



**Town of Erie**  
645 Holbrook Street  
P.O. Box 750  
Erie, Colorado 80516  
(303) 926-2770

## **PLANNING & DEVELOPMENT**

### **Planning**

### **Memo**

**Date:** April 24, 2019

**To:** Stephanie Wiedmeyer (Tetra Tech) & Steve Barwick (United Power)

**From:** Chris LaRue, Senior Planner

**RE:** Site Plan Review (SP-001053-2019), Special Review Use (SRU-001054-2019), & Minor Subdivision (MS-001052-2019) – Lazy Dog Substation

**cc:** Deborah Bachelder, Chad Schroeder, Joe Smith, Darren Champion

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Thank you for submitting the Site Plan, Special Review Use, and Minor Subdivision applications for the Lazy Dog Substation project. Town staff reviewed the application materials at the April 11, 2019 Development Review Team meeting and compiled comments that need to be addressed and/or changed for the applications. All code references herein are for Title 10-UDC (Code).

Referral agency packets were sent out and referral responses that have been received by the Town are also being forwarded to you. The next step for the Minor Subdivision, Site Plan and Special Review Use application are revision and resubmittal for another referral and Development Review Team review. Please make the appropriate revisions to the application materials and provide written response to address each written comment from the Town staff and referral agencies.

Paper Copies:

- 3 Copies: Written response to staff and referral comments. For distribution to: Planning, Engineering, and the Public.
- 3 Copies: Updated written materials, 3-hole punched for notebooks. For distribution to: Planning, Engineering, and the Public.
- 3 Copies: Updated 11x17 plans tri-folded and 3 hole punched for notebooks. For distribution to: Planning, Engineering, and the Public.
- 2 Copies: Updated 24x36 plan sets, rolled. For distribution to: Planning and Engineering.
- Please bind and label materials for each entity listed above for ease of distribution to each referral.

#### Digital Copies:

- A PDF format of all of the submittal materials on 4 flash drives. The Town will provide the mailing envelope, address label and postage for delivery of the flash drives. The flash drives will be distributed to the following referral agencies:
  1. Town of Erie – internally distributed to: Planning & Engineering.
  2. Merrick
  3. Mountain View Fire

The following agencies provided written responses that do not require a second referral and response:

1. CGS
2. FHU
3. United Power

The following agencies did not provide a written response:

1. Century Link Communications
2. Comcast Residential and Commercial

#### Neighborhood Meeting

Requirement met.

#### **Planning Comments:**

##### Minor Subdivision Review:

1. General Comments
  - a. The original subdivision was called “Front Range Landfill Minor Subdivision”. The title of this subdivision will need to keep that naming convention. It should be called “Front Range Landfill Minor Subdivision, 1<sup>st</sup> Amendment”.
    - i. This should be updated on both sheets of the plat.
    - ii. This should also be updated anywhere else the subdivision name is referenced on the document.
2. Sheet 1 – Cover Sheet
  - a. Title Block
    - i. Update per # 1.
  - b. Vicinity Map
    - i. Please hatch the site subject to the subdivision.
  - c. Dedication Statement:
    - i. Update the legal description to be consistent with the previous subdivision. The legal states this development is platting a portion of lot A, however, the plat encompasses all of Tract A. Remove the reference to “a portion of” Tract A.
    - ii. Update the name of the subdivision per comment # 1.
  - d. Title Verification Certificate:
    - i. There will need to be an effective date listed. The title work referenced will need to be within 30 days of the signatures

- when the mylar is ready.
    - ii. After the "...as follows:" language please add "Those items and ownership interest shown in Title Commitment \_\_\_\_\_, effective \_\_\_\_\_ (Month, Day, Year). This information will need to be included on the final plat mylar with updated title commitment information that is no older than 30 days.
  - e. Board of Trustees Approval Certificate:
    - i. Update the subdivision name per comment # 1.
  - f. Planning and Development Approval Certificate:
    - i. Amend the Community Development Certificate to read as follows:
 

PLANNING & DEVELOPMENT DEPARTMENT CERTIFICATE

THIS PLAT IS HEREBY APPROVED BY THE TOWN OF  
ERIE PLANNING AND DEVELOPMENT DEPARTMENT  
DIRECTOR ON THIS \_\_\_\_\_ DAY \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_

Planning & Development Director
    - ii. Delete the Public Works Director Title and signature line.
3. Sheet 2 – Plat
- a. Remove the owner information from the surrounding properties.
    - i. Per the user guide, identify the land use and zone district information of all adjacent property. When an adjacent property is not within the Town's boundary, the respective jurisdictions' land use and zone district information shall be identified.
      - 1. Surrounding properties within Weld County should identify the county land use and not the Town's land use. Also, make sure the Weld County zoning is listed.
  - b. Make sure all easements contain recording information.
    - i. What is the purpose of the 20 foot easement along the south side of Lot 1? Is this easement necessary along Town owned property? The utility plan does not seem to depict a reason for the easement.
    - ii. Make sure a 30 foot landscape easement is depicted along the east side of Lot 1.
  - c. Remove the notes stating "Asphalt Road".
  - d. Coordinate the water meter easement location with engineering. The easement shall be depicted on the plat.

