



Project Information Summary

Project Name: 14th St SW & Roosevelt Intersection- **Last Update:** 1/23/2024

Project Number: PZ-23-00149

General Location: Located along the intersection of 14th St SW and Roosevelt Ave.

Project Description:

Proposed road and traffic signal improvements, including adding traffic signals, ADA curb ramps, curb and gutter, addition of medians, signage and striping, stormwater infrastructure, and railroad equipment.

Existing Zoning: Choose Zoning

Acreage of Site:

Existing Use: Public Right of Way

Application Type:

Civil Construction Plans

Choose Type

Choose Type

☐ Neighborhood Notice and Comment Period Required

***Public Review Required:** ☒ None

☐ Variance ☐ Neighborhood Meeting ☐ Planning Commission Hearing ☐ City Council Hearing

** Contact the City Planner for specific hearing dates, times and locations if public review is required*

Use Type

☐ Use by Right (R)

☐ Limited Use (L)

☐ Adaptable Use (A)

☐ Conditional Use (C)

Contact Information:

Applicant

Name: Michael Kramer

City Planner

Name: Lauren Richardson

Phone: 970-962-2557

Email: Lauren.Richardson@cityofloveland.org

Attachment (s): Proposed civil construction plans

The above information was current at the time of initial project submittal and is subject to change

CONSTRUCTION DOCUMENTS
FOR
14TH STREET SW AND S. ROOSEVELT AVENUE
INTERSECTION IMPROVEMENTS
60% DESIGN

LOCATED IN THE CITY OF LOVELAND, COUNTY OF LARIMER,
STATE OF COLORADO

CIVIL ENGINEER
KIMLEY-HORN AND ASSOCIATES, INC.
3801 AUTOMATION WAY, SUITE 210
FORT COLLINS, COLORADO 80525
(720)-943-5660
CONTACT: MATT CIARKOWSKI, PE

**DEVELOPER
(ADJACENT PROPERTY)**

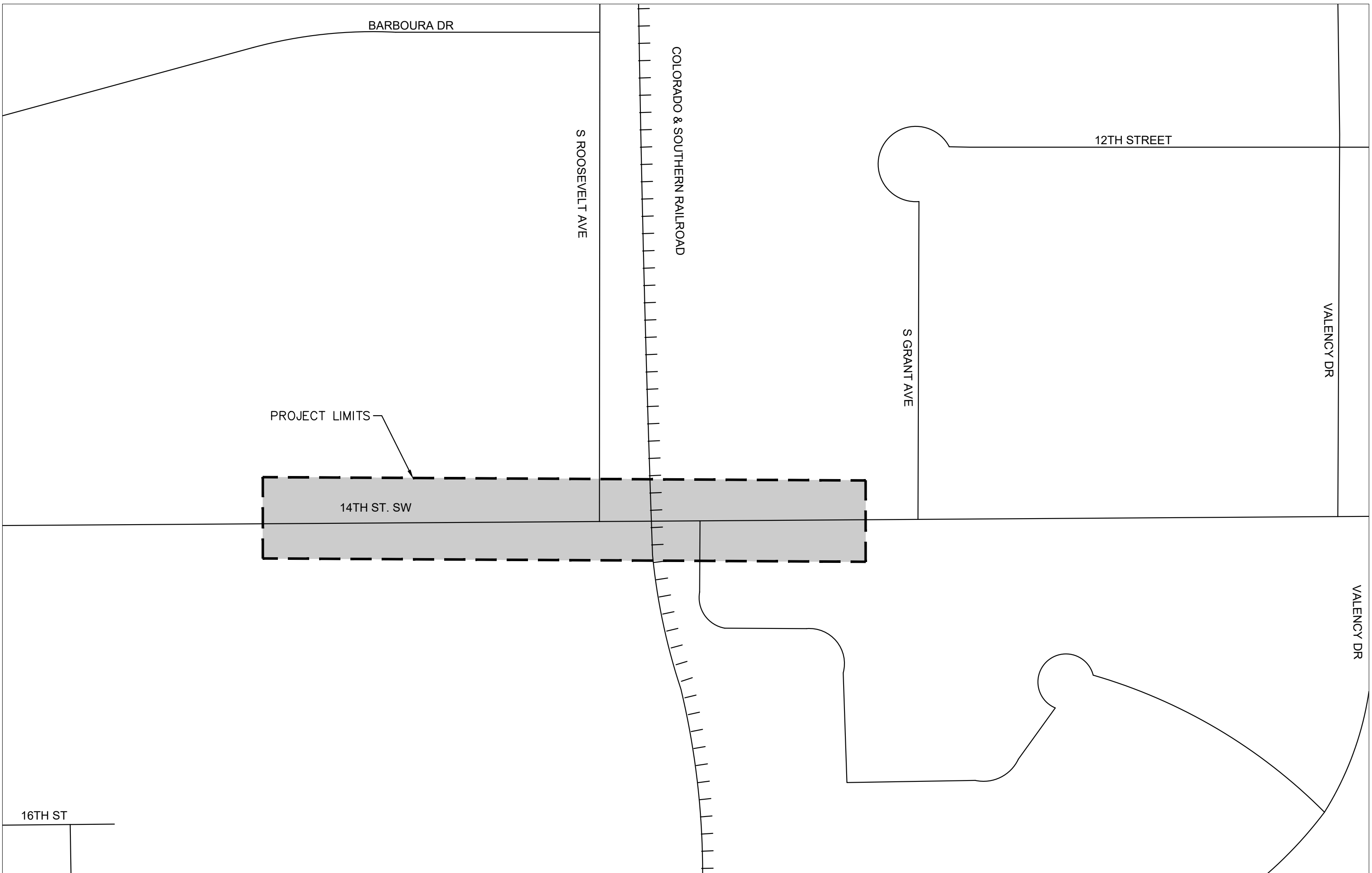
KENTRO GROUP
1509 YORK ST, SUITE 201
DENVER, CO 80206
TELEPHONE: (303)-219-0903
CONTACT: CHRIS VISCARDI

**CITY OF LOVELAND
PUBLIC WORKS**

CITY OF LOVELAND
2525 W 1ST ST.
LOVELAND, CO 80537
TELEPHONE: (970) 962-2618
CONTACT: RANDY MAIZLAND

LAND SURVEYOR

FLATIRONS, INC.
LAND SURVEYING SERVICES
655 4TH AVENUE
LONGMONT, CO 80501
PHONE: (303) 443-7001
CONTACT: TYLER HENDERSON



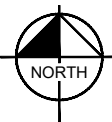
SURVEY BENCHMARK

TRIMBLE VRS NOW CONTINUOUSLY OPERATING REFERENCE STATIONS (CORS) NETWORK WAS USED TO ESTABLISH A GPS DERIVED ELEVATION ON AN ON-SITE BENCHMARK NORTH EDGE OF THE SITE, BEING A SET #4 REBAR WITH A PINK PLASTIC CAP AN ELEVATION OF 4962.68 FEET (NAVD88). CITY OF LOVELAND BENCHMARK 95-63, BEING AN ALUMINUM DISK LOCATED ON HEADWALL AT WEST END OF CUL-DE-SAC ON 23RD ST. S.W., 300' WEST OF FRANCIS DRIVE INTERSECTION, WITH A PUBLISHED ELEVATION OF 5019.66 FEET, WAS CHECKED INTO WITH AN AS-MEASURED ELEVATION OF 5019.66 FEET. NO DIFFERENTIAL LEVELING WAS PERFORMED TO ESTABLISH THE ELEVATION OF THE ON-SITE BENCHMARK.

BASIS OF BEARINGS

GPS DERIVED BEARINGS BASED ON A BEARING OF N89°42'23"E ALONG THE NORTHERLY LINE OF TRACT A, GROSBOLL ADDITION, BETWEEN A FOUND #5 REBAR WITH 1/2" YELLOW PLASTIC CAP "INTERMILL PLS 12374" AND A SET 1" BRASS TAG "FLATIRONS SURV 29038 AS SHOWN HEREON. COLORADO STATE PLANE COORDINATE SYSTEM. NORTH ZONE (0501), NORTH AMERICAN DATUM 1983 (NAD83). ALL BEARINGS SHOWN HEREON ARE RELATIVE THERETO.

VICINITY MAP
N.T.S



SHEET LIST TABLE	
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14	PAVING PLAN
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16	GRADING PLAN
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18	GRADING INSET A
19	GRADING INSET B
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26	CONSTRUCTION DETAILS
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28	INITIAL EC
29	INITIAL EC
30	INTERIM EC
31	INTERIM EC
32	FINAL EC
33	FINAL EC
34	EC - DETAILS
35	EC - DETAILS
36	EC - DETAILS



14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

COVER SHEET

Kimley»Horn

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FORT COLLINS, CO 80525 (303) 228-2300

	DESIGNED MJK	DRAWN JMA	CHECKED MEC
	SCALE (H): SCALE (V):		SHEET NO. 1 of shts
	DATE: 10/24/2023		
	PROJECT NO. 096315011		
	DWG. NAME 096315011_CV.DWG		

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SUMMARY OF APPROXIMATE QUANTITIES			
CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	QUANTITY
201-00001	CLEARING AND GRUBBING	ACRE	0.5
202-00019	REMOVAL OF INLET	EACH	1
202-00033	REMOVAL OF PIPE	LF	16
202-00034	REMOVAL OF STORM CHASE DRAIN	EACH	2
202-00039	REMOVAL OF FLEXIBLE BOLLARD	EACH	4
202-00190	REMOVAL OF CONCRETE MEDIAN COVER MATERIAL	SY	243
202-00195	REMOVAL OF LANDSCAPE MEDIAN ROCK	SY	124
202-00200	REMOVAL OF SIDEWALK	SY	316
202-00203	REMOVAL OF CURB AND GUTTER	LF	1780
202-00206	REMOVAL OF CONCRETE CURB RAMP	SY	38
202-00220	REMOVAL OF ASPHALT MAT (FULL DEPTH)	SY	1045
202-00240	REMOVAL OF ASPHALT MAT (PLANING)	SY	562
202-00250	REMOVAL OF PAVEMENT MARKING	SF	3828
202-00750	REMOVAL OF LUMINAIRE	EACH	2
202-00810	REMOVAL OF GROUND SIGN	EACH	2
202-05020	SAWING ASPHALT MATERIAL (FULL DEPTH)	LF	2175
203-00000	UNCLASSIFIED EXCAVATION	CY	150
203-00060	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CY	250
203-01597	POTHOLING	HOURL	50
203-01597	POTHOLING (TRAFFIC SIGNAL)	HR	20
210-04010	ADJUST STORM MANHOLE	EACH	1
210-04020	TIE 30-INCH RCP TO EX. TYPE R INLET	EACH	1
210-99999	RESET GUY WIRE (WOODEN POWER POLE)	EACH	3
212-00006	SEEDING (NATIVE)	ACRE	0.25
212-01200	LANDSCAPE RESTORATION	LS	1
213-00000	MULCHING	ACRE	0.25
304-06007	AGGREGATE BASE COURSE (CDOT CLASS 6)	CY	1210
306-01000	RECONDITIONING (12-INCH)	SY	2904
403-32741	HOT MIX ASPHALT (GRADING XX)(XX)(PG XX-XX)	TON	585
412-00600	CONCRETE PAVEMENT (8-INCH)	SY	204
503-00018	DRILLED SHAFT (18 INCH)	LF	8
503-00036	DRILLED SHAFT (36 INCH)	LF	76
514-00100	HANDRAIL	LF	95
603-01300	30 INCH REINFORCED CONCRETE PIPE	LF	19
604-00350	CDOT TYPE C INLET (MODIFIED 4-GRATES)	EA	1
608-00006	CONCRETE SIDEWALK (6-INCH)	SY	352
608-00010	CONCRETE CURB RAMP	SY	74
608-10000	CHASE DRAIN (3' WIDE)	EA	1
609-21020	CURB ANG GUTTER VERTICAL (LCUASS)	LF	569
609-21021	CDOT CURB AND GUTTER MEDIAN TYPE 2 (SECTION IM)	LF	961
609-80000	CONCRETE CURB CUT (3' WIDE)	EA	1
610-00020	MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	SF	3561
613-00206	2 IN ELECTRICAL CONDUIT (BORED)	LF	306
613-00306	3 IN ELECTRICAL CONDUIT (BORED)	LF	612
613-01200	2 IN ELECTRICAL CONDUIT (PLASTIC)	LF	105
613-01300	3 IN ELECTRICAL CONDUIT (PLASTIC)	LF	130
613-07001	CDOT TYPE ONE PULL BOX	EA	1
613-07004	CDOT TYPE 4 PULL BOX	EA	5
613-10000	WIRING	LS	1
613-80130	OBTAIN ELECTRICAL SERVICE	LS	1
613-80130	METER PEDESTAL	EA	1
614-00000	STREET NAME SIGN	EA	4
614-00011	SIGN PANEL (CLASS I)	SF	54
614-00200	NEX-TUBE SIGN POST (2-INCH)	LF	20
614-10160	SIG HEAD BACKPLATES	EA	10
614-70150	PEDESTRIAN SIGNAL FACE (16 INCH) (COUNTDOWN)	EA	6
614-70336	TRAFFIC SIGNAL FACE (12-12-12)	EA	10
614-70448	TRAFFIC SIGNAL FACE (12-12-12-12)	EA	8
614-72855	CONTROLLER (TYPE 2070L)	EA	1
614-72860	PEDESTRIAN PUSH BUTTON (APS)	EA	6
614-72863	PED PUSH BUTTON POST ASSEM	EA	1
614-72864	FIRE PREEMPTION DETECTOR 711	EA	4
614-72886	INTERSECTION DETECT SYS (CAMERA)	EA	6
614-81140	TRAFF SIGNAL-LIGHT POLE STEEL (1-40 FOOT MAST ARM)	EA	1
614-81145	TRAFF SIGNAL-LIGHT POLE STEEL (1-45 FOOT MAST ARM)	EA	2
614-81150	TRAFF SIGNAL-LIGHT POLE STEEL (1-50 FOOT MAST ARM)	EA	1
614-84000	TRAF SIG PED POLE STEEL	EA	1
614-86800	UNINTERRUPTED POWER SUPPLY	EA	1
627-00002	THEMOPLASTIC PAVEMENT MARKING	SF	1393
627-00005	EPOXY PAVEMENT MARKING	GAL	20
700-70010	F/A MINOR CONTRACT REVISIONS	F/A	1
700-70040	F/A RAILROAD	F/A	1



14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

SUMMARY OF APPROXIMATE QUANTITIES



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3801 AUTOMATION WAY, SUITE 210
FORT COLLINS, CO 80525 (303) 228-2300

