

City Council Regular Meeting  
Tuesday, June 10, 2025 7:00 PM

Hickman Community Center/City Hall

1. Call to Order

1.A. This is an Open Meeting of the Hickman Nebraska Governing Body. The City of Hickman abides by the Nebraska Open Meetings Act in conducting business. A copy of the Nebraska Open Meetings Act is on display in this meeting room as required by Nebraska State Law. Notice of meeting and copies of this agenda have been publicly posted prior to the meeting at the Hickman City Hall, Hickman U.S. Post Office, U-Stop Market and the City of Hickman website.

1.B. Participant Sign-In Sheet Available & Disclosure of Meeting Recording Process Notice Posted.

1.C. Registered Agenda Speakers: All individuals requesting to be Registered Agenda Speakers must fill out a Registered Speaker Card & submit to Recording Clerk. The Mayor or Presiding Meeting Officer reserves the right to deny this request, or will call you to the podium when your agenda Item is ready to be heard. Presentations, if allowed, may be limited to five (5) minutes per person. Please come to the podium, and clearly state your name and address for the record and the agenda topic you wish to speak upon in a professional manner. Public Hearing Testimonies may be limited to five (5) minutes per person. All individuals requesting to hand out documents to City Council Members must deliver them directly to the City Clerk for distribution.

1.D. The City Council may vote to go into Executive Closed Session on any agenda item as allowed by Nebraska State Law. The Governing Body may be excused and re-enter the City Council meeting room at any time after reconvening open session.

2. Pledge of Allegiance

3. Roll Call

4. Mayor Communications

5. Consent Agenda

5.A. Approval of May 27, 2025 City Council Meeting Minutes

5.B. Claims and Accounts Payable Report

6. Proclamations, Presentations, Appointments, Affirmations & Introductions - None
7. Reports
  - 7.A. Planning Commission Report
  - 7.B. Lancaster County Sheriff's Office Report
  - 7.C. Community Center and Activities Report
8. Public Hearings - None
9. Unfinished Business
  - 9.A. Ordinance 2025-07, Final Plat Etmund Estates 2nd Addition (Third Reading)
  - 9.B. Ordinance 2025-08, Annexation of Etmund Estates 2nd Addition (Third Reading)
  - 9.C. Agreement for Professional Services by Olsson for Street Project No. M-342(38) Road Replacement on Wagontrain Ave from Wagontrain Road to 1<sup>st</sup> Street (2025-2030 One & Six Year Street Plan adopted Oct. 22, 2024)
10. New Business
  - 10.A. American Legion Post 105 request use of City property for Hickman Hay Days
  - 10.B. Kim Snyder of Snyder & Associates to request the use of City property for an event at the Hickman Community Center.
  - 10.C. Toni Harms to request to use City property to set up snow cone business at the ball fields.
11. City Administrator's Report - None
12. Governing Body Comments & Council Correspondence
  - 12.A. City Hall Closed on Thursday, June 19, 2025, for Juneteenth
13. Meeting Adjournment

## **MINUTES OF THE HICKMAN CITY COUNCIL MEETING HELD May 27, 2025**

Mayor Phil Goering called the meeting to order at 7:00 pm on May 27, 2025, and referenced the meeting recording process, optional sign in sheet, and open meeting law posting. All those present stood and recited The Pledge of Allegiance. Mayor Phil Goering and Council Members Tina Ziemann, Dave Kulwicki, Steve Noren, Travis Borchardt, Doug Wagner, and John Meese were present for Roll Call. Prior notice of the meeting and agenda were provided to the Mayor and all members of the Governing Body. Notice of the meeting was distributed and posted at Hickman City Hall, U.S. Post Office-Hickman, U-Stop Market, and the City of Hickman Website.

### **Mayor Communications – None**

### **Consent Agenda**

The Consent Agenda included approval of the May 13, 2025, City Council Meeting Minutes, Claims and Accounts Payable Report, Statement of Accounts and Budget Cash Report as of March 31, 2025, and Monthly City Sales Tax Report. Motion by Noren and a second by Wagner to approve the Consent Agenda as presented. The following Council Members voted "YEA": Kulwicki, Noren, Borchardt, Ziemann, Drahota and Wagner. The following Council Members voted "NAY": None. Motion passed 6-0.

### **Proclamations, Presentations, Appointments, Affirmations & Introductions**

Jenna Nasif from Zelle Human Resource Solutions presented the new revisions to the Employee Handbook.

### **Reports**

There was no Public Works and Parks and Recreation Department Report. The City Administrator presented the City Code Violations, Abatements, Nuisances and Permits Report. Motion by Wagner and a second by Kulwicki to approve reports as presented. The following Council Members voted "YEA": Kulwicki, Noren, Borchardt, Ziemann, Drahota and Wagner. The following Council Members voted "NAY": None. Motion passed 6-0.

### **Public Hearings – None**

### **Unfinished Business**

The Mayor presented Ordinance 2025-06, an ordinance amending the Master Fee Schedule for the third reading. Motion by Noren and a second by Wagner to approve the third and final reading of Ordinance 2025-06. The following Council Members voted "YEA": Kulwicki, Noren, Ziemann, and Wagner. The following Council Members voted "NAY": Borchardt, Drahota. Motion passed 4-2.

### **New Business**

The Mayor presented Resolution 2025-05 Employee Handbook Revised. Resolution No 2025-05, A resolution adopting the City of Hickman Employee Handbook with revisions effective June 22, 2025. Whereas, the governing body and mayor of the City of Hickman adopt and fully approve the City of Hickman Employee Handbook: this revised document includes section

coverage of employment policies, compensation policies, benefits, general information, group health & related benefits, and rules & operating procedures. Now, therefore, let it be resolved by the mayor and city council of the City of Hickman approve the attached, revised City of Hickman Employee Handbook dated June 22, 2025. Passed and approved this 27<sup>th</sup> day of May, 2025. Motion by Wagner and a second by Noren to approve Resolution 2025-05, a resolution approving the Employee Handbook Revised. The following Council Members voted "YEA": Kulwicki, Noren, Borchardt, Ziemann, Drahota and Wagner. The following Council Members voted "NAY": None. Motion passed 6-0.

Owen Killham from Olsson presented an Agreement for Professional Services for Hickman Reservoir and Pump Station for the Water Department. Mr. Killham reported that the average daily water demand is 300,000 gallons with peaks spiking from 500,000 to 1 million gallons. The demand drops off sharply overnight and then rebounds when irrigation systems are activated. The wells currently run continuously during morning irrigation, causing excessive wear on the system. A new ground storage tank paired with a booster station will reduce cycling on the wells, improving efficiency and reduce maintenance. It will provide immediate capacity relief, help accommodate long-term growth of Hickman and stabilize pressure during peak periods. The proposed facility will be a million-gallon tank located to the north of the Water Treatment Plant on a 200 x 200-foot parcel. They anticipate being ready to bid in about one year and construction lead time to be approximately 6 to 9 months to deliver and install the tank. Motion by Wagner and a second by Noren to approve the Agreement for Professional Services by Olsson for Hickman Reservoir and Pump Station. The following Council Members voted "YEA": Kulwicki, Noren, Borchardt, Ziemann, Drahota and Wagner. The following Council Members voted "NAY": None. Motion passed 6-0.

Motion by Council Member Wagner and a second by Kulwicki to approve the Wastewater Treatment Plant Project Change Order No. 14-FINAL. The following Council Members voted "YEA": Kulwicki, Noren, Borchardt, Ziemann, Drahota and Wagner. The following Council Members voted "NAY": None. Motion passed 6-0.

Motion by Wagner and a second by Noren to approve Certificate of Payment No. 16 to Neuvirth Construction Inc. for the Hickman Wastewater Treatment Plant Head Works and Final Clarifier Improvements in the amount of \$28,256.80. The following Council Members voted "YEA": Kulwicki, Noren, Borchardt, Ziemann, Drahota and Wagner. The following Council Members voted "NAY": None. Motion passed 6-0.

Motion by Noren and a second by Ziemann to approve Certificate of Payment No. 17-FINAL to Neuvirth Construction Inc. for the Hickman Wastewater Treatment Plant Head Works and Final Clarifier Improvements in the amount of \$205,475.39. The following Council Members voted "YEA": Kulwicki, Noren, Borchardt, Ziemann, Drahota and Wagner. The following Council Members voted "NAY": None. Motion passed 6-0.

A new truck for the Public Works Department was included in the Capital Improvement Plan for \$60,000 for this fiscal year. The Utility Superintendent submitted a quote from Sid Dillon in Crete for a 2025 Chevy Silverado 2500HD for \$47,299. Motion by Ziemann and a second by Noren to purchase the 2025 Chevy Silverado 2500 per adopted Fiscal Year 2024/2025 Budget &

Capital Improvement Plan for \$47,299. The following Council Members voted "YEA": Kulwicki, Noren, Wagner, Borchardt, Ziemann. The following Council Members voted "NAY": Drahota. Motion passed 5-1.

Consideration of Land Acquisition for Public Parking was on the agenda. Motion by Noren and a second by Ziemann to go into Executive Session with the City Administrator for 15 minutes for the purpose of discussing real estate purchases at 7:59 pm. The following Council Members voted "YEA": Kulwicki, Noren, Borchardt, Ziemann, Drahota and Wagner. The following Council Members voted "NAY": None. Motion passed 6-0. Mayor Goering resumed open session at 8:12 p.m.

### **City Administrator's Report**

The City Administrator reported that Johnson Services was in town doing sewer line repairs. Motion by Ziemann and a second by Kulwicki to approve the City Administrator's report as presented. The following Council Members voted "YEA": Kulwicki, Noren, Borchardt, Ziemann, Drahota and Wagner. The following Council Members voted "NAY": None. Motion passed 6-0.

### **Governing Body Comments & Council Correspondence**

There will be an AED Dedication & Community Celebration Event Friday, June 6, 2025 at 6:00 pm in Hickman Main Park. The Annual Report on Community Development Projects required for TIF projects has been submitted.

### **Meeting Adjournment**

Motion by Borchardt and a second by Ziemann to adjourn the meeting at 8:25 pm. The following Council Members voted "YEA": Kulwicki, Noren, Borchardt, Ziemann, Drahota and Wagner. The following Council Members voted "NAY": None. Motion passed 6-0.

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Phil Goering, Mayor

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Michele Lincoln, CMC, City Clerk

**City of Hickman Vendor and Credit Card Claims  
6/10/2025 City Council Meeting**

Payee	Invoice Number	Description	Invoice Amount
Aftac		MAY INSURANCE	702.36
All Copy		POSTAGE (WATER/SEWER)	600.00
Ameritas		401K	4,515.98
Brown, Chelsey	INV0082	MAY CLEANING	1,000.00
Caselle		JULY SUPPORT & MAINT	3,276.00
Constellation		MAY GAS UTILITY	40.98
Dale's Consulting & Inspection Services		MAY CONSULTING, INSPECTIONS, PLAN REVIEW	2,350.00
Denton Community Activities Committee	Park & Rec	12U Lady Royals Tournament Fee	225.00
Electric Pump	WWTP	REPAIR MIXER, ELECTRIC PUMP, MIXER OXIDATION DITCH	17,298.28
Engineered Equipment Solutions		WWTP UV SYSTEM REPAIRS	2,909.83
Erin M McCarney Chapter 13 Trustee		PAYROLL WITHHOLDING	504.00
Executive Answering Service	250600021	MAY ANSWERING SERVICE	57.60
Farmers Cooperative		BULK FUEL, WEED CONTROL SUPPLIES	3,301.17
Flood, Brian		MAY ELICTRICAL INSPECTIONS/PLAN REVIEW	1,100.00
Harris Decals	99733	AED Signs for Park	104.22
Harris Decals	HAEDA	Dedication Sign for AED	24.05
Hickman Economic Development Association	061025	2025 FIREWORKS SHOW FEES (ORD2017-07) 5 STANDS	5,500.00
Hickman True Value		SUPPLIES PARK/OFFICE	20.76
Hochstetler, David Jr		MAY HVAC INSPECTIONS/PLAN REVIEW	50.00
Hochstetler, David Sr		MAY HVAC INSPECTIONS	250.00
IRS		Federal Withholding	9,734.23
Kreifels, Jeff		MAY PLUMBING INSPECTIONS/PLAN REVIEW	1,250.00
Lancaster County Sheriff's Office	C3714 & C3715	MAY CONTRACT HOURS & JUNE BASE RATE	13,620.11
League Association of Risk Management	113402	INSURANCE - 2025 CHEVY TRUCK	927.24
Lytte, Nick	Arts Council	Musician for Farmers Market	60.00
Mayor/Council Pay		May	2,953.69
Medica		JUNE HEALTH INSURANCE	10,317.52
Midwest Laboratories, Inc.	1238236	SUPPLIES & TESTING WWTP	251.49
Mission Square		RETIREMENT	729.60
Municipal Supply, Inc.		CURB BOX EXTENDER/METERS	58,019.55
Nebraska Child Support Payment Center		PAYROLL WITHHOLDING	217.85
Nebraska Dep of Revenue		MAY STATE WITHHOLDING	4,003.70
Nebr. Water Resources Association (NWRA)	25-130	Annual Membership	105.00
Norris Public Power District	060625	May Electric	9,552.07
One Call Concepts, Inc.	5050149	MAY ONE CALL	139.13
Paper Tiger Shredding	218568	SHREDDING 5/15/25	35.00
Payroll		5/30/2025	29,989.98
Railroad Management Comp III, LLC	527409	LICENSE FEES, POWER LINE CROSSING	417.05
Reams Sprinkler Supply	20691185-002	Hunter Roam Kit/Underground Sprinkler	666.22
Stanczyk Enterprise	06052025	CONSTRUCTION DEPOSIT RETURN	500.00
Tredz Central Tire Pros	49152 & 49261	NEW TIRES FOR 2013 FORD F-250 & 2015 CHEVY	1,780.00
United Health Care		JUNE DENTAL/VISION	528.88
Unum		JUNE LONG TERM DISABILITY	221.78
Verizon		May Cell Phones	287.26
Wheel-N-Deal Auto Sales, Inc	052025	MOWER PARTS-BLADES,BOLTS,SPINDLES	1,539.75
Xpress Bil Pay		MAY WEB TRANSACTION FEES	129.75
<b>Total</b>			<b>\$ 191,807.08</b>

**City of Hickman Vendor and Credit Card Claims  
6/10/2025 City Council Meeting**

Payee/Remittance	Invoice Number	Description	Invoice Amount
<b>Wells Fargo MC - 3079</b>			
Meals, Lodging, Parking, Transport	CASELLE TRAINING - KEARNEY NE	Meals for 4 (Staff) & Fuel for City Vehicle Travel 4/21-24/25	430.02
Google Play	MAY STORAGE	Storage Drive for Administration	9.99
Intuit	ORDER #0025599223	Checks (2,000) for FSNB City Account Ending in xxx8760	576.03
<b>Total</b>			<b>1,016.04</b>

Payee/Remittanc	Invoice Number	Description	Invoice Amount
<b>Wells Fargo MC -2443</b>			
Sam's Club	10291653641	SAMS CLUB - SHELF FOR PARKS & REC	259.48
Amazon	112-1630154-3461816	Amazon - OFFICE SUPPLIES	134.11
Amazon	112-5465743-6769046	Amazon - OFFICE SUPPLIES	223.71
Amazon	112-7244343-2418665	Amazon - Sludge Judge	302.82
Amazon	112-9230908-2453033	Amazon - OFFICE SUPPLIES	93.00
Adobe		ADOBE LICENSES	49.19
Meals, Lodging, Transport Costs, Parking	CASELLE TRAINING - KEARNEY NE	Phillipps 66 Fuel and Carwash prior to Kearney	24.29
Office Max	NEED 4 INVOICES	OFFICE DEPOT - OFFICE SUPPLIES	123.51
Office Max	NEED INVOICE #	OFFICE DEPOT - COPY PAPER	191.96
Heritage Nursery	RECEIPT #43184	Arbor Day Trees	999.00
USPS	UFN 304260 0372	Certified Mail - Bond Payment	9.68
<b>Total</b>			<b>2,410.75</b>

<b>6/10/2025 Claims Total</b>	<b>\$ 195,233.87</b>
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## **MINUTES OF THE HICKMAN PLANNING COMMISSION MEETING**

June 3, 2025

### **1. Call to Order**

Planning Commission Chair, Josh Maurer, called the Hickman Planning Commission Meeting to order at 7:00 PM on Tuesday, June 3, 2025. Notices of the meeting were distributed and posted at the Hickman City Hall, U.S. Post Office-Hickman, and U-Stop Market. The Open Meeting Laws Act, document placement in the meeting room and Executive Closed Session allowances were acknowledged and referenced. The participant sign-in sheet, registered agenda topic speaker cards and the meeting recording process were referenced.

### **2. Roll Call**

Planning Commission Members present for Roll Call included: Jarred Horsky - Alternate, Paul Tran, Cory Ostrander, Chair Josh Maurer, Colby Huenink - ETJ Representative, Erik Nore, Brad Schlange and Lance Murry. Planning Commission Members Charles Stewart and Eldren Echternkamp were recorded as absent and excused.

### **3. Approval of Minutes**

Chair Maurer presented the May 6, 2025, Planning Commission Meeting Minutes. Motion by Nore and seconded by Huenink to approve the May 6, 2025, Planning Commission Meeting Minutes. The following members voted "YEA," Tran, Ostrander, Maurer, Huenink, Nore, Schlange, Murry, Horsky. The following members voted "NAY," none. Motion passed 8-0.

### **4. Presentations & Introductions**

None.

### **5. Reports**

A. The staff report presented by Zoning Enforcement Officer Hogle summarized the change of zone request for 541 Chestnut Street. Staff noted that the subject property is approximately 1.73 acres in size, currently zoned Original Residential District (R-O), and is located near the intersection of 7th Street and Chestnut Street. The property lies south of First State Bank-Hickman and is shown as Commercial on the City's Future Land Use Map. Staff recommended approval of the zoning change request.

### **6. Public Hearing**

A. The purpose of the hearing is to provide an opportunity for Public Comment on a request from Raymond R. & Joan Stofer to change the zoning of the property located at 541 Chestnut Street, legally described as: S33, T8, R7, 6th P.M., Irregular Tract to Hickman Lot 72 NE. The request proposes a change in zoning from Original Residential District (R-O) to General Commercial (C-2).

Chair Maurer opened the public hearing at 7:08 PM. Mr. Russell Price of 442 E. 5<sup>th</sup> Street spoke in opposition and would like the property to remain residential. Mr. Jerry Lentfer of 655 Chestnut Street, First State Bank-Hickman, spoke in a neutral capacity and had concerns regarding access point(s) for future commercial business(es). Hearing no further comments in favor, opposition or neutral position, Nore made the motion to close the public hearing at 7:14 PM, seconded by Schlange. The following members voted “YEA,” Tran, Ostrander, Maurer, Huenink, Nore, Schlange, Murry, Horsky. The following members voted “NAY,” none. Motion passed 8-0.

**7. Unfinished Business – None**

**8. New Business**

A. Recommendation to City Council on the request from Raymond R. & Joan Stofer to change the zoning of the property located at 541 Chestnut Street, legally described as: S33, T8, R7, 6th P.M., Irregular Tract to Hickman Lot 72 NE. The request proposes a change in zoning from Original Residential District (R-O) to General Commercial (C-2).

Motion made by Horsky to recommend approval of the request for the change of zoning district from Original Residential District (R-O) to General Commercial (C-2) for the property legally described as: S33, T8, R7, 6th Principal Meridian, Irregular Tract to Hickman Lot 72 NE and to amend the Official Zoning Map to reflect the said change.

Motion was seconded by Huenink. The following members voted “YEA,” Tran, Ostrander, Maurer, Huenink, Nore, Schlange, Murry, Horsky. The following members voted “NAY,” none. Motion passed 8-0.

**9. Planning Commission Comments & Correspondence - None**

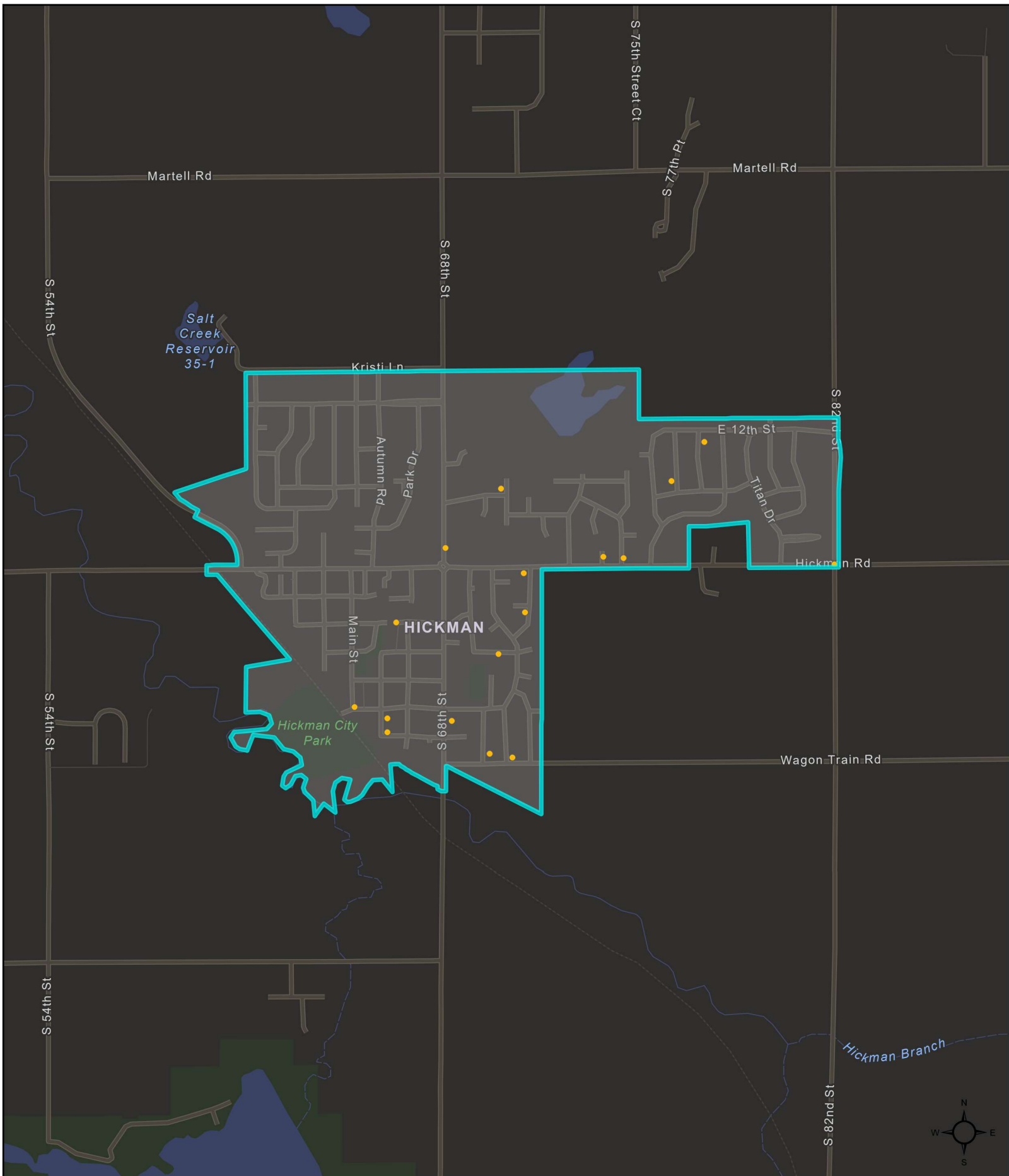
**10. Meeting Adjournment**

Motion by Ostrander and a second by Murry to adjourn the meeting at 7:28 PM. The following members voted “YEA,” Tran, Ostrander, Maurer, Huenink, Nore, Schlange, Murry, Horsky. The following members voted “NAY,” none. Motion passed 8-0.

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Josh Maurer, Chair      Date                      Heidi Hoglund, Recording Clerk      Date

# Calls for Service: Hickman



## Dispatch Calls

<u>LOCATION</u>	<u>CASE</u>	<u>Incident</u>	<u>Time</u>	<u>Deputy Name</u>
<b>May 23, 2025</b>				
102 CONCORD AVE, HICKMAN,	C5003820	FRAUD IMPERSONATION	1511	22187 LATHROP
<b>May 25, 2025</b>				
631 CONESTOGA AVE, HICKMAN,	C5003880	DISTURBANCE OTHER	2350	22173 FUNK
<b>May 27, 2025</b>				
711 E 4TH ST, 68372	C5003919	MISC OTHER	2133	22191 EWBANK
<b>May 28, 2025</b>				
730 LARKSPUR DR, 68372	C5003926	DEATH NATURAL	420	22191 EWBANK
<b>May 29, 2025</b>				
110 CHESTNUT ST, HICKMAN, NE,	C5003976	DISTURBANCE OTHER	2024	22221 KROESE
102 LOCUST ST, HICKMAN, NE,	C5003977	MISC OTHER	2050	22197 MCMANUS
112 LOCUST ST, HICKMAN, NE,	C5003979	MISC OTHER	2200	22222 SCDORIS
<b>May 30, 2025</b>				
102 LOCUST ST, HICKMAN, NE,	C5004006	DISTURBANCE OTHER	2121	22221 KROESE
<b>June 2, 2025</b>				
100 MAIN ST, 68372	C5004089	MISC OTHER	1628	22176 SARNES
S 82ND ST & HICKMAN RD, 68372	C5004095	SUSPICIOUS PERSON	1911	22176 SARNES
<b>June 3, 2025</b>				
501 CONESTOGA AVE, HICKMAN,	C5004118	ACC PROP DMG H&R	2257	22201 KINGSWOOD
<b>June 4, 2025</b>				
104 BRENTWOOD AVE, HICKMAN,	C5004137	MEDICAL EMERG OTHER	1939	22176 SARNES
7360 MERCY LN, 68372	C5004136	MEDICAL EMERG OTHER	1922	22176 SARNES
<b>June 5, 2025</b>				
104 BRENTWOOD AVE, HICKMAN,	C5004146	MEDICAL EMERG OTHER	707	22228 HUNTINGTON
<b>June 6, 2025</b>				
1013 ANNABEL AVE, LINCOLN, NE,	C5004182	FRAUD CRED CARD/ATM	1454	22221 KROESE

<u>LOCATION</u>	<u>CASE</u>	<u>Incident</u>	<u>Time</u>	<u>Deputy Name</u>
1206 KANTOR LN, HICKMAN, NE,	C5004184	MISC OTHER	1531	22193 LAVENE
935 CHICORY LN, HICKMAN, NE,	C5004194	DISTURBANCE OTHER	2322	22222 SCDORIS

### June 8, 2025

204 E 5TH ST, 68372	C5004240	DISTURBANCE DOMESTIC	2039	22139 BRYANT
18940 S 68TH ST, 68372	C5004223	TRAFFIC DUI	114	22222 SCDORIS
18940 S 68TH ST, 68372	C5004224	TRAFFIC DUI	206	22205 CASTANEDA

### Report Totals

Count: 20  
Date Exported: 6/9/2025 10:26 AM

# May 2025 Community Center/Activities Report

11 Rental Inquiries

4 Tours

51 Participants for Open Gym Time

101 Participants for Adults Only Pickleball Open Play

40 Participants for Adults Pickup Basketball

## In the Meeting Rooms, A & B

- 5 Nonprofit Meetings

## In the Multipurpose Room

- 6 Adults Only Pickleball Open Plays
- 4 Adults Pickup Basketball
- 1 Fundraiser
- 1 End of Season Banquet
- 4 Graduation Parties
- 1 Baby Shower
- 2 Private Basketball Practices

## Upcoming Events for Community in June 2025

- **Adults Only – Pickleball Open Play Spring/Summer Hours:**
  - Wednesdays from 4:00 PM to 8:00 PM
  - 2<sup>nd</sup> & 4<sup>th</sup> Fridays from 9:00 AM to 1:00 PM
  - *Hours subject to change based on current rental schedule.*
- **Round Robin – Pickleball**
  - June 5<sup>th</sup> & 26<sup>th</sup>
  - July 3<sup>rd</sup>, 17<sup>th</sup>, & 31<sup>st</sup>
  - *Registration required on PlaytimeScheduler.com - \$5.00 Registration Fee*
  - *Hours subject to change based on registered participants.*
- **Adults Only – Pickup Basketball**
  - Tuesdays 5:30 AM to 7:30 AM
- **Hickman Arts Council's Farmers Market**
  - 1<sup>st</sup> & 3<sup>rd</sup> Thursdays from 5:00 PM – 8:00 PM, May through September
- **Lincoln City Libraries – Community Outreach Summer Reading Challenge**
  - Join the Hickman Reading Centre and Lincoln City Libraries for reading and crafts!
  - Mondays at 10:30 AM – June 2<sup>nd</sup> through August 4<sup>th</sup>
  - Located at the Hickman Reading Centre and Meeting Rooms.
- **Seussical Story Time – June 14<sup>th</sup> at 10:30 AM**
  - Come meet some of the Seussical characters from The Nebraska Communities Playhouse at the Hickman Reading Centre!

**Damage to Report:** 2 Cracked Pickleballs

## Hickman Youth Sports:

- **Coed NFL FLAG Football Registration is June 1<sup>st</sup> – June 30<sup>th</sup> (K – 6<sup>th</sup> Grade)**
  - More information and registration link can be found at [www.hickman.ne.gov](http://www.hickman.ne.gov) under the Parks & Recreation tab.

**ORDINANCE NO. 2025-07**

AN ORDINANCE TO APPROVE THE SUBDIVISION AGREEMENT AND FINAL PLAT OF ETMUND ESTATES 2ND ADDITION, A SUBDIVISION WITHIN THE ZONING JURISDICTION OF THE CITY OF HICKMAN, LANCASTER COUNTY, NEBRASKA; AND TO PROVIDE FOR AN EFFECTIVE DATE THEREOF.

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF HICKMAN, NEBRASKA:

Section 1. Etmund Estates 2nd Addition is a subdivision within the zoning jurisdiction of the City of Hickman, Lancaster County, Nebraska.

Section 2. Pursuant to the subdivision ordinance of the City of Hickman, Lancaster County, Nebraska, Ordinance No. 2007-03, the final plat of Etmund Estates 2nd Addition, a copy which is attached hereto and made a part of this ordinance, is hereby approved.

Section 3. The City Clerk of Hickman, Nebraska is directed to endorse a certificate of approval on the final plat and to file the original with the Lancaster County Register of Deeds Office and do all other acts required by state statute and said ordinance.

Section 4. The City of Hickman and the subdivider SWG4, LLC shall enter into the Subdivision Agreement attached to this Ordinance. This Subdivision Agreement contains covenants that run with the real property contained in the Etmund Estates 2nd Addition and are binding on all successors and assigns of the City of Hickman and SWG4, LLC.

Section 5. This ordinance shall be in full force and effect from and after its passage and publication according to law.

PASSED AND APPROVED THIS \_\_\_\_ DAY OF \_\_\_\_\_, 2025

\_\_\_\_\_  
Phil Goering, Mayor

ATTEST:

\_\_\_\_\_  
Michele Lincoln, City Clerk

(SEAL)

After recording please return to:  
City of Hickman  
115 Locust Street, P.O. Box 127  
Hickman, NE 68372

## **SUBDIVISION AGREEMENT**

THIS AGREEMENT is made and entered into by and between SWG4, LLC, a Nebraska limited liability company (the "Subdivider"), and the City of Hickman, Nebraska, a municipal corporation, (the "City").

WHEREAS, Subdivider has made application to City for permission to subdivide and for approval of the final plat of Etmund Estates 2<sup>ND</sup> Addition, a copy of which is attached to this Agreement as Exhibit 'A' (the 'Final Plat'); and

WHEREAS, the Final Plat contains certain provisions requiring an agreement between Subdivider and City relating to the Final Plat and the development thereof.

NOW, THEREFORE, IN CONSIDERATION of the City granting permission and approval of the Final Plat of Etmund Estates 2<sup>ND</sup> Addition, it is agreed by and between Subdivider and City per the sections as follows:

1. **Waivers and Conditions.** Per City Council Resolution 2024-16 Etmund Estates 2<sup>nd</sup> Addition Preliminary Plat, a copy of which is attached to this Agreement as Exhibit '~~HX~~' (the 'Preliminary Plat'), the following waivers and conditions apply to the Etmund Estates 2<sup>nd</sup> Addition Final Plat:
  - a. To waive the Zoning Regulation Section 5.11.06 R-2 requirement for the street side yard setback requirement from 25 feet to 10 feet for lots abutting Red Bud Lane and to restrict driveway access to Red Bud Lane.
  - b. To waive the Zoning Regulation Section 5.11.06 R-2 requirement for single family attached residential units side yard setback from 10 feet to 7.5 feet.
  - c. To waive the Subdivision Regulation Section 5.15 block length due to topography.
2. Subdivider agrees to deed, at no cost, Outlot 'C' to the owners of Still Waters Equestrian Academy Addition, Lot 1 immediately following the approval of the final plat.

3. Subdivider agrees to construct, on Outlot 'C', a 7" thick concrete driveway off of Ridge Rd with a 53' wide curb cut, transitioning to a 20' wide driveway as it progresses westerly for 75' where it will transition to a gravel driveway as shown on Exhibit 'B'.
4. Subdivider, at its sole cost, agrees to design, construct and final plat to the City of Hickman, per Section 5.25 of the City of Hickman Subdivision Regulations, a 60' by 60' area of public ROW off of the north end of Cyprus Blvd, as shown on Exhibit 'C' to permit vehicular access to Still Waters Equestrian Academy Subdivision, Outlot 'A' from Cyprus Blvd and shall be recorded with the Lancaster County Register of Deeds by the Subdivider.
5. Subdivider agrees to obtain a partial release of the access easement recorded July 7, 2000 as Instrument No. 2000-28995; records of Lancaster County, Nebraska
6. Subdivider agrees to complete the street paving of the public streets, per Section 5.25 of the 2007 City of Hickman Subdivision Regulations, as amended from time to time (hereafter referred to as the "Subdivision Regulations"), to serve the properties located in the Final Plat within two (2) years following the approval of the Final Plat and prior to the issuance of any building permits by the City for the Subdivision.
7. Subdivider agrees to complete the installation of sidewalks along both sides of all public streets shown on the Final Plat upon the earlier of the following two (2) occurrences i) within two (2) years following the approval of the Final Plat; or ii) within twelve (12) months of the issuance of any building permits by the City for the Final Plat.
8. Subdivider agrees to install all concrete Handicap Access ADA Ramps at all street crossings and upon the earlier of the following two (2) occurrences i) within two (2) years following the approval of the Final Plat; or ii) the issuance of any building permits by the City for the Subdivision.
9. Subdivider shall create under the laws of the State of Nebraska, a nonprofit corporation under the name of Etmund Estates 2<sup>nd</sup> Addition Homeowner's Association, Inc. (the "Homeowner's Association") to own, operate and maintain all Outlots and improvements including and not limited to storm water detention facilities, and open space within the Final Plat.
10. Subdivider shall be responsible for maintaining the Outlots within the Subdivision or transferring ownership of said Outlots to the Homeowner's Association for maintenance, per Section 8.13 of the Subdivision Regulations. City shall **not** have any responsibility for maintenance, including and not limited to, the maintenance, landscaping, snow clearing, or mowing of Outlots 'A' through 'G', as identified on the Etmund Estates 2<sup>nd</sup> Addition Final Plat, inclusive that are not under City's ownership. If Subdivider retains ownership of any Outlot within the Subdivision, Subdivider agrees that, at least sixty (60)

days prior to closing on the sale, donation or other transfer said Outlots to any entity other than the Homeowner's Association, it will provide City with notice of such intended transfer and a copy of the written notice Subdivider provided to the transferee that no buildings can be constructed on Outlots 'A', through 'G', inclusive. Subdivider, heirs, successors and assigns of Subdivider, further agree to pay all property taxes due for any Outlot owned by Subdivider in a timely manner to prevent said Outlot from being offered at the Lancaster County tax sale.

11. In lieu of parkland dedication, the Subdivider shall pay the City, upon approval of the final plat, ~~either~~ the sum of Two Hundred Dollars (\$200.00) per lot based on the total number of lots shown on the final plat. ~~-OR an amount equal to 115% of the most ascertainable taxes for the year pro-rated to the date that the deed is delivered, per Section 7.02 and 7.05 of the City of Hickman Subdivision Regulations. (Council to give direction on their preferred method)~~
12. Subdivider, at its sole cost, agrees to complete the public water distribution system to serve the properties located in the Final Plat within two (2) years following the approval of the Final Plat and prior to the issuance of any building permits by the City for the Subdivision. Subdivider shall install American-Darling B-84-B-5 Fire Hydrants throughout all phases of the Subdivision. All water lines shall include tracer wire with test leads being installed in access points of the same or similar making as Copperhead Industries Lite Duty Adjustable SnakePit® Access Points with Single-Terminal Lids and all tracer wires, where appropriate, connected with SnakeBite™ Locking Connectors. Said access points shall be located near the Fire Hydrants and installed flush with the ground. Subdivider shall install all internal water main valves within five feet (5') of the adjacent property line. Furthermore, Subdivider shall provide the City a copy of the Pressure-Test results, bacteria lab test results, and Nebraska Department of Health & Human Services (DHHS) authorization to place line in service, at their sole cost prior to the City accepting and taking ownership of the infrastructure.
13. Subdivider, at its sole cost, agrees to complete the public wastewater collection system to serve the properties located in the Final Plat within two (2) years following the approval of the Final Plat and prior to the issuance of any building permits by the City for the Subdivision. Subdivider agrees to include steps in all manholes; said steps shall not be installed within the adjustment rings and the first step shall not be more than thirty (30) inches below the top of the manhole lid when top of manhole is level with the finish grade based on curb height. Subdivider further agrees to video the inside of the installed sanitary sewer lines no later than thirty (30) days after the completion of backfilling and provide the files in Pipeline Assessment Certification Program (PACP) standard file/database format, and provide the Pressure-Test results for the sewer lines and vacuum test results for the manholes, at their sole cost, for the City's review to ensure the system is in working order, prior to the City accepting and taking ownership of the infrastructure.

14. Subdivider agrees to complete the installation of the public street lights along all public streets within the Final Plat upon the earlier of the following two (2) occurrences i) within two (2) years following the approval of the Final Plat; or ii) the issuance of any building permits by the City for the Subdivision. On behalf of the Subdivider, the City will install the public streetlights, as outlined by the Subdivider's Engineer, to include all time and material at a cost of ~~\$3,000.00~~ \$4,500.00 per streetlight. The City will install the public streetlights simultaneously with the Subdivider's electrical infrastructure and Subdivider agrees to pay the City upon receiving the bill.
15. Subdivider agrees to complete the installation of the street name signs. On behalf of the Subdivider, the City will purchase and install said signage and Subdivider agrees to pay the City at time and material cost upon receiving the bill.
16. Subdivider agrees to complete the installation of permanent markers on all lots within the Final Plat upon the earlier of the following two (2) occurrences i) within two (2) years following the approval of the Final Plat; or ii) the issuance of any building permits by the City for the Subdivision.
17. City agrees (through its agreement with Norris Public Power District), to provide and install electricity to the lots within the Final Plat once the public wastewater collection system, public water distribution system, grading, and paving of the public streets within the Final Plat have been completed.
18. Subdivider agrees to complete any public and private improvements or facility required by Article 6 of the Subdivision Regulations which have not been waived and which inadvertently may have been omitted from the above list of required improvements within four (4) years of the date of this Agreement.
19. Subdivider agrees to comply with the provisions of Article 6.04 (Street Grading and Construction) and Article 6.14 (Land Preparation) of the Subdivision Regulations. Final grading plans must be submitted with the Final Plat.
20. Subdivider agrees to compensate the Rural Water District No. 1, Lancaster County, Nebraska (the "Water District") for release and relinquishment fees dues based acreage of annexation within the Final Plat from the boundaries of the Water District and to provide certification as shown on Exhibit 'D' of this agreement prior to City Council approval of the Final Plat.
21. This Agreement and all exhibits, obligations and covenants contained herein of the Subdivider shall run with the land and shall be binding and obligatory upon the heirs, successors and assigns of Subdivider, including but not limited to, any lender of the Subdivider that subsequently acquires the property through judicial foreclosure, non-

judicial foreclosure or by acceptance of a quitclaim deed in lieu of foreclosure, including all of the lots legally described in Exhibit 'E' to this Agreement.

22. This Agreement and all exhibits shall be recorded with the Lancaster County Register of Deeds upon the recording of the Final Plat for Etmund Estates 2<sup>nd</sup> Addition by the Subdivider.
23. This Agreement and all obligations of the Subdivider shall apply to the Homeowner's Association.
24. Ownership Certificates for the property included within the Final Plat is attached hereto as Exhibit 'F' to this Agreement.
25. Subdivider guarantees the completion of all improvements as required by Sections 8.02, 8.03 and 8.04 of the Subdivision Regulations and will provide an Agreement for Escrow of Security Fund of all improvements attached hereto as Exhibit 'G'.
26. Subdivider agrees to reimburse the City for all inspection and testing costs incurred by the City for the installation of the street paving, water, sanitary sewer, sidewalk, storm sewer, and finish grading according to Section 6.01 of the Subdivision Regulations, upon the City invoicing the Subdivider.
27. Non-Discrimination. Subdivider or its agents, contractors, and consultants shall not, in the performance of this Agreement, discriminate or permit discrimination in violation of federal or state laws or local ordinances because of race, color, sex, age, political or religious opinions, affiliations or national origin.
28. Governing Law. Parties to this Agreement shall conform with all existing and applicable City ordinances, resolutions, state and federal laws, and all existing and applicable rules and regulations. Nebraska law will govern the terms and the performance under this Agreement.
29. Assignment. Neither this Agreement nor any obligations hereunder shall be assigned without the express written consent of City which may be withheld in City's sole discretion.
30. Entire Agreement. This Agreement, and the Exhibits and documents referenced in this Agreement (which are intended to be and hereby are specifically made a part of this Agreement whether or not so stated) express the entire understanding and all agreements of the Parties. Specifically, this Agreement supersedes any prior written or oral agreement or understanding between any of the Parties, whether individually or collectively concerning the subject matter hereof.

31. Modification by Agreement. This Agreement may be modified only by a written agreement, executed by all Parties; provided that the Parties agree to conform this Agreement and all performance obligations hereunder to the requirements of any applicable laws, rules, regulations, standards and specifications of any governmental agency with jurisdiction over any such matter, including any amendment or change thereto without cost to the City.

32. Notices, Consents and Approval. All payments, notices, statements, demands, requests, consents, approval, authorizations, or other submissions required to be made by the Parties shall be in writing, whether or not so stated, and shall be deemed sufficient and served upon the other only if sent by United States registered mail, return receipt requested, postage prepaid and addressed as follows:

1. For Subdivider:                    SWG4, LLC  
    Attn: Greg Greder, Manager  
    2820 N. 48<sup>th</sup> St  
    Lincoln, NE 68504

2. For City:                                City of Hickman  
    Attn: City Administrator  
    115 Locust Street, P.O. Box 127  
    Hickman, NE 68372

AND

    City of Hickman  
    Attn: City Clerk  
    115 Locust Street, P.O. Box 127  
    Hickman, NE 68372

3. Such addresses may be changed from time to time by any party by providing notice to all other parties listed above.

33. Headings. The Section headings appearing in this Agreement are inserted only as a matter of convenience, and in no way define or limit the scope of any Section.

34. Severability. In the event that any provision of this Agreement which shall prove to be invalid, void or illegal by a court of competent jurisdiction, such decision shall in no way affect, impair or invalidate any other provisions hereof, and such other provisions shall remain in full force and effect as if the invalid, void or illegal provision was never part of this Agreement.

Dated this \_\_\_ day of \_\_\_\_\_ 2025.

**SUBDIVIDER:**  
**SWG4, LLC**  
a Nebraska limited liability company

\_\_\_\_\_  
Greg Greder, Managing Member

STATE OF NEBRASKA     )  
  ) ss  
COUNTY OF LANCASTER    )

The foregoing instrument was acknowledged before me this \_\_\_\_ day of \_\_\_\_ 2025 by Greg Greder, Managing Member of SWG4, LLC, a Nebraska limited liability company, on behalf of the company.

\_\_\_\_\_  
Notary Public

Dated this \_\_\_ day of \_\_\_\_\_ 2025.

**The CITY:**  
**City of Hickman, Nebraska**  
a municipal corporation

\_\_\_\_\_  
Phil Goering , Mayor

ATTEST:\_\_\_\_\_  
Michele Lincoln, City Clerk

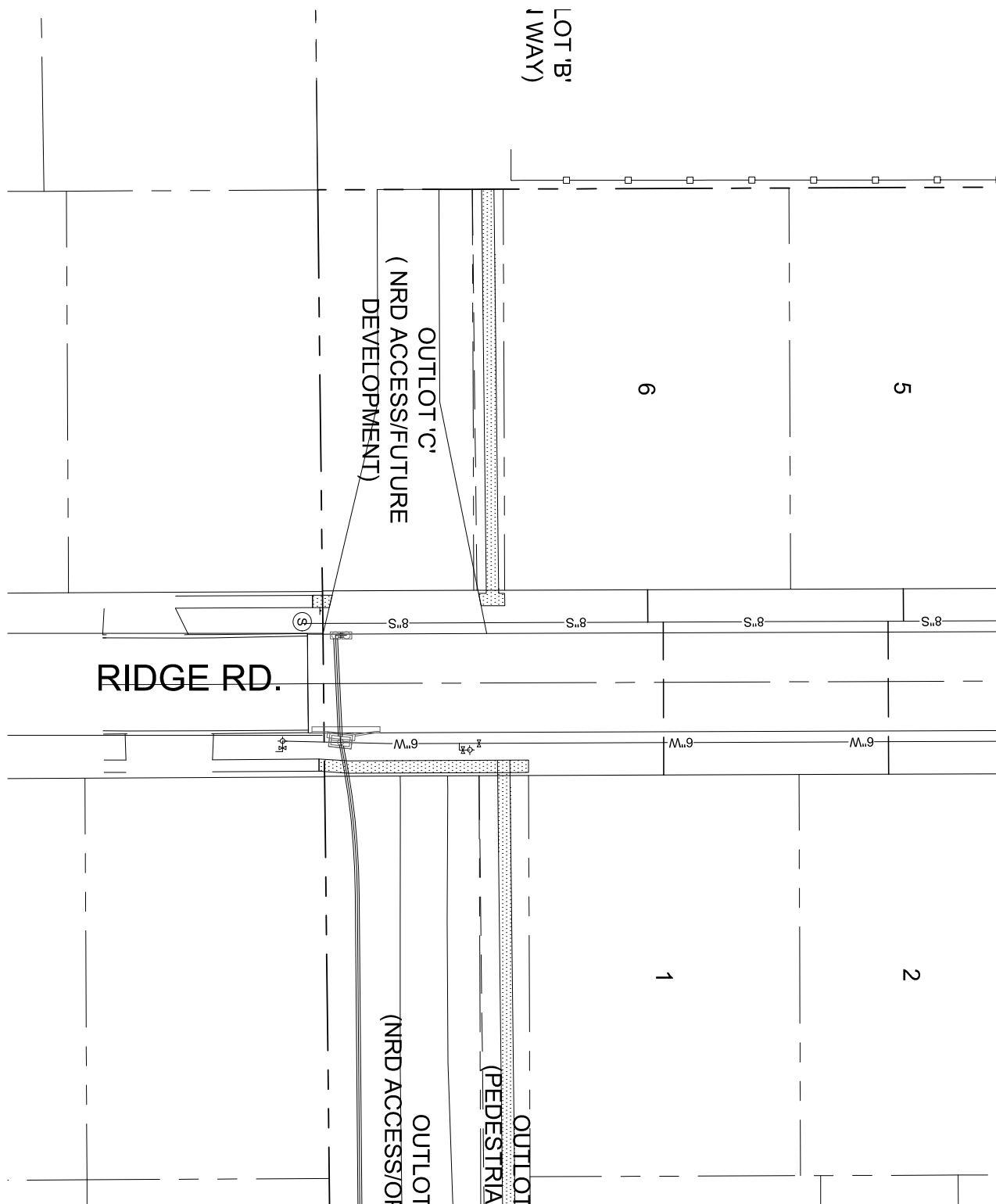
CITY SEAL



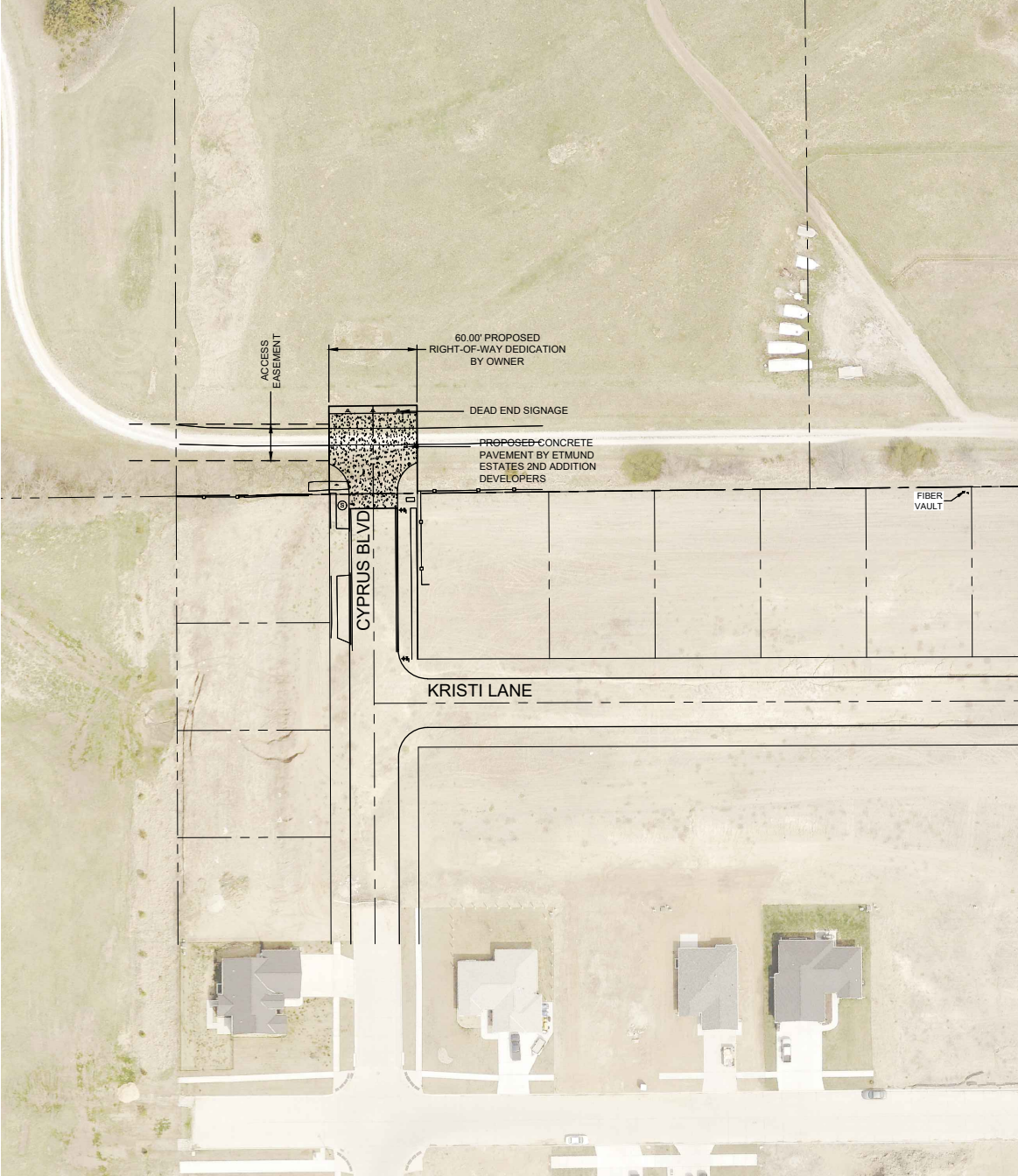


**EXHIBIT 'B'**

**CONSTRUCTION IMPROVEMENTS FOR OUTLOT 'C'**



**EXHIBIT 'C'**  
**EXTENSION OF CYPRUS BLVD**



**EXHIBIT 'D'**

**PROOF OF RURAL WATER DISTRICT NO. 1, LANCASTER COUNTY, NEBRASKA  
PROPERTY RIGHTS RELEASE**

**AGREEMENT TO RELEASE  
AND RELINQUISH FOR ANNEXTION**

This Agreement to Release and Relinquish for Annexation ("Agreement") is entered into by and between Rural Water District No. 1, Lancaster County, Nebraska, a Nebraska rural water district formed pursuant to Neb. Rev. Stat. §46-1001 et. Seq. ("Rural Water District") and SWG4, LLC ("Developer").

**RECITALS**

A. Developer holds title to the real estate comprised of 23.88 acres, located outside the corporate limits of the City of Hickman, Nebraska ("City") and legally described as Lot 1, Etmund Estates 1<sup>st</sup> Addition, Lancaster County, Nebraska comprised of 23.88 acres more or less and hereinafter referred to as the "Property".

B. The Property is located within the boundaries of the Rural Water District pursuant to the Resolution of the Lancaster County Board on May 8, 1973 and by Resolution of the Hickman City Council on April 16, 1973.

C. Pursuant to the provisions of 7 U.S.C. 1926(b) and prior to the annexation of the Property, the Rural Water District adopted a policy of allowing release of geographical areas within the boundaries of the Rural Water District in exchange for payment compensating the Rural Water District for its loss of revenue from existing or potential customers annexed into the City.

D. On October 9, 2013, the Rural Water District and the City entered into an agreement Regarding the payment of the annexation fees at the time parcels of land located within the corporate boundaries of the Rural Water District are annexed into the City, hereinafter referred to as the "City/Rural Water District Annexation Agreement."

E. The Rural Water District and the Developer have agreed to enter into this Agreement pursuant to the City/Rural Water District Annexation Agreement on the condition that the City approves the annexation of the Property into the City.

