**VEENSTRA & KIMM, INC.**
1800 5th Avenue • Rock Island, Illinois 61201-8119
309-786-7590 • 309-797-0996 (fax) • 877-241-8010 (WATS)

March 30, 2018

Iowa Department of Natural Resources
Attn: Jon C. Tack
Water Quality Bureau Chief
Wallace State Office Building
502 East 9th Street
Des Moines, IA 50319

DAVENPORT, IOWA
JOINT USE OF SANITARY SEWERS AND SEWAGE DISPOSAL FACILITIES:
CITY OF DAVENPORT, IOWA, CITY OF BETTENDORF, IOWA,
CITY OF RIVERDALE, IOWA, CITY OF PANORAMA PARK, IOWA
ADMINISTRATIVE CONSENT ORDER NO. 2013-WW-07 MARCH 14, 2013
ANNUAL REPORT – APRIL 2018

This letter report is the 2018 Annual Report for the Joint Use of Sanitary Sewers and Sewage Disposal Facilities Administrative Order, No. 2013-WW-07. This report is to communicate the progress towards complying with the Administrative Order for the purpose of upgrading the Davenport Water Pollution Control Plant (WPCP) and the wastewater collection systems of Davenport and Bettendorf to achieve compliance with applicable requirements and to eliminate the discharge of untreated wastewater from the collection systems as defined in the AO. It should be noted that Davenport and Bettendorf have seen reduced sewer backups and overflows. It appears the cumulative effect of the improvements is making marked reductions in overflows and WPCP flows during certain events.

Davenport SSO events have been reduced from 104 in FY 16 to 18 in FY 17 and only five to date in FY 18.

The City of Bettendorf has seen significant overflow events reduced. In 2017 they reported two events that required bypass pumping. To date in FY 18 there have been no reported bypass pumping events.

It has also been noted that rainfalls during high Mississippi River events (about 10' on the Lock & Dam 15 gauge) are not causing the lowering of the WPCP gate to reduce incoming flow. Reduced flows are being noticed at the WPCP flow meter. The WPCP is currently able to treat 55 mgd through secondary due to Optimization Project improvements.

It should be noted that the cities of Davenport, Bettendorf and Riverdale have all raised sewer rates in FY 17 and anticipate future rate increases to fund the work associated with the Administrative Order.

***PROGRESS OVERVIEW***

| Order Number and Name | AO Completion Date | Status |
|---|---|---|
| AO1 Cleaning and Televising of Interceptor Sewers | July 1, 2018 | Conditions assessment complete – TM 9.8 and TM 11.1 |
| AO2 Install and Maintain Permanent SS Meters | July 1, 2013 | 100% complete |
| AO3 Removal of I/I Sources from Interceptor Sewers | July 1, 2018 | On-going |
| AO4 Submit Permit Application for WPC Optimization | January 1, 2015 | Application initially sent 12/2014; revised Facility Plan & Permit schedules approved 9/25/2015 |
| AO5 WPC Optimization Construction Substantially Complete | July 1, 2017 | Under construction with substantial completion date 7/1/2017 |
| AO6 DNR Meeting to Review/Discuss Future CS Imp Projects | December 1, 2018 | Facility Plan submitted 3/1/2018 |
| AO7 Agreement identifying CS Imp Projects | December 31, 2018 | Meetings are on-going |
| AO8 Submit Permit Applications for CS Imp per AO1 | July 1, 2019 | |
| AO9 Submit Permit Applications for CS Imp per AO3 | December 31, 2019 | |
| AO10 Submit Permit Application for WPC Disinfection Improvements | January 1, 2019 | |
| AO11 WPC Disinfection Construction Substantially Complete | July 1, 2021 | |
| AO12 CS Improvement Projects per AO7 Completed | December 31, 2021 | |
| AO13 WPC Compliance with Applicable Effluent Limitations | October 1, 2021 | |
| AO14 Submit Permit Application for EQ Basin (or other) | July 1, 2023 | |
| AO15 EQ Basin Construction Substantially Complete | July 1, 2025 | |
| AO16 Submittal of Annual Progress Reports (Each April 1) | January 31, 2026 | Annual reports provided since 2013 |
| AO17 WPC Compliance with 567 IAC 63.6 & other | July 1, 2026 | |

***DETAILED COMPLETED ACTIVITY LIST FOR THIS PERIOD***

- General
  - Attached are appendices to this report as follows:
    - Appendix A – Listing of Technical Memorandums completed by the Veenstra & Kimm, Inc. team for the Wet Weather Improvements.
    - Appendix B – Permanent flow meters daily report.
    - Appendix C – IDNR Optimization Project Status Report.
  - Joint Use Cities are meeting with a professional mediator to work out final 28E language.

- AO1 Cleaning and Televising of Interceptor Sewers
  - 1930's Interceptor Sewer, Davenport, Iowa - Issued TM 9.7 – 1930's Priority Area Investigation Find & Fix, June 23, 2016.

- AO2 Install and Maintain Permanent SS Meters
  - All six meters are operating and calibrated.
  - Flow data is matched to rainfall and river gage data and provided to all Joint Use Cities weekly.
  - Flow meters are constantly requiring maintenance due to surcharging and flood conditions that cause limited life of portions of the meters.
  - Appendix B shows a daily report produced by the WPCP Manager that utilized flow meter data.

- AO3 Removal of I/I Sources to Interceptor Sewers
  - Provided an update to the Joint Use Sewer Contract Committee on future costs associated with the Interceptor Sewer System (March 2018).
  - Davenport Manhole Rehabilitation Program – FY 18 and FY 19
    - Permit No. 2018-0054-S – Approximately 385 manholes for rehabilitation or replacement throughout the City
    - Construction cost: $1,114,760
  - Davenport Sewer Lining Program
    - Permit No. 2017-0424-S – FY 18
      - 24,142 lf of sanitary sewer CIPP lining
      - 1,327 lf of storm sewer CIPP lining
      - Construction cost: $979,942.55
    - Permit No. 2018-0148-S – FY 18
      - 14,069 lf of sanitary sewer CIPP lining
      - Construction cost: $466,252.67
  - Davenport Duck Creek South Interceptor Rehabilitation Program
    - Permit No. 2017-0423-S – FY 18
      - 23,155 lf sanitary sewer CIPP lining
      - Construction cost: $4,459,827
  - Davenport Oneida Avenue Sewer Improvements
    - Permit #2018-0117-S – FY 18
      - Storm and sanitary sewer separation and rehabilitation
      - 166′ of 15″ sanitary sewer; 4 new manholes
      - Bid 10/27/2017; under construction; anticipated completion date 4/30/2018
      - Contractor: Valley Construction
      - Project Budget: $246,000
  - Davenport Federal Street Sewer Improvements
    - Permit #2018-0227-S – FY 18
      - Storm and sanitary sewer separation and rehabilitation
      - 700′ of 24″ sanitary sewer; 700′ of 15″ sanitary sewer; 6 manholes
      - Bid 3/29/2017; under construction; anticipated completion date 12/20/2018
      - Contractor: Hawkeye Paving
      - Project Budget: $620,000