### Site Plan and Special Review Use

General:

1. Please remove all color from the document as colors are difficult to reproduce on mylar.
2. The material samples (page 6) and Photo simulations and elevation sheets (page 10 and 11) do not need to part of the site plan set. Those documents are helpful, but should be separate exhibits.
3. Any general Notes located throughout the documents are notes for the contractor and not reviewed or approved as part of the Site Plan.
4. Please coordinate the site plan with the proposed Minor Subdivision comments.
  - a. Ensure the legal matches the proposed Minor Subdivision. This would be Lot 2, Front Range landfill Minor Subdivision, 1<sup>st</sup> Amendment.
  - b. All title blocks should be updated to match the plat name per the Minor Subdivision comment #1. The site plan should be called "Front Range Landfill Minor Subdivision, 1<sup>st</sup> Amendment, Lot 2"

#### Sheet 1 – Title sheet

5. Remove the large color logos for Tri-State and United Power. Those entities are listed in the associated contacts list.
6. Title Block:
  - c. This should match the Minor Subdivision Plat title as outlined in the Minor Subdivision comments.
  - d. Add "Special Review Use - SRU-001054-2019" below Site Plan project number. Update all sheets accordingly.
7. You can add a heading for Site Summary Information.
  - e. Under this heading you can list the name of the project as Lazy Dog Substation.
  - f. You can also list the site address.
8. Site Plan Approval Certificate:
  - g. Rename the block to "Special Review Use and Site Plan Approval Certificate".
  - h. Remove the director's signature block and amend the approval certificate per the following comment.
  - i. Add Town Board of Trustee signature block to approval certificate. The BOT is the approval authority. See the example to the right:

<b>SPECIAL REVIEW USE SITE PLAN APPROVAL CERTIFICATE:</b>	
THIS SPECIAL REVIEW USE PLAN HAS BEEN REVIEWED AND FOUND TO BE COMPLETE AND IN ACCORDANCE WITH APPLICABLE TOWN OF ERIE REGULATIONS.	
PLANNING COMMISSION - CHAIRMAN _____	DATE _____
BOARD OF TRUSTEES - MAYOR _____	DATE _____
THE UNDERSIGNED AS THE OWNER OR OWNER'S REPRESENTATIVE OF THE LANDS DESCRIBED HEREIN, HEREBY AGREES ON BEHALF OF HIMSELF/HERSELF, THEIR HEIRS, SUCCESSORS, AND ASSIGNS TO DEVELOP AND MAINTAIN THE PROPERTY DESCRIBED HEREON IN ACCORDANCE WITH THIS APPROVED SITE PLAN AND IN COMPLIANCE WITH THE TOWN OF ERIE UNIFIED DEVELOPMENT CODE AND MUNICIPAL CODE.	
OWNER SIGNATURE _____	OWNER NAME PRINTED _____
ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 20____,	
BY _____ AS _____.	
WITNESS MY HAND AND SEAL:	
NOTARY PUBLIC _____	
MY COMMISSION EXPIRES: _____	

9. Vicinity Map

- j. Please match the vicinity map utilized on the minor subdivision. Make sure the site area is cross hatched.

10. Site Data Summary Chart:

- a. The planted area lists 37.1% of planted area, however, the landscaping plan only lists the 15% requirement. Please update the landscaping plan to include all landscaping.
- b. Vegetation is misspelled in the chart.

Sheet 3 – Site Plan:

11. Make the property line heavier on the plan. Remove the “PL” label. Update the legend to reflect the change.

- a. Update all other sheets per this comment.

12. Please label some of the major infrastructure within the substation.

13. Recording numbers shall be listed for all easements shown on the site plan. If they will be established with the proposed final plat under review by the Town, please leave a line for the recording information for now.

- a. A 20 foot easement is located on the south side of the Town owned property. Please see the Minor Subdivision comment # 3b.
- b. The site plan depicts a new easement required on the lot to the south to connect to the existing power lines. Please provide the Town with a recorded copy of that easement.
- c. New utility poles are proposed within the existing WAPA easement to the south. Has this been coordinated with WAPA? Please provide copies of the agreements allowing this new work.
  - i. Two of the poles do not appear to tie into the existing lines.

14. The legend lists a line as OHE and states it is for existing and proposed overhead electric lines.

- a. Are there any new overhead electric lines proposed with this development, other than the ones extending from the substation to the existing power line to the south? The existing and proposed lines should be differentiated in the legend to make it clearer.

15. Designate surface materials for the driveway and substation area.

- a. The “25 foot Drive Aisle” shall be improved with concrete or asphalt for at least 100 feet from the edge of WCR 6 into the property to limit debris on the paved road.

Sheets 4 & 5 – Landscape Plan and details

16. An irrigation plan should be provided depicting the following at a minimum:

- a. Point of Connection;
- b. Meter & backflow;
- c. Controller location; &
- d. Main line layout

17. Notes should be added requiring the rip rap on the south side of the detention pond to be buried to reduce the visual impact.
18. On the landscaping replacement chart the word “maximize” shall be replaced with “minimize” in the landscape maintenance note as water consumption should be minimized through maintenance of the irrigation system.
19. Alternative Equivalent Compliance requests:
  - a. Planting Pockets: It is not clear why the planting pockets cannot be provided on the north side of the fence. The explanation states the wall is too close to the detention basin to provide the required pockets. The detention basin could be moved to the north to make room for the pockets.
  - b. Staff has no concerns with the eight feet tall fence.

#### Sheet 7 - Utility Plan

20. This plan should depict the water connection for the irrigation system and the meter location/easement.
  - a. The size of the water lines should be noted.
21. Update the plans per the previous comments.

#### Sheet 9 – Photometric Plan

22. Please provide the details and cut sheets for all lighting.
  - a. Lights poles are labeled on the drawing. Details of the poles and lighting shall be provided.
  - b. The height of light poles are limited to 25 feet.
  - c. All lighting shall be concealed or shielded with an IESNA full cut-off style fixture with an angle not exceeding 90 degrees to minimize the potential for glare and unnecessary diffusion on adjacent property.
    - i. Add a note to the photometric plan requiring all lighting to be full cut off.
    - ii. Notes on the plan indicate the lighting elevation will be 20 feet which would meet the requirement.
    - iii. Notes also indicate the light aiming angle will be 20 degrees. This will need to be adjusted per the lighting requirement within the UDC.

#### Sheet 12 – Substation Elevations

23. On each elevation, please label the heights of the proposed utility poles that are located within the WAPA easement south of the site.
24. These elevations should be black and white on the site plan, however, please provide the color version electronically.
25. On elevation # 4 (Weld County Road 6 North) what is the purpose of the rooftop that is visible over the fence on the left side of the drawing?
  - a. Is this structure on the site plan?