NOW, THEREFORE, in consideration of the mutual promises and covenants made herein, the Rural Water District and the Developer agree as follows:

1. On the condition that the City will approve the annexation of the Property into the City, the Developer has or will at the time of City approval of the annexation, tender payment to the Rural Water District an annexation fee calculated on the basis of of \$409 per acre times the 23.88 acres making up the Property the amount of \$9,766.92 pursuant to the City/Rural Water District Annexation Agreement.

2. The Rural Water District acknowledges receipt of the Developer's application fee of \$750 pursuant to the City/Rural Water District Agreement.

3. Upon approval of the annexation of the Property and payment of the annexation fee an executed and acknowledged Certificate of Release and Relinquishment shall be provided to the Developer to be recorded in the office of Register of Deeds, Lancaster County, Nebraska.

4. This Agreement shall be binding upon and inure to the benefit of the respective parties and their respective successors and assigns.

IN WITNESS WHEREOF, the parties hereto have caused to be executed this Agreement by their respective authorized officers or agents on the dates set out beside the signature of their respective authorized officers or agents.

RURAL WATER DISTRICT NO.1,  
LANCASTER COUNTY, NEBRASKA

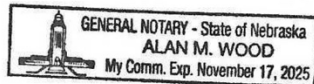
Dated: 4/9/25

BY: Kipp S. Haight  
Kipp Haight  
Chairman of the Board of Directors

STATE OF NEBRASKA            )  
  ) ss.  
COUNTY OF LANCASTER    )

The foregoing was acknowledged before me this 9<sup>th</sup> day of April, 2025  
by Kipp Haight, Chairman of the Board of Directors of Rural Water District No. 1, Lancaster  
County, Nebraska on behalf of the Rural Water District.

Alan M. Wood  
Notary Public





**EXHIBIT 'E'**  
**LEGAL DESCRIPTION OF LOTS CONTAINED WITHIN**  
**ETMUND ESTATES 2<sup>ND</sup> ADDITION**

Etmund Estates 2<sup>nd</sup> Addition

Block 1	Lot 16	Lot 9
Lot 1	Lot 17	Lot 10
Lot 2	Lot 18	Lot 11
Lot 3	Lot 19	Lot 12
Lot 4	Lot 20	Lot 13
Lot 5	Lot 21	Lot 14
Lot 6	Lot 22	Lot 15
Lot 7	Lot 23	Lot 16
Lot 8	Lot 24	Lot 17
Lot 9		Lot 18
Lot 10	Block 4	Lot 19
	Lot 1	Lot 20
Block 2	Lot 2	Lot 21
Lot 1	Lot 3	Lot 22
Lot 2	Lot 4	Lot 23
Lot 3	Lot 5	Lot 24
Lot 4	Lot 6	
Lot 5	Lot 7	Outlot 'A'
Lot 6	Lot 8	Outlot 'B'
	Lot 9	Outlot 'C'
Block 3	Lot 10	Outlot 'D'
Lot 1	Lot 11	Outlot 'E'
Lot 2	Lot 12	Outlot 'F'
Lot 3	Lot 13	Outlot 'G'
Lot 4	Lot 14	
Lot 5	Lot 15	
Lot 6		
Lot 7	Block 5	
Lot 8	Lot 1	
Lot 9	Lot 2	
Lot 10	Lot 3	
Lot 11	Lot 4	
Lot 12	Lot 5	
Lot 13	Lot 6	
Lot 14	Lot 7	
Lot 15	Lot 8	

25-0012

**EXHIBIT 'F'**  
**OWNERSHIP CERTIFICATES**



UPDATED OWNERSHIP AND LIENHOLDER CERTIFICATE

**FILE NO:** 6124999

**TO:** Civil Design Group, Inc.  
Jill Schuerman

Nebraska Title Company, authorized to engage in the business of abstracting in the State of Nebraska under Certificate of Authority No. 56, hereby certifies that the records of Lancaster County, Nebraska have been carefully examined with reference to the following described property, and from such examination finds as follows:

**LEGAL DESCRIPTION:**

Lot One (1), Etmund Estates 1st Addition, Hickman, Lancaster County, Nebraska.

**GRANTEE IN LAST DEED OF RECORD:**

[SWG4, LLC, a Nebraska limited liability company](#)

**UNRELEASED LIENS OF RECORD:**

- a. Deed of Trust executed by SWG4, LLC, a Nebraska limited liability company, Trustor to Frontier Bank, Trustee and Beneficiary, in the stated amount of \$100,000.00, dated June 20, 2019, recorded July 2, 2019 as Inst. No. [2019023616](#); records of Lancaster County, Nebraska. (with other property)

**Effective Date:** February 13, 2025 at 8:00 am

Nebraska Title Company

By  
Registered Abstractor

**Please direct inquiries to:** Julie Gilburd

**NOTE: THIS IS AN INFORMATIONAL TITLE REPORT**

This report is not a guarantee or warranty of title, nor is it an abstract of title, nor is this a commitment to provide, nor does it provide title insurance. Liability hereunder is expressly limited to the sum of \$1,000.00.

**EXHIBIT 'G'**

**ETMUND ESTATES 2<sup>ND</sup> ADDITION FINAL PLAT  
AGREEMENT FOR ESCROW OF SECURITY FUND**

WHEREAS, before any final plat may be approved, the required improvements must have been installed or a performance bond, escrow or security agreement must be furnished to the City to guarantee the installation of the required improvements which may be installed within a subdivision; and

WHEREAS, SWG4, LLC, a Nebraska limited liability company, hereinafter called "Permittee," has made application to the City for permission to construct and/or install public improvements consisting of:

Improvement:

- a. Street Paving
- b. Water Distribution System
- c. Wastewater Distribution System
- d. Storm Sewer
- e. Street Lights
- f. Street Name Signs
- g. Permanent Markers

within the final plat of ETMUND ESTATES 2<sup>ND</sup> ADDITION, an addition to the City of Hickman, Lancaster County, Nebraska and guarantee the same by placing funds or equivalent in an escrow account to be held by the escrow agent described below as security for performance of said construction.

NOW, THEREFORE, IT IS AGREED by and between SWG4, LLC, Permittee, and the City of Hickman, Nebraska, a municipal corporation, hereinafter called the "City," as follows:

1. That prior to approval of the aforesaid final plat, Permittee shall either deposit the sum of One Million Seven Hundred Thirteen Thousand Six Hundred Seventy-Three Dollars and 00/100 (\$1,713,673.00) with Frontier Bank (Bank) as escrow agent for the City, or obtain a loan of immediately payable funds from Frontier Bank (Bank) in said amount and irrevocably pledge and assign said funds to Frontier (Bank) as escrow agent for the City, the same to be held in escrow as security to guarantee the construction of the aforesaid improvements within said final plat
2. The said escrow fund shall be allocated to the above-specified improvements in said final plat as follows:

<b>Improvement</b>	<b>Amount</b>
	<b>110% of Estimates</b>
a. Street Paving	\$ 843,370.00
b. Water Distribution System	\$ 339,955.00
c. Wastewater Distribution System	\$ 461,810.00
d. Storm Sewer	\$ 26,650.00
e. Street Lights	\$ 38,500.00
f. Street Name Signs	\$ 726.00
g. Permanent Markers	\$ 2,662.00

**Said escrow fund shall NOT be automatically transferred and allocated to the specified improvements to the extent such improvements are required to be installed in a subsequent final plat involving any portion of the property within this final plat ("replat").**

3. The funds designated for any one improvement listed above may be released from escrow upon substantial completion of the improvement only as authorized by the City Administrator or other City designee in their reasonable discretion. The City Administrator or other City designee shall authorize Frontier Bank (Bank) to release funds according to the following:

Whenever twenty-five, fifty or seventy-five percent or more of the value of any paving,

water, or sanitary sewer facilities improvement within the final plat has been completed in accordance with the approved construction plans, and the percentage of completion has been certified by Permittee's registered professional engineer to the City, the amount of the funds required as security for said improvement shall be reduced by twenty-five, fifty or seventy-five percent, respectively; provided that such reduction does not reduce the amount of funds held in escrow for said improvement to an amount less than one hundred ten percent (110%) of the estimated cost of the work remaining to be completed under the approved construction plans. Final escrow releases will be submitted as follows:

- a. Final paving releases will be submitted when 100% of the paving work has been completed under the construction plans. Compaction, air and slump, yield, and proof rolling tests are required to be completed by the Permittee's registered professional engineer, before the final release will be approved.
- b. Final water releases will be submitted when 100% of the water work has been completed under the construction plans. Once the coliform tests have been completed and approved, and DHHS has approved connection to the public water system, the final release will be approved.
- c. Final sanitary sewer releases will be submitted when 100% of the sewer work has been completed under the construction plans. Once the pressure tests and video of the sewer have been submitted and accepted, the final release will be approved.
- d. Street lighting releases will be submitted when 100% of the street lighting work has been completed under the construction plans. One hundred percent (100%) of the Street Light escrow sum will be released when the work has been completed by the City.
- e. Street name signs releases will be submitted when 100% of the street name signs have been installed under the construction plans. One hundred percent (100%) of the Street Name Sign escrow sum will be released when the work has been completed by the City.
- f. Permanent markers releases will be submitted when 100% of the lot staking work has been completed under the construction plans. One hundred percent (100%) of the permanent marker escrow sum will be released when the work has been completed to the satisfaction of the City.

In the event any or all of the aforesaid improvements are not completed to the reasonable satisfaction of the City by the completion dates listed in the conditions of approval for said final plat or replat to do said construction, whichever is earlier, then and in that event Frontier Bank (Bank) upon written request from the City, shall pay to the City the total amount of funds designated for each of the aforesaid improvements which shall not have been completed on said date or the amount of funds necessary to complete construction thereof, whichever is the lesser, and the City shall utilize said funds released by Frontier Bank(Bank) to complete the improvements.

4. This Agreement shall be contingent upon its execution by the parties hereto, the pledge and assignment of the required security funds with Frontier Bank(Bank) as escrow agent for the City, and the acceptance of this Agreement by said escrow agent.
5. Permittee agrees to pay any and all fees charged by Frontier Bank (Bank) as escrow agent for the City under the terms of this Agreement.
6. Frontier Bank (Bank) shall be liable as a depository only.
7. Upon deposit of the security fund as provided in this Agreement, the City agrees to waive the requirement that Permittee post performance bonds for completion of the aforesaid improvements.

[Signature Page Follows]



## MEMORANDUM OF UNDERSTANDING

THIS MEMORANDUM OF UNDERSTANDING (“MOU”) dated May 20, 2025, (“Effective Date”) by and between the CITY OF HICKMAN, NEBRASKA, a Nebraska municipality (“City”) and SWG4, LLC, a Nebraska limited liability company, (“Subdivider”).

WHEREAS, the parties hereto find it mutually desirable to allow the Subdivider to proceed with subdivision and infrastructure construction (“Infrastructure Construction”) of the Etmund Estates 2<sup>nd</sup> Addition, prior to final plat approval by the City.

WHEREAS, the parties desire to memorialize the Subdivider’s agreement to complete the Infrastructure Construction solely at its own risk on the terms and conditions set forth herein;

NOW THEREFORE, for and in consideration of the mutual promises set forth herein, and for other good and valuable consideration, the receipt and sufficiency are hereby acknowledged, the parties agree as follows:

1. **Infrastructure Construction.** The Infrastructure Construction shall be completed as follows:

a. **Risk and Indemnity.** The Subdivider may proceed with the Infrastructure Construction at its sole risk, prior to the final plat approval by the City. The Subdivider shall defend, indemnify, protect and hold the City harmless from and against all liabilities, cost, expenses, obligations, losses, damages, claims, (collectively “Claims”) resulting from the negligence, willful misconduct, or breach of this MOU by the Subdivider, its agents, contractors or employees, invitees, licensees and permittees; provided, however, that such Claims are not due to the sole negligence, willful misconduct, or breach by the City, its agents, contractors or employees, invitees, licensees or permittees.

b. **City Engineer.** The City of Hickman Engineer shall provide written confirmation to the Subdivider of its final approval of the Subdivider’s construction plans before construction begins.

c. **Finance.** The Subdivider shall execute the Etmund Estates, 2<sup>nd</sup> Addition Final Plat Agreement for Escrow and Security Fund, a copy of which is attached as Exhibit “A”.

2. **Counterparts.** This MOU may be executed in any number of counterparts, each of which, when executed and delivered, shall be an original, but all such counterparts shall together constitute one and the same instrument. This MOU may be delivered by e-mail or facsimile transmission with the same effect as delivery of an original.

3. **Miscellaneous.** The captions in the sections of this MOU are inserted only as a matter of convenience and in no way define, limit, or describe the scope of this MOU or the intent

of any provision hereof. This document constitutes the entire agreement of the parties with respect to the subject matter hereunder and supersedes all prior agreements, statements, and representations. The recitals set forth at the beginning of this MOU are incorporated as if fully set forth herein. This MOU is binding upon and inures to the benefit of the heirs, successors, and assigns of the parties. This MOU and the performance thereof shall be governed, interpreted, construed, and regulated by the laws of the State of Nebraska.

**CITY:**

**CITY OF HICKMAN**



**By: Phil Goering, Mayor**

**SWG4, LLC, a Nebraska limited liability company:**



**By: Greg Greder, Managing Manager**

**EXHIBIT "A"**

**ETMUND ESTATES 2<sup>ND</sup> ADDITION FINAL  
PLAT AGREEMENT FOR ESCROW OF  
SECURITY FUND**

WHEREAS, before any final plat may be approved, the required improvements must have been installed or a performance bond, escrow or security agreement must be furnished to the City to guarantee the installation of the required improvements which may be installed within a subdivision; and

WHEREAS, SWG4, LLC, a Nebraska limited liability company, hereinafter called "Permittee," has made application to the City for permission to construct and/or install public improvements consisting of:

Improvement:

- a. Street Paving
- b. Water Distribution System
- c. Wastewater Distribution System
- d. Storm Sewer
- e. Street Lights
- f. Street Name Signs
- g. Permanent Markers

within the final plat of ETMUND ESTATES 2<sup>ND</sup> ADDITION, an addition to the City of Hickman, Lancaster County, Nebraska and guarantee the same by placing funds or equivalent in an escrow account to be held by the escrow agent described below as security for performance of said construction.

NOW, THEREFORE, IT IS AGREED by and between SWG4, LLC, Permittee, and the City of Hickman, Nebraska, a municipal corporation, hereinafter called the "City," as follows:

1. That prior to approval of the aforesaid final plat, Permittee shall either deposit the sum of One Million Seven Hundred Thirteen Thousand Six Hundred Seventy-Three Dollars and 00/100 (\$1,713,673.00) with Frontier Bank (Bank) as escrow agent for the City, or obtain a loan of immediately payable funds from Frontier Bank (Bank) in said amount and irrevocably pledge and assign said funds to Frontier (Bank) as escrow agent for the City, the same to be held in escrow as security to guarantee the construction of the aforesaid improvements within said final plat
2. The said escrow fund shall be allocated to the above-specified improvements in said final plat as follows:

<b>Improvement</b>	<b>Amount</b>
	<b>110% of Estimates</b>
a. Street Paving	\$ 843,370.00
b. Water Distribution System	\$ 339,955.00

c. Wastewater Distribution System	\$ 461,810.00
d. Storm Sewer	\$ 26,650.00
e. Street Lights	\$ 38,500.00
f. Street Name Signs	\$ 726.00
g. Permanent Markers	\$ 2,662.00

Said escrow fund shall **NOT** be automatically transferred and allocated to the specified improvements to the extent such improvements are required to be installed in a subsequent final plat involving any portion of the property within this final plat ("replat").

3. The funds designated for any one improvement listed above may be released from escrow upon substantial completion of the improvement only as authorized by the City Administrator or other City designee in their reasonable discretion. The City Administrator or other City designee shall authorize Frontier Bank (Bank) to release funds according to the following:

Whenever twenty-five, fifty or seventy-five percent or more of the value of any paving, water, or sanitary sewer facilities improvement within the final plat has been completed in accordance with the approved construction plans, and the percentage of completion has been certified by Permittee's registered professional engineer to the City, the amount of the funds required as security for said improvement shall be reduced by twenty-five, fifty or seventy-five percent, respectively; provided that such reduction does not reduce the amount of funds held in escrow for said improvement to an amount less than one hundred ten percent (110%) of the estimated cost of the work remaining to be completed under the approved construction plans. Final escrow releases will be submitted as follows:

- a. Final paving releases will be submitted when 100% of the paving work has been completed under the construction plans. Compaction, air and slump, yield, and proof rolling tests are required to be completed by the Permittee's registered professional engineer, before the final release will be approved.
- b. Final water releases will be submitted when 100% of the water work has been completed under the construction plans. Once the coliform tests have been completed and approved, and DHHS has approved connection to the public water system, the final release will be approved.
- c. Final sanitary sewer releases will be submitted when 100% of the sewer work has been completed under the construction plans. Once the pressure tests and video of the sewer have been submitted and accepted, the final release will be approved.
- d. Street lighting releases will be submitted when 100% of the street lighting work has been completed under the construction plans. One hundred percent (100%) of the Street Light escrow sum will be released when the work has been completed by the City.
- e. Street name signs releases will be submitted when 100% of the street name signs have been installed under the construction plans. One hundred percent (100%) of the Street Name Sign escrow sum will be released when the work has been completed by the City.
- f. Permanent markers releases will be submitted when 100% of the lot staking work has been completed under the construction plans. One hundred percent (100%) of the permanent marker escrow sum will be released when the work has been completed to the satisfaction of the City.

In the event any or all of the aforesaid improvements are not completed to the reasonable satisfaction of the City by the completion dates listed in the conditions of approval for said final plat or replat to do said construction, whichever is earlier, then and in that event Frontier Bank (Bank) upon written request from the City, shall pay to the City the total amount of funds designated for each of the aforesaid improvements which shall not have been completed on said date or the amount of funds necessary to complete construction thereof, whichever is the lesser, and the City shall utilize said funds released by Frontier Bank(Bank) to complete the improvements.

4. This Agreement shall be contingent upon its execution by the parties hereto, the pledge and assignment of the required security funds with Frontier Bank(Bank) as escrow agent for the City, and the acceptance of this Agreement by said escrow agent.
5. Permittee agrees to pay any and all fees charged by Frontier Bank (Bank) as escrow agent for the City under the terms of this Agreement.
6. Frontier Bank (Bank) shall be liable as a depository only.
7. Upon deposit of the security fund as provided in this Agreement, the City agrees to waive the requirement that Permittee post performance bonds for completion of the aforesaid improvements.



May 20, 2025

City of Hickman  
Attn: Heidi Hoglund, Director of Permits, Zoning, Codes and Floodplain  
115 Locust Street  
PO Box 127  
Hickman, Nebraska 68372-0127

RE: Etmund Estates 2<sup>nd</sup> Addition Final Plat  
Olsson Project No. 020-3129

Dear Ms. Hoglund, Planning Commission Members and City Council Members:

We have completed our verification of review comments of the Final Plat Submittal for development known as Etmund Estates 2<sup>nd</sup> Addition that were provided on May 5, 2025. The following documents were submitted for review.

- Updated Construction Drawings all dated 5/12/25
  - Public Water Main
  - Public Sanitary Sewer
  - Public Storm Sewer
  - Public Paving
  - Cyprus Blvd. Public Paving
- Specifications dated 5/12/25

The following documents were referenced as a basis of our review and were all viewed on the City's website.

- City of Hickman Subdivision Regulations dated 2007.
- Olsson review comments dated 5/5/25.

The following are comments and observations related to updated documents submitted for review and the requirements of the City of Hickman.

#### Final Plat

1. All requirements of the final plat within the City of Hickman Subdivision Regulations shall be met.
2. Ensure all the required signature blocks are included on the plat.

*No final plat was provided to the City Engineer for review.*

### Construction Drawings

All references to the City of Lincoln shall be reviewed and updated to the City of Hickman as applicable. Specifications referenced from City of Lincoln Standards may be utilized, but need to be included in the construction drawings or specifications so everything is all included under the Engineer of Record's seal and is included in the project documents.

*References to the City of Lincoln were removed from the drawings. Technical specifications were provided for the project.*

### Water Main

1. The mains running north along Ridge Road and Autumn Road (north of Red Bud Lane) extend to the north edge of this development and result in dead end mains which extend about 750 feet each. As future development occurs to the north, there will be an opportunity to loop this part of the system. In the meantime, additional maintenance of these mains will need to be considered.

*No action needed for this comment. It was provided for awareness.*

2. A Type VI fire hydrant should be installed at the north end of Ridge Road and Autumn Road along with the west end of Red Bud Lane to facilitate future connections to these mains.

*Updated.*

3. All pipe, appurtenances, and misc. items for construction should be specified so the materials that are to be used are known.

*Included in the technical specifications provided.*

### Sanitary Sewer

1. All 8-inch mains meet the minimum required slopes of 0.40% slope.
2. Update the manhole frame and cover to not include a City of Lincoln emblem as the LSP 162 requires.

*Updated.*

3. Ensure all sanitary sewer service end locations are marked for future discovery and also have survey locations documented in case they need to be located in the future.

*This will be completed during construction.*

4. Fiberglass manholes are not allowed in the City of Hickman.

*This detail was removed.*

5. All pipe, appurtenances, and misc. items for construction should be specified so the materials that are to be used are known.

*Included in the technical specifications provided.*

#### Storm Sewer

1. Brick manholes and inlets are not allowed in the City of Hickman.  
*These details were removed. However, there are still bricks shown for the entry area of the storm drainage manholes. These should be concrete adjustment rings and the maximum distances shown on this detail should be strictly followed.*
2. There will be surface drainage from the west end of Red Bud Lane onto the adjacent property. Permanent erosion control needs to be added at this location.  
*A note was added in this location for the contractor to coordinate with the engineer for permanent erosion control. This will be an item and area to be reviewed by the City prior to acceptance of the infrastructure.*
3. Ensure there are adequate pathways for overflow surface drainage for storm events larger than what the storm sewer is designed for to facilitate this drainage without damage to homes.  
*This was a comment for awareness by the developer's engineer.*
4. All pipe, appurtenances, and misc. items for construction should be specified so the materials that are to be used are known.  
*Included in the technical specifications provided.*

#### Paving

1. Concrete for paving shall be specified.  
*Included in the technical specifications provided.*
2. There is a doweled PCC pavement detail included, but there is no call out for this to be used in the paving.  
*Detail removed.*
3. Ensure all curb ramps are verified to meet ADA prior to concrete being poured.  
*This will be required during construction.*

#### Specifications

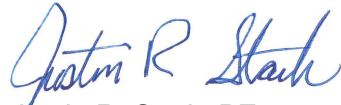
1. *2510 Water Distribution – the water main piping shall be PVC and not ductile iron.*
2. *2630 Storm Drainage – the storm sewer pipe shall be RCP and not HDPE.*
3. *3001 Cast-In-Place Concrete – the concrete compressive strength for all structural concrete shall be 4,000 psi.*
  - a. *All references throughout the other sections of the specifications for cast-in-place concrete are 3300 rather than 3001. The title of this section should be updated to be consistent. References to concrete compressive strength for cast-in-place concrete in other specification sections shall be 4,000 psi also.*

Conclusion and Recommendation

Based upon the review of the updated documents, we conclude the comments from the review letter dated May 5, 2025, have been addressed. This conclusion and recommendation does not relieve the developer from the responsibility of meeting any and all requirements of the City and State that may not be specifically included in our review and verification. Proceeding with infrastructure construction prior to full final plat approval by the City is at the developer's sole risk.

We appreciate this opportunity to be of service to your community. If you have any questions or concerns, please feel free to contact me at 402.458.5697 or [jstark@olsson.com](mailto:jstark@olsson.com).

Sincerely,

A handwritten signature in blue ink that reads "Justin R. Stark". The signature is written in a cursive style with a large initial "J" and "S".

Justin R. Stark, PE  
City Engineer, Olsson

## STAFF REPORT

**TO:** Hickman Planning Commission

**FROM:** Heidi Hoglund, Zoning Enforcement Officer

**RE:** Etmund Estates 2nd Addition – Annexation & Final Plat Review

**DATE:** May 6, 2025

---

### I. Introduction

This report summarizes the review of two land use requests submitted by Civil Design Group, Inc. on behalf of SWG4, LLC for a property located west of S. 68th Street and north of The Woodland Plaza. The property, legally described as Etmund Estates 1st Addition, Lot 1, is proposed for development under the name Etmund Estates 2nd Addition. The two requests are:

1. A request for **voluntary annexation** of approximately 23.88 acres into the City of Hickman corporate limits.
2. A request for **Final Plat approval** for the Etmund Estates 2nd Addition subdivision, including 79 buildable residential lots.

These requests are part of a broader effort to support continued residential growth in northwest Hickman. The Preliminary Plat was approved in 2024 with several conditions and waivers. The Planning Commission is asked to review both applications and forward a recommendation to the City Council for final action.

---

### II. Annexation Request

#### Overview

Annexation allows the City to extend zoning regulations, infrastructure coordination, and service planning to land adjacent to existing corporate limits. This parcel is directly contiguous to current city boundaries and is proposed for residential development.

#### Legal Framework

The request meets the requirements for annexation under Neb. Rev. Stat. §§ 17-405.01 to 17-426, applicable to cities of the second class. Specifically:

- The property is contiguous to existing city limits.
  - It is urban or suburban in character.
  - The annexation ordinance will require three separate readings by the City Council.
-

### III. Final Plat Request

#### Preliminary Plat Background

The Preliminary Plat for Etmund Estates 2nd Addition was approved by Resolution 2024-16 on September 24, 2024, by the Hickman City Council. The Planning Commission held a public hearing on September 3, 2024, and recommended conditional approval with the following item:

1. The developer will, regardless of phasing, extend Ridge Road through Block 2, Lot 7, to provide access to the neighboring properties.

The City Council then approved the preliminary plat with the following clarifications and waivers:

1. Clarify that Block 2, Lot 7 has been renamed to Block 2, Outlot C, on the preliminary plat for access to the neighboring properties to the west.
2. Waive Zoning Ordinance Section 5.11.06 R-2 street side yard setback from 25 feet to 10 feet for lots abutting Red Bud Lane and restrict driveway access to Red Bud Lane.
3. Waive Zoning Ordinance Section 5.11.06 R-2 side yard setback for single-family attached residential units from 10 feet to 7.5 feet.
4. Waive Subdivision Regulation Section 5.15 block length requirement due to topography.

#### Project Summary

- **Location:** West of S. 68th Street, northwest area of Hickman
- **Area:** 23.88 acres
- **Lots:** 79 buildable lots
- **Proposed Zoning:** R-2 Low-Density Residential
- **Dwelling Types:** Mix of **attached and detached** single-family homes
- **Street Access:** Extension of two existing city streets

#### Parkland Requirement

The developer has requested to fulfill the public land dedication requirement through payment of a park fee in lieu of land dedication, in accordance with the Subdivision Regulations. This approach:

- Requires City Council approval, and
- Must be documented in the Subdivision Agreement.

#### Shared Access Easement

A shared access easement affecting a portion of the site remains active. The easement is expected to undergo a partial release: the Lower Platte South Natural Resources District and the Rural Water District will retain access to use the driveway, while the two neighboring properties to the west may relinquish their rights to use the driveway and will instead take access from a future connection to a City street. The partial release must be recorded prior to or concurrent with final plat filing. This release is a private legal agreement between the affected property owners.

#### **IV. Zoning Review and Recommendations**

The property is zoned R-2 Low-Density Residential. Under the 2023 Zoning Ordinance, the R-2 district permits both detached and attached single-family dwellings. All lots meet the applicable dimensional and development standards.

The staff review process included evaluation of the submitted plat and verification of zoning compliance. Applicable public hearing and noticing requirements have been satisfied. If the Planning Commission determines that the applications meet all applicable standards, staff recommend forwarding both items to the City Council for final review and action. Prior to Council action, all documents are to be reviewed by the City Engineer and City Attorney for accuracy and compliance.

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#### **Conditions of Approval**

The following conditions are recommended to ensure the annexation and final plat are implemented in accordance with City standards, approved waivers, and development policies:

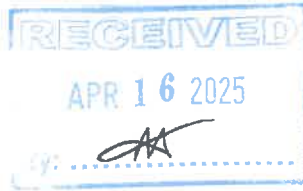
#### **Annexation – Recommend approval, contingent upon:**

- Completion of the required service plan within 12 months
- Developer funding of all public infrastructure improvements

#### **Final Plat – Recommend approval, contingent upon:**

- Compliance with:
    - 2023 Zoning Ordinance
    - 2007 Subdivision Regulations
    - City Engineer recommendations
    - City Attorney recommendations
-

115 Locust Street, P.O. Box 127  
Hickman, NE 68372-0127  
Phone 402.792.2212 - Fax 402.792.2210  
www.hickman.ne.gov



# APPLICATION FOR FINAL PLAT

Legal Description and Location: Lot 1, Etmund Estates 1st Addition

**Subdivider:** Name: SWG 4, LLC - Greg Grader Address: 819 O'St Lincoln, NE 68508  
**Agent: (Authorized to act on Subdivider's behalf)** Name: Civil Design Group, Inc. Address: 8535 Executive Woods Dr. Suite 200 Lincoln, NE 68512

Telephone: 402-499-7039 Scott Wobig Telephone: 402-434-8494

Name of Final Plat: Etmund Estates 2nd Add. Number of Lots: 79 + 7 outlots

Fee Schedule: Fee Total: 1790<sup>00</sup>

1. Subdivision Final Plat Fee: \$1,000.00 + \$10.00 per Lot
2. For Sanitary Improvement Districts Only - Plan and Administration Review Reimbursement (Section 8.08): The estimated payment shall be made on the basis of 1% of the construction and/or installation cost estimates for the various improvements computed by the Subdivider's Engineer, which estimated amount shall be paid to the City at the time the plans and specifications are submitted to the City for City final review approval.

Questions:

- A. Does the subdivider have any interest in the land surrounding the final plat? Yes \_\_\_\_\_ No X If yes, please describe the nature of such interest: \_\_\_\_\_
- B. Will the final plat require any zoning or other action (rezoning, planned development, conditional use or vacations) to complete the development? Yes \_\_\_\_\_ No X If yes please describe the nature of action: \_\_\_\_\_
- C. Is this final plat based upon, and consistent with, the preliminary plat approved by the City Council on \_\_\_\_\_, 20\_\_\_\_\_, Resolution No. \_\_\_\_\_  
Yes X No \_\_\_\_\_ If not, please explain the proposed changes and reasons on an additional sheet.
- D. Have all the improvements required by the preliminary plat been completed? Yes \_\_\_\_\_ No X  
(Please check the Planning Commission's letter indicating the approval of the preliminary plat.) If not, which improvements have not been completed: Water, Sewer, Storm, Paving & Street Lights

Mike Eckert

4-16-25

Signature of Applicant

Printed Name

Date

City Use Only

Date Application Received: April 16, 2025 Final Plat #: 2025-48

Fee Paid \$ 1790 Receipt No. 2.002000444 Date Fees Paid: 4-17-25

Check # 1006

Receipt No: 2.002000444

Apr 18, 2025

SWG4 LLC

Building Permit - Building Permit	1,790.00
<hr/>	
Total:	1,790.00
<hr/>	
Check            Check No: 1006	1,790.00
Total Applied:	1,790.00
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Change Tendered:	.00
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# TECHNICAL SITEWORK SPECIFICATIONS

## ETMUND ESTATES 2<sup>ND</sup> ADDITION HICKMAN, NEBRASKA



**CDG Project No. 2025-0012**

**May 2025**



8535 Executive Woods Dr., Ste 200 • Lincoln, Nebraska 68512 • (402) 434-8494  
• Fax 866-215-8747  
Civil Design • Site Development • Planning & Zoning

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Division	Section Title
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### **DIVISION 2 - SITE CONSTRUCTION**

02220	Site Demolition
02230	Site Clearing
02300	Earthwork
02340	Soil Stabilization
02510	Water Distribution
02535	Sanitary Sewage Systems
02536	Sewer Manholes, Frames and Covers
02630	Storm Drainage
02751	Portland Cement Concrete Paving
02770	Curbs and Sidewalks
03200	Concrete Reinforcement
03300	Cast-In-Place Concrete

### **DIVISION 3 – CONCRETE**

03200	Concrete Reinforcement
03300	Cast-in-Place Concrete

**PROJECT:** Etmund Estates 2<sup>nd</sup> Addition  
Hickman, Nebraska – 2025-0012

**PROJECT ENGINEER:**  
Justin Crow, P.E. – Civil Design Group, Inc.

**SECTION 02220 - SITE DEMOLITION**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes
- B. Section Includes
  - 1. Demolition of structures, paving, and utilities.
  - 2. Filling voids created as a result of removals or demolition.
- C. Related Sections
  - 1. Section 02230 - Site Clearing: Clearing of trees and other plant vegetation.
  - 2. Section 02300 – Earthwork: Placement of fill material

1.2 REGULATORY REQUIREMENTS

- A. Conform to applicable Federal, State, and local codes for demolition of structures, safety of adjacent structures, dust control, and runoff control.
- B. Obtain required permits and licenses from appropriate authorities. Pay associated fees including disposal charges.
- C. Notify affected utility companies before starting work and comply with their requirements.
- D. Do not close or obstruct public or private roadways, sidewalks, or fire hydrants without appropriate permits or written authorization.
- E. Conform to applicable regulatory procedures when hazardous or contaminated materials are discovered.
- F. Test soils around buried tanks for contamination.

1.3 SUBMITTALS

- A. Project Record Documents: Accurately record actual locations of capped utilities and subsurface obstructions that will remain after demolition. Submit record as part of closeout submittals.

1.4 PROJECT CONDITIONS

- A. Structures to be demolished will be discontinued in use and vacated prior to start of work.
- B. Owner assumes no responsibility for condition of structures to be demolished.
- C. Conditions existing at the time of inspection for bidding purposes will be maintained by Owner as reasonably practical. Variations within structures may occur by Owner's removal and salvage operations prior to start of demolition work.
- D. Unless otherwise indicated in Contract Documents or specified by the Owner, items of salvageable value to Contractor shall be removed from site and structures. Storage or sale of removed items on site will not be permitted and shall not interfere with other work specified.
- E. Explosives shall not be brought to site or used without written consent of authorities having jurisdiction. Such written consent will not relieve Contractor of total responsibility for injury to persons or for damage to property due to blasting operations. Performance of required blasting shall comply with governing regulations.

02220-1

## PART 2 - PRODUCTS

### 2.1 FILL MATERIALS

- A. Fill material shall be aggregate fill materials as specified in Section 02300.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Provide, erect, and maintain erosion control devices, temporary barriers, and security devices at locations indicated on Construction Drawings.
- B. Protect existing trees, landscaping materials, appurtenances, and structures, which are not to be demolished. Repair damage to existing items to remain caused by demolition operations.
- C. Prevent movement or settlement of adjacent structures. Provide bracing and shoring as necessary.
- D. Mark location of utilities. Protect and maintain in safe and operable condition utilities that are to remain. Prevent interruption of existing utility service to occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities as acceptable to governing authorities and Owner.
- E. Notify adjacent property owners of work that may affect their property, potential noise, utility outages, or other disruptions. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon, or limit access to their property. Coordinate notice with Owner.

### 3.2 GENERAL DEMOLITION REQUIREMENTS

- A. Conduct demolition to minimize interference with adjacent structures or pavements to remain.
- B. Cease operations immediately if adjacent structures appear to be in danger. Notify authority having jurisdiction. Do not resume operations until directed by authority.
- C. Conduct operations with minimum of interference to public or private access. Maintain ingress and egress at all times.
- D. Sprinkle work with water to minimize dust. Provide hoses and water connections for this purpose.
- E. Comply with governing regulations pertaining to environmental protection.
- F. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing prior to start of work.

### 3.3 DEMOLITION

- A. Demolish site improvements designated to be removed as shown on the drawings. Site improvements shall include but not be limited to structures, retaining walls, foundations, pavements, curbs and gutters, drainage structures, utilities, signage, or landscaping.
- B. Disconnect and cap or remove utilities to be abandoned as shown on the drawings.
- C. Fill or remove underground tanks, piping, and appurtenances as shown.
- D. Demolish buildings completely and remove from site using methods as required to complete work within limitations of governing regulations. Small structures may be removed intact when acceptable to Owner and authorities having jurisdiction.

- E. Locate demolition equipment and remove materials to prevent excessive loading to supporting walls, floors, or framing.
- F. Demolish concrete and masonry in small sections. Break up concrete slabs-on-grade that are 2-feet or more below proposed subgrade to permit moisture drainage. Remove slabs-on-grade and below grade construction within 2-feet of proposed subgrade.
- G. Demolition and/or abandonment of underground fuel storage tanks, wells, cisterns, etc. shall be completed in accordance with Federal, State, and / or local regulations and shall be registered as such when applicable.

#### 3.4 FILLING BASEMENTS AND VOIDS

- A. Completely fill below grade areas and voids resulting from demolition or removal of structures, underground fuel storage tanks, wells, cisterns, etc., using aggregate fill materials consisting of stone, gravel, or sand free from debris, trash, frozen materials, roots, and other organic matter unless otherwise regulated by the federal, state, and local authorities have jurisdiction over the demolition, removal, or abandonment.
- B. Areas to be filled shall be free of standing water, frost, frozen or unsuitable material, trash, and debris prior to fill placement.
- C. Place fill materials in accordance with Section 02300 unless subsequent excavation for new work is required.
- D. Grade surface to match adjacent grades and to provide flow of surface drainage after fill placement and compaction.

#### 3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove from site debris, rubbish, and other materials resulting from demolition operations. Leave areas of work in clean condition.
- B. No burning of any material, debris, or trash on-site or off-site will be allowed except when allowed by appropriate governing authority and Owner. If allowed as stated above, burning shall be performed in a manner prescribed by governing authority. Attend burning materials until fires have burned out and have been completely extinguished.
- C. Transport materials removed from demolished structures with appropriate vehicles and dispose off-site to areas that are approved for disposal by governing authorities and appropriate property owners.

END OF SECTION

**SECTION 02230 - SITE CLEARING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes
  - 1. Cleaning site of debris, grass, trees, and other plant life in preparation for site or building earthwork.
  - 2. Protection of existing structures, trees, or vegetation indicated on the Construction Drawings to remain.
- B. Related Sections
  - 1. Section 02220 – Site Demolition: Demolition and removal of structures, paving, utilities and other improvements.
  - 2. Section 02300 – Earthwork: Stripping and removal of topsoil.

**1.2 ENVIRONMENTAL REQUIREMENTS**

- A. Construct temporary erosion control systems as shown on Construction Drawings or as directed by the "Storm Water Pollution Prevention Plan" (SWPPP) to protect adjacent properties and water resources from erosion and sedimentation.
- B. In the event that sitework on this project will disturb 1 or more acres; Contractor shall not begin construction without a "National Pollution Discharge Elimination System" (NPDES) permit governing discharge of storm water from the site for the entire construction period. NPDES permit requires a SWPPP to be in place during construction.
- C. Contractor shall conduct storm water best management practices in accordance with NPDES permit and shall enforce action taken or imposed by Federal or State agencies, including cost of fines, construction delays and remedial actions resulting from Contractor's failure to comply with provisions of NPDES permit.

**1.3 PROJECT CONDITIONS**

- A. Conditions existing at time of inspection for bidding purposes will be maintained by Owner as reasonably practical.

**PART 2 - PRODUCTS**

Not Used

**PART 3 - EXECUTION**

**3.1 PREPARATION**

- A. Identify existing plant life that is to remain and verify that clearing limits are clearly tagged, identified and marked in such manner as to ensure their protection throughout construction operations.

**3.2 PROTECTION**

- A. Locate, identify, and protect existing utilities that are to remain.
- B. Protect trees, plant growth, and features designated to remain as part of final landscaping.

- C. Conduct operations with minimum interference to public or private accesses and facilities. Maintain ingress and egress at all times and clean or sweep roadways daily as required by SWPPP or governing authority. Dust control shall be provided with sprinkling systems or equipment provided by Contractor.
- D. Protect benchmarks, property corners, and other survey monuments from damage or displacement. If marker needs to be removed it shall be referenced by a licensed land surveyor and replaced, as necessary, in kind.
- E. Provide traffic control as required, in accordance with the US Department of Transportation's "Manual on Uniform Traffic Control Devices" and applicable state highway department requirements.

### 3.3 EQUIPMENT

- A. Material shall be transported to and from the project site using well-maintained and operating vehicles. Transporting vehicles operating on site shall stay on designated haul roads and shall not endanger improvements by rutting, overloading, or pumping.

### 3.4 CLEARING

- A. Clear areas required for access to site and execution of work.
- B. Unless otherwise indicated on Construction Drawings, remove trees, shrubs, grass, other vegetation, improvements, or obstructions interfering with grading operations. Removal includes digging out stumps and roots. Depressions caused by clearing and grubbing operations shall be filled to subgrade elevation to avoid ponding of water. Satisfactory fill material shall be placed in accordance with Section 02300.
- C. Remove grass, trees, plant life, stumps, and other construction debris from site to dump site that is suitable for handling such material according to state laws and regulations.
- D. Cut heavy growths of grass from areas before stripping and topsoil removal and remove cuttings with remainder of cleared vegetative material.

END OF SECTION

**SECTION 02300 - EARTHWORK**

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavation, filling, and backfilling for structures, pavement, and out parcels.
2. Trenching and backfilling for utilities.
3. Dewatering.
4. Boring under crossings.

B. Related Sections

1. Section 02340 - Soil Stabilization
2. Section 02370 - Erosion Control and Sedimentation. Temporary and permanent erosion control.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. ASTM D 422 - Standard Test Method For Particle Size Analysis of Soil
2. ASTM D 698 - Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN.m/m<sup>3</sup>))
3. ASTM D 1557 - Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 Kn.m/m<sup>3</sup>))
4. ASTM D 2922 - Density of Soil and Soil-Aggregate In Place by Nuclear Methods (Shallow Depth)
5. ASTM D 4318 - Liquid Limit, Plastic Limit, and Plasticity Index of Soils

B. American Association of State Highway and Transportation Officials (AASHTO)

1. AASHTO T 88 - Particle Size Analysis of Soils

C. State Department of Transportation (DOT):

1. Standard Specifications for Construction and Materials

D. National Fire Protection Association (NFPA)

1. NFPA 70 - National Electrical Code

E. American Water Works Association (AWWA)

1. AWWA C200 - Standard For Steel Water Pipe - 6 In. (150 Mm) And Larger
2. AWWA C206 - Field Welding Of Steel Water Pipe

1.3 QUALITY ASSURANCE

A. An independent testing laboratory, selected and paid for by the Owner, will be retained to perform construction testing on site.

1. The independent testing laboratory shall prepare test reports that indicate test location, elevation data, and test results. The Public Works Director, Owner, Civil Engineering Consultant, and Contractor shall be provided with copies of reports on the Monday following the previous weeks test results. In the event that tests performed fail to meet Specifications, the independent testing laboratory shall notify Public Works Director, Owner, Civil Engineering Consultant, and Contractor immediately; as well as, document the corrective actions taken and the results from those corrective actions.
2. Costs related to retesting due to failures shall be paid for by the Contractor at no additional expense to Owner. Contractor shall provide free access to site for testing activities.
3. Quality assurance testing will be conducted in accordance with Paragraph "Field Testing" in Part 3 hereinafter, unless otherwise approved by the Public Works Director.

## 1.4 DEFINITIONS

- A. Satisfactory Soils: ASTM D 2487 soil classification groups GW, GP, GM, GC, SC, ML, SW, SP, SM, CL, and CH or a combination of these group symbols; free of rock or gravel larger than allowed for fill or backfill material as specified hereinafter or as shown on the drawings. Satisfactory soil shall contain no debris, waste, frozen materials, vegetation, and other deleterious matter.
- B. Unsatisfactory Materials: Materials which do not comply with the requirements for satisfactory materials are unsatisfactory including materials classified in ASTM D 2487 soil classification groups MH, CH, OL, OH, and PT, or a combination of these group symbols.
  - 1. Unsatisfactory materials also include man-made fills; trash; refuse; backfills from previous construction; and material classified as satisfactory which contains root and other organic matter or frozen material. The Contracting Officer shall be notified of any contaminated materials.
  - 2. Unsatisfactory soils also include satisfactory soils not maintained within -1 to +3 percent of optimum moisture content at time of compaction.
  - 3. CH soils are unsatisfactory otherwise indicated in the Geotechnical Report prepared for this project.

## 1.5 SUBMITTALS

- A. Off-Site Materials (if required)
  - 1. Submit 30-pound sample of each type of off-site fill material that is to be used at the site in airtight containers to the independent testing laboratory or submit gradation and certification of aggregate material that is to be used at the site to the independent testing laboratory for review.
  - 2. Submit certification that all material obtained from off-site sources complies with specification requirements.
  - 3. Submit name of each material supplier and specific type and source of each material. Change in source throughout project requires approval of Owner.
- B. If fabrics or geogrids are to be used, design shall be submitted for approval to Owner.
- C. Submit Dewatering Plans upon request by Owner.
- D. Shop drawings or details pertaining to excavating and filling are not required unless otherwise shown on the Drawings or if contrary procedures to Construction Documents are proposed.
- E. Shop drawings or details pertaining to site utilities are not required unless required by regulatory authorities or unless uses of materials, methods, equipment, or procedures that are contrary to The Drawings or Specifications are proposed. Do not perform work until Owner has accepted required shop drawings.
- F. Contact utility companies and determine if additional easements will be required to complete project. Provide written confirmation of the status of all easements to Owner at time of Preconstruction Conference or no later than 90 days prior to project possession date.

## PART 2 PRODUCTS

- A. Fill and Backfill. Satisfactory soil materials excavated from the site.
- B. Imported Fill Material: Satisfactory borrow material provided from offsite borrow areas when sufficient satisfactory soil materials are not available from required excavations.
- C. Trench Backfill: ASTM D 2321 unless otherwise specified or shown on the drawings.
- D. Subbase: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2- inch sieve and not more than 12 percent passing a No. 200 sieve.

- E. Base: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Bedding: Aggregate Type as indicated on the plans or naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- G. Drainage Fill: Washed, narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2- inch sieve and 0 to 5 percent passing a No. 8 sieve.
- H. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.
- I. Topsoil: Topsoil shall consist of stripping material excavated from the site. Topsoil shall consist of organic surficial soil found in depth of not more than 8-inches unless otherwise indicated in the geotechnical report prepared for this project..
- J. Stabilization fabrics and geogrids: As specified in Section 02340.
- K. Filter and drainage fabrics: As specified in Section 02370.
- L. Steel Casing Pipe: Comply with AWWA C200 minimum grade B, size, and wall thickness as indicated on The Drawings.
- M. Trench Utility Locator Tape: Heavy duty 6" wide underground warning tape. Tape shall be made from polyethylene material, 3.5 mils thick, with a minimum tensile strength of 1,750 psi. Place the tape at one-half the minimum depth of cover for the utility line or a maximum of 3 feet, which ever is the less, but never above the top of subgrade. Color of tape shall be determined by as follows:
  - 1. Natural Gas or Propane - Yellow
  - 2. Electric - Red
  - 3. Telephone – Orange
  - 4. Water – Blue
  - 5. Sanitary Sewer – Green

## 2.2 EQUIPMENT

- A. Transport off-site materials to project using well-maintained and operating vehicles. Once on site, transporting vehicles shall stay on designated haul roads and shall at no time endanger improvements by rutting, overloading, or pumping.

## 2.3 SOURCE QUALITY CONTROL

- A. Laboratory testing of materials proposed for use in the project shall be by the Independent Testing Laboratory at no cost to Contractor. The Contractor shall provide samples of material obtained off-site.
- B. In areas to receive pavement, California Bearing Ratio (CBR) tests shall be performed for each type of material that is imported from off-site. CBR value shall be equal to or above pavement design subgrade CBR value indicated by the Geotechnical Engineer.
- C. Following tests shall be performed on each type of on-site or imported soil material used as compacted fill:
  - 1. Moisture and Density Relationship: ASTM D 698 or ASTM D 1557.
  - 2. Mechanical Analysis: AASHTO T 88 or ASTM D422.
  - 3. Plasticity Index: ASTM D 4318

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Identify required lines, levels, contours, datum, elevations, and grades necessary for construction as shown on the drawings.
- B. Notify utility companies to remove or relocate public utilities that are in conflict with proposed improvements.
- C. Protect plant life (including trees and shrubs), lawns, fences, existing structures, sidewalks, paving, and curbs, unless otherwise noted on the drawings from excavating equipment and vehicular traffic.
- D. Protect benchmarks, property corners, and other survey monuments from damage or displacement. If marker needs to be removed it shall be referenced by licensed land surveyor and replaced, as necessary, by same. Cost to re-establish damaged benchmarks, property corners, and other survey monuments by a licensed land surveyor is the responsibility of the contractor.
- E. Remove from site, material encountered in grading operations that, in opinion of Owner or the Owner's Independent Testing Laboratory (ITL) is unsuitable or undesirable for backfilling, subgrade, or foundation purposes. Dispose of in manner satisfactory to Owner. Backfill areas with layers of suitable material and compact as specified herein.
- F. Prior to placing fill in low areas, such as previously existing creeks, ponds, or lakes, perform following procedures:
  - 1. Drain water out by gravity with ditch having flow line lower than lowest elevation in low area. If drainage cannot be performed by gravity ditch, use adequate pump to obtain the same results.
  - 2. After drainage of low area is complete, remove muck, mud, debris, and other unsuitable material as required by the geotechnical engineer by using acceptable equipment and methods that will keep natural soils underlying low area dry and undisturbed.
  - 3. All muck, mud, and other materials removed from low areas shall be dried on-site by spreading in thin layers for observation by the Independent Testing Laboratory. Material shall be inspected and, if found to be suitable for use as fill material, shall be incorporated into lowest elevation of site filling operation, but not under possible building subgrade locations or within 10'-0" of perimeter of possible building subgrades or paving subgrade. If, after observation by the Independent Testing Laboratory, material is found to be unsuitable, unsuitable material shall be removed from site.
- G. Locate and identify utilities that have previously been installed and protect from damage.
- H. Locate and identify existing utilities that are to remain and protect from damage.
- I. Maintain in operating condition existing utilities, previously installed utilities, and drainage systems encountered in utility installation. Repair surface or subsurface improvements shown on The Drawings.
- J. Verify location, size, elevation, and other pertinent data required making connections to existing utilities and drainage systems as indicated on The Drawings.
- K. Over excavate and properly prepare areas of subgrade that are not capable of supporting proposed systems. Stabilize these areas, if required by the ITL, by using acceptable geotextile fabrics or aggregate material placed and compacted as specified in Section 02340.

### 3.2 DEWATERING (IF ENCOUNTERED)

- A. General:
  - 1. Provide dewatering systems as required for excavations.
  - 2. Design and provide dewatering system using accepted and professional methods consistent with current industry practice to eliminate water entering the excavation under hydrostatic head from the bottom or sides. Design system to prevent differential hydrostatic head, which would result in floating out soil particles in a manner, termed as a "quick" or "boiling" condition. System shall not be dependent solely

- upon sumps or pumping water from within the excavation where differential head would result in a quick condition, which would continue to worsen the integrity of the excavation's stability.
3. Provide dewatering system of sufficient size and capacity to prevent ground and surface water flow into the excavation and to allow Work to be installed in a dry condition.
  4. Control, by acceptable means, all water regardless of source. Contractor shall be responsible for disposal of the water.
  5. Confine discharge piping or ditches to available easement or to additional easement obtained by Contractor. Provide necessary permits or easement.
  6. Control groundwater in a manner that preserves strength of foundation soils, does not cause instability or raveling of excavation slopes, and does not result in damage to existing structures. Where necessary, lower water level in advance of excavation utilizing wells, wellpoints, jet educators, or similar positive methods. The water level as measured by piezometers shall be maintained a minimum of 3 feet below prevailing excavation level.
  7. Commence dewatering prior to any appearance of water in excavation and continue until Work is complete to the extent that no damage results from hydrostatic pressure, flotation, or other causes.
  8. Open pumping with sumps and ditches will be allowed provided it does not result in boils, loss of fines, softening of the ground, or instability of slopes.
  9. Install wells or wellpoints, if required, with suitable screens and filters so that continuous pumping of fines does not occur. Arrange discharge to facilitate collection of samples by the Owner. During normal pumping and upon development of wells, levels of fine sand or silt in the discharge water shall not exceed 5 ppm. Install sand tester on discharge of each pump during testing to verify that levels are not exceeded.
  10. Control grading around excavations to prevent surface water from flowing into excavation areas.
  11. No additional payment will be made for any supplemental measures to control seepage, groundwater, or artesian head.

B. Design:

1. Designate and obtain the services of a qualified dewatering specialist to provide dewatering plan as may be necessary to complete the Work.
2. Contractor shall be responsible for the accuracy of the drawings, design data, and operational records required.
3. Contractor shall be responsible for the design, installation, operation, maintenance, and any failure of any component of the system.

C. Damages:

1. Contractor shall be responsible for and shall repair any damage to work in place, other contractor's equipment, utilities, residences, highways, roads, railroads, private and municipal well systems, adjacent structures, natural resources, habitat, existing wells, and the excavation. Contractor responsibility shall also include, damage to the bottom due to heave and including but not limited to, removal and pumping out of the excavated area that may result from Contractor's negligence, inadequate or improper design and operation of the dewatering system, and any mechanical or electrical failure of the dewatering system.
2. Remove subgrade materials rendered unsuitable by excessive wetting and replace with approved backfill material at no additional cost to the Owner.

D. Maintaining Excavation in Dewatering Condition:

1. Dewatering shall be a continuous operation. Interruptions due to power outages, or any other reason will not be permitted.
2. Continuously maintain excavation in a dry condition with positive dewatering methods during preparation of subgrade, installation of pipe, and construction of structures until the critical period of construction or backfill is completed to prevent damage of subgrade support, piping, structure, side slopes, or adjacent facilities from flotation or other hydrostatic pressure imbalance.
3. Provide standby equipment on site, installed, wired, and available for immediate operation if required to maintain dewatering on a continuous basis in the event any part of the system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, perform such work as may be required to restore damaged structures and foundation soils at no additional cost to Owner.

