularly described according to a plat of survey of said subdivision recorded in Plat Book 1 Page 220 (Plat Cabinet A Slide 54), Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

CITY COUNCIL AGENDA REQUEST

Meeting Type:	Mayor & Council Meeting
Meeting Date:	12-02-24
Agenda Item:	2025 Budget Resolution
Department:	Finance
Requested By:	Cindy Jackson
Reviewed/Approved by City Attorney?	NA
Cost:	NA
Funding Source if Not in Budget	

Please Provide A Summary of Your Request, Including Background Information to Explain the Request:

2025 Budget Resolution for the General Fund, Special Revenue Funds, Debt Service Fund, and Capital Improvements Funds.

RESOLUTION 24-17

TO ADOPT THE 2025 BUDGET FOR EACH FUND OF THE CITY OF DALTON, GEORGIA, APPROPRIATING THE AMOUNTS SHOWN IN THE FOLLOWING SCHEDULES FOR SELECTED FUNDS; ADOPTING THE ITEMS OF ANTICIPATED REVENUE SOURCES; AFFIRMING THAT EXPENDITURES IN EACH FUND MAY NOT EXCEED APPROPRIATIONS; AND PROHIBITING EXPENDITURES FROM EXCEEDING ANTICIPATED FUNDING SOURCES.

WHEREAS, the City of Dalton Mayor and Council is the governing authority of said Municipality; and

WHEREAS, Title 36, Chapter 81, Article 1 of the Official Code of Georgia Annotated (OCGA) requires a balance budget for the City's fiscal year, which runs from January 1st to December 31st of each year; and

WHEREAS, the Mayor and Council have reviewed the 2025 Proposed Budget as presented by the Finance Committee and which is the City's financial plan for said fiscal year and includes all projected revenues and allowable expenditures; and

WHEREAS, each of the funds is a balanced budget, so that anticipated revenues and other financial resources of each fund equal the proposed expenditures; and

WHEREAS, an appropriated advertised public hearing was held on the 2025 Proposed Budget, as required by federal, state, and local laws and regulations.

NOW, THEREFORE, BE IT AND IT HEREBY IS RESOLVED, by the Mayor and Council of the City of Dalton, Georgia, as follows:

-1-

The 2025 Proposed Budget, attached hereto and incorporated herein as a part of this Resolution, is herein adopted as the Budget for the City of Dalton, Georgia.

-2-

The "legal level of control" as defined by OCGA §36-81-2 is set at the department level, meaning that the Budget Officer is authorized to move appropriations from one line item to another within a department, but expenditures may not exceed the amount appropriated for a department without a Budget amendment approved by the Mayor and Council.

-3-

All appropriations shall lapse at the end of the fiscal year.

This Resolution shall be and remain in full force and effect from and after its date of adoption.

Adopted and approved this __ day of _____, 2024.

City of Dalton, Georgia

_____
Mayor/Mayor Pro Tempore

Attested To:

_____
City Clerk

2025 PROPOSED BUDGET

GENERAL FUND

City of Dalton

General Fund 2025 Proposed Budget

With Comparative Amounts - 2023 Actual and 2024 Adopted

	Actual 2023	Adopted 2024	Proposed 2025	% Change 2025 to 2024
REVENUES				
Taxes	$ 24,388,590	$ 24,015,000	$ 24,967,000	3.96%
Licenses and permits	428,410	420,000	438,000	4.29%
Intergovernmental	696,483	774,000	783,000	1.16%
Charges for services	1,843,447	1,665,000	1,798,000	7.99%
Fines and forfeitures	498,105	476,000	478,000	0.42%
Investment income	1,180,880	850,000	1,300,000	52.94%
Miscellaneous	799,899	668,000	333,000	-50.15%
Total Revenues	29,835,814	28,868,000	30,097,000	4.26%
OTHER FINANCING SOURCES				
Proceeds from Sale of Capital Assets	10,475	5,000	40,000	700.00%
Transfers In	19,887,239	16,656,000	16,188,000	-2.81%
Total Other Financing Sources (Uses)	19,897,714	16,661,000	16,228,000	-2.60%
Total Revenues and Other Financing Sources	**$ 49,733,528**	**$ 45,529,000**	**$ 46,325,000**	**1.75%**

City of Dalton

General Fund 2025 Proposed Budget

With Comparative Amounts - 2023 Actual and 2024 Adopted

	Actual 2023 (1)	Adopted 2024 (1)	Proposed 2025	% Change 2025 to 2024
EXPENDITURES				
General Government				
Elections	$ 8,456	$ -	$ 4,000	0.00%
Legislative	125,680	145,000	163,000	12.41%
Administrative	598,603	866,000	935,000	7.97%
City Clerk	389,120	444,000	462,000	4.05%
Finance	796,145	853,000	900,000	5.51%
Information Technology	607,296	742,000	976,000	31.54%
Human Resources	440,638	566,000	610,000	7.77%
Building & Grounds	385,267	423,000	453,000	7.09%
Judicial				
Municipal Court	588,697	645,000	678,000	5.12%
Public Safety				
Police	9,486,934	10,651,000	12,565,000	17.97%
Fire	9,997,235	11,384,000	11,605,000	1.94%
Public Works & Infrastructure				
Public Works	7,833,594	8,951,000	8,968,000	0.19%
Infrastructure	50,252	15,000	8,000	-46.67%
Recreation & Culture				
Recreation	3,755,732	4,197,000	4,683,000	11.58%
Payments to Other Agencies	355,040	363,000	292,000	-19.56%
Health & Welfare				
Payments to Other Agencies	13,534	26,000	26,000	0.00%
Housing & Development				
Code Compliance	173,450	308,000	290,000	-5.84%
Payments to Other Agencies	407,500	427,000	352,000	-17.56%
Non-Departmental	245,314	324,000	522,000	61.11%
Total Expenditures	36,258,487	41,330,000	44,492,000	7.65%
OTHER FINANCING USES				
Transfers Out	7,225,653	4,199,000	1,833,000	-56.35%
Total Other Financing Sources (Uses)	7,225,653	4,199,000	1,833,000	-56.35%
Total Revenues and Other Financing Sources	**$ 43,484,140**	**$ 45,529,000**	**$ 46,325,000**	**1.75%**
Net Increase (Decrease) Fund Balance	**$ 6,249,388**	**$ -**	**$ -**	

(1) Non-departmental items have been adjusted for comparison purposes

2025 BUDGET

SUPPLEMENTAL SCHEDULES

City of Dalton

General Fund 2025 Budget

By Classification

	Proposed 2025	% of Total		Proposed 2025	% of Total
Revenues:			**Expenditures:**		
Property taxes	$ 8,539,000	18.43%	Personal services & benefits	$ 34,207,000	73.84%
Other taxes	16,428,000	35.46%	Purchased & contracted services	5,257,000	11.35%
Licenses and permits	438,000	0.95%	Supplies & operating charges	4,206,000	9.08%
Charges for services	1,798,000	3.88%	Capital outlay	36,000	0.08%
Fines and forfeitures	478,000	1.03%	Payments to others	686,000	1.48%
Investment income	1,300,000	2.81%	Contingency	100,000	0.22%
Intergovernmental	783,000	1.69%	**Total Expenditures**	44,492,000	96.04%
Miscellaneous	333,000	0.72%			
Total Revenues	30,097,000	64.97%			
Other Sources:			**Total Other Uses**		
Transfers in:			Transfers out:		
Utility transfer	15,365,000	33.17%	SPLOST Fund 2020 (paving)	645,000	1.39%
Hotel-Motel tax fund	823,000	1.78%	Debt Service Fund	1,188,000	2.56%
Sale of fixed assets	40,000	0.09%	**Total Other Uses**	1,833,000	3.96%
Total Other Sources	16,228,000	35.03%			
Total Revenue & Other Sources	**$ 46,325,000**	**100.00%**	**Total Expenditures & Other Uses**	**$ 46,325,000**	**100.00%**

City of Dalton

General Fund 2025 Budget - Expenditures & Other Financing Uses

As a Percentage of Total - By Legal Level of Control

	Proposed 2025	% of Total
EXPENDITURES		
General Government		
Elections	$ 4,000	0.01%
Legislative	163,000	0.35%
Administrative	935,000	2.02%
City Clerk	462,000	1.00%
Finance	900,000	1.94%
Information Technology	976,000	2.11%
Human Resources	610,000	1.32%
Building & Grounds	453,000	0.98%
Judicial		
Municipal Court	678,000	1.46%
Public Safety		
Police	12,565,000	27.12%
Fire	11,605,000	25.05%
Public Works & Infrastructure		
Public Works	8,968,000	19.36%
Infrastructure	8,000	0.02%
Recreation & Culture		
Recreation	4,683,000	10.11%
Payments to Other Agencies	292,000	0.63%
Health & Welfare		
Payments to Other Agencies	26,000	0.06%
Housing & Development		
Code Compliance	290,000	0.63%
Payments to Other Agencies	352,000	0.76%
Non-departmental	522,000	1.13%
Total Expenditures	44,492,000	96.04%
OTHER FINANCING USES		
Total Other Financing Uses		
SPLOST Fund 2020 (paving)	645,000	1.39%
Debt Service Fund	1,188,000	2.56%
Total Other Financing Uses	1,833,000	3.96%
Total Revenue & Other Financing Uses	**$ 46,325,000**	**100.00%**

City of Dalton

General Fund 2025 Budget

Expenditures & Other Financing Sources by Classification

	Proposed 2025	Classification Type						
EXPENDITURES		**Personal Services & Benefits**	**Purchased Services**	**Supplies**	**Capital**	**Payments to Others**	**Contingency**	**Transfer to Other Funds**
General Government								
Elections	$ 4,000	$ -	$ 4,000	$ -	$ -	$ -	$ -	$ -
Legislative	163,000	117,000	32,000	12,000	-	2,000	-	-
Administrative	935,000	756,000	146,000	19,000	-	14,000	-	-
City Clerk	462,000	418,000	38,000	6,000	-	-	-	-
Finance	900,000	673,000	216,000	11,000	-	-	-	-
Information Technology	976,000	483,000	403,000	90,000	-	-	-	-
Human Resources	610,000	496,000	108,000	6,000	-	-	-	-
Building & Grounds	453,000	72,000	247,000	134,000	-	-	-	-
Judicial		-	-	-	-	-	-	-
Municipal Court	678,000	438,000	220,000	20,000	-	-	-	-
Public Safety		-	-	-	-	-	-	-
Police	12,565,000	10,870,000	1,178,000	517,000	-	-	-	-
Fire	11,605,000	10,655,000	469,000	477,000	4,000	-	-	-
Public Works & Infrastructure		-	-	-	-	-	-	-
Public Works	8,968,000	5,829,000	1,092,000	2,030,000	17,000	-	-	-
Infrastructure	8,000	-	8,000	-	-	-	-	-
Recreation & Culture		-	-	-	-	-	-	-
Recreation	4,683,000	3,167,000	641,000	860,000	15,000	-	-	-
Payments to Other Agencies	292,000	-	-	-	-	292,000	-	-
Health & Welfare		-	-	-	-	-	-	-
Payments to Other Agencies	26,000	-	-	-	-	26,000	-	-
Housing & Development		-	-	-	-	-	-	-
Code Compliance	290,000	233,000	33,000	24,000	-	-	-	-
Payments to Other Agencies	352,000	-	-	-	-	352,000	-	-
Non-departmental	522,000	-	422,000	-	-	-	100,000	-
Total Expenditures	44,492,000	34,207,000	5,257,000	4,206,000	36,000	686,000	100,000	-
OTHER FINANCING USES								
SPLOST 2020 (paving)	645,000	-	-	-	-	-	-	645,000
Debt Service Fund	1,188,000	-	-	-	-	-	-	1,188,000
Total Other Financing Uses	1,833,000	-	-	-	-	-	-	1,833,000
Total Expenditures & Other Financing Uses	**$ 46,325,000**	**$ 34,207,000**	**$ 5,257,000**	**$ 4,206,000**	**$ 36,000**	**$ 686,000**	**$ 100,000**	**$ 1,833,000**
		74%	**11%**	**9%**	**0%**	**1%**	**0%**	**4%**
2024 Adopted by Classification	**$ 45,529,000**	**$ 31,554,000**	**$ 4,674,000**	**$ 4,136,000**	**$ 98,000**	**$ 818,000**	**$ 50,000**	**$ 4,199,000**
Increase (Decrease)	**$ 796,000**	**$ 2,653,000**	**$ 583,000**	**$ 70,000**	**$ (62,000)**	**$ (132,000)**	**$ 50,000**	**$ (2,366,000)**
% Increase (Decrease)	**2%**	**8%**	**11%**	**2%**	**-172%**	**-19%**	**50%**	**-129%**

Other Agency Allocations

	2025 Proposed Budget	2024 Adopted Budget
General Fund:		
Downtown Development Authority	$ 60,000	$ 135,000
Creative Arts Guild	-	56,000
Dalton-Whitfield Joint Development Authority	157,500	157,500
Dalton-Whitfield Community Development Corp.	80,000	80,000
Georgia Department of Veterans Affairs	1,000	1,000
Dalton-Whitfield County Library		
Cash	273,000	264,000
In-kind	5,300	6,000
Whitfield Murray Historical Society		
Cash	-	22,600
In-kind	3,000	2,400
Huff House - In-kind	2,700	1,900
Crown Mill - In-kind	3,900	2,400
The Greenhouse	25,000	25,000
Emery Center	3,600	7,200
THRIVE Partnership	20,000	20,000
Junior Achievement (limited commitment)	10,000	10,000
Believe Greater Dalton (limited commitment)	25,000	25,000
	$ 670,000	$ 816,000
Hotel-Motel Tax Fund:		
Northwest Georgia Trade & Convention Center		
Operations	$ 283,670	$ 238,775
Capital	358,675	358,675
Dalton Area Convention & Visitors Bureau		
Operations	205,000	205,000
Designated Marketing Organization	264,000	250,000
	$ 1,111,345	$ 1,052,450
Total Agency Allocations	$ 1,781,345	$ 1,868,450

2025 PROPOSED BUDGET
DEBT SERVICE & CAPITAL PROJECTS

City of Dalton
Debt Service Fund & Capital Projects Funds
2025 Proposed Budgets

		Capital Projects Fund	
	Debt Service Fund	Amendment to 2020 SPLOST	Capital Improvements
Revenues			
Interest income	$ 1,000	$ -	$ 18,000
Total Revenues	1,000	-	18,000
Expenditures			
General government and administrative	1,325	-	-
Public works	-	645,000	-
Infrastructure			68,000
Debt service - principle & interest	1,187,675	-	-
Total Expenditures	1,189,000	645,000	68,000
(Deficiency) of Revenues (Under Expenditures)	(1,188,000)	(645,000)	(50,000)
Other Financing Sources (Uses)			
Transfers in (out)	1,188,000	645,000	-
Proceeds from sale of capital assets	-	-	50,000
Total Other Financing Sources (Uses)	1,188,000	645,000	50,000
Net Change in Fund Balance	$ -	$ -	$ -

Please note the 2015 SPLOST Fund, 2020 SPLOST Fund, 2024 SPLOST Fund, and the 2021 Bonded Capital Projects Funds are multi-year budgets and not adopted annually. Any changes to these funds are achieved by Budget Amendments approved by Mayor & Council.

2025 PROPOSED BUDGETS
SPECIAL REVENUE FUNDS

City of Dalton
Special Revenue Funds
2025 Proposed Budgets

	Hotel Motel Tax	Confiscated Assets	Economic Development	CDBG Grant Fund	OPIOID Settlement Fund
Revenues					
Hotel motel taxes	$ 1,980,000	$ -	$ -	$ -	$ -
Forfeitures and seizures	-	50,000	-	-	-
Settlements (OPIOID)	-	-	-	-	50,000
PILOT payments	-	-	53,000	-	-
Intergovernmental - federal and state	-	-	-	380,000	-
Investment earnings	-	1,000	-	-	-
Total Revenues	1,980,000	51,000	53,000	380,000	50,000
Expenditures					
General government	-	-	-	76,000	-
Housing and development	-	-	53,000	254,000	-
Public safety	-	92,000	-	-	50,000
Public works and infrastructure	-	-	-	-	-
Health and welfare	-	-	-	50,000	-
Culture, recreation and tourism	1,157,000	-	-	-	-
Total Expenditures	1,157,000	92,000	53,000	380,000	50,000
(Deficiency) of Revenues (Under Expenditures)	823,000	(41,000)	-	-	-
Other Financing Sources (Uses)					
Transfers in (out)	(823,000)	-	-	-	-
Proceeds from sale of capital assets	-	15,000	-	-	-
Total Other Financing Sources (Uses)	(823,000)	15,000	-	-	-
Net Change in Fund Balance	$ -	$ (26,000)	$ -	$ -	$ -
Utilization of Fund Balance		$ 26,000			

Please note the Airport Grant Fund and State Fiscal Recovery (ARP) Grant Fund are multi-year budgets and not adopted annually, but at the point the grant is executed by the City. Any change to these funds is achieved by Budget Amendments approved by Mayor & Council.

CITY COUNCIL AGENDA REQUEST

Meeting Type:	Mayor & Council Meeting
Meeting Date:	12-2-24
Agenda Item:	Resolution 24-19 Conveyance of Land to the Housing Authority of the City of Dalton
Department:	Administration
Requested By:	Andrew Parker
Reviewed/Approved by City Attorney?	Yes
Cost:	
Funding Source if Not in Budget	

Please Provide A Summary of Your Request, Including Background Information to Explain the Request:

Resolution 24-19 To Convey Certain Real Property Owned by The City of Dalton And Operated by Dalton Utilities to The Housing Authority of The City of Dalton

RESOLUTION 24-19 OF THE MAYOR AND COUNCIL OF THE CITY OF DALTON FOR SALE OF PROPERTY

WHEREAS, the Board of Water, Light and Sinking Fund Commissioners of the City of Dalton has determined that it is consistent with the best interests of Dalton Utilities that Dalton Utilities to convey certain real property owned by the City of Dalton and operated by Dalton Utilities, to The Housing Authority of the City of Dalton, Georgia (the "Proposed Conveyance") and accordingly has approved such transactions and recommended approval of such transactions to the Mayor and Council of the City of Dalton;

NOW, THEREFORE, **BE IT RESOLVED**, that the City of Dalton is hereby authorized to enter into any and all contracts necessary to consummate the Proposed Conveyance; and

WHEREAS, the City of Dalton, under the authority of O.C.G.A. § 36-37-6(e)(2)(D), has agreed to the Proposed Conveyance;

WHEREAS, the terms of the Proposed Conveyance, has been reviewed and approved by the City of Dalton;

BE IT FURTHER RESOLVED, that the Mayor of the City of Dalton be, and is hereby is, authorized and empowered to take such actions and to execute for and on behalf of the City of Dalton those certain deeds, settlement statements, affidavits, and such other agreements, instruments, certificates, assignments, papers and documents which, may be necessary or desirable to effect the said Proposed Conveyance; and such agreements, instruments, certificates, assignments, papers and documents shall be in such form and contain such terms and conditions as may be approved by the Mayor on behalf of the City of Dalton, and the execution of such agreements, instruments, certificates, assignments, papers and documents by the Mayor on behalf of the City of Dalton as herein authorized shall be conclusive evidence of any such approval.

BE IT FURTHER RESOLVED, that all acts and doings of the Mayor in connection with the Proposed Conveyance which are in conformity with the purposes and intents of these Resolutions and in the furtherance of the transactions contemplated hereby and thereby shall be, and the same hereby are, in all respects approved and confirmed.

BE IT FURTHER RESOLVED, that the signature of the Mayor to any of the consents, agreements, instruments, certificates, assignments, papers and documents executed and delivered in connection therewith shall be conclusive evidence of the authority of the Mayor to execute and deliver such consents, agreements, instruments, certificates, assignments, papers and documents on behalf of the City of Dalton.

BE IT FURTHER RESOLVED, that the Clerk or any Assistant Clerk of the City of Dalton be, and each hereby is, authorized to attest the signature of any officer of the City of

Dalton and impress or attest the City of Dalton's seal appearing on any agreement, instrument, certificate, financing statement, assignment, paper or document executed in connection with any of the foregoing Resolutions, but shall not be obligated to do so, and the absence of the signature of the Clerk or any Assistant Clerk of the City of Dalton or the City of Dalton's seal on any such agreement, instrument, certificate, financing statement, assignment, paper or other document shall not affect its validity or the obligation of the Mayor and Council of the City of Dalton thereunder.

BE IT FURTHER RESOLVED, that all resolutions or parts thereof of the city of Dalton in conflict with the provisions herein contained are, to the extent of such conflict, hereby superseded and repealed.

BE IT FURTHER RESOLVED, that these Resolutions shall take effect immediately upon their adoption.

SO ADOPTED this _____day of _____, 2024.

City of Dalton, Georgia

By:_____
Mayor/ Mayor Pro Tempore

Attest:_____
Clerk

(SEAL)

RESOLUTIONS OF THE BOARD OF WATER, LIGHT AND SINKING FUND COMMISSIONERS FOR CONVEYANCE OF PROPERTY

WHEREAS, the Board of Water, Light and Sinking Fund Commissioners, d/b/a Dalton Utilities ("Dalton Utilities") has determined that it is consistent with the best interests of Dalton Utilities that Dalton Utilities convey certain real property owned by the City of Dalton and operated by Dalton Utilities, as contemplated by O.C.G.A. § 36-37-6(e)(2)(D), to The Housing Authority of the City of Dalton, Georgia (the "Proposed Conveyance"); and

WHEREAS, the Proposed Conveyance potentially affects the ownership rights of the City of Dalton and as such the consent of the Mayor and Council of the City of Dalton will be required to legally effect the same;

NOW, THEREFORE, BE IT RESOLVED, that the Proposed Conveyance is hereby approved, and Dalton Utilities is hereby authorized to enter into a limited warranty deed, subject to the approval of the Mayor and Council of Dalton, and the satisfaction of certain statutory formalities for effectuation of such Proposed Conveyance.

BE IT FURTHER RESOLVED, the Board recommends to the Mayor and Council of the City of Dalton that they authorize the City of Dalton to enter into and perform all contacts relating to the Proposed Conveyance, subject to fulfillment of all legal conditions precedent.

BE IT FURTHER RESOLVED, that subject to fulfillment of all legal conditions precedent, the Chairman, or the President of Dalton Utilities (the "Authorized Officers") be, and each hereby is, authorized and empowered to take such actions and to execute those certain easements, settlement statements, affidavits, and such other agreements, instruments, certificates, assignments, papers and documents which, may be necessary or desirable to effect the said sale of property, which, in the judgment of any of the Authorized Officers, may be necessary or desirable to effect the said sale. Such agreements, instruments, certificates, assignments, papers and documents shall be in such form and contain such terms and conditions as may be approved by any of the Authorized Officers on behalf of Dalton Utilities, and the execution of such agreements, instruments, certificates, assignments, papers and documents by any of the Authorized Officers on behalf of Dalton Utilities as herein authorized shall be conclusive evidence of any such approval.

BE IT FURTHER RESOLVED, that all acts and doings of the Authorized Officers in connection with the Proposed Conveyance which are in conformity with the purposes and intents of these Resolutions and in the furtherance of the transactions contemplated hereby and thereby shall be, and the same hereby are, in all respects approved and confirmed.

BE IT FURTHER RESOLVED, that the signature of any Authorized Officer to any of the consents, agreements, instruments, certificates, assignments, papers and documents executed and delivered in connection therewith shall be conclusive evidence of the authority of such

Authorized Officer to execute and deliver such consents, agreements, instruments, certificates, assignments, papers and documents on behalf of Dalton Utilities.

BE IT FURTHER RESOLVED, that any and all actions heretofore taken by any of the Authorized Officers of Dalton Utilities relating to or in connection with the Proposed Conveyance be, and the same hereby are, approved, ratified and affirmed as duly authorized actions of Dalton Utilities.

BE IT FURTHER RESOLVED, that the Secretary or any Assistant Secretary of Dalton Utilities be, and each hereby is, authorized to attest the signature of any officer of Dalton Utilities and impress or attest Dalton Utilities' seal appearing on any agreement, instrument, certificate, financing statement, assignment, paper or document executed in connection with any of the foregoing Resolutions, but shall not be obligated to do so, and the absence of the signature of the Secretary or any Assistant Secretary of Dalton Utilities or Dalton Utilities' seal on any such agreement, instrument, certificate, financing statement, assignment, paper or other document shall not affect its validity or the obligation of Dalton Utilities thereunder.

BE IT FURTHER RESOLVED, that all resolutions or parts thereof of Dalton Utilities in conflict with the provisions herein contained are, to the extent of such conflict, hereby superseded and repealed.

BE IT FURTHER RESOLVED, that these Resolutions shall take effect immediately upon their adoption.

SO ADOPTED this 19th day of November, 2024.

BOARD OF WATER, LIGHT AND SINKING FUND COMMISSIONERS

By: _____
Chairman

Attest: Jackie Killings
Secretary

(SEAL)

[Space above this line for recording data.]

Please Record and Return To:

J. Tom Minor, IV
The Minor Firm
P.O. Box 2586
Dalton, GA 30722-2586

LIMITED WARRANTY DEED

Georgia, Whitfield County

THIS INDENTURE made this _____ day of _____, 2024, between the **City of Dalton, Georgia**, a municipal corporation of the State of Georgia, Grantor, and **The Housing Authority of The City of Dalton, Georgia**, Grantee.

The words "Grantor" and "Grantee" whenever used herein shall include all individuals, corporations and any other persons or entities, and all the respective heirs, executors, administrators, legal representatives, successors and assigns of the parties hereto, and all those holding under either of them, and the pronouns used herein shall include, when appropriate, either gender and both singular and plural, and the grammatical construction of sentences shall conform thereto. If more than one party shall execute this deed each Grantor shall always be jointly and severally liable for the performance of every promise and agreement made herein.

THE GRANTOR, for and in consideration of the sum of ten dollars and other valuable considerations, in hand paid at or before the sealing and delivery of these presents, the receipt of which is hereby acknowledged, has bargained and sold, and by these presents does grant, bargain, sell and convey unto the said Grantee all that tract or parcel of land as more particularly described in Exhibit "A" attached hereto, reference to which is hereby made and incorporated herein by reference.

THIS CONVEYANCE is made subject to all zoning ordinances, easements, and restrictions of record insofar as the same may lawfully affect the above-described property.

TO HAVE AND TO HOLD the said tract of land, with all and singular the rights, members and appurtenances thereof, to the same being, belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee forever, in Fee Simple, the said Grantor hereby covenanting that the above-described property is free and clear from any encumbrance done or suffered by Grantor. The said

Grantor will warrant and forever defend the right and title to the above-described property unto the said Grantee against the lawful claims of all persons claiming by, through or under the said Grantor.

IN WITNESS WHEREOF, this deed has been duly executed and sealed by Grantor the day and year first above written.