### REFERRAL AGENCIES

Referral agency packets were sent out and the referral responses that have been received by the Town are being forwarded to you. Comments were made by several Town departments and referral agencies that need to be addressed prior to proceeding to public hearings. Please address the identified concerns and make the appropriate revisions to the application materials and provide a written response to address each of the written comments from staff and referral agencies.

Since review is a cumulative process and dependent on various criteria, we reserve the right to provide further comment(s) and request additional information upon receipt of this requested information. Please do not hesitate to contact me at 303.926.2776 for further clarification or with any questions.

Sincerely,

Christopher C. LaRue  
Senior Planner

# COLORADO GEOLOGICAL SURVEY

1801 Moly Road  
Golden, Colorado 80401



Karen Berry  
State Geologist

April 4, 2019

Chris LaRue  
Planning & Development  
Town of Erie  
P.O. Box 750  
Erie, CO 80516

**Location:**  
NE NE Section 28,  
T1N, R68W of the 6<sup>th</sup> P.M.  
40.0286, -105.0007

**Subject: Lazy Dog Substation**

Minor Subdivision MS-001052-2019, Site Plan SP-001053-2019, Special Review Use SRU-001054-2019  
**Town of Erie, Weld County, CO; CGS Unique No. WE-19-0045**

Dear Chris:

Colorado Geological Survey has reviewed the Lazy Dog Substation minor subdivision, site plan, and special review use referral, for an electrical substation on eight acres located southwest of Weld County Roads 6 and 7. The referral documents include:

- Geotechnical Engineering Report, Lazy Dog Substation, Aggregate Surface Roadway and Yard, Weld County Roads 6 & 7, Weld County, Colorado (Kleinfelder, September 10, 2018), and
- Geotechnical Engineering Report, Lazy Dog Electrical Substation, SW of Weld County Road (WCR) 6 and WCR 7, Town of Erie, Weld County, Colorado (Terracon, January 15, 2018),
- and other documents.

The site is not known to be undermined, and is not exposed to any identified geologic hazards or geotechnical constraints that would preclude the proposed substation. Provided Kleinfelder's and Terracon's geotechnical recommendations are adhered to, CGS has no objection to minor subdivision, site plan, and special use review approval.

Thank you for the opportunity to review and comment on this project. If you have questions or require further review, please call me at 303-384-2643, or e-mail carlson@mines.edu.

Sincerely,

A handwritten signature in black ink, appearing to read "Jill Carlson", is written over a horizontal line.

Jill Carlson, C.E.G.  
Engineering Geologist



## MEMORANDUM

**TO:** Chris LaRue

**FROM:** Charles M. Buck, P.E., PTOE

**DATE:** April 3, 2019

**SUBJECT:** Review of Site Plan, Minor Subdivision, Special Review Use  
Lazy Dog Substation (United Power)  
MS-001052-2019, SP-001053-2019, and SRU-001054-2019  
FHU Reference No. 195190-01

I have reviewed the submittal materials provided for the Lazy Dog Substation. I have examined the submittal materials relative to traffic engineering and transportation planning but not general civil or utility engineering.

The site is located west of WCR 7 and south of WCR 6, and is currently in agricultural use. This would be an electrical power substation. Access would be to WCR 6 and would align with an existing access on the north side of the road. No occupied buildings are proposed, and traffic impacts would be negligible.

Based on my review, I have no traffic related concerns with this current submittal. Please call if you have any questions or need additional information.

April 9, 2019

Town of Erie, Engineering Division  
P.O. Box 750  
645 Holbrook Street  
Erie, Colorado 80516

**RE: Lazy Dog Substation Drainage Submittal**

Dear Engineering Division:

We have reviewed the Lazy Dog Substation submittal received on March 4, 2019. The submittal had several files including the Lazy Dog Substation Phase III Drainage Report dated December 19, 2018, and December 19, 2018, by Del-Mont Consultants, Inc. prepared for Tri-State Generation and Transmission, Inc. We have the following comments to offer:

**Phase III Drainage Report**

***Report***

1. While the Curve Number method is a valid method to determine runoff in other regions, the Town and the Urban Storm Drainage Criteria Manual (USDCM) require the Rational Method to be used for sites less than 90 acres. Revise the runoff calculations to use the Rational Method.
2. The Town and the USDCM criteria require the one-hour rainfall depth be used for hydrologic design. The 24-hour storm event depths (2.38 inches for the 5-year and 4.86 inches for the 100-year event) provided do not meet these criteria. Revise all calculations to use one-hour rainfall depths as provided by the Town criteria.
3. Offsite areas that are historically tributary to the site must be accounted for in the sizing of onsite channels, pipes, and ponds.
4. The East and West basins include improvements that would only slightly increase the imperviousness (gravel roadways). Therefore, stormwater detention and water quality treatment will not be required to be provided for these areas. However, if these driveways are paved in the future, water quality treatment and detention must be provided. We recommend providing water quality and detention now if future paving is anticipated.

***Appendix A – Site Maps and Design Drawings***

5. It appears that offsite flow is being routed around the substation via channels. Provide measures to spread the concentrated flow out to reduce the velocity and depth before releasing to undisturbed offsite areas.
6. It appears that the detention pond outlets to an adjacent property which eventually flows to the roadside ditch on the south side of Weld County Road 6. It is recommended that the discharge from the pond outlet be directed north along the substation driveway to the roadside ditch so the adjacent property is not negatively impacted by concentrated flows. Verify that the roadside ditch has adequate capacity to accept the discharge from the pond.
7. Provide a trickle channel in the pond from the pipe outlet at the southeast corner to the main pond trickle channel.