4. System maintenance shall include but not be limited to 24-hour supervision by personnel skilled in the operation, maintenance, and replacement of system components, and any other work required to maintain excavation in dewatered condition.
- E. System Removal: Upon completion of the work, remove dewatering equipment from the site, including related temporary electrical service.
- F. Wells shall be removed or cut off a minimum of 3 feet below final ground surface, capped, and / or abandoned in accordance with regulations by agencies having jurisdiction.

### 3.3 TOPSOIL EXCAVATION

- A. Cut heavy growths of grass from areas before stripping and remove cuttings with remainder of cleared vegetative material.
- B. Strip topsoil to a depth of not less than 6 inches from areas that are to be filled, excavated, landscaped, or re-graded to such depth that it prevents intermingling with underlying subsoil or questionable material.
  1. Heavy vegetation areas, such as tree root systems should be stripped to a depth of not less than 12 inches below the existing ground surface or a depth of not less than 2 feet below possible building pads and areas to receive pavement.
- C. Stockpile topsoil in storage piles in areas shown on The Drawings or where directed by Owner. Construct storage piles to freely drain surface water. Cover storage piles as required to prevent windblown dust. Dispose of unsuitable topsoil as specified for waste material, unless otherwise specified by Owner. Remove excess topsoil from site unless specifically noted otherwise on The Drawings.

### 3.4 GENERAL EXCAVATION

- A. Classification of Excavation: The Contractor shall assure himself by site investigation or other necessary means that he is familiar with the type, quantity, quality, and character of excavation work to be performed. Excavation shall be considered unclassified excavation, except as indicated in the Contract Documents.
- B. When performing grading operations during periods of wet weather, provide adequate dewatering, drainage and ground water management to control moisture of soils.
- C. Shore, brace, and drain excavations as necessary to maintain excavation as safe, secure, and free of water at all times.
- D. Excavate to line and grade as shown on the Drawings being careful not to over excavate beyond elevations needed for subgrades.
- E. Place suitable excavated material into project fill areas.
- F. Unsuitable excavated material shall be disposed of in manner and location that is acceptable to Owner and local governing agencies.
  1. The Contractor shall at a minimum remove and dispose of unsuitable material as identified on the drawings at no addition cost to the Owner.
  2. Remove from the project area, at no additional cost to the Owner, miscellaneous rubble and debris.
  3. Grub out stumps and tree removal.
  4. Do not burn or bury any non-vegetative or vegetative debris on the project site.
  5. Excavation pits to remove unsuitable material should be sloped in accordance with applicable rules and regulations established for construction by the Department of Labor, Occupational Safety and Health Administration (OSHA), and by local ordinances.
    - a. Backfill placed on sloped areas shall be benched horizontally a minimum of six feet into the side of the excavation slope, so the lifts of backfill are placed and compacted in as nearly a horizontal plane as

possible. Each bench shall have a vertical height of two to four feet with lifts placed and compacted as required.

- G. Perform excavation using capable, well-maintained equipment and methods acceptable to Owner and local governing agencies.

### 3.5 TRENCHING EXCAVATION FOR UTILITIES

- A. Contact local utility companies before excavation begins. Dig trench at proper width and depth for laying pipe, conduit, or cable. Cut trench banks vertical, if possible, and remove stones from bottom of trench as necessary to avoid point-bearing. Over excavate wet or unstable soil, if encountered, from trench bottom as necessary to provide suitable base for continuous and uniform bedding. Replace overexcavation with suitable material and dispose of unsuitable material.
- B. Trench excavation sidewalls shall be sloped, shored, sheeted, braced, or otherwise supported by means of sufficient strength to protect workmen in accordance with applicable rules and regulations established for construction by the Department of Labor, Occupational Safety and Health Administration (OSHA), and by local ordinances. Lateral travel distance to exit ladder or steps shall not be greater than 25 feet in trenches 4 feet or deeper.
- C. Perform trench excavation as indicated on the Drawings for specified depths. During excavation, stockpile materials suitable for backfilling in orderly manner far enough from bank of trench to avoid overloading, slides, or cave-ins.
- D. Remove excavated materials not required or not suitable for backfill or embankments and waste off-site or at on-site locations approved by the Owner and in accordance with governing regulations. Dispose of structures discovered during excavation as specified in Section 02220.
- E. Prevent surface water from flowing into trenches or other excavations by temporary grading or other methods, as required. Remove accumulated water in trenches and other excavations as specified.
- F. Open cut excavation with trenching machine or backhoe. Where machines other than ladder or wheel-type trenching machines are used, do not use clods for backfill.
- G. Accurately grade trench bottom to provide uniform bearing and support for each section of pipe on bedding material at every point along entire length except where necessary to excavate for bell holes, proper sealing of pipe joints, or other required connections. Dig bell holes and depressions for joints after trench bottom has been graded. Dig no deeper, longer, or wider than needed to make joint connection properly.
- H. Trench width below top of pipe shall not be less than 16 inches nor more than 24 inches wider than outside surface of pipe or conduit that is to be installed to designated elevations and grades. Other trench width for pipe, conduit, or cable shall be least practical width that will allow for proper compaction of trench backfill.
- I. Trench depth requirements measured from finished grade or paved surface shall meet the following requirements, or applicable codes and ordinances, whichever is more stringent:
  - 1. Water Mains: Elevations and grades as indicated on the drawings and as specified in Section 02510.
  - 2. Sanitary Sewer: Elevations and grades as indicated on the drawings and as specified in Section 02535.
  - 3. Storm Sewer: Elevations and grades as indicated on the Drawings and as specified in Section 02630.
  - 4. Electrical Conduits: 24 inches minimum to top of conduit or as required by NEC 300-5, NEC 710-36 codes, or local utility company requirements, whichever is deeper.
  - 5. TV Conduits: 18 inches minimum to top of conduit or as required by local utility company, whichever is deeper.
  - 6. Telephone Conduits: 18 inches minimum to top of conduit, or as required by local utility company, whichever is deeper.
  - 7. Gas Mains and Service: 30 inches minimum to top of pipe, or as required by local utility company, whichever is deeper.

### 3.6 SUBGRADE PREPARATION

- A. Scarification and Compaction: Areas exposed by excavation or stripping and on which subgrade preparations are to be performed shall be scarified to minimum depth of 12 inches and compacted as specified hereinafter.
- B. Proofrolling: Subgrades shall be proofrolled to detect areas of insufficient compaction. Proofrolling shall be accomplished by making minimum of 2 complete passes with fully-loaded tandem-axle dump truck with a maximum weight of 20 tons, or approved equal, in each of 2 perpendicular directions while under the supervision and direction of the independent testing laboratory. Document and explain proofrolling inspection procedures and results in the laboratory inspection report. Areas of failure shall be excavated and recompactd as specified herein. Continual failure areas shall be stabilized in accordance with Section 02340 at no additional cost to Owner. Subgrade exposed longer than 48 hours or on which precipitation has occurred shall be re-proofrolled.

### 3.7 FILLING

- A. Fill areas to contours and elevations shown on the Drawings with unfrozen materials.
- B. Place fills in continuous lifts specified herein.
- C. Fill within proposed building subgrade and paving subgrade shall not contain rock or stone greater than 2 inches in any dimension.
- D. Unless otherwise specified for rock fill, rock or stone less than 6-inches in largest dimension may be used in fill below structures, paving, and graded areas, up to 24 inches below surface of proposed subgrade or finish grade of graded areas when mixed with suitable material. Rock or stone less than 2 inches in largest dimension may be used in fill within the upper 24 inches of proposed subgrade or finish grade of graded areas when mixed with suitable material.
- E. Fill materials used in preparation of subgrade shall be placed in lifts or layers not to exceed 8 inches loose measure and compacted as specified hereinafter.
- F. Material imported from off-site shall have CBR value equal to or above pavement design subgrade CBR value as determined by the Geotechnical Engineer.

### 3.8 PIPE BEDDING

- A. Excavate trenches for pipe or conduit to 4 inches below bottom of pipe and to the width as specified herein. Place 4 inches of bedding material, compact in bottom of trench, and shape to conform to lower portion of pipe barrel.
- B. Place geotextile fabric if unsuitable soils are encounter in accordance with Section 02340.

### 3.9 TRENCH BACKFILLING

- A. Materials used for trench backfill shall comply with requirements as specified herein.
- B. Backfill and compact to a minimum of 95 percent of the maximum dry density in accordance with ASTM D698 (latest edition). Fill placed within the upper 18" of the subgrade for areas to be paved shall be compacted to 100 percent of the Maximum dry density in accordance with ASTM D698 (latest edition) unless more stringent compaction requirements are recommended in the geotechnical report prepared for this project.
- C. Maintain moisture content of not less than 1 percent below and not more than 3 percent above optimum moisture content of fill material.
- D. Do not backfill trenches until required tests are performed and utility systems comply with and are accepted by applicable governing authorities.
- E. Backfill trenches to contours and elevations shown on the Drawings.

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- F. Do not backfill over porous, wet, frozen, or spongy subgrade surfaces.

### 3.10 BORINGS AND CASINGS UNDER ROADS, HIGHWAYS, AND RAILROAD CROSSINGS

- A. When indicated by the Drawings, street, road, highway, or railroad crossings for utility mains installed by jacking and boring method shall be in accordance with area specifications and governing authorities.
- B. Excavation of approach pits and trenches within right-of-way of street, road, highway, or railroad shall be of sufficient distance from paving or railroad tracks to permit traffic to pass without interference. Tamp backfill for approach pits and trenches within right-of-way in layers not greater than 6-inches thick for entire length and depth of trench or pit. Compact backfill to 98 percent of maximum density in accordance with ASTM D698, (or 95 percent of maximum density, in accordance with ASTM D1557) obtained at optimum moisture as determined by AASHTO T 180. Mechanical tampers may be used after cover of 6 inches has been obtained over top of barrel of pipe.
- C. Accomplish boring operation using commercial type boring rig. Bore hole to proper alignment and grade. Bore hole shall be within 2 inches of same diameter as largest outside joint diameter of pipe installed. Install pipe in hole immediately after bore has been made and in no instance shall hole be left unattended while open.
- D. In event subsurface operations result in failure or damage to pavement or railroad tracks within 1 year of construction, make necessary repairs to pavement or railroad tracks. If paving cracks on either side of pipe line or is otherwise disturbed or broken due to construction operations, repair or replace disturbed or broken area.
- E. Clean, prime, and line interior and exterior of casing pipe with two coats of asphalt coating in accordance with area specifications and governing authorities.
- F. Butt weld steel casing. Welds shall be full penetration single butt-welds in accordance with AWWA C206.
- G. Install casing and utility pipe with end seals, vent pipe, and other special equipment in accordance with area specifications and governing authorities.

### 3.11 COMPACTION

- A. Fill material shall be compacted to a minimum of 95 percent of the Maximum dry density in accordance with ASTM D698 (latest edition). Fill placed within the upper 18" of the subgrade for areas to be paved shall be compacted to 100 percent of the Maximum dry density in accordance with ASTM D698 (latest edition) unless more stringent compaction requirements are recommended in the geotechnical report prepared for this project.
- B. Maintain moisture content of not less than 1 percent below and not more than 3 percent above optimum moisture content of fill material.
- C. Exercise proper caution when compacting immediately over top of pipes or conduits. Water jetting or flooding is not permitted as method of compaction.
- D. Corrective Measures for Non-Complying Compaction: Remove and recompact deficient areas until proper compaction is obtained. Continual failure areas shall be stabilized in accordance with Section 02340 at no additional cost to Owner.

### 3.12 MAINTENANCE OF SUBGRADE

- A. Verify finished subgrades to ensure proper elevation and conditions for construction above subgrade.
- B. Protect subgrade from excessive wheel loading during construction, including concrete trucks, dump trucks, and other construction equipment.
- C. Remove areas of finished subgrade found to have insufficient compaction density to depth necessary and replace in manner that will comply with compaction requirements by use of material with CBR or LBR equal to or better than

that specified by the Geotechnical Engineer. Surface of subgrade after compaction shall be firm, uniform, smooth, stable, and true to grade and cross-section.

- D. Construct temporary ditches and perform such grading as necessary to maintain positive drainage away from subgrade at all times.

### 3.13 BORROW AND SPOIL SITES

- A. Comply with NPDES and local erosion control permitting requirements for any and all on-site and off-site, disturbed spoil and borrow areas. Upon completion of spoil or borrow operations, clean up spoil or borrow areas in a neat and reasonable manner to the satisfaction of Owner or off-site property owner, if applicable.

### 3.14 FINISH GRADING

- A. Check grading of street and R.O.W. subgrades at not more than 50-foot intervals on straight slopes and 25-foot intervals in vertical curves. Allowable tolerance shall be plus or minus 0.25 feet from planned subgrade. Provide the Owner, Public Works Director, and Civil Engineering Consultant verification (by a Registered Land Surveyor) that proposed lines, grades, and elevations are within tolerances set forth above.
- B. The contours shown on the plans are top of pavement elevations in paved areas and finished ground (including 8" of re-distributed top soil) in all other areas. Areas to be paved shall be graded to subgrade (7" below top of pavement elevation) and no top soil shall be re-distributed in paved areas.
- C. Grade areas where finish grade elevations or contours are indicated on the Drawings, other than paved areas and buildings, including excavated areas, filled and transition areas, and landscaped areas. Graded areas shall be uniform and smooth, free from rock, debris, or irregular surface changes. Ground surfaces shall vary uniformly between indicated elevations. Grade finished ditches to allow for proper drainage without ponding and in manner that will minimize erosion potential.
- D. Correct settled and eroded areas within 1 year after date of completion at no additional expense to Owner. Bring grades to proper elevation.

### 3.15 FIELD TESTING

- A. Unless otherwise agreed upon by the Owner, Independent Testing Laboratory, and Public Works Director (collectively), field density tests for in-place materials will be performed by the Owner's Independent Testing Laboratory (ITL) as follows:
  - 1. Areas of Construction excluding Utility Trench Backfill: In cut areas, not less than 1 compaction test for every 10,000 sq. ft. In fill areas, same rate of testing for each 8-inch lift, measured loose.
  - 2. Utility Trench Backfill: Intervals not exceeding 200-feet of trench for first and every other 8-inch lift of compacted trench backfill.
  - 3. Test Method: In-place nuclear density, ASTM D 2922 (Method B-Direct Transmission).
- B. Corrective Measures For Non-Complying Compaction: Remove and recompact deficient areas until proper compaction is obtained at no additional expense to Owner. Adjust moisture content as necessary to conform to the requirements of this section.
- C. Field testing, frequency, and methods may vary as determined by and between the Owner, the City, and the ITL.

END OF SECTION

**SECTION 02340 - SOIL STABILIZATION**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes
  - 1. Excavation, treatment, and backfilling of subgrade for lime, cement, fly ash, or bridge lift stabilization.
  - 2. Geotextile Fabric and/or Geogrid for stabilization of subgrade.
- B. Related Sections
  - 1. Section 02300 - Earthwork

**1.2 REFERENCE STANDARDS**

- A. American Society for Testing Materials (ASTM)
  - 1. ASTM C150 - Portland Cement
  - 2. ASTM C 618 - Fly Ash and Raw or Calcined Natural Pozzolan for use as a Mineral Admixture in Portland Cement Concrete
  - 3. ASTM C 977 - Quicklime and Hydrated Lime for Soil Stabilization
  - 4. ASTM D 1633 - Compressive Strength of Molded Soil-Cement Cylinders
- B. American Association of State Highway and Transportation Officials (AASHTO)
  - 1. AASHTO M 216 - Lime for Soil Stabilization
- C. National Lime Association (NLA)
  - 1. NLA Bulletin 326 - Lime Stabilization Construction Manual

**1.3 ENVIRONMENTAL REQUIREMENTS**

- A. Do not install mixed materials in wind in excess of 10 mph or when temperature is below 40 degrees Fahrenheit.

**1.4 SUBMITTALS**

- A. Submit 30-pound sample of each material to be used at the site in airtight containers to the Independent Testing Laboratory or submit gradation and certification of material that is to be used to the Independent Testing Laboratory for review.
- B. Submit name of each materials supplier and specific type and source of each material. Obtain approval of Owner prior to change in source.
- C. Submit mix design and materials mix ratio to Independent Testing Laboratory that will achieve specified requirements as indicated in the documents (or as specified by state and local agencies for soil stabilization if not stated in documents).
- D. If geogrids or geotextiles are to be used, design shall be submitted to Owner for approval.

**1.5 QUALITY ASSURANCE**

- A. Perform work in accordance with state and local standards in conjunction with requirements specified herein.

**PART 2 - PRODUCTS**

02340-1

## 2.1 MATERIALS

### A. Soil Treatment Materials:

1. Quicklime or Hydrated Lime
2. Portland Cement: ASTM C150, Type I
3. Fly Ash: ASTM C977 or AASHTO M216

### B. Aggregate

1. Coarse Aggregate: Crushed carbonate, crushed gravel, crushed air-cooled slag, granulated slag, a mixture of crushed and granulated slag, or other types of suitable material meeting the following gradation requirements:

Sieve Size	Percent Passing
2 inches	100
1 inch	70-100
3/4 inch	50-90
No. 4	0-20
No. 30	0-10
No. 200	0-5

2. Fine Aggregate: Sand – Natural river or bank sand; washed; free of silt, clay, loam, friable or soluble materials, and organic matter meeting the following gradation requirements:

Sieve Size	Percent Passing
No. 4	90-100
No. 50	7-40
No. 200	0-5

C. Subsoil: Existing to be Reused.

D. Bridge Lift Material: Surge stone, granular fill, or shot rock fill.

## 2.2 ACCESSORIES

A. Curing Seal: Asphalt Emulsion Primer

B. Geotextile Fabric for Stabilization: Provide one of the following:

1. Mirafi 500X or 600X
2. Phillips 66 Supac 6WS
3. Dupont Typar 3401 and 3601
4. Trevira S1114 and S1120
5. Tensar SS-1 and SS-2
6. Exxon GTF-200 or 350
7. TerraTex HD and GS

C. Geogrid for Stabilization: Provide one of the following

1. Tensor BX 1100
2. Tensor BX 1200

## 2.3 EQUIPMENT

A. Perform operations using suitable, well maintained equipment capable of excavating subsoil, mixing and placing materials, wetting, consolidating, and compacting of material.

## PART 3 - EXECUTION

02340-2

### 3.1 PREPARATION

- A. Obtain approval from the Independent Testing Laboratory of mix design before proceeding with placement.
- B. Start stabilization only when weather and soil conditions are favorable for successful application of proposed material.
- C. Proof roll subgrade to identify areas in need of stabilization.

### 3.2 EXCAVATION

- A. Excavate subsoil to depth sufficient to accommodate soil stabilization.
- B. Remove lumped subsoil, boulders, and rock that interfere with achieving uniform subsoil conditions.
- C. Do not excavate within normal 45 degree bearing splay of any foundation.
- D. Notify Owner, Civil Engineering Consultant, and ITL of unexpected subsurface conditions. Discontinue affected work in area until notified to resume work.
- E. Correct areas over-excavated in accordance with Section 02300.
- F. Remove excess excavated material from site or as directed by the owner.

### 3.3 GEOTEXTILE FABRIC AND/OR GEOGRID

- A. Place geotextile fabric and/or geogrid over subsoil surface, lap edges and ends in accordance with manufacturer's recommendations in those areas that are shown on Construction Drawings or in those areas that need additional stabilization prior to placement of base course. Bridge lift sections may require the use of geotextile fabric and/or geogrid for stabilization prior to placement of fill.
- B. Place geotextile fabric and/or geogrid in accordance with manufacturer's recommendations.

### 3.4 SOIL TREATMENT AND BACKFILLING

- A. Lime Stabilized Subgrade: Where indicated on Construction Drawings or as required after continual failure, treat prepared subgrade with Quicklime or hydrated lime in accordance with state highway department specifications.
- B. Cement Stabilized Subgrade: Where indicated on Construction Drawings or as required after continual failure, treat prepared subgrade with Portland cement in accordance with state highway department specifications.
- C. Fly Ash Stabilized Subgrade: Where indicated on Construction Drawings or as required after continual failure, treat prepared subgrade with fly ash in accordance with state highway department specifications.
- D. Bridge Lifts: Where indicated on Construction Drawings or as required after continual failure, treat prepared subgrade by application of a bridge lift. Bridging over existing soils shall be acceptable only when approved in writing by the Owner. Place geotextile fabric or geogrid over existing soils to be bridged. The geotextile fabric or geogrid selected shall be appropriate for the bridge lift material being placed. Place bridge lift over geotextile fabric or geogrid. Surge stone and shot rock will be approved by the Owner's representative on a submittal basis. The Owner and the Owner's representative shall have sole discretion as to the acceptability of all submittals.
- E. Backfill and compaction of treated subsoil shall be in accordance with Sections 02300.
- F. Maintain optimum moisture of mixed materials to attain required stabilization and compaction.
- G. Finish subgrade surface in accordance with Section 02300.

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H. Remove surplus mix materials from site.

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3.5 CURING

- A. Immediately following compaction of mix, seal top surface with curing seal.
- B. Do not permit traffic for 72 hours after sealing top surface.

3.6 FIELD QUALITY CONTROL

- A. Unconfined compression tests on lime, fly ash, or cement treated mixture shall be conducted in accordance with ASTM D 1633. Three tests shall be conducted for each mix design tested. Samples shall be cured at a constant moisture content and temperature for 28 days. Scratch portion of the test shall be omitted.
- B. Field Density: Field in-place density shall be determined as specified in Section 02300. At least one field density test shall be performed for each 250 square yards (or fraction thereof) of each layer of base material.
- C. If tests indicate work does not meet specified requirements, remove work, replace and retest.

END OF SECTION

## SECTION 02510 - WATER DISTRIBUTION

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes

1. Site water piping and fittings including domestic potable waterline and fire protection system supply waterline, valves, and fire hydrants.

##### B. Related Sections

1. Section 02300 – Earthwork: Trenching, backfill, and compaction for utilities

#### 1.2 REFERENCES

##### A. American Society of Mechanical Engineers (ASME)

1. ASME B 16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings

##### B. American Society for Testing and Materials (ASTM)

1. ASTM B88 - Seamless Copper Water Tube
2. ASTM D1784 - Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
3. ASTM D2241 - Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR-Series)
4. ASTM D2564 - Poly (Vinyl Chloride) (PVC) Solvent Cement
5. ASTM D2672 - Poly (Vinyl Chloride) (PVC) Integrally Molded Bell Ends For Solvent - Cemented Pipe Joints.
6. ASTM D3139 - Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals
7. ASTM F477 - Elastomeric Gaskets And Lubricant
8. ASTM F656 - Poly (Vinyl Chloride) (PVC) Cement Primer

##### C. American Water Works Association (AWWA)

1. AWWA C104 – Cement-Mortar Lining For Ductile-Iron Pipe And Fittings For Water
2. AWWA C105 – Polyethylene Encasement for Ductile Iron Piping for Water and other Liquids
3. AWWA C116 – Protective Fusion-Bonded Epoxy Coatings For The Interior And Exterior Surfaces Of Ductile-Iron And Gray-Iron Fittings For Water Supply Service
4. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast, for Water or Other Liquids
5. AWWA C153 - Ductile-Iron Compact Fittings For Water Service
6. AWWA C500 - Gate Valves for Water and Sewage Systems
7. AWWA C550 - Protective Interior Coatings For Valves And Hydrants
8. AWWA C504 - Rubber-Seated Butterfly Valves
9. AWWA C600 - Installation of Ductile-Iron Water Mains and Appurtenances
10. AWWA C651 - Disinfecting Water Mains
11. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe, 4 Inches Through 12 Inches, for Water Distribution

##### D. National Fire Protection Associations (NFPA)

1. NFPA 24 - Installation of Private Fire Service Mains and Their Appurtenances

#### 1.3 QUALITY ASSURANCE

- ##### A. Products, where marked for compliance with code or test standards, shall also mark specific standard as required in the Contract Documents.

- B. Perform installation in accordance with utility company or municipality requirements.
- C. Valves: Mark manufacturer's name and pressure rating on valve body.
- D. Perform disinfection of potable lines in accordance with AWWA C651.

#### 1.4 SUBMITTALS

- A. Product Data: Provide Project Engineer with data on pipe materials, pipe fittings, hydrants, valves, and accessories.
- B. Manufacturer's Certificate: Certify that products meet or exceed state or local requirements.
- C. Furnish 1 copy of results of meter test and hydrostatic pressure test to Owner and utility company upon completion of water distribution backfilling operations.
- D. Project Record Documents:
  - 1. Disinfection report: Record the following:
    - a. Type and form of disinfectant used.
    - b. Date and time disinfectant injection start and time of completion.
    - c. Test locations.
    - d. Initial and 24 hour disinfectant residuals (quantity in treated water) in ppm for each outlet tested.
    - e. Date and time of flushing start and completion.
    - f. Disinfectant residual after flushing in ppm for each outlet tested.
  - 2. Bacteriological report: Record the following:
    - a. Date issued, project name, testing laboratory name, address, and telephone number.
    - b. Time and date of water sample collection.
    - c. Name of person collecting samples.
    - d. Test locations
    - e. Initial and 24 hour disinfectant residuals in ppm for each outlet tested.
    - f. Coliform bacteria test results for each outlet tested.
    - g. Certification that water conforms, or fails to conform, to bacterial standards.
    - h. Bacteriologist's signature and authority.
  - 3. Accurately record actual locations of piping mains, valves, connections, and top of pipe elevations.
  - 4. Identify and describe unexpected variations to subsoil conditions and location of uncharted utilities.

## PART 2 - PRODUCTS

### 2.1 PIPE

- A. Pipe sizes less than 3-inches that are installed below grade and outside building shall comply with one or combination of following:
  - 1. Seamless Copper Tubing: Type "K" soft copper, ASTM B88.
    - a. Fittings: Wrought copper (95-5 Tin Antimony solder joint), ASME B 16.22.
  - 2. Polyvinyl Chloride (PVC) Water Pipe: Pipe, ASTM D 2241, with SDR 21 rating, continually marked with manufacturer's name, pipe size, cell classification, SDR rating, and ASTM D1784 material classification.
    - a. Pipe joints: Integrally molded bell ends, ASTM D2672.
    - b. Cement primer: ASTM F656.
    - c. Solvent cement: ASTM D2564.
- B. Pipe Sizes 4 to 16 inches that are installed below grade and outside building shall comply with one or combination of following:
  - 1. Ductile Iron Water Pipe: AWWA C151, Thickness class 52, Pressure class 350 (4-12") Pressure Class 250 (14-16").

- a. Fittings: Either mechanical joint or push-on joint, AWWA C153, and shall be coated with a 6-8 mil nominal thickness fusion bonded epoxy conforming to the requirements of AWWA C550 and C116, or cement mortar lined in accordance with AWWA C104.
  - b. Elastomeric gaskets and lubricant: ASTM F477.
2. Polyvinyl Chloride (PVC) Water Pipe: Pipe, AWWA C900, rated DR 18 (Class 200), continually marked as required.
- a. Elastomeric gaskets and lubricant: ASTM F477 for smaller pipes.
  - b. Pipe joints: Integrally molded bell ends, ASTM D3139.

2.2 VALVES

- A. Gate Valves, 3-Inches and Larger:
  - 1. Manufacturer and Model: Mueller Resilient Seated Gate Valves or approved equal.
  - 2. AWWA C509, Iron body, non-rising stem with square nut, single wedge, resilient seat, flanged or mechanical joint ends, control rod, post indicator where indicated on Construction Drawings, extension box and valve key.
- B. Ball Valves, 2-Inches and Smaller:
  - 1. Manufacturer and Model: Mueller Oriseal or approved equal.
  - 2. Brass body, teflon coated brass ball, rubber seats and stem seals, Tee stem pre-drilled for control rod, AWWA compression inlet end, compression outlet with electrical ground connector, with control rod, extension box and valve key.
- C. Butterfly Valves, From 2-Inch to 24-Inch: AWWA C504, Iron body, bronze disc, resilient replaceable seat, water or lug ends, infinite position lever handle.

2.3 FIRE HYDRANTS

- A. Fire Hydrants: Shall be of the same type, model, and manufacturer used by the City of Hickman. Threading specifications shall meet the requirements of the City of Hickman and the local fire department. The City of Hickman utilizes American Darling B-84-B-5.
- B. Hydrant Extensions: Fabricate in multiples of 6-inches with rod and coupling to increase barrel length.
- C. Hose and Steamer Connections: Match sizes with utility company, with two hose nozzles, one pumper nozzle.
- D. Finish: Apply primer and 2 coats of enamel or special coating to color as required by utility company.

2.4 ACCESSORIES

- A. Thrust Blocking: Place 3000 psi con to provide sufficient bearing area to transmit unbalanced thrust from bends, tees, caps, or plugs to undisturbed soil without loading undisturbed soil in excess of 2,500 pounds per square foot when water main pressure is 100 psi unless otherwise indicated on the plans.

**MINIMUM THRUST BLOCKING BEARING AREAS**

Pipe Diameter	Tees Sq. Ft	90° Bend Sq. Ft	45° Bend Sq. Ft	22½° Bend Sq. Ft.	11¼° Bend Sq. Ft.	5 5/8 Bend Sq. Ft.	Cap/Plug Sq. Ft.
3"	1.0	1.0	1.0	1.0	1.0	1.0	1.5
4"	1.0	1.0	1.0	1.0	1.0	1.0	2.0
6"	1.5	2.0	1.0	1.0	1.0	1.0	3.0
8"	2.5	3.5	1.8	1.0	1.0	1.0	4.0
10"	4.0	5.5	2.8	1.5	1.0	1.0	6.0
12"	6.0	8.0	4.0	2.0	1.5	1.0	8.5
14"	8.0	11.0	5.5	3.0	2.0	1.5	12.0
16"	10.0	14.2	7.0	4.0	3.0	2.5	15.0
18"	21.0	21.0	12.0	6.0	4.0	3.5	24.0

- B. Locked mechanical joint fittings shall be installed where vertical changes in direction are required.
- C. Polyethylene Encasement: Single layer of two ply cross-laminated high density polyethylene encasement per AWWA C105, Section 4.1.2, Type III, Class C (Black), Grade 33, tensile strength 5,000 psi minimum, elongation 100 percent, nominal thickness 0.004 inch (4 mil).
- D. Trace Wire: Magnetic detectable conductor, (#12 Copper) brightly colored plastic covering imprinted with “Water Main” in large letters.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Verify that municipal utility water main size, location, and depth are as indicated on Construction Drawings.

#### 3.2 PREPARATION

- A. Ream pipe and tube ends and remove burs.
- B. Remove scale and dirt, inside and outside, before assembly.
- C. Prepare pipes for connections to equipment with flanges or unions.
- D. Protect benchmarks, property corners, and other survey monuments from damage or displacement. If the marker needs to be removed it shall be referenced by a licensed land surveyor and replaced, as necessary, by same.

#### 3.3 TRENCHING AND BEDDING

- A. Excavate pipe trench and place bedding material in accordance with Section 02300.

#### 3.4 INSTALLATION - PIPE AND FITTINGS

- A. Maintain separation of water main from sanitary and storm sewer piping in accordance with state or local codes.
- B. Install pipe and fittings in accordance with AWWA C600.
- C. Ductile iron pipe and fittings shall be installed with polyethylene encasement around the pipe for the entire length of the project except where water main is within steel casing or is con encased. Install polyethylene encasement in accordance with AWWA C105, Method A.
- D. Polyvinyl Chloride (PVC) Water Pipe shall be installed using Ductile Iron (M.J.) Fittings with polyethylene encasement around the fittings unless otherwise indicated on the plans. Install polyethylene encasement in accordance with AWWA C105, Method A.
- E. Install pipe to allow for expansion and contraction without stressing pipe or joints or as specified by pipe manufacturer.
- F. Install access fittings in accordance with local codes to permit disinfection of water system performed under this Section.
- G. Connections with Existing Pipelines: Where connections are made between new work and existing piping, make connection using suitable fittings for conditions encountered. Make each connection with existing pipe at time and under conditions with least interference with operation of existing pipeline and in compliance with local utility company.

- H. Form and place con for thrust blocks or other specified methods of retainage at each change of direction or end of pipe main.
- I. Place pipe to depth in accordance with Section 02300.
- J. Backfill trench in accordance with Section 02300.
- K. Install trace wire continuously over top of non-metal pipe. Bury a minimum of 6 inches below finish grade, and above pipeline.

### 3.5 INSTALLATION - VALVES AND HYDRANTS

- A. Install gate valves as indicated on Construction Drawings. Support valve on con pads with valve stem vertical and plumb. Install valve boxes in a manner that will not transmit loads, stress, or shock to valve body. Center valve box over operating nut of valve vertical and plumb. Securely fit valve box together leaving cover flush with finished surface.
- B. Install fire hydrant assemblies as indicated on Construction Drawings in vertical and plumb position with steamer/pumper nozzle pointed perpendicular to traffic where hydrant is adjacent to street, roadway, or parking lot drive or toward protected building unless otherwise directed by local authorities. Support hydrant assembly on con pad and firmly brace on side opposite inlet pipe against undisturbed soil and con blocking. Place minimum of 6-cubic feet of crushed stone or gravel around hydrant base and barrel after thrust blocking has cured at least 24 hours. Maintain vertical position of hydrant backfilling and compacting.

### 3.6 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

- A. Disinfect distribution system with chlorine before acceptance for domestic operation. Chlorine dosage shall be not less than 50 parts per million. Flush lines before introduction of chlorinating materials and after contact period of not less than 24 hours. Flush with clean water after contact period until residual chlorine content is not greater than 1.0 part per million. Flush water discharged from water supply lines or hydrants shall not be allowed to discharge directly onto exposed soil or turf which could result in erosion of soil. If potential for erosion exists at discharge point, measures shall be taken to prevent erosion. Open and close valves in lines being disinfected several times during contact period. After disinfection, take water sample and bacteriological test in accordance with AWWA C651. Do not place distribution system in service until approval is obtained from local governing authorities.
- B. Contractor shall provide a means of neutralizing the super-chlorinated water before releasing into the environment. This may be accomplished by either a method of dechlorination or any method acceptable to federal, state, and local codes. Direct release to open ground shall not be allowed, unless contained within an on site detention facility with 6" permanent storage. In this case, the Contractor shall time the release to assure that no rainstorms are imminent. The intent of this condition is to allow the majority of the chlorine to evaporate into the atmosphere before a rainstorm has the opportunity to wash the residual downstream. Contractor shall not release super-chlorinated water directly into the sanitary sewer system, private or public, nor any storm drain system not directly discharging into the detention facility.

### 3.7 FIELD QUALITY CONTROL

- A. Test water distribution system pipe installed below grade and outside building in accordance with the following procedures:
  - 1. Perform testing of pipe materials, joints, and other materials incorporated into construction of water mains and force mains to determine leakage and water tightness. Test pressure pipeline in accordance with Section 4 of AWWA C600 and NFPA 24. In the event state or local code requires more stringent test, more stringent test shall take precedence.
  - 2. Pressure Test: After pipe has been laid, subject newly laid pipe or valved section to hydrostatic pressure of at least 1.5 times working pressure at point of testing and not less than 1.25 times working pressure at highest point along test section.

3. Leakage Test: Conduct leakage test concurrently with pressure test. Leakage is defined as quantity of water that must be supplied into newly laid pipeline or valved section thereof to maintain pressure within 5 psi of specified test pressure after air in pipeline has been expelled and pipeline has been filled with water. Leakage shall not be measured by drop in pressure in test section over period of time.

- a. Leakage shall not be greater than that determined by the following formula:

$$L = \frac{S \cdot D \cdot \sqrt{P}}{148,000}$$

Where:

- L = allowable leakage, (gallons per hour)
- S = length of pipe tested, (feet)
- D = nominal diameter of pipe, (inches)
- P = average test pressure during test, (psig)

4. Visible Leakage: Repair visible leaks regardless of amount of leakage measured.
5. Acceptance of Installation: If test of pipe laid in place discloses leakage greater than that specified, Contractor shall, at his own expense, locate leak and make repairs as necessary until leakage is within specified allowance. Supply water for testing at no expense to Owner.

END SECTION

## SECTION 02535 - SANITARY SEWAGE SYSTEMS

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes

1. Sanitary sewer drainage piping, fittings, accessories, cleanouts, and bedding.
2. Connection of site sanitary sewer system to municipal sanitary sewer systems.

##### B. Related Sections

1. Section 02300 – Earthwork: Trenching, backfill, and compaction for utilities
2. Section 02536 - Sewer Manholes, Frames, and Covers
3. Section 03300 – Cast-in-place Concrete

#### 1.2 REFERENCES

##### A. American Society for Testing and Materials (ASTM)

1. ASTM C425 - Compression Joints for Vitrified Clay Pipe and Fittings
2. ASTM C700 - Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated
3. ASTM D2241 - Poly (vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)
4. ASTM D2657 - Heat-Joining Polyolefin pipe and Fittings
5. ASTM D3034 - Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
6. ASTM D3139 - Joints for Plastic Pressure Pipe Using Flexible Elastomeric Seals
7. ASTM F477 - Elastomeric Seals (Gaskets) for Joining Plastic Pipe
8. ASTM F1417 - Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air.

##### B. American Water Works Association (AWWA)

1. AWWA C111 - Rubber-Gasket Joints for Ductile Iron Pressure Pipe and Fittings
2. AWWA C600 - Ductile-Iron Water Mains And Their Appurtenances
3. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe, 4 In. Through 12 In, For Water Distribution

#### 1.3 SUBMITTALS

A. Product Data: Provide data of pipe materials, pipe fittings, and accessories.

B. Manufacturer's Certificate: Certify that products meet or exceed specified or local requirements.

C. Project Record Documents:

1. Accurately record actual locations of pipe runs, connections, cleanouts, and invert elevations.
2. Identify and describe unexpected variations to subsoil conditions and location of uncharted utilities.

#### 1.4 PROJECT CONDITIONS

A. Coordinate work with termination of sanitary sewer connection outside building and connection to municipal sewer utility service.

### PART 2 - PRODUCTS

## 2.1 SEWER PIPE, FITTINGS, AND JOINTS

- A. Polyvinyl Chloride Pipe (PVC): ASTM D 3034, rated SDR 35 unless otherwise specified by the utility company. Pipe shall be continually marked with manufacturer's name, pipe size, cell classification, SDR rating, and ASTM D 3034 classification.
  - 1. Pipe joints: Integrally molded bell ends, ASTM D 3034, Table 2, with factory supplied elastomeric gaskets and lubricant.
- B. Force Main:
  - 1. Polyvinyl Chloride Pipe (PVC): For less than 4 inches in diameter, ASTM D2241 for push-on or solvent weld joints, and for pipe 4 inches in diameter and larger, AWWA C900, Class 200 with push-on joints.
    - a. Joints/Fittings: Push-on, ASTM D3139 with ASTM F477 gaskets.
    - b. Solvent Cement: ASTM D2564.
  - 2. Ductile Iron Pipe (DIP): ASTM A746, Class 50, inside nominal diameter as shown on the drawings, bell and spigot end.
    - a. Ductile Iron Pipe Joint Device: AWWA C111, rubber gasket joint devices.

## 2.2 PIPE ACCESSORIES

- A. Pipe Joints: Mechanical clamp ring type, stainless steel expanding and contracting sleeve, neoprene-ribbed gasket for positive seal.
- B. Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required tee, bends, elbows, cleanouts, reducers, traps, etc.

## 2.3 CLEANOUTS AND MANHOLES

- A. Manholes shall conform to Section 02536.
- B. Lid and Frame: Provide in accordance with Section 02536. Provide traffic grade and rated covers and frames where manholes are within pavement, with the letters "SANITARY SEWER" respectively cast into the cover.
- C. Shaft Construction: Cast iron shaft of internal diameter as specified on Construction Drawings with 2500 psi concrete collar for cleanouts.

## 2.4 APPURTENANCES

- A. Trace Wire: Magnetic detectable conductor (#12 copper), brightly colored plastic covering, imprinted with "Sanitary Sewer Service" in large letters.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that trench cut and excavation is ready to receive work and excavations, dimensions, and elevations are as indicated on Construction Drawings.

### 3.2 PREPARATION

- A. Hand trim excavations to required elevations. Correct over excavation with bedding material.
- B. Remove large stones or other hard matter that could damage pipe or impede consistent backfilling or compaction.

### 3.3 BEDDING

- A. Excavate trench and place bedding material in accordance with Section 02300.

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### 3.4 INSTALLATION - PIPE

- A. Install type and class of pipe as shown on the drawings. Pipes shall be laid and maintained to the required line and grade with necessary fittings, bends, manhole risers, cleanouts and other appurtenances placed at the required locations. The pipe shall be installed with uniform bearing under the full length of the barrel of the pipe. The pipe shall be inspected for defects and cracks before being lowered into the trench. Defective, damaged or unsound pipe, or pipe that has had its grade disturbed after laying shall be taken up and replaced. Commence installation at lowest point with the bell end up grade.
- B. No pipe shall be laid in water or when trench conditions are unsuitable for work.
- C. Pipe connecting to manholes or other structures shall terminate flush inside of the structure wall.
- D. Joints for PVC shall be thoroughly lubricated with an approved lubricant before pipe sections are slipped together. Open ends shall be fully protected with a stopper to prevent earth or other material from entering the pipe during construction. Carefully free interior of the pipe from dirt, cement and other deleterious material as the work progresses.
- E. Maintain separation of potable water main from sewer piping at crossings a minimum of 10 feet horizontal and 18 inches vertical.
- F. Route pipe in straight line parallel to roads, buildings and adjacent utilities and as shown on the drawings.
- G. Establish elevations of buried piping with sufficient cover as recommended by pipe manufacturer to ensure not less than 3 feet of cover, except as noted on drawings.
- H. Form and place concrete for thrust blocks at each elbow of pipe force main. See construction drawing for details of construction.
- I. Backfill trench in accordance with Section 02300.
- J. Install trace wire continuous over top of non-metal pipe. Bury 6 inches minimum below finish grade, above pipe-line.

### 3.5 INSTALLATION – MANHOLES

- A. Form bottom of excavation clean and smooth to correct elevation.
- B. For manholes, construct inverts according to the following guidelines:
  - 1. Invert channel shall be smooth and accurately shaped to a semicircular bottom to match with the inside of the adjacent sewer section.
  - 2. Invert channels and structure bottoms shall be shaped with mortar and lean concrete.
  - 3. Changes in size and grade of invert shall be made gradually and evenly.
  - 4. Changes in the direction of the sewer entering branch or branches shall have a true curve of as large a radius as the manhole will permit.
- C. For manholes, provide manhole rings, frame, and cover as shown on the construction drawings.

### 3.6 FIELD QUALITY CONTROL

- A. Pipes and joints shall not be completely backfilled until after inspection, testing, and approval by the Owner and local jurisdiction.
- B. Prior to testing for leakage, the pipe trench shall be backfilled to at least the spring line of the pipe. If required to prevent pipe movement during testing, additional backfill shall be added leaving the pipe joints uncovered to permit inspection.

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- C. Exfiltration Test
1. Each section of sewer line between successive manholes shall be tested by closing the lower end of the sewer to be tested and the inlet sewer of the upper manhole, using stoppers.
  2. Fill the manhole and pipe with water to a point which produces a maximum of 3 feet of head above the invert of the sewer at the center of the upper manhole; or if groundwater is present, 3 feet of head above the average adjacent groundwater level.
  3. The allowable leakage shall be 100 gal/inch of pipe diameter/mile/day
- D. Infiltration Test
1. If excessive ground water is encountered in the construction of a section of the sewer, the exfiltration test shall not be used.
  2. The upper and lower ends of the sewer to be tested shall be closed sufficiently to prevent the entrance of water.
  3. Pumping of ground water shall be discontinued for at least 3 days; then infiltration shall be tested.
  4. Infiltration into each section of sewer between adjoining manholes shall not exceed that allowed for the exfiltration test, except that head conditions shall be a maximum of 6 feet.
- E. The Exfiltration Test may be limited to the manholes only when the authority having jurisdiction does not require the test and the construction manager waives the test. The Infiltration Test will always be required when excessive ground water is encountered in addition to the air test.
- F. Air Test: Gravity systems shall be air tested between manholes at 3.5 psi for 5 minutes per ASTM F1417 for plastic pipes.
- G. Deflection Test:
1. Deflection tests shall be conducted on all plastic pipe using a mandrel with a diameter equal to 95 percent of the inside diameter of the pipe. The test shall be performed without mechanical pulling devices.
  2. Allowable Deflection: Maximum allowable pipe deflection shall not exceed 5 percent of nominal inside diameter.
  3. Mandrel: Mandrel, go/no-go, device shall be cylindrical in shape and constructed with either 9 or 16 evenly spaced arms or prongs. Mandrels with fewer arms will be rejected as not sufficiently accurate. Contact length of mandrel's arms shall equal or exceed nominal inside diameter of sewer to be inspected. Critical mandrel dimensions shall carry tolerance of 0.01-inch maximum. Contractor shall provide mandrel and necessary equipment for mandrel test.
  4. Procedure: Mandrel shall be hand-pulled through flexible pipe sewer lines no earlier than 30 days after trench has been completely backfilled. Sections of sewer not passing mandrel shall be uncovered and rebedded, rerounded, or replaced to satisfaction of Owner or governing agency. Repaired section shall be retested.
- H. Hydrostatic Test: Force main piping shall be hydrostatically tested at 150 psi in accordance with AWWA C 600.
- I. Provide measuring devices, meters, water, materials, and labor for making the required tests.
- J. Tests shall be conducted in the presence of the Public Works Director (or designated representative), Civil Engineering Consultant, and ITL. Test data shall be submitted to all parties for their approval and records.

END OF SECTION

**SECTION 02536 - SEWER MANHOLES, FRAMES, AND COVERS****PART 1 - GENERAL****1.1 SUMMARY****1.2 Section Includes**

1. Monolithic concrete, modular precast concrete, masonry, and precast polyethylene manhole assemblies.

**1.3 Related Sections**

1. Section 02300 - Earthwork. Excavation, backfill, and compaction
2. Section 02535- Sanitary Sewer Systems
3. Section 02630 - Storm Drainage

**1.4 REFERENCE STANDARDS****A. American Society for Testing and Materials (ASTM)**

1. ASTM A 48 - Gray Iron Castings
2. ASTM C 478 - Precast Reinforced Concrete Manhole Sections
3. ASTM C 923 - Resilient Connectors Between Reinforced Concrete Manhole Structures and Pipes
4. ASTM D 1248 - Polyethylene Plastics Molding and Extrusion Materials

**B. International Masonry Industry All-Weather Council (IMIAC)**

1. Recommended Practices and Guide Specification for Cold Weather Masonry Construction

**C. State Department of Transportation (DOT), Construction and Material Specifications****1.5 SUBMITTALS**

- A. Shop Drawings:** Indicate reference to Construction Drawings of manhole locations, elevations, piping with sizes, locations, and elevations of penetrations.

- B. Product Data:** Provide data for manhole covers, component construction, features, configuration, and dimensions.

**PART 2 - PRODUCTS****2.1 MANHOLES****A. Cast-In-Place Concrete:** Nonreinforced cast in place concrete barrel.

1. Concrete: 3500 psi concrete conforming to Section 03300.
2. Forms: Steel sheet accurately shaped and fabricated of sufficient strength to form dense watertight walls to true dimensions.

**B. Precast Concrete:** Reinforced precast concrete barrel.

1. Manhole sections conforming to ASTM C 478 with gaskets in accordance with ASTM C 923.
2. Construct manholes of precast concrete sections as required by Construction Drawings to size, shape, and depth indicated.

- C. Mortar and Grout:** Mortar for finishing and sealing shall be Class "C". Honeycombing less than 2-inches deep shall be repaired using Class "D" mortar.

**D. Configuration:**

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1. Barrel Construction: Concentric with eccentric cone top section.
  2. Shape: Cylindrical
  3. Clear Inside Dimensions: 48-inches diameter minimum or as indicated on Construction Drawings.
  4. Design Depth: As indicated on Construction Drawings.
  5. Clear Lid Opening: Deeter Foundry No. 1030 (22-inches minimum)
  6. Pipe Entry: Provide openings as indicated on Construction Drawings
  7. Main and Lateral Pipes: Neatly cut off main and lateral pipes flush with inside of manhole or inlet where they enter structure walls. Point up irregularities and rough edges with nonshrinking grout.
- E. Inverts: Shape inverts for smooth flow across structure floor as indicated on Construction Drawings. Use concrete and mortar to obtain proper grade and contour. Finish surface with fine textured wood float.

## 2.2 COMPONENTS

- A. Lid and Frame:
1. Manufacturer: Neenah Foundry Company, East Jordan Iron Works, or approved equal.
  2. ASTM A 48, Class 30B heavy duty cast iron construction, machined flat bearing surface.
  3. Removable lid, closed or open as indicated on Construction Drawings, sealing gasket.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify items specified by other Sections are properly sized and located.
- B. Verify that built-in items are in proper location and ready for roughing into work.
- C. Verify that the excavation for manholes is correct.

### 3.2 PREPARATION

- A. Coordinate placement of inlet and outlet pipe or duct sleeves as indicated on Construction Drawings.

### 3.3 PRECAST MANHOLE CONSTRUCTION

- A. Place base pad to proper elevation and location as shown on the sanitary sewer detail and form the outer edges of the manhole base where the manhole barrel will be placed a minimum of 6" above sewer pipe and trowel the surface level for placement of manhole barrel.
- B. Place manhole barrel plumb and level to correct elevations and anchor to base pad.
  1. After completion of slab foundation, lower first joint of manhole barrel into position, grooved end first, and set level and plumb on concrete base. Align and adjust to proper grade prior to placing and forming invert. Pour invert immediately after setting of first section of manhole barrel.
  2. Prior to setting subsequent manhole barrel sections, apply primer to tongue and groove ends and allow to set in accordance with manufacturer's recommendations. Place "Ram-nek", or equivalent, plastic rope on tongue end. Lower next section into position, and remove excess material from interior of structure. Add additional material on exterior of joint, if necessary, for completely watertight joint.
- C. Set cover frames and lids level without tipping, to correct elevations. Utilize pre-cast rings or brick and mortar to achieve final rim elevation. Maximum limit, 4 courses.
- D. Seal interior and exterior of manhole with mortar as specified herein.
- E. Water proof exterior of manhole with an approved water proofing material. Apply per manufacture's recommendation.

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3.4 CAST-IN-PLACE MANHOLE CONSTRUCTION

- A. Cast-in-place shall conform to the applicable requirements of Section 03300. Utilize steel forms.
- B. Place base pad to proper elevation and location and pour monolithically with invert. Base shall support pipe to first joint.
- C. Deposit concrete in evenly distributed layers of about 18 inches, with each layer vibrated to bond to preceding layer.
- D. Place gasket between all joints and paint exterior of manhole within 5' of the joint with mastic waterproofing.
- E. Place precast concrete cone.
- F. Set section cover frames and lids level without tipping, to correct elevations. Utilize pre-cast rings or brick and mortar to achieve final rim elevation. Maximum limit, 4 courses.

END OF SECTION

## SECTION 02630 - STORM DRAINAGE

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes

1. Storm sewer drainage piping, fittings, and accessories.
2. Storm drainage structures.

#### 1.2 Related Requirements

1. Section 02300 – Earthwork: Excavation, trenching, backfill, and compaction.
2. Section 02370 – Erosion and Sedimentation Control (Including SWPPP)
3. Section 02536 - Sewer Manholes, Frames, and Covers
4. Section 03300- Cast-In-Place Concrete

#### 1.3 REFERENCE STANDARDS

##### A. American Association of State Highway and Transportation Officials (AASHTO)

1. AASHTO M252 - Corrugated Polyethylene Drainage Tubing, 3 to 10 Inch Diameter
2. AASHTO M294 - Corrugated Polyethylene Drainage Tubing, 12 to 48 Inch Diameter
3. AASHTO MP7-97 - Corrugated Polyethylene Drainage Tubing, 54 to 60 Inch Diameter
4. AASHTO M198 - Joints for Circular Sewer and Culvert Pipe Using Flexible Watertight Gaskets
5. AASHTO H170 – Reinforced Concrete Culvert, Storm Drain and Sewer Pipe

##### B. American Society for Testing and Materials (ASTM)

1. ASTM A185 - Steel welded Wire Fabric, Plain, for Concrete Reinforcement
2. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
3. ASTM A746 - Ductile Iron Gravity Sewer Pipe
4. ASTM C76 - Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
5. ASTM C150 - Portland Cement
6. ASTM C206 - Finished Hydrated Lime
7. ASTM C443 - Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets
8. ASTM C564 - Rubber Gasket for Cast Iron Soil Pipe and Fittings
9. ASTM C969 - Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines
10. ASTM D3034 - Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings
11. ASTM D3212 - Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
12. ASTM D3350 – Polyethylene Plastic Pipe and Fittings Materials
13. ASTM F2306 – 12 to 60 in. Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications
14. ASTM F2648 – 2 to 60 in. Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications.
15. ASTM F477 - Elastomeric Seals (Gaskets) for Joining Plastic Pipe
16. ASTM F949 – Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with Smooth Interior and Fittings

##### C. American Concrete Institute (ACI)

1. ACI301 - Structural Concrete for Buildings

#### 1.4 SUBMITTALS

- A. Product Data: Provide data on pipe materials, pipe fittings, and accessories. Provide shop drawings for precast inlets, catch basins and junction boxes.
- B. Manufacturer's Certificate: Certify that products meet or exceed specified local requirements.

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- C. Project Record Documents
  - 1. Accurately record actual locations of pipe runs, connections, catch basins, cleanouts, and invert elevations.
  - 2. Identify and describe unexpected variations to subsoil conditions and location of uncharted utilities.

## 1.5 PROJECT CONDITIONS

- A. Coordinate work with connection to municipal storm sewer system.