DESIGNED
MJK

DRAWN
JMA

CHECKED
MEC

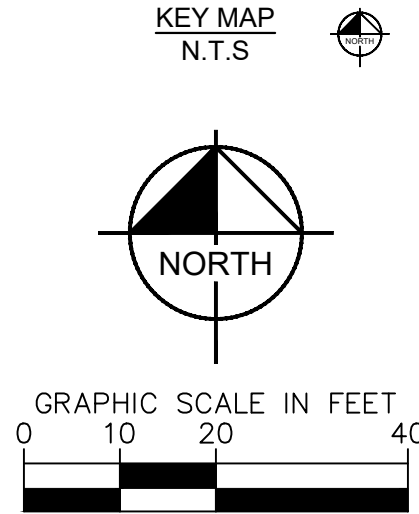
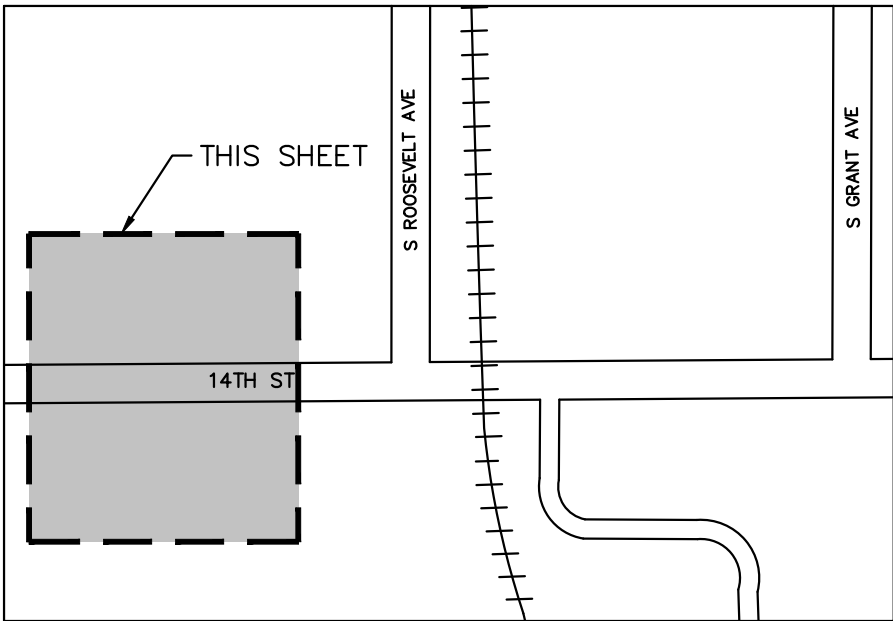
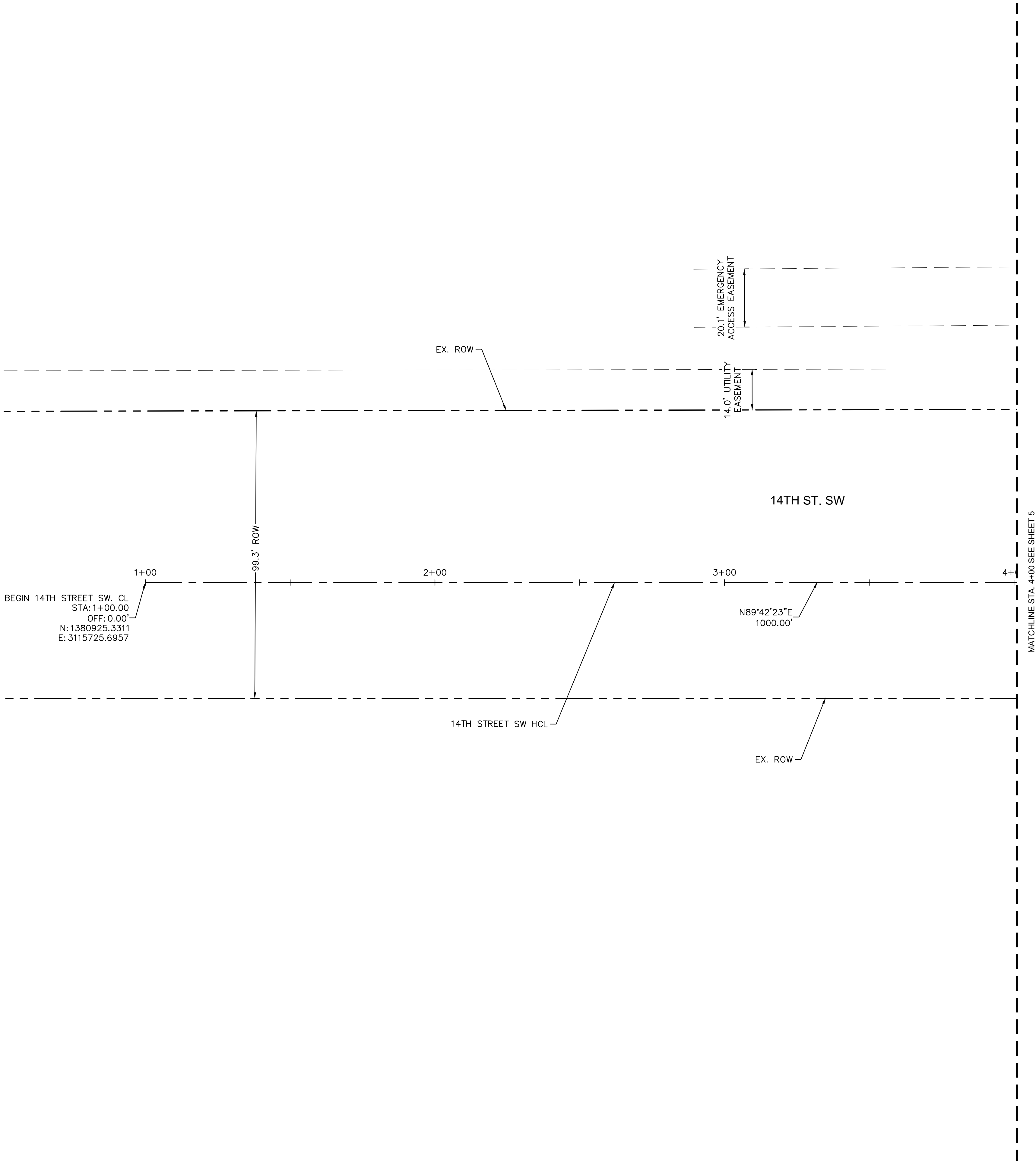
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DATE:
10/24/2023
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096315011
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14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

HORIZONTAL CONTROL

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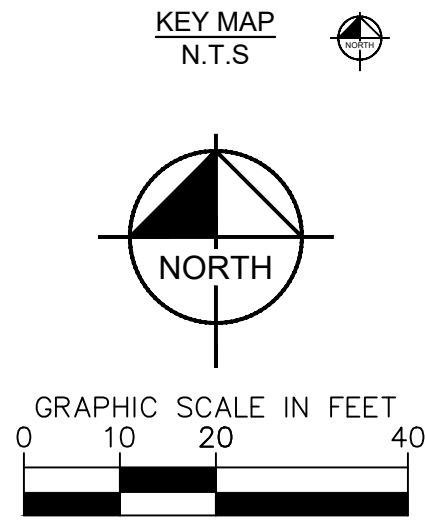
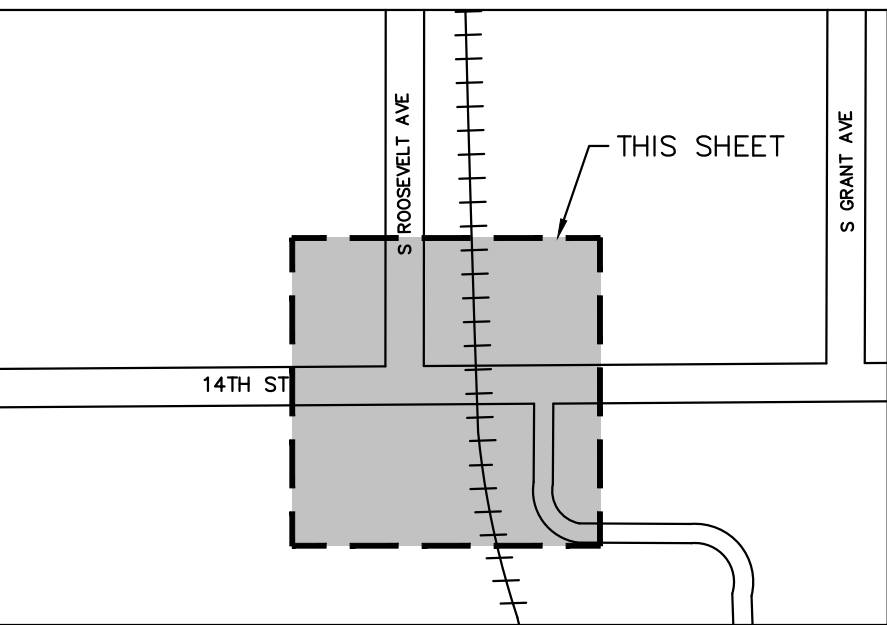
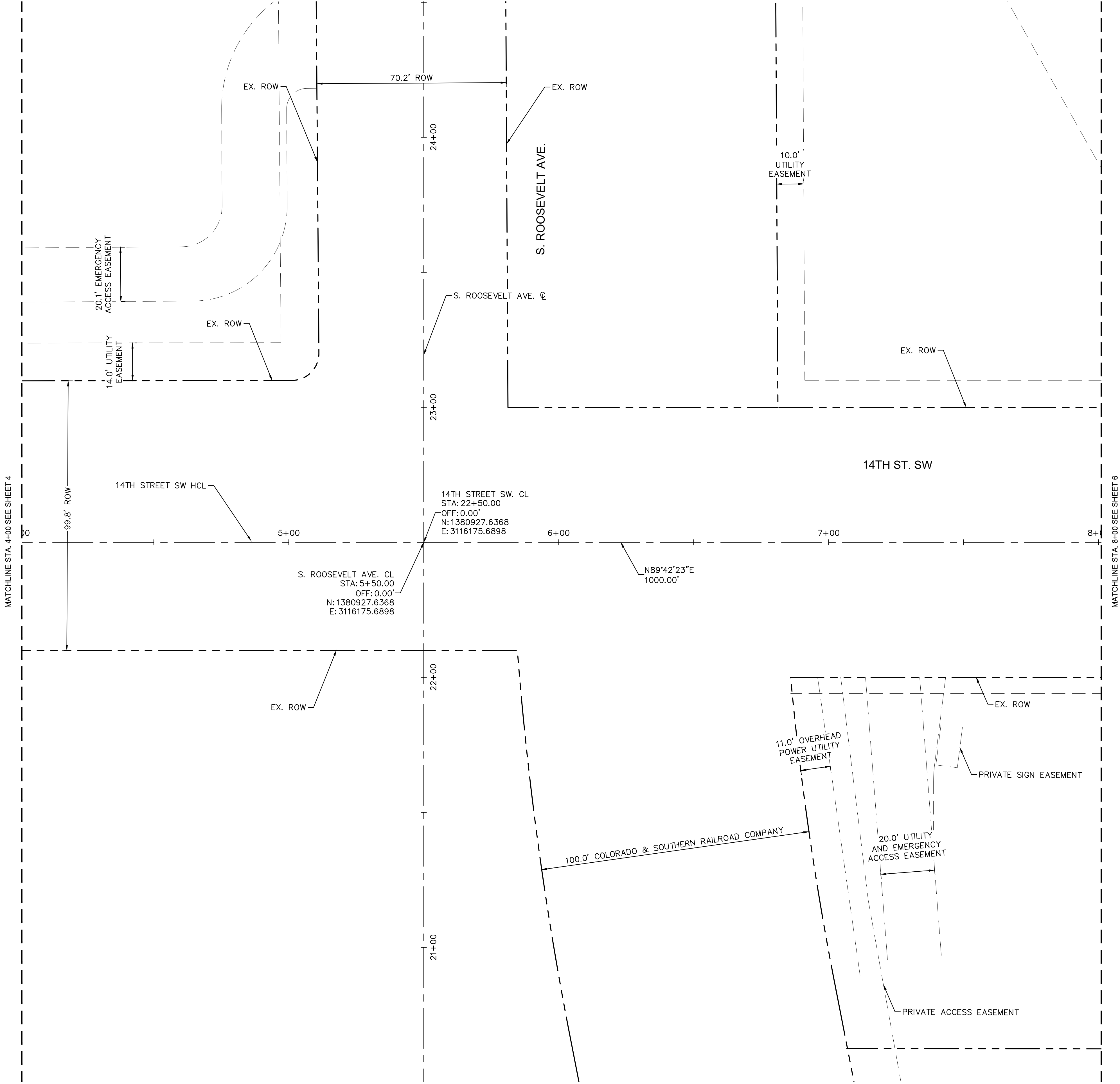
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HORIZONTAL CONTROL

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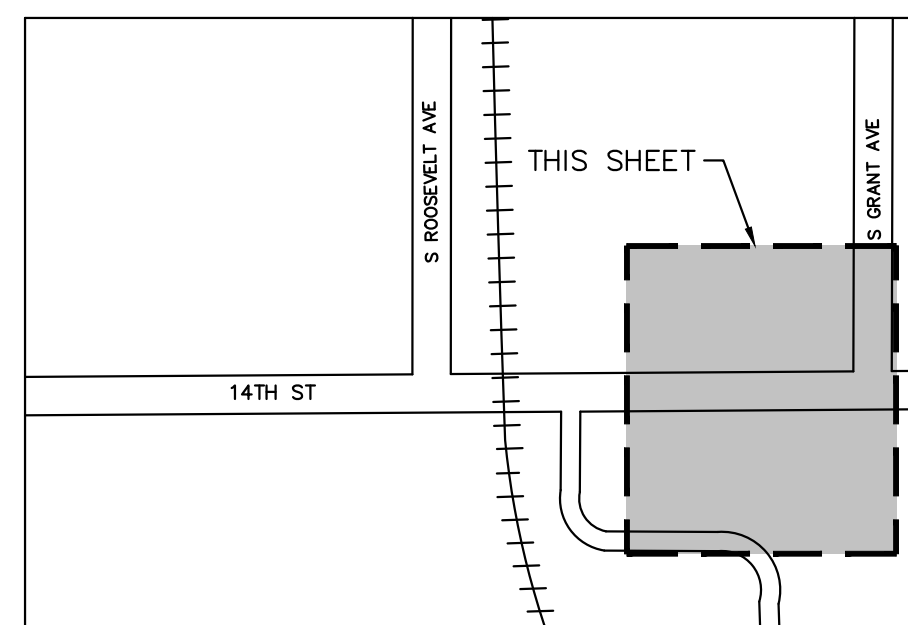
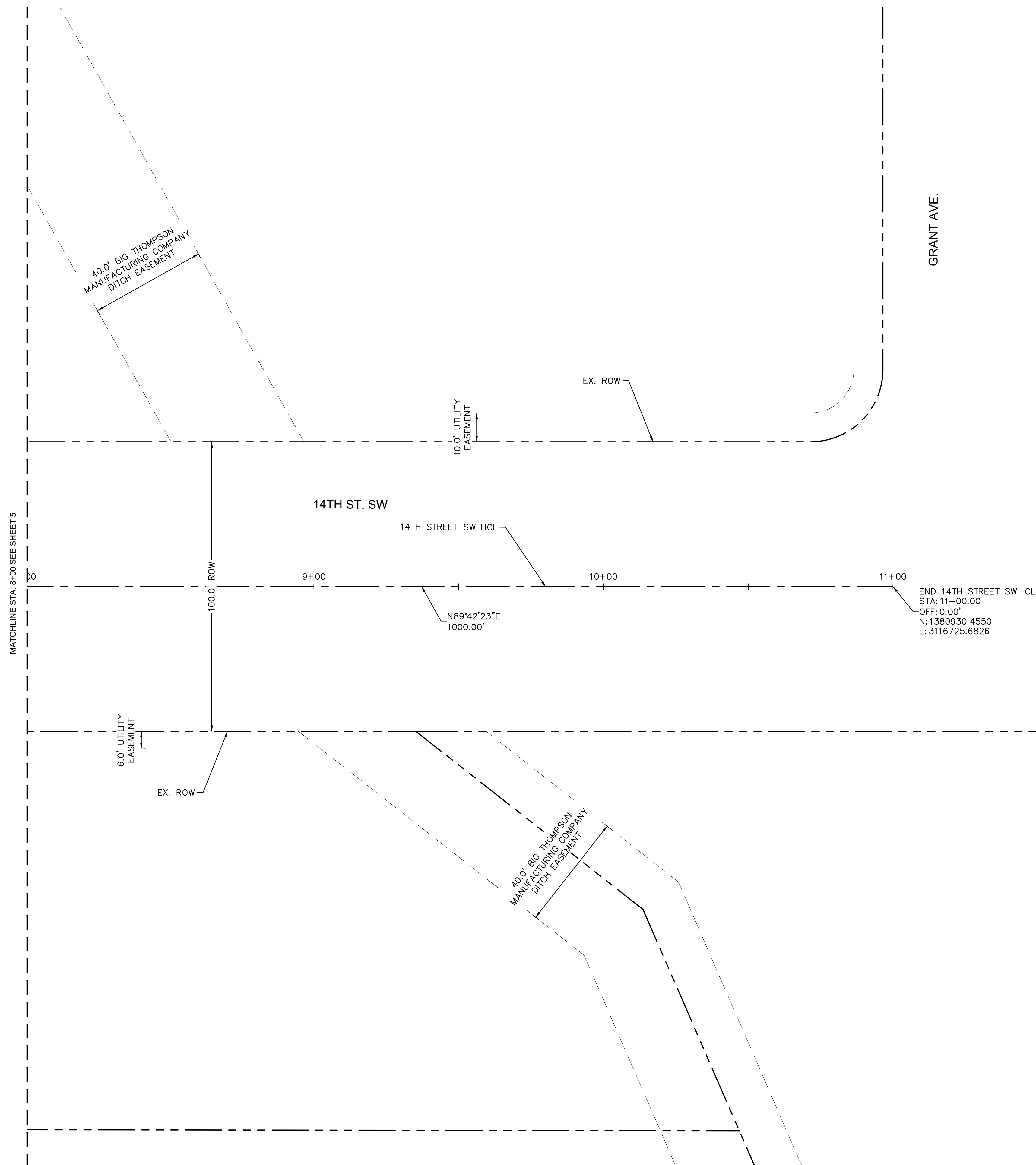
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	PROJECT NO. 096315011		
	DWG. NAME 096315011_HC.DWG		
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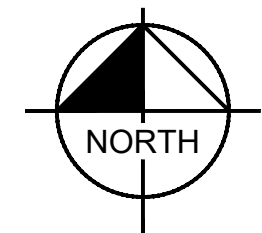
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KEY MAP
N.T.S.