Signed, sealed and delivered
In the presence of:

_____
Unofficial Witness

_____
Notary Public

My commission expires:

[Notarial Seal]

City of Dalton, Georgia

By:_____
Mayor

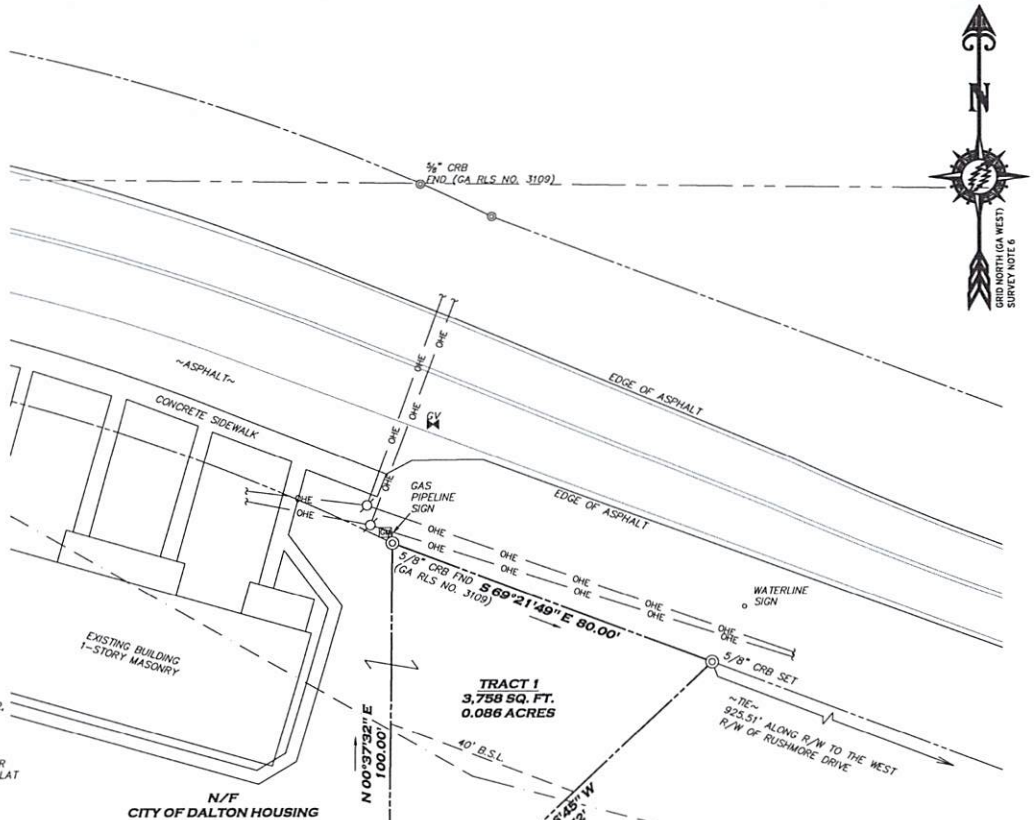
Attest:_____
Clerk

[Seal]

EXHIBIT "A"

All that tract or parcel of land lying and being in Land Lot No. 203 in the 12th District and 3rd Section of Whitfield County, Georgia, containing 0.086 acres, and being more particularly described according to a plat of survey prepared by Christopher Lee Lewis, Georgia Registered Land Surveyor No. 3063, dated October 4, 2024, and recorded in Plat Book F Page _____, Whitfield County, Georgia Land Records, reference to which plat is hereby made and incorporated herein by reference.

RESERVED FOR OFFICAL USE ONLY



VICINITY MAP

ZONING

ZONING FOR THIS PROPERTY IS CURRENTLY CLASSIFIED AS "R-2" (LOW DENSITY SINGLE FAMILY RESIDENTIAL). SETBACKS AND RESTRICTIONS ARE AS FOLLOWS:

FRONT YARD (MAJOR): 40 FEET
FRONT YARD (MINOR): 25 FEET
SIDE YARD: 10 FEET
REAR YARD: 15 FEET

ZONING AND SETBACK INFORMATION PER THE WHITFIELD COUNTY ZONING MAP AND UNIFIED ZONING ORDINANCE. ALL INFORMATION STATED SHOULD BE VERIFIED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

SURVEY REFERENCES

1) BOUNDARY SURVEY FOR CHRISTIAN HERITAGE SCHOOL PREPARED BY MITCHELL LOWERY DATED FEBRUARY 25, 2012, AND RECORDED IN PLAT CABINET E, SLIDE 191 & 192, WHITFIELD COUNTY RECORDS.

2) EXEMPT SUBDIVISION SURVEY FOR CHRISTIAN HERITAGE SCHOOL & THE CITY OF DALTON PREPARED BY CHRISTOPHER LEE LEWIS DATED FEBRUARY 14, 2014, AND RECORDED IN PLAT CABINET E, SLIDE 343, WHITFIELD COUNTY RECORDS.

GRAPHIC SCALE
20' 0 20' 40'
1 Inch = 20 Feet

SURVEY NOTES

1) PROPERTY SHOWN HEREON WAS SURVEYED OCTOBER 2, 2024.

2) THE FIELD DATA UPON WHICH THIS PLAT IS BASED HAS A CLOSURE OF 1' IN 47,813' WITH AN ANGULAR ERROR OF 3.11 SECONDS PER ANGLE POINT AND WAS ADJUSTED USING THE LEAST SQUARES METHOD.

3) A SOKKIA IX SERIES ROBOTIC TOTAL STATION, CARLSON BRX7 GPS RECEIVER, AND SOKKIA SHC6000 FIELD CONTROLLER WERE USED FOR FIELD SURVEY MEASUREMENTS.

4) THIS PLAT HAS A MAP CLOSURE OF 1' IN 146,994'.

5) SAID DESCRIBED PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION AE ON FLOOD INSURANCE RATE MAP NO. 13313C0137D, WITH A DATE OF IDENTIFICATION OF SEPTEMBER 19, 2007 FOR COMMUNITY NUMBER 130193, IN WHITFIELD COUNTY, STATE OF GEORGIA, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.

6) CONTROL AND BEARING BASIS FOR THIS SURVEY WERE ESTABLISHED USING A CARLSON BRX7 GPS RECEIVER UTILIZING OPUS-S FOR POST PROCESSING. THE RELATIVE POSITIONAL ACCURACY, AS CALCULATED ACCORDING TO THE FEDERAL GEOGRAPHIC DATA COMMITTEE PART 3: NATIONAL STANDARD FOR SPATIAL DATA ACCURACY, IS .04 FEET HORIZONTAL AND .06 FEET VERTICAL AT THE 95% CONFIDENCE LEVEL.

7) NO EFFORT TO OBTAIN THE LOCATION OF UNDERGROUND UTILITIES WAS MADE DURING THE COURSE OF THIS SURVEY. PROFESSIONAL LAND SURVEYORS MAKES NO GUARANTEE AS TO THE EXISTENCE OR NON-EXISTENCE OF SAID UTILITIES.

8) SUBJECT PROPERTY HAS DIRECT ACCESS TO UNDERWOOD STREET, BEING A PUBLICLY DEDICATED RIGHT OF WAY.

9) THE TERM "CERTIFICATION" AS USED IN RULE "180-6-092(2) AND (3)" AND RELATING TO PROFESSIONAL ENGINEERING OR LAND SURVEYING SERVICES, AS DEFINED IN O.C.G.A. 43-15-2(6) AND (11), SHALL MEAN A SIGNED STATEMENT BASED UPON FACTS AND KNOWLEDGE KNOWN TO THE REGISTRANT AND IS NOT A GUARANTEE OR WARRANTY, EITHER EXPRESSED OR IMPLIED.

10) THIS SURVEY COMPLIES WITH BOTH THE RULES OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND THE OFFICIAL CODE OF GEORGIA ANNOTATED (OCGA) 15-6-67, IN THAT WHERE A CONFLICT EXISTS, THE REQUIREMENTS OF LAW PREVAIL.

SURVEYOR'S CERTIFICATION

AS REQUIRED BY SUBSECTION (D) OF O.C.G.A. SECTION 15-6-67, THIS PLAT HAS BEEN PREPARED BY A LAND SURVEYOR. THIS PLAT HAS BEEN APPROVED BY ALL APPLICABLE LOCAL JURISDICTIONS THAT REQUIRE PRIOR APPROVAL FOR RECORDING THIS TYPE OF PLAT OR ONE OR MORE OF THE APPLICABLE LOCAL JURISDICTIONS DO NOT REQUIRE APPROVAL OF THIS TYPE OF PLAT. FOR ANY APPLICABLE LOCAL JURISDICTION THAT REQUIRES APPROVAL OF THIS TYPE OF PLAT, THE NAMES OF THE INDIVIDUALS SIGNING OR APPROVING THIS PLAT, THE AGENCY OR OFFICE OF THAT INDIVIDUAL, AND THE DATE OF APPROVAL ARE LISTED IN THE APPROVAL TABLE SHOWN HEREON. FOR ANY APPLICABLE LOCAL JURISDICTION THAT DOES NOT REQUIRE APPROVAL OF THIS TYPE OF PLAT, THE NAME OF SUCH LOCAL JURISDICTION AND THE NUMBER OF THE APPLICABLE ORDINANCE OR RESOLUTION PROVIDING THAT NO SUCH APPROVAL IS REQUIRED ARE LISTED IN THE APPROVAL TABLE SHOWN HEREON. SUCH APPROVALS, AFFIRMATIONS, OR ORDINANCE OR RESOLUTION NUMBERS SHOULD BE CONFIRMED WITH THE APPROPRIATE GOVERNMENTAL BODIES BY ANY PURCHASER OR USER OF THIS PLAT AS TO INTENDED USE OF ANY PARCEL. FURTHERMORE, THE UNDERSIGNED LAND SURVEYOR CERTIFIES THAT THIS PLAT COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR PROPERTY SURVEYS IN GEORGIA AS SET FORTH IN THE RULES AND REGULATIONS OF THE GEORGIA BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS AND AS SET FORTH IN O.C.G.A. SECTION 15-6-67.

10/04/2024
CHRISTOPHER L. LEWIS GEORGIA PLS# 3063
PLAT OR MAP: OCTOBER 4, 2024

FINAL ACCURACY AND DESIGN CERTIFICATE

IT IS HEREBY CERTIFIED THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE BY ME OR UNDER MY SUPERVISION; THAT ALL MONUMENTS SHOWN HEREON ACTUALLY EXIST AND THEIR LOCATION, SIZE, TYPE AND MATERIAL ARE CORRECTLY SHOWN; AND THAT ALL REQUIREMENTS OF THE "WHITFIELD COUNTY SUBDIVISION REGULATIONS" HAVE BEEN FULLY COMPLIED WITH, AND THAT APPROVAL HEREOF DOES NOT RELIEVE ME OF ANY LIABILITY ASSOCIATED WITH INACCURACIES OR IMPROPER DESIGN.

BY: _____ DATE: 10/04/2024
GA P.L.S. NO. 3063

CERTIFICATE OF APPROVAL FOR RECORDING (EXEMPT SUBDIVISION)

THE WHITFIELD COUNTY BUILDING, ZONING AND DEVELOPMENT DEPARTMENT CERTIFIES THAT THIS PLAT COMPLIES WITH THE EXEMPT SUBDIVISION PROVISIONS OF THE WHITFIELD COUNTY SUBDIVISION REGULATIONS, [WITH THE EXCEPTION OF SUCH VARIANCES, IF ANY, AS ARE NOTED UPON THE PLAT], AND THAT IT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE CLERK OF SUPERIOR COURT OF WHITFIELD COUNTY, GEORGIA. NO DETERMINATION HAS BEEN MADE WITH REGARD TO THE SUITABILITY OF ANY LOT EITHER FOR USE WITH THE EXISTING ON-SITE/PUBLIC SEWAGE MANAGEMENT OR WATER SUPPLY SYSTEM OR FOR THE INSTALLATION OF A NEW ON-SITE/PUBLIC SEWAGE MANAGEMENT OR WATER SUPPLY SYSTEM.

_____ _____
DATE AUTHORIZED REPRESENTATIVE

LEGEND

———	PROPERTY LINE
(BEARING/DISTANCE)	RECORD CALLS
— — — —	BUILDING SETBACK LINE
B.S.L.	BUILDING SETBACK LINE
— — — —	OVERHANG/AWNING
— — — —	EASEMENT
G	GAS LINE
OHE	OVERHEAD UTILITY LINE
SS	SANITARY SEWER LINE
— — — —	STORM DRAIN PIPE
GM	GAS METER
GV	GAS VALVE
CRB	CAPPED REBAR
FND	FOUND
○	SIGN
⌀	UTILITY POLE

PROFESSIONAL
LAND SURVEYORS, LLC
1020 CHATTANOOGA AVENUE
DALTON, GA 30720
770-334-8186
WWW.PLS.US
INFO@PLS.US
GEORGIA C.O.A.: LSF001380

PREPARED FOR:
CITY OF DALTON HOUSING AUTHORITY

FINAL PLAT (EXEMPT SUBDIVISION) OF:
TAX PARCEL NO. 12-203-01
UNDERWOOD STREET
DALTON, GA 30721

STATE: GEORGIA | COUNTY: WHITFIELD | SECTION: 3
LAND LOT: 203 | DISTRICT: 12

REVISIONS

DATE:	DESCRIPTION

PROFESSIONAL LAND SURVEYORS

DATE: OCTOBER 4, 2024
JOB #: 245026
SCALE: 1"=20'
DRAWN BY: J.P.B.

CITY COUNCIL AGENDA REQUEST

Meeting Type:	Mayor & Council Meeting
Meeting Date:	12/02/2024
Agenda Item:	Level 1-A Pipe Lining Project Change Order
Department:	Public Works
Requested By:	Chad Townsend
Reviewed/Approved by City Attorney?	No
Cost:	$50,676.00
Funding Source if Not in Budget	Bonded Stormwater Capital Projects

Please Provide A Summary of Your Request, Including Background Information to Explain the Request:

This request is to approve a change order to revise pipe sizes from the original bid form. The contractor noted discrepancies in pipe sizes in the original contract from measured dimensions. Public Works has verified that the dimensions reported by the contractor are correct.

This is expected to result in an additional cost of up to $50,676.00. Please see the attached summary of changes and proposal from Federal EC for details.

LEVEL 1-A PIPE LINING PROJECT (CHANGE ORDER)

ITEM	DESCRIPTION	UNIT	UNIT PRICE	Original QTY	Original Price	Revised QTY	Revised Price	QTY Difference	Price Difference
UNIT PRICE QUANTITY CHANGES									
2	ALTERATIONS TO STORM DRAIN STRUCTURES/TOPS	LS	$ 1,000.00	1	$ 1,000.00	0	$ -	-1	$ (1,000.00)
3	12" ROUND CMP	LF	$ 150.00	162	$ 24,300.00	0	$ -	-162	$ (24,300.00)
4	15" ROUND CMP	LF	$ 135.00	531	$ 71,685.00	460	$ 62,100.00	-71	$ (9,585.00)
5	18" ROUND CMP	LF	$ 165.00	932	$ 153,780.00	793	$ 130,845.00	-139	$ (22,935.00)
6	**24" ROUND CMP**	**LF**	**$ 215.00**	**110**	**$ 23,650.00**	**394**	**$ 84,710.00**	**284**	**$ 61,060.00**
8	36" ROUND CMP	LF	$ 400.00	83	$ 33,200.00	0	$ -	-83	$ (33,200.00)
9	48" ROUND CMP	LF	$ 355.00	99	$ 35,145.00	58	$ 20,590.00	-41	$ (14,555.00)
11	60" ROUND CMP	LF	$ 425.00	286	$ 121,550.00	88	$ 37,400.00	-198	$ (84,150.00)
22	15" ROUND RCP (PIPE_008374)	LF	$ 135.00	136	$ 18,360.00	34	$ 4,590.00	-102	$ (13,770.00)
23	CCTV INSPECTION	LF	$ 5.00	3111	$ 15,555.00	3076	$ 15,380.00	-35	$ (175.00)
24	CCTV INSPECTION - 15" ROUND RCP (PIPE_008374)	LF	$ 5.00	136	$ 680.00	34	$ 170.00	-102	$ (510.00)
25	OWNER-DIRECTED WORK	LF	$ 30,000.00	1	$ 30,000.00	1	$ 30,000.00	0	$ -
								DEDUCTIONS SUBTOTAL	**$ (143,120.00)**
CHANGE ORDER ADDITIONS									
CO1	**42" ROUND CMP**	**LF**	**$ 466.00**	**0**	**$ -**	**136**	**$ 63,376.00**	**136**	**$ 63,376.00**
CO2	**66" ROUND CMP**	**LF**	**$ 504.00**	**0**	**$ -**	**145**	**$ 73,080.00**	**145**	**$ 73,080.00**
CO3	**72" ROUND CMP**	**LF**	**$ 610.00**	**0**	**$ -**	**94**	**$ 57,340.00**	**94**	**$ 57,340.00**
								CHANGE ORDER SUBTOTAL	**$ 193,796.00**

DEDUCTIONS SUBTOTAL	**$ (143,120.00)**
CHANGE ORDER ADDITIONS	**$ 193,796.00**
DIFFERENCE	**$ 50,676.00**
ORIGINAL CONTRACT	**$ 1,129,705.00**
REVISED CONTRACT	**$ 1,180,381.00**

November 14, 2024

The City of Dalton
Attn: Jorge Campos
300 West Waugh Street
Dalton, GA 30720

Subject: Proposal: LEVEL 1-A PIPE LINING: Additional Pipe Size Pricing

Federal EC LLC proposes the following pricing for the subject project.

42"- $466 Per Foot:	83 Linear Feet, 100 Levi Drive
	53 Linear Feet, 1303 Swann Drive
66" - $504 Per Foot:	41 Linear Feet, 1804 Glenbrook Place
	37 Linear Feet, 1401 Underwood Street
	67 Linear Feet, 1275 Elkwood Drive
72" - $610 Per Foot:	94 Linear Feet, 1411 Sienna Drive

The unit prices for these sizes were not established on the original contract. Lining will be invoiced at actual footage completed per size.

Please feel free to contact me at 770-616-7523 with any questions regarding this matter.

Kind Regards,

Jonathan M. Raymer P.E. | Vice President | **FEDERAL EC LLC**
504 Allatoona Hills Drive | Woodstock, GA 30189
Ph: 770.616.7523 | **http://www.federalec.com**
jraymer@federalec.com

CITY COUNCIL AGENDA REQUEST

Meeting Type:	Mayor & Council Meeting
Meeting Date:	12/2/2024
Agenda Item:	Decorative Traffic Signal Poles, Mast Arms, and Luminaires Contract with DOT Lighting, LLC
Department:	Public Works
Requested By:	Chad Townsend
Reviewed/Approved by City Attorney?	No
Cost:	$163,415.00
Funding Source if Not in Budget	Pentz & Cuyler Street Corridor Improvements Project Account

Please Provide A Summary of Your Request, Including Background Information to Explain the Request:

This is to award the Decorative Traffic Signal Poles, Mast Arms, and Luminaires contract to the lowest bidder DOT Lighting, LLC. All materials acquired from this contract shall be used on the Pentz and Cuyler Corridor Improvements Project. Signal masts shall be delivered no later than 25 weeks, and crossarms & luminaires shall be delivered to the City no later than 14 weeks following contract award.

Request for Bids

City of Dalton Public Works Department

Decorative Traffic Signal Poles and Luminaires

Submittal: Sealed bids must be submitted to The City of Dalton Finance Department – Cindy Jackson located at 300 W Waugh Street – Dalton, GA by October 25th, 2024 at 2:00 PM. The exterior of the envelope needs to contain the words "SEALED BID – DO NOT OPEN". Bids will be opened publicly immediately following the closing of the bid. Sealed bid submissions must include all cutsheets & specifications for materials utilized in providing a cost in bid form to provide proof each element meets requirements listed within the bid specifications. Lead times provided in bid form must be valid for a period of 30 calendar days following the bid opening date.

Vendor Requirements: All parties submitting bids must be on the City of Dalton Vendors list. Vendor packets can be found on the City's website under the Finance section. For any questions regarding the vendor packet, please contact Rhonda Sissom at 706-529-2466 or by email at rsissom@daltonga.gov

Contact: For any questions pertaining to the bid submission, please contact Jackson Sheppard via email at jsheppard@daltonga.gov or by phone at 706-278-7077.

Bid Specifications

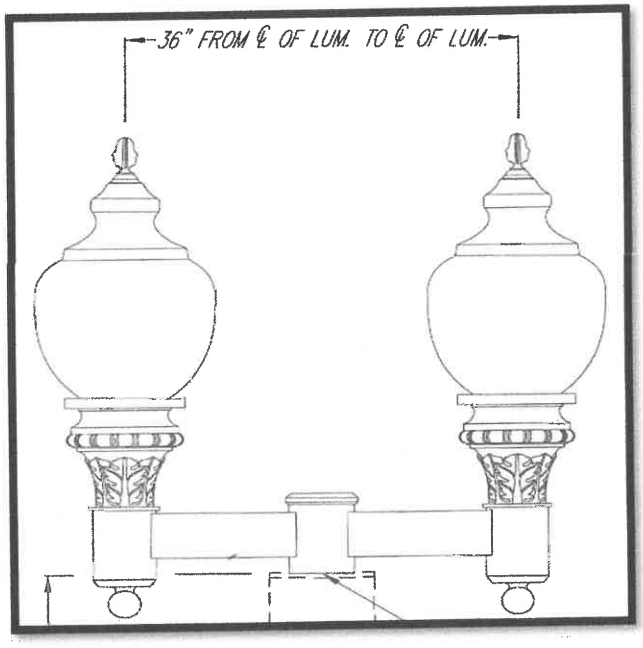
Scope: This request for bids is only for furnishing all materials required for complete installation of poles, mast arms, and associated luminaires for decorative traffic control signal poles to be used within the city right of way.

Fluted Poles & Accompanying Specifications:

TRAFFIC CONTROL DEVICES ARE NOT PART OF THE SCOPE OF THIS BID PACKAGE

1. **18-Foot Fluted Pole (15 FT-6 IN Mast Arm Mounting Height)**
    a. 35-foot fluted curved mast arm
    b. Top-Mounted Dual-Globe Cross Arm & Luminaires
    c. Octagonal Decorative base
    d. Dark Green Color
    e. Fluted Pole & Mast Arm
    f. Anchor Bolts

18-Foot Fluted Pole Example (Intended to Match)



Typical Section of Top-Mounted Dual-Globe Cross Arm & Luminaires (Intended to Match)

2. 21 Foot-6 Inch Fluted Pole (20-FT Mast Arm Mounting Height)

a. 75-foot & 45-foot round straight mast arms
b. Octagonal Decorative Base (Cast Aluminum is Accepted)
c. Dark Green Color
d. Fluted Pole & Mast Arm
e. Anchor Bolts

32-Foot Fluted Pole Example (Intended to Match)

3. **21 Foot-6 Inch Fluted Pole (20-FT Mast Arm Mounting Height)**
    a. 75-foot & 55-foot round straight mast arms
    b. Octagonal Decorative Base
    c. Dark Green Color
    d. Anchor Bolts

32-Foot Fluted Pole Example (Intended to Match)

4. **8-Foot Fluted Pedestrian Crossing Control Pole**
    a. Dark Green Color
    b. Anchor Bolts

8-Foot Fluted Pedestrian Crossing Control Pole Example (Intended to Match)

Bid Form

Please provide a price for each of the following line items. Please refer to bid specifications for a detailed description of elements pertaining to each item listed below. If an accessory essential for installation is not specifically listed, please provide a lump sum price for additional accessories, and describe additional accessories in space provided.

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	SUB TOTAL
1	18-Foot Fluted Pole (15 FT-6 IN Mast Arm Mounting Height)	EA	4	$20,115 ea = $80,460
2	21 Foot-6 Inch Fluted Pole (20-FT Mast Arm Mounting Height)	EA	1	$38,805
3	21 Foot-6 Inch Fluted Pole (20-FT Mast Arm Mounting Height)	EA	1	$40,220
4	8-Foot Fluted Pedestrian Crossing Control Pole	EA	2	$1965 ea = $3,930

SUBTOTAL	$163,415

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	SUB TOTAL
5	Additional Items Required (Not Listed in Bid Specifications)	LS	1	

TOTAL	$163,415

Description of Additional Items If Any:

Description of Lead Times for Material Delivery:

Poles: 23-25 weeks

Crossarms/Luminaires: 12-14 weeks

AWARD SHALL BE MADE TO THE LOWEST QUALIFIED BIDDER MEETING THE BID SPECIFICATIONS.

NOTE: By signing this bid form and submitting a bid, the vendor acknowledges that they have read, understand and agree to all aspects of this document presented. Conditional bids will not be accepted.

Company Name: DoT Lighting LLC

Authorized Representative Name: Tad Brandle

Authorized Representative Signature: _____

Authorized Representative Title: Sales

CONTRACT AUTHORIZATION

City of Dalton	DOT LIGHTING, LLC
Accepted By:_____	Accepted By:_____
TITLE:_____	TITLE:_____
DATE:_____	DATE:_____

Valmont Industries, Inc.
West Highway 275
P.O. Box 358
Valley, Nebraska 68064-0358 USA
(402) 359-2201

A Light & Traffic Structure Proposal
for
Cuyler St
Dalton, Georgia

Valmont Order No.: 568086-P1

Prepared By:
Nizam Qassem, P.E.
November 18, 2024

Valmont Industries, Inc.
West Highway 275
P.O. Box 358
Valley, Nebraska 68064-0358 USA
(402) 359-2201

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ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCRDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH

Folder: 568086 File: P8PTA15120

Design Criteria

Design Code	AASHTO-2015	Fatigue Category	2
Ultimate Wind Speed (mph)	120.0	Truck Gust	No
Mean Recurrence Interval	700	Galloping	No
Service Level Wind Speed (mph)	76.0	Natural Wind Gust	No
AASHTO Ice Included ?	Yes	HMLT Fatigue	No
Steps Included ?	No		

Design Summary - Pole

Height (ft)	Shaft Weight (lb)	Ground Line Diameter (in)	Top Dia. (in)
8.0000	52	5.62	4.500

Section Characteristics

	Section - 1
Shape	16 Sharp Flutes
Top Dia. (in)	4.500
Base Diameter (in)	5.620
Thickness (in)	0.11960
Length (ft)	8.00
Shaft Weight (lb)	52
Assembly Weight (lb)	68
Taper (in/ft)	0.14000
Yield Strength (ksi)	55.00
Material	S105 - A595

Base Plate

Shape	Square
Material	S70 - A36
Width (in)	10.000
Thickness (in)	0.87500
Yield Strength (ksi)	36.00
Base Weld Type	SOCKET
Weight (lb)	16

Anchor Bolts

Material	S100 - F1554
Bolt diameter (in)	1.00
Bolt circle diameter (in)	9.00
Quantity	4
Yield Strength (ksi)	55.00
Tensile strength (ksi)	75

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH

Folder: 568086 File: P8PTA15120

Description of EPA Loading

Description of Load	Position of Load	Mounting Height ** (ft)	Centroid Height ** (ft)	Distance To Centroid From Pole (ft)	Weight (lb)	Effective Projected Area (ft2)
POST TOP	Pole	8.0000	10.0000	0.0000	37	2.19

THE VALUES SHOWN IN THIS TABLE MUST NOT BE EXCEEDED
WITHOUT CONSULTING VALMONT.
ANY SIZES OR OTHER DIMENSIONS NOT PROVIDED BY THE
SPECIFYING AGENCY HAVE
BEEN ESTIMATED BY VALMONT.
** THESE HEIGHTS ARE ABOVE BOTTOM OF BASE PLATE OR
TRANSFORMER BASE.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH

Folder: 568086 File: P8PTA15120

RESULTS SUMMARY - Pole

Maximum Combined Force Interaction In Each Major Component

Strength I	
Pole CFI (At 0.00 (ft))	0.00
Base Plate CFI	0.00
Anchor Bolts CFI	0.00
Deflection % (At 8.00 (ft))	0.000 %
Deflection (At 8.00 (ft))	0.00 in
Rotation (At 8.00 (ft))	0.00 deg
Extreme I	
Pole CFI (At 0.00 (ft))	0.12
Base Plate CFI	0.07
Anchor Bolts CFI	0.07
Deflection % (At 8.00 (ft))	0.330 %
Deflection (At 8.00 (ft))	0.32 in
Rotation (At 8.00 (ft))	0.31 deg
Service I	
Pole CFI (At 0.00 (ft))	0.05
Base Plate CFI	0.03
Anchor Bolts CFI	0.03
Deflection % (At 8.00 (ft))	0.132 %
Deflection (At 8.00 (ft))	0.13 in
Rotation (At 8.00 (ft))	0.12 deg

Maximum Reactions Applied To Foundation

Bending Moment	1615 ft-lb
Torsion	0 ft-lb
Shear Force	280 lb
Axial Force	167 lb
Ice	
Pole CFI (At 0.00 (ft))	0.05
Base Plate CFI	0.03
Anchor Bolts CFI	0.03
Deflection % (At 8.00 (ft))	0.133 %
Deflection (At 8.00 (ft))	0.13 in
Rotation (At 8.00 (ft))	0.12 deg

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
Pole Properties

Height (ft)	Diameter (in)	Wall Thk. (in)	Roundness Ratio (%)	D/t	B/T	Moments of Inertia (in4)	Plastic Section Modulus (in3)	Area (in2)	Radius of Gyration (in)
8.0000	4.50	0.11960	0.0	37.63	0.00	3.57	2.18	1.65	1.47
7.2857	4.60	0.11960	0.0	38.46	0.00	3.82	2.28	1.68	1.51
6.5714	4.70	0.11960	0.0	39.30	0.00	4.08	2.38	1.72	1.54
5.8571	4.80	0.11960	0.0	40.13	0.00	4.35	2.49	1.76	1.57
5.1429	4.90	0.11960	0.0	40.97	0.00	4.64	2.59	1.80	1.61
4.4286	5.00	0.11960	0.0	41.81	0.00	4.93	2.70	1.83	1.64
3.7143	5.10	0.11960	0.0	42.64	0.00	5.24	2.82	1.87	1.67
3.0000	5.20	0.11960	0.0	43.48	0.00	5.56	2.93	1.91	1.71
2.3125	5.30	0.11960	0.0	44.28	0.00	5.88	3.04	1.95	1.74
1.6250	5.39	0.11960	0.0	45.09	0.00	6.22	3.15	1.98	1.77
0.9375	5.49	0.11960	0.0	45.89	0.00	6.56	3.27	2.02	1.80
0.2500	5.59	0.11960	0.0	46.70	0.00	6.92	3.39	2.05	1.84
0.2500	5.59	0.11960	100.0	46.70	0.00	7.66	3.57	2.05	1.93
0.0000	5.62	0.11960	100.0	46.99	0.00	7.81	3.62	2.07	1.94

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
Pole: Forces and Moments (Strength I)

Section Height* (ft)	Forces (lb)		Moment (ft-lb)
	Axial	Shear	Total
8.00	46.25	0.00	0.00
7.29	51.75	0.00	0.00
6.57	57.37	0.00	0.00
5.86	63.11	0.00	0.00
5.14	68.97	0.00	0.00
4.43	74.96	0.00	0.00
3.71	81.06	0.00	0.00
3.00	87.29	0.00	0.00
2.31	93.39	0.00	0.00
1.63	99.61	0.00	0.00
0.94	105.94	0.00	0.00
0.25	112.38	0.00	0.00
0.25	112.38	0.00	0.00
0.00	114.70	0.00	0.00

* These heights are above the pole base plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
Pole: Resistances (Strength I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
8.00	0.00	46.25	0.00	0.00	0.00	NA**	25,780.17	9,382.93	9,547.61
7.29	0.00	51.75	0.00	0.00	0.00	NA**	26,368.70	9,768.10	9,988.51
6.57	0.00	57.37	0.00	0.00	0.00	NA**	26,957.23	10,160.84	10,439.36
5.86	0.00	63.11	0.00	0.00	0.00	NA**	27,545.77	10,561.17	10,900.16
5.14	0.00	68.97	0.00	0.00	0.00	NA**	28,134.30	10,969.06	11,370.91
4.43	0.00	74.96	0.00	0.00	0.00	NA**	28,722.84	11,384.53	11,851.62
3.71	0.00	81.06	0.00	0.00	0.00	NA**	29,311.37	11,807.58	12,342.28
3.00	0.00	87.29	0.00	0.00	0.00	NA**	29,899.91	12,238.21	12,842.89
2.31	0.00	93.39	0.00	0.00	0.00	NA**	30,466.37	12,659.84	13,334.13
1.63	0.00	99.61	0.00	0.00	0.00	NA**	31,032.84	13,088.48	13,834.58
0.94	0.00	105.94	0.00	0.00	0.00	NA**	31,599.30	13,524.15	14,344.25
0.25	0.00	112.38	0.00	0.00	0.00	NA**	32,165.77	13,966.83	14,863.15
0.25	0.00	112.38	0.00	0.00	0.00	NA**	30,485.80	13,997.07	14,653.15
0.00	0.00	114.70	0.00	0.00	0.00	NA**	30,681.04	14,160.14	14,841.43

* These heights are above the pole base plate.
** Per 5.12.1 of the 2017 Interim Revisions.