2480 W. 26<sup>th</sup> Street, Unit B225  
Denver, Colorado 80211



Tel: +1 303-964-3333



hello@merrick.com  
www.merrick.com

8. Provide a forebay at the pipe outlet into the pond.

#### **Appendix B – NRCS Soils Report**

9. No Comments.

#### **Appendix C – Site Specific Physical Design Properties**

10. In the Drainage Design for Existing and Proposed Conditions, the flow lengths provided appear to be too short. The flow length for each basin must be the full flow path length from the furthest point in the basin to the outlet of the basin. Update existing and proposed conditions calculations with the corrected flow lengths.
11. The following comments relate to the calculations in the Detention Basin Spreadsheet
  - a. The Watershed Length is too short (see comment above).
  - b. The values used to override the 1-hour Precipitation are for the 24-hour rainfall event. Per Town and USDCM criteria, the 1-hour precipitation values must be used for the site. Revise pond design as necessary.

#### **Appendix D – SWMM Modeling Results**

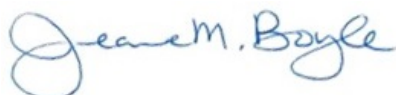
12. Provide a plan schematic to show the SWMM Routing elements.
13. The lengths, slopes, and characteristics provided in the SWMM Modeling do not match those shown on the construction plans. Update all modeling with the correct values.
14. The Storage Area Volume Curve used in the SWMM Modeling does not match the curve from the Detention Basin spreadsheet in Appendix C. Update modeling with the correct curve.
15. The proposed channels have a triangular shape. To aid with ease of maintenance, it is recommended that a flat bottom (trapezoidal shape) be used for all channels for ease of maintenance and constructability.
16. The Peak Outflow in the 100-year SWMM Modeling of 1.16 cfs does not match the 100-year outflow presented in the Detention Basin Spreadsheet. Update all modeling with the corrected outlet configuration.

#### **Construction Plans**

17. Provide erosion protection on the north side of the driveway to protect the embankment for the emergency overflows at the spillway from the pond.
18. On Sheet S9031-A-01-011, the depth of the trickle channel above the micropool is shown to be only 2 inches. Per criteria, this depth must be 4 inches minimum. Revise the depth to meet criteria.
19. Revise the pond outlet pipe to be 18" RCP minimum with a restrictor plate and the culverts under the driveway entrance to be 18" RCP minimum.

Please let us know if you have any questions.

Sincerely,  
**Merrick & Company**



Jeanne M. Boyle, PE, CFM



Clare Steninger, PE





## MOUNTAIN VIEW FIRE RESCUE

3561 N. Stagecoach Road • Longmont, CO 80504  
(303) 772-0710 • FAX (303) 651-7702

March 19, 2019

Mr. Craig LaRue  
Erie Community Development Services  
P.O. Box 750  
Erie, CO 80516

Dear Mr. LaRue:

I have reviewed the submitted material for the proposed the Lazy Dog Substation proposed for construction at the southwest corner of Weld County Road 6 and 7 in Erie.

Fire apparatus access to the building appears to be adequate as indicated on the plans. Fire apparatus access roads must be designed and maintained to support the imposed loads of fire apparatus (75,000 pounds).

If the access gate is going to be locked, it will be necessary to have a key to the gates in the fire department key box (Knox Box) at the front of the property, or a Knox Padlock Lock or Knox Key Switch on the gate.

Nothing in this review is intended to authorize or approve of any aspect of this project that does not comply with all applicable codes and standards. We appreciate being involved in the planning process. Should you have any questions, please contact me at 303-772-0710 x 1121.

Sincerely,

LuAnn Penfold  
Fire Prevention Specialist

cc: project file

lp03.11.19

## Chris LaRue

---

**From:** Gina Lujan <glujan@unitedpower.com>  
**Sent:** Tuesday, April 9, 2019 11:36 AM  
**To:** Development Referral  
**Subject:** Lazy Dog Substation

Good afternoon Chris,

Good afternoon Hannah,

Thank you for inviting United Power, Inc. to review and comment on this referral.

As always, we appreciate the planned and continuous utility easements. We typically require 8' along the rear of all lots, and sides of lots abutting a road.

We look forward to safely and efficiently providing reliable electric power to Spring Hill development.

Thank you,  
Gina

*Gina Lujan*  
*Right of Way Specialist*  
*Office: 303-637-1268*  
*Hours: M – F 7:00-3:30*  
  
*500 Cooperative Way*  
*Brighton CO 80603*  
*Fax: 303-637-1344*

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## Chris LaRue

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**From:** Chris LaRue  
**Sent:** Friday, July 19, 2019 1:22 PM  
**To:** Wiedmeyer, Stephanie  
**Subject:** FW: Planning Comments for Lazy Dog  
**Attachments:** FW: lazy dog storm water coordinator comments; Lazy Dog Substation Minor Subdivision, Site Plan, Special Use Review; referral comments.pdf

Hi Stephanie:

I forgot to send the attached referral comments the other day. Also attached are the storm water comments and engineering comments. I thought it might be helpful to have everything in one e-mail.

Regarding the Northern Water inclusion, as that is necessary to obtain water from the Town, we would like to have confirmation of that applicant being submitted prior to hearings. A condition of approval would also be included that the property be included in to the district before the Town could provide water to the site. I'm not exactly sure of the condition wording yet.

Let me know if you want to discuss.

Thank you,

**Chris LaRue** | Senior Planner  
Town of Erie | Planning & Development  
Phone: 303-926-2776 | Fax: 303-926-2706  
[www.erieco.gov](http://www.erieco.gov) | [Facebook](#) | [Twitter](#) | [LinkedIn](#)

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**From:** Chris LaRue  
**Sent:** Wednesday, July 17, 2019 5:10 PM  
**To:** Wiedmeyer, Stephanie  
**Cc:** Ashley Tucker; Chad Schroeder  
**Subject:** Planning Comments for Lazy Dog

Hi Stephanie:

Please some comments on the re-submittal below:

Plat

- Remove the irrigation easements from the plat and the recording reference. Since that will be in row the easement isn't necessary.
- The easement on the south of Lot 1 appears to already have been recorded per the easement agreement in Appendix A. Rather than dedicating this by plat, simply reference the recording information.
- Development Agreement – The Town will need to determine if this will be required.
- The property will need to be included within the Northern Water District and Sub-district. I sent contact info earlier. This will be a condition on the project.
- Final construction documents to be signed by the Town Engineering will be required for plat recordation.