- Davenport Main Street Sewer Improvements
  - Permit – submitted 3/6/2018
    - Storm and sanitary sewer separation and rehabilitation
    - 650′ of 24″ sanitary sewer; 600′ of 15″ to 24″ storm sewer
    - Bid 3/29/2017; anticipated completion date 9/30/2018
    - Contractor: To be determined
    - Project Budget: $809,000
- Davenport Marquette Street and River Drive
  - Direct connection to storm sewer – 10″
  - Disconnected in November 2017 by City staff
- Bettendorf Manhole Improvement Program
  - 22 manholes rehabilitated
  - Construction cost: less than $100,000
- Bettendorf Sewer Lining Program
  - 16,430 lf of sanitary sewer CIPP lining
  - Project Budget: $600,000

- AO4 Submit Permit Application for WPC Optimization
  - Facility Plan/Construction Permit for the Optimization project obtained September 25, 2015.
  - Project construction contract was awarded to Leander Construction, Inc. on November 19, 2015.

- AO5 WPC Optimization Construction Substantially Complete
  - Optimization project is about 99% complete and the Contractor is pushing for final completion by June 1, 2018. Appendix C shows a status report to Jon Tack, IDNR, that confirms the Cities has met the intent of Item A05. Below is a summary of progress:
    - Aeration Basin improvements – substantially complete
    - Primary Clarifier improvements – substantially complete
    - RAS pumping – substantially complete
    - WAS pumping – substantially complete
    - Traveling Bar Screens/building – substantially complete
    - Power Distribution Center – substantially complete
    - Raw Sewage Pump Station – 90% complete – 3 of 4 motors have been replaced; 4$^{th}$ motor is scheduled for first week of April, 2018

***PLANNED ACTIVITY LIST FOR FUTURE REPORTING PERIOD (April 1, 2018 – March 31, 2019)***

- AO1 Cleaning and Televising of Interceptor Sewers
  - Cleaning and televising of the 1930 interceptor is complete.
  - The 1970's interceptor has approximately 75% televised and cleaned, if required. The final 25% will be completed this spring and summer.

- AO2 Install and Maintain Permanent SS Meters
  - All meters are operating and collecting data.
  - Data is matched with rainfall and river level and utilized to determine flow patterns.

- AO3 Removal of I/I Sources to Interceptor Sewers
  - Proposed manhole rehabilitation/replacement program for FY 19 and FY 20 is in design; bidding planned for September 2018 for construction beginning in October 2018 – budget = $2.5M
  - Davenport is proposing a FY 19 sewer lining program similar to FY 18.
  - Veenstra & Kimm, Inc.'s team is completing final design of 1930's flow diversion project to eliminate the 1930's Interceptor and utilize the 1970's sewer with direct connections. The project "1930's Interceptor Flow Diversion" is a $9M project that could eliminate and/or reduce significant flows that enter the 1970's Interceptor during high river events. It is scheduled to begin construction in late fall 2018.
  - Davenport Collection Sewers Improvement Program
    - Davenport – The City of Davenport is utilizing sewer basin I/I reports and staff analysis of problem areas to prioritize funding of improvements. The I/I reports primarily involve manhole rehabilitation, sewer lining, cross connection removal and sewer replacement. Each of the four mentioned programs has been funded with a minimum of $1M per year for the next five years.

- AO16 Submittal of Annual Progress Reports (Each April 1)
  - Submit Annual Report (April 1, 2018).

Please contact the undersigned at 309-786-7590 if you have any questions regarding this project.

VEENSTRA & KIMM, INC.

Leo F. Foley, P.E.
Project Manager

LFF/gfd
22262
cc:

Brian Schadt – City of Davenport
Brian Schmidt – City of Bettendorf
Marti Ahlgren – City of Panorama Park
Tim Long – City of Riverdale
IDNR Field Office #6 – Washington, Iowa
Ted Payseur – V&K, Inc.
John Borghesi – Jacobs (formerly CH2M HILL)

# APPENDIX A

# TECHNICAL MEMORANDUMS LISTING

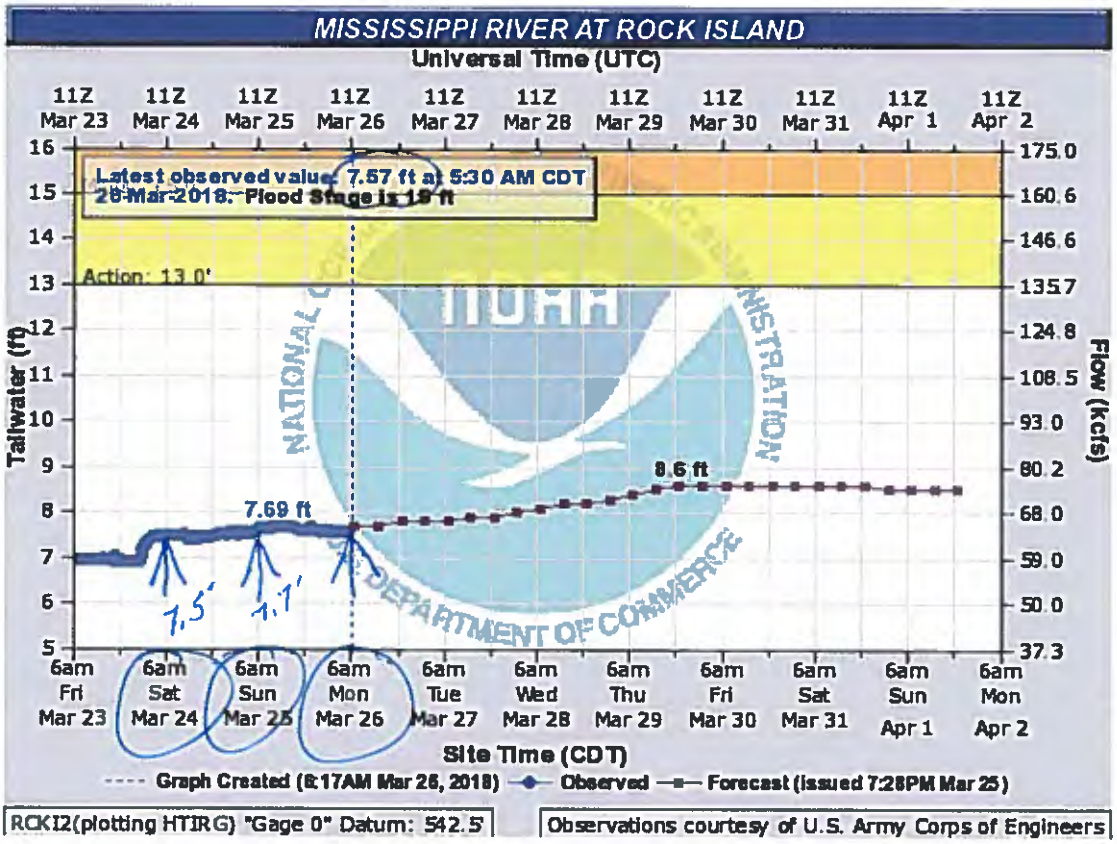
**DAVENPORT, IOWA**
**EQ BASIN & WET WEATHER PLANNING**
**TECHNICAL MEMORANDUMS**