Baseplate Analysis (Strength I) - Pole1 - Pole

Combined Force Interaction	0.00
Critical Wind Direction *	0.00 deg
Alignment of Bend Line	45.00 deg
Width of Bending Section	8.522 (in)
Failure Line Start Coordinate (in)	(5.000, -1.026)
Failure Line End Coordinate in	(-1.026, 5.000)
Applied Bending Moment	4.04 ft-lb
Factored Bending Resistance	4,404.21 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
1	29	1.69	4

Anchor Bolts Analysis (Strength I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
0.00	0.00	36.51	0.00	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
Pole Deflection Information: (Strength I)

Critical Wind Direction: 0.00

Elevation (ft)	Rotation (deg)	Slope (in/ft)	Deflection (ft)	Deflection (in)	% of Height (%)	Angle from Vertical (deg)
8.0000	0.00	0.00	0.0000	0.00	0.000	0.00
7.2857	0.00	0.00	0.0000	0.00	0.000	0.00
6.5714	0.00	0.00	0.0000	0.00	0.000	0.00
5.8571	0.00	0.00	0.0000	0.00	0.000	0.00
5.1429	0.00	0.00	0.0000	0.00	0.000	0.00
4.4286	0.00	0.00	0.0000	0.00	0.000	0.00
3.7143	0.00	0.00	0.0000	0.00	0.000	0.00
3.0000	0.00	0.00	0.0000	0.00	0.000	0.00
2.3125	0.00	0.00	0.0000	0.00	0.000	0.00
1.6250	0.00	0.00	0.0000	0.00	0.000	0.00
0.9375	0.00	0.00	0.0000	0.00	0.000	0.00
0.2500	0.00	0.00	0.0000	0.00	0.000	0.00
0.2500	0.00	0.00	0.0000	0.00	0.000	0.00
0.0000	0.00	0.00	0.0000	0.00	0.000	0.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
EXTREME I LIMIT STATE

Wind Velocity	120.0 mph
Dead Component Load Factor	1.10
Wind Load Factor	1.00
Gust Factor	1.30

Pole: Wind and Weight Force Data (Extreme I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	10.0000	0.0000	2.19	1.00	0.86	0.95	38.98	85
8.0000	7.6415	0.0000	0.27	1.50	0.86	0.95	38.98	16
7.2857	6.9273	0.0000	0.28	1.50	0.86	0.95	38.98	16
6.5714	6.2130	0.0000	0.28	1.50	0.86	0.95	38.98	17
5.8571	5.4988	0.0000	0.29	1.50	0.86	0.95	38.98	17
5.1429	4.7845	0.0000	0.29	1.50	0.86	0.95	38.98	17
4.4286	4.0702	0.0000	0.30	1.50	0.86	0.95	38.98	18
3.7143	3.3560	0.0000	0.31	1.50	0.86	0.95	38.98	18
3.0000	2.6552	0.0000	0.30	1.50	0.86	0.95	38.98	18
2.3125	1.9677	0.0000	0.31	1.50	0.86	0.95	38.98	18
1.6250	1.2802	0.0000	0.31	1.50	0.86	0.95	38.98	18
0.9375	0.5928	0.0000	0.32	1.50	0.86	0.95	38.98	19
0.2500	-0.0947	0.0000	0.32	1.50	0.86	0.95	38.98	19

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH

Folder: 568086 File: P8PTA15120

Pole: Forces and Moments (Extreme I)

Section Height* (ft)	Forces (lb)		Moment (ft-lb)		
	Axial	Shear	Primary	Secondary	Total
8.00	40.25	85.58	170.74	0.44	171.17
7.29	45.11	101.43	237.37	0.60	237.97
6.57	50.09	117.63	315.44	0.77	316.21
5.86	55.18	134.17	405.19	0.96	406.15
5.14	60.40	151.05	506.88	1.14	508.02
4.43	65.74	168.27	620.75	1.32	622.07
3.71	71.21	185.83	747.04	1.50	748.55
3.00	76.80	203.73	886.02	1.67	887.69
2.31	82.30	221.27	1,031.99	1.81	1,033.80
1.63	87.93	239.13	1,190.16	1.92	1,192.08
0.94	93.69	257.29	1,360.74	2.00	1,362.75
0.25	99.35	275.85	1,543.97	2.04	1,546.02
0.25	99.49	275.80	1,543.97	2.04	1,546.02
0.00	101.53	279.98	1,613.44	2.05	1,615.49

* These heights are above the pole base plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH

Folder: 568086 File: P8PTA15120

Pole: Resistances (Extreme I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
8.00	0.02	40.25	85.58	171.17	0.00	NA**	25,780.17	9,382.93	9,547.61
7.29	0.02	45.11	101.43	237.97	0.00	NA**	26,368.70	9,768.10	9,988.51
6.57	0.03	50.09	117.63	316.21	0.00	NA**	26,957.23	10,160.84	10,439.36
5.86	0.04	55.18	134.17	406.15	0.00	NA**	27,545.77	10,561.17	10,900.16
5.14	0.05	60.40	151.05	508.02	0.00	NA**	28,134.30	10,969.06	11,370.91
4.43	0.06	65.74	168.27	622.07	0.00	NA**	28,722.84	11,384.53	11,851.62
3.71	0.06	71.21	185.83	748.55	0.00	NA**	29,311.37	11,807.58	12,342.28
3.00	0.07	76.80	203.73	887.69	0.00	NA**	29,899.91	12,238.21	12,842.89
2.31	0.08	82.30	221.27	1,033.80	0.00	NA**	30,466.37	12,659.84	13,334.13
1.63	0.09	87.93	239.13	1,192.08	0.00	NA**	31,032.84	13,088.48	13,834.58
0.94	0.10	93.69	257.29	1,362.75	0.00	NA**	31,599.30	13,524.15	14,344.25
0.25	0.11	99.35	275.85	1,546.02	0.00	NA**	32,165.77	13,966.83	14,863.15
0.25	0.11	99.49	275.80	1,546.02	0.00	NA**	30,485.80	13,997.07	14,653.15
0.00	0.12	101.53	279.98	1,615.49	0.00	NA**	30,681.04	14,160.14	14,841.43

* These heights are above the pole base plate.

** Per 5.12.1 of the 2017 Interim Revisions.

Baseplate Analysis (Extreme I) - Pole1 - Pole

Combined Force Interaction	0.07
Critical Wind Direction *	90.00 deg
Alignment of Bend Line	45.00 deg
Width of Bending Section	8.522 (in)
Failure Line Start Coordinate (in)	(5.000, -1.026)
Failure Line End Coordinate in	(-1.026, 5.000)
Applied Bending Moment	306.93 ft-lb
Factored Bending Resistance	4,404.21 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
1	-2179	1.69	-307

Anchor Bolts Analysis (Extreme I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
90.00	0.07	2,953.10	89.12	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH

Folder: 568086 File: P8PTA15120

Pole Deflection Information: (Extreme I)

Critical Wind Direction: 90.00

Elevation (ft)	Rotation (deg)	Slope (in/ft)	Deflection (ft)	Deflection (in)	% of Height (%)	Angle from Vertical (deg)
8.0000	0.31	0.06	0.0264	0.32	0.330	0.19
7.2857	0.30	0.06	0.0226	0.27	0.283	0.18
6.5714	0.28	0.06	0.0190	0.23	0.237	0.17
5.8571	0.27	0.06	0.0155	0.19	0.194	0.15
5.1429	0.25	0.05	0.0123	0.15	0.154	0.14
4.4286	0.22	0.05	0.0094	0.11	0.117	0.12
3.7143	0.20	0.04	0.0068	0.08	0.085	0.10
3.0000	0.16	0.03	0.0045	0.05	0.057	0.09
2.3125	0.13	0.03	0.0028	0.03	0.034	0.07
1.6250	0.10	0.02	0.0014	0.02	0.017	0.05
0.9375	0.06	0.01	0.0005	0.01	0.006	0.03
0.2500	0.01	0.00	0.0000	0.00	0.000	0.01
0.2500	0.01	0.00	0.0000	0.00	0.000	0.01
0.0000	0.00	0.00	0.0000	0.00	0.000	0.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
SERVICE I LIMIT STATE

Wind Velocity	76.0 mph
Dead Component Load Factor	1.00
Wind Load Factor	1.00
Gust Factor	1.30

Pole: Wind and Weight Force Data (Service I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	10.0000	0.0000	2.19	1.00	0.86	0.95	15.64	34
8.0000	7.6415	0.0000	0.27	1.50	0.86	0.95	15.64	6
7.2857	6.9273	0.0000	0.28	1.50	0.86	0.95	15.64	6
6.5714	6.2130	0.0000	0.28	1.50	0.86	0.95	15.64	7
5.8571	5.4988	0.0000	0.29	1.50	0.86	0.95	15.64	7
5.1429	4.7845	0.0000	0.29	1.50	0.86	0.95	15.64	7
4.4286	4.0702	0.0000	0.30	1.50	0.86	0.95	15.64	7
3.7143	3.3560	0.0000	0.31	1.50	0.86	0.95	15.64	7
3.0000	2.6552	0.0000	0.30	1.50	0.86	0.95	15.64	7
2.3125	1.9677	0.0000	0.31	1.50	0.86	0.95	15.64	7
1.6250	1.2802	0.0000	0.31	1.50	0.86	0.95	15.64	7
0.9375	0.5928	0.0000	0.32	1.50	0.86	0.95	15.64	7
0.2500	-0.0947	0.0000	0.32	1.50	0.86	0.95	15.64	7

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
Pole: Forces and Moments (Service I)

Section Height* (ft)	Forces (lb)		Moment (ft-lb)		
	Axial	Shear	Primary	Secondary	Total
8.00	36.93	34.32	68.48	0.16	68.64
7.29	41.33	40.68	95.21	0.22	95.43
6.57	45.83	47.17	126.53	0.28	126.81
5.86	50.43	53.81	162.53	0.35	162.88
5.14	55.13	60.58	203.31	0.42	203.73
4.43	59.93	67.49	248.99	0.49	249.47
3.71	64.83	74.53	299.65	0.55	300.20
3.00	69.83	81.71	355.39	0.61	356.00
2.31	74.73	88.75	413.94	0.66	414.60
1.63	79.73	95.91	477.39	0.70	478.09
0.94	84.83	103.20	545.81	0.73	546.54
0.25	89.98	110.64	619.30	0.75	620.05
0.25	90.00	110.63	619.30	0.75	620.05
0.00	91.86	112.63	647.21	0.75	647.96

* These heights are above the pole base plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
Pole: Resistances (Service I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
8.00	0.01	36.93	34.32	68.64	0.00	NA**	25,780.17	9,382.93	9,547.61
7.29	0.01	41.33	40.68	95.43	0.00	NA**	26,368.70	9,768.10	9,988.51
6.57	0.01	45.83	47.17	126.81	0.00	NA**	26,957.23	10,160.84	10,439.36
5.86	0.02	50.43	53.81	162.88	0.00	NA**	27,545.77	10,561.17	10,900.16
5.14	0.02	55.13	60.58	203.73	0.00	NA**	28,134.30	10,969.06	11,370.91
4.43	0.02	59.93	67.49	249.47	0.00	NA**	28,722.84	11,384.53	11,851.62
3.71	0.03	64.83	74.53	300.20	0.00	NA**	29,311.37	11,807.58	12,342.28
3.00	0.03	69.83	81.71	356.00	0.00	NA**	29,899.91	12,238.21	12,842.89
2.31	0.03	74.73	88.75	414.60	0.00	NA**	30,466.37	12,659.84	13,334.13
1.63	0.04	79.73	95.91	478.09	0.00	NA**	31,032.84	13,088.48	13,834.58
0.94	0.04	84.83	103.20	546.54	0.00	NA**	31,599.30	13,524.15	14,344.25
0.25	0.05	89.98	110.64	620.05	0.00	NA**	32,165.77	13,966.83	14,863.15
0.25	0.05	90.00	110.63	620.05	0.00	NA**	30,485.80	13,997.07	14,653.15
0.00	0.05	91.86	112.63	647.96	0.00	NA**	30,681.04	14,160.14	14,841.43

* These heights are above the pole base plate.
** Per 5.12.1 of the 2017 Interim Revisions.

Baseplate Analysis (Service I) - Pole1 - Pole

Combined Force Interaction	0.03
Critical Wind Direction *	90.00 deg
Alignment of Bend Line	45.00 deg
Width of Bending Section	8.522 (in)
Failure Line Start Coordinate (in)	(5.000, -1.026)
Failure Line End Coordinate in	(-1.026, 5.000)
Applied Bending Moment	124.91 ft-lb
Factored Bending Resistance	4,404.21 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
1	-887	1.69	-125

Anchor Bolts Analysis (Service I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
90.00	0.03	1,200.96	35.85	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH

Folder: 568086 File: P8PTA15120

Pole Deflection Information: (Service I)

Critical Wind Direction: 90.00

Elevation (ft)	Rotation (deg)	Slope (in/ft)	Deflection (ft)	Deflection (in)	% of Height (%)	Angle from Vertical (deg)
8.0000	0.12	0.03	0.0106	0.13	0.132	0.08
7.2857	0.12	0.03	0.0091	0.11	0.113	0.07
6.5714	0.11	0.02	0.0076	0.09	0.095	0.07
5.8571	0.11	0.02	0.0062	0.07	0.078	0.06
5.1429	0.10	0.02	0.0049	0.06	0.062	0.06
4.4286	0.09	0.02	0.0038	0.05	0.047	0.05
3.7143	0.08	0.02	0.0027	0.03	0.034	0.04
3.0000	0.07	0.01	0.0018	0.02	0.023	0.03
2.3125	0.05	0.01	0.0011	0.01	0.014	0.03
1.6250	0.04	0.01	0.0006	0.01	0.007	0.02
0.9375	0.02	0.00	0.0002	0.00	0.002	0.01
0.2500	0.01	0.00	0.0000	0.00	0.000	0.00
0.2500	0.01	0.00	0.0000	0.00	0.000	0.00
0.0000	0.00	0.00	0.0000	0.00	0.000	0.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
ICE LIMIT STATE

Wind Velocity	76.0 mph
Dead Component Load Factor	1.10
Wind Load Factor	1.00
Gust Factor	1.30

Pole: Wind and Weight Force Data (Ice)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	10.0000	0.0000	2.19	1.00	0.86	0.95	15.64	34
8.0000	7.6415	0.0000	0.27	1.50	0.86	0.95	15.64	6
7.2857	6.9273	0.0000	0.28	1.50	0.86	0.95	15.64	6
6.5714	6.2130	0.0000	0.28	1.50	0.86	0.95	15.64	7
5.8571	5.4988	0.0000	0.29	1.50	0.86	0.95	15.64	7
5.1429	4.7845	0.0000	0.29	1.50	0.86	0.95	15.64	7
4.4286	4.0702	0.0000	0.30	1.50	0.86	0.95	15.64	7
3.7143	3.3560	0.0000	0.31	1.50	0.86	0.95	15.64	7
3.0000	2.6552	0.0000	0.30	1.50	0.86	0.95	15.64	7
2.3125	1.9677	0.0000	0.31	1.50	0.86	0.95	15.64	7
1.6250	1.2802	0.0000	0.31	1.50	0.86	0.95	15.64	7
0.9375	0.5928	0.0000	0.32	1.50	0.86	0.95	15.64	7
0.2500	-0.0947	0.0000	0.32	1.50	0.86	0.95	15.64	7

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
Pole: Forces and Moments (Ice)

Section Height* (ft)	Forces (lb)		Moment (ft-lb)		
	Axial	Shear	Primary	Secondary	Total
8.00	69.53	34.39	68.48	0.30	68.79
7.29	77.35	40.75	95.21	0.41	95.63
6.57	85.34	47.25	126.53	0.53	127.06
5.86	93.50	53.89	162.53	0.66	163.18
5.14	101.84	60.66	203.31	0.78	204.10
4.43	110.35	67.56	248.99	0.91	249.89
3.71	119.04	74.60	299.65	1.03	300.67
3.00	127.90	81.77	355.39	1.14	356.53
2.31	136.60	88.80	413.94	1.23	415.17
1.63	145.46	95.95	477.39	1.31	478.69
0.94	154.48	103.22	545.81	1.36	547.17
0.25	163.63	110.66	619.30	1.39	620.70
0.25	163.65	110.63	619.30	1.39	620.70
0.00	166.94	112.64	647.21	1.39	648.60

* These heights are above the pole base plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
Pole: Resistances (Ice)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
8.00	0.01	69.53	34.39	68.79	0.00	NA**	25,780.17	9,382.93	9,547.61
7.29	0.01	77.35	40.75	95.63	0.00	NA**	26,368.70	9,768.10	9,988.51
6.57	0.01	85.34	47.25	127.06	0.00	NA**	26,957.23	10,160.84	10,439.36
5.86	0.02	93.50	53.89	163.18	0.00	NA**	27,545.77	10,561.17	10,900.16
5.14	0.02	101.84	60.66	204.10	0.00	NA**	28,134.30	10,969.06	11,370.91
4.43	0.02	110.35	67.56	249.89	0.00	NA**	28,722.84	11,384.53	11,851.62
3.71	0.03	119.04	74.60	300.67	0.00	NA**	29,311.37	11,807.58	12,342.28
3.00	0.03	127.90	81.77	356.53	0.00	NA**	29,899.91	12,238.21	12,842.89
2.31	0.03	136.60	88.80	415.17	0.00	NA**	30,466.37	12,659.84	13,334.13
1.63	0.04	145.46	95.95	478.69	0.00	NA**	31,032.84	13,088.48	13,834.58
0.94	0.04	154.48	103.22	547.17	0.00	NA**	31,599.30	13,524.15	14,344.25
0.25	0.05	163.63	110.66	620.70	0.00	NA**	32,165.77	13,966.83	14,863.15
0.25	0.05	163.65	110.63	620.70	0.00	NA**	30,485.80	13,997.07	14,653.15
0.00	0.05	166.94	112.64	648.60	0.00	NA**	30,681.04	14,160.14	14,841.43

* These heights are above the pole base plate.
** Per 5.12.1 of the 2017 Interim Revisions.

Baseplate Analysis (Ice) - Pole1 - Pole

Combined Force Interaction	0.03
Critical Wind Direction *	90.00 deg
Alignment of Bend Line	45.00 deg
Width of Bending Section	8.522 (in)
Failure Line Start Coordinate (in)	(5.000, -1.026)
Failure Line End Coordinate in	(-1.026, 5.000)
Applied Bending Moment	127.67 ft-lb
Factored Bending Resistance	4,404.21 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
1	-907	1.69	-128

Anchor Bolts Analysis (Ice) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
90.00	0.03	1,225.95	35.85	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-8' FL210 POST TOP DECO POLE AASHTO 2015 120MPH
Folder: 568086 File: P8PTA15120
Pole Deflection Information: (Ice)

Critical Wind Direction: 90.00

Elevation (ft)	Rotation (deg)	Slope (in/ft)	Deflection (ft)	Deflection (in)	% of Height (%)	Angle from Vertical (deg)
8.0000	0.12	0.03	0.0106	0.13	0.133	0.08
7.2857	0.12	0.03	0.0091	0.11	0.114	0.07
6.5714	0.11	0.02	0.0076	0.09	0.095	0.07
5.8571	0.11	0.02	0.0062	0.07	0.078	0.06
5.1429	0.10	0.02	0.0049	0.06	0.062	0.06
4.4286	0.09	0.02	0.0038	0.05	0.047	0.05
3.7143	0.08	0.02	0.0027	0.03	0.034	0.04
3.0000	0.07	0.01	0.0018	0.02	0.023	0.03
2.3125	0.05	0.01	0.0011	0.01	0.014	0.03
1.6250	0.04	0.01	0.0006	0.01	0.007	0.02
0.9375	0.02	0.00	0.0002	0.00	0.002	0.01
0.2500	0.01	0.00	0.0000	0.00	0.000	0.00
0.2500	0.01	0.00	0.0000	0.00	0.000	0.00
0.0000	0.00	0.00	0.0000	0.00	0.000	0.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120

Design Criteria

Design Code	AASHTO-2015	Fatigue Category	2
Ultimate Wind Speed (mph)	120.0	Truck Gust	No
Mean Recurrence Interval	700	Galloping	No
Service Level Wind Speed (mph)	76.0	Natural Wind Gust	Yes
AASHTO Ice Included ?	Yes		

Design Summary - Pole

Height (ft)	Shaft Weight (lb)	Ground Line Diameter (in)	Top Dia. (in)
18.0000	452	12.50	9.980

Section Characteristics

	Section - 1
Shape	16 Sharp Flutes
Top Dia. (in)	9.980
Base Diameter (in)	12.500
Thickness (in)	0.20920
Length (ft)	18.00
Shaft Weight (lb)	452
Assembly Weight (lb)	703
Taper (in/ft)	0.14000
Yield Strength (ksi)	55.00
Material	S105 - A595

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

Base Plate

Shape	Square
Material	S70 - A36
Width (in)	19.000
Thickness (in)	2.00000
Yield Strength (ksi)	36.00
Base Weld Type	SOCKET
Weight (lb)	119

Anchor Bolts

Material	S100 - F1554
Bolt diameter (in)	1.75
Bolt circle diameter (in)	17.50
Quantity	4
Yield Strength (ksi)	55.00
Tensile strength (ksi)	75

Design Summary - Arms

Signal and Sign	Arm 1
Shape	16 Sharp Flutes
Span Length (ft)	35.0000
Taper (in/ft)	0.14000
Attachment Height (ft)	15.00
Orientation (deg)	180.00
Slope at Base (deg)	10.00
Centroid Location	
Horizontal (ft)	15.7579
Above Attachment (ft)	2.6616
Unbent Length (ft)	35.4013
Material-Base	S105 - 55 ksi
Weight (lb)	770
Base Section	
Base O.D. (in)	11.00
Thickness (in)	0.23910
Length (ft)	35.3553
Yield Strength (ksi)	55.00
Material	S105

Base Weld Type = Socket

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Design Summary - Arms

Simplex Dimensions

	Arm 1
Connection Bolt Data	
Number of bolts	4
Bolt diameter (in)	1.25
ASTM Specification	A325
Horizontal Spacing (in)	14.50
Vertical Spacing (in)	14.50
Attachment Plate Data	
Horizontal Width (in)	17.75
Vertical Width (in)	17.75
Mast Arm Bracket Thickness (in)	2.00
Arm Plate Bracket Weight (lb)	132
Pole Plate Bracket Thickness (in)	2.00
Pole Plate Bracket Weight (lb)	132
Yield Strength (ksi)	36.00
Vertical Gusset Thickness (in)	0.3750
Horizontal Gusset Thickness (in)	0.3750

Attachment Type

Arm 1:	SIMPLEX - RING-STIFFENED BOX, THRU, Base Weld Type = Socket

** These heights are above bottom of base plate or transformer base.
Elliptical cross section; first diameter is horizontal.
** Arm orientations are angles from +X axis in X-Y plane.
X and Y axies are perpendicular/parallel to sides of pole base plate. See *** below.
*** If arm is attached with a clamp, height and orientation must not be changed
from values shown above without consulting Valmont.
Nice to have:
**** Assembly weight includes unfinished shaft + flange + simplex plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

Description of EPA Loading

Description of Load	Position of Load	Mounting Height ** (ft)	Centroid Height ** (ft)	Distance To Centroid From Pole (ft)	Weight (lb)	Effective Projected Area (ft2)
POST TOP FIXTURE	Pole	18.0000	20.0000	0.0000	37	2.19

Description of Sign Loading

Position of Signal or Sign	Mounting Height ** (ft)	Centroid Height ** (ft)	Distance To Centroid From Pole (ft)	Sign Weight (lb)	Sign Width (ft)	Sign Depth (ft)	Sign Cd
Mast Arm 1	15.0000	20.0000	22.0000	15	2.5000	3.0000	1.19

Description of Signal Loading

Position of Signal	Mounting Height ** (ft)	Centroid Height ** (ft)	Distance To Centroid From Pole (ft)	Signal Weight (lb)	Vertical Plane (ft2)	Horizontal Plane (ft2)
Arm 1	15.0000	20.0000	18.0000	50	8.67	1.80
Arm 1	15.0000	20.0000	30.0000	74	13.72	3.60

THE VALUES SHOWN IN THIS TABLE MUST NOT BE EXCEEDED
WITHOUT CONSULTING VALMONT.
ANY SIZES OR OTHER DIMENSIONS NOT PROVIDED BY THE
SPECIFYING AGENCY HAVE
BEEN ESTIMATED BY VALMONT.
** THESE HEIGHTS ARE ABOVE BOTTOM OF BASE PLATE OR
TRANSFORMER BASE.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