Site Plan

- The planting legend should be updated to include the planting symbol for each tree category.

- The access road shall comply with Section 10.6.14 in order to minimize the impact on streets and tracking of debris onto streets. This section states the developer shall improve the access road from the point of connection to a street a minimum distance of 200 feet on the access road. The access road shall be improved as a hard surface (concrete or asphalt) for the first 100 feet from the street and then improved as a crushed surface (concrete or asphalt) for 100 feet past the hard surface in the appropriate depth to support the weight load requirements of the vehicles accessing the site. Please discuss this further with engineering.
- The Town's preference is to not locate landscaping within detention areas. The proposed landscaping in this area should be moved to the eastern property line to provide further visual screening into the site from the surrounding roads. Please let me know if you want to discuss this further. Ashley Tucker is the storm water coordinator and you reach her at 303-926-2897.
- Buried rip rap – The Town is still considering this issue.

Thank you,



**Chris LaRue** | Senior Planner  
 Town of Erie | Planning & Development  
 645 Holbrook Street | P.O. BOX 750 | Erie, CO 80516  
 Phone: 303-926-2776 | Fax: 303-926-2706  
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Memo

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To: Chris LaRue  
From: Chad Schroeder, P.E., CFM, Development Engineer  
Date: July 19, 2019  
Subject: **Lazy Dog Substation Minor Subdivision, Site Plan, Special Use Review**  
CC: Joe Smith  
Wendi Palmer  
David Pasic  
Tyler Burhenn

---

**Comments for Phase III Drainage Report:**

1. Adequately address the attached Drainage Report comments from Merrick dated April 9, 2019.  
**Response: The Drainage Report comments provided by Merrick and dated April 9, 2019, have been addressed. (See section above regarding Merrick comments.)**  
See attached Merrick follow-on comments from 10 July 2019 and address accordingly.

July 10, 2019

Town of Erie, Engineering Division  
P.O. Box 750  
645 Holbrook Street  
Erie, Colorado 80516

**RE: Lazy Dog Substation Drainage Submittal**

Dear Engineering Division:

We have reviewed the Lazy Dog Substation submittal received on June 10, 2019. The submittal had several files including the Lazy Dog Substation Phase III Drainage Report dated April 24, 2019, and Civil Construction Plans dated April 24, 2019, by Del-Mont Consultants, Inc. prepared for Tri-State Generation and Transmission, Inc. We have the following comments to offer:

**Phase III Drainage Report**

***Report***

1. The rational method runoff coefficients mentioned in section 3.3 of the report are for the 100-year storm event. Update references to include the proper storm event.
2. The required flow capacity for interior site culvert pipes does not match the design flows shown on the Drainage Delineation Map in Appendix A or in Table 4-4 of the report. Verify that all storm pipes are sized using the correct flow values.
3. The report indicates that the East and West Channels that convey offsite runoff around the site do not have sufficient capacity to contain the 100-year design flow. Without sufficient capacity, runoff would overtop the swales and flow through the project site to the Onsite Channel and detention pond. These drainage improvements are not designed to intercept this additional runoff. Regrade these channels to have adequate capacity. It appears that there is space to widen the channels or make them slightly deeper which should be adequate. In addition, 1 foot of freeboard is required per Town criteria, but a minimum freeboard depth of 3 inches will be allowed for these channels. Since the grading appears to be tight for these channels, extra care must be given when constructing them to ensure they are constructed per the plans and have adequate capacity.

***Appendix A – Site Maps and Design Drawings***

4. Provide a drainage map that shows the entire drainage basin boundary for the offsite tributary basins. If needed, subdivide the offsite basins to provide peak flows at critical locations along the offsite channels.
5. The riprap discharge pads at the outfall of the West Channel does not appear to be at the end of the channel. Flow spreading must occur before tying into undisturbed areas. In addition, sizing calculations to determine the minimum width of the flow spread to reduce the depth and velocity must be provided.
6. The contours on the Drainage Basin Delineation Map do not match those provided in the construction plans (Sheet S9302-A-01-004). In particular, the channel downstream of the pond outlet pipe is not shown on the Drainage Basin Delineation Map. Provide the same grading on both drawings.



2480 W. 26<sup>th</sup> Street, Unit B225  
Denver, Colorado 80211



Tel: +1 303-964-3333



hello@merrick.com  
www.merrick.com

## **Appendix C – Site Specific Physical Design Properties**

7. The following comments relate to the calculations in the Detention Basin Spreadsheet.
  - a. The elevations for the pond stage-storage curve determined from the UD-Detention spreadsheet and presented in Table 4-2 of the report do not match the elevations shown on the construction plans (i.e. Pond 1 Orifice plate detail on Sheet S9302-A-01-011). Revise pond details and sizing with actual elevations and areas proposed.
  - b. The UD-Detention spreadsheet used for the pond design does not have outlet structure sizing calculations for the 100-year storm event. Clarify how the 0.08 cfs release rate was determined (i.e., it appears that this is only the water quality release rate) and provide sizing calculations to include EURV and 100-year release rate controls. Update all modeling with corrected outlet release rates.
  - c. Provide calculations for the forebay, trickle channels, and emergency overflow designs.