| TM #/ Project # | Description | Date |
|---|---|---|
| 5.1 / 22236 | Riverfront Interceptor Characterization: Capacity and Flow | 7/13/2012 |
| 5.3 / 22236 | Task 5 – Riverfront Interceptor Characterization: Phase I Conditions Assessment | 1/18/2013 |
| 6.4 / 22237 | Hydraulic Capacity, Wet Weather Treatment Capacity, and Wet Weather Flow Management | 11/13/2012 |
| 6.5 / 22237 | Secondary Clarifier Testing Plan | 6/12/2012 |
| 6.7 / 22237 | Alternatives Development for Wet Weather Flow Management | 3/5/2013 |
| 8.1 / 22239 | Continuous Flow Model Tool Definition, Confirmation & Utilization | 9/24/2012 |
| 9.1 / 22242 | Eastern Interceptor – High River Inflow Investigation | 9/18/2013 |
| 9.2 / 22241 | Government Interceptor Storm Box Flushing Operation | 12/19/2013 |
| 9.4 / 22240 | Diversion and Cross Connection Structures Evaluations | 5/13/2015 |
| 9.6 / 22244 | GIS Database Update | 12/19/2013 |
| 9.7 / 22243 | 1930's Priority Area Investigation Find & Fix | 6/23/2016 |
| 9.8 / 22245 | 1930's Interceptor Sewer Televising Results | 3/11/2016 |
| 10.1 / 22247 | Raw Sewage Pumping Improvements Project Definition | 9/18/2013 |
| 10.2 / 22247 | Traveling Bar Screen Project Definition | 7/7/2014 |
| 10.3 / 22247 | Primary Clarifiers | 9/18/2013 |
| 10.4 / 22247 | Aeration Basin Improvements Project Definition | 9/18/2013 |
| 10.5 / 22247 | WAS Pump Improvements Project Definition | 9/18/2013 |
| 10.6 / 22247 | RAS Pump Project Definition | 9/18/2013 |
| 10.7 / 22247 | Flow Monitoring Improvements Project Definition | 12/13/2013 |
| 11.1 / 22258 | 96" Interceptor TV and Inspection from RN1-RN15 | 3/23/2015 |
| 11.2 / 22258 | 96" Interceptor Sewer - Manhole Inspections from RN2-RN15 | 12/2014 |

# APPENDIX B

# PERMANENT FLOW METERS
# DAILY REPORT

**National Weather Service**
**Advanced Hydrologic Prediction Service**
water.weather.gov/ahps/




Observations courtesy of U.S. Army Corps of Engineers .

NOTE: River forecasts for this location take into account past precipitation and the precipitation amounts expected approximately 48 hours into the future from the forecast issuance time.

Forecasts for the Mississippi River at Rock Island are issued routinely year-round.

3-24-18 Calculated Influent Flow 23.4 MG

3-25-18 Calculated Influent Flow 19.7 MG

3-26-18 Calculated Influent Flow 22.8 MG

| Date | Average Flow (MGD) | | | | | | River Stage | WPCP Flow | |
|---|---|---|---|---|---|---|---|---|---|
| | 10928 | 10964 | 10871 | 10071 | J-2 | RN-3 | | DATE | MGD |
| 3/1/2018 | 0.091 | 1.642 | 1.686 | 5.921 | 11.035 | 27.130 | 10.16 | 3/1/2018 | 32.5 |
| 3/2/2018 | 0.082 | 1.533 | 1.570 | 5.469 | 9.881 | 24.318 | 9.75 | 3/2/2018 | 29.7 |
| 3/3/2018 | 0.085 | 1.455 | 1.514 | 5.278 | 9.539 | 23.573 | 9.80 | 3/3/2018 | 30.9 |
| 3/4/2018 | 0.087 | 1.518 | 1.493 | 4.510 | 9.258 | 23.005 | 9.80 | 3/4/2018 | 30.2 |
| 3/5/2018 | 0.122 | 2.197 | 1.900 | 7.028 | 12.780 | 31.828 | 9.89 | 3/5/2018 | 39.9 |
| 3/6/2018 | 0.119 | 2.310 | 2.220 | 9.795 | 13.660 | 34.298 | 9.53 | 3/6/2018 | 45.4 |
| 3/7/2018 | 0.107 | 2.126 | 1.969 | 8.239 | 12.075 | 28.204 | 8.72 | 3/7/2018 | 37.1 |
| 3/8/2018 | 0.100 | 1.869 | 1.766 | 7.047 | 11.160 | 25.916 | 7.78 | 3/8/2018 | 31.6 |
| 3/9/2018 | 0.096 | 1.721 | 1.626 | 6.200 | 10.362 | 24.475 | 7.40 | 3/9/2018 | 29.5 |
| 3/10/2018 | 0.093 | 1.578 | 1.535 | 5.788 | 9.891 | 22.795 | 7.30 | 3/10/2018 | 25.8 |
| 3/11/2018 | 0.091 | 1.492 | 1.443 | 5.410 | 9.455 | 21.283 | 7.10 | 3/11/2018 | 24.3 |
| 3/12/2018 | 0.085 | 1.476 | 1.406 | 4.941 | 9.123 | 19.902 | 6.92 | 3/12/2018 | 24 |
| 3/13/2018 | 0.084 | 1.375 | 1.314 | 4.588 | 9.005 | 20.244 | 6.90 | 3/13/2018 | 23.9 |
| 3/14/2018 | 0.083 | 1.359 | 1.313 | 4.598 | 8.822 | 20.210 | 6.83 | 3/14/2018 | 23 |
| 3/15/2018 | 0.080 | 1.292 | 1.245 | 4.315 | 8.743 | 19.236 | 6.37 | 3/15/2018 | 23.1 |
| 3/16/2018 | 0.080 | 1.299 | 1.233 | 4.518 | 8.397 | 18.630 | 6.15 | 3/16/2018 | 22 |
| 3/17/2018 | 0.081 | 1.321 | 1.248 | 4.429 | 8.470 | 18.919 | 6.60 | 3/17/2018 | 25.3 |
| 3/18/2018 | 0.084 | 1.389 | 1.289 | 4.575 | 8.570 | 14.173 | 6.70 | 3/18/2018 | 22.6 |
| 3/19/2018 | 0.077 | 1.416 | 1.255 | 4.375 | 8.425 | 18.231 | 7.02 | 3/19/2018 | 21.1 |
| 3/20/2018 | 0.072 | 1.257 | 1.219 | 4.306 | 7.918 | 17.830 | 7.02 | 3/20/2018 | 23.3 |
| 3/21/2018 | 0.071 | 1.226 | 1.185 | 4.081 | 7.595 | 17.224 | 6.94 | 3/21/2018 | 21 |
| 3/22/2018 | 0.070 | 1.315 | 1.152 | 3.938 | 7.575 | 17.112 | 6.86 | 3/22/2018 | 20.5 |
| 3/23/2018 | 0.068 | 1.181 | 1.154 | 3.842 | 7.523 | 17.498 | 6.95 | 3/23/2018 | 23.4 |
| 3/24/2018 | 0.077 | 1.267 | 1.243 | 3.513 | 8.230 | 17.357 | 7.50 | 3/24/2018 | 19.7 |
| 3/25/2018 | 0.083 | 1.488 | 1.331 | 6.041 | 9.530 | 22.001 | 7.70 | 3/25/2018 | 22.8 |
| 3/26/2018 | | | | | | | 7.57 | 3/26/2018 | |
| 3/27/2018 | | | | | | | | 3/27/2018 | |
| 3/28/2018 | | | | | | | | 3/28/2018 | |
| 3/29/2018 | | | | | | | | 3/29/2018 | |
| 3/30/2018 | | | | | | | | 3/30/2018 | |
| 3/31/2018 | | | | | | | | 3/31/2018 | |
| Average | 0.087 | 1.524 | 1.452 | 5.310 | 9.481 | 21.816 | 7.741 | Average | 26.904 |
| Maximum | 0.122 | 2.31 | 2.22 | 9.795 | 13.66 | 34.298 | 10.16 | Maximum | 45.4 |
| Minimum | 0.068 | 1.181 | 1.152 | 3.513 | 7.523 | 14.173 | 6.15 | Minimum | 19.7 |
| | | | | | | | | | Total |