RESULTS SUMMARY - Pole

Maximum Combined Force Interaction In Each Major Component

Strength I	
Pole CFI (At 15.00 (ft))	0.25
Signal and Sign Arm 1 CFI	0.19
Base Plate CFI	0.06
Anchor Bolts CFI	0.10
S/S Arm 1 Att. Bolts CFI	0.01
S/S Arm 1 Att. Plate CFI	0.09
S/S Pole 1 Att. Plate CFI	0.09
Deflection % (At 18.00 (ft))	0.810 %
Deflection (At 18.00 (ft))	1.75 in
Rotation (At 18.00 (ft))	0.85 deg
Extreme I	
Pole CFI (At 0.00 (ft))	0.74
Signal and Sign Arm 1 CFI	0.52
Base Plate CFI	0.21
Anchor Bolts CFI	0.63
S/S Arm 1 Att. Bolts CFI	0.11
S/S Arm 1 Att. Plate CFI	0.31
S/S Pole 1 Att. Plate CFI	0.31
Deflection % (At 18.00 (ft))	1.654 %
Deflection (At 18.00 (ft))	3.57 in
Rotation (At 18.00 (ft))	1.52 deg
Service I	
Pole CFI (At 15.00 (ft))	0.27
Signal and Sign Arm 1 CFI	0.25
Base Plate CFI	0.11
Anchor Bolts CFI	0.28
S/S Arm 1 Att. Bolts CFI	0.03
S/S Arm 1 Att. Plate CFI	0.16
S/S Pole 1 Att. Plate CFI	0.16
Deflection % (At 18.00 (ft))	0.882 %
Deflection (At 18.00 (ft))	1.90 in
Rotation (At 18.00 (ft))	0.86 deg

Maximum Reactions Applied To Foundation

Bending Moment	62203 ft-lb
Torsion	54539 ft-lb
Shear Force	3595 lb
Axial Force	2457 lb
Ice	
Pole CFI (At 15.00 (ft))	0.46
Signal and Sign Arm 1 CFI	0.36
Base Plate CFI	0.16
Anchor Bolts CFI	0.37
S/S Arm 1 Att. Bolts CFI	0.06
S/S Arm 1 Att. Plate CFI	0.23
S/S Pole 1 Att. Plate CFI	0.23
Deflection % (At 18.00 (ft))	1.424 %
Deflection (At 18.00 (ft))	3.08 in
Rotation (At 18.00 (ft))	1.46 deg
Fatigue II	
Pole (At 0.00 (ft))	0.74
Hand Hole / Opening	0.47
Signal and Sign Arm 1	
Arm Tube	0.85
Simplex Bolts	0.38
Anchor Bolts	0.27

SHAFT PROPERTIES: NUMBER OF SIDES = 16 Sharp Flutes
DIAMETER (D) = 12.500 IN
THICKNESS (T) = 0.20920 IN
YIELD STRENGTH (KSI) = 55
MOM. OF INERTIA (IX) = 137.298 IN^4
SECTION MODULUS (SX) = 21.968 IN^3

MN: ALLOWABLE SHAFT MOMENT
MB = (Fb * Sx) / 12
= (55000 * 21.968 / 12 = 100685
MB = 100685 FT-LB

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole Properties

Height (ft)	Diameter (in)	Wall Thk. (in)	Roundness Ratio (%)	D/t	B/T	Moments of Inertia (in4)	Plastic Section Modulus (in3)	Area (in2)	Radius of Gyration (in)
18.0000	9.98	0.20920	0.0	47.71	0.00	69.05	18.93	6.42	3.28
16.5000	10.19	0.20920	0.0	48.71	0.00	73.59	19.76	6.56	3.35
15.0000	10.40	0.20920	0.0	49.71	0.00	78.33	20.59	6.70	3.42
14.0000	10.54	0.20920	0.0	50.38	0.00	81.60	21.16	6.79	3.47
13.0000	10.68	0.20920	0.0	51.05	0.00	84.95	21.74	6.88	3.51
11.3333	10.91	0.20920	0.0	52.17	0.00	90.75	22.72	7.03	3.59
9.6667	11.15	0.20920	0.0	53.28	0.00	96.81	23.72	7.19	3.67
8.0000	11.38	0.20920	0.0	54.40	0.00	103.12	24.74	7.34	3.75
6.3333	11.61	0.20920	0.0	55.51	0.00	109.71	25.78	7.50	3.83
4.6667	11.85	0.20920	0.0	56.63	0.00	116.57	26.85	7.65	3.90
3.0000	12.08	0.20920	0.0	57.74	0.00	123.72	27.93	7.80	3.98
1.6250	12.27	0.20920	0.0	58.66	0.00	129.82	28.85	7.93	4.05
0.2500	12.47	0.20920	0.0	59.58	0.00	136.13	29.77	8.05	4.11
0.2500	12.47	0.20920	100.0	59.58	0.00	151.03	31.40	8.05	4.33
0.0000	12.50	0.20920	100.0	59.75	0.00	152.32	31.57	8.08	4.34

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

Arm: Forces and Moments (Strength I)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	147.08	0.00	1,155.04	0.00	20,046.45	0.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Arm: Resistances (Strength I)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.19	147	1,155	20,046	34,121	126,535	108,435

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.01	8.33	0.29	89.54	44.77

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.09	3,286.19	37,967.65	45	14.06

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole: Forces and Moments (Strength I)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
18.00	-0.69	0.00	46.24	0.00	-1.38	0.00	0.00
15.00	-18.48	0.00	1,298.81	0.00	-20,556.35	0.00	0.00
0.25	-1.25	0.00	1,786.21	0.00	-20,703.06	0.00	0.00
0.25	-0.15	0.00	1,786.21	0.00	-20,703.06	0.00	0.00
0.00	-0.15	0.00	1,795.07	0.00	-20,703.10	0.00	0.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole: Resistances (Strength I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
18.00	0.00	46.24	0.69	1.38	0.00	320,659.76	100,584.85	77,767.29	83,091.70
15.00	0.25	1,298.81	18.48	20,556.35	0.00	324,325.21	104,908.51	83,958.59	90,388.67
0.25	0.18	1,786.21	1.25	20,703.06	0.00	173,360.15	126,166.51	117,798.75	130,731.65
0.25	0.18	1,786.21	0.15	20,703.06	0.00	169,008.29	119,577.55	118,054.75	128,884.58
0.00	0.18	1,795.07	0.15	20,703.10	0.00	166,247.59	119,919.04	118,678.37	129,621.77

* These heights are above the pole base plate.

Baseplate Analysis (Strength I) - Pole1 - Pole

Combined Force Interaction	0.06
Critical Wind Direction *	0.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	14.370 (in)
Failure Line Start Coordinate (in)	(0.661, 9.500)
Failure Line End Coordinate in	(-9.500, -0.661)
Applied Bending Moment	2,184.82 ft-lb
Factored Bending Resistance	38,799.16 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
2	-10487	2.50	-2185

Anchor Bolts Analysis (Strength I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
0.00	0.10	4,360.05	0.00	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole Deflection Information: (Strength I)

Critical Wind Direction: 0.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
18.0000	-1.75	0.00	-0.85	0.00
16.5000	-1.48	0.00	-0.85	0.00
15.0000	-1.21	0.00	-0.85	0.00
14.0000	-1.04	0.00	-0.78	0.00
13.0000	-0.89	0.00	-0.71	0.00
11.3333	-0.66	0.00	-0.60	0.00
9.6667	-0.47	0.00	-0.49	0.00
8.0000	-0.31	0.00	-0.39	0.00
6.3333	-0.19	0.00	-0.30	0.00
4.6667	-0.10	0.00	-0.22	0.00
3.0000	-0.04	0.00	-0.13	0.00
1.6250	-0.01	0.00	-0.07	0.00
0.2500	0.00	0.00	-0.01	0.00
0.2500	0.00	0.00	-0.01	0.00
0.0000	0.00	0.00	0.00	0.00

Wind Velocity	120.0 mph
Dead Component Load Factor	1.10
Wind Load Factor	1.00
Gust Factor	1.30

Mast Arm 1: Wind and Weight Force Data (Extreme I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 1	20.0000	18.0000	8.67	1.20	0.90	0.85	36.58	381	
ATTCHMT. 2	20.0000	22.0000	7.50	1.19	0.90	0.85	36.58	326	
ATTCHMT. 3	20.0000	30.0000	13.72	1.20	0.90	0.85	36.58	602	

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Arm: Forces and Moments (Extreme I)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	9.57	2,659.62	973.14	2,558.56	16,864.01	54,294.57

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

Arm: Resistances (Extreme I)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.52	10	2,832	56,853	405,094	126,535	108,435

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.11	29.45	0.71	89.54	44.77

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.31	11,614.39	37,967.65	45	14.06

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole: Wind and Weight Force Data (Extreme I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	20.0000	18.0000	8.67	1.20	0.90	0.85	36.58	381
ATTCHMT. 2	20.0000	22.0000	7.50	1.19	0.90	0.85	36.58	326
ATTCHMT. 3	20.0000	30.0000	13.72	1.20	0.90	0.85	36.58	602
ATTCHMT. 4	20.0000	0.0000	2.19	1.00	0.90	0.85	36.55	80
18.0000	17.2474	0.0000	1.26	1.50	0.87	0.85	35.43	67
16.5000	15.7475	0.0000	1.29	1.50	0.86	0.85	34.88	67
15.0000	14.4989	0.0000	0.87	1.50	0.86	0.85	34.88	46
14.0000	13.4989	0.0000	0.88	1.50	0.86	0.85	34.88	46
13.0000	12.1637	0.0000	1.50	1.50	0.86	0.85	34.88	78
11.3333	10.4971	0.0000	1.53	1.50	0.86	0.85	34.88	80
9.6667	8.8305	0.0000	1.56	1.50	0.86	0.85	34.88	82
8.0000	7.1638	0.0000	1.60	1.50	0.86	0.85	34.88	84
6.3333	5.4972	0.0000	1.63	1.50	0.86	0.85	34.88	85
4.6667	3.8306	0.0000	1.66	1.50	0.86	0.85	34.88	87
3.0000	2.3107	0.0000	1.40	1.50	0.86	0.85	34.88	73
1.6250	0.9357	0.0000	1.42	1.50	0.86	0.85	34.88	74
0.2500	-0.4393	0.0000	1.42	1.50	0.86	0.85	34.88	74

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole: Forces and Moments (Extreme I)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
18.00	-4.50	-80.86	38.81	161.73	-9.00	0.00	270.00
15.00	-149.58	-2,876.22	1,080.36	10,826.68	-17,314.55	54,538.21	270.00
0.25	-9.22	-3,592.59	1,577.82	58,592.78	-18,171.19	54,538.00	270.00
0.25	-1.02	-3,589.94	1,583.87	58,600.47	-18,143.03	54,539.12	270.00
0.00	-1.02	-3,594.02	1,591.67	59,498.46	-18,143.28	54,539.12	270.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

Pole: Resistances (Extreme I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
18.00	0.00	38.81	80.99	161.98	0.00	320,659.76	100,584.85	77,767.29	83,091.70
15.00	0.64	1,080.36	2,880.11	20,420.84	54,538.21	324,325.21	104,908.51	83,958.59	90,388.67
0.25	0.73	1,577.82	3,592.60	61,345.79	54,538.00	173,360.15	126,166.51	117,798.75	130,731.65
0.25	0.73	1,583.87	3,589.94	61,344.80	54,539.12	169,008.29	119,577.55	118,054.75	128,884.58
0.00	0.74	1,591.67	3,594.02	62,203.26	54,539.12	166,247.59	119,919.04	118,678.37	129,621.77

* These heights are above the pole base plate.

Baseplate Analysis (Extreme I) - Pole1 - Pole

Combined Force Interaction	0.21
Critical Wind Direction *	245.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	14.370 (in)
Failure Line Start Coordinate (in)	(-9.500, 0.661)
Failure Line End Coordinate in	(0.661, -9.500)
Applied Bending Moment	8,282.79 ft-lb
Factored Bending Resistance	38,799.16 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-39757	2.50	-8283

Anchor Bolts Analysis (Extreme I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
265.00	0.63	25,008.18	8,042.66	39,763.76	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole Deflection Information: (Extreme I)

Critical Wind Direction: 270.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
18.0000	-1.48	-3.25	-0.75	1.32
16.5000	-1.26	-2.83	-0.75	1.32
15.0000	-1.03	-2.41	-0.75	1.32
14.0000	-0.89	-2.14	-0.68	1.28
13.0000	-0.76	-1.87	-0.62	1.22
11.3333	-0.56	-1.46	-0.52	1.12
9.6667	-0.40	-1.08	-0.43	1.00
8.0000	-0.27	-0.76	-0.35	0.86
6.3333	-0.17	-0.48	-0.27	0.70
4.6667	-0.09	-0.27	-0.19	0.53
3.0000	-0.04	-0.11	-0.12	0.35
1.6250	-0.01	-0.03	-0.06	0.19
0.2500	0.00	0.00	-0.01	0.03
0.2500	0.00	0.00	-0.01	0.03
0.0000	0.00	0.00	0.00	0.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
SERVICE I LIMIT STATE

Wind Velocity	76.0 mph
Dead Component Load Factor	1.00
Wind Load Factor	1.00
Gust Factor	1.30

Mast Arm 1: Wind and Weight Force Data (Service I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 1	20.0000	18.0000	8.67	1.20	0.90	0.85	14.67	153	
ATTCHMT. 2	20.0000	22.0000	7.50	1.19	0.90	0.85	14.67	131	
ATTCHMT. 3	20.0000	30.0000	13.72	1.20	0.90	0.85	14.67	242	

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Arm: Forces and Moments (Service I)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	97.78	1,067.61	916.75	1,029.75	15,903.35	21,821.06

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

Arm: Resistances (Service I)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.25	98	1,407	27,001	34,121	126,535	108,435

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.03	15.63	0.35	89.54	44.77

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.16	6,166.46	37,967.65	45	14.06

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole: Wind and Weight Force Data (Service I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	20.0000	18.0000	8.67	1.20	0.90	0.85	14.67	153
ATTCHMT. 2	20.0000	22.0000	7.50	1.19	0.90	0.85	14.67	131
ATTCHMT. 3	20.0000	30.0000	13.72	1.20	0.90	0.85	14.67	242
ATTCHMT. 4	20.0000	0.0000	2.19	1.00	0.90	0.85	14.66	32
18.0000	17.2474	0.0000	1.26	1.50	0.87	0.85	14.21	27
16.5000	15.7475	0.0000	1.29	1.50	0.86	0.85	13.99	27
15.0000	14.4989	0.0000	0.87	1.50	0.86	0.85	13.99	18
14.0000	13.4989	0.0000	0.88	1.50	0.86	0.85	13.99	19
13.0000	12.1637	0.0000	1.50	1.50	0.86	0.85	13.99	31
11.3333	10.4971	0.0000	1.53	1.50	0.86	0.85	13.99	32
9.6667	8.8305	0.0000	1.56	1.50	0.86	0.85	13.99	33
8.0000	7.1638	0.0000	1.60	1.50	0.86	0.85	13.99	34
6.3333	5.4972	0.0000	1.63	1.50	0.86	0.85	13.99	34
4.6667	3.8306	0.0000	1.66	1.50	0.86	0.85	13.99	35
3.0000	2.3107	0.0000	1.40	1.50	0.86	0.85	13.99	29
1.6250	0.9357	0.0000	1.42	1.50	0.86	0.85	13.99	30
0.2500	-0.4393	0.0000	1.42	1.50	0.86	0.85	13.99	30

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole: Forces and Moments (Service I)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
18.00	-1.08	-32.44	36.69	64.88	-2.16	0.00	270.00
15.00	-33.63	-1,154.37	1,029.02	4,352.13	-16,310.81	21,918.22	270.00
0.25	-2.13	-1,441.26	1,429.92	23,508.56	-16,524.37	21,918.15	270.00
0.25	-0.24	-1,440.30	1,430.90	23,511.37	-16,519.83	21,918.56	270.00
0.00	-0.24	-1,441.94	1,437.99	23,871.65	-16,519.89	21,918.56	270.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

Pole: Resistances (Service I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
18.00	0.00	36.69	32.46	64.92	0.00	320,659.76	100,584.85	77,767.29	83,091.70
15.00	0.27	1,029.02	1,154.86	16,881.46	21,918.22	324,325.21	104,908.51	83,958.59	90,388.67
0.25	0.25	1,429.92	1,441.27	28,735.12	21,918.15	173,360.15	126,166.51	117,798.75	130,731.65
0.25	0.25	1,430.90	1,440.30	28,734.81	21,918.56	169,008.29	119,577.55	118,054.75	128,884.58
0.00	0.25	1,437.99	1,441.94	29,030.37	21,918.56	166,247.59	119,919.04	118,678.37	129,621.77

* These heights are above the pole base plate.

Baseplate Analysis (Service I) - Pole1 - Pole

Combined Force Interaction	0.11
Critical Wind Direction *	240.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	14.370 (in)
Failure Line Start Coordinate (in)	(-9.500, 0.661)
Failure Line End Coordinate in	(0.661, -9.500)
Applied Bending Moment	4,310.25 ft-lb
Factored Bending Resistance	38,799.16 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-20689	2.50	-4310

Anchor Bolts Analysis (Service I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
265.00	0.28	11,985.62	3,232.05	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole Deflection Information: (Service I)

Critical Wind Direction: 270.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
18.0000	-1.39	-1.30	-0.68	0.53
16.5000	-1.18	-1.14	-0.68	0.53
15.0000	-0.96	-0.97	-0.68	0.53
14.0000	-0.83	-0.86	-0.62	0.51
13.0000	-0.71	-0.75	-0.57	0.49
11.3333	-0.52	-0.58	-0.48	0.45
9.6667	-0.37	-0.43	-0.39	0.40
8.0000	-0.25	-0.30	-0.32	0.34
6.3333	-0.15	-0.19	-0.24	0.28
4.6667	-0.08	-0.11	-0.17	0.21
3.0000	-0.03	-0.04	-0.11	0.14
1.6250	-0.01	-0.01	-0.06	0.08
0.2500	0.00	0.00	-0.01	0.01
0.2500	0.00	0.00	-0.01	0.01
0.0000	0.00	0.00	0.00	0.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
ICE LIMIT STATE

Wind Velocity	76.0 mph
Dead Component Load Factor	1.10
Wind Load Factor	1.00
Gust Factor	1.30

Mast Arm 1: Wind and Weight Force Data (Ice)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 1	20.0000	18.0000	8.67	1.20	0.90	0.85	14.67	153	
ATTCHMT. 2	20.0000	22.0000	7.50	1.19	0.90	0.85	14.67	131	
ATTCHMT. 3	20.0000	30.0000	13.72	1.20	0.90	0.85	14.67	242	

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Arm: Forces and Moments (Ice)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	175.13	1,072.57	1,667.91	1,036.37	31,782.57	21,963.30

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

Arm: Resistances (Ice)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.36	175	1,983	38,633	34,121	126,535	108,435

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.06	22.28	0.50	89.54	44.77

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.23	8,788.87	37,967.65	45	14.06

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole: Wind and Weight Force Data (Ice)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	20.0000	18.0000	8.67	1.20	0.90	0.85	14.67	153
ATTCHMT. 2	20.0000	22.0000	7.50	1.19	0.90	0.85	14.67	131
ATTCHMT. 3	20.0000	30.0000	13.72	1.20	0.90	0.85	14.67	242
ATTCHMT. 4	20.0000	0.0000	2.19	1.00	0.90	0.85	14.66	32
18.0000	17.2474	0.0000	1.26	1.50	0.87	0.85	14.21	27
16.5000	15.7475	0.0000	1.29	1.50	0.86	0.85	13.99	27
15.0000	14.4989	0.0000	0.87	1.50	0.86	0.85	13.99	18
14.0000	13.4989	0.0000	0.88	1.50	0.86	0.85	13.99	19
13.0000	12.1637	0.0000	1.50	1.50	0.86	0.85	13.99	31
11.3333	10.4971	0.0000	1.53	1.50	0.86	0.85	13.99	32
9.6667	8.8305	0.0000	1.56	1.50	0.86	0.85	13.99	33
8.0000	7.1638	0.0000	1.60	1.50	0.86	0.85	13.99	34
6.3333	5.4972	0.0000	1.63	1.50	0.86	0.85	13.99	34
4.6667	3.8306	0.0000	1.66	1.50	0.86	0.85	13.99	35
3.0000	2.3107	0.0000	1.40	1.50	0.86	0.85	13.99	29
1.6250	0.9357	0.0000	1.42	1.50	0.86	0.85	13.99	30
0.2500	-0.4393	0.0000	1.42	1.50	0.86	0.85	13.99	30

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole: Forces and Moments (Ice)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
18.00	-2.29	-32.74	69.28	65.47	-4.58	0.00	270.00
15.00	-64.06	-1,159.77	1,850.57	4,383.62	-32,525.53	22,059.72	270.00
0.25	-4.05	-1,440.16	2,441.69	23,644.70	-32,974.19	22,059.57	270.00
0.25	-0.46	-1,438.50	2,442.67	23,650.35	-32,969.59	22,060.38	270.00
0.00	-0.46	-1,440.14	2,453.21	24,010.18	-32,969.71	22,060.38	270.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole: Resistances (Ice)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
18.00	0.00	69.28	32.82	65.63	0.00	320,659.76	100,584.85	77,767.29	83,091.70
15.00	0.46	1,850.57	1,161.54	32,819.61	22,059.72	324,325.21	104,908.51	83,958.59	90,388.67
0.25	0.35	2,441.69	1,440.17	40,575.47	22,059.57	173,360.15	126,166.51	117,798.75	130,731.65
0.25	0.35	2,442.67	1,438.50	40,575.03	22,060.38	169,008.29	119,577.55	118,054.75	128,884.58
0.00	0.35	2,453.21	1,440.14	40,785.91	22,060.38	166,247.59	119,919.04	118,678.37	129,621.77

* These heights are above the pole base plate.

Baseplate Analysis (Ice) - Pole1 - Pole

Combined Force Interaction	0.16
Critical Wind Direction *	245.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	14.370 (in)
Failure Line Start Coordinate (in)	(-9.500, 0.661)
Failure Line End Coordinate in	(0.661, -9.500)
Applied Bending Moment	6,026.38 ft-lb
Factored Bending Resistance	38,799.16 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-28927	2.50	-6026

Anchor Bolts Analysis (Ice) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
265.00	0.37	15,458.14	3,252.12	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Pole Deflection Information: (Ice)

Critical Wind Direction: 270.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
18.0000	-2.78	-1.32	-1.36	0.54
16.5000	-2.35	-1.15	-1.36	0.53
15.0000	-1.93	-0.98	-1.36	0.53
14.0000	-1.66	-0.87	-1.24	0.52
13.0000	-1.41	-0.76	-1.13	0.49
11.3333	-1.05	-0.59	-0.95	0.45
9.6667	-0.75	-0.44	-0.78	0.40
8.0000	-0.50	-0.31	-0.63	0.35
6.3333	-0.31	-0.20	-0.48	0.28
4.6667	-0.16	-0.11	-0.34	0.22
3.0000	-0.07	-0.05	-0.21	0.14
1.6250	-0.02	-0.01	-0.11	0.08
0.2500	0.00	0.00	-0.02	0.01
0.2500	0.00	0.00	-0.02	0.01
0.0000	0.00	0.00	0.00	0.00

Galloping	No
Natural Wind Gust (11.2 mph)	Yes
Truck-Induced Gust (65.0 mph)	No
Importance Factor	II

Mast Arm: Fatigue Analysis (Fatigue II)

Analysis Location			Design Load	Comb. Force Inter.	Moment (ft-lb)	Shear force (lb)	Shear Stress (ksi)	Applied Bending Stress (ksi)	Allowable Stress (ksi)
Arm Type	Arm No.	Site							
MA	1	BASE	NATURAL WIND GUST	0.85	6,225.84	306	0.09	3.82	4.50

Mast Arm: Deflections (Fatigue II)

Arm Type	Arm No.	Load Case	Max Vertical Deflection (in)
MA	1	NATURAL WIND GUST	0.79

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
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BY: SE70 11/15/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH
Folder: 568086 File: P18CM35A15120
Fatigue Analysis of Signal and Sign / Pole Connection: Arm

Arm Type	Arm No.	Component	Load	Stress Ratio	Applied Stress (ksi)	Allowable Stress (ksi)
MA	1	SIMPLEX BOLT	NATURAL WIND GUST	0.38	2.66	7.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

Analysis of Pole (Fatigue II)

Section Height* (ft)	Design Load	Comb. Force Inter.	Moment (ft-lb)	Applied Bending Stress (ksi)	Allowable Bending Stress (ksi)	Deflection (in)
0.00	NATURAL WIND GUST	0.74	6,851.60	3.32	4.50	0.00

* These heights are above the pole base plate.

Tube to Transverse Plate CAFT Calculation Details

	Pole to Baseplate Weld	Arm M35 Shaft to Simplex Plate Weld
Weld type	Socket	Socket
Tt(in)	0.20920	0.23910
Dt(in)	12.50	11.00
Ttp(in)	2.00	2.00
Dbc(in)	17.50	20.51
CBC	1.40	1.86
Dop(in)	N/A	N/A
COP	N/A	N/A
NS	0.00	0.00
RRb(in)	N/A	N/A
Multisided Factor	N/A	N/A
Kf	2.65	2.87
Ki	5.46	6.12
CAFT (ksi)	4.50	4.50

NOTE: The maximum bolt circle is used for bolt patterns where all the bolts do not lie on a single circle, per AASHTO.