## **Appendix D – Rational Method Modeling Results**

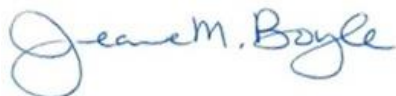
8. Provide a plan schematic to show the Rational Method Modeling elements and include as part of the drainage report documents since these calculations are hard to follow.
9. The lengths, slopes, and characteristics provided in the Rational Method Modeling do not match those shown on the construction plans. Update all modeling with the correct values.
10. The resulting runoff values using the AutoDesk Storm & Sanitary Analysis tool appear to be incorrect. The resulting intensity values at the time of concentrations do not match the Rainfall Duration Intensity Curves in the Town of Erie Standards and Specifications. All Rational Method runoff calculations must be recalculated based on the Town's criteria. In addition, the sizing for all drainage improvements must be adjusted using the recalculated flows.
11. For the Onsite Channel in the South Yard basin, a roughness value of 0.027 was used. Clarify the materials that will be used to construct this channel since this value is too low for grass-lined channels.

## **Construction Plans**

12. On Sheet S9302-A-01-004, show the dimensions for the flow spreads at the outfalls of the East and West Channels. Provide enlarged details if needed.
13. On Sheet S9302-A-01-011, in both the Pond 1 Orifice Plate detail and the Profile view, the 5-year water surface elevation is shown below the WQCV elevation which is not possible. Also, the 100-year water surface elevation is shown below the top of the orifice plate/overflow which is not typical unless it is intended to control the 100-year release rate by the orifices only and provide overdetention. Correct these details as needed.
14. Provide details including: all channel cross sections (shape dimensions and minimum depth), storm pipe profiles (including HGLs), and pond emergency overflow.

Please let us know if you have any questions.

Sincerely,  
**Merrick & Company**



Jeanne M. Boyle, PE, CFM



Clare Steninger, PE





The Town of Erie  
645 Holbrook St.  
P.O. Box 750  
Erie, CO 80516

## **STORMWATER REVIEW**

### **PROJECT: LAZY DOG SUBSTATION**

#### **FINAL PLAT COMMENTS:**

1. Stormwater facilities associated with this project need drainage easements.
2. Final plat should include the following dedication statement for drainage easements:
  - a. The undersigned, as owner(s) of the lands described herein, are responsible for the maintenance and operation of all drainage easements shown hereon and related drainage facilities, as provided in the Town of Erie Engineering Standards and Specifications, as amended. The undersigned grants the Town of Erie a perpetual right of ingress and egress from and to adjacent property to: inspect, maintain, operate and reconstruct the drainage easements and related facilities covered by the Erie Municipal Code, as amended; and to inspect, maintain, operate and reconstruct the drainage easements and related facilities, when the owner(s) fail to adequately maintain such drainage easements and related facilities, which inspection, maintenance, operation and reconstruction shall be at the cost of the owner(s).

#### **DRAINAGE REPORT COMMENTS**

1. Please provide documentation of agreement of maintenance for permanent stormwater control measures (facilities).
2. Please provide operation and maintenance plan for long-term maintenance of permanent stormwater control measures

#### **SWMP & EROSION CONTROL PLAN COMMENTS**

1. Currently in review for grading permit.



## MOUNTAIN VIEW FIRE RESCUE

3561 N. Stagecoach Road • Longmont, CO 80504

(303) 772-0710 • FAX (303) 651-7702

June 14, 2019

Mr. Craig LaRue  
Erie Community Development Services  
P.O. Box 750  
Erie, CO 80516

Dear Mr. LaRue:

I have reviewed the submitted material for the proposed the Lazy Dog Substation proposed for construction at the southwest corner of Weld County Road 6 and 7 in Erie and have no additional comments to add at this time.

The request to waive the installation of a Knox Box is under review by the Fire Marshal and Operations Staff and has not been granted at this time.

Nothing in this review is intended to authorize or approve of any aspect of this project that does not comply with all applicable codes and standards. We appreciate being involved in the planning process. Should you have any questions, please contact me at 303-772-0710 x 1121.

Sincerely,

LuAnn Penfold  
Fire Prevention Specialist

cc: project file

lp03.11.19



The Town of Erie  
645 Holbrook St.  
P.O. Box 750  
Erie, CO 80516  
(303) 926-2776  
clarue@erieco.gov

## Planning & Development Planning

# Memo

**To:** Stephanie Wiedmeyer  
**From:** Chris LaRue, Senior Planner  
**Date:** October 18, 2019  
**Re:** Lazy Dog Substation Project

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Town staff has reviewed the Lazy Dog Substation Project & Land Use Applications for Minor Subdivision, Site Plan, and Special Review Use for conformance with Municipal Code, Title 10.

*Below is a tentative timeline for the project.* The items listed below need to be addressed by the dates indicated to stay on the tentative schedule. Applicant requirements have been highlighted in **yellow**; the other items will be addressed by the Town.

10/24/19	Public hearing notice to paper - PC
10/25/19	Applicant submittal of envelopes for public hearing notices for Planning Commission & Board of Trustees. Envelopes shall have postage and addresses of property owners within 500 feet of property boundary plus the Name of any HOA and Metro District. Do not place a return address on the envelopes, as the Town will put their own return address labels on the envelopes. Please provide 1 paper copy of all of the names/addresses.
10/30/19	Public hearing notice in paper - PC
11/1/19	Town mails public hearing notice letters - PC
11/1/19	Applicant posts property public hearing notices no later than 11/1/19; takes photos; completes affidavit of posting - PC
11/14/19	Public hearing notice to paper - BOT
11/4/19	Applicant submits copy of affidavit of posting – PC
11/8/19	Staff memo due - PC
11/20/19	Public hearing notice in paper - BOT
11/22/19	Town mails public hearing notice letters - BOT
11/22/19	Applicant posts property notices not later than 11/22; takes photos; completes affidavit of posting - BOT
11/15/19	PC agenda and packets should be posted on Town website for viewing.
11/18/19	Applicant presentation due - PC