## PART 2 - PRODUCTS

### 2.1 PIPE AND FITTINGS

- A. Reinforced Concrete Pipe (RCP): ASTM C76, Class III unless noted otherwise on Drawings, installed with flexible plastic, bitumen gaskets at joints.
  - 1. Gaskets: AASHTO M 198 751, Type B or ASTM C 443, installed in accordance with manufacturer's recommendations.
  - 2. Flared end sections shall be per ASTM C76 or AASHTO H170 (for sections with toe wall)
- B. High Density Polyethylene Pipe (HDPE): ASTM F2306/F2306M.
  - 1. Fittings: ASTM F2306, installed in accordance with manufacturer's recommendations.
  - 2. Gaskets: ASTM F477, installed in accordance with manufacturer's recommendations.
  - 3. Flared end sections shall be per ASTM D3350.

### 2.2 DRAINAGE STRUCTURES

- A. Manholes: Conform to Section 02536.
- B. Grates and Frame: Provide in accordance with details shown on Drawings.
  - 1. Provide heavy duty grates, with maximum slot width of 1-1/8"
  - 2. Acceptable Manufacturers:
    - a. Neenah Foundry.
    - b. East Jordan Iron Works.
    - c. Bass & Hays Foundry.
- C. Cast-In-Place concrete for drainage structures including manholes, inlets, catch basins, collars, support blocks, headwalls and paved ditches shall conform to ACI 301.
  - 1. Compressive Strength: 3500 psi at 28 days.
  - 2. Reinforcement: ASTM A615, grade 40 or 60 deformed reinforcing bars, and ASTM A185 for wire fabric
- D. Cement Mortar used for paving inverts, filling lift holes, joints, patching and anchoring castings shall consist of one part Portland cement, type I, ASTM C150, 1/4 part hydrated lime, ASTM C206 and 2-1/2 parts clean, well-graded sand and water free of suspended matter, alkali, and containing no industrial or domestic waste.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that trench cut, and excavation is ready to receive work and excavations, dimensions, and elevations are as indicated on Drawings.

### 3.2 PREPARATION

- A. Hand trim excavations to required elevations. Correct over excavation with bedding material.
- B. Remove large stones or other hard matter that could damage piping or impede consistent backfilling or compaction.

- C. Protect benchmarks, property corners, and other survey monuments from damage or displacement. If marker needs to be removed it shall be referenced by licensed land surveyor and replaced, as necessary, by same.

### 3.3 INSTALLATION - PIPE

- A. The pipe shall be inspected for defects and cracks before being lowered into the trench, piece by piece. Any defective, damaged or unsound pipe or any pipe that has had its grade disturbed after laying shall be taken up and replaced. Open ends shall be protected with a stopper to prevent earth or other material from entering the pipe during construction. The interior of the pipe shall be free from dirt, excess water and other foreign materials as the pipe laying progresses and left clean at the completion of the installation.
- B. Excavate pipe trench and place bedding material in accordance with Section 02300.
- C. Installation shall commence at the lowest point for each segment of the route. RCP shall be laid with the groove or bell end upstream.
- D. Lay pipe to the required line and slope gradients with the necessary fittings, bends, manhole, risers and other appurtenances placed at the required location as noted on Drawings.
- E. Do not displace or damage pipe when compacting.
- F. No pipe shall be laid in water or when trench conditions are unsuitable for such work.
- G. Joints:
  - 1. Joints shall be constructed as described herein and in accordance with manufacturer's installation instructions with the intent that they be made watertight.
  - 2. For RCP, the joint surface shall be cleaned and washed with water, if necessary, before the joints are made. For tongue and groove joints in smaller sizes, make joints butting the inside of the bell with a cement mortar before joining. The inside joint shall be wiped clean of excess mortar by brush or a squeegee drawn through the pipe as the laying operations progress. In the larger diameters, which permit the entry of a man, annular space between pipe sections shall be completely filled with mortar and finished off smooth with the inside surface of the pipe.
  - 3. PVC fittings shall be attached to the pipe by solvent welding according to the manufacturer's recommendations.

### 3.4 INSTALLATION – MANHOLES, CATCH BASINS, INLETS, AND JUNCTION BOXES

- A. Drainage structures shall be constructed in accordance with details shown on Drawings and in accordance with Section 02536 as applicable.
- B. Precast Sections:
  - 1. Precast section with bases shall be installed in accordance with Section 02300 and 02536 or as shown on drawings.
  - 2. Pipe openings shall be aligned to that of the pipe entering and leaving the manhole, etc. Pipe shall be properly aligned with connections to manholes, etc. as shown on the drawings.
- C. Cast-In-Place sections shall be as shown on the drawings and in accordance with Section 03300.
  - 1. Form bottom of excavation clean and smooth to correct elevation.
  - 2. Form and place cast-in-place concrete base pad, with provision for storm sewer pipe to be placed at proper elevation.
  - 3. Form and place cast-in-place concrete walls, sleeved at proper elevation to receive storm sewer pipe in accordance with details shown on Drawings.
- D. Invert channels shall be smooth and accurately shaped to a semicircular bottom conforming to the inside of the adjacent sewer section. Invert channels and structure bottoms shall be shaped with cement mortar. Changes in size and grade of invert shall be made gradually and evenly. Changes in direction of the sewer entering branch or branches shall have a true curve of as large a radius as the manhole will permit.

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- E. Frames and Covers:
  - 1. Frames and covers shall be set to the proper elevation. The frames shall be firmly embedded in mortar approximately 1 inch thick and aligned to fit the top section of the structure.
  - 2. Bricks set in mortar used to adjust the frame to finished grade shall be limited to no more than four courses.
  - 3. Adjustment rings used to make adjustments in grade shall be made with the initial ring embedded in mortar and the exterior of the rings parged with mortar not less than 1/2 inch thick. No adjustment made in this manner shall exceed 8 inches.
  
- F. Concrete cradles shall be constructed as shown on the drawings and as needed when crossing over and under sewer pipe or utility lines. Concrete shall be 3000 psi mix with a minimum thickness of 6 inches.

### 3.5 SUBDRAINS

- A. Subdrains shall be installed in accordance with the details and at the locations shown on the drawings

### 3.6 INSPECTION AND TESTING

#### A. General

- 1. Storm sewer systems and culverts, upon completion or at such time as directed, shall be cleaned, inspected and tested. The system or culvert shall have a true grade and line. Actual elevations shall be within 0.08 feet of the elevations given on the drawings.
- 2. After completion of the Work, or any part thereof, the job shall be tested to determine that it has been installed in accordance with the drawings and specifications. In general, the Work shall prove to be in good condition, installed in accordance with the drawings and specifications and ready for use.

#### B. Cleaning and Testing

- 1. Visibly inspect and remove all debris and obstructions from storm pipe. Test for infiltration and exfiltration by hydrostatic testing per ASTM C969. Manholes and pipe shall conform to ASTM C969 leakage criteria.

#### C. Alignment Test

- 1. After backfill has been placed and compacted to a depth not less than one foot above top of pipe, a visual inspection shall be made by flashing a light between manholes. Any displacement or misalignment of invert shall be corrected.

END OF SECTION

**SECTION 02751 - PORTLAND CEMENT CONCRETE PAVING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

**1.2 Section Includes**

1. Preparation and placement of Portland cement concrete parking areas.
2. Preparation and placement of Portland cement concrete roads and entrances.

**1.3 Related Sections**

1. Section 02300 – Earthwork: Excavation, backfill, compaction for subgrades.

**1.4 REFERENCES**

**A. American Concrete Institute (ACI)**

1. ACI 301 -Structural Concrete for Buildings.
2. ACI 305R - Hot Weather Concreting
3. ACI 306R - Standard Specification for Cold Weather Concreting
4. ACI 308 - Standard Practice for Curing Concrete

**B. American Society for Testing and Materials (ASTM)**

1. ASTM A185 - Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
2. ASTM A615 - Deformed and Plain Billet-Steel for Concrete Reinforcement
3. ASTM C 31 - Test Methods of Making and Curing Concrete Test Specimens in the Field.
4. ASTM C33 - Concrete Aggregates
5. ASTM C 39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens.
6. ASTM C42 - Obtaining And Testing Drilled Cores And Sawed Beams Of Concrete
7. ASTM C94 - Ready-Mixed Concrete
8. ASTM C 138 - Test Method for Unit Weight, Yield, and Air Content (Gravimetric) of Concrete.
9. ASTM C143 - Method for Slump of Hydraulic Cement Concrete
10. ASTM C150 - Portland Cement
11. ASTM C 172 - Method of Sampling Freshly Mixed Concrete.
12. ASTM C231 - Air-Content of Freshly Mixed Concrete by the Pressure Method
13. ASTM C260 - Air-Entraining Admixtures for Concrete
14. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete
15. ASTM C920 - Standard Specification for Elastomeric Joint Sealants
16. ASTM C1064 - Temperature Of Freshly Mixed Portland Concrete Cement
17. ASTM D994 - Preformed Expansion Joint Filler for Concrete (Bituminous)
18. ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types)
19. ASTM D2628 - Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements

**C. Federal Specifications (FS)**

1. FS HH-F-341 - Fillers, Expansion Joint: Bituminous (Asphalt & Tar)

**D. Nebraska Department of Transportation Standard and Supplemental Specifications for Highway Construction**

**1.5 QUALITY ASSURANCE**

**A. Establish and maintain required lines and elevations.**

**B. Check surface areas at intervals necessary to eliminate ponding areas. Remove and replace unacceptable paving as directed by Owner.**

## 1.6 SUBMITTALS

- A. Submit certified laboratory test data or manufacturer's certificates and data for the items listed below certifying that materials are in conformance requirements specified herein. Submit to the Engineering Consultant of Record and the Independent Testing Laboratory for review and approval and within 7 calendar days after receipt of Notice-to-Proceed.
1. Portland cement concrete mix
  2. Aggregate gradations
  3. Preformed expansion joint filler
  4. Field molded/poured sealant
  5. Dowel bars
  6. Expansion sleeves
  7. Tie bars
  8. Reinforcing steel bars
  9. Welded wire fabric
  10. Air entraining admixtures
  11. Water-reducing and set-retarding admixtures (if used)
- B. Submit certification that joint sealant has been installed in accordance with the manufacturer's instructions. Include copy of written instructions.

## 1.7 PROJECT CONDITIONS

- A. Maintain access for vehicular and pedestrian traffic as required for other construction. Utilize temporary striping, flagmen, barricades, warning signs, and warning lights as required.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Concrete: Nebraska Department of Transportation (NDOT) 47B-3500 Concrete. Fly ash or slag may not be substituted for Portland Cement. Mix concrete and deliver in accordance with ASTM C94.
1. Design mix shall produce normal weight concrete consisting of Portland cement, aggregate, water-reducing admixture, air-entraining admixture, and water to produce following:
    - a. Compressive Strength: 3,500 psi, minimum at 28 days, unless otherwise indicated on Construction Drawings.
    - b. Slump Range: 2"-4" for hand placed concrete, 1-1/4" to 3" for machine placed (slipform) concrete
    - c. Air Entrainment: 5 to 7.5 percent
- B. Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects. Use flexible spring steel forms or laminated boards to form radius bends as required. Coat forms with nonstaining type of coating that will not discolor or deface surface of concrete.
- C. Welded Wire Mesh: Welded plain cold-drawn steel wire fabric, ASTM A185, AASHTO M55/M 55M. Furnish in flat sheets.
- D. Reinforcing Bars: All rebar should be epoxy coated, ASTM A775 or ASTM A934.
- E. Portland Cement: ASTM C150, Type IP
- F. Joint Fillers: Resilient premolded bituminous impregnated fiberboard units complying with AASHTO M 213; ASTM D994, D1751, D2628; FS HH-F-341, Type II, Class A.
- G. Joint Sealants: ASTM C920, non-priming, pourable, self-leveling polyurethane; Acceptable sealants – NDOT Approved Products List.

- H. Aggregate: ASTM C33; NDOT Specifications; Fine Aggregate Gradation: Table 1033.02 A &B, Coarse Aggregate Gradation: Table 1033.03 A & B.
- I. Water: Clean and potable
- J. Dowel Bars: ASTM A775 or A934, Grade 60.
- K. Air Entraining Mixture: ASTM C260; Acceptable Products - NDOT Approved Products List.
- L. Curing Compound: ASTM C309; AASHTO M 148, Type 2; Acceptable Products - NDOT Approved Products List.
- M. Joint Backer Rods: Acceptable Products - NDOT Approved Products List.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Contractor shall scarify the upper 18” of subgrade for paved areas and re-compact to 100 percent of Maximum dry density in accordance with ASTM D698 (latest edition) at -1 to +3 of optimum moisture directly prior to paving unless more stringent compaction requirements are recommended in the geotechnical report prepared for this project
- B. Proof roll prepared base material surface to check for unstable areas in accordance with Section 02300 including documentation and re-proof rolling as required. Paving work shall begin only after unsuitable areas have been corrected and are ready to receive paving.
- C. Remove loose material from compacted base material surface to produce firm, smooth surface immediately before placing concrete.

### 3.2 INSTALLATION

- A. Form Construction
  - 1. Set forms to required grades and lines, rigidly braced and secured.
  - 2. Install sufficient quantity of forms to allow continuance of work and so that forms remain in place minimum of 24 hours after concrete placement.
  - 3. Check completed formwork for grade and alignment to following tolerances:
    - a. Top of forms not more than 1/8-inch in 10'-0".
    - b. Vertical face on longitudinal axis, not more than 1/4-inch in 10'-0".
  - 4. Clean forms after each use and coat with form release agent as often as required to ensure separation from concrete without damage.
- B. Reinforcement: Fasten reinforcing bars or welded wire fabric (if required) accurately and securely in place with suitable supports and ties. Remove from reinforcement all dirt, oil, loose mill scale, rust, and other substances that will prevent proper bonding of the concrete to the reinforcement.
- C. Concrete Placement
  - 1. Concrete may be mixed and placed when the air temperature in the shade and away from artificial heat is a minimum of 35 degrees F and rising. Hot and cold weather concreting shall be in accordance with ACI 305R and 306R, respectively.
  - 2. Do not place concrete until base material and forms have been checked for line and grade. Moisten base material if required to provide uniform dampened condition at time concrete is placed. Concrete shall not be placed around manholes or other structures until they are at required finish elevation and alignment.
  - 3. Place concrete using methods that prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints with mechanical vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Consolidate with care to prevent dislocation of reinforcing, dowels, and joint devices.

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4. Deposit and spread concrete in continuous operation between transverse joints, as far as possible. If interrupted for more than 1/2 hour, place construction joint.
- D. Joint Construction: Construct expansion, weakened-plane control (contraction), and construction joints straight with face perpendicular to concrete surface. Construct transverse joints perpendicular to centerline, unless otherwise detailed.
1. Weakened-Plane Control or Contraction Joints: Provide joints at spacing of 15'-0" on centers, maximum each way. Construct control joints for depth equal to at least 1/4 of the concrete thickness, as follows:
    - a. Form tooled joints in fresh concrete by grooving top with recommended tool and finishing edge with jointer.
    - b. Form sawed joints using powered saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut joints into hardened concrete as soon as surface will not be torn, abraded, or otherwise damaged by cutting action.
  2. Construction Joints: Place construction joints at end of placements and at locations where placement operations are stopped for period of more than 1/2 hour, except where such placements terminate at expansion joints. Construct joints in accordance with standard details.
  3. Transverse Expansion Joints: Locate expansion joints at maximum of 180'-0" on centers, maximum each way unless otherwise shown on the Construction Drawings. Provide premolded joint filler for expansion joints abutting concrete curbs, catch basins, manholes, inlets, structures, sidewalks, and other fixed objects.
  4. Butt Joints: For joints against existing pavement, place 16" long dowels eight inches into holes drilled into center of existing slab. Epoxy dowels into holes with approved epoxy compound. Place dowels prior to concrete placement for new concrete. Dowel spacing to be 24" on center unless otherwise shown on Construction Drawings. Saw joint and fill with joint sealer.
- E. Joint Fillers: Extend joint fillers full-width and depth of joint, and not less than 1/2-inch or more than 1-inch below finished surface where joint sealer is indicated. Furnish joint fillers in 1-piece lengths for full width being placed, wherever possible. Where more than 1 length is required, lace or clip joint filler sections together.
- F. Joint Sealants: Joints shall be sealed with approved exterior pavement joint sealants and shall be installed in accordance with manufacturer's recommendations.

### 3.3 CONCRETE FINISHING

- A. After striking off and consolidating concrete, smooth surface by screeding and floating. Adjust floating to compact surface and produce uniform texture. After floating, test surface for trueness with 10'-0" straightedge. Distribute concrete as required to remove surface irregularities and refloat repaired areas to provide continuous smooth finish.
- B. Work edges of slabs and formed joints with edging tool, rounding edge to 1/2-inch radius. Eliminate tool marks on concrete surface. After completion of floating and troweling, when excess moisture or surface sheen has disappeared, complete surface finishing, as follows:
  1. Inclined Slab Surfaces: Provide coarse, nonslip finish by scoring surface with stiff-bristled broom perpendicular to flow of traffic so as to produce regular corrugations not over 1/16 of an inch deep.
  2. Paving: Provide coarse, nonslip finish by scoring surface with stiff-bristled broom perpendicular to flow of traffic so as to produce regular corrugations not over 1/16 of an inch deep.
- C. Do not remove forms for 24 hours after concrete has been placed. After form removal, clean ends of joints and point up minor honeycombed areas. Remove and replace areas or sections with major defects, as directed by Owner.
- D. Protect and cure finished concrete paving using either membrane curing compound or moist-curing methods described in "water-curing" section of ACI 308.

### 3.4 CLEANING AND ADJUSTING

- A. The Contractor shall certify in writing that placement is in accordance with specification requirements.

- B. Sweep concrete pavement and wash free of stains, discolorations, dirt, and other foreign material just prior to final inspection.
- C. Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials.

### 3.5 FIELD QUALITY CONTROL

- A. Field quality control tests specified herein will be conducted by the Owner's Independent Testing Laboratory at no cost to the Contractor. The Contractor shall perform additional testing as considered necessary by the Contractor for assurance of quality control. Retesting required as a result of failed initial tests shall be at the Contractor's expense.
- B. Field testing, frequency, and methods may vary as determined by and between the Owner, the City, and the Owner's Independent Testing Laboratory.
- C. Review the Contractor's proposed materials and mix design for conformance with specifications.
- D. Perform testing in accordance with ACI 301 and testing standards listed herein.
- E. Strength Tests:
  - 1. Secure composite samples in accordance with ASTM C 172. Sample at regularly spaced intervals from middle portion of the batch. Sampling time shall not exceed 15 minutes.
  - 2. Mold and cure specimens in accordance with ASTM C 31.
    - a. A minimum of four concrete test cylinders shall be taken for every 100 cubic yards or less of each class of concrete placed each day and not less than once for each 5000 square feet of paved area unless further restricted by the owner, the city, or the Independent Testing Laboratory.
    - b. During the initial 24 hours (plus or minus 8 hours) after molding, the temperature immediately adjacent to the specimens shall be maintained in the range of 60 to 80 degrees F. Control loss of moisture from the specimens by shielding from the direct rays of the sun and from radiant heating devices.
    - c. Specimens transported prior to 48 hours after molding shall not be demolded, but shall continue initial curing at 60 to 80 degrees F until time for transporting.
    - d. Specimens transported after 48 hours age shall be demolded in 24 hours (plus or minus 8 hours). Curing shall then be continued but in saturated limewater at 73.4 degrees (plus or minus 3 degrees F) until the time of transporting.
    - e. Wet cure cylinders under controlled temperature until testing.
  - 3. Test cylinders in accordance with ASTM C 39.
    - a. Date test cylinders and number consecutively. Give each cylinder of each set an identifying letter (i.e. A, B, C, D). Prepare a sketch of the building plan for each test set identifying location of placed concrete.
    - b. Test one cylinder (A) at 7 days for information. If the compressive strength of the concrete sample is equal to or above the 28 day specified strength, test another cylinder (B) at 7 days. The average of the breaks shall constitute the compressive strength of the concrete sample.
    - c. Test two cylinders (B and C) at 28 days and the average of the breaks shall constitute the compressive strength of the concrete sample.
    - d. Retain fourth cylinder (D) for further testing if needed, but do not retain cylinder more than 60 days.
  - 4. Evaluation and Acceptance:
    - a. Strength level of concrete will be considered satisfactory if the average of all sets of three consecutive strength tests equal or exceed specified strength and no individual strength test (average of two cylinders) results are below specified compressive strength by more than 500 psi.
    - b. Complete concrete work will not be accepted unless requirements of ACI 301, have been met, including dimensional tolerances, appearance, and strength of structure.
    - c. Where average strength of cylinders, as shown by tests is not satisfactory, the Owner and City reserves the right to require Contractor to provide improved curing conditions of temperature and moisture to secure required strength.

- F. Slump Test: Conduct slump test for each cylinder set taken in accordance with ASTM C 143. Make additional slump tests for every other load from a stationary mixer or truck to test consistency. Sampling shall be in accordance with ASTM C 172.
- G. Air Content: Conduct air content test for each cylinder set for concrete exposed to freeze-thaw in accordance with ASTM C 231, ASTM C 173, or ASTM C 138. Indicate test method on report. Make test at same time as slump test.
- H. Unit Weight: ASTM C 138.
- I. Temperature Test: Conduct temperature test for each cylinder set taken in accordance with ASTM C 1064. Test hourly when air temperature is 40 F and below or 80 F and above. Determine temperature of concrete sample and ambient air for each strength test.
- J. In addition to required information noted previously in this Section, record the following information on concrete compression reports:
  - 1. Test cylinder number and letter.
  - 2. Specific foundations or structures covered by this test.
  - 3. Proportions of concrete mix or mix identification.
  - 4. Maximum size coarse aggregate.
  - 5. Specified compressive strength.
  - 6. Tested compressive strength.
  - 7. Slump, air-content (when applicable) and concrete temperature.
  - 8. Concrete plastic unit weight.
  - 9. Concrete Temperature.
  - 10. Elapsed time from batching at plant to discharge from delivery truck at project.
  - 11. Date and time concrete was placed.
  - 12. Ambient temperature, wind speed, and relative humidity during concrete placement.
  - 13. Name of technician securing samples.
  - 14. Curing conditions for concrete strength test specimens (field and laboratory).
  - 15. Date strength specimens transported to laboratory.
  - 16. Age of strength specimens when tested.
  - 17. Type of fracture during test.
- K. At the start of each day's mixing, report any significant deviations from approved mix design including temperature, moisture and condition of aggregate.
- L. Certify each delivery ticket of concrete. Report type of concrete delivered, amount of water added and time at which cement and aggregate were loaded into truck, and time at which concrete was discharged from truck
- M. In Place Pavement Testing: The Owner's Independent Testing Laboratory will randomly core pavement at minimum rate of 1 core per 20,000 sq. ft of pavement or as recommended by the Public Works Director. Cores will be sampled and tested in accordance with ASTM C 42. Core will be tested for thickness and quality of aggregate distribution. Core holes shall be patched by the Contractor immediately with Portland cement concrete and shall be finished to provide level surface as specified herein.
- N. Additional Tests: Additional in-place tests shall be conducted as directed by the Owner, Public Works Director, or Civil Engineering Consultant when specified concrete strengths and other characteristics have not been attained in the structures.

END OF SECTION

## SECTION 02770 - CURBS AND SIDEWALKS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes
  - 1. Portland cement concrete curb, gutter, and sidewalk.
- B. Related Sections
  - 1. Section 02300 – Earthwork: Preparation of subgrades.

#### 1.2 REFERENCES

- A. American Concrete Institute (ACI)
  - 1. ACI 305R - Hot Weather Concreting
  - 2. ACI 306R - Standard Specification for Cold Weather Concreting
  - 3. ACI 308 - Standard Practice for Curing Concrete
- B. American Standards for Testing and Materials (ASTM) latest edition
  - 1. ASTM A185 - Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
  - 2. ASTM A615 - Deformed and Plain Billet-Steel for Concrete Reinforcement
  - 3. ASTM C94 - Ready-Mixed Concrete
  - 4. ASTM C260 - Air-Entraining Admixtures for Concrete
  - 5. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete
  - 6. ASTM D994 - Preformed Expansion Joint Filler for Concrete (Bituminous)
  - 7. ASTM D1190 - Concrete Joint Sealer, Hot Poured, Elastic Type
  - 8. ASTM D1751 - Performed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types)
  - 9. ASTM D2628 - Preformed Polychloroprene Elastomeric Joint Seals for Concrete Pavements
- C. Federal Specifications (FS)
  - 1. FS HH-F-341 - Fillers, Expansion Joint: Bituminous (Asphalt & Tar)
- D. State Highway Department Standard Specifications

#### 1.3 SUBMITTALS

- A. Submit materials certificate from materials producer and Contractor, certifying that materials comply with, or exceed requirements specified herein to the Engineering Consultant of Record and the Independent Testing Laboratory for review and approval and within 7 calendar days after receipt of Notice-to-Proceed, submit for approval, certified laboratory test data or manufacturers certificates and data for the following items:
  - 1. Portland cement concrete mix
  - 2. Aggregate gradations
  - 3. Preformed expansion joint filler
  - 4. Field molded/poured sealant
  - 5. Dowel bars
  - 6. Expansion sleeves
  - 7. Tie bars
  - 8. Reinforcing steel bars
  - 9. Welded wire fabric
  - 10. Air entraining admixtures
  - 11. Water-reducing and set-retarding admixtures (if used)

1.4 QUALITY ASSURANCE

- A. Establish and maintain required lines and elevations.
- B. Check surface areas at intervals necessary to eliminate ponding areas. Remove and replace unacceptable work as directed by Owner.

1.5 PROJECT CONDITIONS

- A. Maintain access for vehicular and pedestrian traffic as required for other construction activities. Utilize temporary striping, flagmen, barricades, warning signs, and warning lights as required.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Concrete: Nebraska Department of Transportation (NDOT) 47B-3500 Concrete. Mix concrete and deliver in accordance with ASTM C94.
  - 1. Design mix shall produce normal weight concrete consisting of Portland cement, aggregate, water-reducing admixture, air-entraining admixture, and water to produce following:
    - a. Compressive Strength: 3,500 psi, minimum at 28 days, unless otherwise indicated on Construction Drawings.
    - b. Slump Range: 2"-4" for hand placed concrete, 1-1/4" to 3" for machine placed (slipform) concrete
    - c. Air Entrainment: 5 to 7.5 percent
- B. Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects. Use flexible spring steel forms or laminated boards to form radius bends as required. Coat forms with nonstaining type of coating that will not discolor or deface surface of concrete.
- C. Welded Wire Mesh: Welded plain cold-drawn steel wire fabric, ASTM A185, AASHTO M55/M 55M. Furnish in flat sheets.
- D. Reinforcing Bars: Deformed steel bars, ASTM A615, Grade 60.
- E. Portland Cement: ASTM C150, Type IP
- F. Joint Fillers: Resilient pre-molded bituminous impregnated fiberboard units complying with AASHTO M 213; ASTM D994, D1751, D2628; FS HH-F-341, Type II, Class A.
- G. Joint Sealants: ASTM C920, non-priming, pourable, self-leveling polyurethane; Acceptable sealants – NDOT Approved Products List.
- H. Aggregate: ASTM C33; NDOT Specifications; Fine Aggregate Gradation: Table 1033.02 A &B, Coarse Aggregate Gradation: Table 1033.03 A & B.
- I. Water: Clean and potable
- J. Dowel Bars: ASTM A615, grade 60, and plain steel bars.
- K. Air Entraining Mixture: ASTM C260; Acceptable Products - NDOT Approved Products List.
- L. Curing Compound: ASTM C309; AASHTO M 148, Type 2; Acceptable Products - NDOT Approved Products List.
- M. Joint Backer Rods: Acceptable Products - NDOT Approved Products List.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Begin paving work only after unsuitable areas have been corrected and are ready to receive paving.
- B. Remove loose material from compacted base material surface to produce firm, smooth surface immediately before placing concrete.

### 3.2 INSTALLATION

#### A. Form Construction

- 1. Set forms to required grades and lines, rigidly braced and secured.
- 2. Install sufficient quantity of forms to allow continuance of work and so that forms remain in place minimum of 24 hours after concrete placement.
- 3. Check completed formwork for grade and alignment to following tolerances:
  - a. Top of forms not more than 1/8-inch in 10'-0".
  - b. Vertical face on longitudinal axis, not more than 1/4-inch in 10'-0".
- 4. Clean forms after each use and coat with form release agent as often as required to ensure separation from concrete without damage.

- B. Reinforcement: Fasten reinforcing bars or welded wire fabric (if required) accurately and securely in place with suitable supports and ties. Remove from reinforcement all dirt, oil, loose mill scale, rust, and other substances that will prevent proper bonding of the concrete to the reinforcement.

#### C. Concrete Placement

- 1. Concrete shall be mixed and placed when the air temperature in the shade and away from artificial heat is a minimum of 35 degrees F and rising. Hot and cold weather concreting shall be in accordance with ACI 305R and 306R, respectively.
- 2. Do not place concrete until base material and forms have been checked for line and grade. Moisten base material if required to provide uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until set at required finish elevation and alignment.
- 3. Place concrete using methods that prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints with mechanical vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Consolidate with care to prevent dislocation of reinforcing, dowels, and joint devices.
- 4. Deposit and spread concrete in continuous operation between transverse joints, as far as possible. If interrupted for more than 1/2 hour, place construction joint. Automatic machine may be used for curb and gutter placement. Machine placement shall be at required cross section, line, grade, finish, and jointing as specified for formed concrete. If results are not acceptable, remove and replace with formed concrete as specified herein.

#### D. Joint Construction

- 1. Contraction Joints: Construct concrete curb or combination concrete curb and gutter, where specified on Construction Drawings, in uniform sections of length specified on Construction Drawings. Form joints between sections either by steel templates, 1/8-inch in thickness, of length equal to width of curb and gutter, and with depth which will penetrate at least 2-inches below surface of curb and gutter; or with 3/4-inch thick performed expansion joint filler cut to exact cross section of curb and gutter; or by sawing to depth of at least 2-inches while concrete is between 4 and 24 hours old. If steel templates are used, they shall be left in place until concrete has set enough to hold its shape, but shall be removed while forms are still in place.
- 2. Longitudinal Construction Joints: Tie concrete curb or combination concrete curb and gutter, where specified on Construction Drawings, to concrete pavement with 1/2-inch round deformed reinforcement bars of length and spacing shown on Construction Drawings.
- 3. Transverse Expansion Joints: Concrete curb, combination concrete curb and gutter, or concrete sidewalk shall have filler cut to exact cross section of curb, gutter or sidewalk. Joints shall be similar to type of expansion joint used in adjacent pavement.

- E. Joint Fillers: Extend joint fillers full-width and depth of joint, and not less than 1/2-inch or more than 1-inch below finished surface where joint sealer is indicated. Furnish joint fillers in 1-piece lengths for full width being placed, wherever possible. Where more than 1 length is required, lace or clip joint filler sections together.
- F. Joint Sealants: Install in accordance with manufacturer's recommendations.

### 3.3 CONCRETE FINISHING

- A. After striking off and consolidating concrete, smooth surface by screeding and floating. Adjust floating to compact surface and produce uniform texture. After floating, test surface for trueness with 10'-0" straightedge. Distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide continuous smooth finish.
- B. Work edges of sidewalks, gutters, back top edge of curb, and formed joints with edging tool, rounding edge to 1/2-inch radius. Eliminate tool marks on concrete surface. After completion of floating and trowelling, when excess moisture or surface sheen has disappeared, complete surface finishing, as follows:
  - 1. Curbs, gutters, and sidewalks: Broom finish by drawing fine-hair broom across surface perpendicular to flow of traffic. Repeat operation as necessary to produce fine line texture.
- C. Do not remove forms for 24 hours after concrete has been placed. After form removal, clean ends of joints and point up minor honeycombed areas. Remove and replace areas or sections with major defects as directed Owner.
- D. Protect and cure finished concrete paving using acceptable moist-curing methods in accordance with "water-curing" section of ACI 308.

### 3.4 BACKFILL

- A. After concrete has set sufficiently, spaces on either side of concrete curb, combination concrete curb and gutter, or concrete sidewalk shall be refilled to required elevation with suitable material compacted in accordance with Section 02300.

### 3.5 CLEANING AND PROTECTION

- A. Sweep concrete pavement and wash free of stains, discolorations, dirt, and other foreign material just prior to final inspection.
- B. Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials.

END OF SECTION

## SECTION 03200 - CONCRETE REINFORCEMENT

### PART 1 GENERAL

#### 1.1 WORK INCLUDED

- A. Reinforcing steel bars, welded steel wire fabric, fabricated steel bar for cast-in-place concrete.
- B. Support chairs, bolsters, bar supports, and spacers for supporting reinforcement.

#### 1.2 RELATED WORK

- A. Section 03300 – Cast-in-Place Concrete.

#### 1.3 REFERENCES

- A. ACI 301 - Specifications for Structural Concrete for Buildings.
- B. ACI 315 - Details and Detailing of Concrete Reinforcement.
- C. ANSI/ASTM A82 - Cold Drawn Steel Wire for Concrete Reinforcement.
- D. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- E. ANSI/ASTM A497 - Welded Deformed Steel Wire Fabric for Concrete Reinforcement.
- F. ANSI/AWS D1.4 - Structural Welding Code Reinforcing Steel.
- G. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- H. ASTM A616 - Rail-Steel Deformed and Plain Bars for Concrete Reinforcement.
- I. ASTM A617 - Axle-Steel Deformed and Plain Bars for Concrete Reinforcement.
- J. ASTM A775 – Standard Specification for Epoxy-Coated Steel Reinforcing Rebars.
- K. ASTM A934 – Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
- L. CRSI - Manual of Practice.
- M. CRSI 63 - Recommended Practice for Placing Reinforcing Bars.
- N. CRSI 65 - Recommended Practice for Placing Bar Supports, Specifications and Nomenclature.

#### 1.4 QUALITY ASSURANCE

- A. Perform concrete reinforcement work in accordance with CRSI Manual of Standard Practice, and Documents 63 and 65.
- B. Conform to ACI 301.

#### 1.5 SUBMITTALS

- A. Submit seven (7) copies of shop drawings in accordance with Section 01330.
- B. Indicate sizes, spacing, locations and quantities of reinforcing steel, wire fabric, bending and cutting

schedules, splicing, stirrup spacing, supporting and spacing devices.

## 1.6 COORDINATION

- A. Coordinate with placement of formwork, framed openings and other work.

## PART 2 PRODUCTS

### 2.1 MATERIALS

- A. Reinforcing Steel: ASTM A775/A934, 60 ksi yield grade billet-steel deformed bars; epoxy coated finish.
- B. Welded Steel Wire Fabric: ANSI/ASTM A497 deformed type; in flat sheets; uncoated finish.
- C. Stirrup Steel: ASTM A82 60 ksi yield grade billet-steel deformed bars, uncoated finish.

### 2.2 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage annealed type.
- B. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during installation and placement of concrete including load bearing pad on bottom to prevent vapor barrier puncture.

### 2.3 FABRICATION

- A. Fabricate in accordance with ACI 318.
- B. Locate reinforcing splices not indicated on Drawings at points of minimum stress. Indicate location of splices on shop drawings.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Before placing concrete, clean reinforcement of foreign particles or coatings.
- B. Place, support, and secure reinforcement against displacement.
- C. Do not displace or damage required vapor barrier.

END OF SECTION

## SECTION 03001 – CAST-IN-PLACE CONCRETE

### PART 1 GENERAL

#### 1.1 WORK INCLUDED

- A. Formwork, shoring, bracing, and anchorage.
- B. Cast-in-place concrete.

#### 1.2 RELATED WORK

- A. Section 03200 - Concrete Reinforcement.

#### 1.3 REFERENCES

- A. ACI 301 - Specifications of Structural Concrete for Buildings.
- B. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- C. ANSI/ASTM A497 - Welded Deformed Steel Wire Fabric for Concrete Reinforcement.
- D. ASTM A775 - Specification for Epoxy-Coated Steel Reinforcing Rebars.
- E. ASTM A934 - Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
- F. ASTM C33 - Concrete Aggregates.
- G. ASTM C94 - Ready-Mixed Concrete.
- H. ASTM C150 - Portland Cement.
- I. ASTM C260 - Air Entraining Admixtures for Concrete.
- J. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.
- K. ASTM D2103 - Polyethylene Film and Sheeting.
- L. FS TT-C-800 - Curing Compound, Concrete, for New and Existing Surfaces.
- M. ASTM C618 - Fly Ash for Use as a Mineral Admixture in Portland Cement Concrete.

#### 1.3 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301.

#### 1.4 TESTS

- A. Testing and analysis of concrete will be performed under provisions of Section 01458.
- B. Submit seven (7) copies of proposed mix design to Engineer for review prior to commencement of work.
- C. Contractor will take cylinders and perform slump tests in accordance with ACI 301.
- D. Three concrete test cylinders will be taken for every 75 or less cu yds of each class of concrete placed each day.

- E. One additional test cylinder will be taken during cold weather and be cured on site under same conditions as concrete it represents.
- F. One slump test will be taken for each set of test cylinders taken.

#### 1.5 SUBMITTALS

- A. Submit seven (7) copies of proposed mix design, admixtures, accessories, and curing materials under provisions of Section 01330.

### PART 2 PRODUCTS

#### 2.1 FORM MATERIALS

- A. Conform to ACI 301.

#### 2.2 CONCRETE MATERIALS

- A. Cement: ASTM C150, normal - Type 1P Portland, grey color.
- B. Fine and Coarse Aggregates: ASTM C33.
- C. Water: Clean and not detrimental to concrete.

#### 2.3 ADMIXTURES

- A. Air Entrainment Admixture: ASTM C260.

#### 2.4 ACCESSORIES

- A. Non-Shrink Grout: Premixed compound with non-metallic aggregate, cement, water reducing and plasticizing agents; capable of minimum compressive strength of 7500 psi.
- B. Form Release Agent: Colorless material which will not stain concrete, absorb moisture or impair natural bonding or color characteristics of coating intended for use on concrete.

#### 2.5 CURING MATERIALS

- A. Water: Clean and drinkable.
- B. Membrane Curing Compound: ASTM C309.
- C. Polyethylene Film: ASTM D2103, 4 mil thick, clear color.
- D. Sealer - Dustproof: L & M Construction chemicals "Super Seal #35", A.C. Horn "Duraflex", epoxy deck sealer hardener, SS-1996 Type 2.

#### 2.6 CONCRETE MIX

- A. Mix concrete in accordance with ASTM C94.

- B. Concrete:
  - 1. Compressive Strength (7 days): 2,650 psi
  - 2. Compressive Strength (28 days): 3,500 psi
  - 3. Slump: 3 inch  $\nabla$  1 inch
  - 4. Aggregate: 47B Sand and Gravel as specified by State of Nebraska DOR
- C. Add air entraining agent to mix for concrete exposed to freeze-thaw cycling to provide air content of 6 percent plus/minus 2 percent.

### PART 3 EXECUTION

#### 3.1 FORMWORK ERECTION

- A. Verify lines, levels, and measurement before proceeding with formwork.
- B. Hand trim sides and bottom of earth forms; remove loose dirt.
- C. Align form joints.
- D. Do not apply form release agent where concrete surfaces which may be affected by agent.
- E. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.
- F. When concrete is placed against gravel or crushed rock which does not contain at least 25 percent material passing a No. 4 sieve, such surfaces shall be covered with polyethylene film to protect the concrete from loss of water. Joints in the film shall be lapped at least 4 inches.

#### 3.2 REINFORCEMENT

- A. Place, support, and secure reinforcement against displacement.

#### 3.3 PLACING CONCRETE

- A. Notify Engineer minimum 24 hours prior to commencement of concreting operations.

#### 3.4 SLABS

- A. Float finish surfaces.

#### 3.5 CURING

- A. Concrete shall be protected from loss of moisture by water saturation or curing for at least 7 days after placement.
- B. Concrete shall be protected against freezing for at least 7 days after placement.

END OF SECTION

PAVING SCHEDULE OF APPROXIMATE QUANTITIES

ITEM NO.	STANDARD ITEM DESCRIPTION	UNIT	QUANTITY
04.09107	PCC PAVT W/INT CURB, 7"	SY	352
04.09700	REMOVE CONC HEADER	LF	32
04.09701	INSTALL CONC HEADER	LF	60
50.00001	REMOVE AND RESET DEAD END SIGNING	EA	5

# ETMUND ESTATES 2ND ADDITION

## CYPRUS BLVD. PUBLIC PAVING

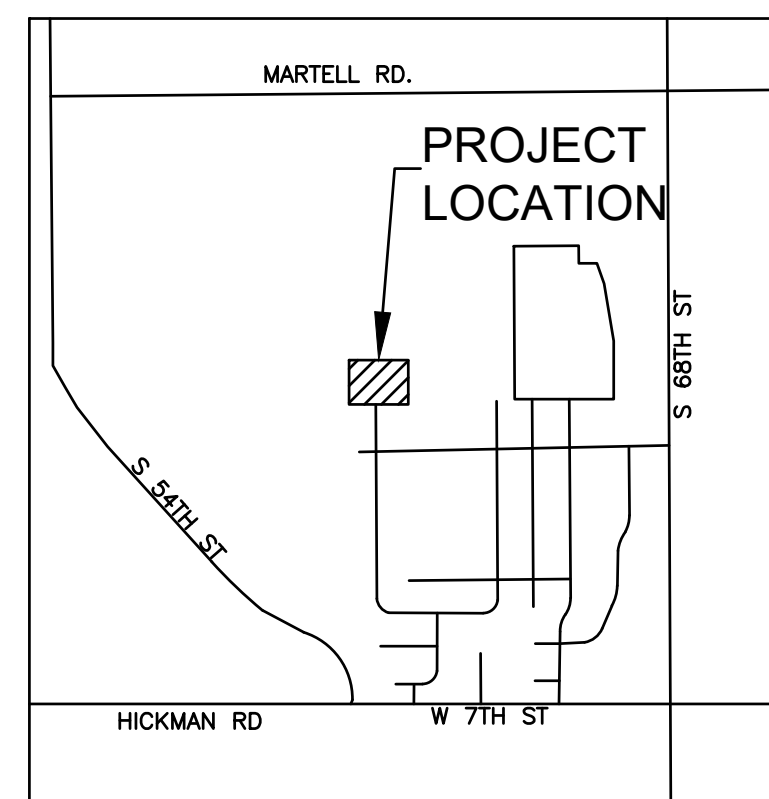
**PAVING NOTES**

- FOR DETAILS OF TYPICAL PAVEMENT SECTIONS, SEE THE SPECIFICATIONS PREPARED FOR THIS PROJECT AND DETAIL SHEET.
- FOR CURB DETAILS, SEE THE SPECIFICATIONS PREPARED FOR THIS PROJECT AND DETAIL SHEET.
- FOR DETAILS OF CONCRETE PAVEMENT JOINTS, SEE DETAIL SHEET.
- ALL ADA ACCESS RAMP SHALL MEET AMERICANS WITH DISABILITIES ACT (ADA) REGULATIONS.
- FOR DETAILS OF PAVEMENT CONSTRUCTION, REFERENCE SPECIFICATIONS PREPARED FOR THIS PROJECT.
- EARTH EXCAVATION IS SUBSIDIARY TO THE PAVING.
- WHEN WORKING IN PUBLIC R.O.W. OR PUBLIC ACCESS AND UTILITY EASEMENTS, CONTRACTOR SHALL RESTORE DISTURBED AREAS TO EXISTING GRADE FOLLOWING THE COMPLETION OF CONSTRUCTION ACTIVITY. ALL SPOIL MATERIAL FROM CONSTRUCTION SHALL BE REMOVED FROM THE STREET ROW OR UTILITY EASEMENT BY THE CONTRACTOR. SPOIL MATERIAL SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE DIRECTED BY ENGINEER.
- GEOMETRICS OF ALL PAVEMENT MARKINGS SHALL CONFORM TO STATE OF NEBRASKA DESIGN CRITERIA.
- ALL SIGNS SHALL COMPLY WITH U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LOCAL CODES AND AS SPECIFIED. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR SHALL REFERENCE THE GEOTECHNICAL REPORT PREPARED FOR THIS SITE FOR PAVEMENT THICKNESS AND SUBGRADE PREPARATION.
- ALL CONSTRUCTION JOINTS SHALL BE SEALED IN ACCORDANCE WITH THE SPECIFICATIONS PREPARED FOR THIS PROJECT.
- CONTRACTOR SHALL NOTIFY GEOTECHNICAL TESTING FIRM 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION FOR TESTING OF SUBGRADE.
- ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0% AND A MAXIMUM LONGITUDINAL SLOPE OF 5.0%. ALL ADA RAMPS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0% AND A MAXIMUM LONGITUDINAL SLOPE OF 8.3%.
- ALL NEW CONCRETE SHALL BE 478-3500.
- 28 DAY REQUIRED STRENGTH OF 3,500 PSI.
- 564 LBS OF CEMENT PER CUBIC YARD.
- TYPE IP CEMENT.
- MAXIMUM WATER CEMENT RATIO = 0.50.
- MAXIMUM SLUMP = 4 INCHES.
- AIR CONTENT = 5.0 TO 7.5% BY VOLUME.
- 3,000 PSI REQUIRED STRENGTH TO DRIVE EQUIPMENT ON NEW SLABS.
- PROVIDE CURE COMPOUND AT RATE OF 200 SF/GAL.
- PROVIDE BROOM OR WET BURLAP FINISH.
- ALL SAWED JOINTS SHALL BE BLOWN OUT, CLEANED AND SEALED WITH HOT SEAL MATERIAL.
- ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 305 & 206 "HOT WEATHER" & "COLD WEATHER" CONCRETING. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLANKETS, EXTERNAL HEAT OR OTHER METHODS AS REQUIRED TO ENSURE CONCRETE PLACEMENT AND TEMPERATURE ARE MAINTAINED WITHIN SPECIFIED REQUIREMENTS. CONCRETE SHALL BE MAINTAINED AT A MINIMUM TEMPERATURE OF 50° FOR THREE DAYS AFTER THE COMPLETION OF PLACEMENT.
- ANY OTHER APPLICABLE SECTIONS FOR MATERIALS AND CONSTRUCTION, WITHIN THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION, NEBRASKA DEPARTMENT OF TRANSPORTATION, SHALL APPLY.

**CONTROL POINTS**

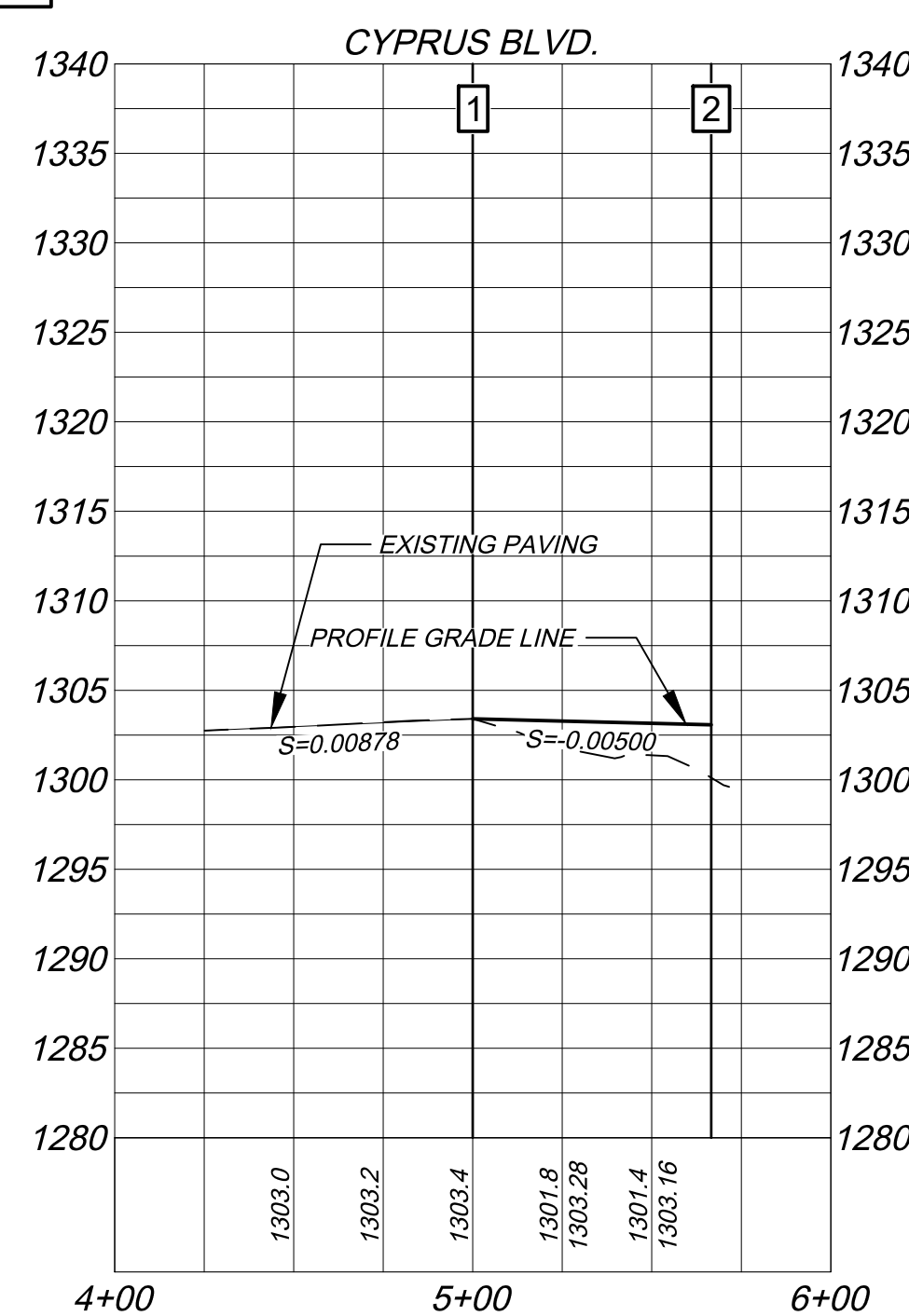
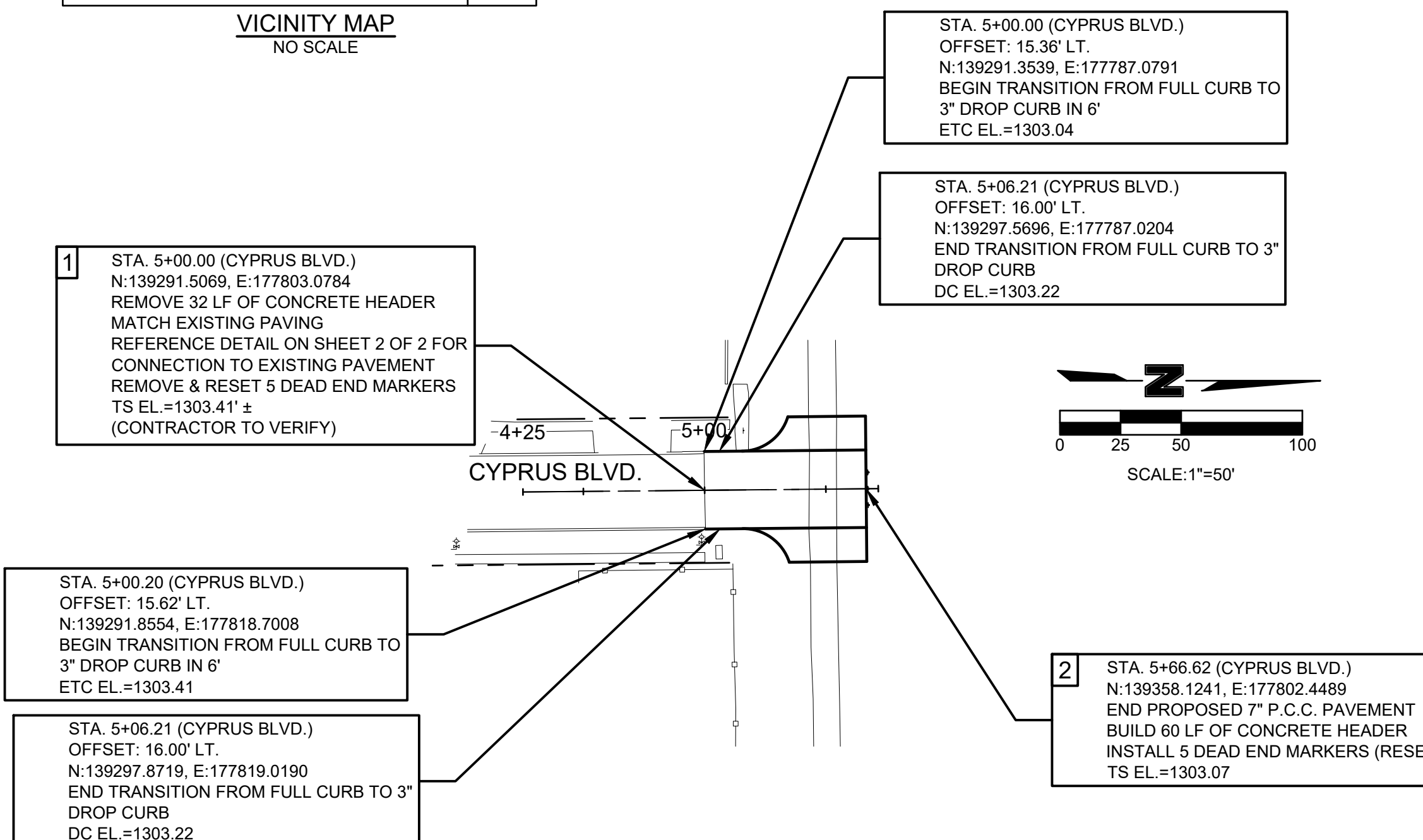
ALL CONTROL POINTS ARE IN LANCASTER COUNTY COORDINATE SYSTEM AND NAVD 88 DATUM.