Fatigue Analysis of Anchor Bolts (NATURAL WIND GUST)

Load Case	Combined Stress Ratio	Axial (lb)
NATURAL WIND GUST	0.27	3,556.82

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: SE70 11/15/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A,B,C,D, P18' CM35' AASHTO 2015 120MPH

Folder: 568086 File: P18CM35A15120

Opening Group on the Pole

Description	Attachment Height (ft)	Clear Opening (in)			Reinforcement (in)		
		Width	Height	Inside Corner Radius	Rim Thickness	Rim Depth	Rim Projection
STD HH	2.00	4.48	7.00	2.52	0.28	2.50	0.50

Description	Location On Pole (ft)	Orientation (deg)	Tube Diam. (in)	Tube Thick. (in)	Area (in2)	X Centroid (in)	Y Centroid (in)	Ix(in4)	Ix(in4)
STD HH	2.00	0.00	12.22	0.21	8.25	0.15	0.00	149	148

		Stress at Root		Stress at Toe		
Description	Moment (ft-lb)	Actual (ksi)	Resist (ksi)	Actual (ksi)	Resist (ksi)	Max CSR
NATURAL WIND GUST	4,307.74	7.55	16.00	1.89	7.00	0.47

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120

Design Criteria

Design Code	AASHTO-2015	Fatigue Category	2
Ultimate Wind Speed (mph)	120.0	Truck Gust	No
Mean Recurrence Interval	700	Galloping	No
Service Level Wind Speed (mph)	76.0	Natural Wind Gust	Yes
AASHTO Ice Included ?	Yes		

Design Summary - Pole

Height (ft)	Shaft Weight (lb)	Ground Line Diameter (in)	Top Dia. (in)
22.0000	1136	17.00	13.920

Section Characteristics

	Section - 1
Shape	16 Sharp Flutes
Top Dia. (in)	13.920
Base Diameter (in)	17.000
Thickness (in)	0.31250
Length (ft)	22.00
Shaft Weight (lb)	1136
Assembly Weight (lb)	1708
Taper (in/ft)	0.14000
Yield Strength (ksi)	55.00
Material	S220 - A572

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Base Plate

Shape	Square
Material	S70 - A36
Width (in)	24.000
Thickness (in)	2.50000
Yield Strength (ksi)	36.00
Base Weld Type	SOCKET
Weight (lb)	219

Anchor Bolts

Material	S100 - F1554
Bolt diameter (in)	2.25
Bolt circle diameter (in)	23.50
Quantity	4
Yield Strength (ksi)	55.00
Tensile strength (ksi)	75

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Design Summary - Arms

Signal and Sign	Arm 1	Arm 2
Shape	Round	Round
Span Length (ft)	75.0000	45.0000
Taper (in/ft)	0.14000	0.14000
Attachment Height (ft)	20.00	20.00
Orientation (deg)	180.00	270.00
Slope at Base (deg)	0.00	0.00
Centroid Location		
Horizontal (ft)	31.5284	19.8305
Above Attachment (ft)	0.0000	0.0000
Unbent Length (ft)	75.0000	45.0000
Material-Base	S220 - 55 ksi	S105 - 55 ksi
Weight (lb)	2779	990
Base Section		
Base O.D. (in)	15.50	12.00
Thickness (in)	0.37500	0.23910
Length (ft)	45.0059	45.0000
Yield Strength (ksi)	55.00	55.00
Material	S220	S105
Joint Type	Slip Joint	
Overlap Length (ft)	2.3045	
Outer Section		
Base O.D. (in)	10.00	
Thickness (in)	0.23910	
Length (ft)	32.2986	
Yield Strength (ksi)	55.00	
Material	S105	

Base Weld Type = Socket

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Design Summary - Arms

Simplex Dimensions

	Arm 1	Arm 2
Connection Bolt Data		
Number of bolts	4	4
Bolt diameter (in)	1.50	1.50
ASTM Specification	A325	A325
Horizontal Spacing (in)	20.00	20.00
Vertical Spacing (in)	20.00	20.00
Attachment Plate Data		
Horizontal Width (in)	26.00	26.00
Vertical Width (in)	26.00	26.00
Mast Arm Bracket Thickness (in)	3.50	3.50
Arm Plate Bracket Weight (lb)	292	327
Pole Plate Bracket Thickness (in)	2.00	2.00
Pole Plate Bracket Weight (lb)	167	187
Yield Strength (ksi)	36.00	36.00
Vertical Gusset Thickness (in)	0.5000	0.5000
Horizontal Gusset Thickness (in)	0.5000	0.5000

Attachment Type

Arm 1:	SIMPLEX - THRU BOLTS, Base Weld Type = Socket
Arm 2:	SIMPLEX - THRU BOLTS, Base Weld Type = Socket

** These heights are above bottom of base plate or transformer base.
Elliptical cross section; first diameter is horizontal.
** Arm orientations are angles from +X axis in X-Y plane.
X and Y axies are perpendicular/parallel to sides of pole base plate. See *** below.
*** If arm is attached with a clamp, height and orientation must not be changed
from values shown above without consulting Valmont.
Nice to have:
**** Assembly weight includes unfinished shaft + flange + simplex plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Description of Sign Loading

Position of Signal or Sign	Mounting Height ** (ft)	Centroid Height ** (ft)	Distance To Centroid From Pole (ft)	Sign Weight (lb)	Sign Width (ft)	Sign Depth (ft)	Sign Cd
Mast Arm 1	20.0000	20.0000	52.0000	21	7.0000	1.5000	1.20
Mast Arm 1	20.0000	20.0000	64.0000	15	2.5000	3.0000	1.19
Mast Arm 2	20.0000	20.0000	34.0000	27	9.0000	1.5000	1.23

Description of Signal Loading

Position of Signal	Mounting Height ** (ft)	Centroid Height ** (ft)	Distance To Centroid From Pole (ft)	Signal Weight (lb)	Vertical Plane (ft2)	Horizontal Plane (ft2)
Arm 1	20.0000	20.0000	46.0000	62	11.20	1.80
Arm 1	20.0000	20.0000	58.0000	50	8.67	1.80
Arm 1	20.0000	20.0000	70.0000	50	8.67	1.80
Arm 2	20.0000	20.0000	28.0000	50	8.67	1.80
Arm 2	20.0000	20.0000	40.0000	50	8.67	1.80

THE VALUES SHOWN IN THIS TABLE MUST NOT BE EXCEEDED
WITHOUT CONSULTING VALMONT.
ANY SIZES OR OTHER DIMENSIONS NOT PROVIDED BY THE
SPECIFYING AGENCY HAVE
BEEN ESTIMATED BY VALMONT.
** THESE HEIGHTS ARE ABOVE BOTTOM OF BASE PLATE OR
TRANSFORMER BASE.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

RESULTS SUMMARY - Pole

Maximum Combined Force Interaction In Each Major Component		Maximum Reactions Applied To Foundation		
Strength I		Bending Moment		197238 ft-lb
Pole CFI (At 20.00 (ft))	0.52	Torsion		150183 ft-lb
Signal and Sign Arm 1 CFI	0.34	Shear Force		5347 lb
Signal and Sign Arm 2 CFI	0.24	Axial Force		8079 lb
Base Plate CFI	0.21			
Anchor Bolts CFI	0.34	Ice		
S/S Arm 1 Att. Bolts CFI	0.07	Pole CFI (At 20.00 (ft))	0.76	
S/S Arm 1 Att. Plate CFI	0.11	Signal and Sign Arm 1 CFI	0.48	
S/S Pole 1 Att. Plate CFI	0.33	Signal and Sign Arm 2 CFI	0.40	
S/S Arm 2 Att. Bolts CFI	0.01	Base Plate CFI	0.35	
S/S Arm 2 Att. Plate CFI	0.03	Anchor Bolts CFI	0.63	
S/S Pole 2 Att. Plate CFI	0.10	S/S Arm 1 Att. Bolts CFI	0.26	
Deflection % (At 22.00 (ft))	1.591 %	S/S Arm 1 Att. Plate CFI	0.20	
Deflection (At 22.00 (ft))	4.20 in	S/S Pole 1 Att. Plate CFI	0.61	
Rotation (At 22.00 (ft))	1.81 deg	S/S Arm 2 Att. Bolts CFI	0.03	
Extreme I		S/S Arm 2 Att. Plate CFI	0.07	
Pole CFI (At 20.00 (ft))	0.83	S/S Pole 2 Att. Plate CFI	0.22	
Signal and Sign Arm 1 CFI	0.52	Deflection % (At 22.00		2.216
Signal and Sign Arm 2 CFI	0.50	(ft))		%
Base Plate CFI	0.35	Deflection (At 22.00 (ft))	5.85 in	
Anchor Bolts CFI	0.82	Rotation (At 22.00 (ft))	2.48 deg	
S/S Arm 1 Att. Bolts CFI	0.34	Fatigue II		
S/S Arm 1 Att. Plate CFI	0.23	Pole (At 0.00 (ft))		0.56
S/S Pole 1 Att. Plate CFI	0.69	Hand Hole / Opening		0.46
S/S Arm 2 Att. Bolts CFI	0.04	Signal and Sign Arm 1		
S/S Arm 2 Att. Plate CFI	0.08	Arm Tube		0.90
S/S Pole 2 Att. Plate CFI	0.26	Simplex Bolts		0.69
Deflection % (At 22.00 (ft))	1.700 %	Signal and Sign Arm 2		
Deflection (At 22.00 (ft))	4.49 in	Arm Tube		0.85
Rotation (At 22.00 (ft))	1.81 deg	Simplex Bolts		0.25
Service I		Anchor Bolts		0.26
Pole CFI (At 20.00 (ft))	0.49			
Signal and Sign Arm 1 CFI	0.33			
Signal and Sign Arm 2 CFI	0.27			
Base Plate CFI	0.24			
Anchor Bolts CFI	0.44			
S/S Arm 1 Att. Bolts CFI	0.13			
S/S Arm 1 Att. Plate CFI	0.14			
S/S Pole 1 Att. Plate CFI	0.43			
S/S Arm 2 Att. Bolts CFI	0.01			
S/S Arm 2 Att. Plate CFI	0.05			
S/S Pole 2 Att. Plate CFI	0.15			
Deflection % (At 22.00 (ft))	1.371 %			
Deflection (At 22.00 (ft))	3.62 in			
Rotation (At 22.00 (ft))	1.52 deg			

SHAFT PROPERTIES: NUMBER OF SIDES = 16 Sharp Flutes
DIAMETER (D) = 17.000 IN
THICKNESS (T) = 0.31250 IN
YIELD STRENGTH (KSI) = 55
MOM. OF INERTIA (IX) = 513.335 IN^4
SECTION MODULUS (SX) = 60.392 IN^3

MN: ALLOWABLE SHAFT MOMENT
MB = (Fb * Sx) / 12
= (55000 * 60.392 / 12 = 276798
MB = 276798 FT-LB

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole Properties

Height (ft)	Diameter (in)	Wall Thk. (in)	Roundness Ratio (%)	D/t	B/T	Moments of Inertia (in4)	Plastic Section Modulus (in3)	Area (in2)	Radius of Gyration (in)
22.0000	13.92	0.31250	0.0	44.54	0.00	278.60	54.85	13.36	4.57
20.0000	14.20	0.31250	0.0	45.44	0.00	296.12	57.13	13.63	4.66
18.5000	14.41	0.31250	0.0	46.11	0.00	309.73	58.87	13.84	4.73
17.0000	14.62	0.31250	0.0	46.78	0.00	323.76	60.63	14.05	4.80
15.3333	14.85	0.31250	0.0	47.53	0.00	339.83	62.63	14.28	4.88
13.6667	15.09	0.31250	0.0	48.28	0.00	356.43	64.65	14.50	4.96
12.0000	15.32	0.31250	0.0	49.02	0.00	373.56	66.71	14.73	5.04
10.3333	15.55	0.31250	0.0	49.77	0.00	391.22	68.79	14.96	5.11
8.6667	15.79	0.31250	0.0	50.52	0.00	409.44	70.91	15.19	5.19
7.0000	16.02	0.31250	0.0	51.26	0.00	428.21	73.07	15.42	5.27
5.3333	16.25	0.31250	0.0	52.01	0.00	447.55	75.25	15.65	5.35
3.6667	16.49	0.31250	0.0	52.76	0.00	467.47	77.47	15.88	5.43
2.0000	16.72	0.31250	0.0	53.50	0.00	487.96	79.72	16.11	5.50
0.2500	16.97	0.31250	0.0	54.29	0.00	510.12	82.11	16.35	5.59
0.2500	16.97	0.31250	100.0	54.29	0.00	565.93	86.58	16.34	5.88
0.0000	17.00	0.31250	100.0	54.40	0.00	569.50	86.95	16.38	5.90

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Arm: Forces and Moments (Strength I)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	127.57	30.69	3,791.38	0.00	116,042.72	939.27
SIGNAL	1	SPLICE-I	82.90	9.28	1,145.89	0.00	15,223.59	123.22
SIGNAL	1	SPLICE-O	71.19	7.84	968.61	0.00	12,787.04	103.50
SIGNAL	2	BASE	13.80	43.66	1,432.12	0.00	30,559.89	931.60

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Arm: Resistances (Strength I)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.34	128	3,792	116,047	881,757	264,527	344,399
SIGNAL	1	SPLICE-I	0.12	83	1,146	15,224	533,232	159,970	129,298
SIGNAL	1	SPLICE-O	0.15	71	969	12,787	350,828	105,248	85,888
SIGNAL	2	BASE	0.24	14	1,433	30,574	437,164	131,149	127,863

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.07	35.13	0.95	128.93	64.47
2	0.01	9.45	0.36	128.93	64.47

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.11	18,628.63	175,406.64	45	21.21
2	0.03	6,395.20	204,449.26	45	24.73

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole: Forces and Moments (Strength I)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
20.00	-155.13	-41.19	5,344.16	31,408.21	-118,289.83	0.00	0.00
0.25	-8.70	-2.31	6,660.65	31,831.87	-119,885.43	0.00	0.00
0.25	-0.87	-0.23	6,660.65	31,831.87	-119,885.43	0.00	0.00
0.00	-0.88	-0.23	6,678.44	31,831.93	-119,885.65	0.00	0.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Pole: Resistances (Strength I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
20.00	0.52	5,344.16	160.50	122,388.56	0.00	677,999.13	213,557.51	236,863.77	250,745.94
0.25	0.38	6,660.65	9.00	124,039.44	0.00	412,066.25	256,076.79	329,788.73	360,532.69
0.25	0.38	6,660.65	0.90	124,039.44	0.00	402,633.73	242,702.99	330,504.47	355,438.82
0.00	0.38	6,678.44	0.91	124,039.67	0.00	398,212.18	243,213.11	331,780.51	356,934.50

* These heights are above the pole base plate.

Baseplate Analysis (Strength I) - Pole1 - Pole

Combined Force Interaction	0.21
Critical Wind Direction *	0.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	16.941 (in)
Failure Line Start Coordinate (in)	(-12.000, -0.021)
Failure Line End Coordinate in	(-0.021, -12.000)
Applied Bending Moment	15,288.85 ft-lb
Factored Bending Resistance	71,470.37 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-56451	3.25	-15289

Anchor Bolts Analysis (Strength I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
0.00	0.34	14,197.70	0.00	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole Deflection Information: (Strength I)

Critical Wind Direction: 0.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
22.0000	-4.06	-1.08	-1.75	0.46
20.0000	-3.33	-0.88	-1.75	0.46
18.5000	-2.81	-0.75	-1.58	0.42
17.0000	-2.34	-0.62	-1.42	0.38
15.3333	-1.87	-0.50	-1.25	0.33
13.6667	-1.46	-0.39	-1.09	0.29
12.0000	-1.11	-0.29	-0.93	0.25
10.3333	-0.81	-0.22	-0.78	0.21
8.6667	-0.56	-0.15	-0.64	0.17
7.0000	-0.36	-0.10	-0.51	0.13
5.3333	-0.21	-0.05	-0.38	0.10
3.6667	-0.10	-0.03	-0.25	0.07
2.0000	-0.03	-0.01	-0.13	0.04
0.2500	0.00	0.00	-0.02	0.00
0.2500	0.00	0.00	-0.02	0.00
0.0000	0.00	0.00	0.00	0.00

Wind Velocity	120.0 mph
Dead Component Load Factor	1.10
Wind Load Factor	1.00
Gust Factor	1.30

Mast Arm 1: Wind and Weight Force Data (Extreme I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	36.56	491	
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	36.56	461	
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	36.56	380	
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	36.56	326	
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	36.56	380	

Mast Arm 2: Wind and Weight Force Data (Extreme I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 6	20.0000	28.0000	8.67	1.20	0.90	0.85	36.56	380	
ATTCHMT. 7	20.0000	34.0000	13.50	1.23	0.90	0.85	36.56	607	
ATTCHMT. 8	20.0000	40.0000	8.67	1.20	0.90	0.85	36.56	380	

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Arm: Forces and Moments (Extreme I)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	260.45	3,150.88	3,280.22	10.17	99,202.20	150,279.89
SIGNAL	1	SPLICE-I	336.88	2,341.75	960.17	0.00	12,685.61	33,618.66
SIGNAL	1	SPLICE-O	333.67	2,338.81	803.84	0.04	10,652.65	28,224.50
SIGNAL	2	BASE	53.58	2,023.33	1,191.37	0.97	24,834.34	59,486.90

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Arm: Resistances (Extreme I)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.52	260	4,548	180,070	881,757	264,527	344,399
SIGNAL	1	SPLICE-I	0.28	337	2,531	35,932	533,232	159,970	129,298
SIGNAL	1	SPLICE-O	0.35	334	2,473	30,168	350,828	105,248	85,888
SIGNAL	2	BASE	0.50	54	2,348	64,463	437,164	131,149	127,863

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.34	74.91	1.14	128.93	64.47
2	0.04	25.31	0.59	128.93	64.47

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.23	39,726.88	175,406.64	45	21.21
2	0.08	17,126.54	204,449.26	45	24.73

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole: Wind and Weight Force Data (Extreme I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	36.56	491
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	36.56	461
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	36.56	380
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	36.56	326
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	36.56	380
ATTCHMT. 6	20.0000	28.0000	8.67	1.20	0.90	0.85	36.56	380
ATTCHMT. 7	20.0000	34.0000	0.00	1.23	0.90	0.85	36.56	0
ATTCHMT. 8	20.0000	40.0000	8.67	1.20	0.90	0.85	36.56	380
22.0000	20.9967	0.0000	2.34	1.50	0.91	0.85	36.93	130
20.0000	19.2482	0.0000	1.79	1.50	0.89	0.85	36.26	97
18.5000	17.7482	0.0000	1.81	1.50	0.88	0.85	35.65	97
17.0000	16.1645	0.0000	2.05	1.50	0.86	0.85	34.95	107
15.3333	14.4978	0.0000	2.08	1.50	0.86	0.85	34.88	109
13.6667	12.8312	0.0000	2.11	1.50	0.86	0.85	34.88	110
12.0000	11.1646	0.0000	2.14	1.50	0.86	0.85	34.88	112
10.3333	9.4979	0.0000	2.18	1.50	0.86	0.85	34.88	114
8.6667	7.8313	0.0000	2.21	1.50	0.86	0.85	34.88	116
7.0000	6.1647	0.0000	2.24	1.50	0.86	0.85	34.88	117
5.3333	4.4980	0.0000	2.27	1.50	0.86	0.85	34.88	119
3.6667	2.8314	0.0000	2.31	1.50	0.86	0.85	34.88	121
2.0000	1.1229	0.0000	2.46	1.50	0.86	0.85	34.88	128
0.2500	-0.6271	0.0000	2.46	1.50	0.86	0.85	34.88	128

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole: Forces and Moments (Extreme I)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
20.00	-302.56	-4,063.10	4,634.97	27,029.69	-101,145.12	150,162.33	270.00
0.25	-17.38	-5,345.61	5,870.29	120,703.89	-103,683.83	150,162.36	270.00
0.25	-1.50	-5,338.91	5,876.41	120,743.68	-103,631.49	150,166.49	270.00
0.00	-1.51	-5,344.47	5,892.06	122,079.10	-103,631.87	150,166.49	270.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Pole: Resistances (Extreme I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
20.00	0.83	4,634.97	4,074.35	104,694.51	150,162.33	677,999.13	213,557.51	236,863.77	250,745.94
0.25	0.69	5,870.29	5,345.64	159,121.86	150,162.36	412,066.25	256,076.79	329,788.73	360,532.69
0.25	0.69	5,876.41	5,338.91	159,117.95	150,166.49	402,633.73	242,702.99	330,504.47	355,438.82
0.00	0.69	5,892.06	5,344.47	160,133.92	150,166.49	398,212.18	243,213.11	331,780.51	356,934.50

* These heights are above the pole base plate.

Baseplate Analysis (Extreme I) - Pole1 - Pole

Combined Force Interaction	0.35
Critical Wind Direction *	225.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	16.941 (in)
Failure Line Start Coordinate (in)	(-12.000, -0.021)
Failure Line End Coordinate in	(-0.021, -12.000)
Applied Bending Moment	24,836.34 ft-lb
Factored Bending Resistance	71,470.37 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-91703	3.25	-24836

Anchor Bolts Analysis (Extreme I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
265.00	0.82	29,652.79	9,883.22	36,312.72	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole Deflection Information: (Extreme I)

Critical Wind Direction: 270.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
22.0000	-3.47	-2.85	-1.51	1.00
20.0000	-2.85	-2.42	-1.51	1.00
18.5000	-2.40	-2.10	-1.37	0.95
17.0000	-2.00	-1.80	-1.23	0.91
15.3333	-1.60	-1.49	-1.08	0.84
13.6667	-1.25	-1.20	-0.94	0.77
12.0000	-0.95	-0.94	-0.81	0.70
10.3333	-0.70	-0.70	-0.68	0.62
8.6667	-0.48	-0.50	-0.56	0.53
7.0000	-0.31	-0.33	-0.44	0.44
5.3333	-0.18	-0.19	-0.33	0.34
3.6667	-0.08	-0.09	-0.22	0.24
2.0000	-0.02	-0.03	-0.12	0.13
0.2500	0.00	0.00	-0.01	0.02
0.2500	0.00	0.00	-0.01	0.02
0.0000	0.00	0.00	0.00	0.00

Wind Velocity	76.0 mph
Dead Component Load Factor	1.00
Wind Load Factor	1.00
Gust Factor	1.30

Mast Arm 1: Wind and Weight Force Data (Service I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	14.66	197	
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	14.66	185	
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	14.66	153	
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	14.66	131	
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	14.66	153	

Mast Arm 2: Wind and Weight Force Data (Service I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 6	20.0000	28.0000	8.67	1.20	0.90	0.85	14.66	153	
ATTCHMT. 7	20.0000	34.0000	13.50	1.23	0.90	0.85	14.66	243	
ATTCHMT. 8	20.0000	40.0000	8.67	1.20	0.90	0.85	14.66	153	

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Arm: Forces and Moments (Service I)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	111.17	1,371.81	3,018.74	3.71	92,143.95	63,851.36
SIGNAL	1	SPLICE-I	100.53	975.92	905.77	0.00	12,019.07	14,049.68
SIGNAL	1	SPLICE-O	94.06	974.50	763.80	0.02	10,095.20	11,802.18
SIGNAL	2	BASE	17.08	913.64	1,121.29	0.34	23,746.38	25,928.25

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Arm: Resistances (Service I)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.33	111	3,316	112,105	881,757	264,527	344,399
SIGNAL	1	SPLICE-I	0.14	101	1,331	18,489	533,232	159,970	129,298
SIGNAL	1	SPLICE-O	0.18	94	1,238	15,531	350,828	105,248	85,888
SIGNAL	2	BASE	0.27	17	1,446	35,159	437,164	131,149	127,863

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.13	46.83	0.83	128.93	64.47
2	0.01	14.91	0.36	128.93	64.47

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.14	24,833.43	175,406.64	45	21.21
2	0.05	10,087.00	204,449.26	45	24.73

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole: Wind and Weight Force Data (Service I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	14.66	197
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	14.66	185
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	14.66	131
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 6	20.0000	28.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 7	20.0000	34.0000	0.00	1.23	0.90	0.85	14.66	0
ATTCHMT. 8	20.0000	40.0000	8.67	1.20	0.90	0.85	14.66	153
22.0000	20.9967	0.0000	2.34	1.50	0.91	0.85	14.81	52
20.0000	19.2482	0.0000	1.79	1.50	0.89	0.85	14.55	39
18.5000	17.7482	0.0000	1.81	1.50	0.88	0.85	14.30	39
17.0000	16.1645	0.0000	2.05	1.50	0.86	0.85	14.02	43
15.3333	14.4978	0.0000	2.08	1.50	0.86	0.85	13.99	44
13.6667	12.8312	0.0000	2.11	1.50	0.86	0.85	13.99	44
12.0000	11.1646	0.0000	2.14	1.50	0.86	0.85	13.99	45
10.3333	9.4979	0.0000	2.18	1.50	0.86	0.85	13.99	46
8.6667	7.8313	0.0000	2.21	1.50	0.86	0.85	13.99	46
7.0000	6.1647	0.0000	2.24	1.50	0.86	0.85	13.99	47
5.3333	4.4980	0.0000	2.27	1.50	0.86	0.85	13.99	48
3.6667	2.8314	0.0000	2.31	1.50	0.86	0.85	13.99	48
2.0000	1.1229	0.0000	2.46	1.50	0.86	0.85	13.99	52
0.2500	-0.6271	0.0000	2.46	1.50	0.86	0.85	13.99	52

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole: Forces and Moments (Service I)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
20.00	-132.02	-1,740.98	4,258.25	24,968.31	-93,929.52	63,838.99	270.00
0.25	-7.43	-2,241.66	5,330.67	64,584.38	-95,128.92	63,839.02	270.00
0.25	-0.69	-2,238.38	5,332.05	64,599.91	-95,117.30	63,840.61	270.00
0.00	-0.69	-2,240.61	5,346.28	65,159.78	-95,117.48	63,840.61	270.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Pole: Resistances (Service I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
20.00	0.49	4,258.25	1,745.98	97,191.41	63,838.99	677,999.13	213,557.51	236,863.77	250,745.94
0.25	0.36	5,330.67	2,241.67	114,981.10	63,839.02	412,066.25	256,076.79	329,788.73	360,532.69
0.25	0.35	5,332.05	2,238.38	114,980.21	63,840.61	402,633.73	242,702.99	330,504.47	355,438.82
0.00	0.35	5,346.28	2,240.61	115,295.84	63,840.61	398,212.18	243,213.11	331,780.51	356,934.50

* These heights are above the pole base plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Baseplate Analysis (Service I) - Pole1 - Pole

Combined Force Interaction	0.24
Critical Wind Direction *	225.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	16.941 (in)
Failure Line Start Coordinate (in)	(-12.000, -0.021)
Failure Line End Coordinate in	(-0.021, -12.000)
Applied Bending Moment	16,978.79 ft-lb
Factored Bending Resistance	71,470.37 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-62691	3.25	-16979

Anchor Bolts Analysis (Service I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
265.00	0.44	18,624.86	4,200.24	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole Deflection Information: (Service I)

Critical Wind Direction: 270.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
22.0000	-3.21	-1.66	-1.39	0.62
20.0000	-2.64	-1.40	-1.39	0.62
18.5000	-2.22	-1.21	-1.25	0.58
17.0000	-1.85	-1.03	-1.13	0.54
15.3333	-1.48	-0.84	-0.99	0.50
13.6667	-1.16	-0.67	-0.86	0.45
12.0000	-0.88	-0.52	-0.74	0.40
10.3333	-0.64	-0.39	-0.62	0.35
8.6667	-0.44	-0.28	-0.51	0.30
7.0000	-0.29	-0.18	-0.40	0.24
5.3333	-0.16	-0.11	-0.30	0.19
3.6667	-0.08	-0.05	-0.20	0.13
2.0000	-0.02	-0.01	-0.11	0.07
0.2500	0.00	0.00	-0.01	0.01
0.2500	0.00	0.00	-0.01	0.01
0.0000	0.00	0.00	0.00	0.00

Wind Velocity	76.0 mph
Dead Component Load Factor	1.10
Wind Load Factor	1.00
Gust Factor	1.30

Mast Arm 1: Wind and Weight Force Data (Ice)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	14.66	197	
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	14.66	185	
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	14.66	153	
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	14.66	131	
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	14.66	153	

Mast Arm 2: Wind and Weight Force Data (Ice)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 6	20.0000	28.0000	8.67	1.20	0.90	0.85	14.66	153	
ATTCHMT. 7	20.0000	34.0000	13.50	1.23	0.90	0.85	14.66	243	
ATTCHMT. 8	20.0000	40.0000	8.67	1.20	0.90	0.85	14.66	153	

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Arm: Forces and Moments (Ice)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	231.77	1,407.15	4,523.59	4.37	152,641.31	65,020.92
SIGNAL	1	SPLICE-I	223.51	989.14	1,740.68	0.00	23,725.63	14,220.26
SIGNAL	1	SPLICE-O	208.67	986.35	1,554.29	0.02	19,928.55	11,943.74
SIGNAL	2	BASE	35.35	964.68	1,895.63	0.42	43,788.91	27,164.22

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Arm: Resistances (Ice)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.48	232	4,737	165,913	881,757	264,527	344,399
SIGNAL	1	SPLICE-I	0.21	224	2,002	27,661	533,232	159,970	129,298
SIGNAL	1	SPLICE-O	0.27	209	1,841	23,234	350,828	105,248	85,888
SIGNAL	2	BASE	0.40	35	2,127	51,530	437,164	131,149	127,863

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.26	65.36	1.18	128.93	64.47
2	0.03	21.29	0.53	128.93	64.47

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.20	34,660.57	175,406.64	45	21.21
2	0.07	14,409.69	204,449.26	45	24.73

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole: Wind and Weight Force Data (Ice)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	14.66	197
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	14.66	185
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	14.66	131
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 6	20.0000	28.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 7	20.0000	34.0000	0.00	1.23	0.90	0.85	14.66	0
ATTCHMT. 8	20.0000	40.0000	8.67	1.20	0.90	0.85	14.66	153
22.0000	20.9967	0.0000	2.34	1.50	0.91	0.85	14.81	52
20.0000	19.2482	0.0000	1.79	1.50	0.89	0.85	14.55	39
18.5000	17.7482	0.0000	1.81	1.50	0.88	0.85	14.30	39
17.0000	16.1645	0.0000	2.05	1.50	0.86	0.85	14.02	43
15.3333	14.4978	0.0000	2.08	1.50	0.86	0.85	13.99	44
13.6667	12.8312	0.0000	2.11	1.50	0.86	0.85	13.99	44
12.0000	11.1646	0.0000	2.14	1.50	0.86	0.85	13.99	45
10.3333	9.4979	0.0000	2.18	1.50	0.86	0.85	13.99	46
8.6667	7.8313	0.0000	2.21	1.50	0.86	0.85	13.99	46
7.0000	6.1647	0.0000	2.24	1.50	0.86	0.85	13.99	47
5.3333	4.4980	0.0000	2.27	1.50	0.86	0.85	13.99	48
3.6667	2.8314	0.0000	2.31	1.50	0.86	0.85	13.99	48
2.0000	1.1229	0.0000	2.46	1.50	0.86	0.85	13.99	52
0.2500	-0.6271	0.0000	2.46	1.50	0.86	0.85	13.99	52