GRAPHIC SCALE IN FEET

A horizontal scale bar with tick marks at 0, 10, 20, and 40 feet. The bar is divided into alternating black and white segments: a black segment from 0 to 10, a white segment from 10 to 20, a black segment from 20 to 30, and a white segment from 30 to 40.



Know what's **below**.
Call before you dig

14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

HORIZONTAL CONTROL

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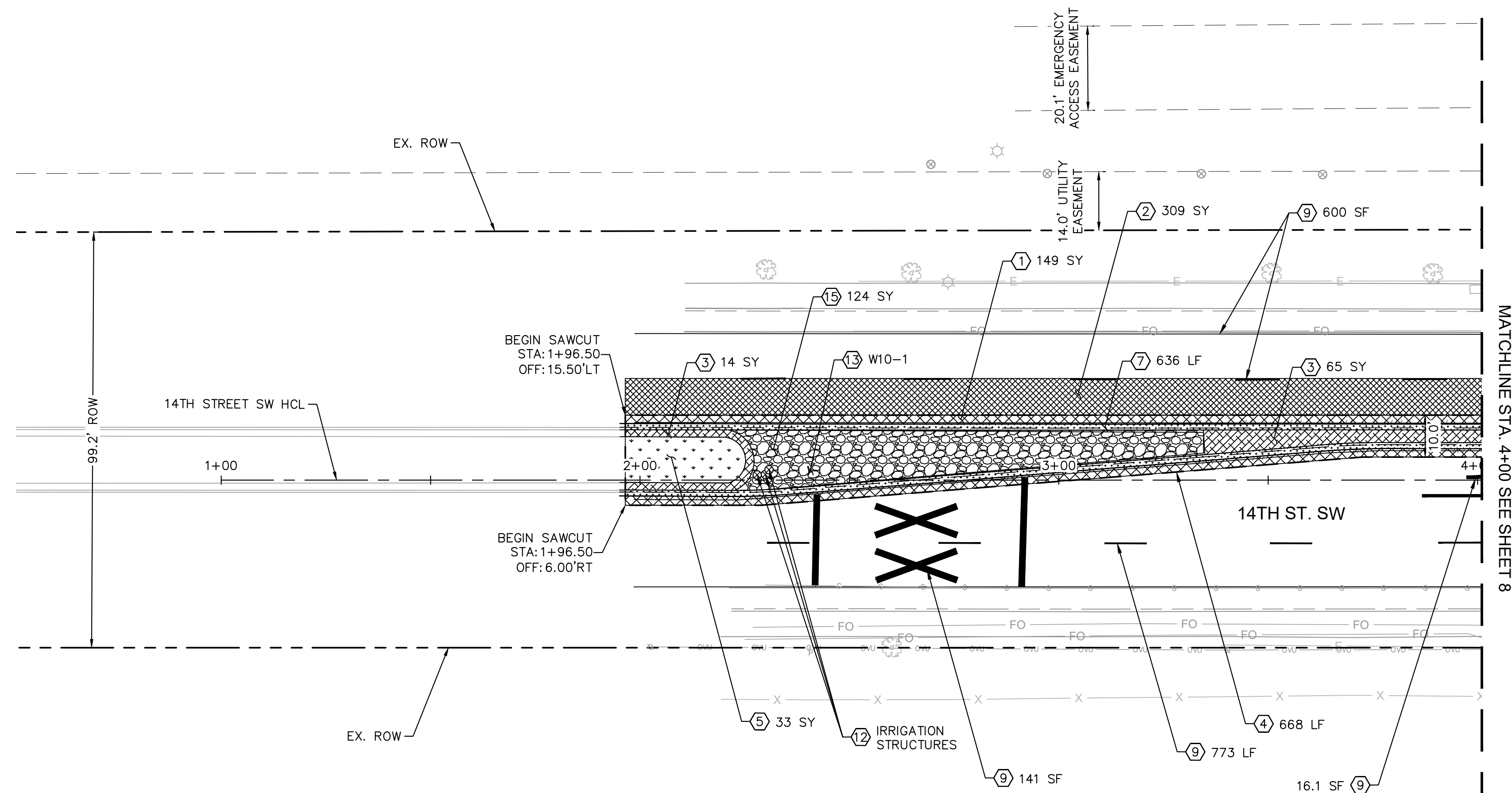
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DATE: 10/24/2023		
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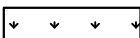
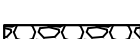
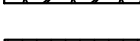
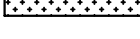
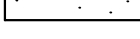
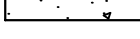
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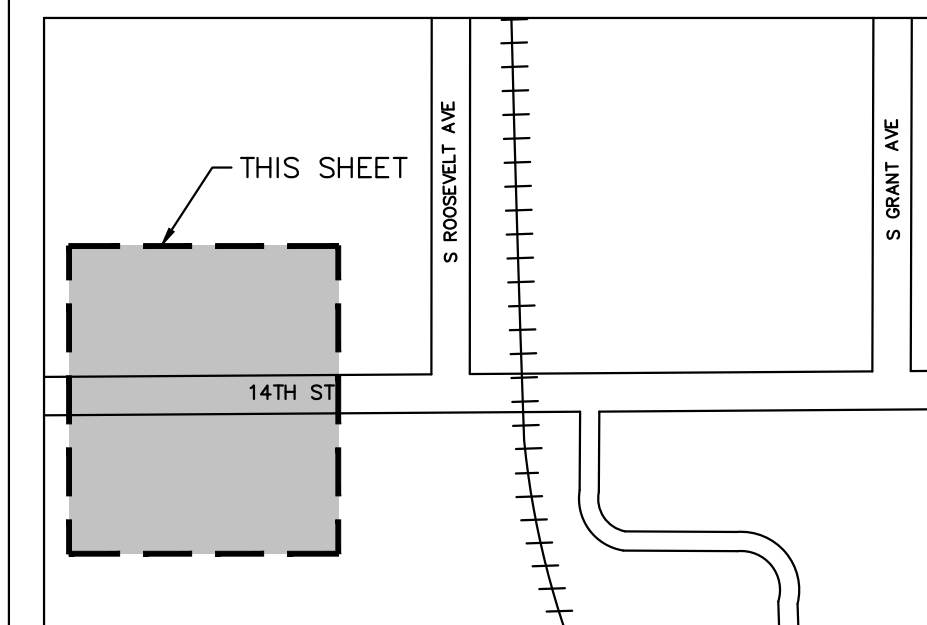
- ① REMOVAL OF ASPHALT MAT (FULL DEPTH)
- ② REMOVAL OF ASPHALT MAT (PLANING)
- ③ REMOVAL OF CONCRETE MEDIAN COVER MATERIAL
- ④ SAWING ASPHALT AND CONCRETE MATERIAL (FULL DEPTH)
- ⑤ CLEARING AND GRUBBING
- ⑥ REMOVAL OF SIDEWALK
- ⑦ REMOVAL OF CURB AND GUTTER
- ⑧ REMOVAL OF CONCRETE CURB RAMP
- ⑨ REMOVAL OF PAVEMENT MARKING
- ⑩ REMOVAL OF STORM CHASE DRAIN
- ⑪ ADJUST MANHOLE TO GRADE
- ⑫ ADJUST STRUCTURE TO GRADE
- ⑬ REMOVAL OF GROUND SIGN
- ⑭ REMOVAL OF BOLLARD
- ⑮ REMOVAL OF LANDSCAPE MEDIAN ROCK
- ⑯ REMOVE EXISTING RAILROAD CROSSING GATE
BY BNSF FORCES
- ⑰ REMOVAL OF PIPE
- ⑱ REMOVAL OF INLET
- ⑲ REMOVE STREET LIGHT
- ⑳ REMOVAL OF CONCRETE PAVEMENT
- ㉑ RESET GUY WIRE

NOTES:

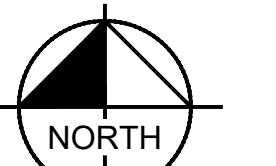
1. CONTRACTOR SHALL RESET AND MAKE OPERATION EXISTING MEDIAN IRRIGATION SYSTEM.
2. FOR REMOVAL/RESETS OF SIGNAGED & STRIPING SEE SHEETS 23, 24, & 25.
3. CONTRACTOR SHALL COORDINATE THE REST OF SURVEY MONUMENT WITH THE CITY OF LOVELAND PRIOR TO BEGINNING CONSTRUCTION.
4. CONTRACTOR SHALL COORDINATE WITH COLORADO & SOUTHERN RAILWAY FOR THE REST OF EXISTING RAILWAY EQUIPMENT.

LEGEND:

- | | |
|---|---|
|  | REMOVAL OF ASPHALT MAT (FULL DEPTH) |
|  | REMOVAL OF CONCRETE MEDIAN COVER MATERIAL |
|  | CLEARING AND GRUBBING |
|  | REMOVAL OF LANDSCAPE MEDIAN ROCK |
|  | REMOVAL OF CURB AND GUTTER |
|  | REMOVAL OF CONCRETE PAVEMENT |
|  | REMOVAL OF SIDEWALK |
|  | REMOVAL OF ASPHALT MAT (PLANING) |



KEY MAP
N.T.S



GRAPHIC SCALE IN FEET

0 10 20 40



Know what's **below**.
Call before you dig.

14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

REMOVAL AND RESET

Kimley»Horn

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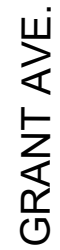
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DATE: 10/24/2023		SHEET NO. 7
PROJECT NO. 096315011		
DWG. NAME 096315011_RR.DWG		
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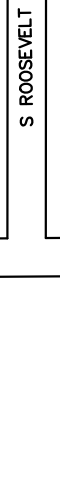
MATCHLINE STA. 8+00 SEE SHEET 8



- ① REMOVAL OF ASPHALT MAT (FULL DEPTH)
- ② REMOVAL OF ASPHALT MAT (PLANING)
- ③ REMOVAL OF CONCRETE MEDIAN COVER MATERIAL
- ④ SAWING ASPHALT AND CONCRETE MATERIAL (FULL DEPTH)
- ⑤ CLEARING AND GRUBBING
- ⑥ REMOVAL OF SIDEWALK
- ⑦ REMOVAL OF CURB AND GUTTER
- ⑧ REMOVAL OF CONCRETE CURB RAMP
- ⑨ REMOVAL OF PAVEMENT MARKING
- ⑩ REMOVAL OF STORM CHASE DRAIN
- ⑪ ADJUST MANHOLE TO GRADE
- ⑫ ADJUST STRUCTURE TO GRADE
- ⑬ REMOVAL OF GROUND SIGN
- ⑭ REMOVAL OF BOLLARD
- ⑮ REMOVAL OF LANDSCAPE MEDIAN ROCK
- ⑯ REMOVE EXISTING RAILROAD CROSSING GATE
BY BNSF FORCES
- ⑰ REMOVAL OF PIPE
- ⑱ REMOVAL OF INLET
- ⑲ REMOVE STREET LIGHT
- ⑳ REMOVAL OF CONCRETE PAVEMENT
- ㉑ RESET GUY WIRE

1. CONTRACTOR SHALL RESET AND MAKE OPERATION EXISTING MEDIAN IRRIGATION SYSTEM.
2. FOR REMOVAL/RESETS OF SIGNAGED & STRIPING SEE SHEETS 23, 24, & 25.
3. CONTRACTOR SHALL COORDINATE THE REST OF SURVEY MONUMENT WITH THE CITY OF LOVELAND PRIOR TO BEGINNING CONSTRUCTION.
4. CONTRACTOR SHALL COORDINATE WITH COLORADO & SOUTHERN RAILWAY FOR THE REST OF EXISTING RAILWAY EQUIPMENT.

	REMOVAL OF ASPHALT MAT (FULL DEPTH)
	REMOVAL OF CONCRETE MEDIAN COVER MATERIAL
	CLEARING AND GRUBBING
	REMOVAL OF LANDSCAPE MEDIAN ROCK
	REMOVAL OF CURB AND GUTTER
	REMOVAL OF CONCRETE PAVEMENT
	REMOVAL OF SIDEWALK
	REMOVAL OF ASPHALT MAT (PLANING)



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REMOVAL AND RESET

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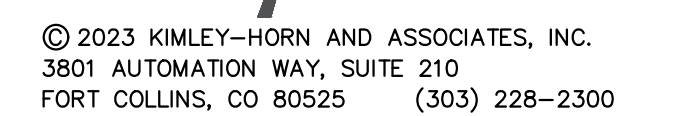
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CASE NO.: TBD

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TYPICAL SECTION

CASE NO.: TBD

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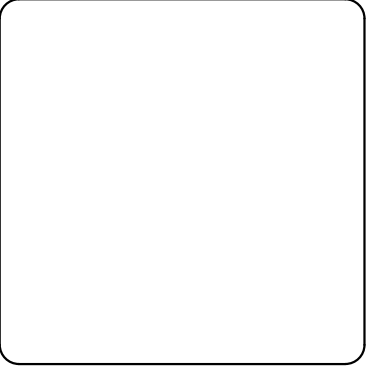


14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

TYPICAL SECTION



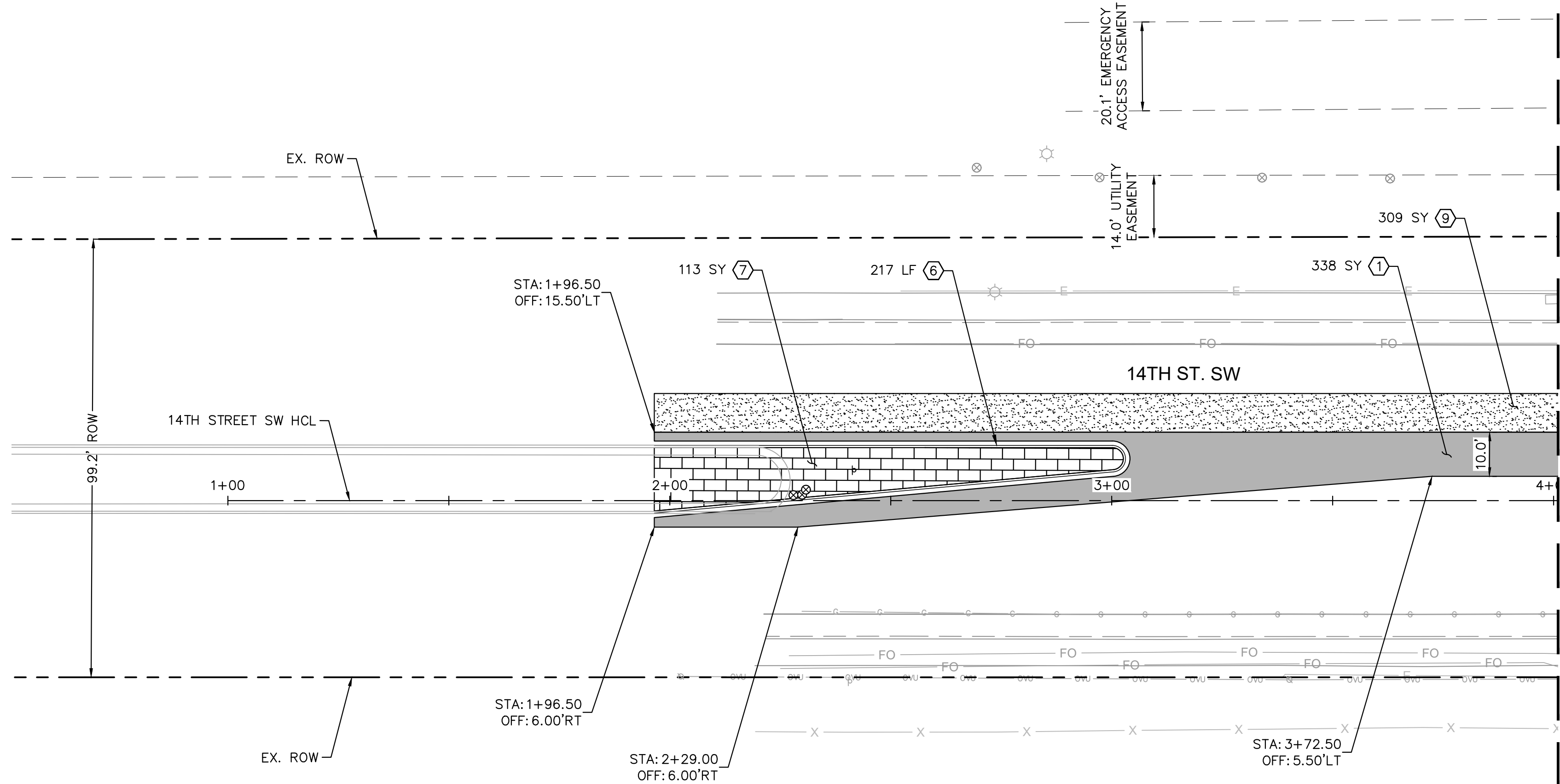
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	DESIGNED MJK	DRAWN JMA	CHECKED MEC
	SCALE (H):		
	SCALE (V):		
	DATE: 10/24/2023		SHEET NO. 11
	PROJECT NO. 096315011		
	DWG. NAME 096315011_TS.DWG		

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CASE NO.: TBD

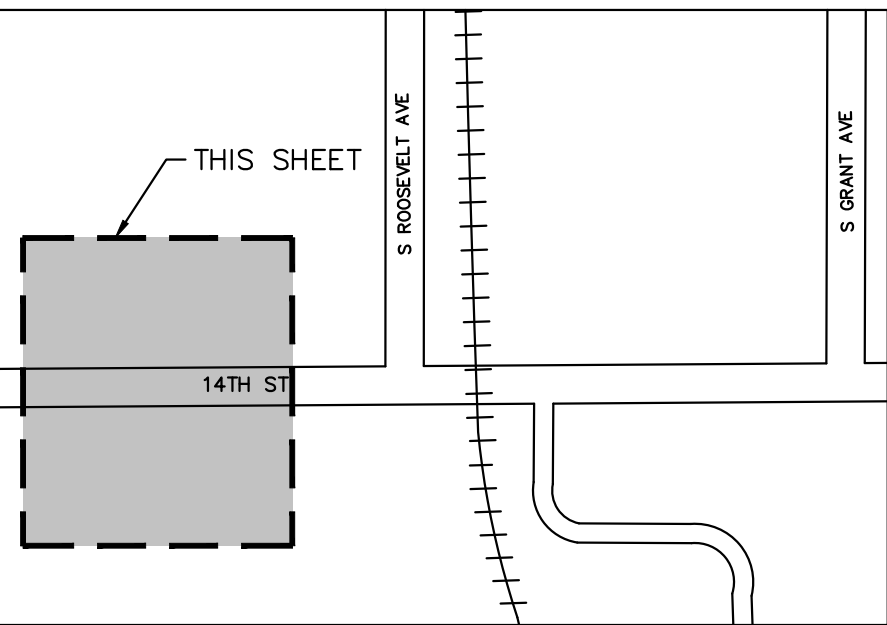
NOTES: 1. CONTRACTOR SHALL MATCH EXISTING CONCRETE PAVEMENT THICKNESS AS VERIFIED IN THE FIELD.