11/20/19	Planning Commission meeting 6:30 pm Town Hall
11/25/19	Applicant submits copy of affidavit of posting - BOT
11/25/19	Applicant presentation due – BOT
11/27/19	Staff memo due BOT
12/6/19	BOT agenda and packets should be posted on Town website for viewing.
12/10/19	Board of Trustees meeting 6:30 pm Town Hall

Planning Comments:

Planning staff comments are listed below:

1. Staff anticipates the following condition on the Minor Subdivision and Site Plan/Special Review:
  - a. Applicant shall make technical corrections to the documents as directed by Town staff.
2. The anticipated technical corrections to the Minor Subdivision will include, but not necessarily be limited to, the following:
  - a. Update all documents per the Stormwater, Engineering, and Merrick comments.
  - b. Under the dedication statement delete the statements regarding the drainage easement.
  - c. Change the "Survey Notes" to state "Notes".
  - d. Add the following note to the "Notes" section, but please re-number accordingly:

16. THE OWNER(S) OF THE LANDS DESCRIBED HEREIN, ARE RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF ALL DRAINAGE EASEMENTS SHOWN HEREON AND RELATED DRAINAGE FACILITIES, AS PROVIDED IN THE TOWN OF ERIE ENGINEERING STANDARDS AND SPECIFICATION, AS AMENDED. THE OWNER GRANTS THE TOWN OF ERIE A PERPETUAL RIGHT OF INGRESS AND EGRESS FROM AND TO ADJACENT PROPERTY TO: INSPECT MAINTAIN, OPERATE AND RECONSTRUCT THE DRAINAGE EASEMENTS AND RELATED FACILITIES COVERED BY THE ERIE MUNICIPAL CODE, AS AMENDED; AND TO INSPECT, MAINTAIN, OPERATE AND RECONSTRUCT THE DRAINAGE EASEMENTS AND RELATED FACILITIES, WHEN THE OWNER(S) FAIL TO ADEQUATELY MAINTAIN SUCH DRAINAGE EASEMENTS AND RELATED FACILITIES, WHICH INSPECTION, MAINTENANCE, OPERATION AND RECONSTRUCTION SHALL BE AT THE COST OF THE OWNER(S).

- e. Add the following note to the "Notes" section:  
"A BLANKET DRAINAGE EASEMENT IS GRANTED OVER LOT 2".



Memo

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To: Chris LaRue  
From: Chad Schroeder, P.E., CFM, Development Engineer  
Date: October 29, 2019  
Subject: **Lazy Dog Substation Minor Subdivision, Site Plan, Special Use Review**  
CC: Joe Smith  
Wendi Palmer  
David Pasic  
Tyler Burhenn

---

**Previous Comments for Phase III Drainage Report:**

1. Adequately address the attached Drainage Report comments from Merrick dated April 9, 2019.

**Response1: The Drainage Report comments provided by Merrick and dated April 9, 2019, have been addressed. (See section above regarding Merrick comments.)**

See attached Merrick follow-on comments from 10 July 2019 and address accordingly.

**Response2: Response provided for Merrick comments.**

See attached Merrick follow-on comments from 16 October 2019 and address accordingly.

**Comments for Phase III Drainage Report:**

1. A completed Water Demand Worksheet is attached based on the landscaping quantities. Based on the current site plan, the Raw Water Dedication Fee that is due at time of building permit will be \$41,789.10.
2. Include applicable Town of Erie Standard and Specifications Standard Drawings for irrigation water meter hook up.
3. Remove "NOT FOR CONSTRUCTION" for final plan sets.
4. Have the following Dedication of Drainage Easement be included as a Site Plan Note:

The owners of the lands described herein are responsible for the maintenance and operation of drainage easements shown hereon and related facilities, as provided in the Town of Erie Engineering Standards and Specification, as amended. The owners grants the Town of Erie a perpetual right of ingress and egress from and to adjacent property to inspect, maintain, operate and reconstruct the drainage easements and related facilities covered by the Town of Erie Municipal Code, as amended; and to inspect, maintain, operate and reconstruct the drainage easements and related facilities, when the owner(s) fail to adequately maintain such drainage easements and related facilities, which maintenance, operation and reconstruction shall be at the cost of the owner(s).

## Town of Erie Average Annual Water Demand Worksheet

Project Name:	Lazy Dog Substation	Date:	October 29, 2019
Engineering Firm:		Developer:	
Contact Person:		Contact Person:	
Telephone:		Telephone:	

<b>Lot or Tract Usage:</b>			
Building footprint		-	SF
Hard surfaces		-	SF
Non-irrigated landscaping		-	SF
Irrigated Turf		-	SF
Irrigated Xeric Plants		-	SF
Special Irrigated uses		-	SF
<b>Total Lot size</b>		-	<b>SF</b>

<b>A. Irrigation Demand for Lot or Tract:</b>			
Number of lot or tracts		-	
Total turf irrigated area for lots		-	SF
Total xeric plant irrigated area for lots	36,962.00		SF
Trees in native areas	10.00		EA
Total special irrigated use for lots		-	SF
Total AF for irrigated turf (2.5 ft/yr)		-	AF
Total AF for irrigated xeric plant (1.33 ft/yr)	1.13		AF
Total AF for trees in native (.008 AF/yr)	0.08		AF
Total AF for special irrigated uses *		-	AF
<b>Total irrigation for lots or tracts</b>	<b>1.21</b>		<b>AF</b>

<b>B. Other Irrigation Usage</b>			
Irrigated turf in parks/tracts		-	acres
Irrigated turf in street R.O.W.		-	acres
<b>Total Irrigated Turf</b>		-	<b>acres</b>
Irrigated xeric plant area in parks/tracts		-	acres
Irrigated xeric plant area in street R.O.W.		-	acres
<b>Total Irrigated Xeric Plant Area</b>		-	<b>acres</b>
Special irrigated area in parks/tracts		-	acres
Special irrigated area in street R.O.W.		-	acres
<b>Total Special Irrigated Area</b>		-	<b>acres</b>
Trees in native areas			each
<b>Irrigation demand for Turf Area (2.5 ft/yr)</b>		0	AF
<b>Irrigation demand for Xeric Plant Area (1.33 ft/yr)</b>		0	AF
<b>Irrigation demand for Special Irrigated Area *</b>		0	AF
<b>Irrigation demand for Trees in native (.008 AF/yr)</b>		-	AF
<b>Total Other Irrigation Usage</b>		-	<b>AF</b>