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole: Forces and Moments (Ice)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
20.00	-286.41	-1,793.80	6,585.69	45,727.20	-155,316.31	63,792.03	270.00
0.25	-15.67	-2,241.07	8,049.13	86,121.33	-157,999.59	63,792.10	270.00
0.25	-1.44	-2,234.42	8,051.00	86,147.10	-157,984.47	63,794.74	270.00
0.00	-1.45	-2,236.65	8,070.33	86,705.99	-157,984.83	63,794.74	270.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Pole: Resistances (Ice)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
20.00	0.76	6,585.69	1,816.52	161,907.79	63,792.03	677,999.13	213,557.51	236,863.77	250,745.94
0.25	0.56	8,049.13	2,241.13	179,946.53	63,792.10	412,066.25	256,076.79	329,788.73	360,532.69
0.25	0.55	8,051.00	2,234.42	179,945.60	63,794.74	402,633.73	242,702.99	330,504.47	355,438.82
0.00	0.55	8,070.33	2,236.65	180,214.14	63,794.74	398,212.18	243,213.11	331,780.51	356,934.50

* These heights are above the pole base plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Baseplate Analysis (Ice) - Pole1 - Pole

Combined Force Interaction	0.35
Critical Wind Direction *	230.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	16.941 (in)
Failure Line Start Coordinate (in)	(-12.000, -0.021)
Failure Line End Coordinate in	(-0.021, -12.000)
Applied Bending Moment	25,311.06 ft-lb
Factored Bending Resistance	71,470.37 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-93456	3.25	-25311

Anchor Bolts Analysis (Ice) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
265.00	0.63	26,459.19	4,197.10	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Pole Deflection Information: (Ice)

Critical Wind Direction: 270.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
22.0000	-5.33	-2.40	-2.30	0.93
20.0000	-4.37	-2.01	-2.30	0.93
18.5000	-3.69	-1.72	-2.08	0.86
17.0000	-3.07	-1.45	-1.87	0.80
15.3333	-2.46	-1.18	-1.65	0.72
13.6667	-1.92	-0.94	-1.43	0.65
12.0000	-1.46	-0.72	-1.23	0.57
10.3333	-1.07	-0.54	-1.03	0.49
8.6667	-0.74	-0.38	-0.85	0.41
7.0000	-0.47	-0.25	-0.67	0.33
5.3333	-0.27	-0.14	-0.50	0.25
3.6667	-0.13	-0.07	-0.33	0.17
2.0000	-0.04	-0.02	-0.18	0.09
0.2500	0.00	0.00	-0.02	0.01
0.2500	0.00	0.00	-0.02	0.01
0.0000	0.00	0.00	0.00	0.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
FATIGUE II LIMIT STATE

Galloping	No
Natural Wind Gust (11.2 mph)	Yes
Truck-Induced Gust (65.0 mph)	No
Importance Factor	II

Mast Arm: Fatigue Analysis (Fatigue II)

Analysis Location			Design Load	Comb. Force Inter.	Moment (ft-lb)	Shear force (lb)	Shear Stress (ksi)	Applied Bending Stress (ksi)	Allowable Stress (ksi)
Arm Type	Arm No.	Site							
MA	1	BASE	NATURAL WIND GUST	0.90	22,681.81	532	0.06	4.04	4.50
MA	1	SP-I	NATURAL WIND GUST	0.19	4,652.32	320	0.06	2.27	12.00
MA	1	SP-O	NATURAL WIND GUST	0.23	3,914.86	320	0.09	2.81	12.00
MA	2	BASE	NATURAL WIND GUST	0.85	8,303.11	308	0.07	3.84	4.50

Mast Arm: Deflections (Fatigue II)

Arm Type	Arm No.	Load Case	Max Vertical Deflection (in)
MA	1	NATURAL WIND GUST	1.08
MA	2	NATURAL WIND GUST	0.87

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Fatigue Analysis of Signal and Sign / Pole Connection: Arm

Arm Type	Arm No.	Component	Load	Stress Ratio	Applied Stress (ksi)	Allowable Stress (ksi)
MA	1	SIMPLEX BOLT	NATURAL WIND GUST	0.69	4.83	7.00
MA	2	SIMPLEX BOLT	NATURAL WIND GUST	0.25	1.77	7.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH

Folder: 568086 File: P22M7545A15120

Analysis of Pole (Fatigue II)

Section Height* (ft)	Design Load	Comb. Force Inter.	Moment (ft-lb)	Applied Bending Stress (ksi)	Allowable Bending Stress (ksi)	Deflection (in)
0.00	NATURAL WIND GUST	0.56	14,247.63	2.50	4.50	0.00

* These heights are above the pole base plate.

Tube to Transverse Plate CAFT Calculation Details

	Pole to Baseplate Weld	Arm M75 Shaft to Simplex Plate Weld	Arm 45M Shaft to Simplex Plate Weld
Weld type	Socket	Socket	Socket
Tt(in)	0.31250	0.37500	0.23910
Dt(in)	17.00	15.50	12.00
Ttp(in)	2.50	3.50	3.50
Dbc(in)	23.50	28.28	28.28
CBC	1.38	1.82	2.36
Dop(in)	N/A	N/A	N/A
COP	N/A	N/A	N/A
NS	0.00	0.00	0.00
RRb(in)	N/A	N/A	N/A
Multisided Factor	N/A	N/A	N/A
Kf	2.81	2.67	2.48
Ki	6.35	6.30	5.18
CAFT (ksi)	4.50	4.50	4.50

NOTE: The maximum bolt circle is used for bolt patterns where all the bolts do not lie on a single circle, per AASHTO.

Fatigue Analysis of Anchor Bolts (NATURAL WIND GUST)

Load Case	Combined Stress Ratio	Axial (lb)
NATURAL WIND GUST	0.26	5,969.05

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE A, P22' M75' & M45' AASHTO 2015 120MPH
Folder: 568086 File: P22M7545A15120
Opening Group on the Pole

Description	Attachment Height (ft)	Clear Opening (in)			Reinforcement (in)		
		Width	Height	Inside Corner Radius	Rim Thickness	Rim Depth	Rim Projection
STD HH	2.00	4.48	7.00	2.52	0.28	2.50	0.50

Description	Location On Pole (ft)	Orientation (deg)	Tube Diam. (in)	Tube Thick. (in)	Area (in2)	X Centroid (in)	Y Centroid (in)	Ix(in4)	Ix(in4)
STD HH	2.00	0.00	16.72	0.31	16.00	-0.13	0.00	552	525

		Stress at Root		Stress at Toe		
Description	Moment (ft-lb)	Actual (ksi)	Resist (ksi)	Actual (ksi)	Resist (ksi)	Max CSR
NATURAL WIND GUST	9,590.03	7.42	16.00	1.85	7.00	0.46

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120

Design Criteria

Design Code	AASHTO-2015	Fatigue Category	2
Ultimate Wind Speed (mph)	120.0	Truck Gust	No
Mean Recurrence Interval	700	Galloping	No
Service Level Wind Speed (mph)	76.0	Natural Wind Gust	Yes
AASHTO Ice Included ?	Yes		

Design Summary - Pole

Height (ft)	Shaft Weight (lb)	Ground Line Diameter (in)	Top Dia. (in)
22.0000	1136	17.00	13.920

Section Characteristics

	Section - 1
Shape	16 Sharp Flutes
Top Dia. (in)	13.920
Base Diameter (in)	17.000
Thickness (in)	0.31250
Length (ft)	22.00
Shaft Weight (lb)	1136
Assembly Weight (lb)	1703
Taper (in/ft)	0.14000
Yield Strength (ksi)	55.00
Material	S220 - A572

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
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BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Base Plate

Shape	Square
Material	S70 - A36
Width (in)	24.000
Thickness (in)	2.50000
Yield Strength (ksi)	36.00
Base Weld Type	SOCKET
Weight (lb)	219

Anchor Bolts

Material	S100 - F1554
Bolt diameter (in)	2.25
Bolt circle diameter (in)	23.50
Quantity	4
Yield Strength (ksi)	55.00
Tensile strength (ksi)	75

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Design Summary - Arms

Signal and Sign	Arm 1	Arm 2
Shape	Round	Round
Span Length (ft)	75.0000	55.0000
Taper (in/ft)	0.14000	0.14000
Attachment Height (ft)	20.00	20.00
Orientation (deg)	180.00	270.00
Slope at Base (deg)	0.00	0.00
Centroid Location		
Horizontal (ft)	31.5284	23.8110
Above Attachment (ft)	0.0000	0.0000
Unbent Length (ft)	75.0000	55.0000
Material-Base	S220 - 55 ksi	S105 - 55 ksi
Weight (lb)	2779	1235
Base Section		
Base O.D. (in)	15.50	13.00
Thickness (in)	0.37500	0.23910
Length (ft)	45.0059	50.0000
Yield Strength (ksi)	55.00	55.00
Material	S220	S105
Joint Type	Slip Joint	Slip Joint
Overlap Length (ft)	2.3045	1.8975
Outer Section		
Base O.D. (in)	10.00	6.50
Thickness (in)	0.23910	0.11960
Length (ft)	32.2986	6.8975
Yield Strength (ksi)	55.00	55.00
Material	S105	S105

Base Weld Type = Socket

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Design Summary - Arms

Simplex Dimensions

	Arm 1	Arm 2
Connection Bolt Data		
Number of bolts	4	4
Bolt diameter (in)	1.50	1.50
ASTM Specification	A325	A325
Horizontal Spacing (in)	20.00	20.00
Vertical Spacing (in)	20.00	20.00
Attachment Plate Data		
Horizontal Width (in)	26.00	26.00
Vertical Width (in)	26.00	26.00
Mast Arm Bracket Thickness (in)	3.50	3.50
Arm Plate Bracket Weight (lb)	292	318
Pole Plate Bracket Thickness (in)	2.00	2.00
Pole Plate Bracket Weight (lb)	167	182
Yield Strength (ksi)	36.00	36.00
Vertical Gusset Thickness (in)	0.5000	0.5000
Horizontal Gusset Thickness (in)	0.5000	0.5000

Attachment Type

Arm 1:	SIMPLEX - THRU BOLTS, Base Weld Type = Socket
Arm 2:	SIMPLEX - THRU BOLTS, Base Weld Type = Socket

** These heights are above bottom of base plate or transformer base.
Elliptical cross section; first diameter is horizontal.
** Arm orientations are angles from +X axis in X-Y plane.
X and Y axies are perpendicular/parallel to sides of pole base plate. See *** below.
*** If arm is attached with a clamp, height and orientation must not be changed
from values shown above without consulting Valmont.
Nice to have:
**** Assembly weight includes unfinished shaft + flange + simplex plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Description of Sign Loading

Position of Signal or Sign	Mounting Height ** (ft)	Centroid Height ** (ft)	Distance To Centroid From Pole (ft)	Sign Weight (lb)	Sign Width (ft)	Sign Depth (ft)	Sign Cd
Mast Arm 1	20.0000	20.0000	52.0000	21	7.0000	1.5000	1.20
Mast Arm 1	20.0000	20.0000	64.0000	15	2.5000	3.0000	1.19
Mast Arm 2	20.0000	20.0000	44.0000	27	9.0000	1.5000	1.23

Description of Signal Loading

Position of Signal	Mounting Height ** (ft)	Centroid Height ** (ft)	Distance To Centroid From Pole (ft)	Signal Weight (lb)	Vertical Plane (ft2)	Horizontal Plane (ft2)
Arm 1	20.0000	20.0000	46.0000	62	11.20	1.80
Arm 1	20.0000	20.0000	58.0000	50	8.67	1.80
Arm 1	20.0000	20.0000	70.0000	50	8.67	1.80
Arm 2	20.0000	20.0000	38.0000	50	8.67	1.80
Arm 2	20.0000	20.0000	50.0000	50	8.67	1.80

THE VALUES SHOWN IN THIS TABLE MUST NOT BE EXCEEDED
WITHOUT CONSULTING VALMONT.
ANY SIZES OR OTHER DIMENSIONS NOT PROVIDED BY THE
SPECIFYING AGENCY HAVE
BEEN ESTIMATED BY VALMONT.
** THESE HEIGHTS ARE ABOVE BOTTOM OF BASE PLATE OR
TRANSFORMER BASE.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

RESULTS SUMMARY - Pole

Maximum Combined Force Interaction In Each Major Component	
Strength I	
Pole CFI (At 20.00 (ft))	0.54
Signal and Sign Arm 1 CFI	0.34
Signal and Sign Arm 2 CFI	0.29
Base Plate CFI	0.23
Anchor Bolts CFI	0.37
S/S Arm 1 Att. Bolts CFI	0.07
S/S Arm 1 Att. Plate CFI	0.11
S/S Pole 1 Att. Plate CFI	0.33
S/S Arm 2 Att. Bolts CFI	0.01
S/S Arm 2 Att. Plate CFI	0.04
S/S Pole 2 Att. Plate CFI	0.13
Deflection % (At 22.00 (ft))	1.646 %
Deflection (At 22.00 (ft))	4.34 in
Rotation (At 22.00 (ft))	1.87 deg
Extreme I	
Pole CFI (At 20.00 (ft))	0.84
Signal and Sign Arm 1 CFI	0.52
Signal and Sign Arm 2 CFI	0.58
Base Plate CFI	0.36
Anchor Bolts CFI	0.84
S/S Arm 1 Att. Bolts CFI	0.34
S/S Arm 1 Att. Plate CFI	0.23
S/S Pole 1 Att. Plate CFI	0.69
S/S Arm 2 Att. Bolts CFI	0.07
S/S Arm 2 Att. Plate CFI	0.11
S/S Pole 2 Att. Plate CFI	0.34
Deflection % (At 22.00 (ft))	1.791 %
Deflection (At 22.00 (ft))	4.73 in
Rotation (At 22.00 (ft))	1.90 deg
Service I	
Pole CFI (At 20.00 (ft))	0.50
Signal and Sign Arm 1 CFI	0.33
Signal and Sign Arm 2 CFI	0.33
Base Plate CFI	0.25
Anchor Bolts CFI	0.46
S/S Arm 1 Att. Bolts CFI	0.13
S/S Arm 1 Att. Plate CFI	0.14
S/S Pole 1 Att. Plate CFI	0.43
S/S Arm 2 Att. Bolts CFI	0.03
S/S Arm 2 Att. Plate CFI	0.07
S/S Pole 2 Att. Plate CFI	0.20
Deflection % (At 22.00 (ft))	1.437 %
Deflection (At 22.00 (ft))	3.79 in
Rotation (At 22.00 (ft))	1.59 deg

Maximum Reactions Applied To Foundation		
Bending Moment		204413 ft-lb
Torsion		149829 ft-lb
Shear Force		5347 lb
Axial Force		8457 lb
Ice		
Pole CFI (At 20.00 (ft))	0.79	
Signal and Sign Arm 1 CFI	0.48	
Signal and Sign Arm 2 CFI	0.48	
Base Plate CFI	0.38	
Anchor Bolts CFI	0.67	
S/S Arm 1 Att. Bolts CFI	0.26	
S/S Arm 1 Att. Plate CFI	0.20	
S/S Pole 1 Att. Plate CFI	0.61	
S/S Arm 2 Att. Bolts CFI	0.05	
S/S Arm 2 Att. Plate CFI	0.10	
S/S Pole 2 Att. Plate CFI	0.29	
Deflection % (At 22.00 (ft))		2.322 %
Deflection (At 22.00 (ft))	6.13 in	
Rotation (At 22.00 (ft))	2.59 deg	
Fatigue II		
Pole (At 0.00 (ft))		0.56
Hand Hole / Opening		0.49
Signal and Sign Arm 1		
Arm Tube		0.90
Simplex Bolts		0.69
Signal and Sign Arm 2		
Arm Tube		1.00
Simplex Bolts		0.35
Anchor Bolts		0.27

SHAFT PROPERTIES: NUMBER OF SIDES = 16 Sharp Flutes
DIAMETER (D) = 17.000 IN
THICKNESS (T) = 0.31250 IN
YIELD STRENGTH (KSI) = 55
MOM. OF INERTIA (IX) = 513.335 IN^4
SECTION MODULUS (SX) = 60.392 IN^3

MN: ALLOWABLE SHAFT MOMENT
MB = (Fb * Sx) / 12
= (55000 * 60.392 / 12 = 276798
MB = 276798 FT-LB

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole Properties

Height (ft)	Diameter (in)	Wall Thk. (in)	Roundness Ratio (%)	D/t	B/T	Moments of Inertia (in4)	Plastic Section Modulus (in3)	Area (in2)	Radius of Gyration (in)
22.0000	13.92	0.31250	0.0	44.54	0.00	278.60	54.85	13.36	4.57
20.0000	14.20	0.31250	0.0	45.44	0.00	296.12	57.13	13.63	4.66
18.5000	14.41	0.31250	0.0	46.11	0.00	309.73	58.87	13.84	4.73
17.0000	14.62	0.31250	0.0	46.78	0.00	323.76	60.63	14.05	4.80
15.3333	14.85	0.31250	0.0	47.53	0.00	339.83	62.63	14.28	4.88
13.6667	15.09	0.31250	0.0	48.28	0.00	356.43	64.65	14.50	4.96
12.0000	15.32	0.31250	0.0	49.02	0.00	373.56	66.71	14.73	5.04
10.3333	15.55	0.31250	0.0	49.77	0.00	391.22	68.79	14.96	5.11
8.6667	15.79	0.31250	0.0	50.52	0.00	409.44	70.91	15.19	5.19
7.0000	16.02	0.31250	0.0	51.26	0.00	428.21	73.07	15.42	5.27
5.3333	16.25	0.31250	0.0	52.01	0.00	447.55	75.25	15.65	5.35
3.6667	16.49	0.31250	0.0	52.76	0.00	467.47	77.47	15.88	5.43
2.0000	16.72	0.31250	0.0	53.50	0.00	487.96	79.72	16.11	5.50
0.2500	16.97	0.31250	0.0	54.29	0.00	510.12	82.11	16.35	5.59
0.2500	16.97	0.31250	100.0	54.29	0.00	565.93	86.58	16.34	5.88
0.0000	17.00	0.31250	100.0	54.40	0.00	569.50	86.95	16.38	5.90

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Arm: Forces and Moments (Strength I)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	127.61	43.80	3,791.25	0.00	116,038.70	1,340.45
SIGNAL	1	SPLICE-I	82.91	13.24	1,145.85	0.00	15,223.05	175.85
SIGNAL	1	SPLICE-O	71.20	11.19	968.58	0.00	12,786.60	147.71
SIGNAL	2	BASE	25.63	53.33	1,748.59	0.00	43,766.91	1,334.82
SIGNAL	2	SPLICE-I	7.97	5.10	167.32	0.00	385.75	11.76
SIGNAL	2	SPLICE-O	2.33	1.49	48.73	0.00	121.81	3.72

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
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BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Arm: Resistances (Strength I)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.34	128	3,792	116,046	881,757	264,527	344,399
SIGNAL	1	SPLICE-I	0.12	83	1,146	15,224	533,232	159,970	129,298
SIGNAL	1	SPLICE-O	0.15	71	969	12,787	350,828	105,248	85,888
SIGNAL	2	BASE	0.29	26	1,749	43,787	474,335	142,301	148,457
SIGNAL	2	SPLICE-I	0.01	8	167	386	224,009	67,203	35,788
SIGNAL	2	SPLICE-O	0.01	2	49	122	113,783	34,135	17,199

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.07	35.25	0.95	128.93	64.47
2	0.01	13.54	0.44	128.93	64.47

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.11	18,691.82	175,406.64	45	21.21
2	0.04	8,593.93	196,148.93	45	23.72

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole: Forces and Moments (Strength I)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
20.00	-164.39	-62.27	5,660.59	44,802.92	-118,285.73	0.00	0.00
0.25	-9.12	-3.45	6,977.40	45,440.92	-119,970.16	0.00	0.00
0.25	-0.92	-0.35	6,977.40	45,440.92	-119,970.16	0.00	0.00
0.00	-0.92	-0.35	6,995.19	45,441.01	-119,970.39	0.00	0.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Pole: Resistances (Strength I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
20.00	0.54	5,660.59	175.79	126,486.43	0.00	677,999.13	213,557.51	236,863.77	250,745.94
0.25	0.40	6,977.40	9.75	128,287.63	0.00	412,066.25	256,076.79	329,788.73	360,532.69
0.25	0.40	6,977.40	0.98	128,287.63	0.00	402,633.73	242,702.99	330,504.47	355,438.82
0.00	0.40	6,995.19	0.98	128,287.88	0.00	398,212.18	243,213.11	331,780.51	356,934.50

* These heights are above the pole base plate.

Baseplate Analysis (Strength I) - Pole1 - Pole

Combined Force Interaction	0.23
Critical Wind Direction *	0.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	16.941 (in)
Failure Line Start Coordinate (in)	(-12.000, -0.021)
Failure Line End Coordinate in	(-0.021, -12.000)
Applied Bending Moment	16,649.44 ft-lb
Factored Bending Resistance	71,470.37 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-61475	3.25	-16649

Anchor Bolts Analysis (Strength I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
0.00	0.37	15,461.18	0.00	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole Deflection Information: (Strength I)

Critical Wind Direction: 0.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
22.0000	-4.06	-1.54	-1.75	0.66
20.0000	-3.33	-1.26	-1.75	0.66
18.5000	-2.81	-1.06	-1.58	0.60
17.0000	-2.34	-0.89	-1.42	0.54
15.3333	-1.87	-0.71	-1.25	0.47
13.6667	-1.46	-0.55	-1.09	0.41
12.0000	-1.11	-0.42	-0.93	0.35
10.3333	-0.81	-0.31	-0.78	0.30
8.6667	-0.56	-0.21	-0.64	0.24
7.0000	-0.36	-0.14	-0.51	0.19
5.3333	-0.21	-0.08	-0.38	0.14
3.6667	-0.10	-0.04	-0.25	0.10
2.0000	-0.03	-0.01	-0.13	0.05
0.2500	0.00	0.00	-0.02	0.01
0.2500	0.00	0.00	-0.02	0.01
0.0000	0.00	0.00	0.00	0.00

Wind Velocity	120.0 mph
Dead Component Load Factor	1.10
Wind Load Factor	1.00
Gust Factor	1.30

Mast Arm 1: Wind and Weight Force Data (Extreme I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	36.56	491	
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	36.56	461	
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	36.56	380	
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	36.56	326	
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	36.56	380	

Mast Arm 2: Wind and Weight Force Data (Extreme I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 6	20.0000	38.0000	8.67	1.20	0.90	0.85	36.56	380	
ATTCHMT. 7	20.0000	44.0000	13.50	1.23	0.90	0.85	36.56	607	
ATTCHMT. 8	20.0000	50.0000	8.67	1.20	0.90	0.85	36.56	380	

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Arm: Forces and Moments (Extreme I)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	259.81	3,160.47	3,271.05	10.17	98,765.43	150,571.26
SIGNAL	1	SPLICE-I	336.48	2,344.60	953.37	0.00	12,588.01	33,656.34
SIGNAL	1	SPLICE-O	333.28	2,341.20	797.05	0.04	10,570.73	28,256.15
SIGNAL	2	BASE	83.44	2,156.97	1,464.68	5.43	35,732.53	78,823.95
SIGNAL	2	SPLICE-I	49.75	432.53	131.45	0.01	310.48	796.28
SIGNAL	2	SPLICE-O	1.79	1.40	42.89	0.00	107.22	3.51

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Arm: Resistances (Extreme I)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.52	260	4,548	180,073	881,757	264,527	344,399
SIGNAL	1	SPLICE-I	0.28	336	2,531	35,933	533,232	159,970	129,298
SIGNAL	1	SPLICE-O	0.35	333	2,473	30,169	350,828	105,248	85,888
SIGNAL	2	BASE	0.58	83	2,607	86,545	474,335	142,301	148,457
SIGNAL	2	SPLICE-I	0.02	50	452	855	224,009	67,203	35,788
SIGNAL	2	SPLICE-O	0.01	2	43	107	113,783	34,135	17,199

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.34	74.87	1.14	128.93	64.47
2	0.07	34.39	0.65	128.93	64.47

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.23	39,703.66	175,406.64	45	21.21
2	0.11	21,831.15	196,148.93	45	23.72

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Pole: Wind and Weight Force Data (Extreme I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	36.56	491
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	36.56	461
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	36.56	380
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	36.56	326
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	36.56	380
ATTCHMT. 6	20.0000	38.0000	8.67	1.20	0.90	0.85	36.56	380
ATTCHMT. 7	20.0000	44.0000	0.00	1.23	0.90	0.85	36.56	0
ATTCHMT. 8	20.0000	50.0000	8.67	1.20	0.90	0.85	36.56	380
22.0000	20.9967	0.0000	2.34	1.50	0.91	0.85	36.93	130
20.0000	19.2482	0.0000	1.79	1.50	0.89	0.85	36.26	97
18.5000	17.7482	0.0000	1.81	1.50	0.88	0.85	35.65	97
17.0000	16.1645	0.0000	2.05	1.50	0.86	0.85	34.95	107
15.3333	14.4978	0.0000	2.08	1.50	0.86	0.85	34.88	109
13.6667	12.8312	0.0000	2.11	1.50	0.86	0.85	34.88	110
12.0000	11.1646	0.0000	2.14	1.50	0.86	0.85	34.88	112
10.3333	9.4979	0.0000	2.18	1.50	0.86	0.85	34.88	114
8.6667	7.8313	0.0000	2.21	1.50	0.86	0.85	34.88	116
7.0000	6.1647	0.0000	2.24	1.50	0.86	0.85	34.88	117
5.3333	4.4980	0.0000	2.27	1.50	0.86	0.85	34.88	119
3.6667	2.8314	0.0000	2.31	1.50	0.86	0.85	34.88	121
2.0000	1.1229	0.0000	2.46	1.50	0.86	0.85	34.88	128
0.2500	-0.6271	0.0000	2.46	1.50	0.86	0.85	34.88	128

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole: Forces and Moments (Extreme I)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
20.00	-308.85	-4,081.34	4,902.68	38,305.63	-100,697.52	149,807.48	270.00
0.25	-17.61	-5,346.69	6,150.50	132,167.43	-103,192.38	149,807.50	270.00
0.25	-1.49	-5,338.98	6,157.21	132,206.94	-103,135.77	149,811.62	270.00
0.00	-1.50	-5,344.53	6,172.87	133,542.38	-103,136.15	149,811.62	270.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Pole: Resistances (Extreme I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
20.00	0.84	4,902.68	4,093.01	107,737.24	149,807.48	677,999.13	213,557.51	236,863.77	250,745.94
0.25	0.71	6,150.50	5,346.72	167,680.94	149,807.50	412,066.25	256,076.79	329,788.73	360,532.69
0.25	0.72	6,157.21	5,338.98	167,677.26	149,811.62	402,633.73	242,702.99	330,504.47	355,438.82
0.00	0.72	6,172.87	5,344.53	168,732.43	149,811.62	398,212.18	243,213.11	331,780.51	356,934.50

* These heights are above the pole base plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Baseplate Analysis (Extreme I) - Pole1 - Pole

Combined Force Interaction	0.36
Critical Wind Direction *	225.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	16.941 (in)
Failure Line Start Coordinate (in)	(-12.000, -0.021)
Failure Line End Coordinate in	(-0.021, -12.000)
Applied Bending Moment	26,005.36 ft-lb
Factored Bending Resistance	71,470.37 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-96020	3.25	-26005