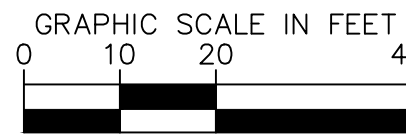
MATCHLINE STA. 4+00 SEE SHEET 13

- CONSTRUCTION NOTES:
- HOT MIX ASPHALT (GRADING XX)(XX)(PGXX-XX)
 - CONCRETE PAVEMENT (8-INCH)
 - CONCRETE CURB RAMP (4-INCH)
 - CONCRETE SIDEWALK (6-INCH)
 - CURB AND GUTTER VERTICAL (LCUASS) PER DETAIL 1 SHEET 26
 - CDOT CURB AND GUTTER TYPE 2 SECTION IM PER DETAIL 3 SHEET 26
 - MEDIAN COVER MATERIAL (PATTERNED CONCRETE)
 - CONCRETE RAILROAD CROSSING BY BNSF FORCES. SEE SHEET 22 FOR RR CROSSING
 - MILL AND OVERLAY
 - PROPOSED HANDRAIL PER DETAIL 2 SHEET 26
 - PROPOSED CHASE DRAIN (3' WIDE) SEE DETAIL 5 SHEET 27
 - PROPOSED CURB CUT (3' WIDE)

- LEGEND:
- HOT MIX ASPHALT (GRADING XX)(XX)(PG XX-XX)
 - MILL AND OVERLAY
 - CONCRETE PAVEMENT (8-INCH)
 - CONCRETE CURB RAMP (6-INCH)
 - CONCRETE SIDEWALK (6-INCH)
 - MEDIAN COVER MATERIAL (PATTERNED CONCRETE)
 - CONCRETE RAILROAD CROSSING BY BNSF FORCES



KEY MAP
N.T.S.



14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

PAVING PLAN

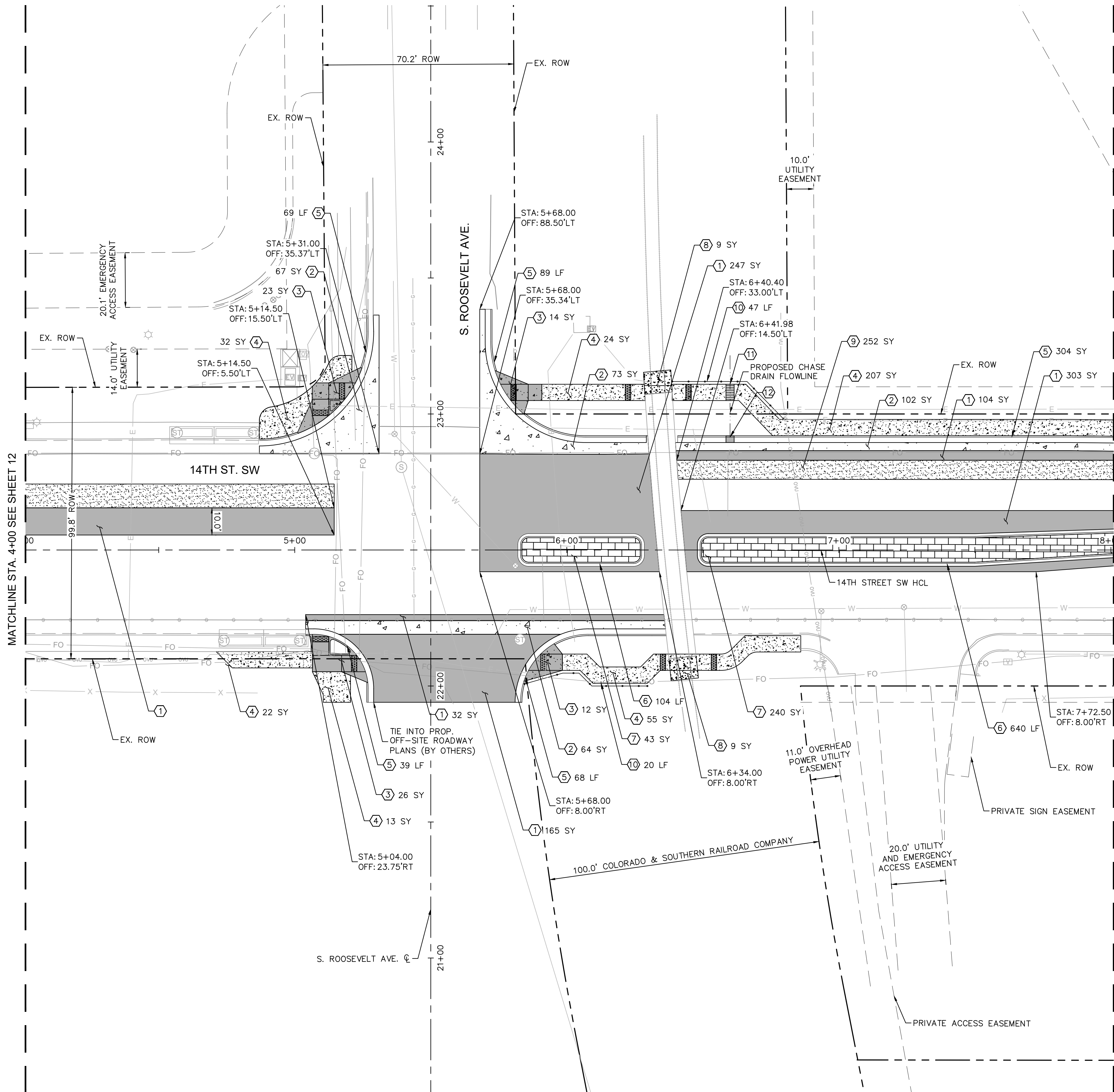
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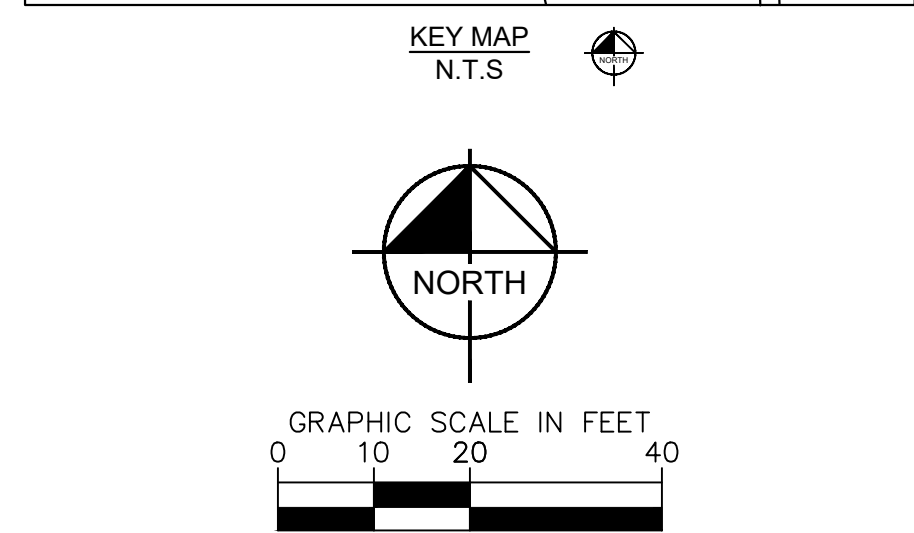
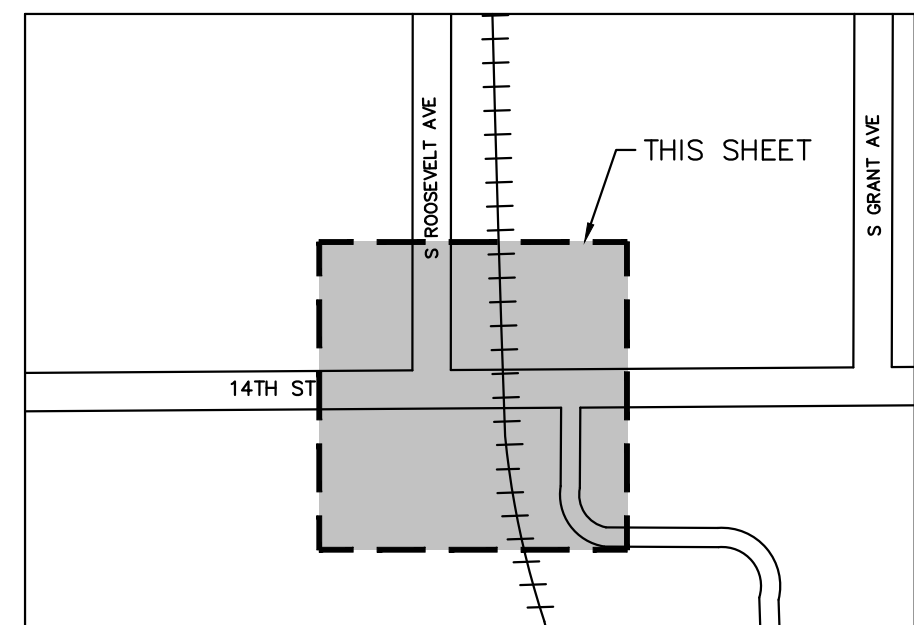
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	DATE: 10/24/2023		SHEET NO. 12
	PROJECT NO. 096315011		
	DWG. NAME 096315011_PV.DWG		
	of		

CASE NO.: TBD

NOTES: 1. CONTRACTOR SHALL MATCH EXISTING CONCRETE PAVEMENT THICKNESS AS VERIFIED IN THE FIELD.



- CONSTRUCTION NOTES:**
- HOT MIX ASPHALT (GRADING XX)(XX)(PGXX-XX)
 - CONCRETE PAVEMENT (8-INCH)
 - CONCRETE CURB RAMP (4-INCH)
 - CONCRETE SIDEWALK (6-INCH)
 - CURB AND GUTTER VERTICAL (LCUASS) PER DETAIL 1 SHEET 26
 - CDOT CURB AND GUTTER TYPE 2 SECTION IM PER DETAIL 3 SHEET 26
 - MEDIAN COVER MATERIAL (PATTERNED CONCRETE)
 - CONCRETE RAILROAD CROSSING BY BNSF FORCES. SEE SHEET 22 FOR RR CROSSING
 - MILL AND OVERLAY
 - PROPOSED HANDRAIL PER DETAIL 2 SHEET 26
 - PROPOSED CHASE DRAIN (3' WIDE) SEE DETAIL 5 SHEET 27
 - PROPOSED CURB CUT (3' WIDE)
- LEGEND:**
- HOT MIX ASPHALT (GRADING XX)(XX)(PG XX-XX)
 - MILL AND OVERLAY
 - CONCRETE PAVEMENT (8-INCH)
 - CONCRETE CURB RAMP (6-INCH)
 - CONCRETE SIDEWALK (6-INCH)
 - MEDIAN COVER MATERIAL (PATTERNED CONCRETE)
 - CONCRETE RAILROAD CROSSING BY BNSF FORCES



14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

PAVING PLAN

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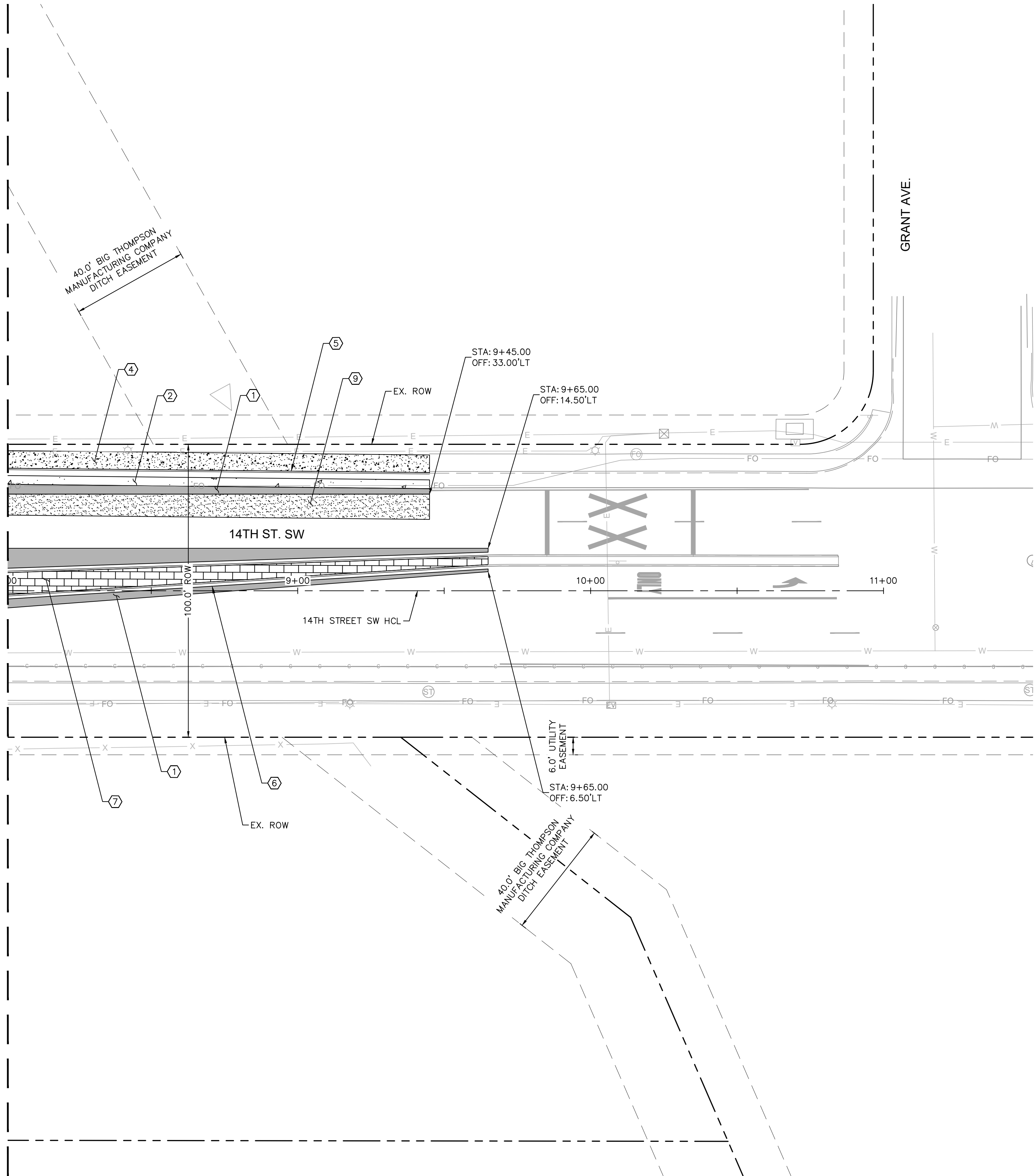
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MJK	JMA	MEC
SCALE (H): SCALE (V):		
DATE: 10/24/2023		SHEET NO.
PROJECT NO. 096315011		13
DWG. NAME 096315011_PV.DWG		
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CASE NO.: TBD

NOTES: 1. CONTRACTOR SHALL MATCH EXISTING CONCRETE PAVEMENT THICKNESS AS VERIFIED IN THE FIELD.