# APPENDIX C

# IDNR OPTIMIZATION PROJECT
# STATUS REPORT

**From:** Leo Foley
**Sent:** Thursday, September 07, 2017 12:23 PM
**To:** 'Tack, Jon' <jon.tack@dnr.iowa.gov>
**Cc:** Miers, Dan <dmiers@ci.davenport.ia.us>
**Subject:** RE: Davenport WPCP Current Status

Thank You.

I believe the cities will be satisfied with your e-mail response.

Leo


***Leo F. Foley, P.E.***

***VEENSTRA & KIMM, INC.***
*1800 5th Ave*
*Rock Island, Illinois 61201-8199*
*Office: (309) 786-7590*
*Mobile: (309)-738-2918*
*Fax: (309) 797-0996*
*lfoley@v-k.net*


**From:** Tack, Jon [mailto:jon.tack@dnr.iowa.gov]
**Sent:** Thursday, September 07, 2017 11:55 AM
**To:** Leo Foley <vk-moline@v-k.net>
**Cc:** Ted Payseur <tpayseur@v-k.net>; Gleason, Nicole <ngleason@ci.davenport.ia.us>; Schadt, Brian <bschadt@ci.davenport.ia.us>; Miers, Dan <dmiers@ci.davenport.ia.us>; Schmidt, Brian <bschmidt@bettendorf.org>; sonyapaddock <sonyapaddock@gmail.com>; Bill Minard (qcresman@aol.com) <qcresman@aol.com>; Eric Longlett (elonglett@ci.iowa.us) <elonglett@ci.iowa.us>; Brent Morlok <bmorlok@bettendorf.org>
**Subject:** Re: Davenport WPCP Current Status

Leo,

After consultation with WQB, Legal and Field Office staff, the Iowa DNR concurs that compliance has been achieved with respect to the requirements of Paragraph V-5 of the Administrative Order. The replacement work does not impact that compliance. If you need a letter in addition to this email, let me know..

On Tue, Sep 5, 2017 at 3:00 PM, Leo Foley <vk-moline@v-k.net> wrote:

> Jon
>
> Attached is the letter we spoke about last week.
>
> Let me know if you have any questions.
>
> Thank You
>
> Leo
>
> ***Leo F. Foley, P.E.***
>
> ***VEENSTRA & KIMM, INC.***
> *1800 5th Ave*
> *Rock Island, Illinois 61201-8199*
> *Office: (309) 786-7590*
> *Mobile: (309)-738-2918*
> *Fax: (309) 797-0996*
> *lfoley@v-k.net*

--

**Jon C. Tack** | Water Quality Bureau Chief
Iowa Department of Natural Resources
P 515-577-9225 | F 515-725-8201 | 502 E. 9th St., Des Moines, IA 50319
www.iowadnr.gov

**VEENSTRA & KIMM, INC.**
*1800 5th Avenue • Rock Island, Illinois 61201-8119*
*309-786-7590 • 309-797-0996 (fax) • 877-241-8010 (WATS)*

September 5, 2017

Iowa Department of Natural Resources
Attn: Jon C. Tack
Water Quality Bureau Chief
Wallace State Office Building
502 East 9th Street
Des Moines, IA 50319

DAVENPORT, IOWA
WATER POLLUTION CONTROL PLANT OPTIMIZATION PROJECT
CURRENT STATUS

This letter report is a formal update to the IDNR concerning the progress of the construction contract for the Davenport Water Pollution Control Plant – Optimization Project. As you are aware, the project was awarded to Leander Construction, Inc. November 19, 2015. The following are critical dates:

| | |
|---|---|
| Award date | November 19, 2015 |
| Notice to Proceed | December 4, 2015 |
| Substantial Completion | May 31, 2017 |
| Final Completion | July 1, 2017 |
| Revised Final Completion | February 22, 2018 |

The final completion date was revised based on the attached Change Order 33R1. The MCC's that were installed in the Power Distribution Center was specified to be arc-resistant and the installed MCC's were not arc-resistant. Therefore, the City has requested the Contractor remove the non-specified equipment and replace it with specified arc-resistant MCC's. The City also requested payment of liquidated damages as negotiated.

The primary clarifiers, aeration basins, WAS and RAS improvements are complete. The treatment plant can treat 52 mgd through secondary as required by the Administrative Order as shown below:

> Administrative Order V-5 is written as follows... - "By July 1, 2017, the joint use cities shall substantially complete construction for the wastewater treatment plant Optimization Project. The goal of the plant Optimization Phase I project shall be, in part, to increase the secondary capacity from 45 mgd to approximately 52 mgd. Phase II will complete the plant optimization project following identification of cost effective inflow/infiltration projects."

The Joint Use Cities believe they have met the intent of Administrative Order V-5 and should not be subject to any disciplinary action for delaying the final completion of the MCC's and motors. The Raw Sewage Pump Station is currently working and can be maintained during the contract completion.