Anchor Bolts Analysis (Extreme I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
265.00	0.84	30,646.14	9,860.43	36,355.44	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole Deflection Information: (Extreme I)

Critical Wind Direction: 270.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
22.0000	-3.45	-3.24	-1.50	1.16
20.0000	-2.83	-2.73	-1.50	1.16
18.5000	-2.39	-2.37	-1.36	1.10
17.0000	-1.99	-2.02	-1.22	1.04
15.3333	-1.59	-1.66	-1.08	0.96
13.6667	-1.25	-1.34	-0.94	0.88
12.0000	-0.95	-1.04	-0.80	0.79
10.3333	-0.69	-0.78	-0.68	0.69
8.6667	-0.48	-0.55	-0.55	0.59
7.0000	-0.31	-0.36	-0.44	0.49
5.3333	-0.18	-0.21	-0.33	0.38
3.6667	-0.08	-0.10	-0.22	0.26
2.0000	-0.02	-0.03	-0.12	0.14
0.2500	0.00	0.00	-0.01	0.02
0.2500	0.00	0.00	-0.01	0.02
0.0000	0.00	0.00	0.00	0.00

Wind Velocity	76.0 mph
Dead Component Load Factor	1.00
Wind Load Factor	1.00
Gust Factor	1.30

Mast Arm 1: Wind and Weight Force Data (Service I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	14.66	197	
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	14.66	185	
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	14.66	153	
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	14.66	131	
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	14.66	153	

Mast Arm 2: Wind and Weight Force Data (Service I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 6	20.0000	38.0000	8.67	1.20	0.90	0.85	14.66	153	
ATTCHMT. 7	20.0000	44.0000	13.50	1.23	0.90	0.85	14.66	243	
ATTCHMT. 8	20.0000	50.0000	8.67	1.20	0.90	0.85	14.66	153	

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Arm: Forces and Moments (Service I)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	111.05	1,380.01	3,015.01	3.71	91,970.27	64,101.82
SIGNAL	1	SPLICE-I	100.47	978.39	903.12	0.00	11,980.89	14,082.36
SIGNAL	1	SPLICE-O	94.00	976.58	761.15	0.02	10,063.14	11,829.63
SIGNAL	2	BASE	28.86	988.43	1,372.45	1.92	34,069.96	34,626.09
SIGNAL	2	SPLICE-I	12.82	183.09	128.77	0.00	299.39	334.46
SIGNAL	2	SPLICE-O	1.48	1.06	39.00	0.00	97.50	2.64

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Arm: Resistances (Service I)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.33	111	3,316	112,105	881,757	264,527	344,399
SIGNAL	1	SPLICE-I	0.14	100	1,331	18,489	533,232	159,970	129,298
SIGNAL	1	SPLICE-O	0.18	94	1,238	15,531	350,828	105,248	85,888
SIGNAL	2	BASE	0.33	29	1,691	48,577	474,335	142,301	148,457
SIGNAL	2	SPLICE-I	0.01	13	224	449	224,009	67,203	35,788
SIGNAL	2	SPLICE-O	0.01	1	39	98	113,783	34,135	17,199

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.13	46.85	0.83	128.93	64.47
2	0.03	20.62	0.42	128.93	64.47

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.14	24,845.63	175,406.64	45	21.21
2	0.07	13,088.12	196,148.93	45	23.72

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole: Wind and Weight Force Data (Service I)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	14.66	197
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	14.66	185
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	14.66	131
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 6	20.0000	38.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 7	20.0000	44.0000	0.00	1.23	0.90	0.85	14.66	0
ATTCHMT. 8	20.0000	50.0000	8.67	1.20	0.90	0.85	14.66	153
22.0000	20.9967	0.0000	2.34	1.50	0.91	0.85	14.81	52
20.0000	19.2482	0.0000	1.79	1.50	0.89	0.85	14.55	39
18.5000	17.7482	0.0000	1.81	1.50	0.88	0.85	14.30	39
17.0000	16.1645	0.0000	2.05	1.50	0.86	0.85	14.02	43
15.3333	14.4978	0.0000	2.08	1.50	0.86	0.85	13.99	44
13.6667	12.8312	0.0000	2.11	1.50	0.86	0.85	13.99	44
12.0000	11.1646	0.0000	2.14	1.50	0.86	0.85	13.99	45
10.3333	9.4979	0.0000	2.18	1.50	0.86	0.85	13.99	46
8.6667	7.8313	0.0000	2.21	1.50	0.86	0.85	13.99	46
7.0000	6.1647	0.0000	2.24	1.50	0.86	0.85	13.99	47
5.3333	4.4980	0.0000	2.27	1.50	0.86	0.85	13.99	48
3.6667	2.8314	0.0000	2.31	1.50	0.86	0.85	13.99	48
2.0000	1.1229	0.0000	2.46	1.50	0.86	0.85	13.99	52
0.2500	-0.6271	0.0000	2.46	1.50	0.86	0.85	13.99	52

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole: Forces and Moments (Service I)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
20.00	-137.73	-1,755.26	4,507.18	35,512.85	-93,751.47	63,776.09	270.00
0.25	-7.67	-2,242.47	5,584.61	75,276.36	-94,964.05	63,776.13	270.00
0.25	-0.70	-2,238.45	5,586.23	75,291.85	-94,950.70	63,777.71	270.00
0.00	-0.71	-2,240.68	5,600.46	75,851.74	-94,950.88	63,777.71	270.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole: Resistances (Service I)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
20.00	0.50	4,507.18	1,760.65	100,252.19	63,776.09	677,999.13	213,557.51	236,863.77	250,745.94
0.25	0.37	5,584.61	2,242.48	121,180.45	63,776.13	412,066.25	256,076.79	329,788.73	360,532.69
0.25	0.37	5,586.23	2,238.45	121,179.61	63,777.71	402,633.73	242,702.99	330,504.47	355,438.82
0.00	0.37	5,600.46	2,240.68	121,528.41	63,777.71	398,212.18	243,213.11	331,780.51	356,934.50

* These heights are above the pole base plate.

Baseplate Analysis (Service I) - Pole1 - Pole

Combined Force Interaction	0.25
Critical Wind Direction *	225.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	16.941 (in)
Failure Line Start Coordinate (in)	(-12.000, -0.021)
Failure Line End Coordinate in	(-0.021, -12.000)
Applied Bending Moment	18,068.86 ft-lb
Factored Bending Resistance	71,470.37 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-66716	3.25	-18069

Anchor Bolts Analysis (Service I) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
265.00	0.46	19,593.06	4,196.20	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole Deflection Information: (Service I)

Critical Wind Direction: 270.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
22.0000	-3.21	-2.03	-1.38	0.78
20.0000	-2.63	-1.70	-1.38	0.78
18.5000	-2.22	-1.46	-1.25	0.72
17.0000	-1.85	-1.23	-1.13	0.67
15.3333	-1.48	-1.01	-0.99	0.61
13.6667	-1.16	-0.80	-0.86	0.55
12.0000	-0.88	-0.62	-0.74	0.48
10.3333	-0.64	-0.46	-0.62	0.42
8.6667	-0.44	-0.33	-0.51	0.35
7.0000	-0.29	-0.21	-0.40	0.29
5.3333	-0.16	-0.12	-0.30	0.22
3.6667	-0.08	-0.06	-0.20	0.15
2.0000	-0.02	-0.02	-0.11	0.08
0.2500	0.00	0.00	-0.01	0.01
0.2500	0.00	0.00	-0.01	0.01
0.0000	0.00	0.00	0.00	0.00

Wind Velocity	76.0 mph
Dead Component Load Factor	1.10
Wind Load Factor	1.00
Gust Factor	1.30

Mast Arm 1: Wind and Weight Force Data (Ice)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	14.66	197	
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	14.66	185	
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	14.66	153	
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	14.66	131	
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	14.66	153	

Mast Arm 2: Wind and Weight Force Data (Ice)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)	Notes
ATTCHMT. 6	20.0000	38.0000	8.67	1.20	0.90	0.85	14.66	153	
ATTCHMT. 7	20.0000	44.0000	13.50	1.23	0.90	0.85	14.66	243	
ATTCHMT. 8	20.0000	50.0000	8.67	1.20	0.90	0.85	14.66	153	

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Arm: Forces and Moments (Ice)

Arm Type	Arm No.	Analysis Location	Forces (lb)			Moment (ft-lb)		
			Axial	Fy	Fz	Torsion	My	Mz
SIGNAL	1	BASE	231.52	1,428.95	4,516.77	4.37	152,326.78	65,756.65
SIGNAL	1	SPLICE-I	223.36	997.53	1,735.91	0.00	23,657.01	14,334.63
SIGNAL	1	SPLICE-O	208.52	993.85	1,549.53	0.02	19,870.92	12,039.80
SIGNAL	2	BASE	61.31	1,047.94	2,269.35	2.32	62,125.54	36,333.78
SIGNAL	2	SPLICE-I	32.08	192.94	322.82	0.00	724.40	356.58
SIGNAL	2	SPLICE-O	5.12	2.92	69.08	0.00	172.70	7.29

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Arm: Resistances (Ice)

Analysis Location			Comb. Force Inter.	Applied Forces			Factored Resistance Forces		
Arm Type	Arm No.	Site		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)
SIGNAL	1	BASE	0.48	232	4,737	165,914	881,757	264,527	344,399
SIGNAL	1	SPLICE-I	0.21	223	2,002	27,661	533,232	159,970	129,298
SIGNAL	1	SPLICE-O	0.27	209	1,841	23,234	350,828	105,248	85,888
SIGNAL	2	BASE	0.48	61	2,500	71,970	474,335	142,301	148,457
SIGNAL	2	SPLICE-I	0.02	32	376	807	224,009	67,203	35,788
SIGNAL	2	SPLICE-O	0.01	5	69	173	113,783	34,135	17,199

Analysis of Signal/Sign Arm Simplex Bolts

Mast Arm	Max Bolt CFI	Applied Forces (kip)		Factored Resistance (kip)	
		Tension	Shear	Tension	Shear
1	0.26	65.48	1.18	128.93	64.47
2	0.05	29.55	0.62	128.93	64.47

Analysis of Signal/Sign Arm Simplex Plates

Member Type	Max CSR	Applied Moment (ft-lb)	Factored Resistance (ft-lb)	Angle of Failure Line (deg)	Length of Bend Line (in)
1	0.20	34,727.54	175,406.64	45	21.21
2	0.10	18,761.84	196,148.93	45	23.72

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole: Wind and Weight Force Data (Ice)

Elevation at Top of Section (ft)	Centroid Above Base (ft)	Ecc. From Pole Centerline (ft)	Section Projected Area (ft2)	Section Drag Coeff.	Kz	Kd	Wind Pressure (psf)	Wind Force (lb)
ATTCHMT. 1	20.0000	46.0000	11.20	1.20	0.90	0.85	14.66	197
ATTCHMT. 2	20.0000	52.0000	10.50	1.20	0.90	0.85	14.66	185
ATTCHMT. 3	20.0000	58.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 4	20.0000	64.0000	7.50	1.19	0.90	0.85	14.66	131
ATTCHMT. 5	20.0000	70.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 6	20.0000	38.0000	8.67	1.20	0.90	0.85	14.66	153
ATTCHMT. 7	20.0000	44.0000	0.00	1.23	0.90	0.85	14.66	0
ATTCHMT. 8	20.0000	50.0000	8.67	1.20	0.90	0.85	14.66	153
22.0000	20.9967	0.0000	2.34	1.50	0.91	0.85	14.81	52
20.0000	19.2482	0.0000	1.79	1.50	0.89	0.85	14.55	39
18.5000	17.7482	0.0000	1.81	1.50	0.88	0.85	14.30	39
17.0000	16.1645	0.0000	2.05	1.50	0.86	0.85	14.02	43
15.3333	14.4978	0.0000	2.08	1.50	0.86	0.85	13.99	44
13.6667	12.8312	0.0000	2.11	1.50	0.86	0.85	13.99	44
12.0000	11.1646	0.0000	2.14	1.50	0.86	0.85	13.99	45
10.3333	9.4979	0.0000	2.18	1.50	0.86	0.85	13.99	46
8.6667	7.8313	0.0000	2.21	1.50	0.86	0.85	13.99	46
7.0000	6.1647	0.0000	2.24	1.50	0.86	0.85	13.99	47
5.3333	4.4980	0.0000	2.27	1.50	0.86	0.85	13.99	48
3.6667	2.8314	0.0000	2.31	1.50	0.86	0.85	13.99	48
2.0000	1.1229	0.0000	2.46	1.50	0.86	0.85	13.99	52
0.2500	-0.6271	0.0000	2.46	1.50	0.86	0.85	13.99	52

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole: Forces and Moments (Ice)

Section Height* (ft)	Shear (lb)		Axial (lb)	Moment (ft-lb)		Torsion (ft-lb)	Wind Direct** (deg)
	Fx	Fy	Fz	Mx	My	Mz	
20.00	-300.55	-1,831.53	6,954.86	64,351.55	-154,993.96	63,727.43	270.00
0.25	-16.26	-2,243.13	8,427.66	105,130.56	-157,738.81	63,727.50	270.00
0.25	-1.47	-2,234.59	8,429.94	105,156.27	-157,720.60	63,730.14	270.00
0.00	-1.47	-2,236.82	8,449.28	105,715.19	-157,720.97	63,730.14	270.00

* These heights are above the pole base plate.
** These are directions toward which the wind is flowing.
They are angles from the +X axis in the X-Y plane.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Pole: Resistances (Ice)

Section Height* (ft)	Comb. Force Inter.	Applied Force				Factored Resistance			
		Axial (lb)	Shear (lb)	Bend. (ft-lb)	Torsion (ft-lb)	Axial ϕ=0.9 (lb)	Shear ϕ=0.9 (lb)	Bend. ϕ=0.9 (ft-lb)	Torsion ϕ=0.95 (ft-lb)
20.00	0.79	6,954.86	1,856.03	167,822.08	63,727.43	677,999.13	213,557.51	236,863.77	250,745.94
0.25	0.59	8,427.66	2,243.19	189,562.56	63,727.50	412,066.25	256,076.79	329,788.73	360,532.69
0.25	0.58	8,429.94	2,234.59	189,561.68	63,730.14	402,633.73	242,702.99	330,504.47	355,438.82
0.00	0.58	8,449.28	2,236.82	189,872.61	63,730.14	398,212.18	243,213.11	331,780.51	356,934.50

* These heights are above the pole base plate.

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Baseplate Analysis (Ice) - Pole1 - Pole

Combined Force Interaction	0.38
Critical Wind Direction *	225.00 deg
Alignment of Bend Line	135.00 deg
Width of Bending Section	16.941 (in)
Failure Line Start Coordinate (in)	(-12.000, -0.021)
Failure Line End Coordinate in	(-0.021, -12.000)
Applied Bending Moment	27,210.60 ft-lb
Factored Bending Resistance	71,470.37 ft-lb

Plate Controlling Bolt Forces

Bolt Number	Axial force (lb)	Moment Arm (in)	Bending moment (ft-lb)
3	-100470	3.25	-27211

Anchor Bolts Analysis (Ice) - Pole1 - Pole

Critical Wind Direct.* (deg)	Comb. Force Inter.	Applied Stress (psi)		Factored Resistance (psi)	
		Axial	Shear	ϕ F'nt	ϕ Fv
265.00	0.67	28,181.60	4,192.95	42,187.50	22,500.00

* Per AISC Design Guide 1
* These are directions toward which the wind is flowing

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Pole Deflection Information: (Ice)

Critical Wind Direction: 270.00

Height (ft)	X-Defl. (in)	Y-Defl. (in)	Deflection Angle - X (deg)	Deflection Angle - Y (deg)
22.0000	-5.32	-3.05	-2.30	1.21
20.0000	-4.36	-2.53	-2.30	1.21
18.5000	-3.68	-2.16	-2.08	1.11
17.0000	-3.06	-1.82	-1.87	1.02
15.3333	-2.45	-1.48	-1.64	0.92
13.6667	-1.92	-1.17	-1.43	0.82
12.0000	-1.46	-0.90	-1.23	0.72
10.3333	-1.06	-0.66	-1.03	0.61
8.6667	-0.74	-0.47	-0.85	0.51
7.0000	-0.47	-0.30	-0.67	0.41
5.3333	-0.27	-0.17	-0.50	0.31
3.6667	-0.13	-0.08	-0.33	0.21
2.0000	-0.04	-0.02	-0.18	0.12
0.2500	0.00	0.00	-0.02	0.01
0.2500	0.00	0.00	-0.02	0.01
0.0000	0.00	0.00	0.00	0.00

Galloping	No
Natural Wind Gust (11.2 mph)	Yes
Truck-Induced Gust (65.0 mph)	No
Importance Factor	II

Mast Arm: Fatigue Analysis (Fatigue II)

Analysis Location			Design Load	Comb. Force Inter.	Moment (ft-lb)	Shear force (lb)	Shear Stress (ksi)	Applied Bending Stress (ksi)	Allowable Stress (ksi)
Arm Type	Arm No.	Site							
MA	1	BASE	NATURAL WIND GUST	0.90	22,681.81	532	0.06	4.04	4.50
MA	1	SP-I	NATURAL WIND GUST	0.19	4,652.32	320	0.06	2.27	12.00
MA	1	SP-O	NATURAL WIND GUST	0.23	3,914.86	320	0.09	2.81	12.00
MA	2	BASE	NATURAL WIND GUST	1.00	11,476.80	350	0.07	4.51	4.50
MA	2	SP-I	NATURAL WIND GUST	0.01	100.25	57	0.02	0.18	12.00
MA	2	SP-O	NATURAL WIND GUST	0.00	0.00	0	0.00	0.00	12.00

Mast Arm: Deflections (Fatigue II)

Arm Type	Arm No.	Load Case	Max Vertical Deflection (in)
MA	1	NATURAL WIND GUST	1.17
MA	2	NATURAL WIND GUST	1.05

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Fatigue Analysis of Signal and Sign / Pole Connection: Arm

Arm Type	Arm No.	Component	Load	Stress Ratio	Applied Stress (ksi)	Allowable Stress (ksi)
MA	1	SIMPLEX BOLT	NATURAL WIND GUST	0.69	4.83	7.00
MA	2	SIMPLEX BOLT	NATURAL WIND GUST	0.35	2.45	7.00

ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)

BY: NAQ 11/18/2024 VERSION: 27.3.29.9

SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH

Folder: 568086 File: P22M7555A15120

Analysis of Pole (Fatigue II)

Section Height* (ft)	Design Load	Comb. Force Inter.	Moment (ft-lb)	Applied Bending Stress (ksi)	Allowable Bending Stress (ksi)	Deflection (in)
0.00	NATURAL WIND GUST	0.56	14,246.26	2.50	4.50	0.00

* These heights are above the pole base plate.

Tube to Transverse Plate CAFT Calculation Details

	Pole to Baseplate Weld	Arm M75 Shaft to Simplex Plate Weld	Arm 55M Shaft to Simplex Plate Weld
Weld type	Socket	Socket	Socket
Tt(in)	0.31250	0.37500	0.23910
Dt(in)	17.00	15.50	13.00
Ttp(in)	2.50	3.50	3.50
Dbc(in)	23.50	28.28	28.28
CBC	1.38	1.82	2.18
Dop(in)	N/A	N/A	N/A
COP	N/A	N/A	N/A
NS	0.00	0.00	0.00
RRb(in)	N/A	N/A	N/A
Multisided Factor	N/A	N/A	N/A
Kf	2.81	2.67	2.51
Ki	6.35	6.30	5.25
CAFT (ksi)	4.50	4.50	4.50

NOTE: The maximum bolt circle is used for bolt patterns where all the bolts do not lie on a single circle, per AASHTO.

Fatigue Analysis of Anchor Bolts (NATURAL WIND GUST)

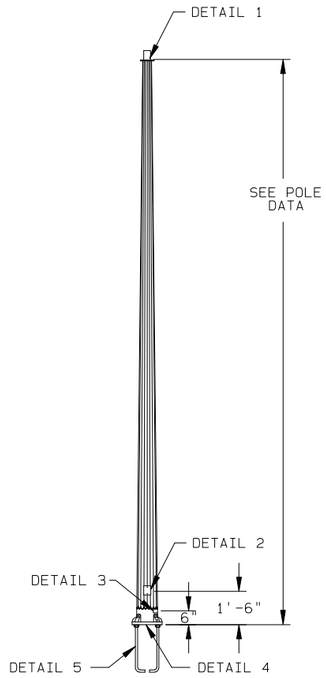
Load Case	Combined Stress Ratio	Axial (lb)
NATURAL WIND GUST	0.27	6,053.97

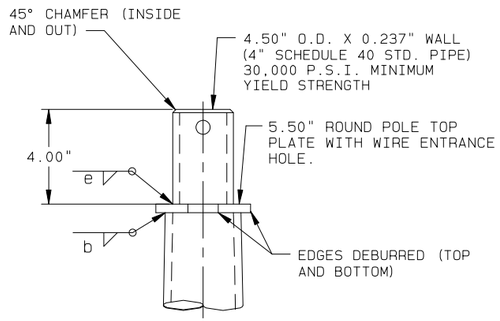
ANALYSIS OF VALMONT INDUSTRIES LIGHTING STRUCTURE
IN ACCORDANCE WITH AASHTO-2015 RQMTS. (FINAL DEFLECTED POSITION)
BY: NAQ 11/18/2024 VERSION: 27.3.29.9
SUBJECT: CUYLER ST-POLE B, P22' M75' & M55' AASHTO 2015 120MPH
Folder: 568086 File: P22M7555A15120
Opening Group on the Pole

Description	Attachment Height (ft)	Clear Opening (in)			Reinforcement (in)		
		Width	Height	Inside Corner Radius	Rim Thickness	Rim Depth	Rim Projection
STD HH	2.00	4.48	7.00	2.52	0.28	2.50	0.50

Description	Location On Pole (ft)	Orientation (deg)	Tube Diam. (in)	Tube Thick. (in)	Area (in2)	X Centroid (in)	Y Centroid (in)	Ix(in4)	Ix(in4)
STD HH	2.00	0.00	16.72	0.31	16.00	-0.13	0.00	552	525

		Stress at Root		Stress at Toe		
Description	Moment (ft-lb)	Actual (ksi)	Resist (ksi)	Actual (ksi)	Resist (ksi)	Max CSR
NATURAL WIND GUST	10,044.34	7.78	16.00	1.95	7.00	0.49

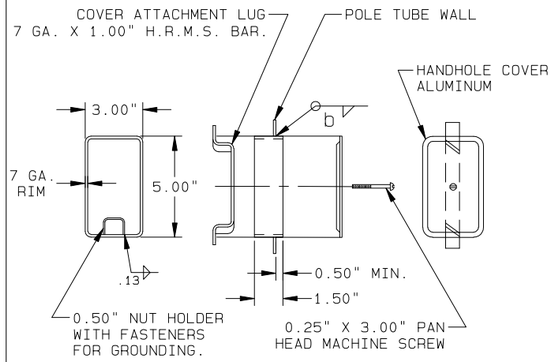




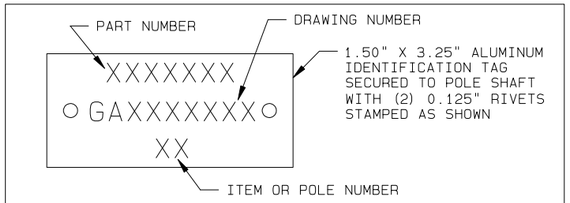
FLUTING NOT SHOWN FOR CLARITY

e	
.25	1/4"

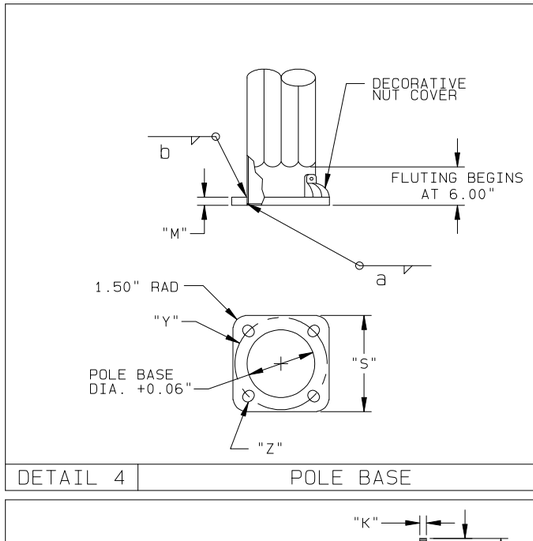
DETAIL 1 | POLE TOP TENON



DETAIL 2 | 3" X 5" HANDHOLE

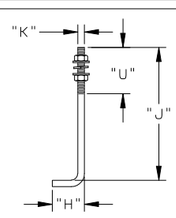


DETAIL 3 | I.D. TAG

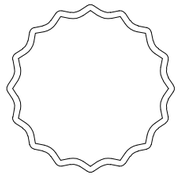


DETAIL 4 | POLE BASE

(4) -ANCHOR BOLTS WITH (2) HEX NUTS, (2) WASHERS AND (1) LOCK WASHER PER BOLT WITH THREADED END GALVANIZED AT LEAST 12".



DETAIL 5 | ANCHOR BOLT



POLE CROSS SECTION DETAIL

WELD SIZE TABLE

TUBE THICKNESS	a		b		c	
11 GA(0.1196")	.12	7/64"	.19	3/16"	.31	5/16"
7 GA (0.1793")	.18	11/64"	.25	1/4"	.44	7/16"
5 GA (0.2092")	.21	13/64"	.31	5/16"	.56	9/16"
3 GA (0.2391")	.24	15/64"	.31	5/16"	.56	9/16"
0.219"	.22	7/32"	.31	5/16"	.56	9/16"
0.250"	.25	1/4"	.31	5/16"	.56	9/16"
0.313"	.31	5/16"	.38	3/8"	.69	11/16"

THE MAST ARM TRAFFIC STRUCTURES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LOADING AND THE NOMINAL STRENGTH REQUIREMENTS OF THE 2015 AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, FIRST EDITION" SLTS-1. THE WIND LOADS WERE CALCULATED FROM AN ULTIMATE WIND VELOCITY OF 120 MPH WITH A MEAN RECURRENCE INTERVAL OF 700 YEARS, AND A FATIGUE CATEGORY OF 2. THE FATIGUE LOADS WERE CALCULATED ON THE REQUIREMENTS OF SECTION 11 OF THE CODE, AND THE FOLLOWING DESIGN CONDITIONS:

- STRUCTURES ARE DESIGNED TO RESIST NATURAL WIND GUSTS BASED ON THE YEARLY MEAN WIND VELOCITY OF 11.2 MPH.
- STRUCTURES ARE NOT DESIGNED TO RESIST GALLOPING-INDUCED CYCLIC LOADS.
- TRUCK-INDUCED GUST LOADS ARE NOT INCLUDED PER THE REQUIREMENTS OF THE CODE.

AASHTO 2015 SPECIFICATIONS

MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
TAPERED TUBES	A595 GR.A OR A572	55
POLE BASE	A36	36
GALVANIZING-HARDWARE	HOT DIP ZINC	--
HARDWARE ≤ 0.50" IS STAINLESS STEEL		

FINISH DATA

SYSTEM: FINISH PAINT/GALVANIZED (FPGV)
BASE COAT: HOT-DIP GALVANIZED TO ASTM A123
PRIME COAT: NONE
FINISH COAT: TGIC OR URETHANE POLYESTER POWDER
COLOR: DARK GREEN / RAL 6005
SPEC: F-283BQ

POLE DATA

ITEM	QTY.	POLE TUBE				POLE BASE				ANCHOR BOLT				
		BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	BOLT QTY
1	2	5.62	4.50	8.00	11	10.00	9.00	0.875	1.25	1.00	36.00	4.00	6.00	4

REV	DRAWN BY-DATE	CHECK BY-DATE	DESCRIPTION
—	NKL 11/19/24	NKL 11/19/24	— — — — — — — — — — — — — — — —

SOLD TO: DOR LIGHTING, LLC
SHIP TO: CITY OF DALTON
P.O. #: 1335
AGENT: TRAFFIC & LIGHTING CORP.