- 3/4" REBAR  
N:139361.4465, E:179021.3468  
ELEV.=1327.92
- 3/4" REBAR  
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ELEV.=1331.47
- CHISELED 'X' IN CONCRETE POST  
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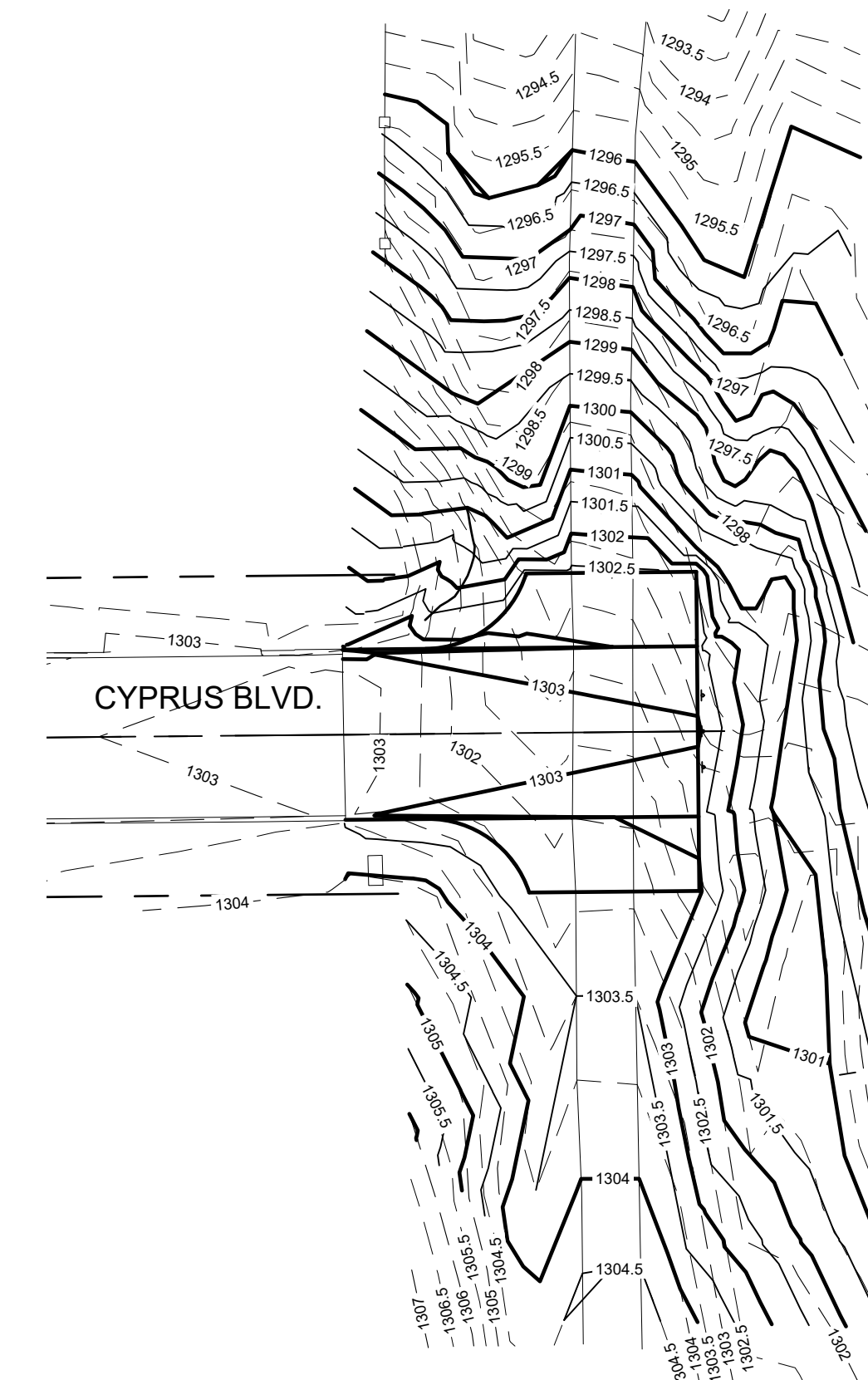


VICINITY MAP  
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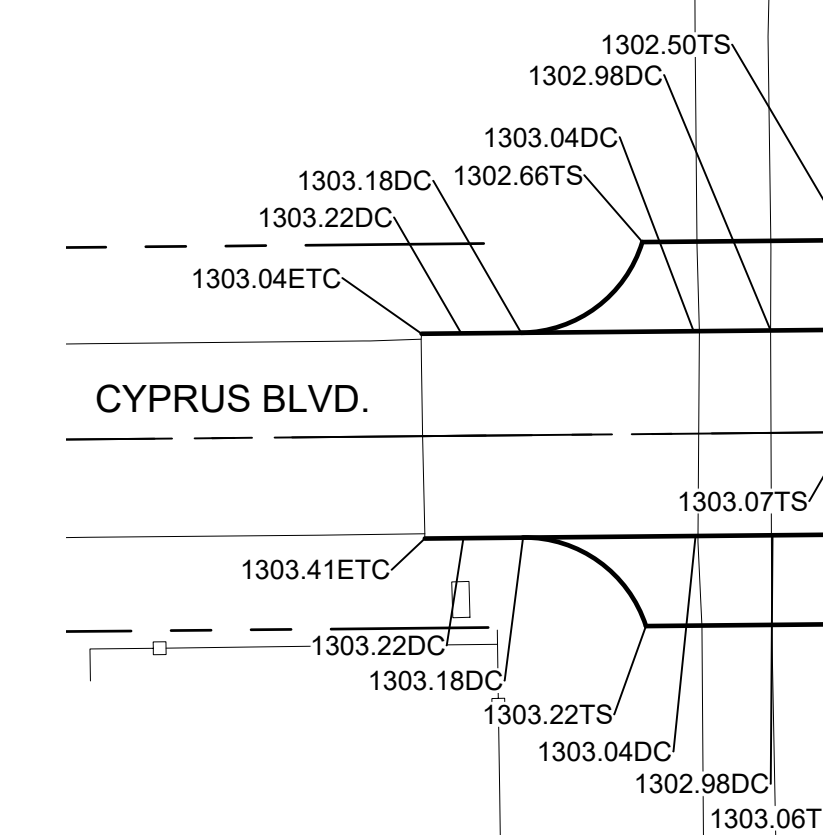
PAVING SHEET INDEX	
SHEET NO.	SHEET DESCRIPTION
1	CYPRUS BLVD. PUBLIC PAVING COVER
2	DETAILS



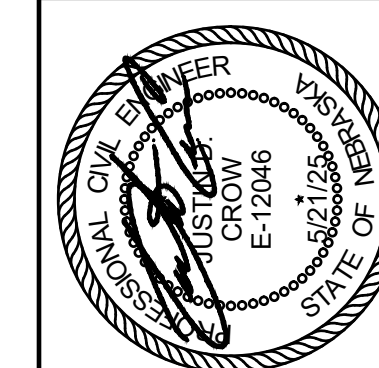
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HORIZONTAL: 1"=50'  
VERTICAL: 1"=10'



CYPRUS BLVD. GRADING  
DETAIL  
SCALE: 1"=30'



CYPRUS BLVD. ROAD  
DETAIL  
SCALE: 1"=30'



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8535 EXECUTIVE WOODS DR., SUITE 200  
LINCOLN, NEBRASKA 68512  
Ph: 402-334-8494 Fax: 866-215-8747  
NE Certificate of Authorization: CA-1648

REVISIONS

NO.	DATE	DESCRIPTION

CYPRUS BLVD. PUBLIC PAVING COVER

ETMUND ESTATES 2ND ADDITION

HICKMAN, NE

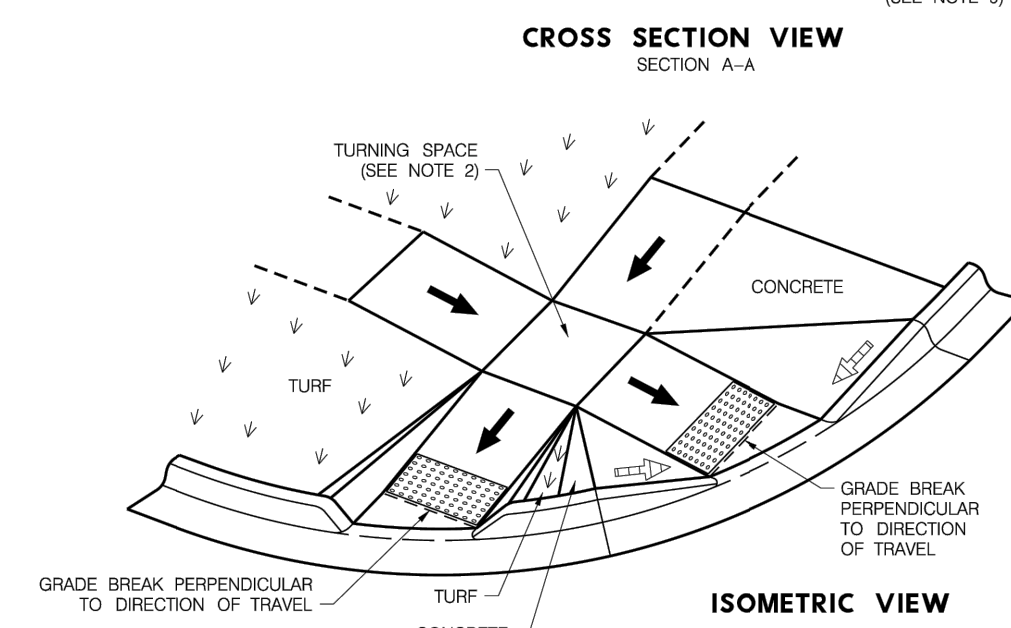
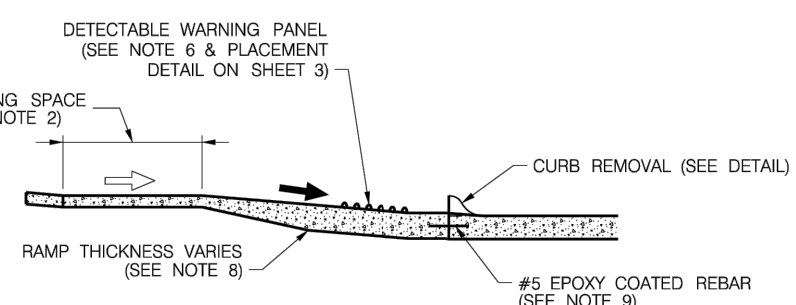
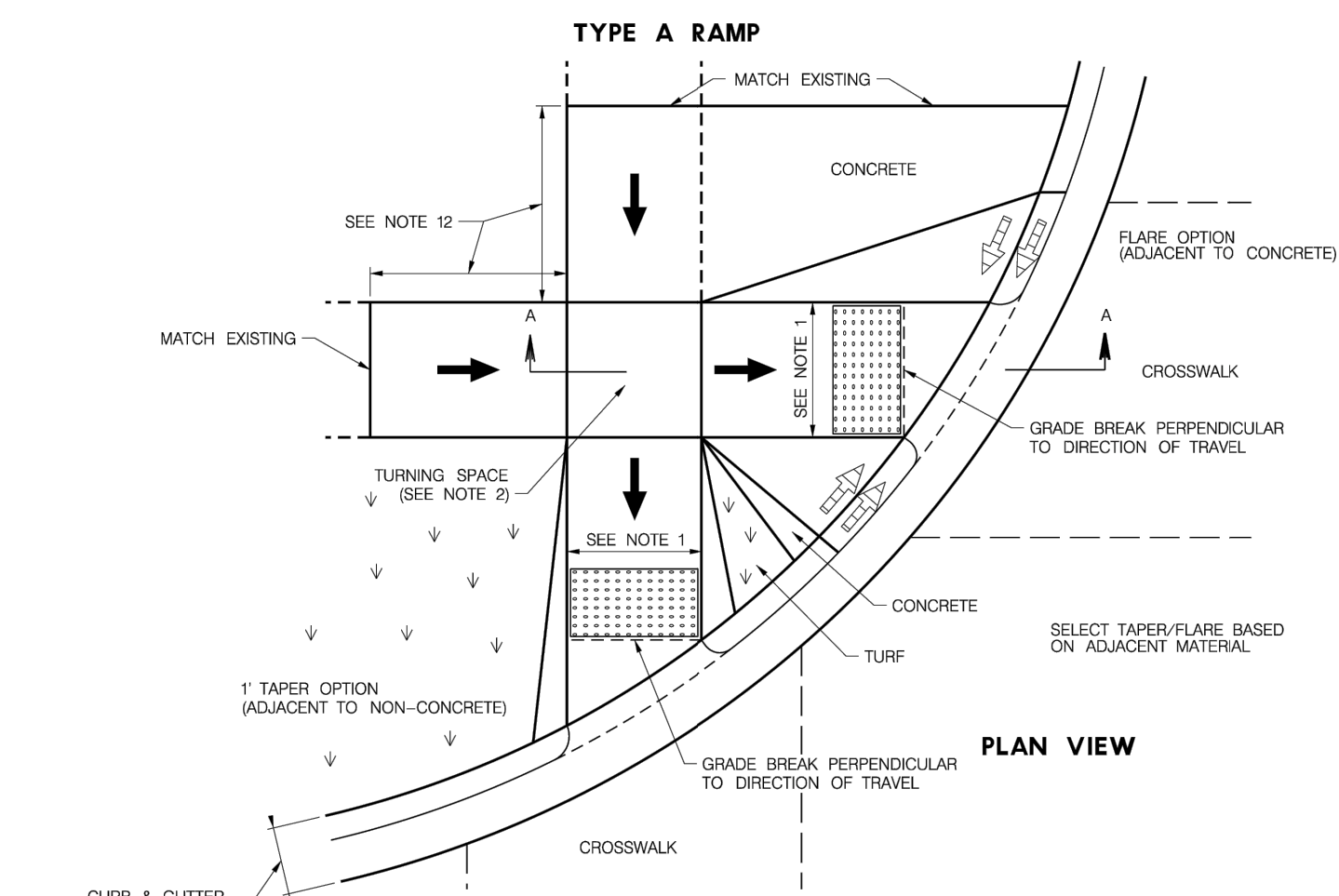
2025

drawn by: WG  
checked by: JDC  
approved by: JDC  
project no.: 2025-0012  
date: 5/21/2025



CALL 811 OR 1-800-331-5666 PRIOR TO ANY EXCAVATION OR LAND DISTURBANCE TO HAVE EXISTING UNDERGROUND AND OVERHEAD UTILITIES LOCATED AND MARKED.

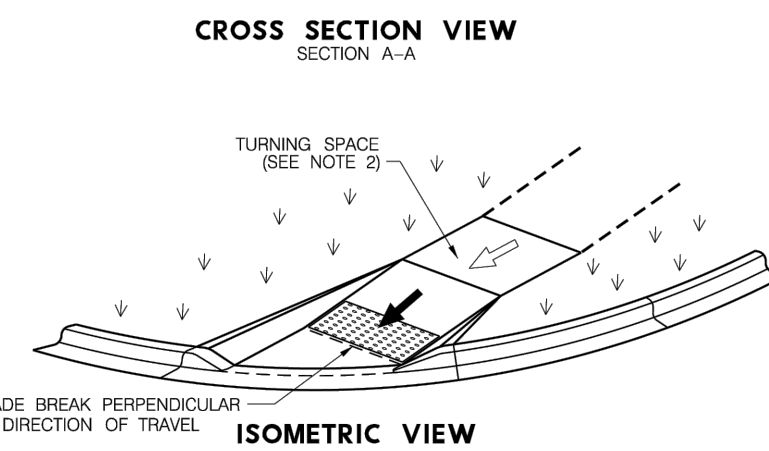
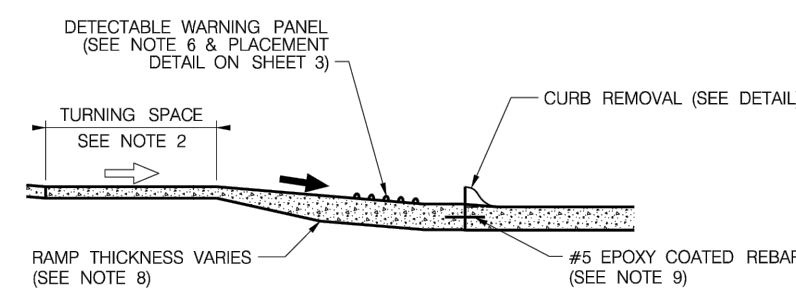
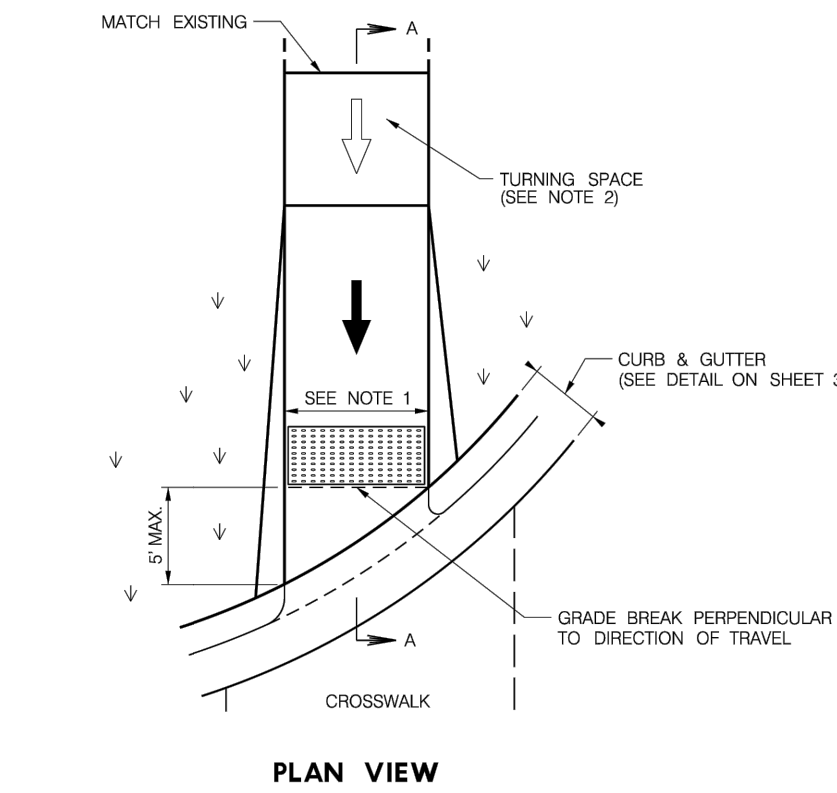
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 DATE: May 21, 2025 10:04am XREFS: 250012 XBase 250012 Base 250012 Base



	1.5% DESIRABLE MAXIMUM (2.0% ABSOLUTE MAXIMUM SLOPE)
	7.3% DESIRABLE MAXIMUM (8.3% ABSOLUTE MAXIMUM SLOPE)
	9.0% DESIRABLE MAXIMUM (10.0% ABSOLUTE MAXIMUM SLOPE)

SLOPES MAY BE LESS THAN THE DESIRABLE MAXIMUM BUT SHALL NOT EXCEED THE ABSOLUTE MAXIMUM. THE CONTRACTOR SHOULD ACCOUNT FOR CONSTRUCTION TOLERANCES TO PREVENT EXCEEDING THE MAXIMUM SLOPES. ANY SLOPES EXCEEDING THE ABSOLUTE MAXIMUMS SHALL NOT BE ACCEPTED WITHOUT PRIOR APPROVAL FROM THE PROJECT MANAGER. JUSTIFICATION FOR INABILITY TO MEET SLOPE REQUIREMENTS SHALL BE DETERMINED BY REFERENCING PROWAG R202.3.1

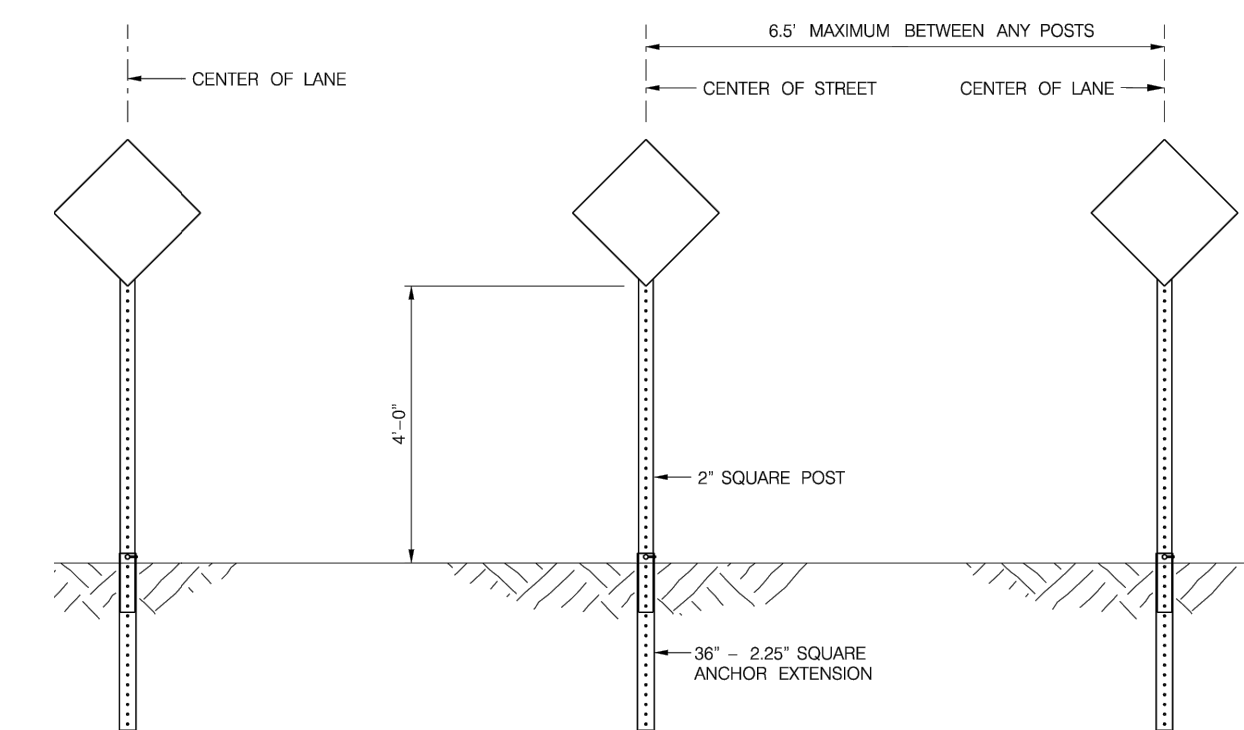
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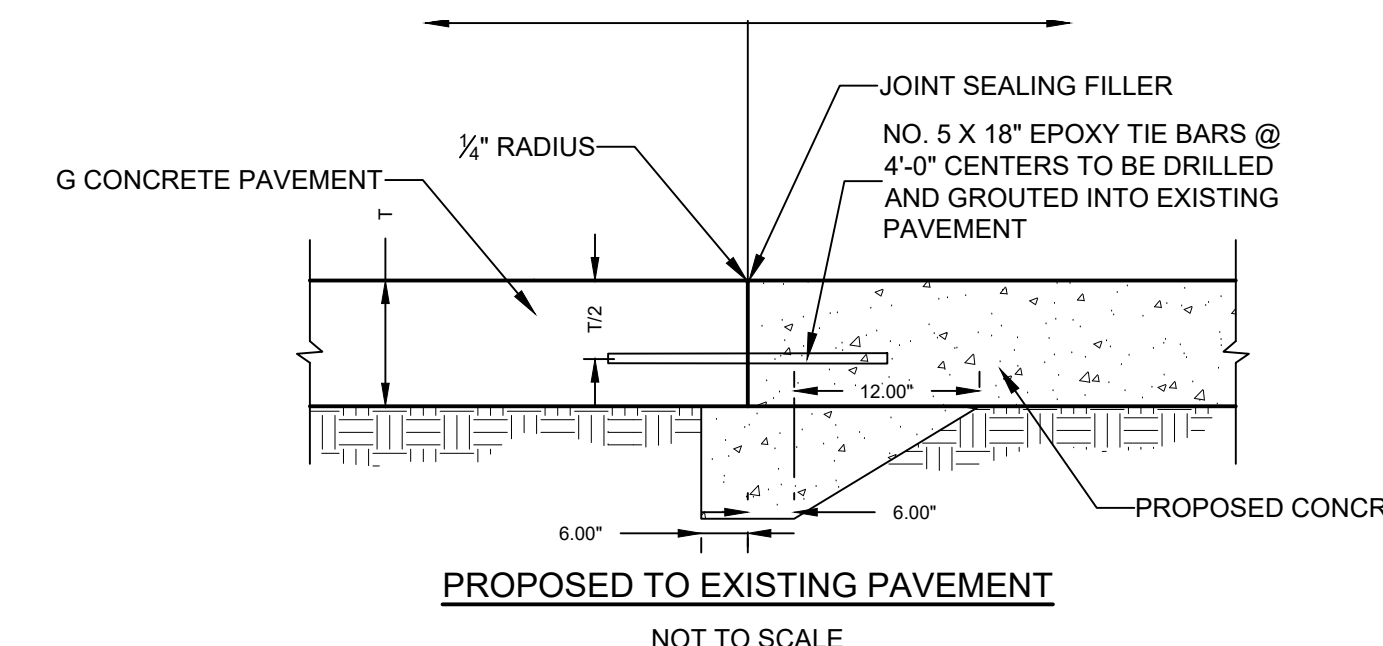
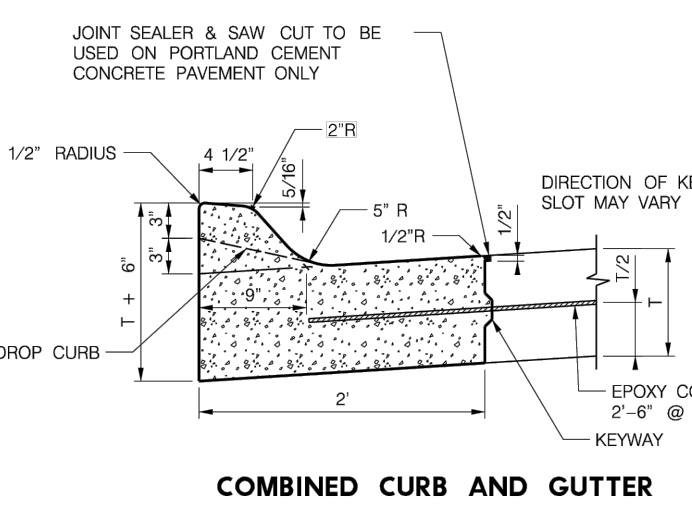
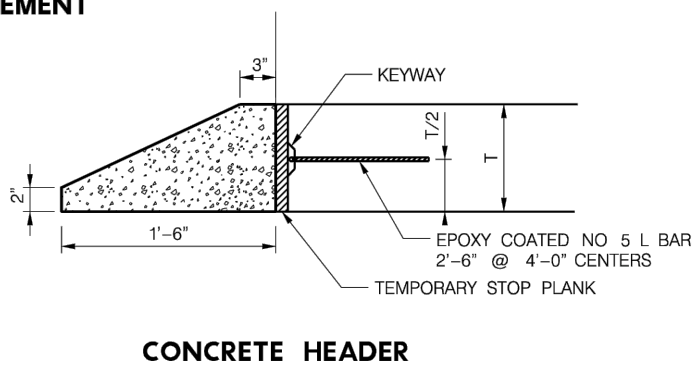
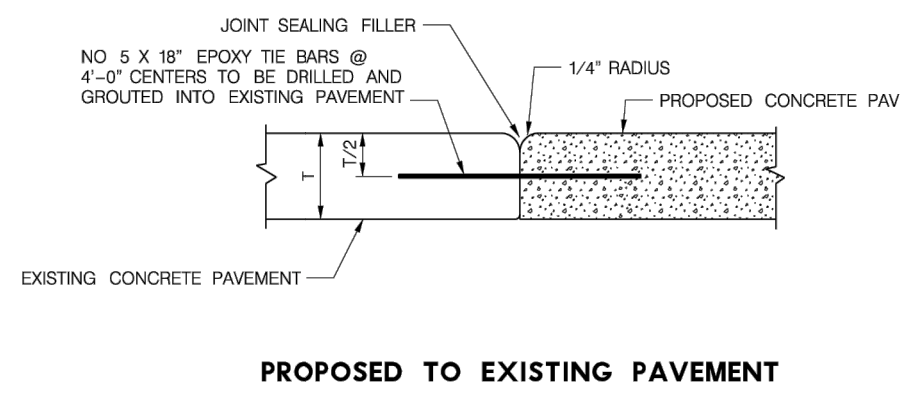
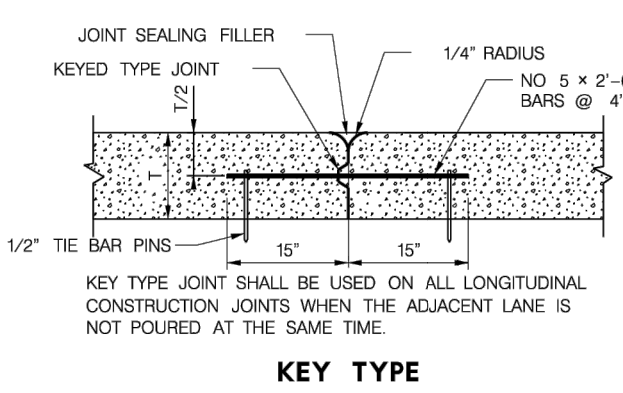
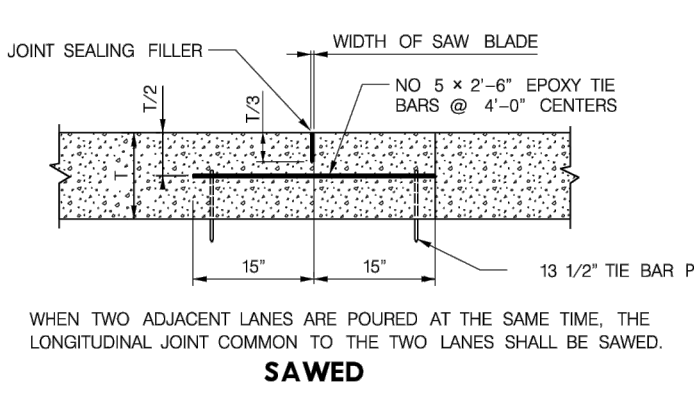
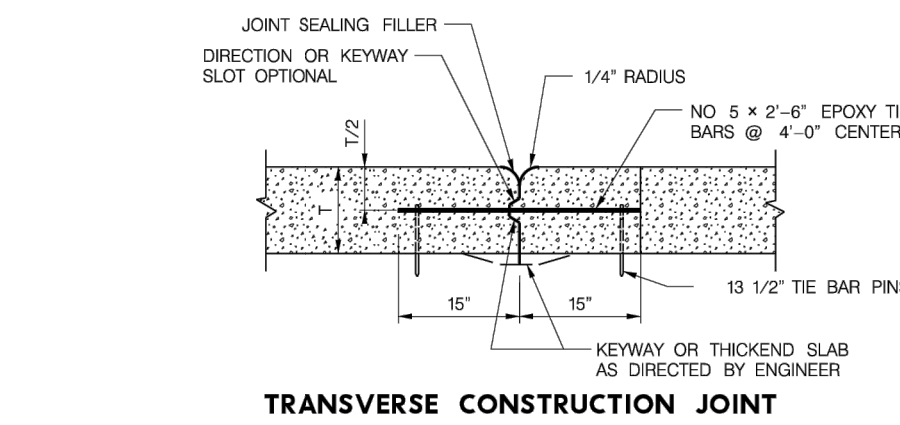
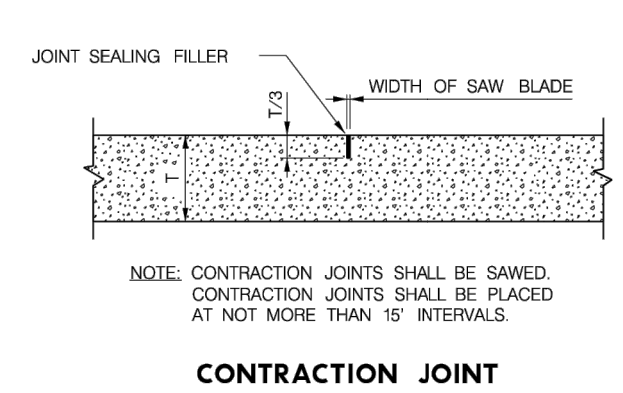
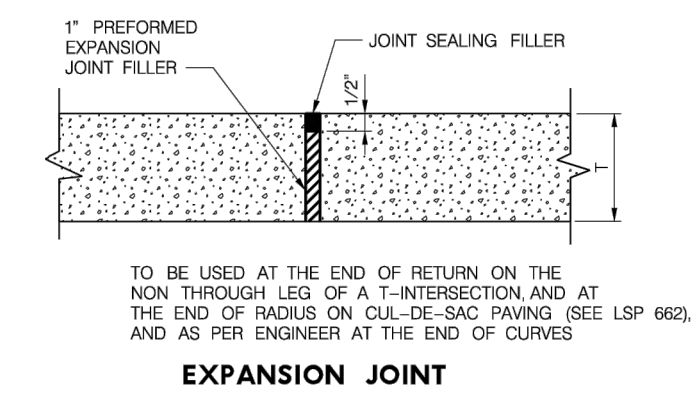
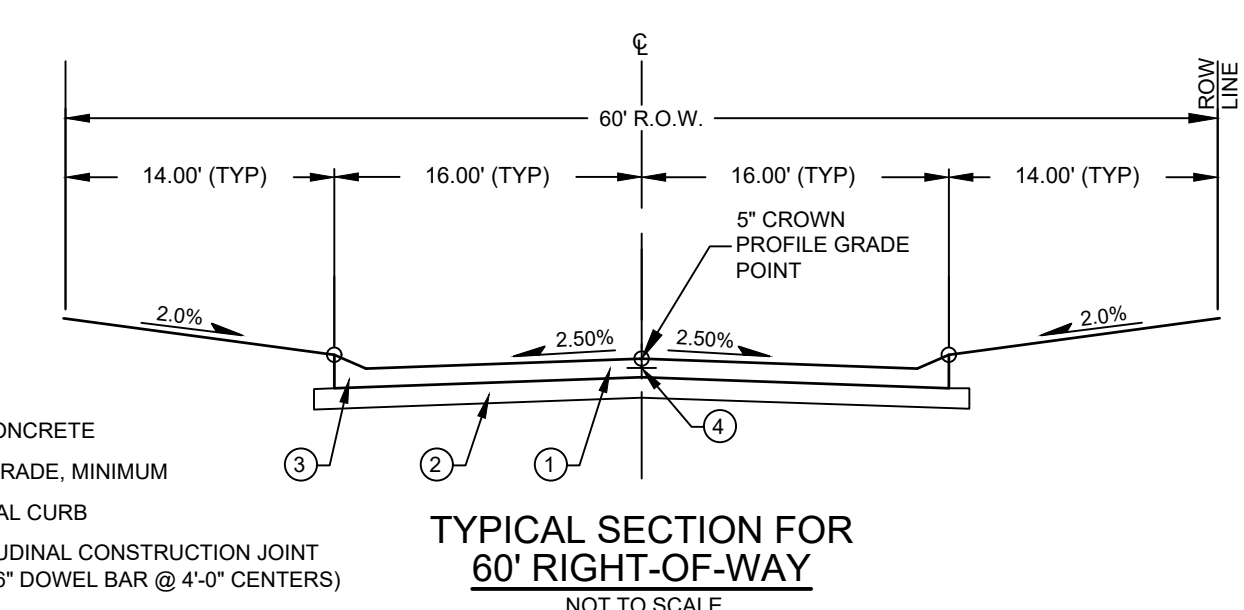
- NOTES:
1. SIDEWALK RAMP WIDTH REQUIREMENTS  
NEW CONSTRUCTION: RAMP WIDTH SHALL BE 5' MINIMUM.  
RETROFIT CONSTRUCTION: RAMP WIDTH SHALL BE 4' MINIMUM.  
BIKE PATH/TRAILS: RAMP WIDTH SHALL BE THE SAME AS THE NOMINAL WIDTH OF THE BIKE PATH/TRAIL.
  2. THE SLOPE OF TURNING SPACES SHALL HAVE AN ABSOLUTE MAXIMUM OF 2% IN ALL DIRECTIONS.  
NEW CONSTRUCTION THE TURNING SPACE SHALL HAVE ABSOLUTE MINIMUM DIMENSIONS OF 5' X 5'.  
RETROFIT CONSTRUCTION THE TURNING SPACE IS CONFINED AT THE BACK OF SIDEWALK THE TURNING SPACE SHALL BE A MINIMUM OF 5' X 4', WITH THE 5' DIMENSION BEING IN THE DIRECTION OF THE RAMP FLARE.
  3. CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE CURB RAMP, FREE OF SAGS AND SHORT GRADE CHANGES.
  4. RAMP SHALL BE CONSTRUCTED SUCH THAT THE MAXIMUM VERTICAL DISCONTINUITY IS 0.25'. DISCONTINUITIES UP TO 0.5' SHALL BE BEVELED AT 1:2 MINIMUM ACROSS THE ENTIRE LEVEL CHANGE.
  5. RAMP FLARES SHALL BE CONSTRUCTED WITH A 9% +/- 1% (10% MAXIMUM SLOPE) AT RIGHT ANGLES TO THE SLOPE OF THE CURB RAMP WHEN ADJACENT TO CONCRETE SURFACE.
  6. ALL CURB RAMP SHALL BE CONSTRUCTED WITH A LONGITUDINAL DETECTABLE TRUNCATED SURFACE ACROSS THE ENTIRE WIDTH OF RAMP THE LAST TWO FEET (2') TOWARDS THE CURB WITH COLOR CONTRAST TO ADJOINING SURFACE.
  7. DETECTABLE WARNING PANELS MUST BE APPROVED BY THE CITY AND MUST COMPLY WITH ADA DIMENSIONS AND SHALL BE INSTALLED AS PER MANUFACTURERS INSTRUCTIONS.
  8. CONCRETE THICKNESS FOR SIDEWALK RAMP SHALL BE EQUAL TO THE PAVEMENT THICKNESS BUT NO LESS THAN 4" AND NO MORE THAN 12". THE THICKNESS THAT IS DETERMINED SHALL BE CARRIED OUT A DISTANCE OF NO LESS THAN 4" AND NO MORE THAN 6" MEASURED PERPENDICULAR TO THE BACK OF CURB.
  9. RAMP SHALL BE TIED TO THE BACK OF THE CURB WITH #5 EPOXY COATED REBAR 18" LONG, AT 2' MAXIMUM SPACING ACROSS THE WIDTH OF THE RAMP.
  10. WHERE COMMERCIAL DRIVEWAYS ARE CONSTRUCTED AT THE ADJACENT STREET ELEVATION OR WHERE THE COMMERCIAL DRIVEWAY UTILIZES YIELD OR STOP CONTROL DETECTABLE WARNING SURFACES SHALL BE INSTALLED AT THE JUNCTION BETWEEN THE PEDESTRIAN ROUTE AND THE VEHICULAR ROUTE.
  11. EFFECTIVE DRAINAGE IS REQUIRED IN ALL AREAS OF CURB RAMP CONSTRUCTION.
  12. FOR RETROFIT APPLICATIONS RECONSTRUCT A MINIMUM LENGTH OF SIDEWALK AND CURB/GUTTER BEYOND THE RAMP AND/OR TURNING SPACE. THE SIDEWALK SHALL HAVE A DESIRABLE MAXIMUM RUNNING SLOPE OF 7.3% OR A MAXIMUM LENGTH OF 15'.

	1.5% DESIRABLE MAXIMUM (2.0% ABSOLUTE MAXIMUM SLOPE)
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	9.0% DESIRABLE MAXIMUM (10.0% ABSOLUTE MAXIMUM SLOPE)

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SIGNS SHALL BE 18" RED DIAMOND PANEL WITH HIGH INTENSITY SHEETING.



NO.	DATE	DESCRIPTION

2025

ETMUND ESTATES 2ND ADDITION

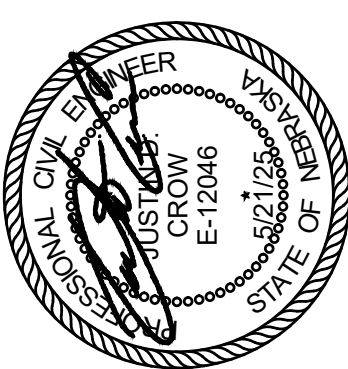
HICKMAN, NE

drawn by: WG  
checked by: JDC  
approved by: JDC  
project no.: 2025-0012  
date: 5/21/2025

SHEET 2 OF 2

BWC: F:\Projects\2025\250012\Landplanning\Design\250012 Paving - Cypress Blvd.dwg USER: jcrow  
DATE: May 21, 2025 10:05am XREFS: 250012.XBase 250012.Fbase

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NE Certificate of Authorization: CA-1648



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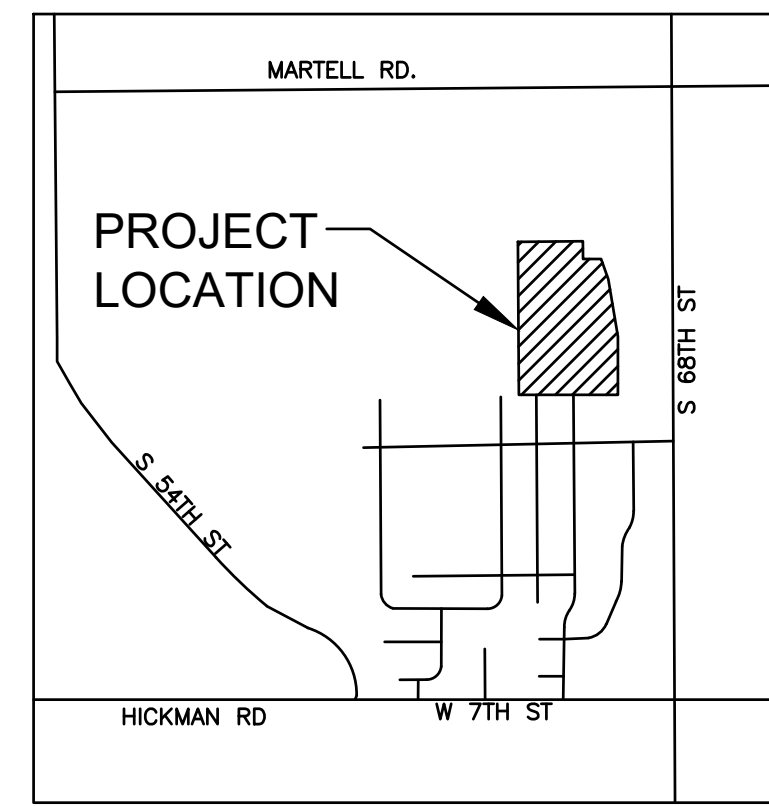
WASTEWATER SCHEDULE OF APPROXIMATE QUANTITIES			
ITEM NO.	STANDARD ITEM DESCRIPTION	UNIT	QUANTITY
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22.03001	TAP EX MH AND REPLACE INVERT	EA	2
22.05008	SANITARY SEWER PIPE, 8"	LF	2653
22.07003	STD MH, TY "S"	EA	8
22.07103	STD MH, TY "S" VF	VF	106.0
22.08084	WYE, 8" X 4"	EA	79
22.08201	CONSTRUCT SANITARY SEWER SERVICE	EA	79
22.08304	PIPE SEWER SERVICE, 4"	LF	2785

**SANITARY SEWER GENERAL NOTES**

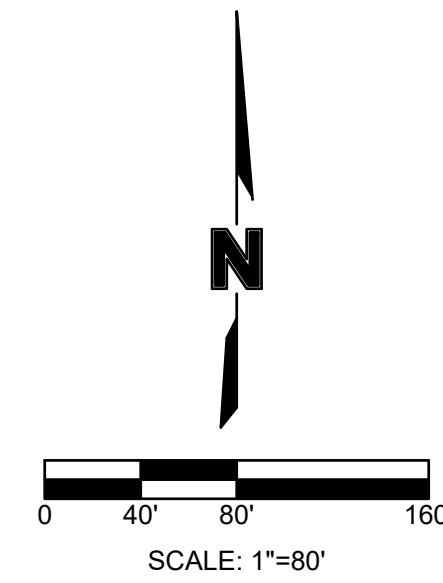
- FOR DETAILS OF STANDARD SANITARY SEWER PIPE BEDDING, SEE DETAIL SHEET.
- FOR DETAILS OF SANITARY SEWER MANHOLE, SEE DETAIL SHEET.
- FOR DETAILS OF SANITARY SEWER SERVICES, SEE DETAIL SHEET.
- FOR DETAILS OF SANITARY SEWER CONSTRUCTION, REFERENCE THE SPECIFICATIONS PREPARED FOR THIS PROJECT.
- SANITARY SEWERS SHALL BE SEPARATED BY AT LEAST 10 FT (3.04 m) HORIZONTALLY FROM ANY EXISTING OR PROPOSED PARALLEL WATER MAINS, MEASURED EDGE TO EDGE.
- AT ALL WATER MAIN CROSSINGS, SANITARY SEWERS SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SANITARY SEWER PIPE IS AT LEAST 18 IN (457 mm) BELOW THE BOTTOM OF THE WATER MAIN.
- REFER TO THE GEOTECHNICAL REPORT PREPARED FOR THIS SITE FOR TRENCH COMPACTION AND FILL REQUIREMENTS.

# ETMUND ESTATES 2ND ADDITION

## PUBLIC SANITARY SEWER



VICINITY MAP  
NO SCALE



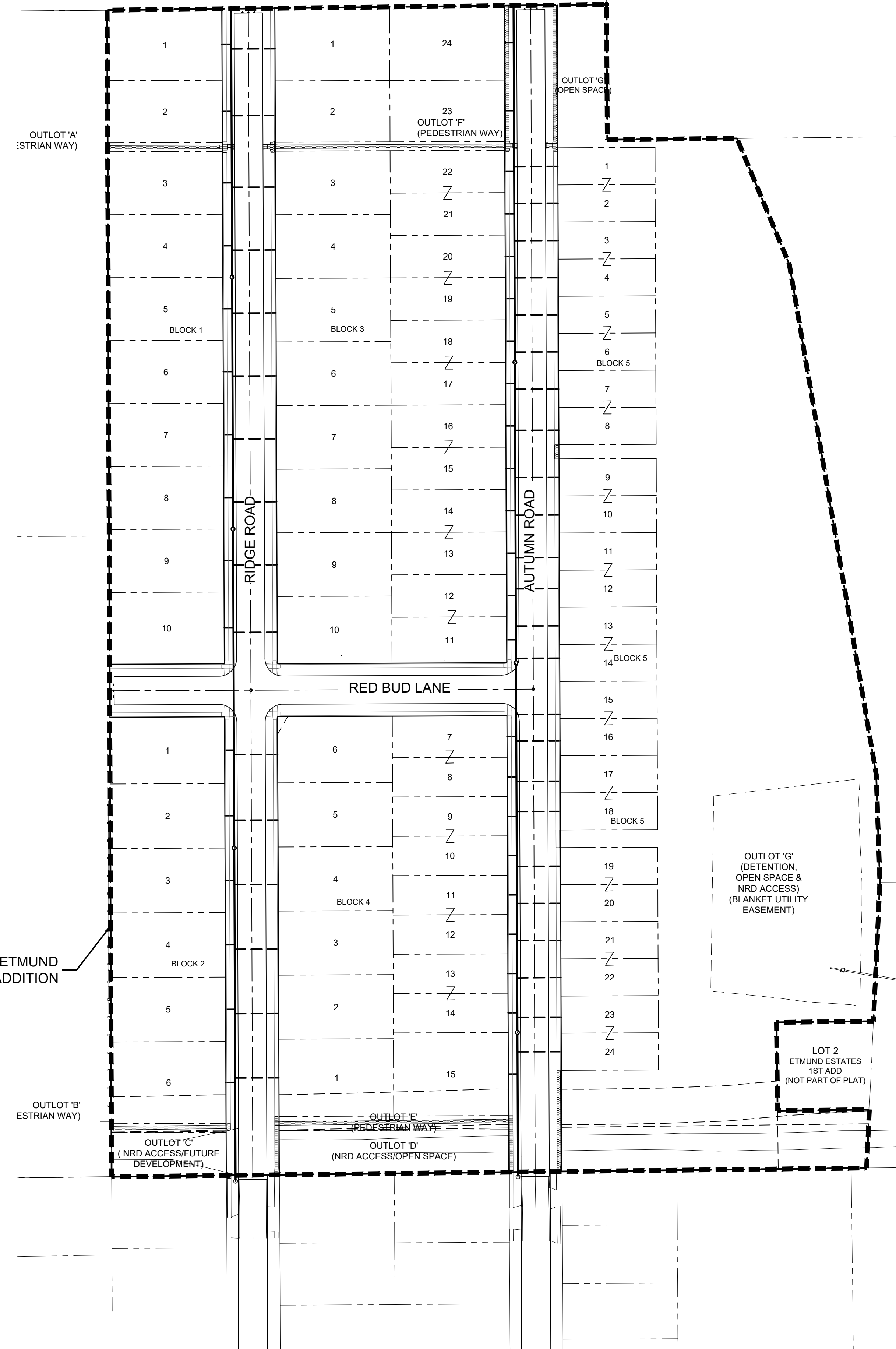
WASTEWATER SHEET INDEX	
SHEET NO.	SHEET DESCRIPTION
1	PUBLIC SANITARY SEWER COVER
2	DETAILS
3	SERVICE TABLE
4	PLAN & PROFILE
5	PLAN & PROFILE

**CONTROL POINTS**

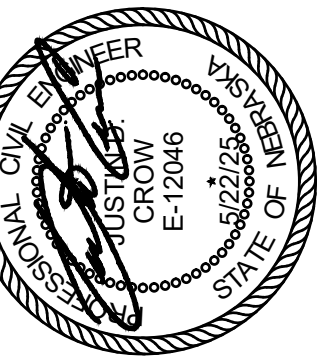
ALL CONTROL POINTS ARE IN LANCASTER COUNTY COORDINATE SYSTEM AND NAVD 88 DATUM.

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ELEV.=1327.92
- 5/8" REBAR  
N:140464.3493, E:178997.5254  
ELEV.=1331.47
- CHISELED 'X' IN CONCRETE POST  
N:140488.9379, E:179558.8000  
ELEV.=1309.73
- 5/8" REBAR  
N:139419.5521, E:179864.8410  
ELEV.=1292.26

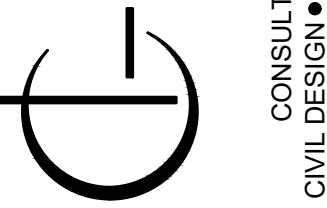
LIMITS OF ETMUND ESTATES 2ND ADDITION



CALL 811 OR 1-800-331-5666 PRIOR TO ANY EXCAVATION OR LAND DISTURBANCE TO HAVE EXISTING UNDERGROUND AND OVERHEAD UTILITIES LOCATED AND MARKED.