Please contact the undersigned at 309-786-7590 if you have any questions regarding this project.

VEENSTRA & KIMM, INC.

Leo F. Foley, P.E.
Project Manager

LFF/gfd
22262
cc:

Dan Miers – Davenport WPCP Manager
Nicole Gleason – Davenport Public Works Director
Brian Schmidt – Bettendorf Public Works Directo
Marti Ahlgren – Panorama Park City Clerk
Sonya Paddock – Riverdale Mayor

August 3, 2017

**CHANGE ORDER NO. 33 R1**

DAVENPORT, IOWA
WET WEATHER TREATMENT OPTIMIZATION PROJECT
WATER POLLUTION CONTROL PLANT

This change order is requested to remove the Allen Bradley MCC at the Power Distribution Center (PDC) and install a custom Eaton MCC (Freedom Arc Resistant MCC). The new Eaton MCC shall be installed per the attached July 13, 2017 letter proposal and Request for Change No. 15924-009 from Price Industrial Electric, Inc. dated 7/11/2017. This work involved the following:

| Contingency Line Item | Description | Unit | # Units | Cost/ Unit | Total Cost |
|---|---|---|---|---|---|
| 1.4.33a | Removal of Allen Bradley MCC and installation/start-up of Eaton MCC (Freedom Arc Resistant MCC) | LS | 1 | 0.00 | $ 0.00 |
| 1.4.33b | Deduction from contract for schedule delay (Line Item 1.47) | LS | 1 | -120,000.00 | -120,000.00 |

Schedule:

1.4.33c Add 29 weeks from 8/2/2017 for installation of Eaton MCC in the PDC, motors installed on pumps at the primary pump station, piping, painting, punch list completion and project 100% complete and closed out.

The schedule is anticipated to be similar to detail below:

- Eaton shop drawing submittal – within 5 weeks
  - Engineer review process – 3 weeks
  - Fabrication and delivery – 11 weeks
  - Installation – 3 weeks
  - Testing and start-up – 1 week
- Motor replacement/piping/painting/testing – 6 weeks
- Total schedule time allowance – 29 weeks (203 days)

1.4.33d Liquidated damages will begin after 29 weeks unless there is a major event (100-year flood or earthquake-type event). All liquidated damages prior to August 3, 2017 + 203 days or February 22, 2018 will be waived for the time allowance.

**TOTAL 1.4-33** **-$120,000.00**

This change order also is contingent upon Leander Construction, Inc. providing backup generation for the TBS building until the new Eaton MCCs are operational and power to the TBS is complete.

Leander Construction, Inc. is to provide a foreman at the site at all times during construction to manage the site and subcontractors to ensure completion as well as coordination with the City and construction engineer's review staff.

The total project current cost estimate is bid cost ($7,343,500) minus $120,000 = $7,223,500. This current cost estimate includes $400,000 worth of contingencies that will be adjusted to actual costs during closeout. Line Item 1.47 will show as $1,134,300 and NOT the initial value of $1,254,300.

Finally, Leander Construction, Inc. will extend the project Combined Performance, Payment and Maintenance Bond from 2 years to 4 years for the PDC after completion of the PDC.

**Change Order No. 33 R1 decreases the contract price by the amount of $120,000.00.**

**LEANDER CONSTRUCTION INC.**

By Megan Smith Digitally signed by Megan Smith Date: 2017.08.07 16:59:47 -05'00'

Title Project Manager

Date 08/07/2017

**DAVENPORT, IOWA**

By Nicole Gleason

Title Public Works Director

Date Aug 8, 2017

**VEENSTRA & KIMM, INC.**

By

Title Project Engineer

Date 8/3/2017

Commercial • Industrial • Municipal
Educational • Metal Buildings

July 14, 2017

Mr. Leo Foley
Venestra & Kimm, Inc.
1530 46th Ave, Suite B
Moline, IL 61265

RE: Davenport Leander Wet Weather Treatment Optimization - WPCP

Dear Mr. Foley,

This letter is in response to the PDC-MCC Components letter, dated May 1, 2017, sent by Veenstra & Kimm, Inc. to Leander Construction, Inc.

Together with our electrical contractor and Cutler Hammer, we propose to purchase and install the attached custom EATON Freedom Arc Resistant MCC-RS to fit in the PDC between the two existing main incoming feeders to meet both specification 16440-2.03-A.1 for arc flash type MCC and 16440-2.02-1.6, the arc flash reduction maintenance system (ARMS) requirements. We anticipate 4-6 weeks to receive approval drawings, 10-12 weeks before shipment upon approval and release, 3-4 weeks for installation and 1.5-2 days for testing and start-up. Temporary power for the TBS will be provided via diesel generator while MCC replacement takes place. The Raw Pump Station motor replacement will occur after the new MCC is in place.

Alternatively, changes can be made to the MCC-RS currently in place to meet the arc flash reduction maintenance system (ARMS) requirements. The 800A trip units and 400A breakers with trip units would take 3-4 weeks to arrive upon release and 1.5 days to install. The 2000A main breaker trip unit is estimated to be delivered in 12-14 weeks and take 1 day to install. During installation, we should be able to transfer power to minimize shutdowns. We have discussed options to achieve a minimum energy level under this scenario. Since the MCC would not be an arc flash type per specification 16440-2.03-A.1, a credit would be offered to the Owner.

Respectfully,

Megan Smith
Project Manager
Leander Construction, Inc.

LEANDER CONSTRUCTION, INC.
24472 N. County Highway 6 • Canton, IL 61520 • Office: 309.647.7400 • Fax: 309.647.7401

PRICE INDUSTRIAL
ELECTRIC, INC

405 N. Troy Rd.
Robins, IA 52328
Phone: (319) 393-6406
Fax: (319) 393-6294

# Request For Change

Alternate 1

To: Leander Construction, Inc.
24472 N. County Highway 6
Canton, IL 61520
Project: Davenport WWT Wet Weather Opt

RFC No: 15924-009
Date: 7/11/2017
Description: Cost to remove the AB MCC at the PDC and turn over to CS&I. (Load AB MCC on a trailer at site provided by CS&I). To purchase and install a custom EATON MCC line up. Brand to be a Freedom Arc Resistant MCC.
Attached is a layout of the custom MCC to fit between the existing 2 main incoming feeders. The 225 AMP - 480 volt feed to the Pump Station 480V Distribution Panel will have to be completed via a manual transfer switch and positioned on the left side of the MCC line up as we have available space there.

Price Industrial will need roughly 4 weeks with 3 guys or 3 weeks with 4 guys to remove and install new MCC once the EATON MCC arrives on site.