MATCHLINE STA. 8+00 SEE SHEET 13

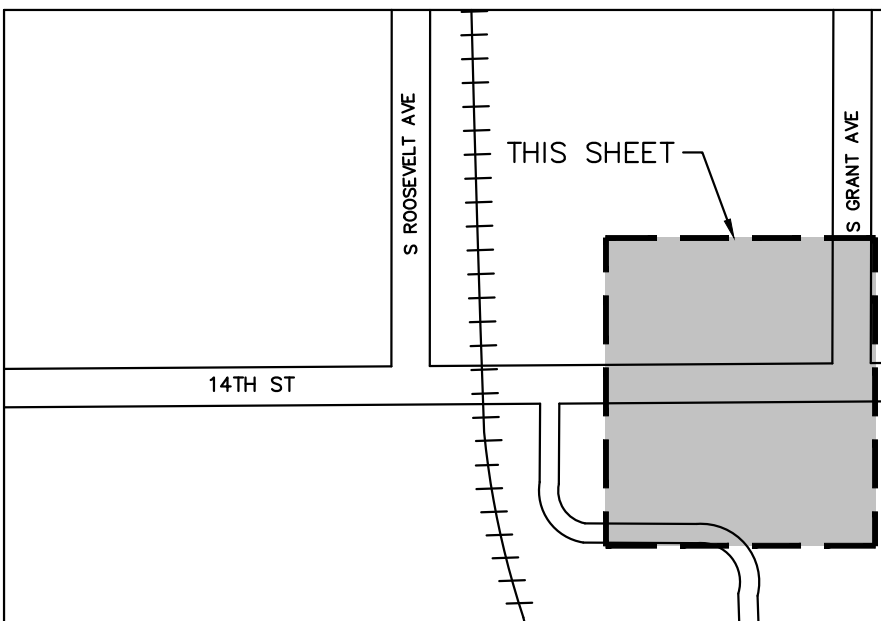


CONSTRUCTION NOTES:

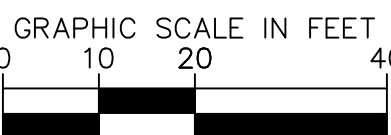
1. HOT MIX ASPHALT (GRADING XX)(XX)(PGXX-XX)
2. CONCRETE PAVEMENT (8-INCH)
3. CONCRETE CURB RAMP (4-INCH)
4. CONCRETE SIDEWALK (6-INCH)
5. CURB AND GUTTER VERTICAL (LCUASS) PER DETAIL 1 SHEET 26
6. CDOT CURB AND GUTTER TYPE 2 SECTION IM PER DETAIL 3 SHEET 26
7. MEDIAN COVER MATERIAL (PATTERNED CONCRETE)
8. CONCRETE RAILROAD CROSSING BY BNSF FORCES. SEE SHEET 22 FOR RR CROSSING
9. MILL AND OVERLAY
10. PROPOSED HANDRAIL PER DETAIL 2 SHEET 26
11. PROPOSED CHASE DRAIN (3' WIDE) SEE DETAIL 5 SHEET 27
12. PROPOSED CURB CUT (3' WIDE)

LEGEND:

- HOT MIX ASPHALT (GRADING XX)(XX)(PG XX-XX)
- MILL AND OVERLAY
- CONCRETE PAVEMENT (8-INCH)
- CONCRETE CURB RAMP (6-INCH)
- CONCRETE SIDEWALK (6-INCH)
- MEDIAN COVER MATERIAL (PATTERNED CONCRETE)
- CONCRETE RAILROAD CROSSING BY BNSF FORCES



KEY MAP
N.T.S.



14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

PAVING PLAN

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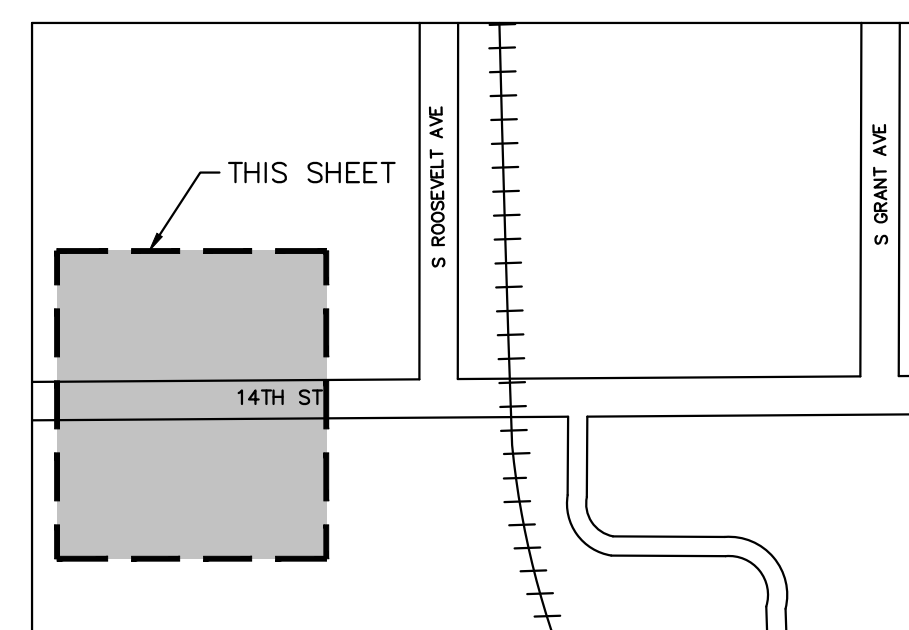
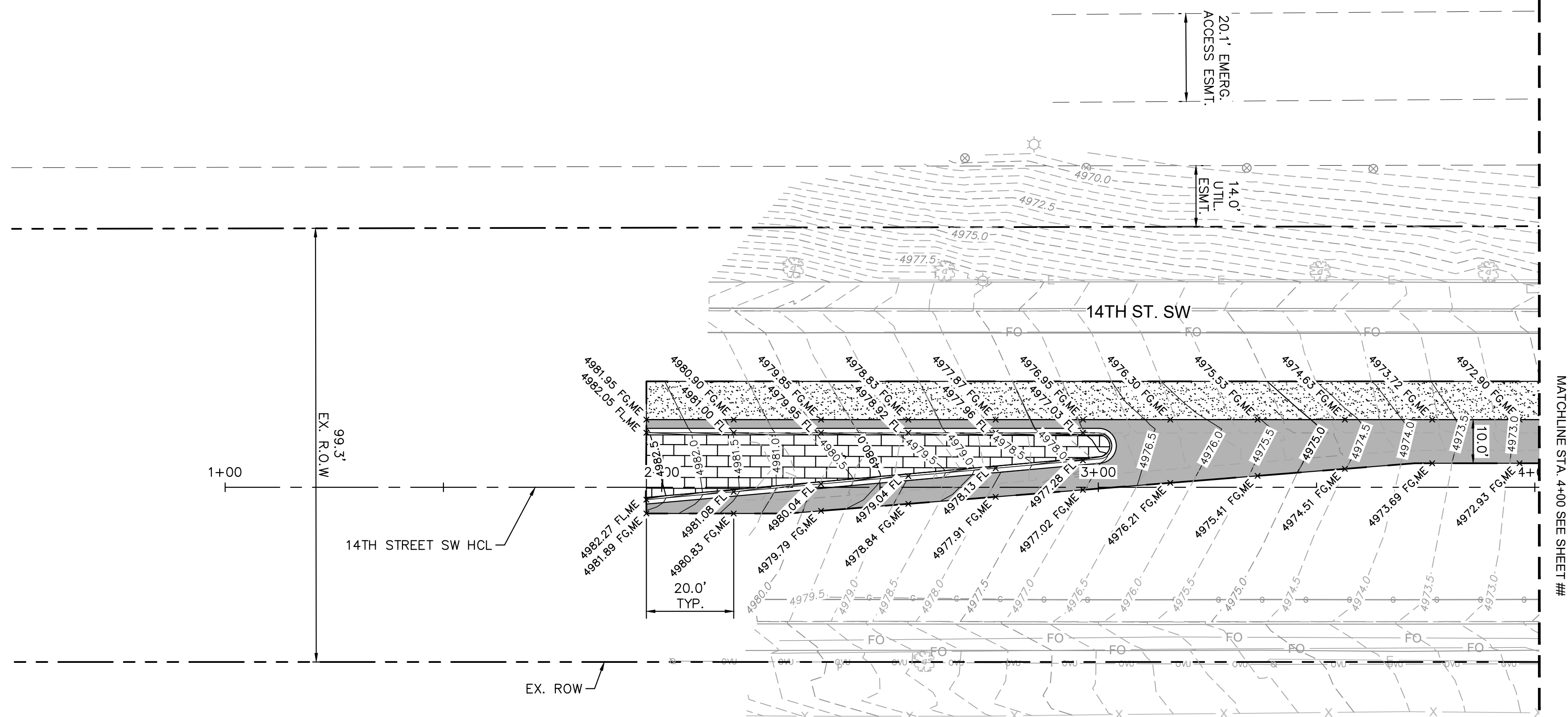
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SCALE (H): SCALE (V): DATE: 10/24/2023		SHEET NO. 14
PROJECT NO. 096315011		
DWG. NAME 096315011_PV.DWG		of shts

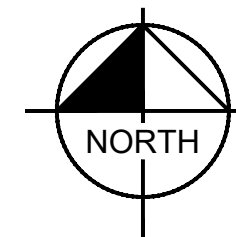
NOTES:
1. CONTRACTOR SHALL MATCH EXISTING CONCRETE PAVEMENT THICKNESS AS VERIFIED IN THE FIELD.

CASE NO.: TBD

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KEY MAP
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GRAPHIC SCALE IN FEET

A horizontal scale bar with tick marks at 0, 10, 20, and 40 feet. The bar is divided into alternating black and white segments: a black segment from 0 to 10, a white segment from 10 to 20, a black segment from 20 to 30, and a white segment from 30 to 40.



Know what's **below**.
Call before you dig

14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

GRADING PLAN

Kimley»Horn

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DESIGNED	DRAWN	CHECKED
MJK	JMA	MEC

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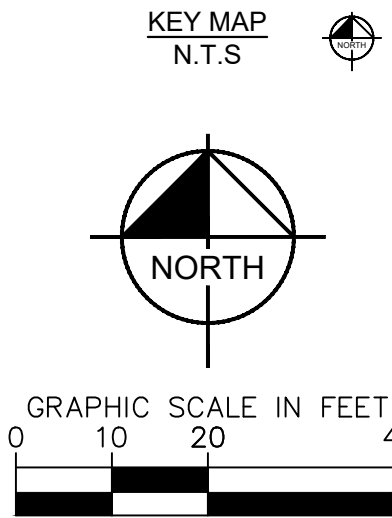
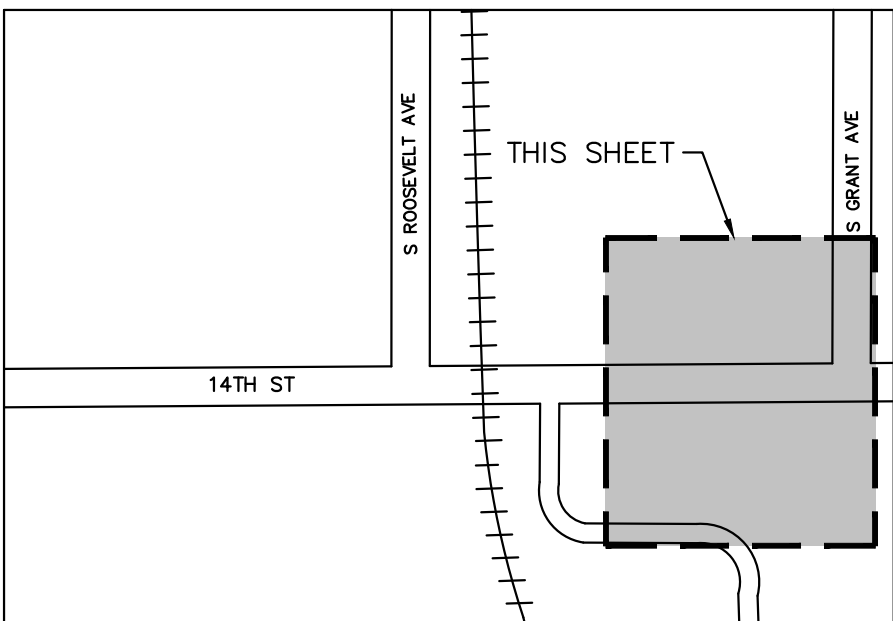
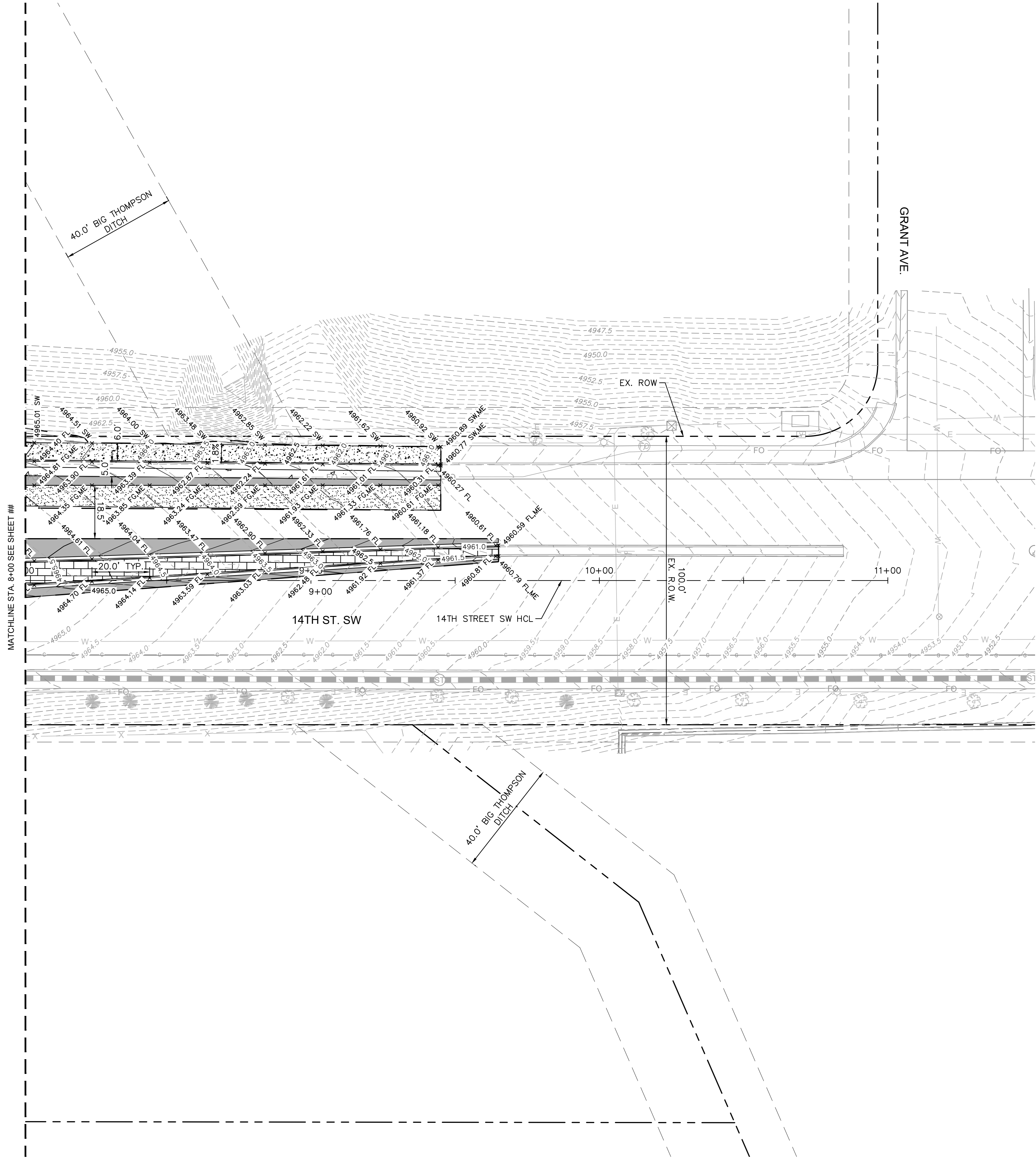
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ts	o.	CASE NO.: TBD
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NOTED: THESE PLANS WERE PREPARED BY KIMLEY-HORN AND ASSOCIATES, INC. (KHA) FOR THE CITY OF LOVELAND. THE CITY OF LOVELAND IS THE OWNER OF THESE PLANS. KHA AND ASSOCIATES, INC. SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THESE PLANS. THE CITY OF LOVELAND SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THESE PLANS. THE CITY OF LOVELAND SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF THESE PLANS.