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NE Certificate of Authorization: CA-1648



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**REVISIONS**

NO.	DATE	DESCRIPTION

PUBLIC SANITARY SEWER COVER

ETMUND ESTATES 2ND ADDITION

HICKMAN, NEBRASKA

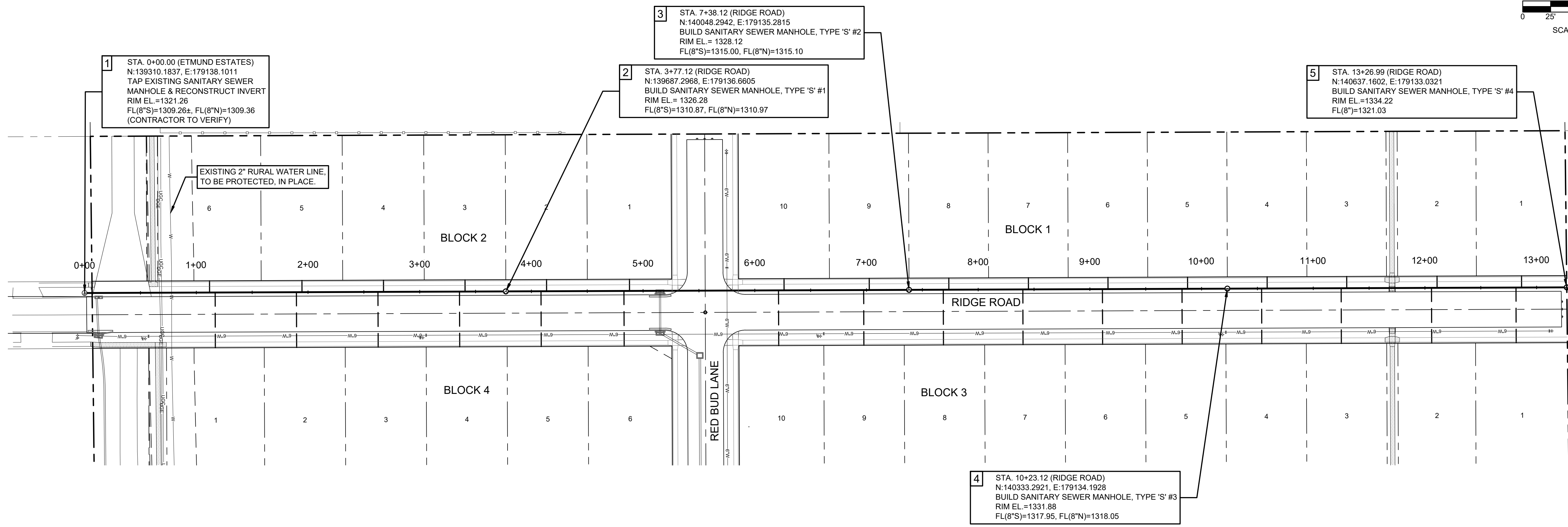
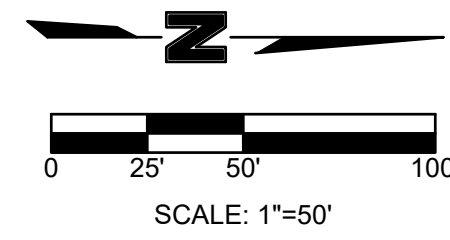
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checked by: JDC  
approved by: JDC  
project no.: 2025-0012  
date: 5/21/2025

**SHEET  
1 OF 5**

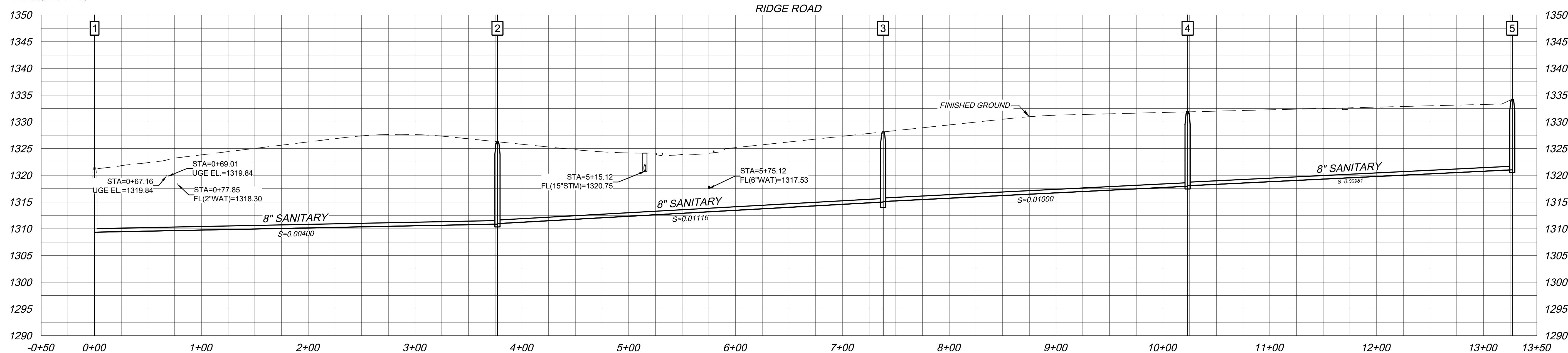
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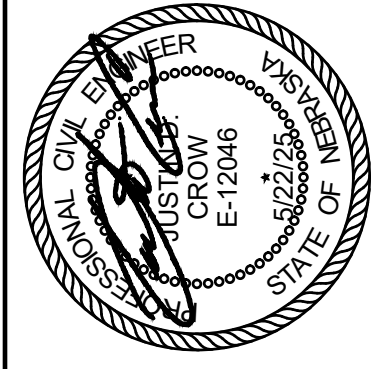




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VERTICAL: 1"=10'



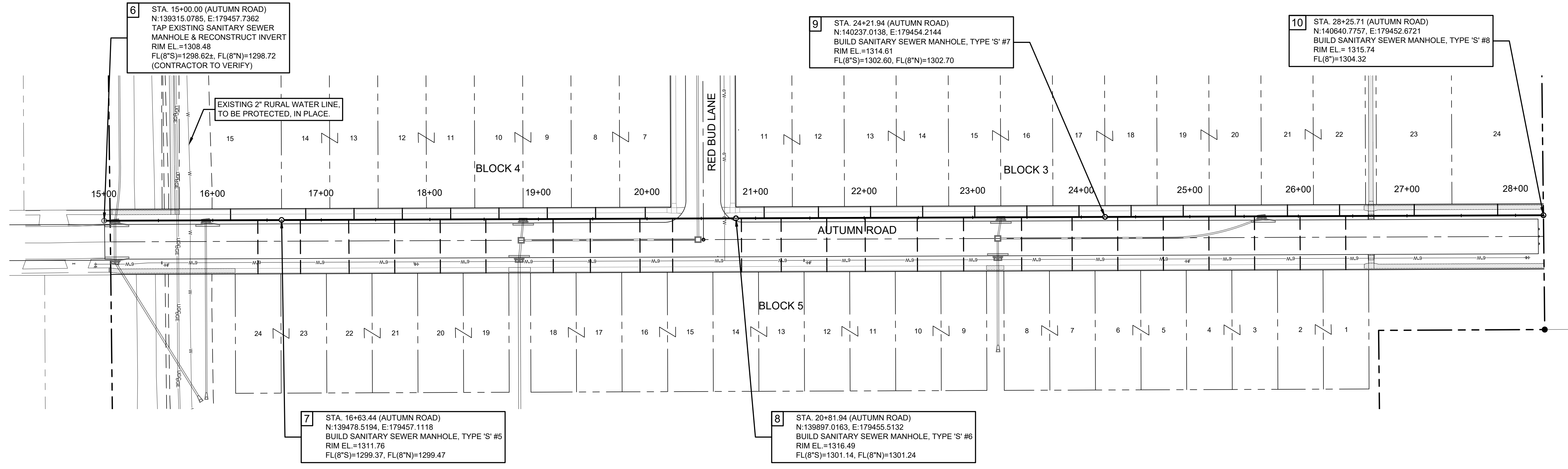
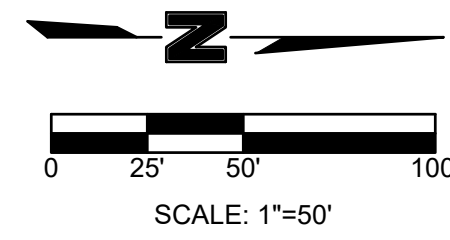
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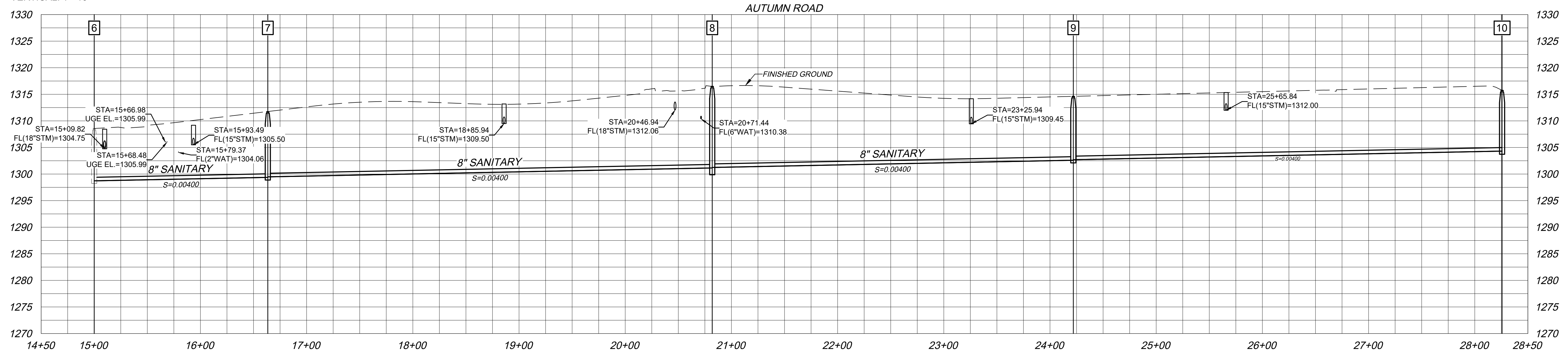
**Civil Design Group, Inc.**  
 8535 EXECUTIVE WOODS DR., SUITE 200  
 LINCOLN, NEBRASKA 68512  
 Ph: 402-434-8494 Fax: 866-215-8747  
 NE Certificate of Authorization: CA-1648  
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REVISIONS	
NO.	DESCRIPTION

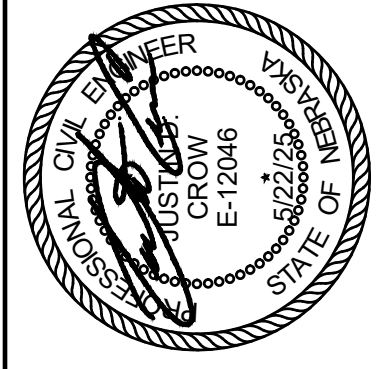
<b>PLAN &amp; PROFILE</b>	<b>2025</b>
<b>ETMUND ESTATES 2ND ADDITION</b>	
<b>HICKMAN, NEBRASKA</b>	
drawn by: ZKW checked by: JDC approved by: JDC project no.: 2025-0012 date: 5/21/2025	<b>SHEET 4 OF 5</b>



PROFILE SCALES:  
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VERTICAL: 1"=10'



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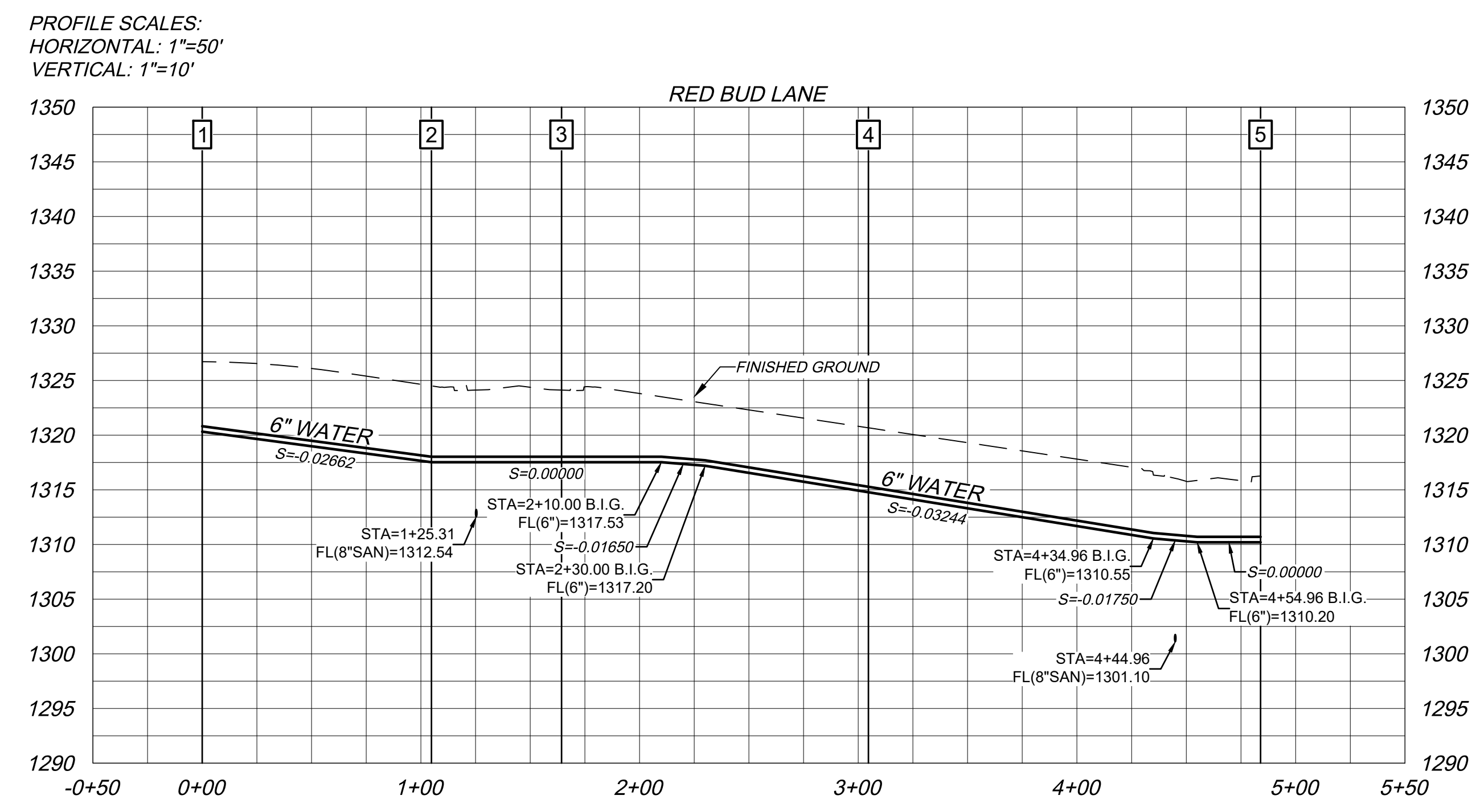
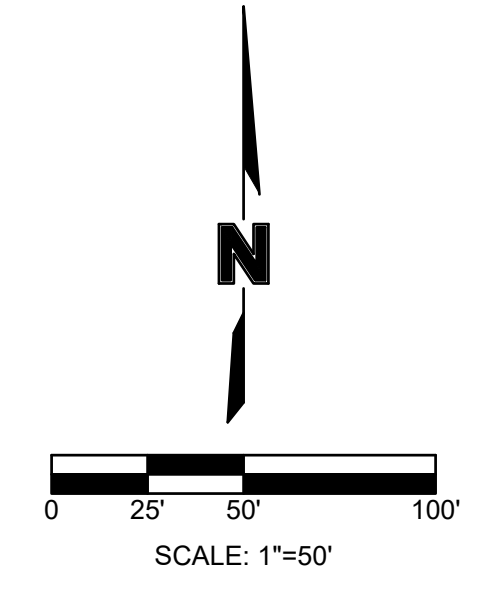
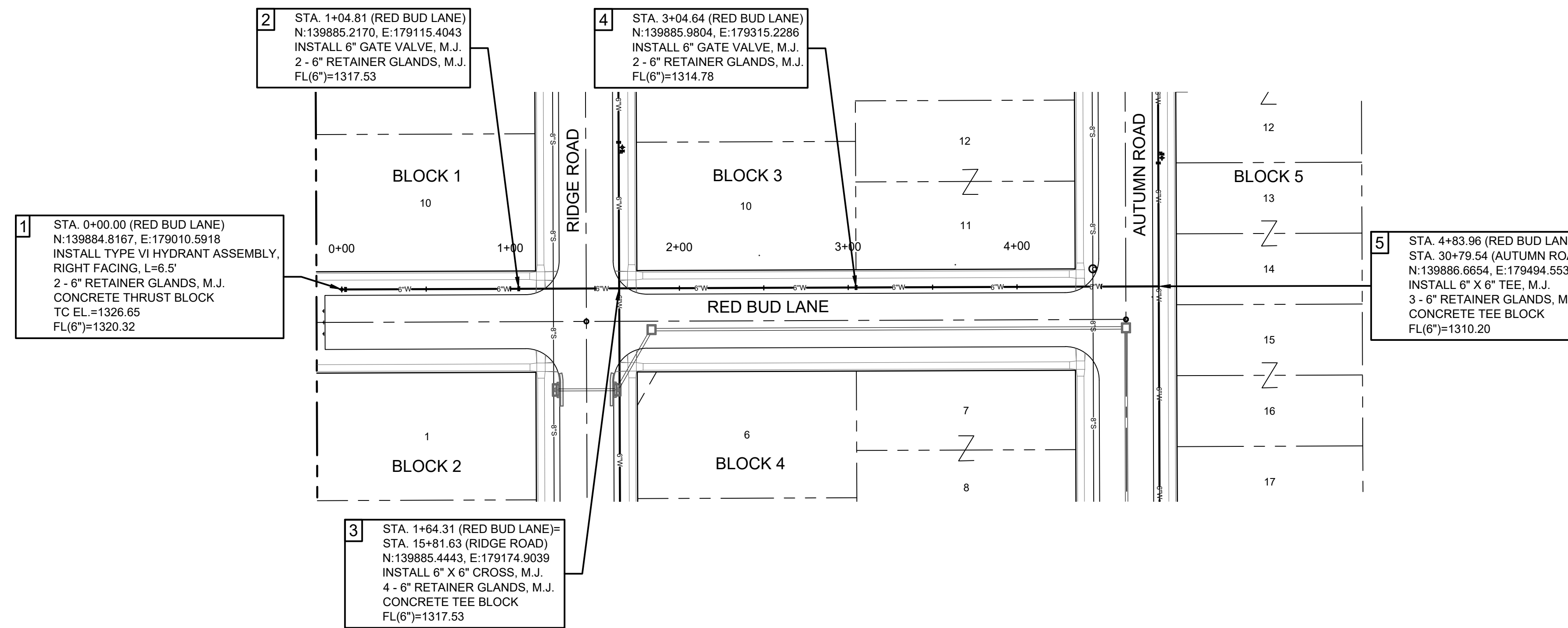
REVISIONS	
NO.	DESCRIPTION

PLAN & PROFILE  
 ETMUND ESTATES 2ND ADDITION  
 HICKMAN, NEBRASKA  
 2025  
 drawn by: ZKW  
 checked by: JDC  
 approved by: JDC  
 project no.: 2025-0012  
 date: 5/21/2025

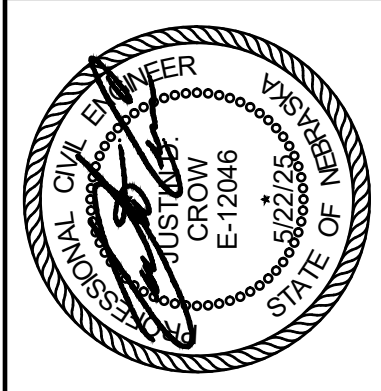




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 DATE: May 22, 2025 4:04pm XREFS: 250012 Background



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REVISIONS	
NO.	DESCRIPTION

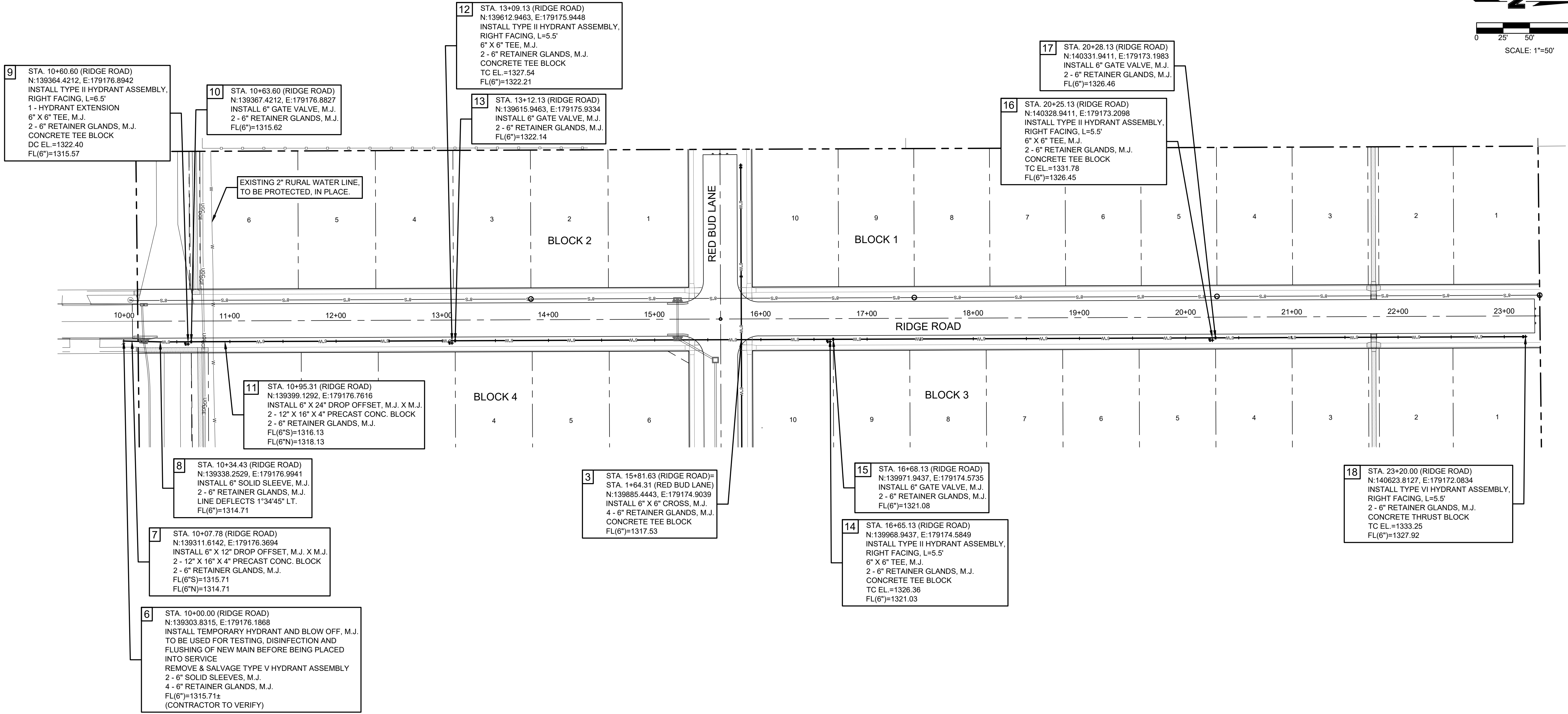
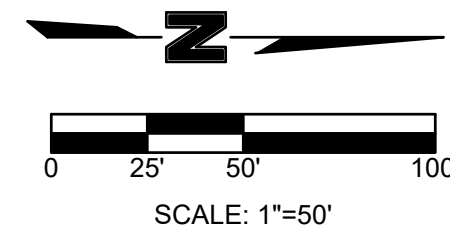
PLAN & PROFILE

ETMUND ESTATES 2ND ADDITION

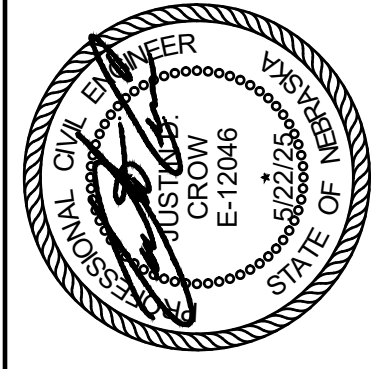
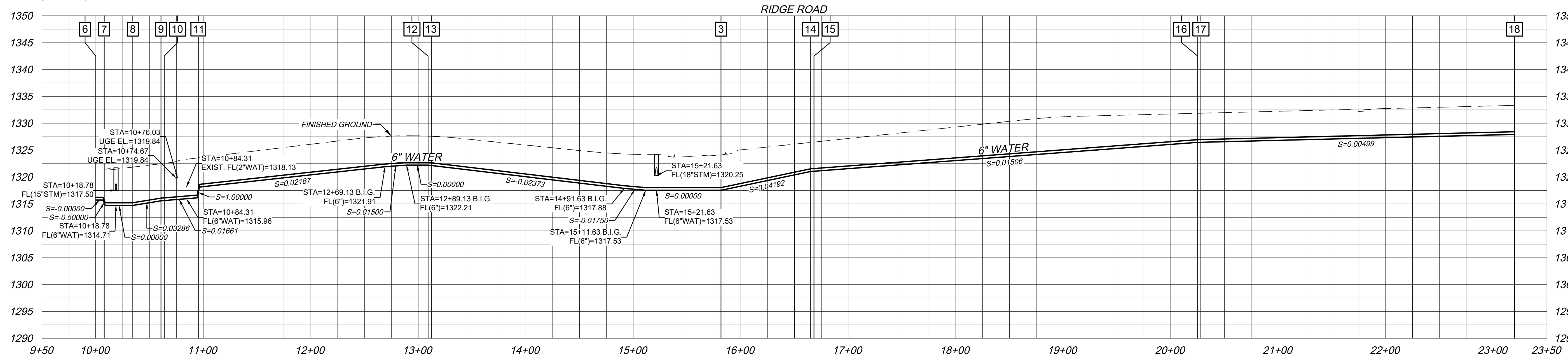
HICKMAN, NEBRASKA

2025

drawn by: ZKW  
 checked by: JDC  
 approved by: JDC  
 project no.: 2025-0012  
 date: 5/12/2025



PROFILE SCALES:  
HORIZONTAL: 1"=50'  
VERTICAL: 1"=10'



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REVISIONS	
NO.	DESCRIPTION

PLAN & PROFILE

ETMUND ESTATES 2ND ADDITION

HICKMAN, NEBRASKA

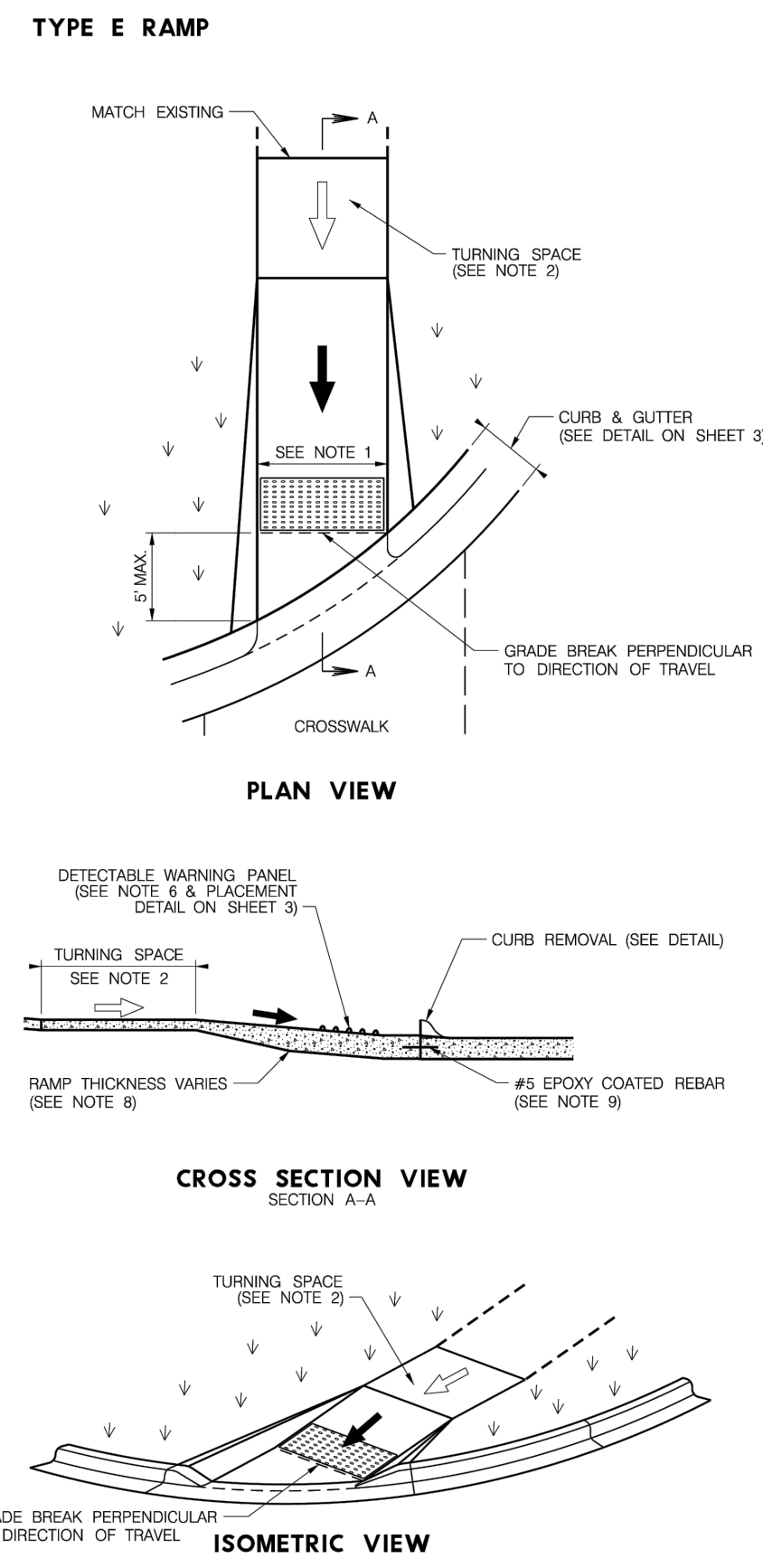
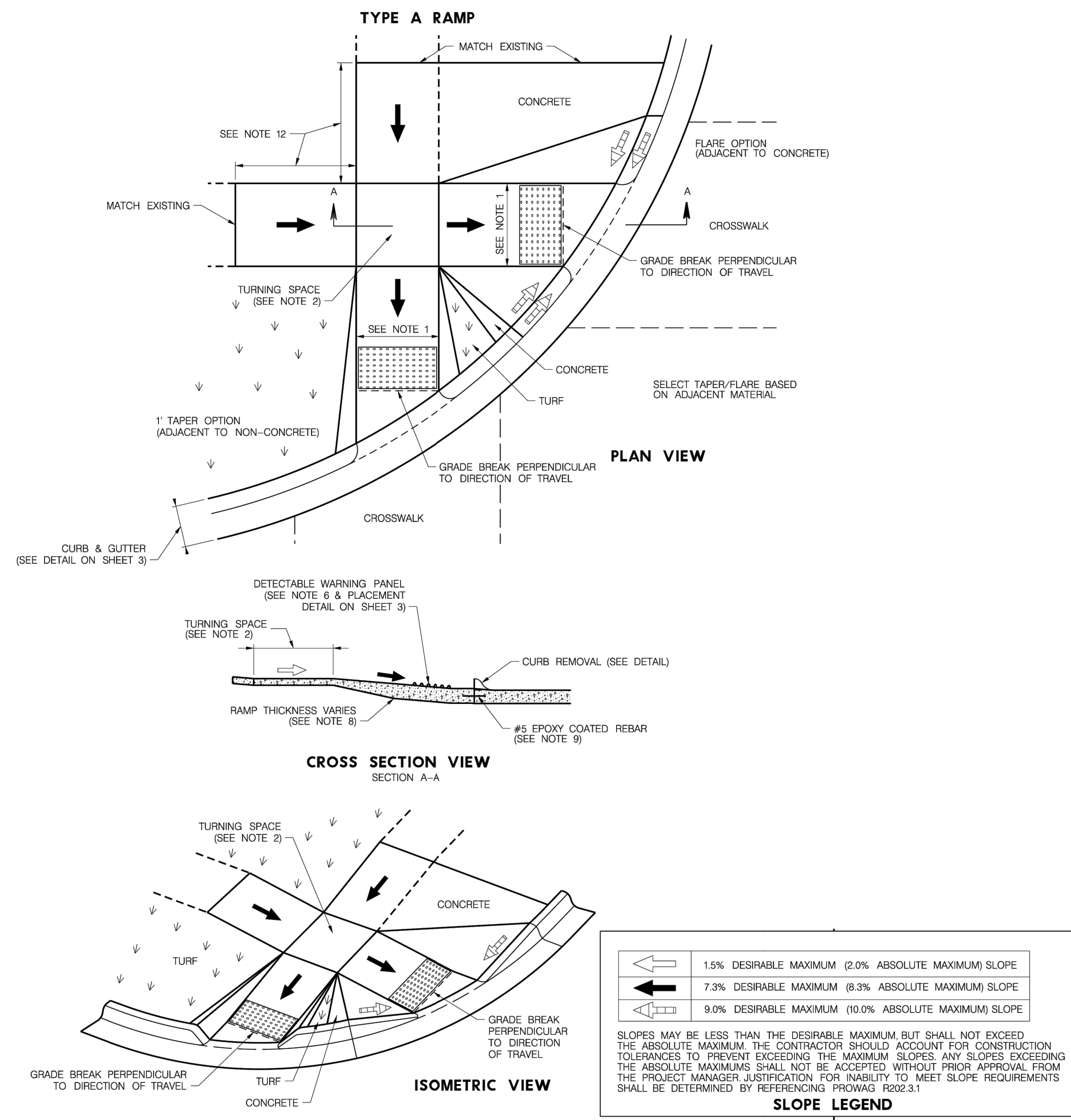
2025

drawn by: ZKW  
checked by: JDC  
approved by: JDC  
project no.: 2025-0012  
date: 5/12/2025

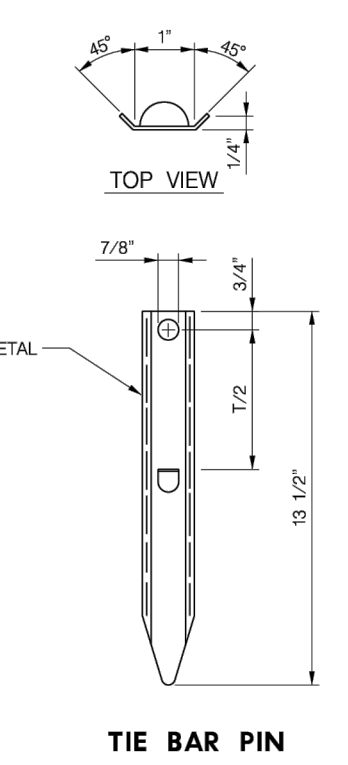
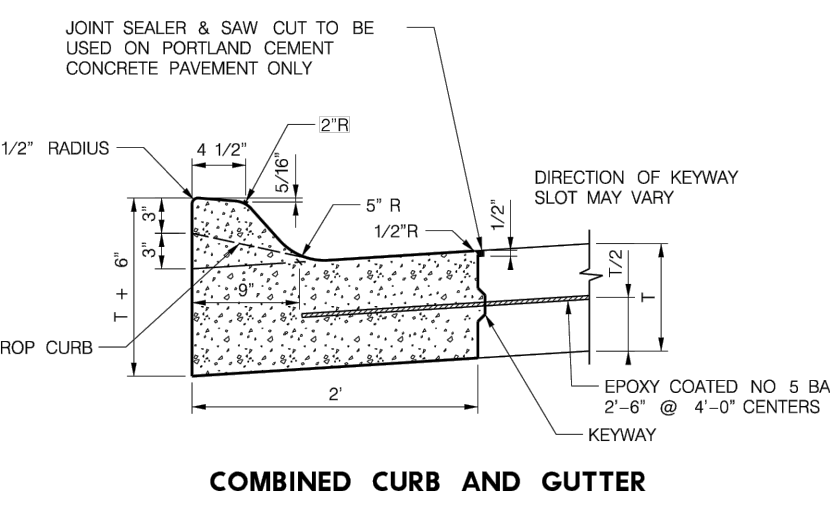
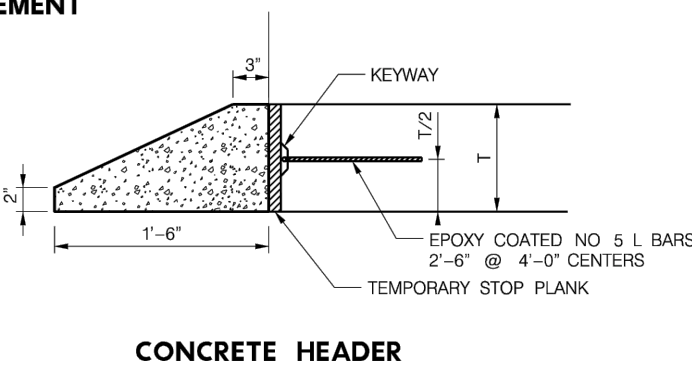
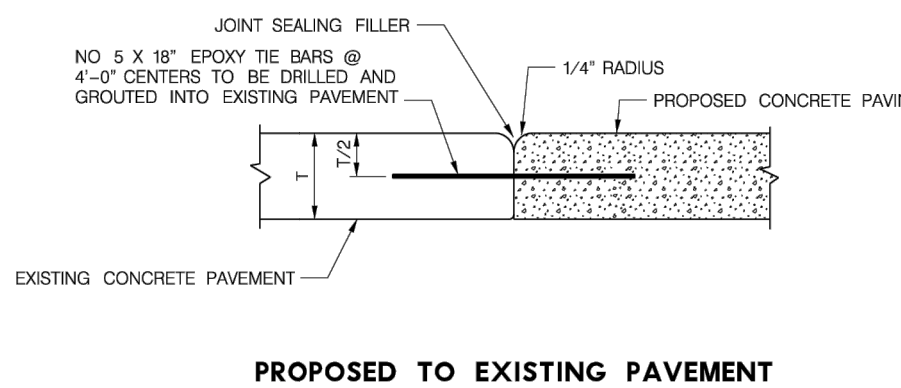
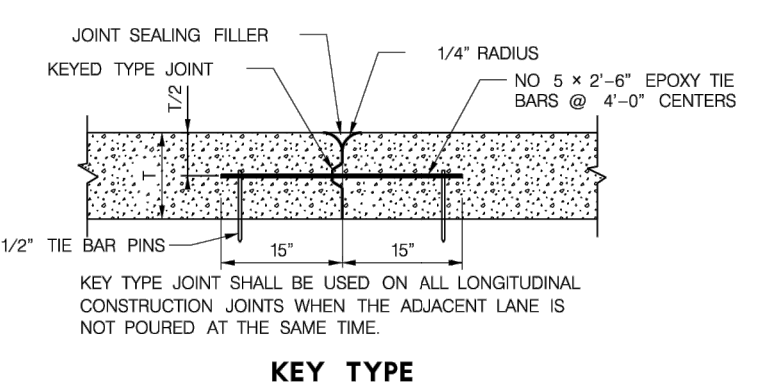
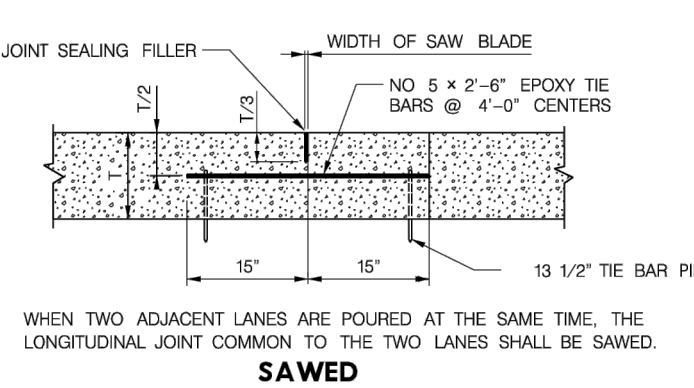
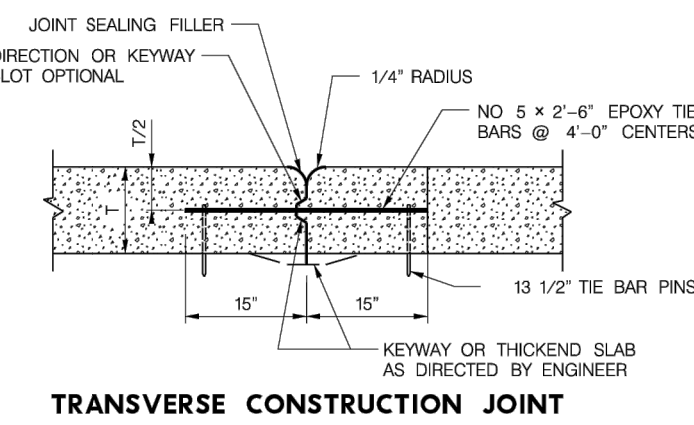
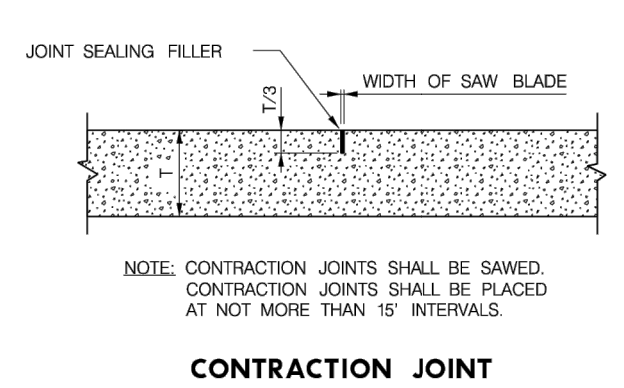
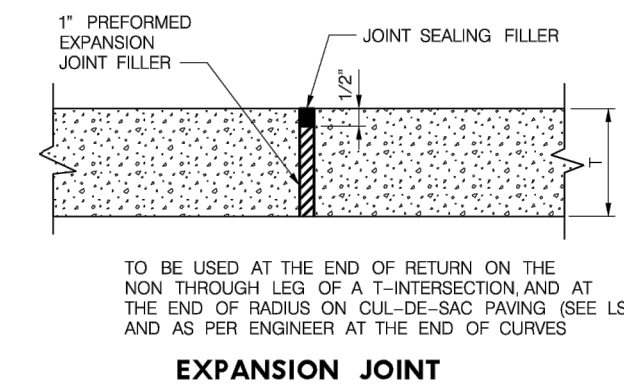
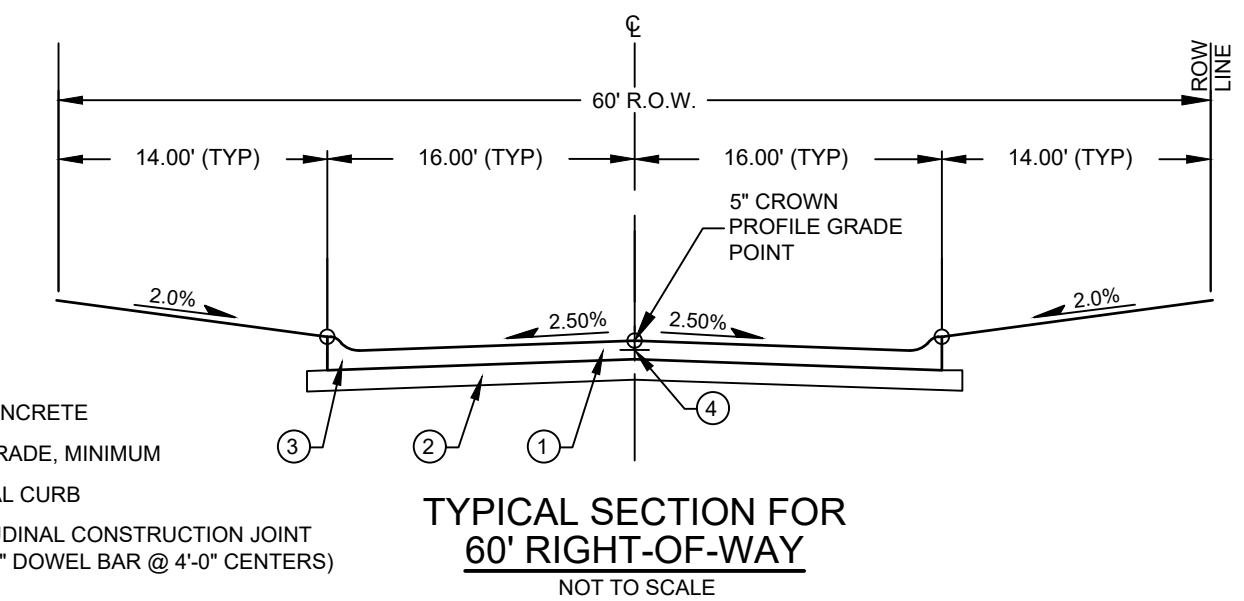
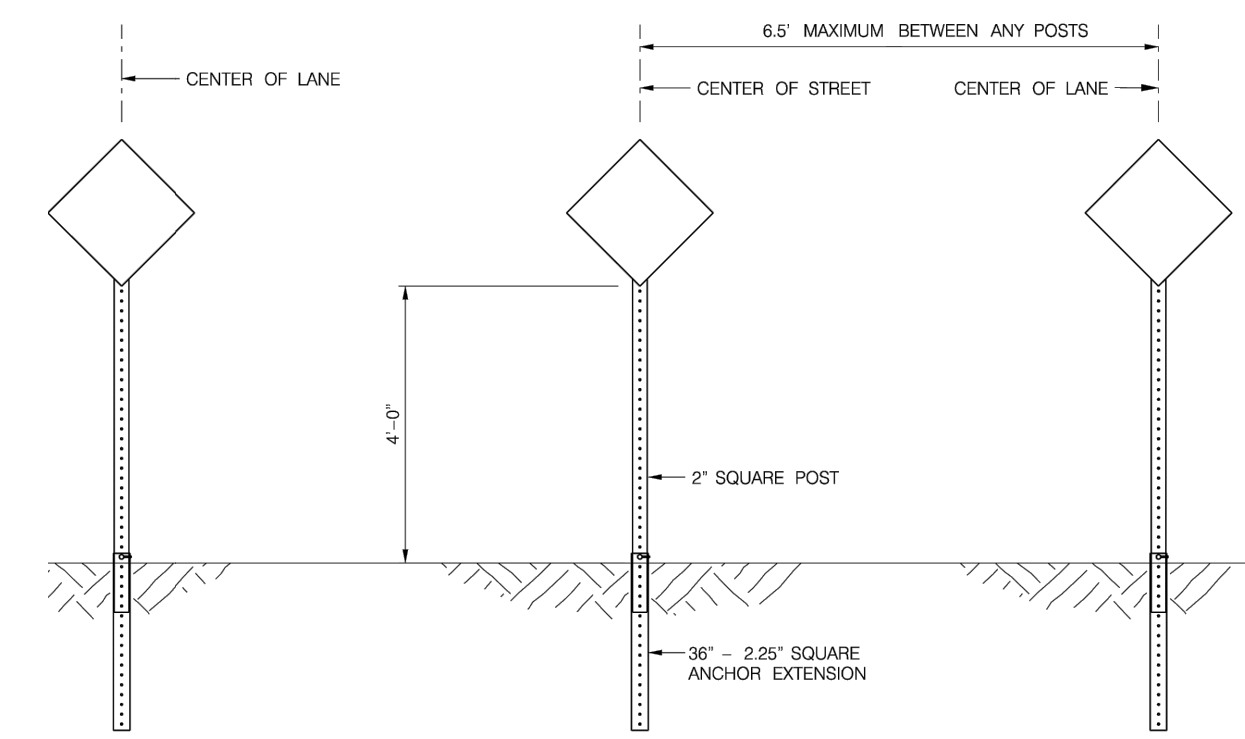
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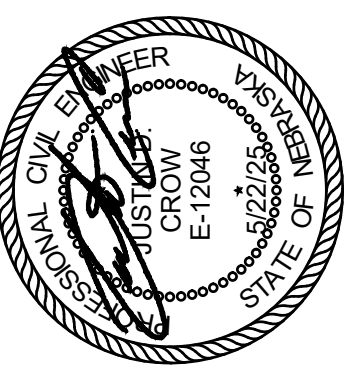




- NOTES:
- SIDEWALK RAMP WIDTH REQUIREMENTS:  
NEW CONSTRUCTION: RAMP WIDTH SHALL BE 5' MINIMUM.  
RETROFIT CONSTRUCTION: RAMP WIDTH SHALL BE 4' MINIMUM.  
BIKE PATH/TRAILS: RAMP WIDTH SHALL BE THE SAME AS THE NOMINAL WIDTH OF THE BIKE PATH/TRAIL.
  - THE SLOPE OF TURNING SPACES SHALL HAVE AN ABSOLUTE MAXIMUM OF 2% IN ALL DIRECTIONS.  
NEW CONSTRUCTION: THE TURNING SPACE SHALL HAVE ABSOLUTE MINIMUM DIMENSIONS OF 5' X 5'.  
RETROFIT CONSTRUCTION: THE TURNING SPACE SHALL HAVE ABSOLUTE MINIMUM DIMENSIONS OF 4' X 4'. IF TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, THE TURNING SPACE SHALL BE A MINIMUM OF 5' X 4' WITH THE 5' DIMENSION BEING IN THE DIRECTION OF THE RAMP RUN.
  - CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE CURB RAMP, FREE OF SAGS AND SHORT GRADE CHANGES.
  - RAMP SHALL BE CONSTRUCTED SUCH THAT THE MAXIMUM VERTICAL DISCONTINUITY IS 0.25". DISCONTINUITIES UP TO 0.5" SHALL BE BEVELED AT 1:2 MINIMUM ACROSS THE ENTIRE LEVEL CHANGE.
  - RAMP FLARES SHALL BE CONSTRUCTED WITH A 9% +/- 1% (10% MAXIMUM) SLOPE AT RIGHT ANGLES TO THE SLOPE OF THE CURB RAMP WHEN ADJACENT TO CONCRETE SURFACE.
  - DETECTABLE WARNING PANELS MUST BE APPROVED BY THE CITY AND MUST COMPLY WITH ADA DIMENSIONS AND SHALL BE INSTALLED AS PER MANUFACTURERS INSTRUCTIONS.
  - CONCRETE THICKNESS FOR SIDEWALK RAMP SHALL BE EQUAL TO THE PAVEMENT THICKNESS BUT NO LESS THAN 4" AND NO MORE THAN 10". THE THICKNESS THAT IS DETERMINED SHALL BE CHIPPED OUT A DISTANCE OF NO LESS THAN 4" AND NO MORE THAN 6" MEASURED PERPENDICULAR TO THE BACK OF CURB.
  - RAMP SHALL BE TIED TO THE BACK OF THE CURB WITH #5 EPOXY COATED REBAR, 18" LONG, AT 2' MAXIMUM SPACING ACROSS THE WIDTH OF THE RAMP.
  - WHERE COMMERCIAL DRIVEWAYS ARE CONSTRUCTED AT THE ADJACENT STREET ELEVATION OR WHERE THE COMMERCIAL DRIVEWAY UTILIZES YIELD OR STOP CONTROL, DETECTABLE WARNING SURFACES SHALL BE INSTALLED AT THE JUNCTION BETWEEN THE PEDESTRIAN ROUTE AND THE VEHICULAR ROUTE.
  - EFFECTIVE DRAINAGE IS REQUIRED IN ALL AREAS OF CURB RAMP CONSTRUCTION.
  - FOR RETROFIT APPLICATIONS, RECONSTRUCT A MINIMUM LENGTH OF SIDEWALK AND CURB/GUTTER BEYOND THE RAMP AND/OR TURNING SPACE. THE SIDEWALK SHALL HAVE A DESIRABLE MAXIMUM RUNNING SLOPE OF 7.3% OR A MAXIMUM LENGTH OF 15'.



NOTE:  
THE CONTRACTOR MAY SUBSTITUTE OTHER DESIGNS FOR EXPANSION AND CONTRACTION JOINT SUPPORTS IN LIEU OF THE TYPE SHOWN WITH PRIOR WRITTEN APPROVAL BY THE ENGINEER.  
ALL JOINTS SHALL BE SEALED WITH JOINT SEALING FILLER (HOT POURED TYPES) AS PER STANDARD SPECIFICATIONS.  
THE BARS SHALL BE EPOXY COATED DEFORMED BARS.  
ALL BARS SHALL SATISFY THE BEND TEST REQUIREMENTS FOR STRUCTURAL GRADE BILLET STEEL IN ACCORDANCE WITH THE SPECIFICATIONS.  
THE CONTRACTOR MAY USE A MACHINE FOR PLACING THE LONGITUDINAL TIE BARS IN LIEU OF THE TIE BAR PINS IF A MECHANICAL TIE BAR PLACEMENT MACHINE IS NOT USED. THE BAR PINS AS SHOWN WILL BE USED.