Notes from EATON:
-Price is based on the attached BOM only.
-All breaker buckets are fixed mounted.
-No startup has been included.
-The 225A breakers feeding "Pump Station Panel" do NOT have a kirk key interlock. The Arc Resistant design will not let us install a key on the smaller frame breakers. I have included a 400A double throw disconnect to achieve the customer intent. Contractor will have to install in the building.
-Standard UL 845 testing will be provided. No other non-standard testing is included.
-Eaton selling policy 25-000 apples.

Approval drawings: 4-6 weeks standard.

Shipment after release: 10-12 weeks

The above work is subject to the same conditions as specified in the original contract unless otherwise stipulated.

# Detail Bill of Material

Powering Business Worldwide

**Project Name:** Raw Sewage Pump Station
**General Order No:**
**Negotiation No:** CD160629X7K1
**Alternate No:** 0002

| Item No. | Qty | Product | Description |
|---|---|---|---|
| | 1 | Motor Control Centers | 60 Hz, Class 2B+IIS wiring, 480V 3-Phase Service, 65,000 Bracing, Bottom Incoming, NEMA 1 Gasketed 21" Front Mt Only enclosure, 2500A Copper Main Horizontal Bus, No Neutral, Main Breaker. Used X-Space: 127, Blank X-Space: 41, Future X-Space: 0, MCC Lead Time Code: U. |

**Designation** MCC-RS

| Qty | List of Materials |
|---|---|
| 3 | RGH Main 1 Bkr (2000A trip), Lugs: 6-#2-600Kcmil |
| 2 | PXM2250 |
| 2 | 2000A Current transformer |
| 4 | 600V Potential transformer |
| 2 | 3 Phase Voltage Monitor |
| 1 | HKD Bkr (200A trip) |
| 4 | LGH Bkr (500A trip) |
| 2 | HKD Bkr (225A trip) |
| 5 | RotoTract (Unit Disconnect Mechanism) |
| 7 | Fdr Bkr 120V Shunt Trip |
| 3 | Main Bkr Mechanical Key Interlock |
| 10 | RMS 310+ ALSIG Trip w/ GF |
| 3 | Main Bkr Shunt Trip |
| 2 | Service Entrance Label |
| 2 | 10 Kva 1ph, 440-480V / 120-240V Standard Efficiency Xfmr, 50A Pri., 60A Sec. Bkr. |
| 2 | PL1A Panelboard 100A 120/240V 1PH 3W 18 CKT |
| 36 | Pnlbd Bkr, BAB 1 Pole 20A bkr |
| 3 | 12 in. blank relay panel |
| 2 | 200KA, SPD Standard + Surge Counter Features Package, with Circuit Breaker |
| 1 | 6" Door |
| 2 | 18" Door |
| 11 | 12" Door |
| 1 | Thermostat- for enclosure space heater control |
| 12 | Structure Floor Leveling Channel Sills |
| 12 | 65KA Bus Bracing |
| 12 | Labyrinth, Isolated/Insulated vertical bus barrier with shutters |
| 1 | Freedom Arc Resistant MCC List Price Adder |
| 12 | 600A Horiz. Cu Gnd Bus, 1/4" x 2" Bar |
| 12 | Sleeve Wrapped Insulated main bus |
| 12 | Bottom Vertical Bus Barrier |
| 12 | Vertical Copper Ground Bus |
| 12 | 150 Watt space heater |
| 12 | Tin Plated horizontal bus |
| 1 | Description not available |
| 1 | Description not available |
| 9 | 600A Vertical Bus (Tin-plated cu) |
| 12 | Fire Wall Barriers between each section |
| 2 | 1200A Vertical Bus (Tin-plated cu) |
| 1 | 800A Vertical Bus (Tin-plated cu) |
| 11 | 2500A Copper Frnt Mtd 21" NEMA 1 Gasketed |
| 1 | Bus Tie Transition |
| 2 | Key interlocks on the 225A breakers |
| 3 | Arm Switches in the Relay Panels |
| 7 | Branch Feeder breakers 400A frame and up to have Arms switch and blue light |
| 2 | 8 inch wide vertical wireway in lieu of 4 inch. Sections 4F, and 11F |

| | | | |
|---|---|---|---|
| **Project Name:** | Raw Sewage Pump Station | **Negotiation No:** | CD160629X7K1 |
| **General Order No:** | | **Alternate No:** | 0002 |

**Eaton Selling Policy 25-000 applies.**

**All orders must be released for manufacture within 90 days of date of order entry. If approval drawings are required, drawings must be returned approved for release within 60 days of mailing. If drawings are not returned accordingly, and/or if shipment is delayed for any reason, the price of the order will increase by 1.0% per month or fraction there of for the time the shipment is delayed.**

# MCC General Information

### MCC General Information

| | |
|---|---|
| Wiring Diagram Type | Eaton Standard |
| MCC Quantity | |
| Standards | UL845, NEMA, NEC |
| Special Codes | UL |
| Service Voltage (3 Phase) | 480 |
| Frequency | 60 |
| System | 3PH3W |
| Witness Testing | No |

### Enclosure Specifications

| | |
|---|---|
| Total Structures | 14 |
| Type | NEMA 1 Gasketed |
| Depth | 21" Front Mt Only |
| Height | 90" |
| Horizontal Wireways | 9" High, Top & Bottom |
| Vertical Wireways | 4" |
| Channel Sills | Yes |
| Bottom Plates | None |
| 150 Watt Space Heaters | Yes |
| Space Heater Thermostat | 1 |
| Master Terminal Block Location | None |
| IBC/CBC Seismic Qualified | No |
| ABS Certified | No |

### Bus System Specifications

| | |
|---|---|
| Main Bus Amps | 2500 |
| Main Bus Material | Copper |
| Main Bus Bar Plating | Tin |
| Insulated Horiz. Bus | Yes |
| 1000A/sq in. Cu Bus | No |
| Vertical Bus Amps | See Structure Schedule |
| Vertical Bus Material | Tin Plated Copper |
| Vertical Bus Barrier | Labyrinth, Isolated/ Insulated with shutters |
| Bus Bracing | 65,000 |
| Ground Bus | 600 |
| Ground Bus Location | Bottom |
| Ground Bus Lug Size | 1-#6-350Kcmil |
| Ground Bus Lug Type | Screw |
| Plug-in 300A Vert. Gnd. Bus | Yes |
| Neutral | None |
| Horizontal Bus Temperature Rise | 65 deg C |
| Bottom Vert. Bus Barrier | Yes |
| Vertical Ground Bus | Yes |

### Incoming Line Termination

Device: RGH Main 1 Bkr (2000A trip), Lugs: 6-#2-600Kcmil

| | |
|---|---|
| Cable Entry | Bottom |
| Splice Kit / Transition | None |
| MCC Type Match Up | |
| MCC Type Match Up GO# | ** None ** |