14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

GRADING PLAN

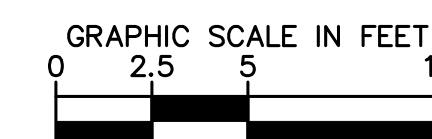
Kimley»Horn

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FORT COLLINS, CO 80525 (303) 228-2300

	DESIGNED MJK	DRAWN JMA	CHECKED MEC
	SCALE (H):		
	SCALE (V):		
	DATE: 10/24/2023		SHEET NO. 17
	PROJECT NO. 096315011		
	DWG. NAME 096315011_GD.DWG		

of sheets

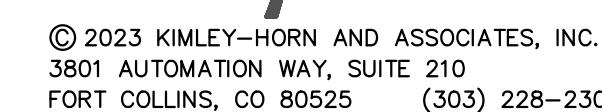
CASE NO.: TBD
of shts



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14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

GRADING INSET A

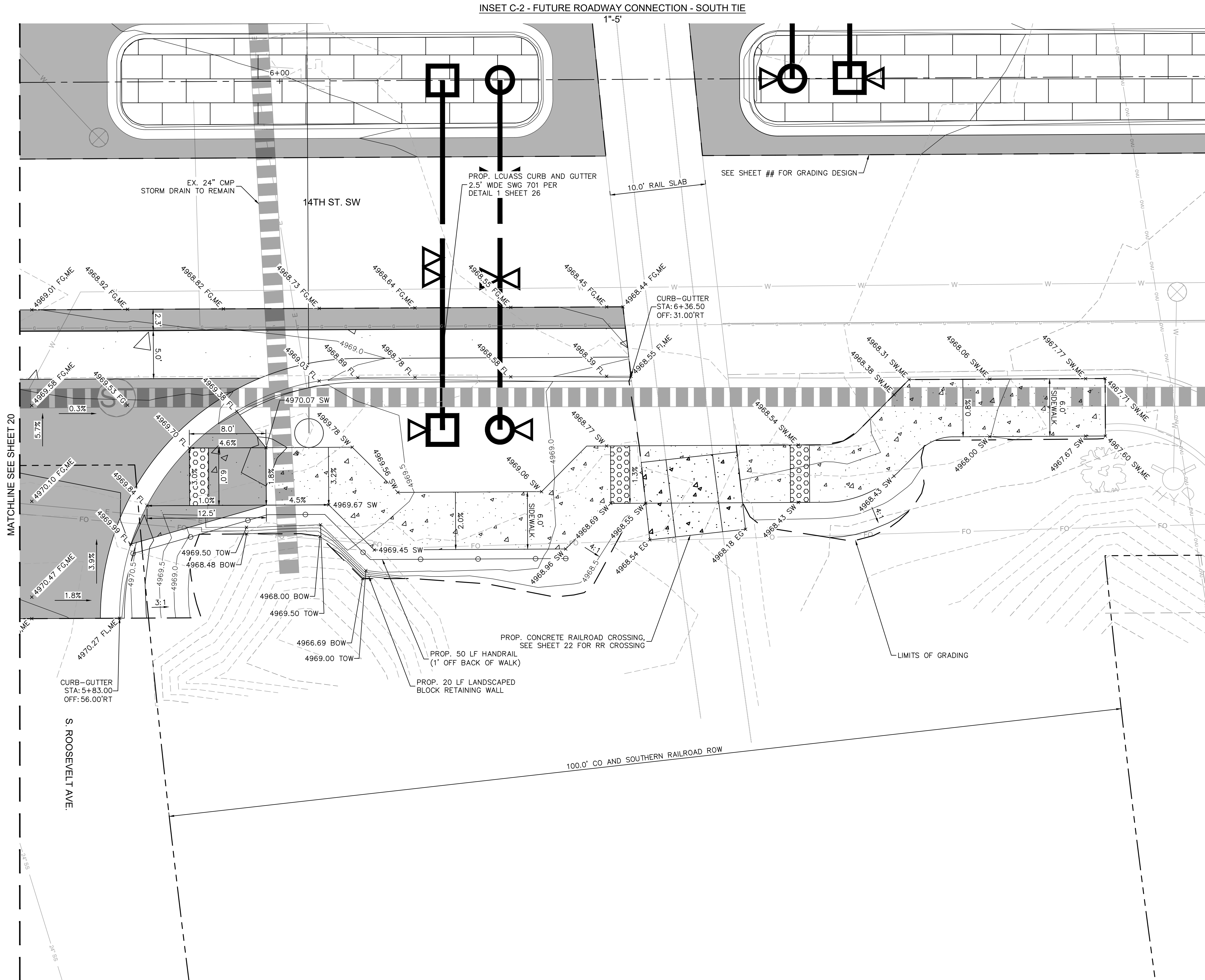


DESIGNED	DRAWN	CHECKED
MJK	JMA	MEC
SCALE (H):		SHEET N 18 of
SCALE (V):		
DATE: 10/24/2023		
PROJECT NO. 096315011		
DWG. NAME 096315011_INSETS-GD.DWG		

nts	0.	CASE NO : TBD
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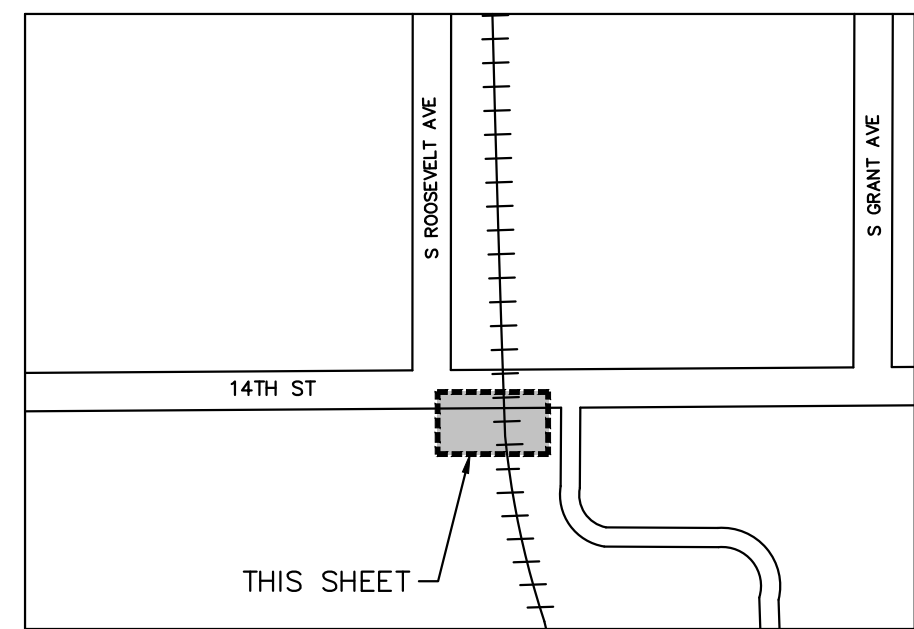
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- Lowell - 14th & Roosevelt Interaction Improvements\CAD\PlanSheets\096315011_INSETS-CD.dwg Arello, Jackie 10/24/2023 4:37 PM
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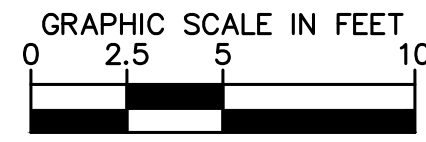


INSET C-2 - FUTURE ROADWAY CONNECTION - SOUTH TIE

1"=5'



KEY MAP
N.T.S.



14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

GRADING INSET C-2

Kimley»Horn

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SCALE (H): SCALE (V):		
DATE: 10/24/2023		
PROJECT NO. 096315011		
DWG. NAME 096315011_INSETS-GD.DWG		
SHEET NO. 21		
of shets		

CASE NO.: TBD

TRAFFIC SIGNAL HEAD W/ BACKPLATE

TRAFFIC SIGNAL HEAD W/O BACKPLATE

TRAFFIC PULL BOX (17"x30"x12" QUAZITE)

HOME RUN PULL BOX (24"x36"x18" QUAZITE)

SIGNAL HEAD I.D.

SIGNAL POLE & MAST ARM

PEDESTRIAN PUSH BUTTON

PEDESTRIAN SIGNAL HEAD

TRAFFIC SIGNAL CONTROLLER

LUMINAIRE

SIGNAL POLE I.D.

PRESENCE RADAR DETECTION UNIT (WAVETRONIX)

ADVANCED RADAR DETECTION UNIT (WAVETRONIX)

RADAR DETECTION ZONE

CONDUIT (AS SHOWN)

FIRE PREEMPTION TRAFFIC DETECTOR

RADIO ANTENNA

TRAFFIC SIGNAL PEDESTAL POLE

PEDESTRIAN PUSH BUTTON POST

- ① FURNISH AND INSTALL TRAFFIC PULL BOX (17"x30"x12" QUAZITE) PER LUCASS STANDARDS AND SPECIFICATIONS
- ② FURNISH AND INSTALL STREET NAME SIGN PER TOWN OF LOVELAND, LUCASS, AND CDOT STANDARDS & SPECIFICATIONS
- ③ FURNISH AND INSTALL OPTICOM DETECTOR PER LUCASS STANDARDS AND SPECIFICATIONS
- ④ FURNISH AND INSTALL APS PEDESTRIAN PUSH BUTTON AND SIGN PER LUCASS STANDARDS & SPECIFICATIONS
- ⑤ FURNISH AND INSTALL CONTROLLER, CABINET, AND FOUNDATION PER LUCASS STANDARDS & SPECIFICATIONS
- ⑥ FURNISH AND INSTALL ELECTRIC METER AND PEDESTAL
- ⑦ CONTRACTOR TO COORDINATE CONNECTION TO ELECTRICAL SERVICE
- ⑧ FURNISH AND INSTALL PRESENCE/ADVANCED RADAR DETECTOR PER LUCASS STANDARDS & SPECIFICATIONS
- ⑨ FURNISH AND INSTALL LED LUMINARIE PER LUCASS STANDARDS & SPECIFICATIONS
- ⑩ FURNISH AND INSTALL PEDESTAL POLE PER CDOT STANDARDS & SPECIFICATIONS
- ⑪ FURNISH AND INSTALL UNINTERRUPTED POWER SUPPLY
- ⑫ FURNISH AND INSTALL TRAFFIC SIGNAL MAST ARM AND POLE PER LUCASS AND CDOT STANDARDS AND SPECIFICATIONS
- ⑬ FURNISH AND INSTALL MAST ARM MOUNTED SIGN
- ⑭ FURNISH AND INSTALL HOME RUN PULL BOX (24"x36"x18" QUAZITE) PER LUCASS STANDARDS AND SPECIFICATIONS
- ⑮ FURNISH AND INSTALL PUSH BUTTON POLE PER CDOT STANDARDS AND SPECIFICATIONS
- ⑯ FURNISH AND INSTALL CCTV
- ⑰ FURNISH AND INSTALL 2-7/C#14 TO RAILROAD BUNGALOW (3-INCH TRENCHED)

The diagram illustrates four types of vertical traffic sign configurations, each showing the sign layout and the corresponding sign numbers in a circle.

- 4-SECTION VERTICAL HEAD WITH BACKPLATE:** Shows four signs (SR, SY, FY, SG) stacked vertically within a single backplate. The sign numbers are 1, 6, 10, and 15.
- 4-SECTION VERTICAL HEAD WITHOUT BACKPLATE:** Shows four signs (SR, SY, FY, SG) stacked vertically, each with its own backplate. The sign numbers are 4, 8, 13, and 17.
- 3-SECTION VERTICAL HEAD WITH BACKPLATE:** Shows three signs (R, Y, G) stacked vertically within a single backplate. The sign numbers are 2, 3, 7, 11, 12, and 16.
- 3-SECTION VERTICAL HEAD WITHOUT BACKPLATE:** Shows three signs (R, Y, G) stacked vertically, each with its own backplate. The sign numbers are 5, 9, 14, and 18.

POLE NUMBER	MA-1	MA-2	MA-3	MA-4	PED 1	PBP 1
MAST ARM LENGTH	45'	40'	50'	45'	N/A	N/A
FND. DIAMETER	36"	36"	36"	36"	18"	12"
FND. DEPTH	19'	19'	19'	19'	5'	10"
NORTHING / EASTING	N: 1380981.71 E: 3116118.12	N: 1380990.26 E: 3116213.69	N: 1380891.14 E: 3116228.75	N: 1380882.55 E: 3116130.92	N: 1380981.63 E: 3116139.16	N: 1380889.49 E: 3116139.20
DESIGN STANDARD	CDOT S-614-40A	CDOT S-614-40A	CDOT S-614-40A	CDOT S-614-40A	CDOT S-614-44	CDOT S-614-45
APPROXIMATE TOP OF CAISSON ELEVATION	MATCH PROPOSED	MATCH PROPOSED	MATCH PROPOSED	MATCH PROPOSED	MATCH PROPOSED	MATCH PROPOSED

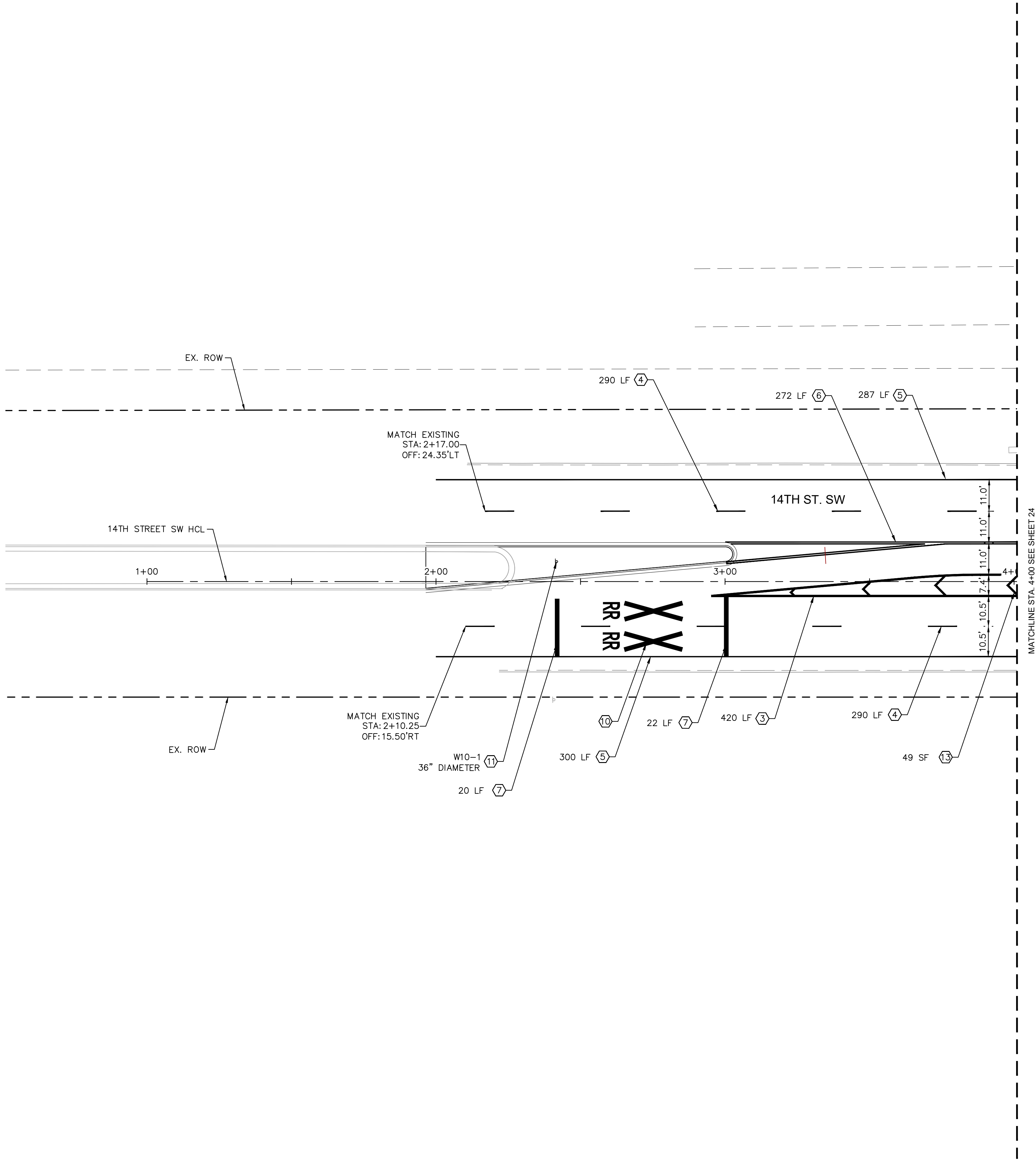
Ø1	Ø2	Ø3	Ø4
Ø5	Ø6	Ø7	Ø8
SW 14TH ST	SW 14TH ST	S ROOSEVELT AVE	S ROOSEVELT AVE

1. SEE SHEETS 23-25 FOR SIGNING DETAILS.
2. TRENCHED CONDUIT SHALL BE UL LISTED SCHEDULE 80 PVC WITH GLUED JOINTS.
3. BORED CONDUIT SHALL BE CONTINUOUS UL LISTED HDPE SCHEDULE 80 SMOOTH WALL CONDUIT DESIGNED FOR DIRECTIONAL BORING.