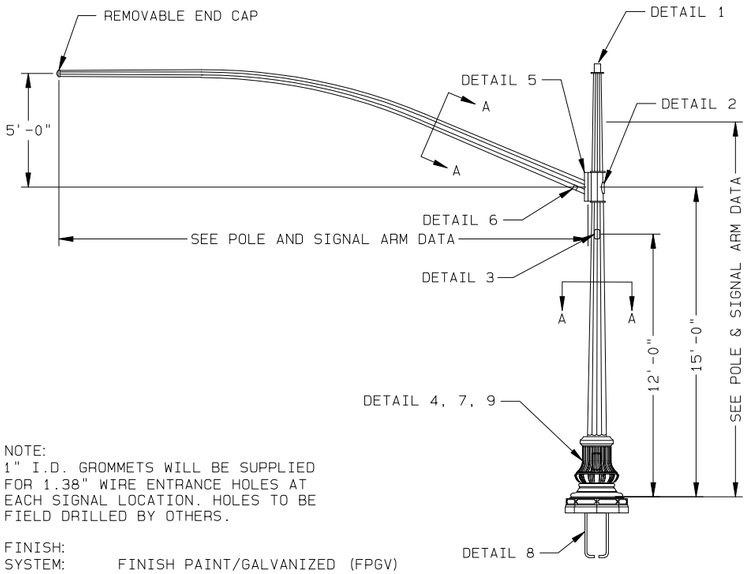
JOB: CITY OF DALTON, GEORGIA
CUYLER STREET

TITLE: TRAFFIC SIGNAL STRUCTURES

valmont
Valley,NE 68064
(402) 359-2201

ORDER NUMBER: 568086-P1
PAGE NUMBER: 1 OF 5
DRAWING NUMBER
GA568086P1

256



NOTE:
1" I.D. GROMMETS WILL BE SUPPLIED FOR 1.38" WIRE ENTRANCE HOLES AT EACH SIGNAL LOCATION. HOLES TO BE FIELD DRILLED BY OTHERS.

FINISH:
SYSTEM: FINISH PAINT/GALVANIZED (FPGV)
BASE COAT: HOT-DIP GALVANIZED TO ASTM A123
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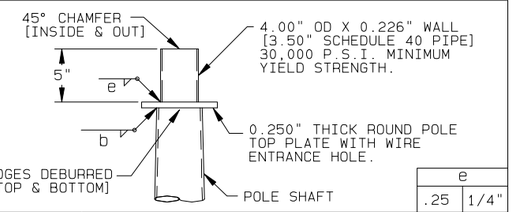
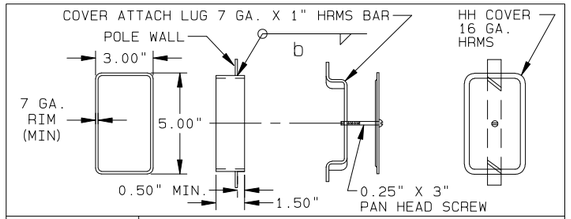
FINISH COAT: TGIC OR URETHANE POLYESTER POWDER
COLOR: DARK GREEN / RAL 6005
SPEC: F283BQ

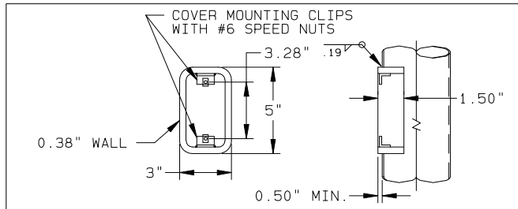


e
.25 | 1/4"

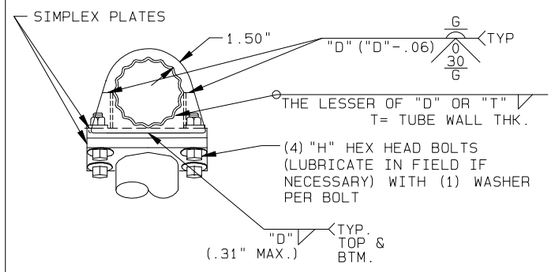
DETAIL 1 — POLE TOP



DETAIL 2 — 3 X 5 HANDHOLE

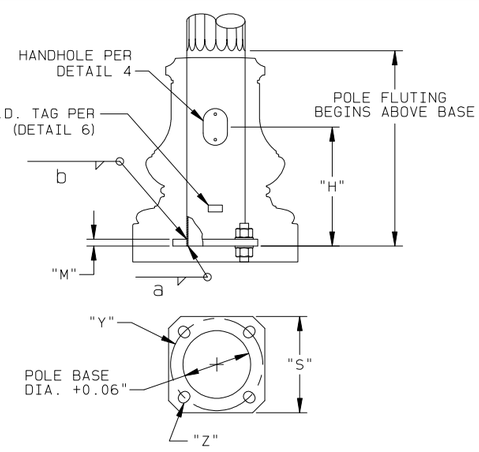


DETAIL 3 — FESTOON BOX



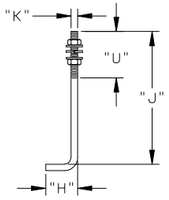
ARM-TO-PLATE WELD "E"	BEVEL "F"X"G"
(ARM THK.+.25") X ARM THK.	.19" X 30°

DETAIL 5 — SIGNAL ARM ATTACHMENT



DETAIL 7 — POLE BASE

(4) -ANCHOR BOLTS WITH (2) HEX NUTS, (2) WASHERS AND (1) LOCK WASHER PER BOLT WITH THREADED END GALVANIZED AT LEAST 12".



DETAIL 8 — ANCHOR BOLT

MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
TAPERED TUBES	A595 GR. A OR A572	55
HARDWARE COATING	HOT DIP ZINC	
HARDWARE < 0.50" IS STAINLESS STEEL		

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
BASE PLATE	A36	36
SIGNAL ARM ATTACHMENT	A36	36
SIG. ARM CONN. BOLTS	F3125 GR A325	
ANCHOR BOLTS	F1554 GR.55	55
NUTS AND WASHERS	A563, F436	

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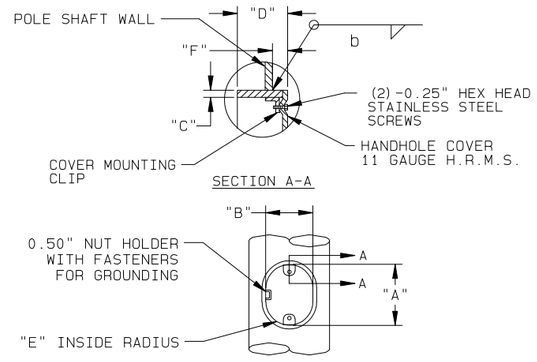
AASHTO 2015 SPECIFICATIONS

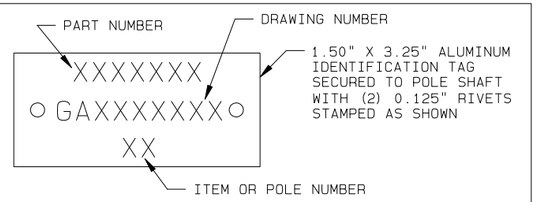


POLE	"A" I.D. (IN)	"B" I.D. (IN)	"C" THK (IN)	"D" DEPTH (IN)	"E" RADIUS (IN)	"F" PROJ (IN)	"H" MTG. HEIGHT (FT)
ALL	7.00	4.48	0.280	2.50	2.52	0.50	2.00

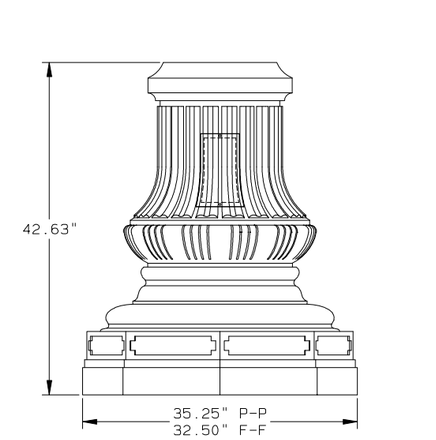
DETAIL 4 — LOWER HANDHOLE

SIGNAL ARM ATTACHMENT DATA

POLE	"A" (IN)	"B" (IN)	POLE PLATE "C" (IN)	ARM PLATE "X" (IN)	"D" (IN)	"H" (IN)
A,B,C,D	17.75	14.50	2.00	2.00	0.375	1.25 X 6.00



DETAIL 6 — I.D. TAG



DETAIL 9 — WA03AC DECORATIVE BASE

JOB: CITY OF DALTON, GEORGIA
CUYLER STREET

TITLE: TRAFFIC SIGNAL STRUCTURES

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

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Valley,NE 68064
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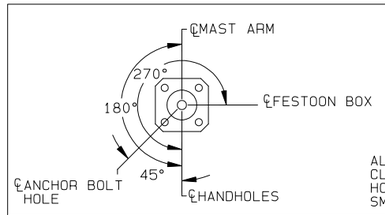
ORDER NUMBER: 568086-P1
PAGE NUMBER: 2 OF 5
DRAWING NUMBER
GA568086P1

POLE AND SIGNAL ARM DATA

POLE	QTY.	POLE TUBE				POLE BASE				ANCHOR BOLT					SIGNAL ARM TUBE			
		BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	BOLT QTY	FIXED END DIA. (IN)	NOMINAL FREE END DIA. (IN)	GAUGE OR THICK (IN)	SPAN (FT)
A,B,C,D	4	12.50	9.98	18.00	5	19.00	17.50	2.00	2.00	1.75	84.00	6.00	8.00	4	11.00	6.05	3	35.00

Pole Foundation

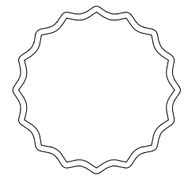
3'-0" Dia x 9'-0" Deep - (8) #8 rebar



RADIAL INDEX

WELD SIZE TABLE

TUBE THICKNESS	a	b	c
11 GA (0.1196")	0.1196"	0.1796"	0.3125"
7 GA (0.1793")	0.1793"	0.2500"	0.4375"
5 GA (0.2092")	0.2092"	0.3125"	0.5625"
3 GA (0.2391")	0.2391"	0.3125"	0.5625"
0.2188"	0.2188"	0.3125"	0.5625"
0.2500"	0.2500"	0.3125"	0.5625"
0.3125"	0.3125"	0.3750"	0.6875"



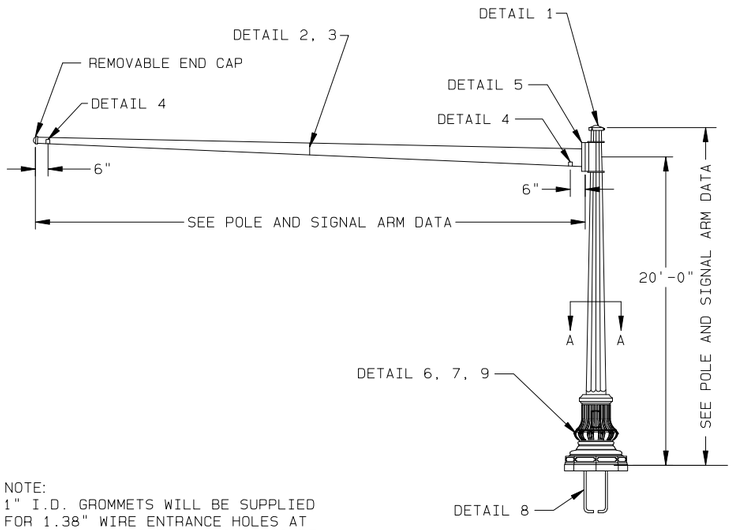
SECTION A-A

JOB CITY OF DALTON, GEORGIA
CUYLER STREET

TITLE TRAFFIC SIGNAL STRUCTURES

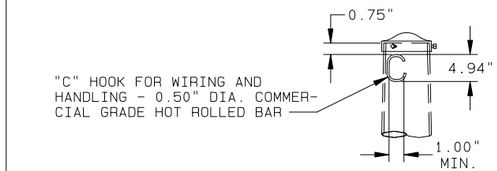
valmont
Valley,NE 68064
(402) 359-2201

ORDER NUMBER: 568086-P1
PAGE NUMBER: 3 OF 5
DRAWING NUMBER GA568086P1

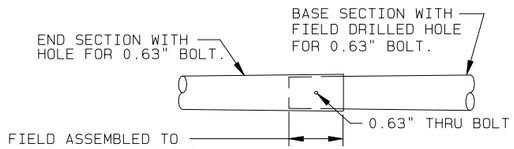


NOTE:
1" I.D. GROMMETS WILL BE SUPPLIED FOR 1.38" WIRE ENTRANCE HOLES AT EACH SIGNAL LOCATION. HOLES TO BE FIELD DRILLED BY OTHERS.

FINISH:
SYSTEM: FINISH PAINT/GALVANIZED (FPGV)
BASE COAT: HOT-DIP GALVANIZED TO ASTM A123
PRIME COAT: NONE
FINISH COAT: TGIC OR URETHANE POLYESTER POWDER
COLOR: DARK GREEN / RAL 6005
SPEC: F283BQ

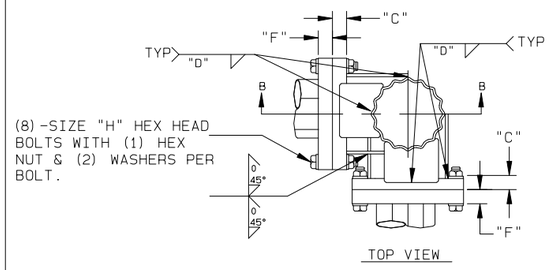


DETAIL 1 | POLE TOP



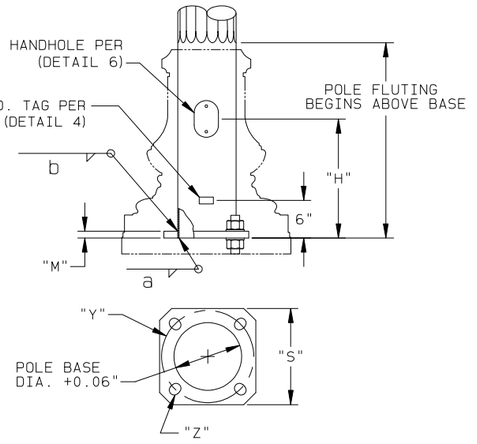
POLE	SPAN (FT)	BASE SECTION		END SECTION		
		LENGTH (FT)	GAUGE OR THK. (IN)	LARGE END O.D. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)
A	75.00	45.00	0.375	10.00	32.30	3
B	75.00	45.00	0.375	10.00	32.30	3
	55.00	50.00	3	6.50	6.90	11

DETAIL 2 | SIGNAL ARM SLIP JOINT



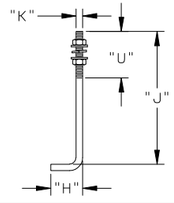
ARM-TO-PLATE WELD "E"	BEVEL "F"X"G"
(ARM THK.+.25") X ARM THK.	.19" X 30°

DETAIL 5 | SIGNAL ARM ATTACHMENT



DETAIL 7 | POLE BASE

(4)-ANCHOR BOLTS WITH (2) HEX NUTS, (2) WASHERS AND (1) LOCK WASHER PER BOLT WITH THREADED END GALVANIZED AT LEAST 12".



DETAIL 8 | ANCHOR BOLT

MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
TAPERED TUBES	A595 GR. A OR A572	55
HARDWARE COATING	HOT DIP ZINC	
HARDWARE < 0.50" IS STAINLESS STEEL		

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
BASE PLATE	A36	36
SIGNAL ARM ATTACHMENT	A36	36
SIG. ARM CONN. BOLTS	F3125-GR.A325	
ANCHOR BOLTS	F1554 GR.55	55
NUTS AND WASHERS	A563, F436	

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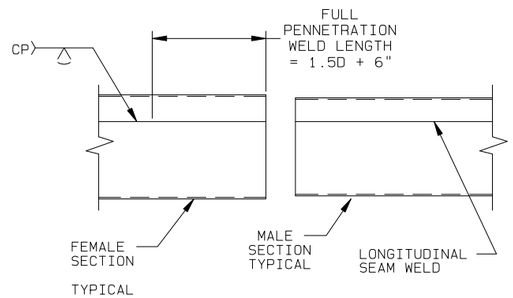
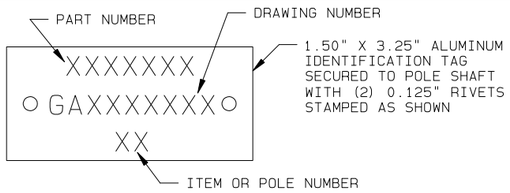
AASHTO 2015 SPECIFICATIONS

("D"= INSIDE DIAMETER OF OUTER TUBE)



75', 55' MAST ARM WELD REINFORCEMENT

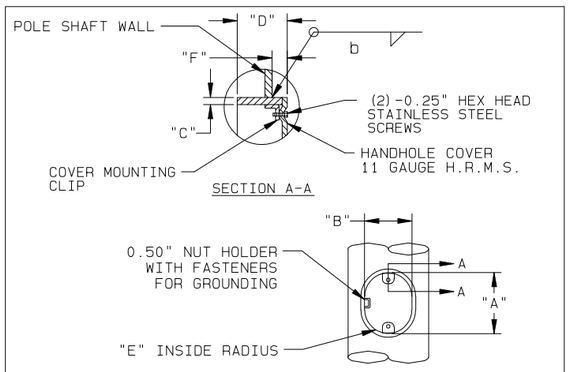
DETAIL 3 | MAST ARM WELD REINFORCEMENT



DETAIL 4 | I.D. TAG

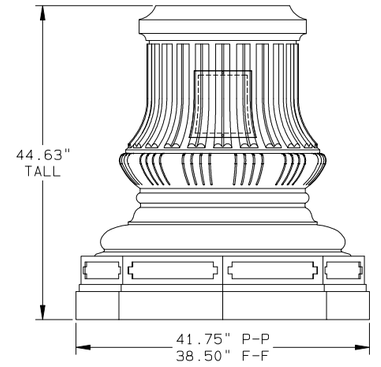
SIGNAL ARM ATTACHMENT DATA

POLE	"A" (IN)	"B" (IN)	POLE PLATE "C" (IN)	ARM PLATE "X" (IN)	"D" (IN)	"H" (IN)
A	26.00	20.00	2.00	3.50	0.500	1.50 X 7.75
B	26.00	20.00	2.00	3.50	0.500	1.50 X 7.75



POLE	"A" I.D. (IN)	"B" I.D. (IN)	"C" THK (IN)	"D" DEPTH (IN)	"E" RADIUS (IN)	"F" PROJ (IN)	"H" MTG. HEIGHT (FT)
ALL	7.00	4.48	0.280	2.50	2.52	0.50	2.00

DETAIL 6 | LOWER HANDHOLE



DETAIL 9 | WA04AC DECORATIVE BASE

JOB CITY OF DALTON, GEORGIA
CUYLER STREET

TITLE TRAFFIC SIGNAL STRUCTURES

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valmont
Valley,NE 68064
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ORDER NUMBER: 568086-P1
PAGE NUMBER: 4 OF 5
DRAWING NUMBER GA568086P1

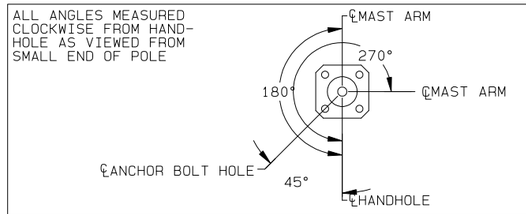
POLE AND SIGNAL ARM DATA

POLE	QTY.	POLE TUBE				POLE BASE				ANCHOR BOLT					SIGNAL ARM TUBE			
		BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	BOLT QTY	FIXED END DIA. (IN)	NOMINAL FREE END DIA. (IN)	GAUGE OR THICK (IN)	SPAN (FT)
A	1	17.00	13.92	22.00	0.313	24.00	23.50	2.50	2.50	2.25	89.00	7.00	12.00	4	15.50	5.48	DET.2	75.00
															12.00	5.70	3	45.00
B	1	17.00	13.92	22.00	0.313	24.00	23.50	2.50	2.50	2.25	89.00	7.00	12.00	4	15.50	5.48	DET.2	75.00
															13.00	5.53	DET.2	55.00

Pole Foundation

3'-0" Dia x 13'-6" Deep - (8) #10 rebar

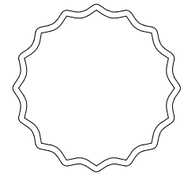
3'-0" Dia x 13'-6" Deep - (8) #10 rebar



RADIAL INDEX

WELD SIZE TABLE

TUBE THICKNESS	a	b	c
11 GA (0.1196")	0.1196"	0.1796"	0.3125"
7 GA (0.1793")	0.1793"	0.2500"	0.4375"
5 GA (0.2092")	0.2092"	0.3125"	0.5625"
3 GA (0.2391")	0.2391"	0.3125"	0.5625"
0.2188"	0.2188"	0.3125"	0.5625"
0.2500"	0.2500"	0.3125"	0.5625"
0.3125"	0.3125"	0.3750"	0.6875"



16-SHARP FLUTE

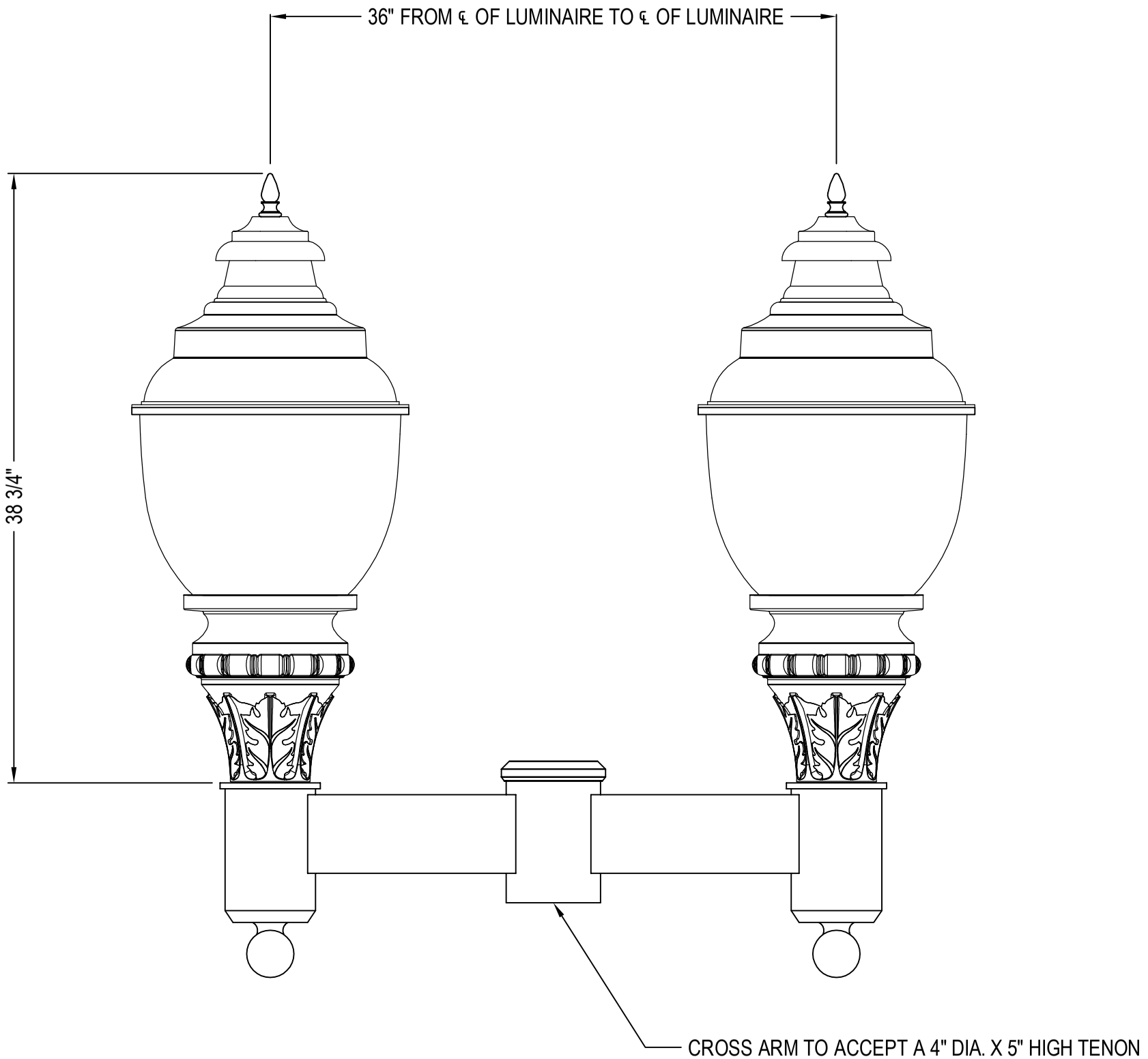
SECTION A-A

JOB CITY OF DALTON, GEORGIA
CUYLER STREET

TITLE TRAFFIC SIGNAL STRUCTURES

valmont
Valley,NE 68064
(402) 359-2201

ORDER NUMBER: 568086-P1
PAGE NUMBER: 5 OF 5
DRAWING NUMBER GA568086P1



LUMINAIRE SPECIFICATIONS

STYLE:	NEW FRONTIER
HEIGHT:	38 3/4"
WIDTH:	17 5/8" DIAMETER
MATERIAL:	CAST ALUMINUM ALLOY A.N.S.I. 356, PER A.S.T.M. B26-95
GLOBE:	RIBBED GLASS - SMOOTH OUTSIDE
FINISH:	POWDER COATED - RAL #6009
LAMPING:	120 WATT LED SYSTEM
LUMEN OUTPUT:	11,610 LUMENS
VOLTAGE:	ELECTRONIC WIRED AT 120-277 VOLTS
COLOR TEMP:	4500K (NEUTRAL WHITE)
OPTICAL SYSTEM	TYPE V (SYMMETRIC DISTRIBUTION)
SURGE:	10kV
DIMMING:	0-10V DIMMING
CATALOG NO.:	ALMNWF-LE120-EVX-2G2-45-CN5-GR18-FDL-CU

CROSS ARM SPECIFICATIONS

STYLE:	DUNMORE 2-WAY
HEIGHT:	7 5/8"
WIDTH:	36" FROM ℄ OF LUMINAIRE TO ℄ OF LUMINAIRE
MATERIAL:	CAST ALUMINUM
FINISH:	POWDER COAT - RAL #6009
TENON:	4" DIA. X 3" HIGH (TO ACCEPT LUMINAIRE)
CATALOG NO.:	AARDNM-2S-18-TN4.00-3.00-CU

Spring City Electrical Mfg. Co.
HALL AND MAIN STREETS - P.O. BOX 19 - SPRING CITY, PA. 19475
PHONE (610) 948-4000 - FAX (610) 948-5577 - WWW.SPRINGCITY.COM

DESCRIPTION	THE DUNMORE 2-WAY CROSS ARM WITH THE NEW FRONTIER CAST TOP LED LUMINAIRE
OPPORTUNITY	CITY OF DALTON

SCALE	DRAWN BY:	DATE	DRAWING NO.
N.T.S.	D.B.D.	10-30-2024	SPEC-34978

CITY COUNCIL AGENDA REQUEST

Meeting Type:	Mayor & Council Meeting
Meeting Date:	12-2-24
Agenda Item:	Re-Appointment to the Airport Authority
Department:	Administration
Requested By:	Andrew Parker
Reviewed/Approved by City Attorney?	No
Cost:	
Funding Source if Not in Budget	

Please Provide A Summary of Your Request, Including Background Information to Explain the Request:

Recommendation from the Airport Authority to Re-Appoint Benny Dunn to the Dalton Airport Authority for a 5-year term to expire December 31, 2029.

CITY COUNCIL AGENDA REQUEST

Meeting Type:	Mayor & Council Meeting
Meeting Date:	12-2-24
Agenda Item:	Appointment of Kevin Brunson to the WL&SF Commission
Department:	Administration
Requested By:	Andrew Parker
Reviewed/Approved by City Attorney?	No
Cost:	
Funding Source if Not in Budget	

Please Provide A Summary of Your Request, Including Background Information to Explain the Request:

Appointment of Kevin Brunson to the Water Light & Sinking Fund Commission to fill the unexpired 5-year term of Ken White to expire December 31, 2028.