### MCC Starter Specifications

| | |
|---|---|
| Wiring Class | 2B+IIS |
| Control Voltage | 120 |
| Control Voltage Src | Ind CPT |
| Nameplate Size | 1" X 2.5" |
| Nameplate Color | Black / White Letters |
| Pilot Dev. Model | 10250T |
| Ind. Light Type | 6v Xfmr |

### Structure Schedule

There are 14 structure(s).
Structure(s) 4, 6 have a 1200 A Vertical Bus.
Structure(s) 1, 10, 11, 12, 13, 14, 2, 3, 7, 8, 9 have a 600 A Vertical Bus.
Structure(s) 5 have a 800 A Vertical Bus.
Total width of all sections is 264"
Height of all sections is 91"

### Unit Modifications

RotoTract (Unit Disconnect Mechanism)



| | | | | | |
|---|---|---|---|---|---|
| PREPARED BY: TOM LEMPKA | DATE: 7/11/2017 | Eaton | Fayetteville, NC | | |
| APPROVED BY: | DATE: | JOB NAME: Raw Sewage Pump Station | | | |
| | | DESIGNATION: MCC-RS | | | |
| VERSION: 1.0.0.1 | | TYPE: Freedom Arc Resistant MCC | | DRAWING TYPE: Customer Appr | |
| NEG-ALT Number: CD160629X7K1-0002 | REVISION: | DWG SIZE: A | G.O.: | ITEM: | SHEET: 1 of 7 |

## Notes/Special Instructions

Key interlocks on the 225A breakers
Arm Switches in the Relay Panels
Branch Feeder breakers 400A frame and up to have Arms switch and blue light
8 inch wide vertical wireway in lieu of 4 inch. Sections 4F, and 11F



| | | | | | |
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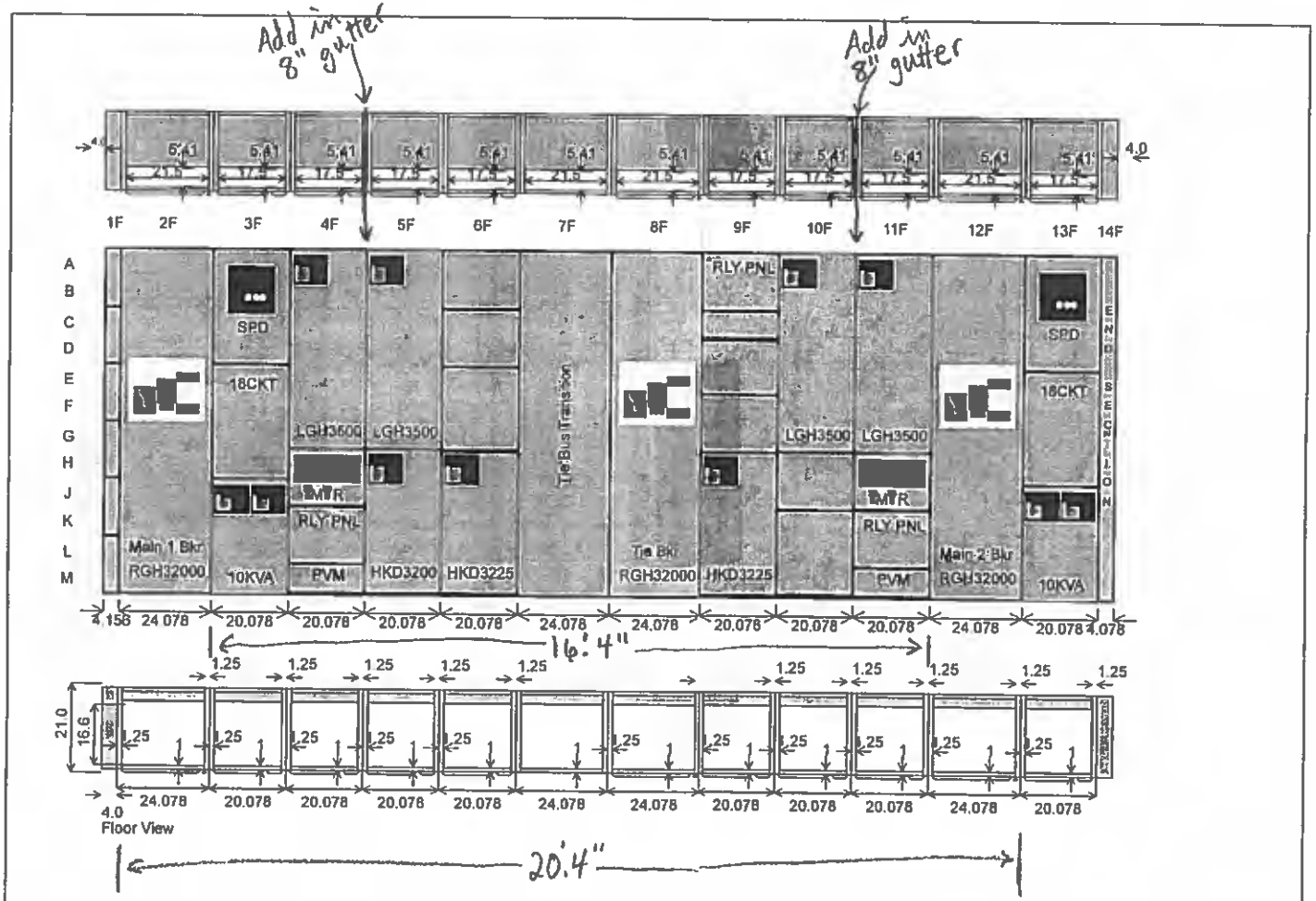


| | | | | | | | |
|---|---|---|---|---|---|---|---|
| The information on this document is created by Eaton Corporation. It is disclosed in confidence and it is only to be used for the purpose in which it is supplied. | PREPARED BY: TOM LEMPKA | DATE: 7/11/2017 | Eaton | Fayetteville, NC | PREPARED BY: TOM LEMPKA | DATE: 7/11/2017 | Eaton | Fayetteville, NC |
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| NEO-ALT Number | REVISION | DWG SIZE: A | O.D. | ITEM | REVISION | DWG SIZE: A | O.D. | ITEM / SHEET: 4 of 7 |