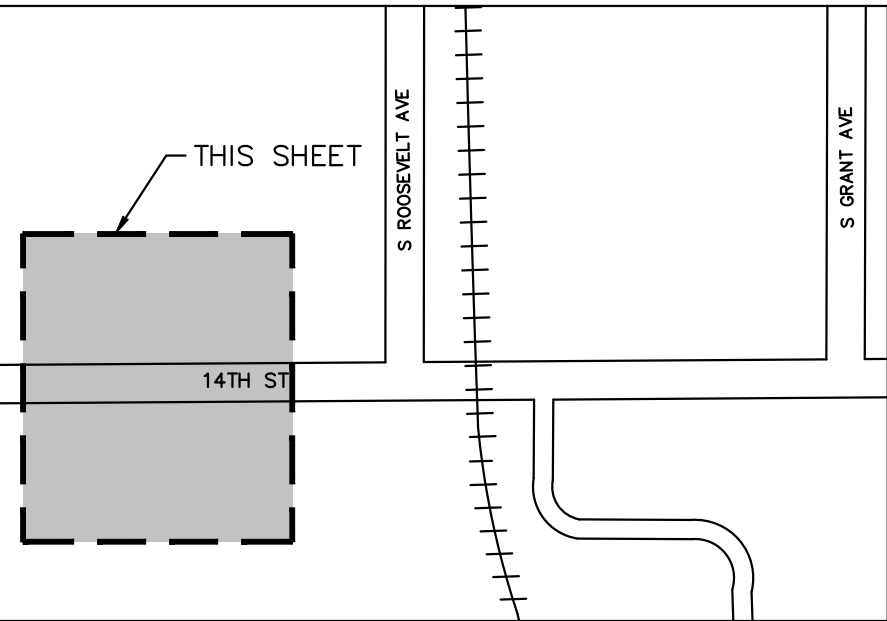
Diagram illustrating four types of street name signs and two types of pedestrian push button signs:

- 1. Standard Street Name Sign:** A rectangular sign with a logo on the left, the street name "SW 14TH St" in the center, and the number "500" on the right. The text "STREET NAME SIGN VARIES" is above the sign.
- 2. MAST ARM SIGN:** A rectangular sign with a logo on the left, the street name "S ROOSEVELT Ave" in the center, and the number "1300" on the right. The text "MAST ARM SIGNS" is below the sign.
- 3. Ped Push Button Sign (Left Turn):** A square sign with a black background, a white left turn arrow, and the word "ONLY" in white. The text "R3-5L (30"x36")" is below the sign.
- 4. Ped Push Button Sign (Right Turn):** A rectangular sign with a black background and white text: "ONE GREEN LIGHT TO GO", "PUSH BUTTON TO GO", "TO GO", "TO GO", "TO GO", "TO GO", "TO GO", "TO GO", "TO GO", "TO GO". The text "R10-3eR (9"x15")" is below the sign.
- 5. Ped Push Button Sign (Left Turn):** A rectangular sign with a black background and white text: "ONE GREEN LIGHT TO GO", "PUSH BUTTON TO GO", "TO GO", "TO GO", "TO GO", "TO GO", "TO GO", "TO GO", "TO GO", "TO GO". The text "R10-3eL (9"x15")" is below the sign.

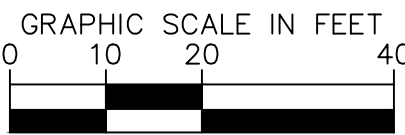
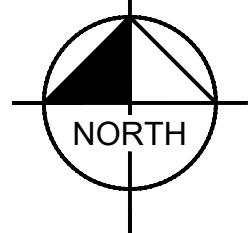
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- CONSTRUCTION NOTES:
- ① PROPOSED STRAIGHT ARROW: WHITE, 12.1 SF (THERMOPLASTIC)
 - ② PROPOSED TURN ARROW: WHITE, 16.1 SF (THERMOPLASTIC)
 - ③ PROPOSED CHANNELIZING LINE: SOLID, WHITE (8-INCH)
 - ④ PROPOSED LANE LINE: DASHED WHITE (4-INCH)
 - ⑤ PROPOSED EDGE LINE: SOLID WHITE (4-INCH)
 - ⑥ PROPOSED LANE LINE: SOLID DOUBLE YELLOW (4-INCH)
 - ⑦ PROPOSED STOP BAR: WHITE (18-INCH) (THERMOPLASTIC)
 - ⑧ PROPOSED CROSSWALK MARKING: (18-INCH WIDE BY 9-FOOT LONG) (THERMOPLASTIC)
 - ⑨ RESET EXITING SIGN ON NEW POST
 - ⑩ PROPOSED GRADE CROSSING PAVEMENT MARKINGS, 16" WIDE "X" WITH 6" LETTERS
 - ⑪ PROPOSED GROUND SIGN
 - ⑫ PROPOSED "ONLY": WHITE, 16.1 SF (THERMOPLASTIC)
 - ⑬ PROPOSED GORE STRIPING: WHITE (8-INCH)



KEY MAP
N.T.S.



14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

SIGNING AND STRIPING

Kimley»Horn

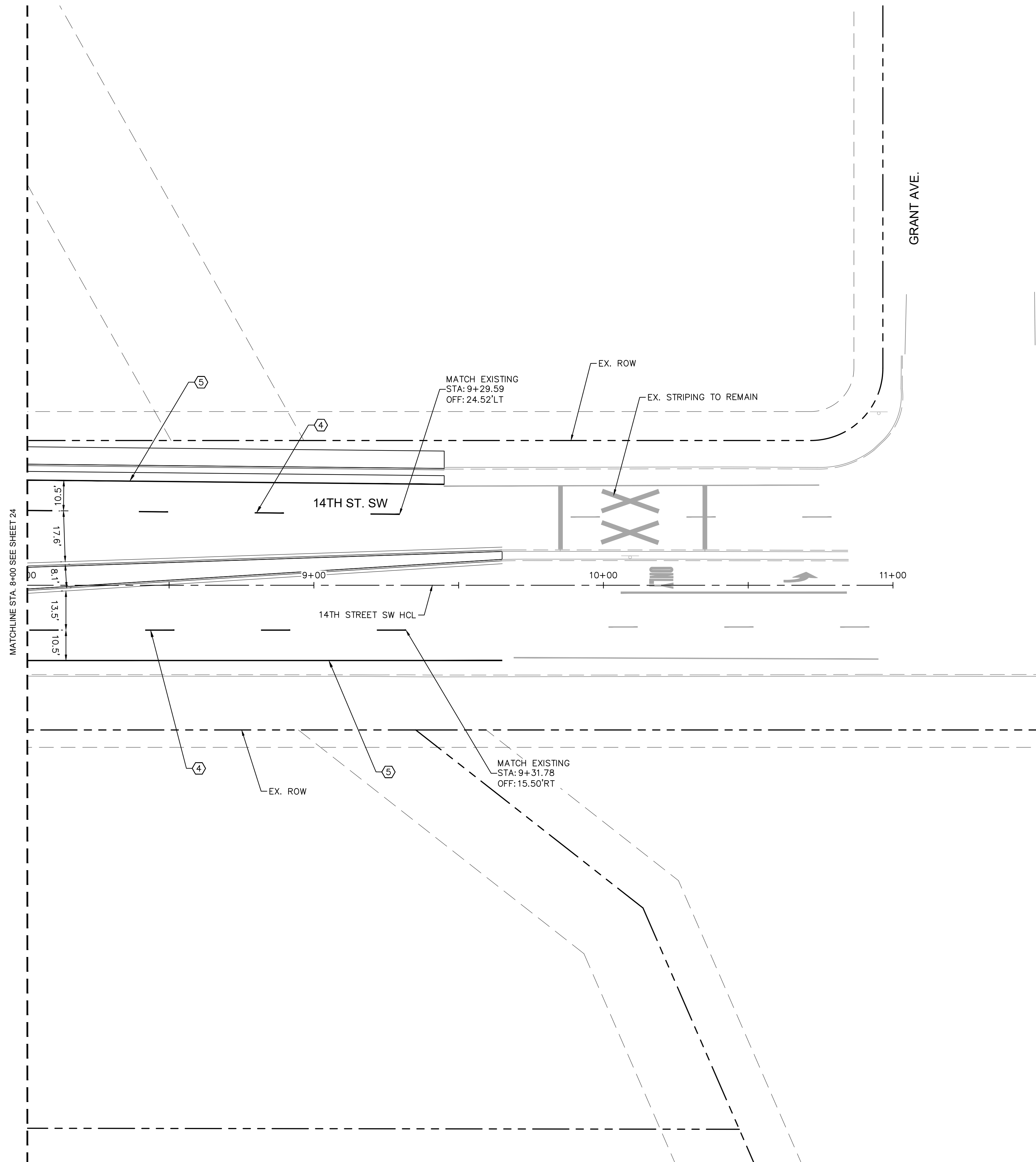
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	SCALE (H): SCALE (V):		
	DATE: 10/24/2023		SHEET NO. 23
	PROJECT NO. 096315011		
	DWG. NAME 093615011_SS.DWG		
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of shts

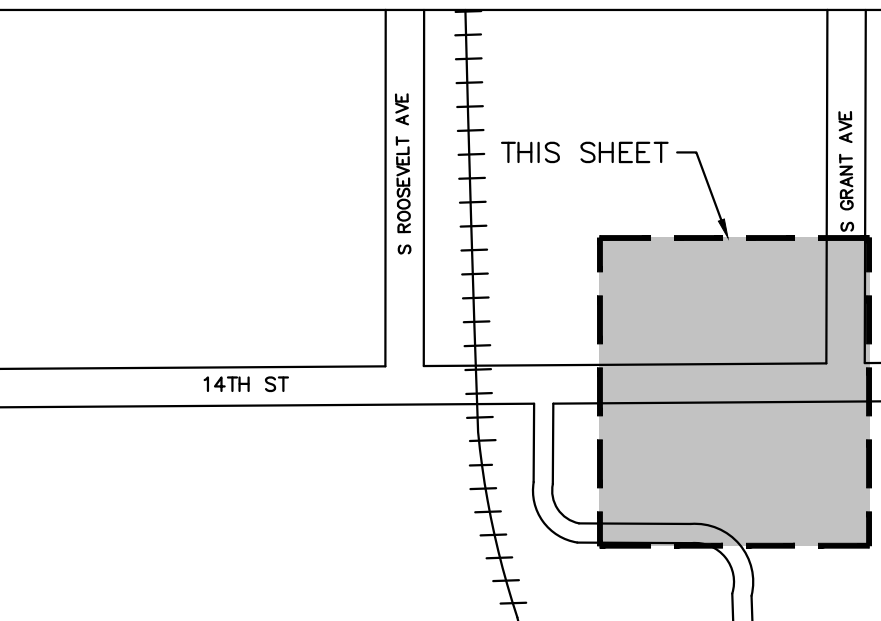
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 - Ardelano, Jackie 10/24/2023 4:37 PM
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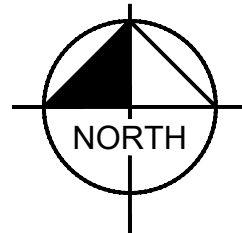


CONSTRUCTION NOTES:

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- ② PROPOSED TURN ARROW: WHITE, 16.1 SF (THERMOPLASTIC)
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- ⑧ PROPOSED CROSSWALK MARKING: (18-INCH WIDE BY 9-FOOT LONG) (THERMOPLASTIC)
- ⑨ RESET EXITING SIGN ON NEW POST
- ⑩ PROPOSED GRADE CROSSING PAVEMENT MARKINGS, 16" WIDE "X" WITH 6' LETTERS
- ⑪ PROPOSED GROUND SIGN
- ⑫ PROPOSED "ONLY": WHITE, 16.1 SF (THERMOPLASTIC)
- ⑬ PROPOSED GORE STRIPING: WHITE (8-INCH)



KEY MAP
N.T.S



GRAPHIC SCALE IN FEET



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14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

SIGNING AND STRIPING

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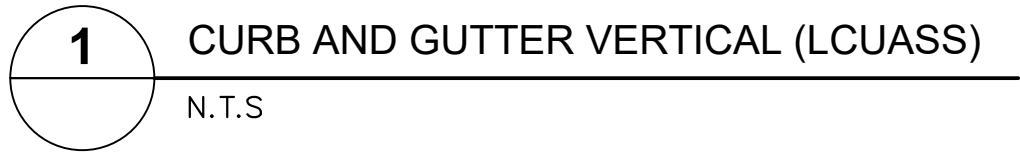
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DATE: 10/24/2023		SHEET NO. 25
PROJECT NO. 096315011		
DWG. NAME 093615011_SS.DWG		
of		

65	CASE NO.: TBD
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Lowland - 14th & Roosevelt Intersection Improvements\CADD\PlanSheets\093615011_CD.dwg Arrellano, Jackie 10/24/2023 4:38 PM
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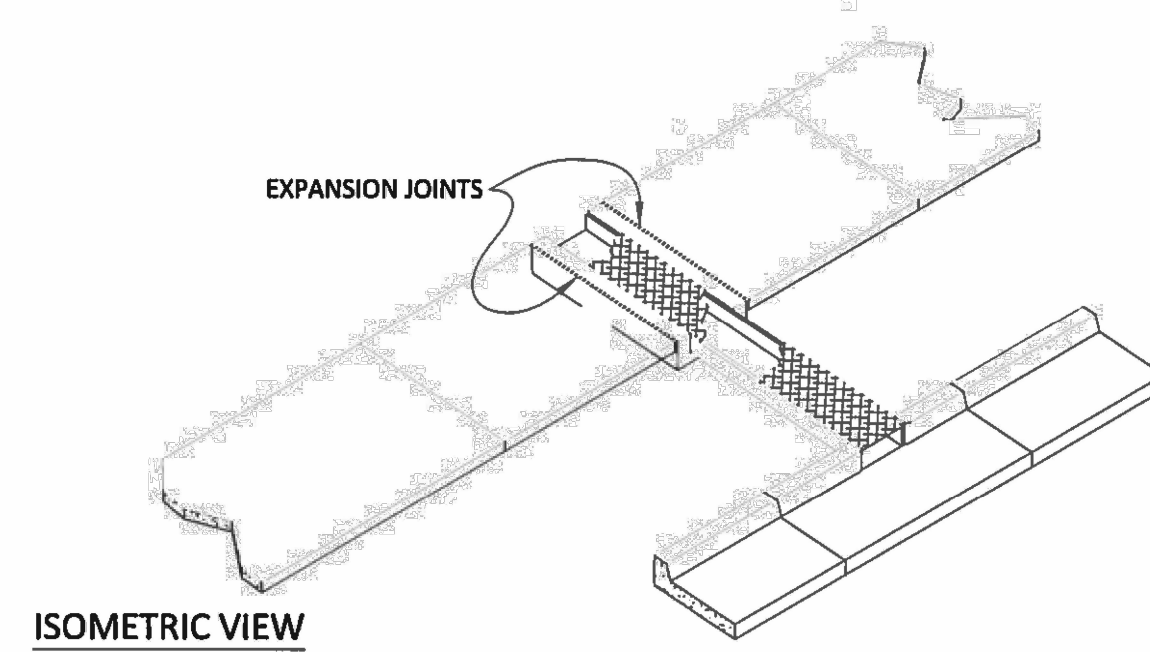
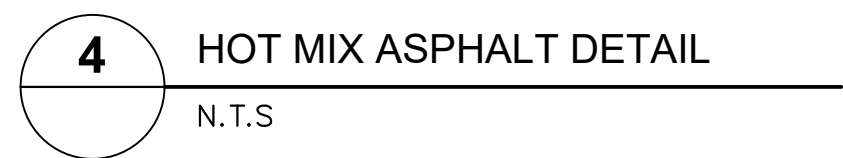
K:\DEN_PublicSector\096315011
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OF AND IMPROPER RELIANCE ON