\* Annual rate for special irrigated uses ft/yr   ft/ac

<b>C. Total Irrigation Usage</b>			
Total Irrigation Demand for Lots or Tracts	1.21		AF
Total Other Irrigation Usage	-		AF
<b>TOTAL IRRIGATION USE</b>	<b>1.21</b>		<b>AF</b>

# Town of Erie

## Summary of Average Annual Water Requirements

### D. Inside Use

Type	Units/Area	Unit Requirement	Annual Requirement (acre feet)
1. Single Family Detached Homes	Lots	0.28 AF/lot	- AF
2. Multi-Family Units	Units	0.17 AF/unit	- AF
3. Commercial	SF	0.10 gpd/sq ft	- AF
4. Office	SF	0.16 gpd/sq ft	- AF
5. Light Industrial	SF	0.06 gpd/sq ft	- AF
6. Other	SF		- AF
<b>TOTAL INSIDE USE:</b>			<b>- AF</b>

**TOTAL IRRIGATION AND INSIDE USE WITH 13% LINE AND TREATMENT LOSS** **1.37 AF**

based on 0.5 AF per CBT the units of CBT are

2.73 CBT

### E. Average Annual Consumptive Use

<b>Inside Use</b>			
Total demand (AF)	-	Subtotal of Box D	
	x 0.05		
	-	AF	
<b>Irrigation Use</b>			
Total irrigation demand (AF)	1.21	Subtotal of Box C	
	0.85		
	1.03	AF	
<b>TOTAL CONSUMPTIVE USE</b>	<b>1.03</b>	<b>AF</b>	

SFE for cost recovery of sanitary sewer  
Water dedication at \$15,300 per CBT is

-  
\$ 41,789.10

APPLICANT:

By:

Date:



The Town of Erie  
645 Holbrook St.  
P.O. Box 750  
Erie, CO 80516

## **STORMWATER REVIEW**

### **PROJECT: LAZY DOG SUBSTATION**

#### FINAL PLAT COMMENTS:

1. Stormwater facilities associated with this project need drainage easements. The replat doesn't have a drainage easement dedicated. A blanket drainage easement would suffice.

#### EROSION CONTROL PLAN COMMENTS

1. Erosion control must include VTC

#### STORMWATER MANAGEMENT PLAN COMMENTS

1. Page numbers are recommended, but not required.

October 15, 2019

Town of Erie, Engineering Division  
P.O. Box 750  
645 Holbrook Street  
Erie, Colorado 80516

**RE: Lazy Dog Substation Drainage Resubmittal**

Dear Engineering Division:

We have reviewed the Lazy Dog Substation submittal received on September 3, 2019. The submittal had several files including the Lazy Dog Substation Phase III Drainage Report dated August 7, 2019 and Lazy Dog Substation Construction Plans dated August 7, 2019, by Del-Mont Consultants prepared for Tri-State Generation & Transmission. We have the following comments to offer:

**Phase III Drainage Report**

***Report***

No comments.

***Appendix D – Rational Method Modeling Results***

1. Per the Autodesk Storm Analysis 100-year event Junction Results, channel sizing calculations indicate that the freeboard criteria is not met at both the Start and End of the South Channel. 1 foot of freeboard is required per Town criteria, but a minimum freeboard depth of 3 inches is being allowed within this development due to the relatively small swales. Revise the grading as needed to provide the minimum required depth and freeboard.
2. For the Autodesk Storm Analysis, provide additional channel input parameters needed to determine the channel capacities, including side-slopes, bottom width, and any other pertinent information needed to confirm that the designed typical cross sections match the sections shown in the plans.
3. Provide sizing calculations to determine the minimum width of the flow spread for reduction in velocity and depth for the riprap discharge pads at the channel outfalls. Normal depth calculations are acceptable for this analysis. Update the riprap pad grading at channel outfalls if needed.

***Construction Plans***

4. On Sheet S9302-A-01-004, some areas do not appear to meet the required minimum depth with freeboard per the sizing analysis, such as at the End of the Channel where it is only about 0.7' deep (5212.0 – 5211.31), but about 1.04' (0.79' + .25') is required. Check and revise the grading as needed to provide the required minimum depth, including freeboard, for all channels.
5. On Sheet S9302-A-01-006, revise the Emergency Spillway Section to show the riprap extending across the width of the roadway (i.e., top of embankment) for erosion protection. Burying the riprap with 4 inches maximum of Modified Class 5 Base Material is acceptable if desired.



2480 W. 26<sup>th</sup> Street, Unit B225  
Denver, Colorado 80211



Tel: +1 303-964-3333



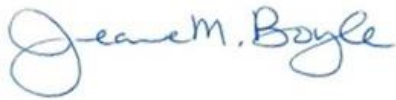
hello@merrick.com  
www.merrick.com

6. On Sheet S9302-A-01-010, revise typical sections A-A and B-B to show correct minimum depths that will convey the required flows per the hydraulic calculations in Appendix D and including the minimum 3" of freeboard required. Also, provide a typical section for the South Channel Swale.
7. On Sheet S9302-A-01-010, revise the Typical Riprap Installation detail to show the riprap thickness to be 2 times the  $D_{50}$  value, not 1.5, to meet current MHFD and Town criteria. Also, revise the riprap thicknesses on site plans and details to match the 2 times  $D_{50}$  thickness.

Please let us know if you have any questions.

Sincerely,

**Merrick & Company**



Jeanne M. Boyle, PE, CFM



Joshua Juron, EI