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NO.	DATE	DESCRIPTION

**REVISIONS**

**DETAILS**

**ETMUND ESTATES 2ND ADDITION**

**HICKMAN, NEBRASKA**

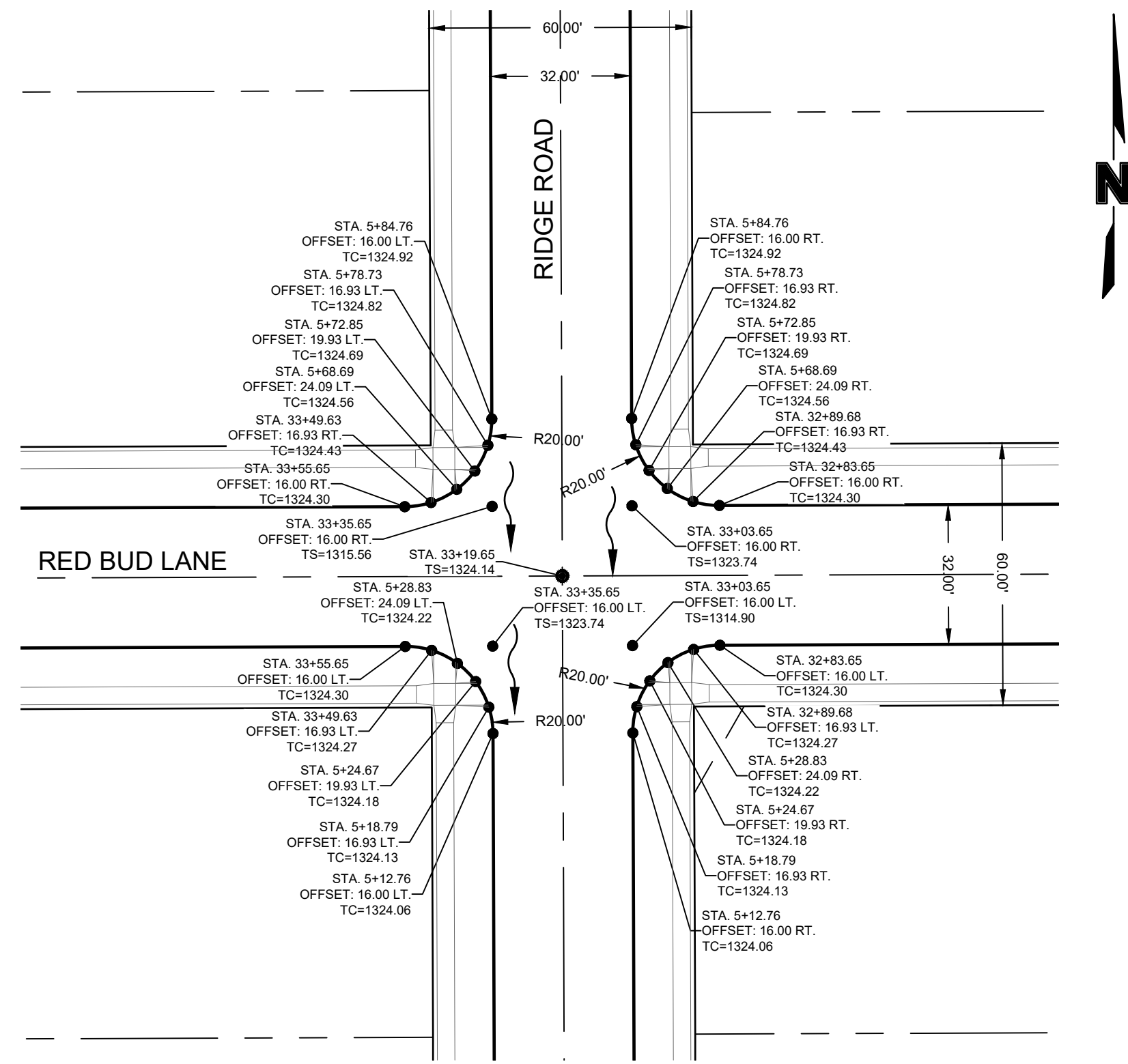
2025

drawn by: ZKW  
checked by: JDC  
approved by: JDC  
project no.: 2025-0012  
date: 5/22/2025

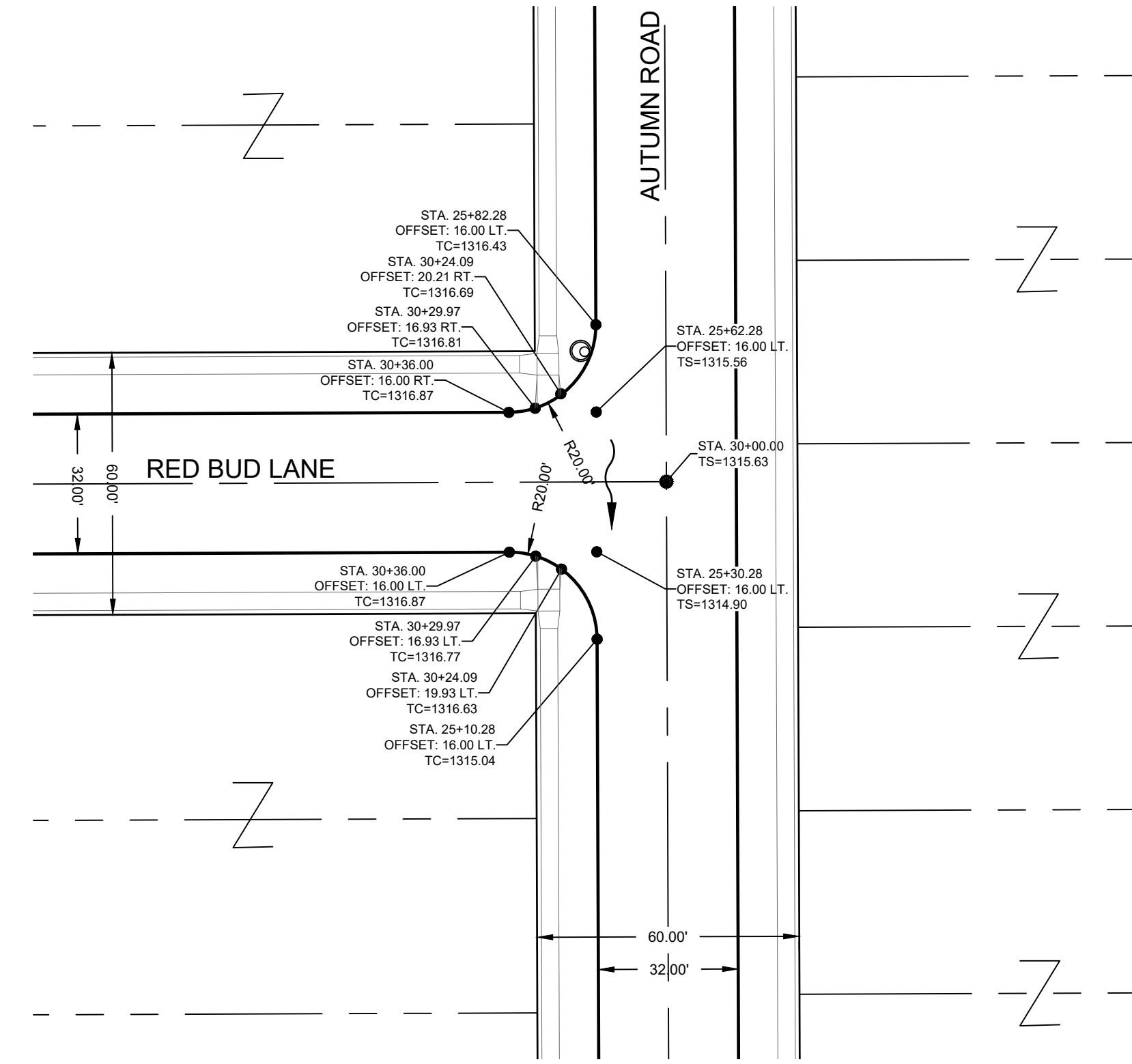




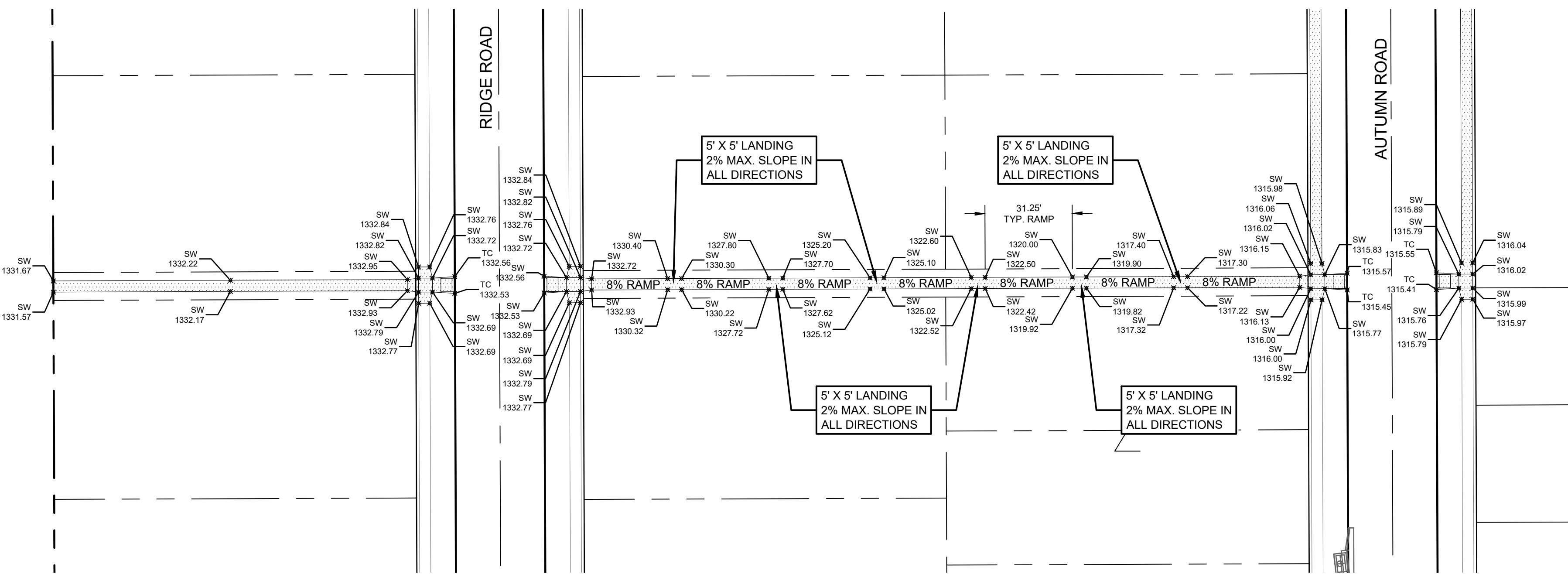




**RED BUD LANE & RIDGE ROAD  
INTERSECTION DETAIL**  
SCALE: 1"=30'



**RED BUD LANE & AUTUMN ROAD  
INTERSECTION DETAIL**  
SCALE: 1"=30'

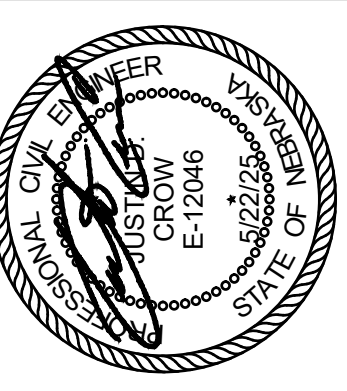


**OUTLOTS 'A' & 'F' SIDEWALK DETAIL**  
SCALE: 1"=30'

ALL 8% RAMPS SHALL  
HAVE HANDRAILS PER  
LSP - 650

BWC: F:\Projects\2025\20250012\Landplanning\Design\250012\_Paving.dwg  
 DATE: May 22, 2025 4:05pm  
 USER: jrcw  
 XREFS: 250012\_XBase  
 250012\_Base  
 250012\_Background

**Civil Design Group, Inc.**  
 8535 EXECUTIVE WOODS DR., SUITE 200  
 LINCOLN, NEBRASKA 68512  
 Ph: 402-334-8494 Fax: 866-215-8747  
 NE Certificate of Authorization: CA-1648

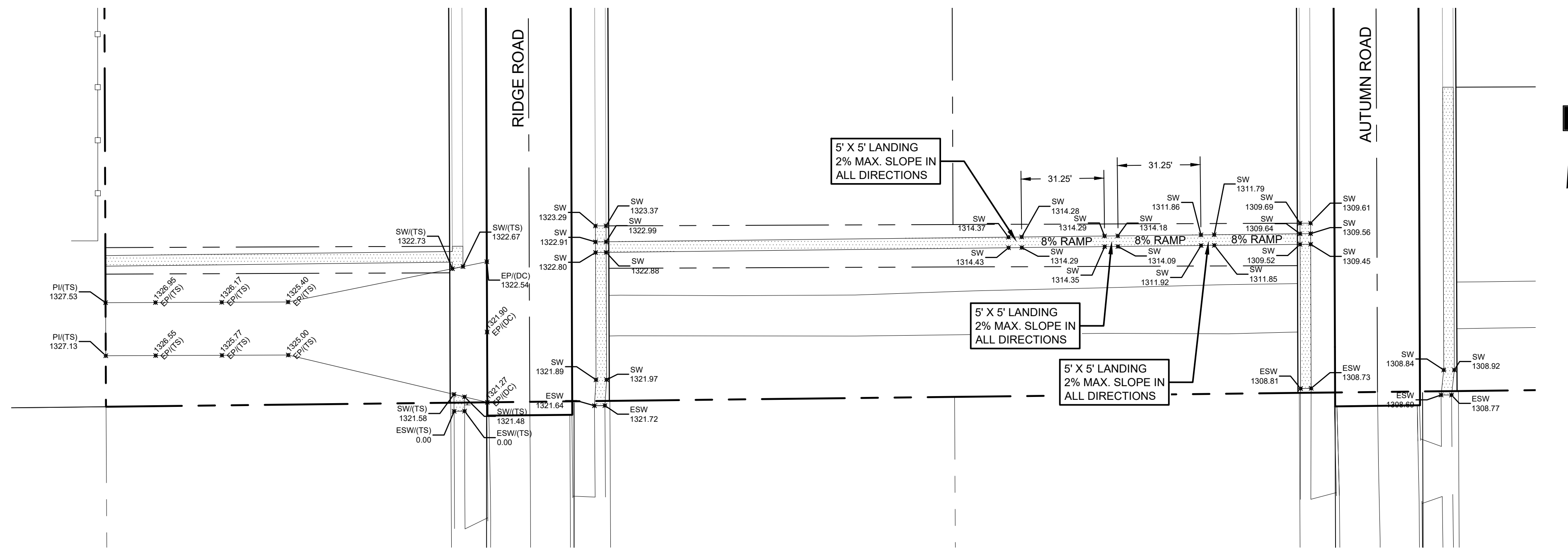


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 CIVIL DESIGN • SITE DEVELOPMENT • PLANNING AND ZONING

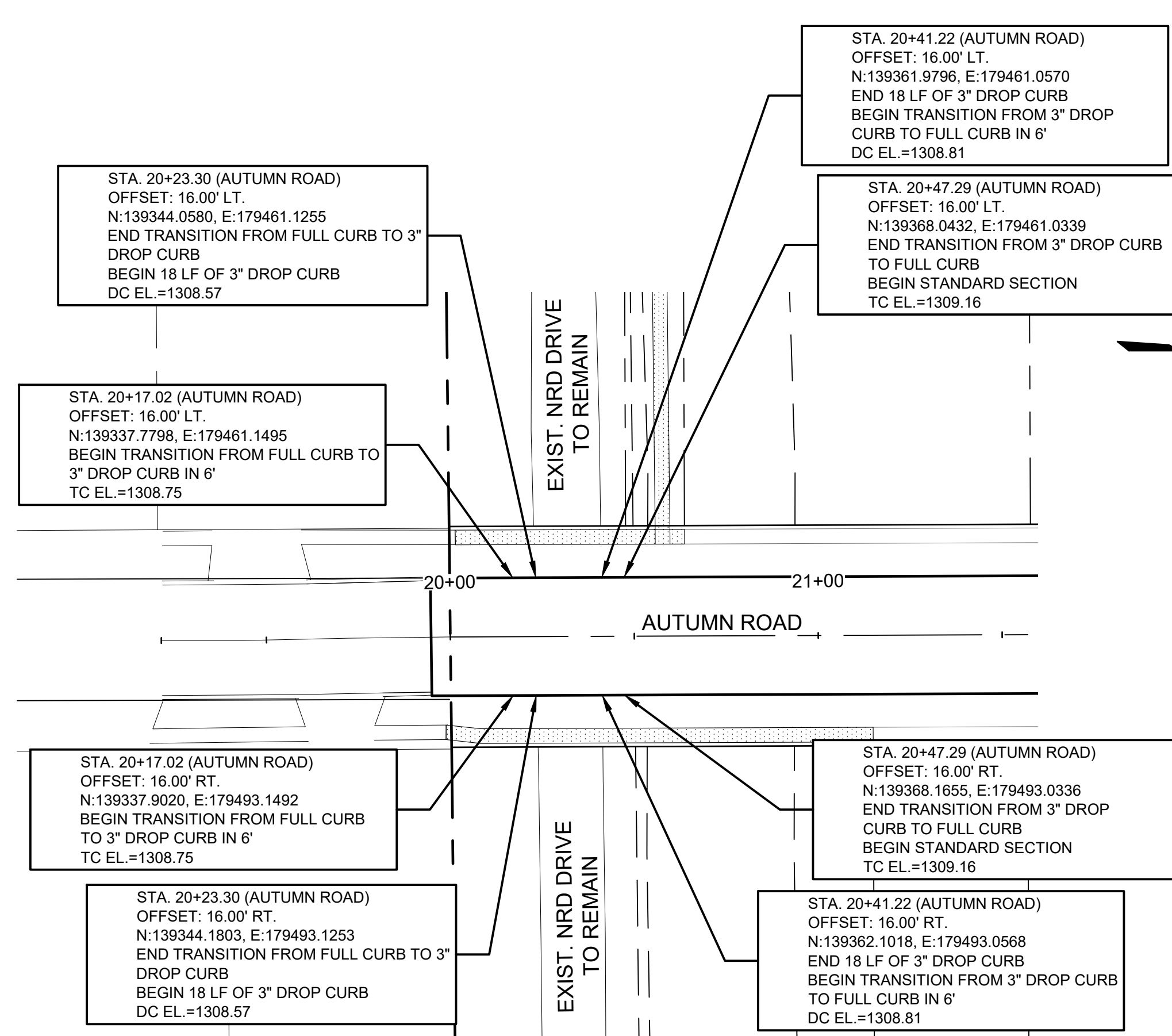
REVISIONS	
NO.	DESCRIPTION

**INTERSECTION & SIDEWALK DETAILS**  
**ETMUND ESTATES 2ND ADDITION**  
**HICKMAN, NEBRASKA**  
 2025

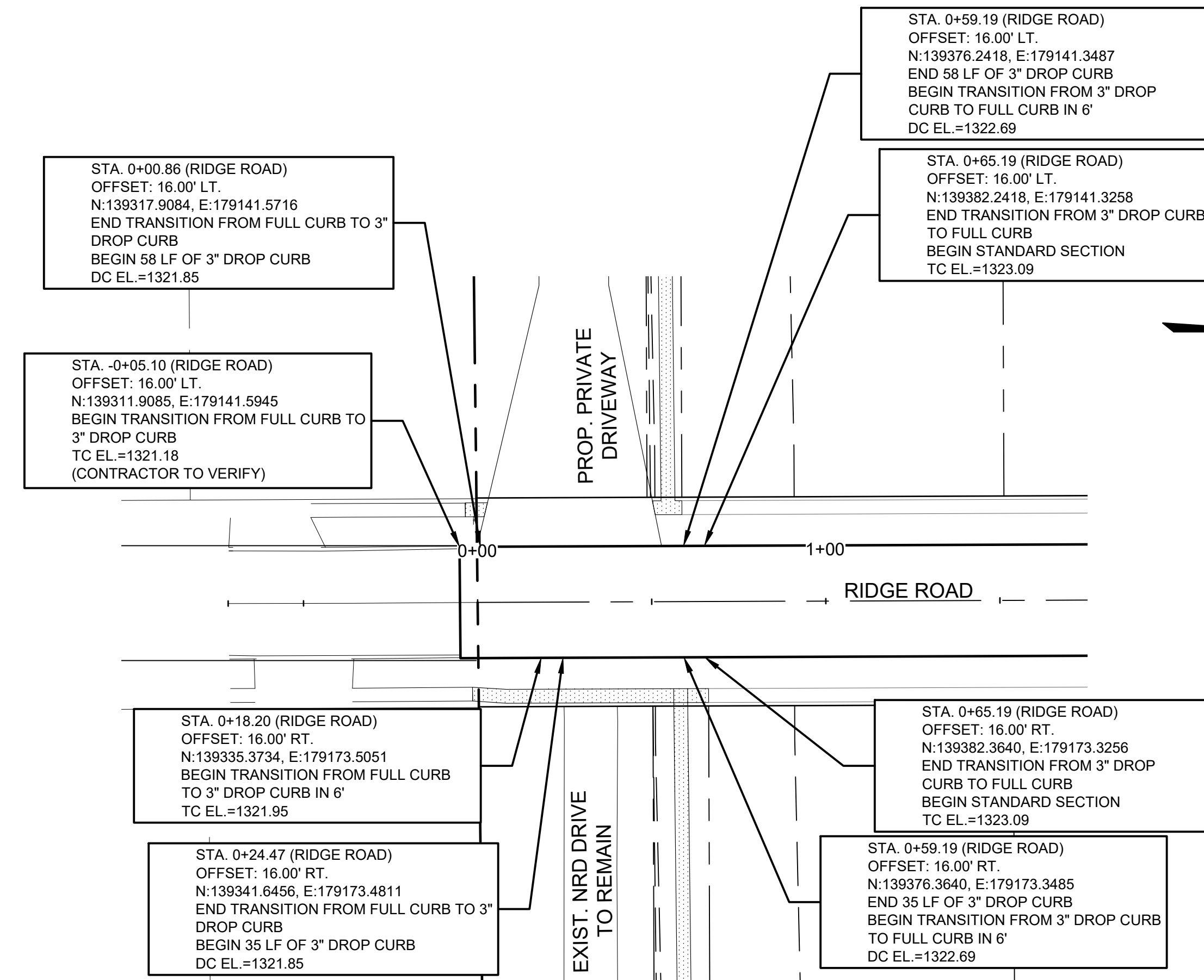
drawn by: ZKW  
 checked by: JDC  
 approved by: JDC  
 project no.: 2025-0012  
 date: 5/22/2025



COLE DRIVEWAY & OUTLOT 'E' SIDEWALK DETAIL  
SCALE: 1"=30'

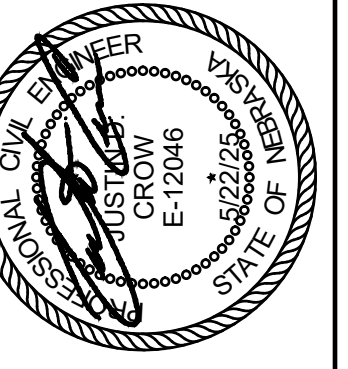


AUTUMN ROAD CURB TRANSITION DETAIL  
SCALE: 1"=30'



RIDGE ROAD CURB TRANSITION DETAIL  
SCALE: 1"=30'

USER: jrcrow 250012 Background  
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REVISIONS	
NO.	DESCRIPTION

INTERSECTION & SIDEWALK DETAILS	2025
ETMUND ESTATES 2ND ADDITION	
HICKMAN, NEBRASKA	

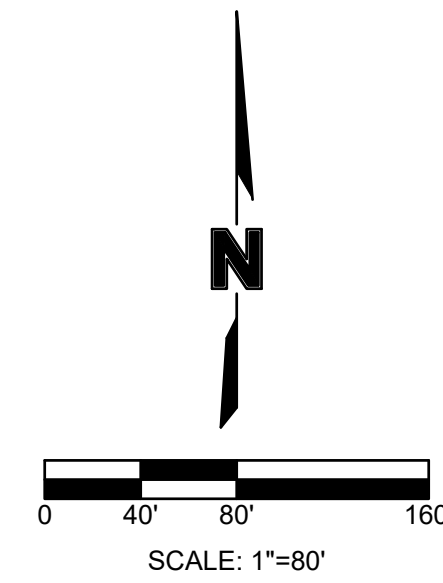
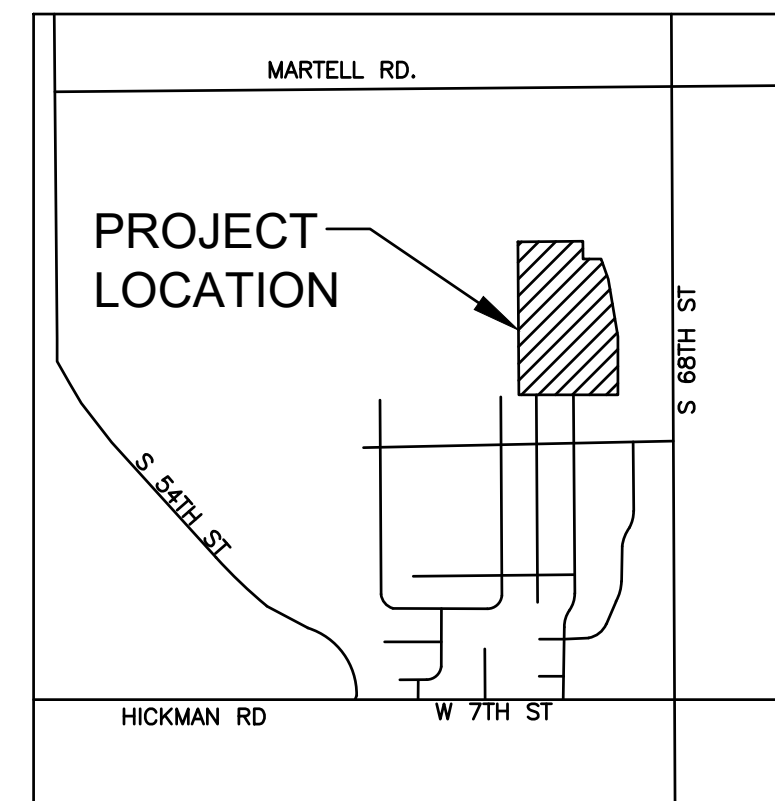
STORM DRAINAGE SCHEDULE OF APPROXIMATE QUANTITIES			
ITEM NO.	STANDARD ITEM DESCRIPTION	UNIT	QUANTITY
21.03315	RCP STORM SEWER, CL III, 15"	LF	813
21.03318	RCP STORM SEWER, CL III, 18"	LF	770
21.03324	RCP STORM SEWER, CL III, 24"	LF	200
21.07015	STORM SEWER MH, 15" - 30"	EA	4
21.08001	STORM SEWER INLET, 72"	EA	6
21.08002	CANTED STORM SEWER INLET, 72"	EA	5
21.12215	RC FES, 15"	EA	1
21.12218	RC FES, 18"	EA	2
21.12224	RC FES, 24"	EA	1
21.14002	RIP-RAP W/FILTER FABRIC	TON	69.7
50.00001	NYLOPLAST 2' X 3' ROLL CURB INLET WITH HIGH FLOW GRATE (RIGHT FLOW DIRECTION)	EA	2

**STORM SEWER GENERAL NOTES**

- FOR DETAILS OF PIPE BEDDING, SEE DETAIL SHEET.
- FOR DETAILS OF STORM SEWER CONSTRUCTION, REFERENCE THE SPECIFICATIONS PREPARED FOR THIS PROJECT.
- FOR DETAILS OF STORM SEWER INLETS, REFERENCE THE DETAIL SHEET.
- FOR DETAILS OF CONCRETE COLLARS AND ELBOWS, REFERENCE THE SPECIFICATIONS PREPARED FOR THIS PROJECT AND DETAIL SHEET.
- FOR DETAILS OF FLARED-END SECTIONS, REFERENCE THE SPECIFICATIONS PREPARED FOR THIS PROJECT AND DETAIL SHEET.
- ALL STATIONING AND DIMENSIONS ARE TO BE CENTERLINE OF VAULT UNLESS OTHERWISE NOTED.

# ETMUND ESTATES 2ND ADDITION

## PUBLIC STORM SEWER



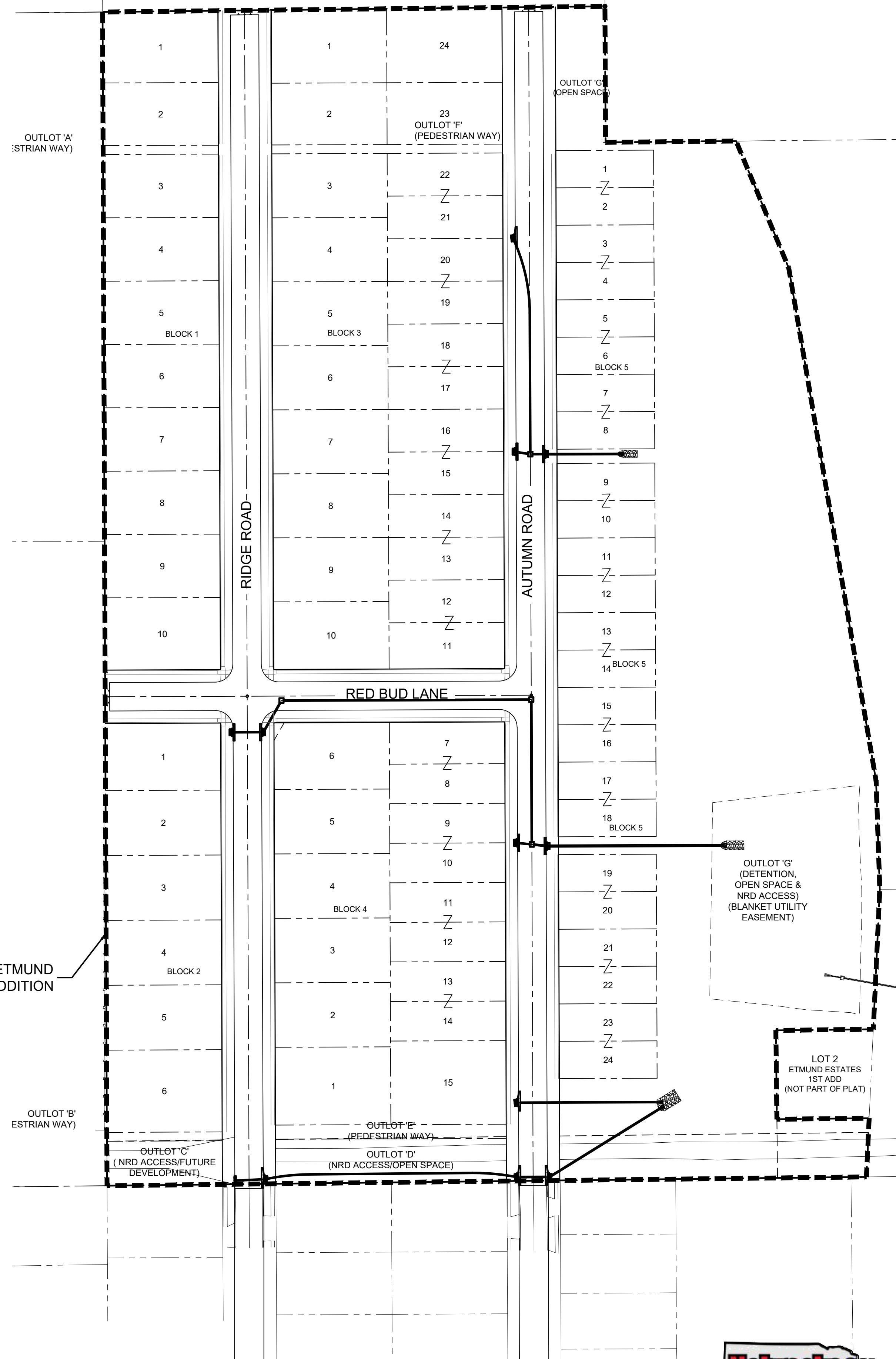
STORM SEWER SHEET INDEX	
SHEET NO.	SHEET DESCRIPTION
1	PUBLIC STORM SEWER COVER
2	DETAILS
3	PLAN & PROFILE
4	PLAN & PROFILE
5	PLAN & PROFILE

**CONTROL POINTS**

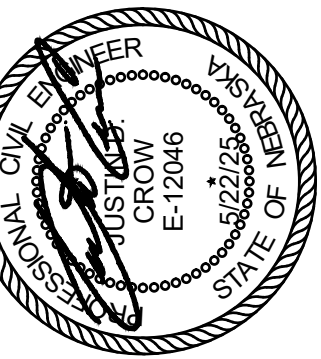
ALL CONTROL POINTS ARE IN LANCASTER COUNTY COORDINATE SYSTEM AND NAVD 88 DATUM.

- 3/4" REBAR  
N:139381.4465, E:179021.3468  
ELEV.=1327.92
- 5/8" REBAR  
N:140464.3493, E:178997.5254  
ELEV.=1331.47
- CHISELED 'X' IN CONCRETE POST  
N:140488.9379, E:179558.8000  
ELEV.=1309.73
- 3/8" REBAR  
N:139419.5521, E:179864.8410  
ELEV.=1292.26

LIMITS OF ETMUND ESTATES 2ND ADDITION



CALL 811 OR 1-800-331-5666 PRIOR TO ANY EXCAVATION OR LAND DISTURBANCE TO HAVE EXISTING UNDERGROUND AND OVERHEAD UTILITIES LOCATED AND MARKED.



Civil Design Group, Inc.  
8535 EXECUTIVE WOODS DR., SUITE 200  
LINCOLN, NEBRASKA 68512  
Ph: 402-434-8494 Fax: 866-215-8747  
NE Certificate of Authorization: CA-1648  
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**REVISIONS**

NO.	DATE	DESCRIPTION

PUBLIC STORM SEWER COVER

ETMUND ESTATES 2ND ADDITION

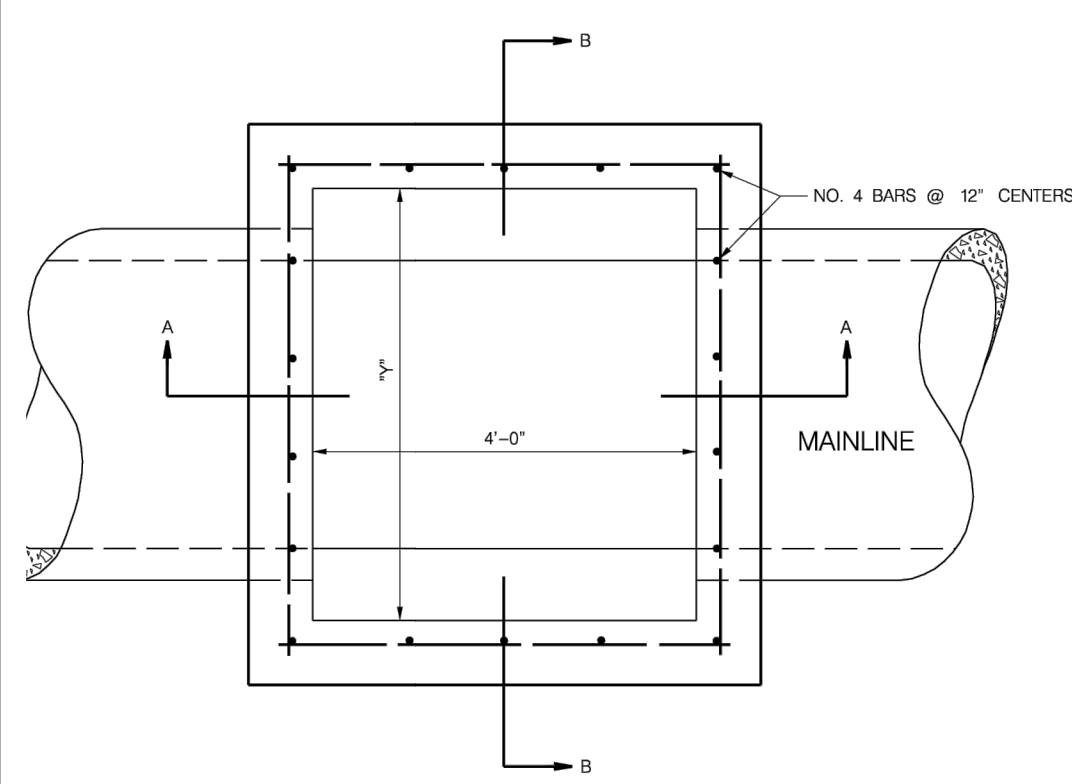
HICKMAN, NEBRASKA

2025

drawn by: ZKW  
checked by: JDC  
approved by: JDC  
project no.: 2025-0012  
date: 5/13/2025

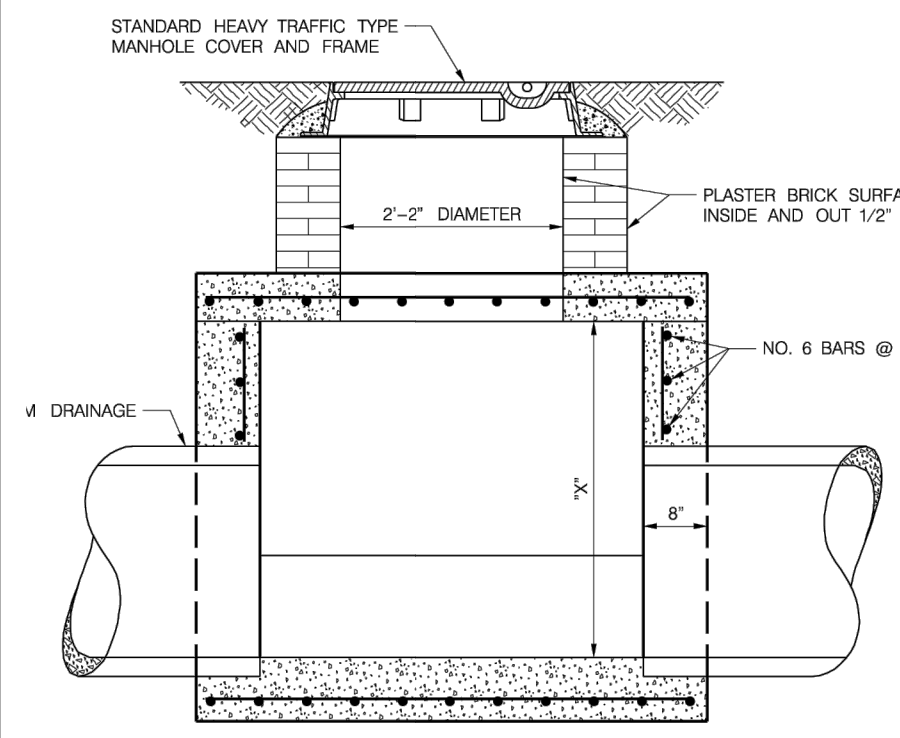
**SHEET  
1 OF 5**

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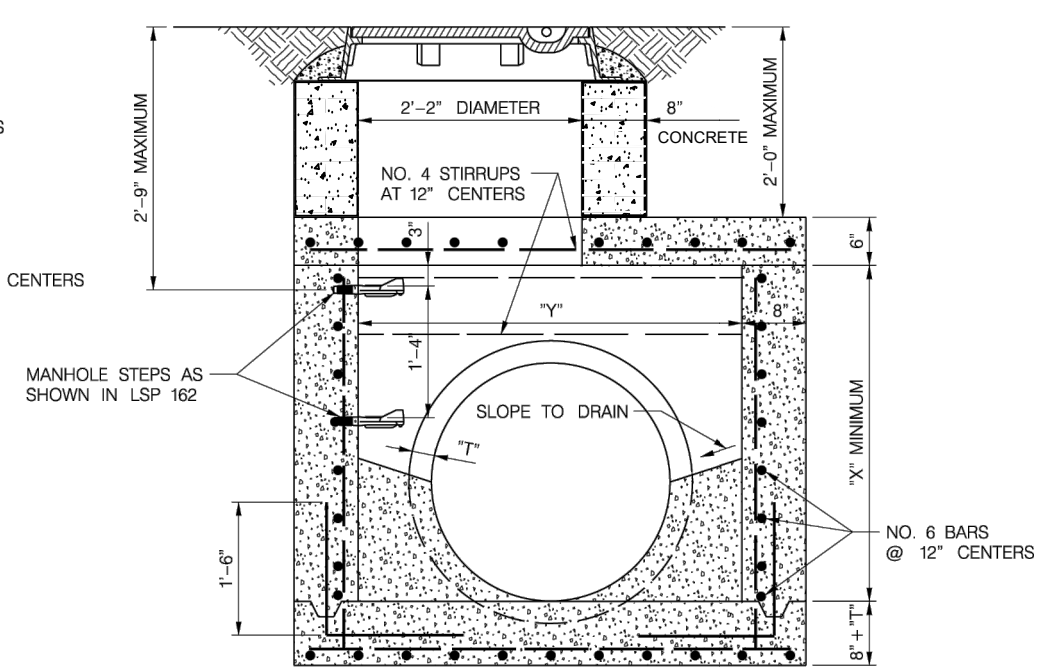


PIPE DIAMETER	PIPE WALL THICKNESS-T" (MINIMUM)	"X" (MINIMUM)	"Y"
18"-30" INC.	3 1/2"	VARIES	4'-6"
36"	4"	3'-9"	5'-0"
42"	4 1/2"	4'-0"	5'-6"
48"	5"	4'-5"	6'-0"
54"	5 1/2"	5'-0"	6'-6"
60"	6"	5'-6"	7'-0"
66"	6 1/2"	6'-1"	7'-6"
72"	7"	6'-7"	8'-3"
78"	7 1/2"	7'-2"	8'-9"

STANDARD PROCEDURES:  
 FOR MANHOLES IN PAVEMENT, PLACE STEPS IN WALL FARTHEST FROM GUTTER. FOR MANHOLES BEHIND CURBS, PLACE STEPS FARTHEST FROM BACK OF CURB.  
 "Y" IS BASED ON THE LARGEST PIPE IN OR OUT

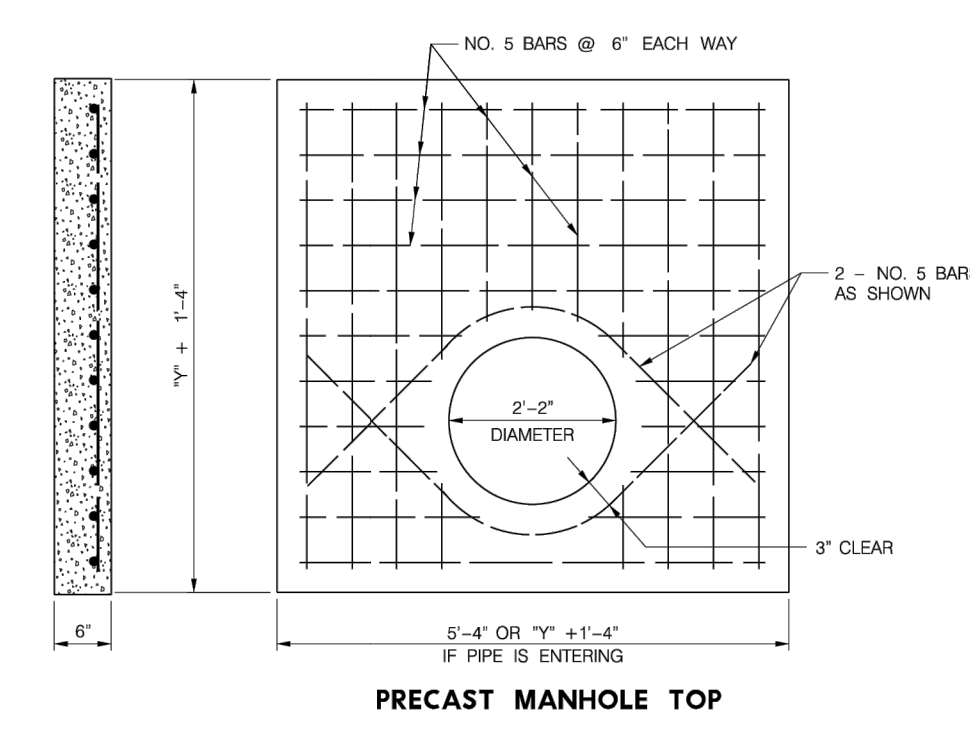


SECTION A-A



SECTION B-B

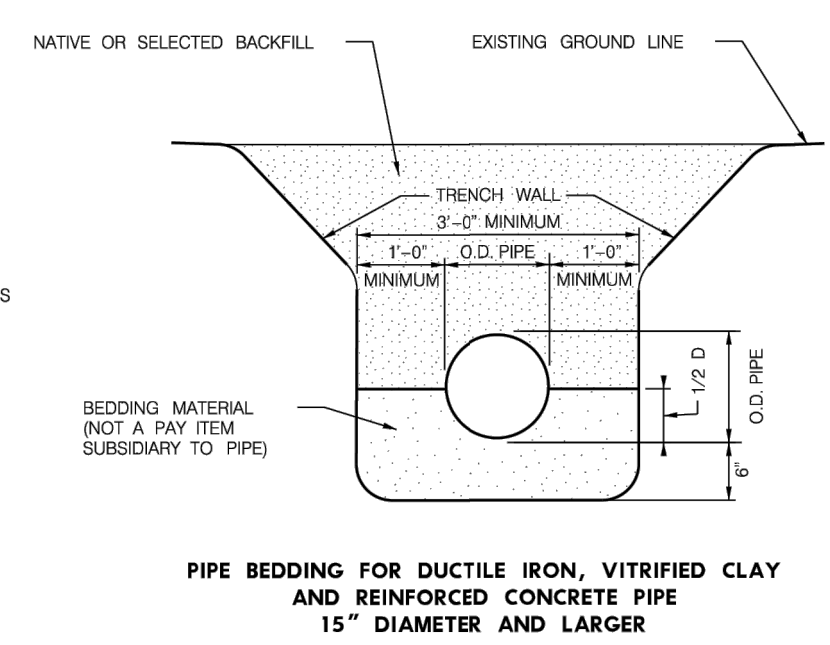
STORM DRAINAGE MANHOLES, TYPE 'M-1'



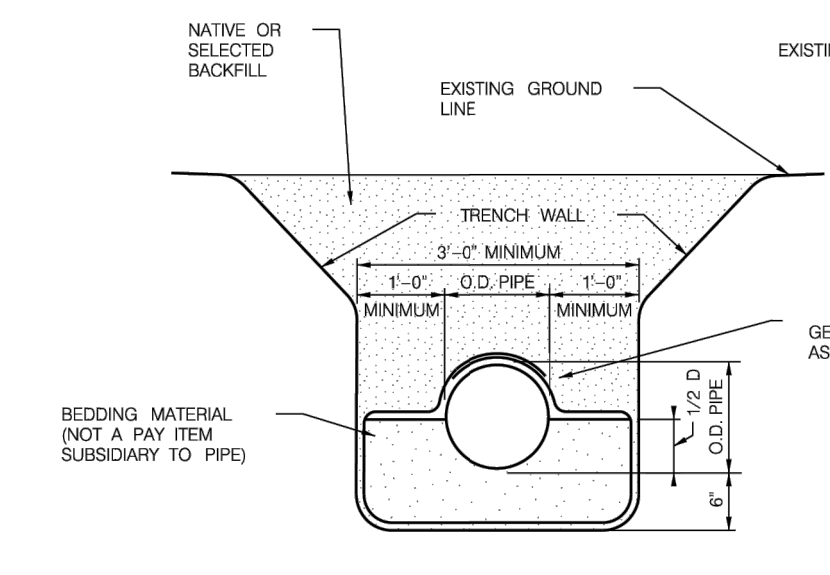
PRECAST MANHOLE TOP

GENERAL NOTES:

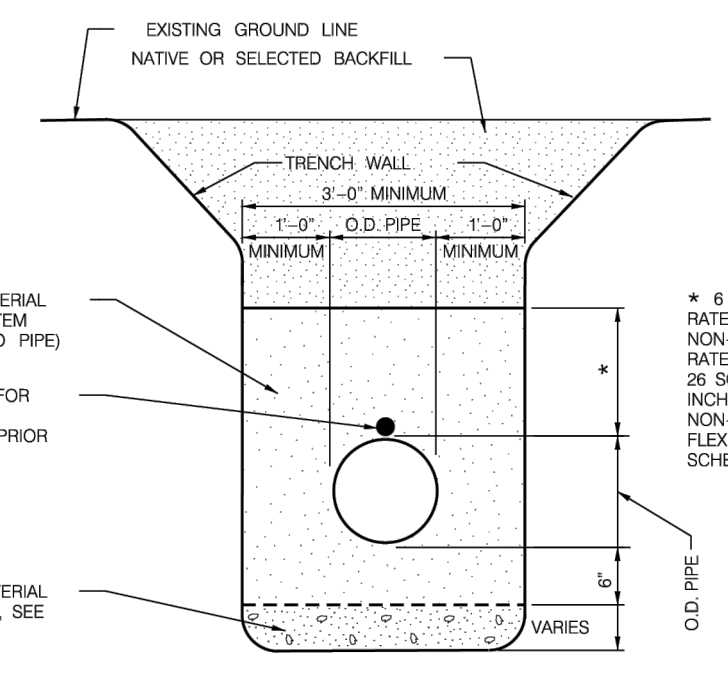
- ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM SERIAL DESIGNATION A-305-507 AND SHALL SATISFY THE BEND TEST REQUIREMENTS FOR STRUCTURAL GRADE STEEL IN ACCORDANCE WITH THE REQUIREMENTS.
- ALL CONCRETE SHALL BE L3500
- MINIMUM DEPTH OF EMBEDMENT FOR REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE INDICATED.
- THE CAST IRON MANHOLE RING AND COVER SHALL BE SET IN A BED OF MORTAR, AND CAREFULLY ADJUSTED TO PROPOSED GRADE.
- MANHOLE RING AND COVER SHALL BE CITY OF LINCOLN HEAVY TRAFFIC TYPE.
- MANHOLE STEPS SHALL BE CITY OF LINCOLN STANDARD MANHOLE STEPS.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED.



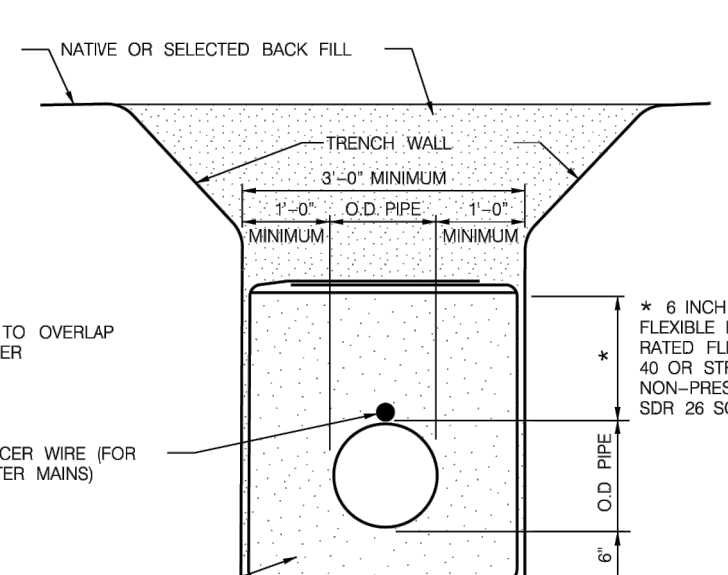
PIPE BEDDING FOR DUCTILE IRON, VITRIFIED CLAY AND REINFORCED CONCRETE PIPE 15" DIAMETER AND LARGER



PIPE BEDDING FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE 15" DIAMETER AND LARGER WITH GEO-TEXTILE FABRIC

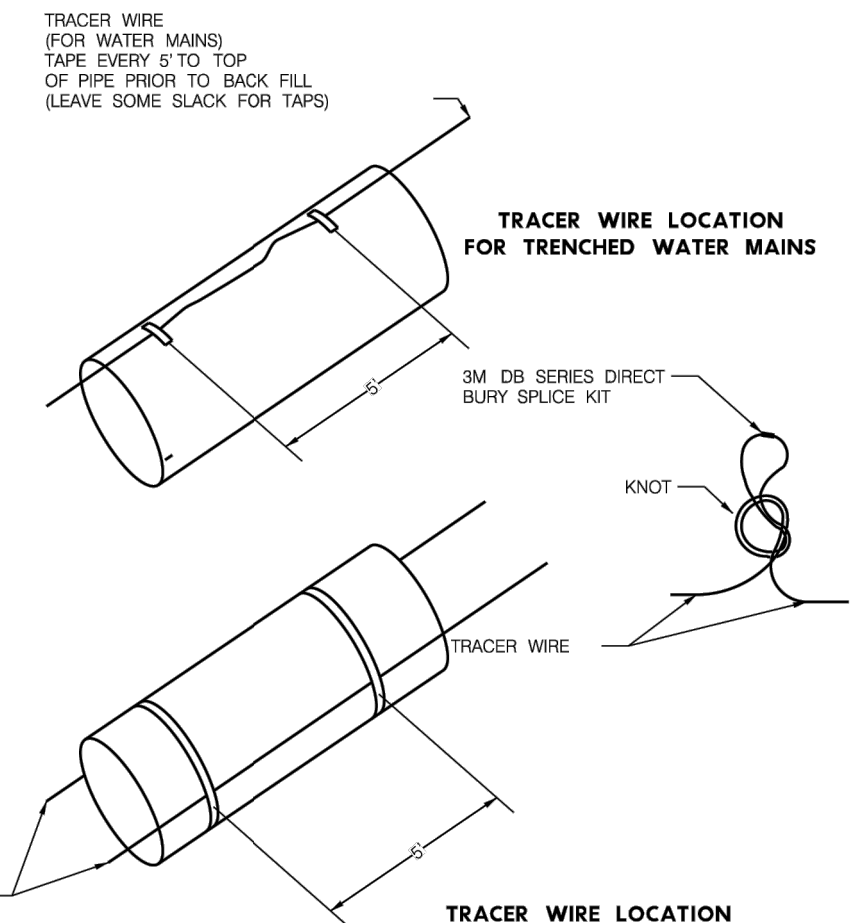


PIPE BEDDING AND FOUNDATION MATERIAL FOR ALL PIPE EXCEPT DUCTILE IRON, VITRIFIED CLAY, AND REINFORCED CONCRETE



PIPE BEDDING AND FOUNDATION MATERIAL FOR ALL PIPE EXCEPT DUCTILE IRON AND REINFORCED CONCRETE WITH GEO-TEXTILE FABRIC

PIPE BEDDING

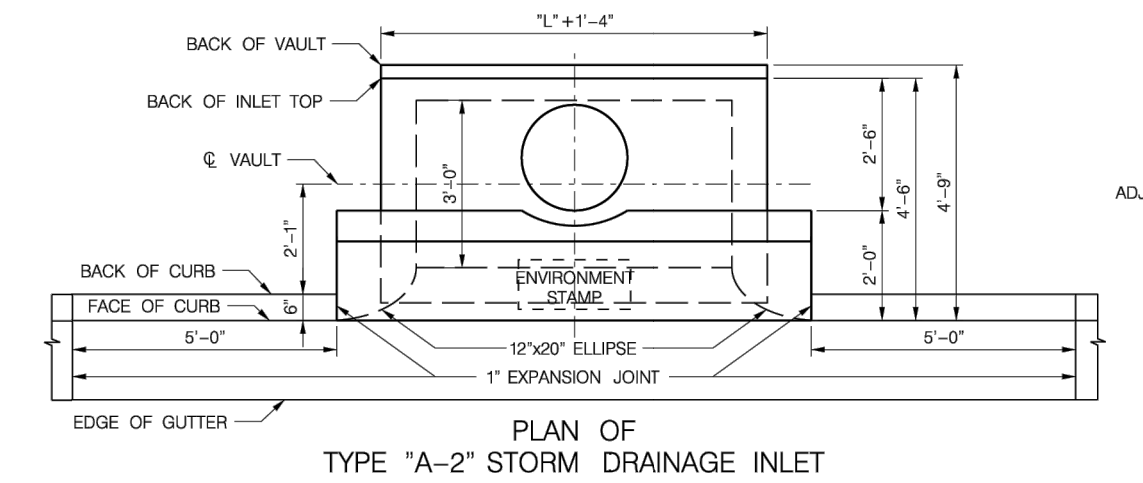


TRACER WIRE LOCATION FOR TRENCH WATER MAINS

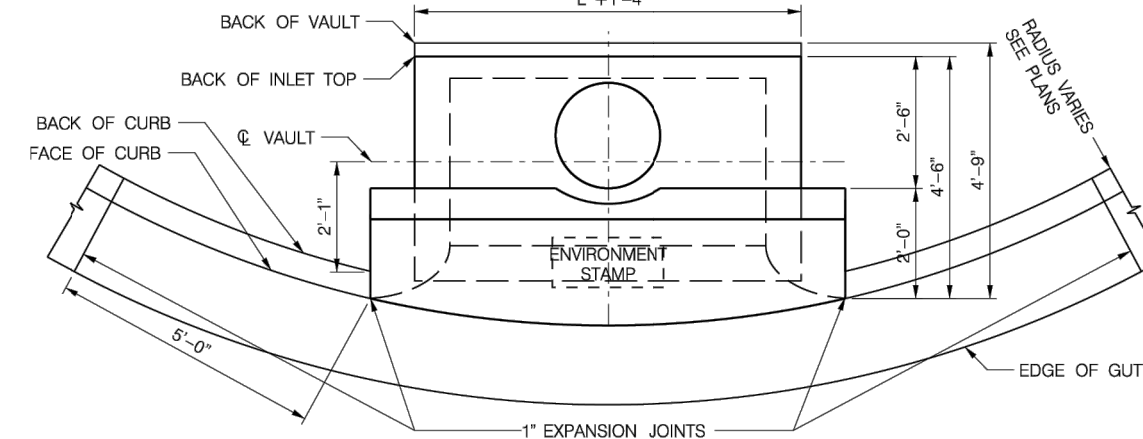
TRACER WIRE LOCATION FOR WATER MAIN BORED IN PLACE

GENERAL NOTES:

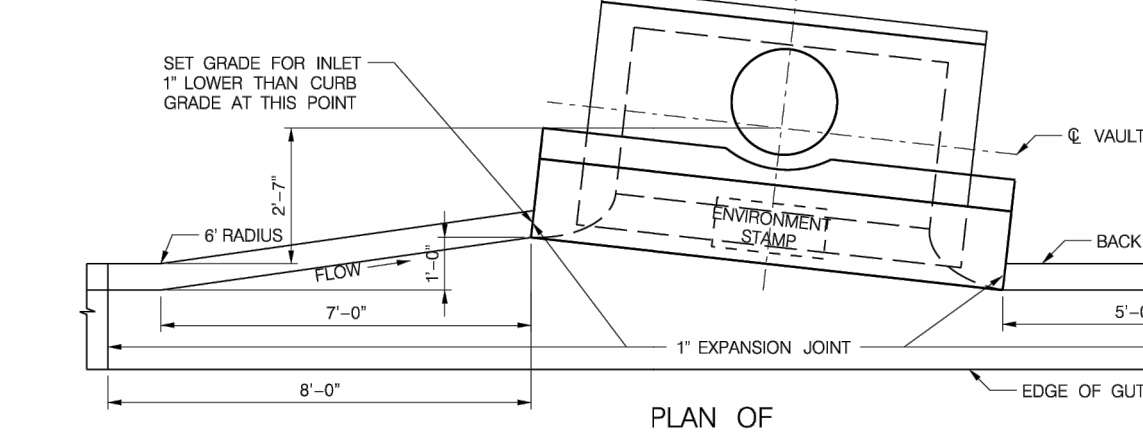
- 1. WHEN "FOUNDATION MATERIAL" IS REQUIRED/APPROVED BY THE CONTRACT ADMINISTRATION, IT SHALL BE PAID AT AN AGREED UNIT PRICE OF \$50 PER CUBIC YARD INSTALLED, BASED ON THE INCREASED DIMENSIONS OF THE MATERIAL ADDED TO STABILIZE THE TRENCH BOTTOM.
- 2. WHEN REQUIRED BY THE CITY'S PROJECT MANAGER, WATER SHALL BE ADDED TO THE MATERIAL EXCAVATED FROM THE TRENCH WHEN NECESSARY TO MEET SPECIFICATIONS. DURING COMPACTION, AT THE AGREED UNIT PRICE OF \$50 PER 100 CUBIC FEET OF WATER APPLIED TO COMPLETE THE COMPACTION.
- 3. WIRE SPLICES SHALL BE 3M DBR CONNECTORS, SEALED WITH SILICONE SEALANT OR EQUAL AND COVERED WITH SCOTCH #38 ELECTRICAL TAPE.