| Unit | Nameplate | Description | Class | Starter Size HP/FLA Wire Diag. | Bkr/Sw Poles Trip/Clip | Unit Features |
|---|---|---|---|---|---|---|
| 1B | | 12" Door | | N | | |
| 1D | | 12" Door | | N | | |
| 1F | | 12" Door | | N | | |
| 1H | | 12" Door | | N | | |
| 1K | | 12" Door | | N | | |
| 1M | | 12" Door | | N | | |
| 2M | | RGH Main 1 Bkr (2000A trip), Lugs: 6-#2-600Kcmil | | N | RGH<br>3P<br>2000 | 1 Main Bkr Mechanical Key Interlock<br>1 RMS 310+ ALSIG Trip w/ GF<br>1 Service Entrance Label<br>1 Main Bkr Shunt Trip |
| 3D | | 200KA, SPD Standard<br>+ Surge Counter Features Package, with Circuit Breaker | | N | | 1 RotoTract (Unit Disconnect Mechanism) |
| 3H | | PL1A Panelboard 100A 120/240V 1PH 3W 18 CKT | | N | | 18 Pnlbd Bkr, BAB 1 Pole 20A bkr |
| 3M | | 10 Kva 1ph, 440-480V / 120-240V Standard Efficiency Xfmr, 50A Pri., 60A Sec. Bkr. | | N | | |
| 4G | | LGH Bkr (500A trip) | | N | LGH<br>3P<br>500 | 1 Fdr Bkr 120V Shunt Trip<br>1 RMS 310+ ALSIG Trip w/ GF |
| 4J | | PXM2250 | | N | | |
| 4L | Arms Switch | 12 in. blank relay panel | | N | | |
| 4M | | 3 Phase Voltage Monitor | | N | | |
| 5G | | LGH Bkr (500A trip) | | N | LGH<br>3P<br>500 | 1 Fdr Bkr 120V Shunt Trip<br>1 RMS 310+ ALSIG Trip w/ GF |
| 5M | | HKD Bkr (200A trip) | | N | HKD<br>3P<br>200 | 1 Fdr Bkr 120V Shunt Trip<br>1 RMS 310+ ALSIG Trip w/ GF<br>1 RotoTract (Unit Disconnect Mechanism) |
| 6B | | 12" Door | | N | | |
| 6D | | 12" Door | | N | | |
| 6G | | 18" Door | | | | |



| | | | |
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| | | DESIGNATION: MCC-RS | |
| VERSION: 1.0.0.1 | | TYPE: Freedom Arc Resistant MCC | DRAWING TYPE: Customer Appr |
| NEG-ALT Number: CD160629X7K1-0002 | REVISION: | DWG SIZE: A | G.O.: ITEM: SHEET: 5 of 7 |

| Unit | Nameplate | Description | Class | Starter Size HP/FLA Wire Diag. | Bkr/Sw Poles Trip/Clip | Unit Features |
|---|---|---|---|---|---|---|
| | | | | N | | |
| 6M | | HKD Bkr (225A trip) | | | HKD | 1 Fdr Bkr 120V Shunt Trip |
| | | | | | 3P | 1 RMS 310+ ALSIG Trip w/ GF |
| | | | | N | 225 | 1 RotoTract (Unit Disconnect Mechanism) |
| 7M | | Description not available | | | | |
| | | | | N | | |
| 8M | | RGH Main Tie Bkr (2000A trip), Lugs: | | | RGH | 1 Main Bkr Mechanical Key Interlock |
| | | | | | 3P | 1 RMS 310+ ALSIG Trip w/ GF |
| | | 6-#2-600Kcmil | | N | 2000 | 1 Main Bkr Shunt Trip |
| 9B | Arm Switch | 12 in. blank relay panel | | | | |
| | | | | N | | |
| 9C | | 6" Door | | | | |
| | | | | N | | |
| 9E | | 12" Door | | | | |
| | | | | N | | |
| 9G | | 12" Door | | | | |
| | | | | N | | |
| 9M | | HKD Bkr (225A trip) | | | HKD | 1 Fdr Bkr 120V Shunt Trip |
| | | | | | 3P | 1 RMS 310+ ALSIG Trip w/ GF |
| | | | | N | 225 | 1 RotoTract (Unit Disconnect Mechanism) |
| 10G | | LGH Bkr (500A trip) | | | LGH | 1 Fdr Bkr 120V Shunt Trip |
| | | | | | 3P | 1 RMS 310+ ALSIG Trip w/ GF |
| | | | | N | 500 | |
| 10J | | 12" Door | | | | |
| | | | | N | | |
| 10M | | 18" Door | | | | |
| | | | | N | | |
| 11G | | LGH Bkr (500A trip) | | | LGH | 1 Fdr Bkr 120V Shunt Trip |
| | | | | | 3P | 1 RMS 310+ ALSIG Trip w/ GF |
| | | | | N | 500 | |
| 11J | | PXM2250 | | | | |
| | | | | N | | |
| 11L | Arms Switch | 12 in. blank relay panel | | | | |
| | | | | N | | |
| 11M | | 3 Phase Voltage Monitor | | | | |
| | | | | N | | |
| 12M | | RGH Main 3 Bkr (2000A trip), Lugs: | | | RGH | 1 Main Bkr Mechanical Key Interlock |
| | | | | | 3P | 1 Service Entrance Label |
| | | 6-#2-600Kcmil | | N | 2000 | 1 RMS 310+ ALSIG Trip w/ GF |
| | | | | | | 1 Main Bkr Shunt Trip |
| 13D | | 200KA, SPD Standard | | | | 1 RotoTract (Unit Disconnect Mechanism) |
| | | + Surge Counter Features Package, with Circuit Breaker | | N | | |



| | | | |
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| | | DESIGNATION: MCC-RS | |
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| NEG-ALT Number: CD160629X7K1-0002 | REVISION: | DWG SIZE: A | G.O: |
| ITEM: | SHEET: 6 of 7 | | |

| Unit | Nameplate | Description | Class | Starter Size<br>HP/FLA<br>Wire Diag. | Bkr/Sw<br>Poles<br>Trip/Clip | Unit<br>Features |
|---|---|---|---|---|---|---|
| 13H | | PL1A Panelboard<br>100A 120/240V 1PH<br>3W 18 CKT | | N | | 18 Pnlbd Bkr, BAB 1 Pole 20A bkr |
| 13M | | 10 Kva 1ph, 440-480V<br>/ 120-240V Standard<br>Efficiency Xfmr, 50A Pri.,<br>60A Sec. Bkr. | | N | | |



| | | | | | |
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| | | DESIGNATION: MCC-RS | | | |
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| NEG-ALT Number: CD160629X7K1-0002 | REVISION: | DWG SIZE: A | G.O. | ITEM: | SHEET: 7 of 7 |

Alternate 2

TBS - MCC-1

**Material needed to change existing Allen Bradley to ARMS Trip Units**

1 Allen Bradley 140G-G6C3-C50 - 400A Trip Unit LSIGMM -
has been ordered - est delivery 11/7/17 or sooner - install 1 day

PDC - MCC-RS

**Material needed to change existing Allen Bradley to ARMS Trip Units**

4 Allen Bradley 140G-MTK3-D60 - 800A breakers - trip unit only -
delivery 4 wks - install 1.5 days

3 Allen Bradley 2193-DKC-48TKM-79UT - 400 A breakers - new buckets w/ trip -
delivery 4 wks - install 1.5 days

2 Allen Bradley140G-RTK-E30 Main breaker - trip unit only -
Delivery est. October - install 1 day

**Cannot provide Arc Flash**