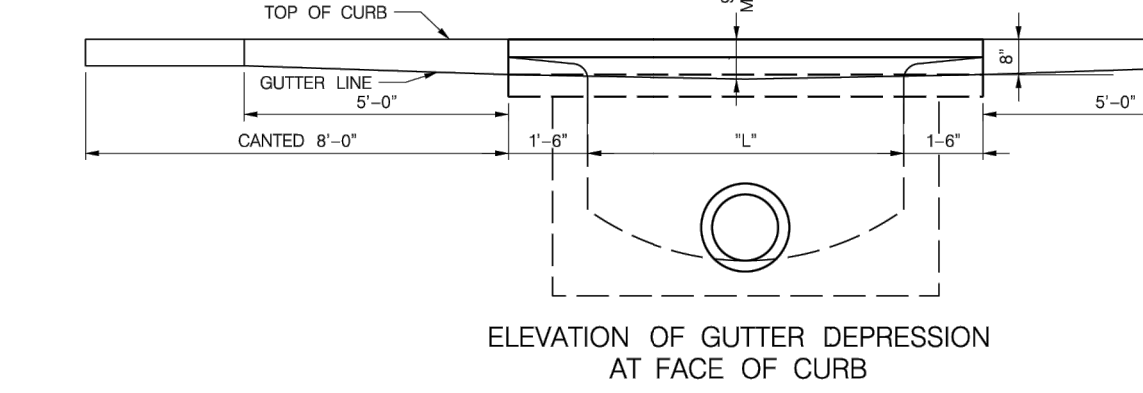
PLAN OF TYPE 'A-2' STORM DRAINAGE INLET



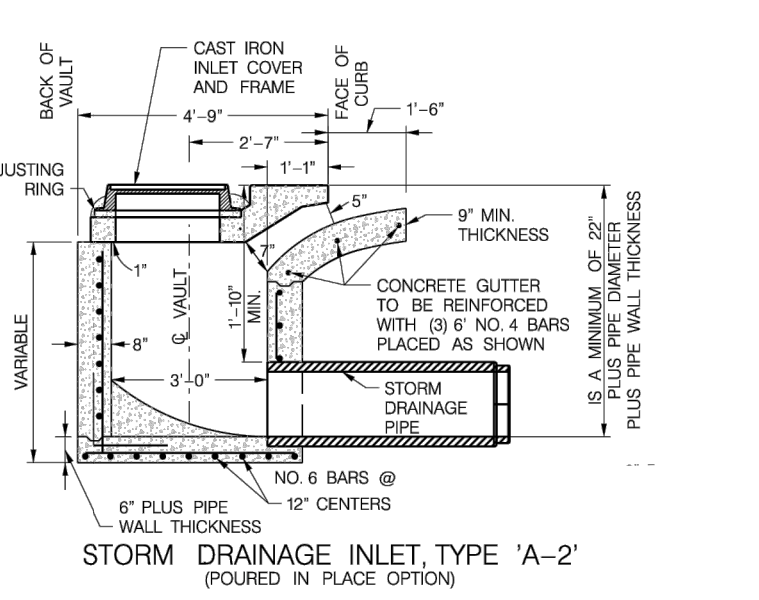
PLAN OF TYPE 'A-2' RADIUS STORM DRAINAGE INLET



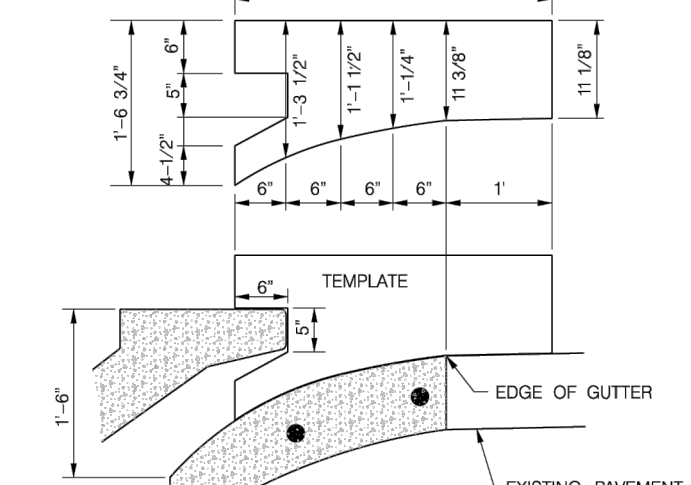
PLAN OF TYPE 'A-2' CANTED STORM DRAINAGE INLET



ELEVATION OF GUTTER DEPRESSION AT FACE OF CURB



STORM DRAINAGE INLET, TYPE 'A-2' (POURED IN PLACE OPTION)

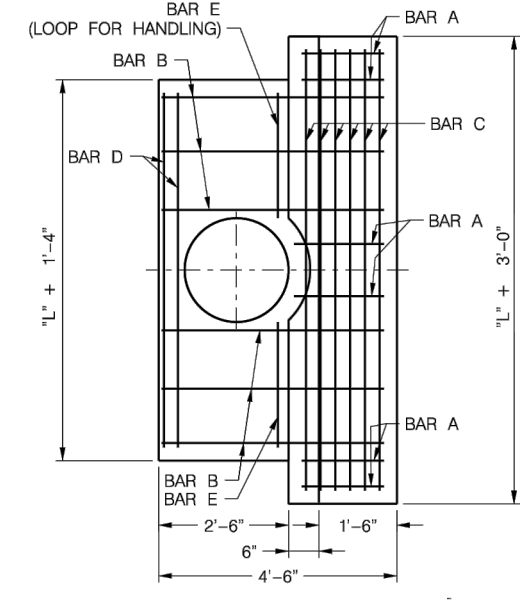


INLET THROAT DEPRESSION TEMPLATE (1/4" PLYWOOD)

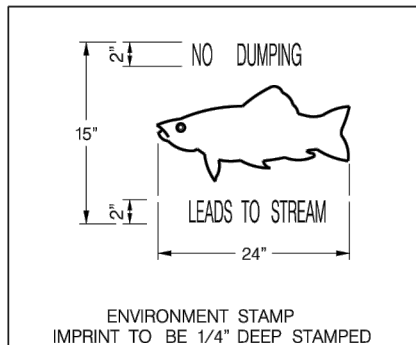
GENERAL NOTES:

- 1. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO A.S.T.M SERIAL DESIGNATION A-305-507 AND SHALL SATISFY THE BEND TEST REQUIREMENTS FOR STRUCTURAL GRADE STEEL IN ACCORDANCE WITH THE REQUIREMENTS.
- 2. MINIMUM DEPTH OF EMBEDMENT FOR REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE INDICATED.
- 3. ALL CONCRETE SHALL BE L3500.
- 4. INLET TOP SHALL BE PRECAST UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- 5. EACH INLET TOP SHALL INCLUDE A CAST IRON INLET COVER AND FRAME.
- 6. EACH INLET SHALL INCLUDE LENGTH OF CURBS AS FOR SPECIFICATIONS.
- 7. CURB GUTTER AND GUTTER LINE ON EACH SIDE OF THE INLET TOP SHALL BE TRANSITIONED GRADUALLY TO THE INLET THROAT IN NO LESS THAN 5 FEET.
- 8. CONCRETE GUTTER DEPRESSION AT THE INLET THROAT OPENING SHALL BE CONSTRUCTED PER INLET THROAT DEPRESSION DETAIL.
- 9. INLET TOP SHALL BE PLACED SUCH THAT A MINIMUM OF 5" INLET THROAT OPENING IS ESTABLISHED PER DETAILS.
- 10. INLET TOP SHALL BE PLACED IN A MANNER THAT MINIMIZES INTERFERENCE WITH SNOW PLOW OPERATIONS. THE FACES OF ALL INLET TOPS SHALL IN NO INSTANCE PROTRUDE BEYOND THE NORMAL GUTTER LINE OR ADJACENT CURB FACES.
- 11. CURB FACES SHALL BE TRANSITIONED GRADUALLY AND UNIFORMLY TO THE INLET TOP FACE WITHIN 2 FEET OF THE INLET TOP.
- 12. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
- 13. THE CAST IRON INLET COVER AND FRAME SHALL BE SET IN A BED OF MORTAR, AND CAREFULLY ADJUSTED TO THE PROPOSED GRADE.
- 14. THE CONCRETE GUTTER ALONG THE ENTIRE LENGTH OF THE INLET OPENING SHALL BE CONSTRUCTED TO FORM THE INLET THROAT. THE INLET THROAT SHALL BE GRADUALLY DEPRESSED FROM THE EDGE OF GUTTER TO THE INLET THROAT PER INLET THROAT DEPRESSION TEMPLATE DETAIL.
- 15. CONTRACTOR SHALL USE INLET THROAT DEPRESSION TEMPLATE HELD AGAINST THE UPPER FRONT EDGE OF INLET, TO ENSURE ADEQUATE INLET THROAT DEPRESSION ALONG THE INLET OPENING.

SCHEDULE OF REINFORCEMENT FOR PRECAST CONCRETE INLET TOP				
BAR	SHAPE	INLET OPENING = "L"		
		No.	Length	
A	8	6	1'-9 1/2"	
B	8	10	4'-6"	
C	8	4	8'-9"	
D	2	4	7'-0"	
E	8	2	4	3'-0"



PLAN & SECTION OF PRECAST REINFORCED CONCRETE INLET TOP



ENVIRONMENTAL STAMP

REVISIONS

NO.	DATE	DESCRIPTION

DETAILS

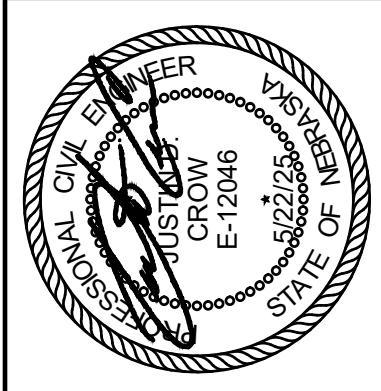
ETMUND ESTATES 2ND ADDITION

HICKMAN, NEBRASKA

drawn by: ZKW  
 checked by: JDC  
 approved by: JDC  
 project no.: 2025-0012  
 date: 5/13/2025

BWC: F:\Projects\2025\20250012 Landplanning\Design\250012 Storm.dwg USER: jrow 250012 Base  
 DATE: May 22, 2025 4:04pm XREFS: 250012 Background 250012 Base

Civil Design Group, Inc.  
 8535 EXECUTIVE WOODS DR., SUITE 200  
 LINCOLN, NEBRASKA 68512  
 Ph: 402-334-8494 Fax: 866-215-8747  
 NE Certificate of Authorization: CA-1648

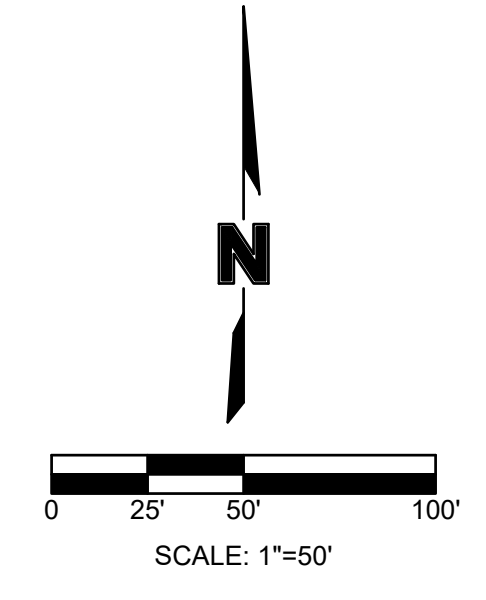
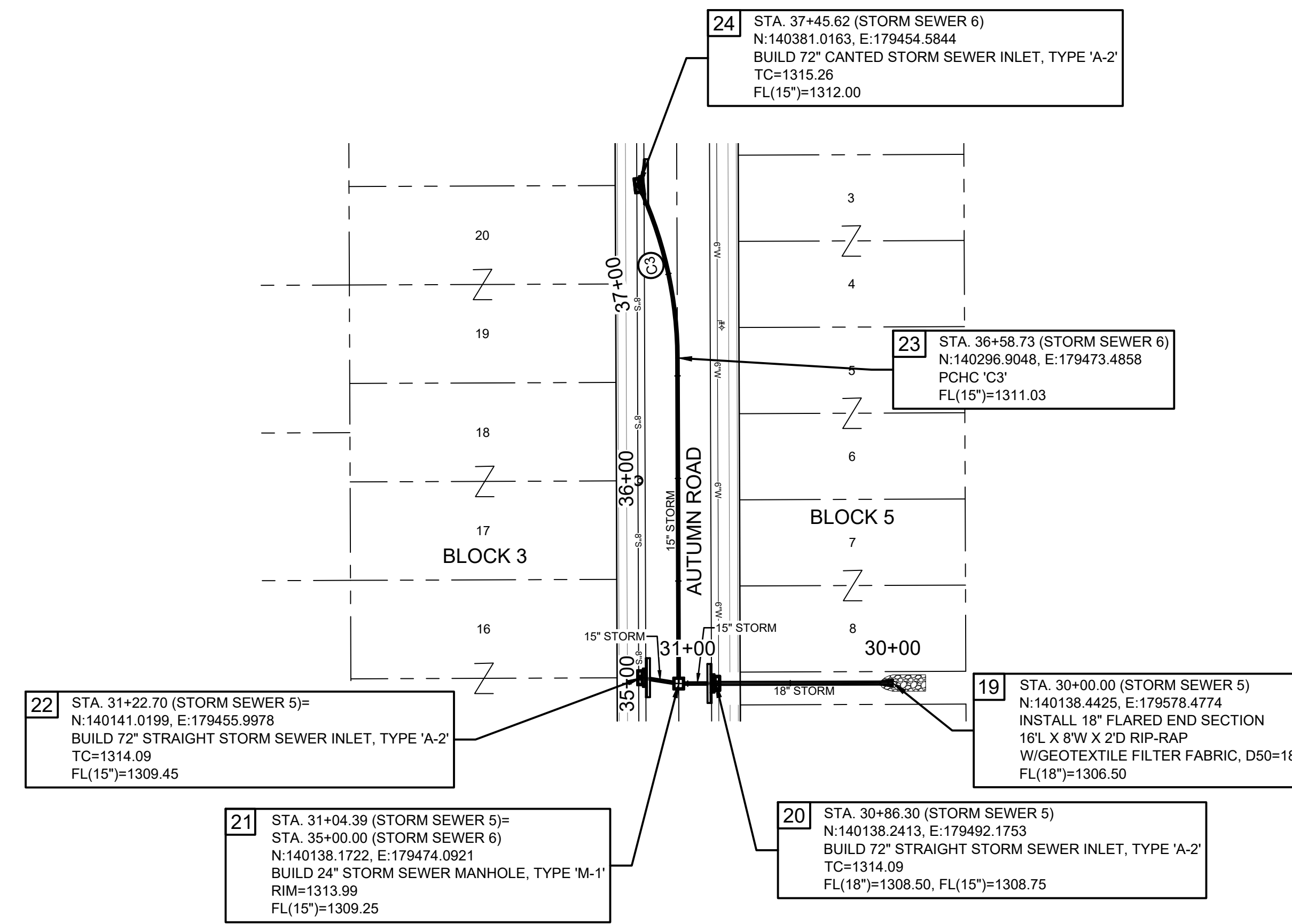


CONSULTING ENGINEERS AND LAND USE PLANNERS  
 CIVIL DESIGN • SITE DEVELOPMENT • PLANNING AND ZONING



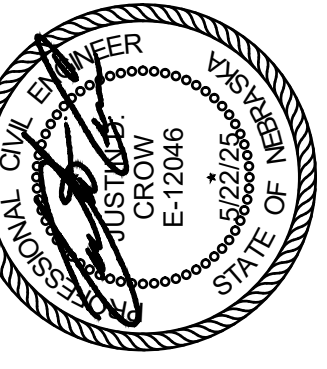
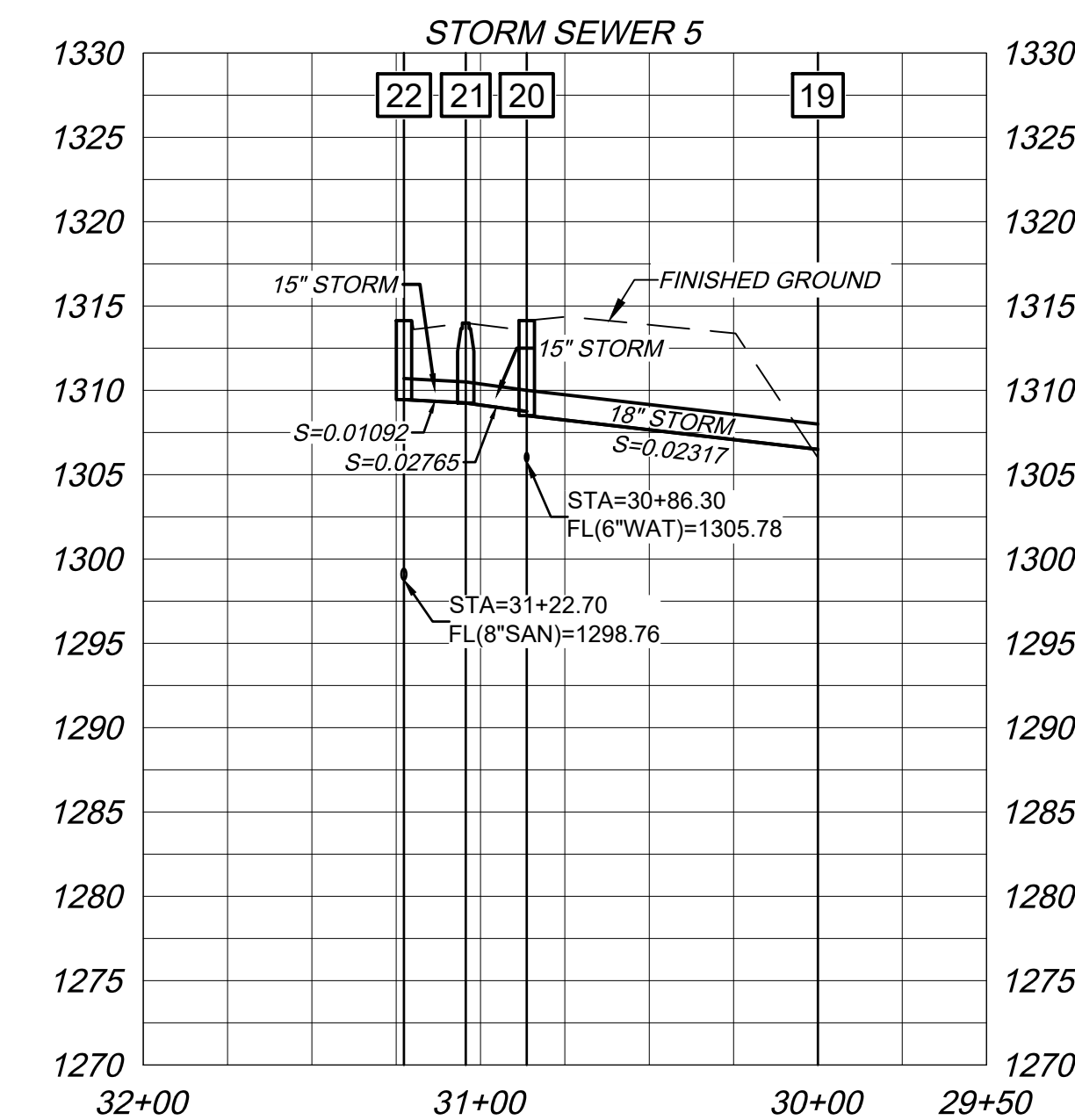
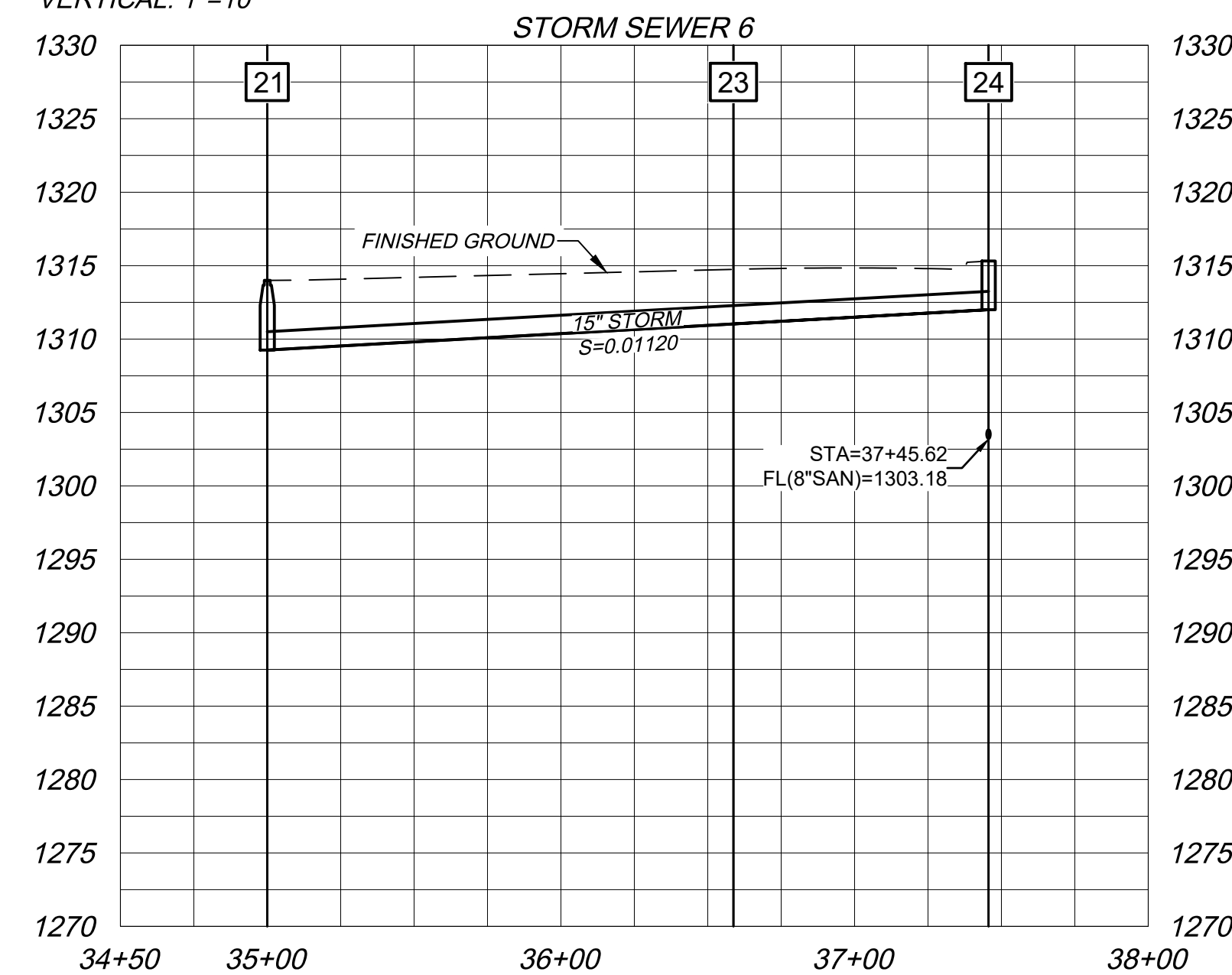


BWC: F:\Projects\2025\20250012\Landplanning\Design\250012 Storm.dwg USER: jrow 250012 Base  
 DATE: May 22, 2025 4:04pm XREFS: 250012 Background



CURVE DATA TABLE					
CURVE ID.	DELTA	RADIUS	LENGTH	TANGENT	CHORD
C3	24°53'33"	200.00	86.89	44.14	86.21

PROFILE SCALES:  
 HORIZONTAL: 1"=50'  
 VERTICAL: 1"=10'



**Civil Design Group, Inc.**  
 8535 EXECUTIVE WOODS DR., SUITE 200  
 LINCOLN, NEBRASKA 68512  
 Ph: 402-434-8494 Fax: 866-215-8747  
 NE Certificate of Authorization: CA-1648

CONSULTING ENGINEERS • LAND USE PLANNERS  
 CIVIL DESIGN • SITE DEVELOPMENT • PLANNING AND ZONING

REVISIONS

NO.	DATE	DESCRIPTION

PLAN & PROFILE

ETMUND ESTATES 2ND ADDITION  
 HICKMAN, NEBRASKA

drawn by: ZKW  
 checked by: JDC  
 approved by: JDC  
 project no.: 2025-0012  
 date: 5/13/2025

**ORDINANCE NO. 2025-08**

AN ORDINANCE TO ANNEX CERTAIN PROPERTY TO THE CITY OF HICKMAN, LANCASTER COUNTY, NEBRASKA; TO PROVIDE FOR PUBLICATION; AND TO PROVIDE FOR THE EFFECTIVE DATE HEREOF.

BE IT ORDAINED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF HICKMAN, LANCASTER COUNTY, NEBRASKA:

Section 1. Pursuant to Neb. Rev. Stat. Section 18-3301, and at the request of the owners thereof, the real property described below is hereby annexed into the corporate limits of the City of Hickman, Lancaster County, Nebraska:

Property Description: The real property located in Etmund Estates 2nd Addition and as described on the legal description of Etmund Estates 2nd Addition, attached hereto and made a part hereof as Exhibit "A".

Section 2. The City Clerk is directed to file a certified copy of the ordinance and a map certified by the engineer or surveyor with the records of the Lancaster County Register of Deeds Office.

Section 3. Upon such filing, the property described above shall be deemed and held to be a part of the City of Hickman and entitled to the privileges and benefits and subject to the ordinances and regulations thereof.

Section 4. The Extraterritorial Jurisdiction (ETJ) shall be extended upon approval of annexation of said property and the Official Zoning Map of the City of Hickman shall be amended to reflect said changes.

Section 5. Effective Date. This ordinance shall be in full force and effect from and after passage, approval and publication as provided by law.

PASSED AND APPROVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_ 2025.

CITY OF HICKMAN, NEBRASKA

\_\_\_\_\_  
Phil Goering, Mayor

(SEAL)

\_\_\_\_\_  
ATTEST: Michele Lincoln, City Clerk

**ORD2025-08  
EXHIBIT 'A'**

**LEGAL DESCRIPTION OF LOTS CONTAINED WITHIN  
ETMUND ESTATES 2<sup>ND</sup> ADDITION**

Block 1

Lot 1  
Lot 2  
Lot 3  
Lot 4  
Lot 5  
Lot 6  
Lot 7  
Lot 8  
Lot 9  
Lot 10

Block 2

Lot 1  
Lot 2  
Lot 3  
Lot 4  
Lot 5  
Lot 6

Block 3

Lot 1  
Lot 2  
Lot 3  
Lot 4  
Lot 5  
Lot 6  
Lot 7  
Lot 8  
Lot 9  
Lot 10  
Lot 11  
Lot 12  
Lot 13  
Lot 14  
Lot 15  
Lot 16  
Lot 17  
Lot 18  
Lot 19  
Lot 20  
Lot 21  
Lot 22  
Lot 23  
Lot 24

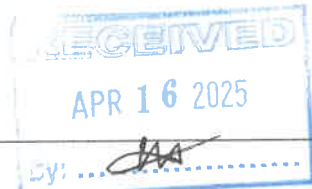
Block 4

Lot 1  
Lot 2  
Lot 3  
Lot 4  
Lot 5  
Lot 6  
Lot 7  
Lot 8  
Lot 9  
Lot 10  
Lot 11  
Lot 12  
Lot 13  
Lot 14  
Lot 15

Block 5

Lot 1  
Lot 2  
Lot 3  
Lot 4  
Lot 5  
Lot 6  
Lot 7  
Lot 8  
Lot 9  
Lot 10  
Lot 11  
Lot 12  
Lot 13  
Lot 14  
Lot 15  
Lot 16  
Lot 17  
Lot 18  
Lot 19  
Lot 20  
Lot 21  
Lot 22  
Lot 23  
Lot 24

Outlot 'A'  
Outlot 'B'  
Outlot 'C'  
Outlot 'D'  
Outlot 'E'  
Outlot 'F'  
Outlot 'G'



115 Locust Street, P.O. Box 127  
Hickman, NE 68372-0127  
Phone 402.792.2212 - Fax 402.792.2210  
[www.hickman.ne.gov](http://www.hickman.ne.gov)

**PETITION/REQUEST FOR ANNEXATION**

Legal Description and Location: Lot 1, Etmund Estates 1st Addition

**Property Owner:**

Name: SWG 4, LLC - Greg Grader  
Address: 819 'O' St.  
Lincoln, NE 68508  
Telephone: 402-499-7039 Scott Wobig

**Agent: (Authorized to act on Subdivider's behalf)**

Name: Civil Design Group, Inc.  
Address: 8535 Executive Woods Dr. Suite 206  
Lincoln, NE 68512  
Telephone: 402-434-8494

Name of Final Plat: Etmund Estates 2nd Add. Area of Land in Acres: 23.90 Ac.

Nebraska State Statutes 17-405.04.

Inhabitants of annexed land; benefits; ordinances.

The inhabitants of territories annexed under sections 17-405.01 to 17-405.05 shall receive substantially the benefits of other inhabitants of such city of the second class or village as soon as practicable, and adequate plans and necessary city council or village board of trustees action to furnish such benefits as police, fire, snow removal, and water service must be adopted not later than one year after the date of annexation, and such inhabitants shall be subject to the ordinances and regulations of such city or village, except that such one-year period shall be tolled pending final court decision in any court action to contest such annexation.

Mike Eckert

4-16-25

Signature of Applicant

Printed Name

Date

Heidi Hoglund

4-16-25

Signature of City Staff

Printed Name

Date

**City Use Only**

Final Plat #: 2025-48

Fee paid \$ 150.00

Receipt No. 2.002005443

Date: 4-17-25

Employee: Chelsey / Heidi

check # 1007

Receipt No: 2.002000443

Apr 18, 2025

SWG4 LLC

Building Permit - Building Permit	150.00
<hr/>	
Total:	150.00
<hr/>	
Check	150.00
Check No: 1007	
Total Applied:	150.00
<hr/>	
Change Tendered:	.00
<hr/>	

Duplicate Copy

04/18/2025 4:02 PM

## STAFF REPORT

**TO:** Hickman Planning Commission

**FROM:** Heidi Hoglund, Zoning Enforcement Officer

**RE:** Etmund Estates 2nd Addition – Annexation & Final Plat Review

**DATE:** May 6, 2025

---

### I. Introduction

This report summarizes the review of two land use requests submitted by Civil Design Group, Inc. on behalf of SWG4, LLC for a property located west of S. 68th Street and north of The Woodland Plaza. The property, legally described as Etmund Estates 1st Addition, Lot 1, is proposed for development under the name Etmund Estates 2nd Addition. The two requests are:

1. A request for **voluntary annexation** of approximately 23.88 acres into the City of Hickman corporate limits.
2. A request for **Final Plat approval** for the Etmund Estates 2nd Addition subdivision, including 79 buildable residential lots.

These requests are part of a broader effort to support continued residential growth in northwest Hickman. The Preliminary Plat was approved in 2024 with several conditions and waivers. The Planning Commission is asked to review both applications and forward a recommendation to the City Council for final action.

---

### II. Annexation Request

#### Overview

Annexation allows the City to extend zoning regulations, infrastructure coordination, and service planning to land adjacent to existing corporate limits. This parcel is directly contiguous to current city boundaries and is proposed for residential development.

#### Legal Framework

The request meets the requirements for annexation under Neb. Rev. Stat. §§ 17-405.01 to 17-426, applicable to cities of the second class. Specifically:

- The property is contiguous to existing city limits.
  - It is urban or suburban in character.
  - The annexation ordinance will require three separate readings by the City Council.
-

### III. Final Plat Request

#### Preliminary Plat Background

The Preliminary Plat for Etmund Estates 2nd Addition was approved by Resolution 2024-16 on September 24, 2024, by the Hickman City Council. The Planning Commission held a public hearing on September 3, 2024, and recommended conditional approval with the following item:

1. The developer will, regardless of phasing, extend Ridge Road through Block 2, Lot 7, to provide access to the neighboring properties.

The City Council then approved the preliminary plat with the following clarifications and waivers:

1. Clarify that Block 2, Lot 7 has been renamed to Block 2, Outlot C, on the preliminary plat for access to the neighboring properties to the west.
2. Waive Zoning Ordinance Section 5.11.06 R-2 street side yard setback from 25 feet to 10 feet for lots abutting Red Bud Lane and restrict driveway access to Red Bud Lane.
3. Waive Zoning Ordinance Section 5.11.06 R-2 side yard setback for single-family attached residential units from 10 feet to 7.5 feet.
4. Waive Subdivision Regulation Section 5.15 block length requirement due to topography.

#### Project Summary

- **Location:** West of S. 68th Street, northwest area of Hickman
- **Area:** 23.88 acres
- **Lots:** 79 buildable lots
- **Proposed Zoning:** R-2 Low-Density Residential
- **Dwelling Types:** Mix of **attached and detached** single-family homes
- **Street Access:** Extension of two existing city streets

#### Parkland Requirement

The developer has requested to fulfill the public land dedication requirement through payment of a park fee in lieu of land dedication, in accordance with the Subdivision Regulations. This approach:

- Requires City Council approval, and
- Must be documented in the Subdivision Agreement.

#### Shared Access Easement

A shared access easement affecting a portion of the site remains active. The easement is expected to undergo a partial release: the Lower Platte South Natural Resources District and the Rural Water District will retain access to use the driveway, while the two neighboring properties to the west may relinquish their rights to use the driveway and will instead take access from a future connection to a City street. The partial release must be recorded prior to or concurrent with final plat filing. This release is a private legal agreement between the affected property owners.

#### **IV. Zoning Review and Recommendations**

The property is zoned R-2 Low-Density Residential. Under the 2023 Zoning Ordinance, the R-2 district permits both detached and attached single-family dwellings. All lots meet the applicable dimensional and development standards.

The staff review process included evaluation of the submitted plat and verification of zoning compliance. Applicable public hearing and noticing requirements have been satisfied. If the Planning Commission determines that the applications meet all applicable standards, staff recommend forwarding both items to the City Council for final review and action. Prior to Council action, all documents are to be reviewed by the City Engineer and City Attorney for accuracy and compliance.

---

#### **Conditions of Approval**

The following conditions are recommended to ensure the annexation and final plat are implemented in accordance with City standards, approved waivers, and development policies:

#### **Annexation – Recommend approval, contingent upon:**

- Completion of the required service plan within 12 months
- Developer funding of all public infrastructure improvements

#### **Final Plat – Recommend approval, contingent upon:**

- Compliance with:
    - 2023 Zoning Ordinance
    - 2007 Subdivision Regulations
    - City Engineer recommendations
    - City Attorney recommendations
-



## MASTER AGREEMENT WORK ORDER

This exhibit dated May 8, 2025, is hereby attached to and made a part of the Master Agreement for Professional Services dated August 31, 2020, between City of Hickman (“Client”) and Olsson, Inc. (“Olsson”) providing for professional services. Olsson’s Scope of Services for the Agreement is as indicated below.

### GENERAL

Olsson has acquainted itself with the information provided by Client relative to the project and based upon such information offers to provide the services described below for the project. Client warrants that it is either the legal owner of the property to be improved by this Project or that Client is acting as the duly authorized agent of the legal owner of such property.

### PROJECT DESCRIPTION AND LOCATION

Project will be located at: Wagon Train Ave. M-342(38), City of Hickman, NE

Project Description: Provide professional engineering design services, bidding phase services, and construction administration phase services for roadway to Wagon Train Ave. from Wagon Train Rd. to 1<sup>st</sup> St. including full depth concrete pavement removal and replacement, concrete curb and gutter removal and replacement, improving isolated drainage issues, and other associated improvements.

### SCOPE OF SERVICES

Olsson shall provide the following services (Scope of Services) to Client for the Project:

#### Project Kick-off and Coordination

- a. Gather basic project information, confirmation of pavement materials, review limits of street improvements, establish communication methods and points of contact, and address any specific infrastructure needs.
- b. Respond to project related phone calls, emails, and communication.
- c. Identify potential risks and challenges associated with the project and propose mitigation strategies to minimize their impact on the project timeline and budget.

#### **Assumptions:**

- i. *Topographic survey data will not be required.*
- ii. *Design Plan Set will include street plan views utilizing publicly available aerial photography, details, build notes, and typical street details to provide direction to contractor.*

## **Preliminary Plans, Specifications, and Cost Estimate**

- a. Prepare preliminary drawings with an aerial photo background showing the various pavement repair recommendations. This data will be developed by use of GPS collected data and will serve as the basis of design and preparation of bid documents. This drawing will be used to quantify the repair areas for preparation of a preliminary opinion of construction cost.
- b. A list of technical specifications for the proposed scope of work will be prepared.
- c. Submit 60% plans and opinion of construction cost to the client and notify private utilities of any potential conflicts.
- d. Conduct and facilitate a 60% design review meeting with client to gain input and review comments.
- e. Ensure QA/QC reviews are conducted.

## **Final Plans, Specifications, and Cost Estimate**

- a. Prepare 90% drawings, front-end contract documents, and technical specifications for the proposed scope of work.
- b. Submit 90% bidding documents and opinion of construction cost to the client.
- c. Conduct and facilitate a 90% design review meeting with client.
- d. Ensure QA/QC reviews are conducted.
- e. Correct any 90% review comments and prepare final bidding documents.
- f. Submit final bidding documents to client.

## **Bidding Phase Services**

- a. Coordinate the issuance of notices to bidders and the production and distribution of bidding documents. Notices will be placed in the official publications directed by the Client, and in bidding services known to provide data to contractors in the area. In addition, invitations will be mailed directly to contractors whom Olsson and/or the Client know will be interested in the project.
- b. Coordinate answering questions raised by bidders. Addenda will be prepared, if needed, to provide clarification to questions. The Client will be informed on a regular basis of project changes resulting from bidders' questions.
- c. Attend and conduct the bid opening. Bids properly received will be reviewed. Inconsistencies or irregularities found in the bids will be reported to the Client. Olsson will prepare a bid tabulation of the bids received and will make the bid tabulation available to bidders. Olsson will evaluate the bids and make a written recommendation to the Client concerning contract award.

- d. Conformed copies of the contract documents, including insurance and bond forms, will be prepared by Olsson. Olsson will review the documents to confirm that procedures have been properly followed. Copies of the conformed documents will be provided to the Client for review. Executed copies will be distributed to the Client, the contractor, and Olsson. These documents form the official contract between the Client and the contractor, as well as the basis for decisions concerning the work.

## **Construction Services**

### **General Consultation**

- a. Provide general administration services to ensure that work is performed in general conformance with the Construction Documents. By performing the services, no authority or responsibility is assumed to supervise, direct, or control the Contractor's work or the Contractor's means, method, techniques, or procedures of construction. Tasks may include interpretation of documents, and progress monitoring including status of submittals and construction schedule.

### **Meetings**

- a. At date and time selected by the Client and at facilities provided by the Client, conduct pre-construction conference. The Engineer shall prepare an agenda for the conference and prepare and distribute minutes. The pre-construction conference will include a discussion of the Contractor's tentative schedule, procedures for transmittal and review of the Contractor's submittal, processing payment applications, critical work sequencing, change orders, record documents, and the Contractor's responsibilities for safety and first aid.

### **Schedule Reviews**

- a. Review and comment on the Contractor's initial and updated construction schedule(s) and advise Client as to acceptability. Analyze Contractor's construction schedule(s), activity sequences, and construction procedures with regard to Client's ability to keep existing facilities in operation.

### **Periodic Site Visits**

- a. Make periodic visits to the construction site to observe progress of the work and consult with the Client and Contractor concerning problems and/or progress of the work.

### **Administer Change Orders**

- a. Review documentation and administer the processing of change orders, including applications for extensions of construction time. Up to three (3) change orders are included in the scope. Documentation will be provided by Resident Observer and Contractor.

### **Review Monthly Contractor Pay Requests**

- a. Review and process the Contractor's monthly payment requests and forward them to the Client for approval. Review will be for the purpose of making a full independent mathematical check of the Contractor's payment request. Resident Observer will be responsible for verifying the quantities of work which are the basis of the payment request.

### **Review of Contractor's Submittals**

- a. Review drawings and other data submitted by the Contractor as determined by the construction contract documents. Review will be for general conformity to the construction contract drawings and specifications for the contract and will not relieve the Contractor of any of his contractual responsibilities. Such review will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto.

### **Substantial Completion Review**

- a. Upon substantial completion, review the construction work and prepare a listing of those items to be completed or corrected before final completion of the contract. Submit results of the review to the Client and the Contractor.

#### **Assumptions:**

- i. It is anticipated that construction will occur over a period of 3 months, depending on contractor availability, weather, and citizen permission. Construction Administration time was estimated at 2 hours per week, on average, with up to two (2) site visits per month to review progress and participate in site meetings, as necessary.

### **Exclusions**

Tasks not included in this scope of work, but could be provided as an additional service upon request, are as follows:

- a. Condition Assessments
- b. Public Engagement Activities
- c. Materials Testing

## SCHEDULE FOR OLSSON'S SERVICES

Unless otherwise agreed, Olsson expects to perform its services under the Agreement as follows:

Anticipated Start Date: June 1, 2025  
Anticipated Completion Date: October 31, 2025

Olsson will endeavor to start its services on the Anticipated Start Date and to complete its services on the Anticipated Completion Date. However, the Anticipated Start Date, the Anticipated Completion Date, and any milestone dates are approximate only, and Olsson reserves the right to adjust its schedule and any or all of those dates at its sole discretion, for any reason, including, but not limited to, delays caused by Client or delays caused by third parties.

## COMPENSATION

Client shall pay Olsson for the performance of the Scope of Services a fixed fee of Thirty-Four Thousand Five Hundred Sixty Dollars (\$34,560.00) A breakdown of the fee is provided below:

<u>Description</u>	<u>Design Fee</u>
Project Management and Coordination	\$ 3,324.00
Design Services	\$16,020.00
Bidding Services	\$ 3,816.00
Construction Services	\$11,400.00
<b>Total Design Services</b>	<b>\$34,560.00</b>

Olsson shall submit invoices on a monthly basis and payment is due within 30 calendar days of invoice date.

REIMBURSABLE EXPENSE: Olsson's reimbursable expenses for this Project are included in the fees set forth above.

Should Client request work in addition to the Scope of Services, Olsson shall invoice Client for such additional services (Optional Additional Services) at the standard hourly billing labor rate charged for those employees actually performing the work, plus reimbursable expenses if any. Olsson shall not commence work on Optional Additional Services without Client's prior written approval.

Olsson agrees to provide all of its services in a timely, competent and professional manner, in accordance with applicable standards of care, for projects of similar geographic location, quality and scope.

**TERMS AND CONDITIONS OF SERVICE**

We have discussed with you the risks, rewards and benefits of the Project, the Scope of Services, and our fees for such services and the Agreement represents the entire understanding between Client and Olsson with respect to the Project. The Agreement may only be modified in writing signed by both parties.

Client's designated Project Representative shall be Kelly Oelke\_\_\_\_\_.

If this Work Order satisfactorily sets forth your understanding of our agreement, please sign in the space provided below. Retain a copy for your files and return an executed original to Olsson, 601 P Street, Suite 200, Lincoln, Nebraska 68508. This proposal will be open for acceptance for a period of 30 days from the date set forth above, unless changed by us in writing.

**OLSSON, INC.**

By \_\_\_\_\_

By \_\_\_\_\_

By signing below, you acknowledge that you have full authority to bind Client to the terms of the Agreement. If you accept this Work Order, please sign:

**City of Hickman**

By \_\_\_\_\_  
Signature

Print Name \_\_\_\_\_

Title \_\_\_\_\_

Dated: \_\_\_\_\_

- Attachments
- Standard Labor Billing Rate Schedule
- Reimbursable Expense Schedule



115 Locust Street, P.O. Box 127  
Hickman, NE 68372-0127  
Phone 402.792.2212 - Fax 402.792.2210  
www.hickman.ne.gov



## COMMENT, CONCERN & AGENDA REQUEST FORM

Date: ~~May 6, 2024~~ May 6, 2025

Name: Dean Reicks, Commander, Post 105 American Legion  
First Last

Address: PO Box 263, 106 S Locust St Hickman, Ne 68372  
Street / P.O. Box City State Zip Code

Telephone: 308-340-0291 Email: dean.reicks@gmail.com

Comment, Concern, or Agenda Request Item: July 26, 2025

6The American Legion Post 105 request use of city property for the annual street dance on ~~July 27, 2025~~.

In particular, the Post request the use of Locust Street starting from approximately 2nd Street south to

the intersection of 1st Street. Sidewalk access to the businesses on the west side of the street will remain open.

Coordination with the businesses will be made prior to the event. In addition, the Post request the use

city owned street barriers, 10 55-gallon trash cans and five picnic tables. The Post has an insurance rider

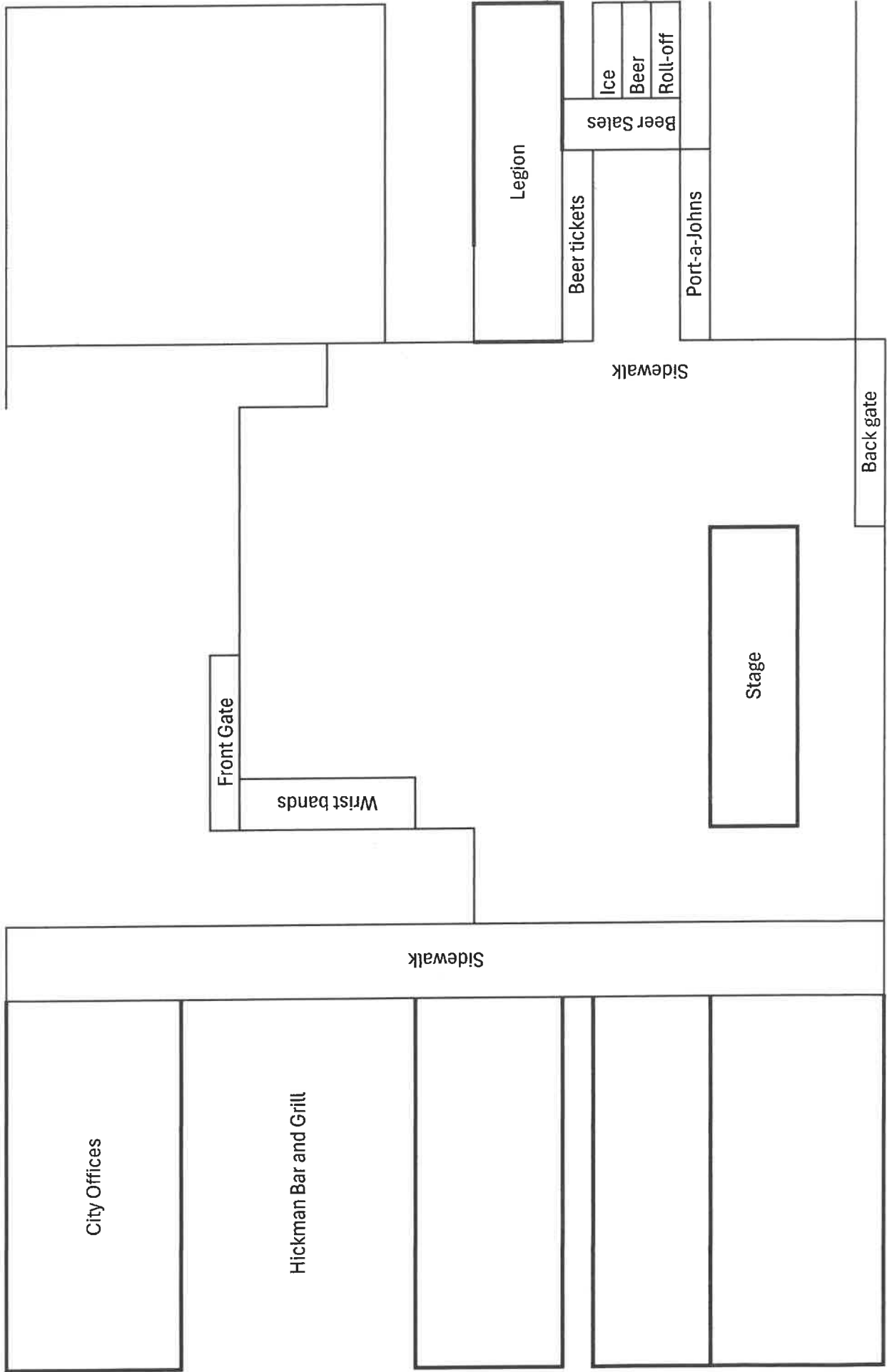
for the event with the City identified as the insured party. Pota-lets will be delivered prior to the event

and will be available to other downtown Hay Days events downtown.

Signature of Requestor

Date Received 5/28/25 City Staff Name

Post 105 American Legion  
Hay Days Street Dance  
2nd Street



**From:** [Kimberly Snyder](#)  
**To:** [City Clerk](#)  
**Subject:** Grill use request  
**Date:** Wednesday, May 28, 2025 3:30:51 PM

---

Good afternoon,

We are planning to rent the community center for an event on August 21<sup>st</sup> from 4-7pm. We would like to request the use of a grill/Blackstone grill on the sidewalk on the north side of the building. We will have the insurance required for the city of hickman rental agreement in place for the event.

Thank you for your consideration.

**Kim Snyder**

Sr. Account Executive  
Snyder & Associates  
Farm Bureau Financial Services

6760 Woodland Blvd, Ste C  
Hickman NE 68372  
402-792-0000  
402-326-5351 fax

[kimberly.snyder@fbfs.com](mailto:kimberly.snyder@fbfs.com)

***A referral is the best compliment we can receive.***

Farm Bureau Property & Casualty Insurance Company,\* Western Agricultural Insurance Company,\* Farm Bureau Life Insurance Company\* \*Company providers of Farm Bureau Financial Services

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**From:** [Toni Harms](#)  
**To:** [City Clerk](#)  
**Subject:** Re: Hickman - Solicitor  
**Date:** Friday, June 6, 2025 11:46:08 AM

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Hi,

We are asking for city council approval to set up our snow cone business this summer at the ball fields. We are from Adams, NE & our 3 daughters help run this business as their summer jobs. We started this business last summer, so have been in business 1 year. We do have the applicable permits needed with the State of Nebraska.

We have spoken with Greg Hobza at the ball field concessions & he is good with us being there & have worked out a deal with him. Would it also be possible to use the electricity there, we would be willing to pay a fee for this. If not, we can provide a generator. And if there are other activities going on in town throughout the summer, would it be possible for us set up for some of them as well?

Let me know if you need any further information.

Thank you for your consideration!  
Toni Harms  
Cone Zone

On Fri, Jun 6, 2025 at 11:16 AM Toni Harms <[toni.chadharms@gmail.com](mailto:toni.chadharms@gmail.com)> wrote:

Hi!

Attached is completed application & copy of state permit. I can drop off check on Monday if that works? Let me know if you need anything else.

Thanks,  
Toni Harms

On Thu, Jun 5, 2025, 4:09 PM City Clerk <[cityclerk@hickman.ne.gov](mailto:cityclerk@hickman.ne.gov)> wrote:

Here is the Solicitor application. I will watch for your email requesting City Council permission to operate on City property. Thank you for checking with us.

Michele Lincoln, CMC

City Clerk

City of Hickman

(402)792-2212