2 HANDRAIL DETAIL PER LCUASS STD. DRAWING 1101
N.T.S

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DATE: 10/24/2023		SHEET NO. 26
PROJECT NO. 096315011		
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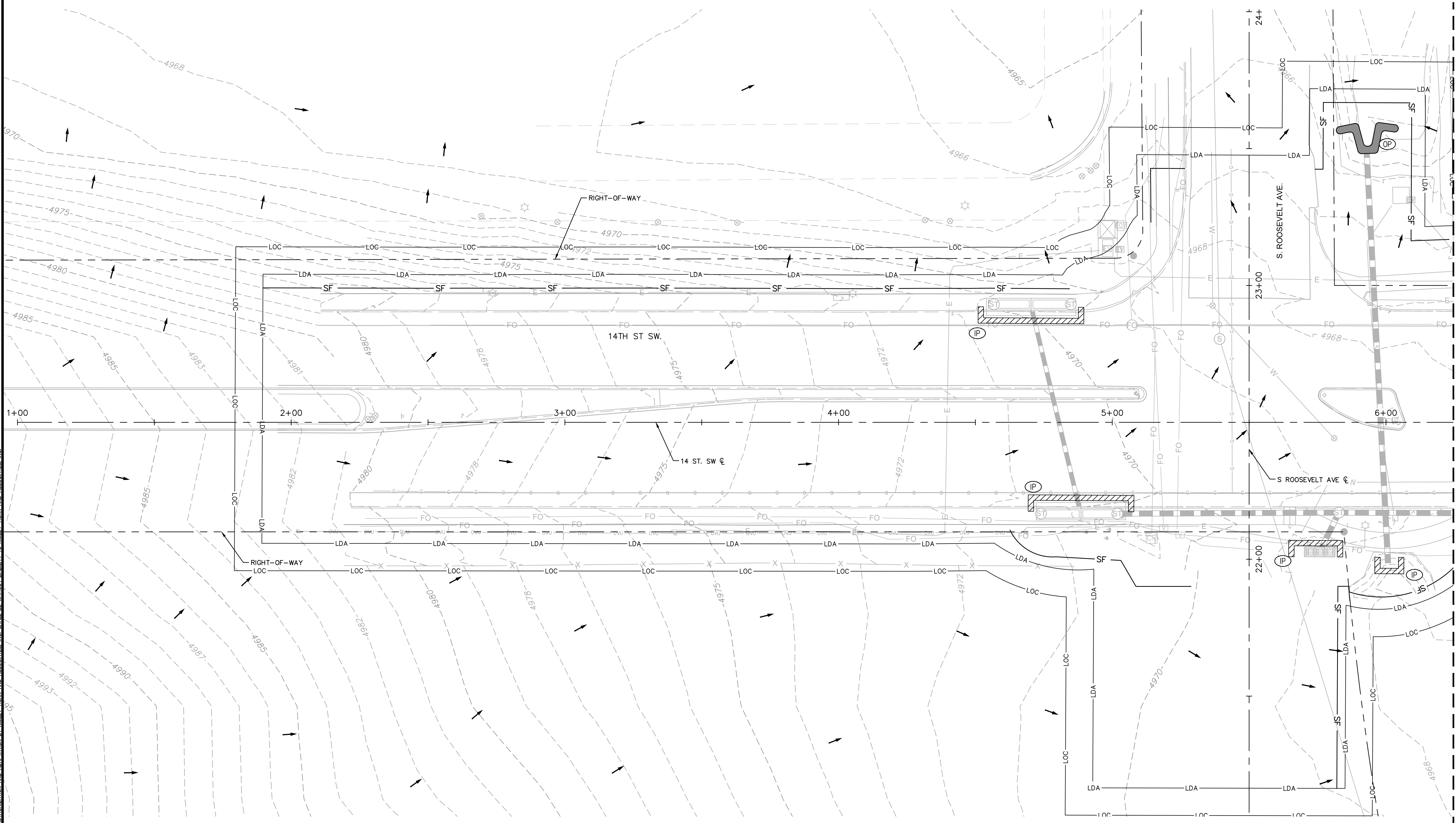
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* Varies for type of curb & gutter,
See DTL S3.3

5 CHASE DRAIN DETAIL
N.T.S

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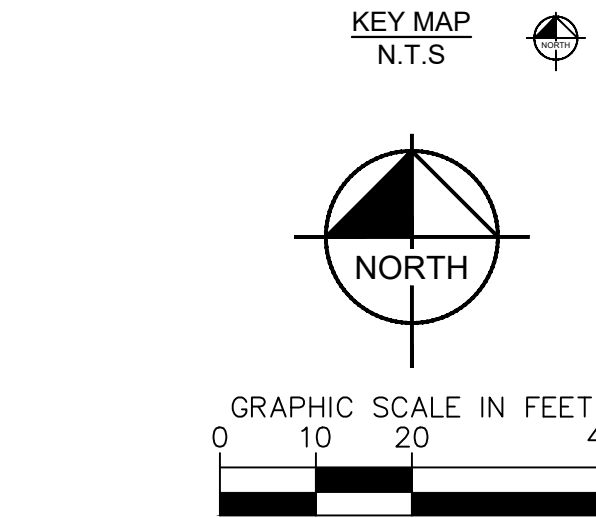
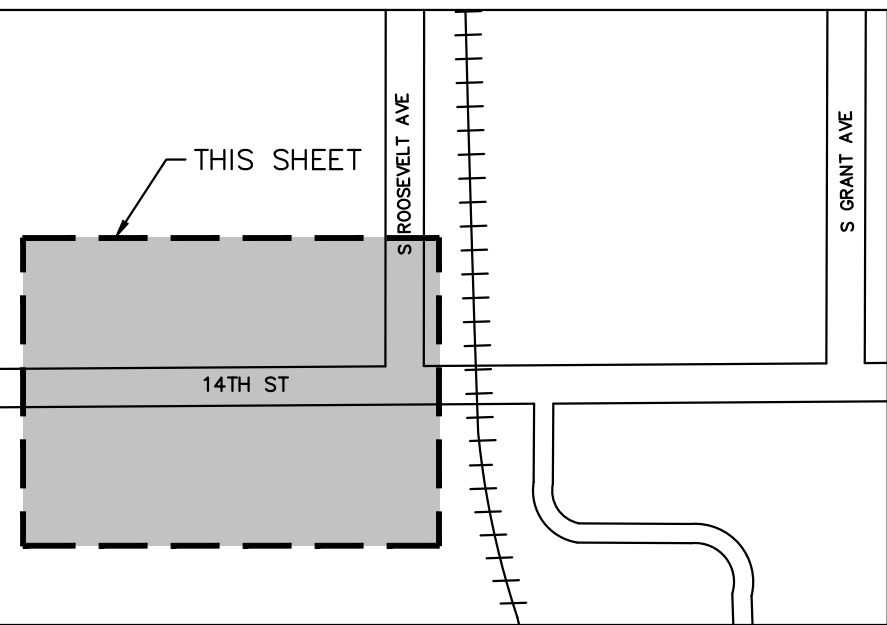


LEGEND:

- 5280 --- EXISTING CONTOUR
- RIGHT OF WAY BOUNDARY
- X-X- EXISTING FENCE
- EXISTING GRAVEL ROAD
- SF SILT FENCE
- LOC LIMITS OF CONSTRUCTION
- LDA LIMITS OF DISTURBANCE
- IP INLET PROTECTION
- OP OUTLET PROTECTION

NOTES

- REFER TO REMOVAL AND RESET SHEETS FOR LOCATION OF ALL EXISTING UTILITIES.
- EXACT LOCATION OF STABILIZED STAGING AREA SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR TO ENSURE STABILIZED STAGING AREA AND CONCRETE WASHOUT AREA ARE INSTALLED WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THESE PLANS.
- CONTRACTOR TO INSTALL INLET PROTECTION ON THE NEXT INLET DOWNSTREAM OF CONSTRUCTION.
- CONTRACTOR TO ENSURE PROTECTION OF TREES WITHIN AND ADJACENT TO LIMITS OF CONSTRUCTION.
- ROCK SOCKS TO BE INSTALLED ALONG CURB LINES.
- CONTRACTOR SHALL NOT PLACE MATERIALS WITHIN EXISTING DRAINAGEWAYS. CONTRACTOR TO MAINTAIN POSITIVE FLOWS THROUGHOUT CONSTRUCTION.



14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

INITIAL EC

Kimley»Horn

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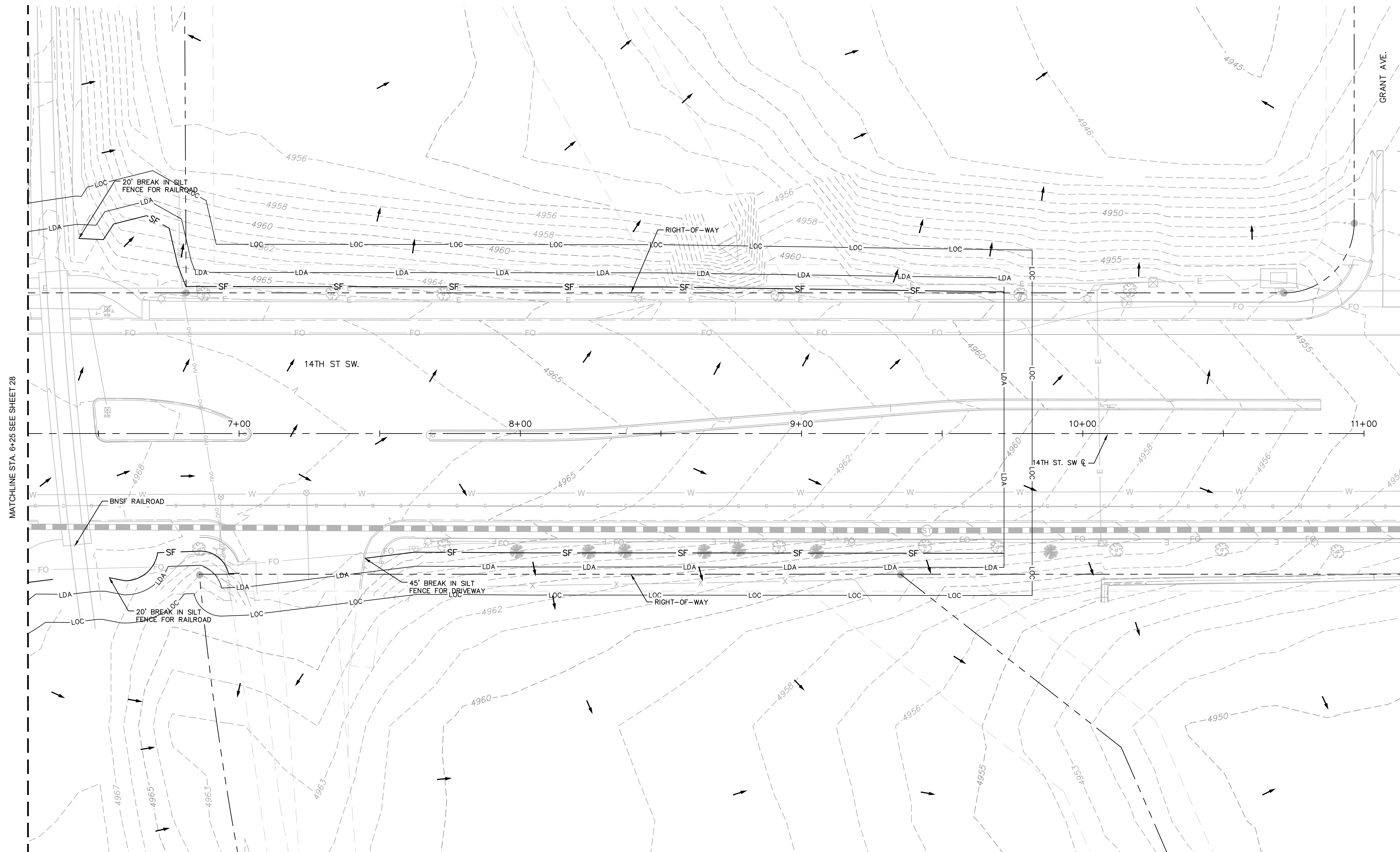
of

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CASE NO.: TBD

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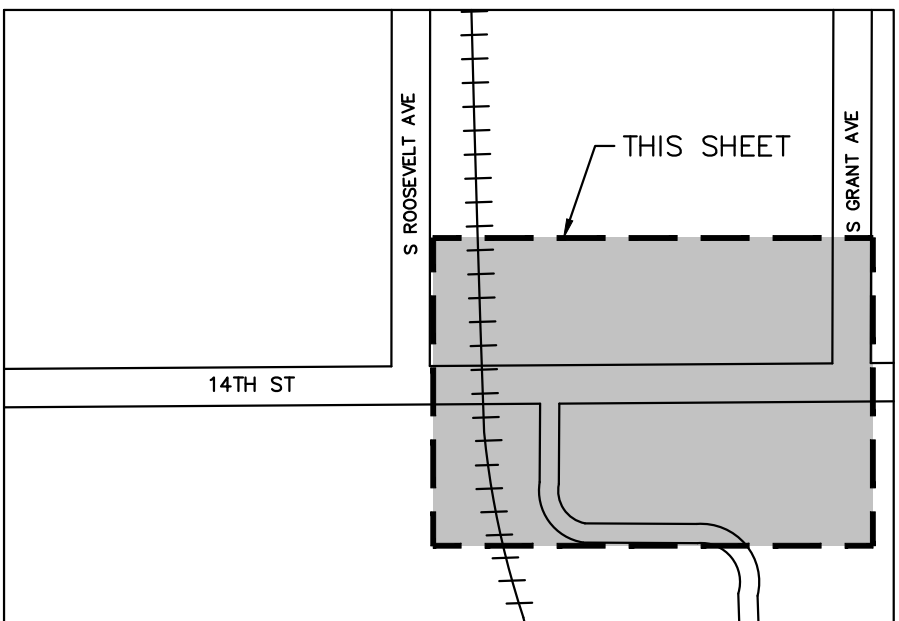


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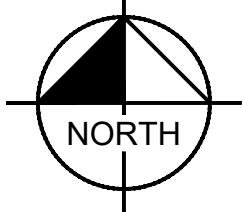
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-----	RIGHT OF WAY BOUNDARY
X-----X	EXISTING FENCE
-----	EXISTING GRAVEL ROAD
-----SF-----	SILT FENCE
-----LOC-----	LIMITS OF CONSTRUCTION
-----LDA-----	LIMITS OF DISTURBANCE
	INLET PROTECTION
	OUTLET PROTECTION
-----●-----	TREE PROTECTION ZONE

NOTES

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2. EXACT LOCATION OF STABILIZED STAGING AREA SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR TO ENSURE STABILIZED STAGING AREA AND CONCRETE WASHOUT AREA ARE INSTALLED WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THESE PLANS.
3. CONTRACTOR TO INSTALL INLET PROTECTION ON THE NEXT INLET DOWNSTREAM OF CONSTRUCTION.
4. CONTRACTOR TO ENSURE PROTECTION OF TREES WITHIN AND ADJACENT TO LIMITS OF CONSTRUCTION.
5. ROCK SOCKS TO BE INSTALLED ALONG CURB LINES.
6. CONTRACTOR SHALL NOT PLACE MATERIALS WITHIN EXISTING DRAINAGEWAYS. CONTRACTOR TO MAINTAIN POSITIVE FLOWS THROUGHOUT CONSTRUCTION.



KEY MAP
N.T.S



GRAPHIC SCALE IN FEET

0 10 20 40



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14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

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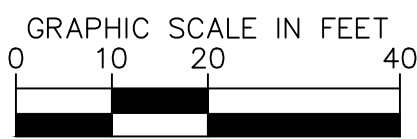
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SCALE (H):		
SCALE (V):		
DATE: 10/24/2023		SHEET NO. 29
PROJECT NO. 096315011		
DWG. NAME 096315011_INITIAL-EC.DWG		

CASE NO.: TBD



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-----5280-----	EXISTING CONTOUR
-----5280-----	PROPOSED CONTOUR
-----X-----X-----	RIGHT OF WAY BOUNDARY
-----SF-----	EXISTING FENCE
-----LOC-----	EXISTING GRAVEL ROAD
-----LDA-----	SILT FENCE
	LIMITS OF CONSTRUCTION
	LIMITS OF DISTURBANCE
	INLET PROTECTION
	OUTLET PROTECTION
	VEHICLE TRACKING PAD
	CONCRETE WASHOUT AREA
	STABILIZED STAGING AREA
	STREET SWEEPING
	ROCK SOCK
	TREE PROTECTION ZONE



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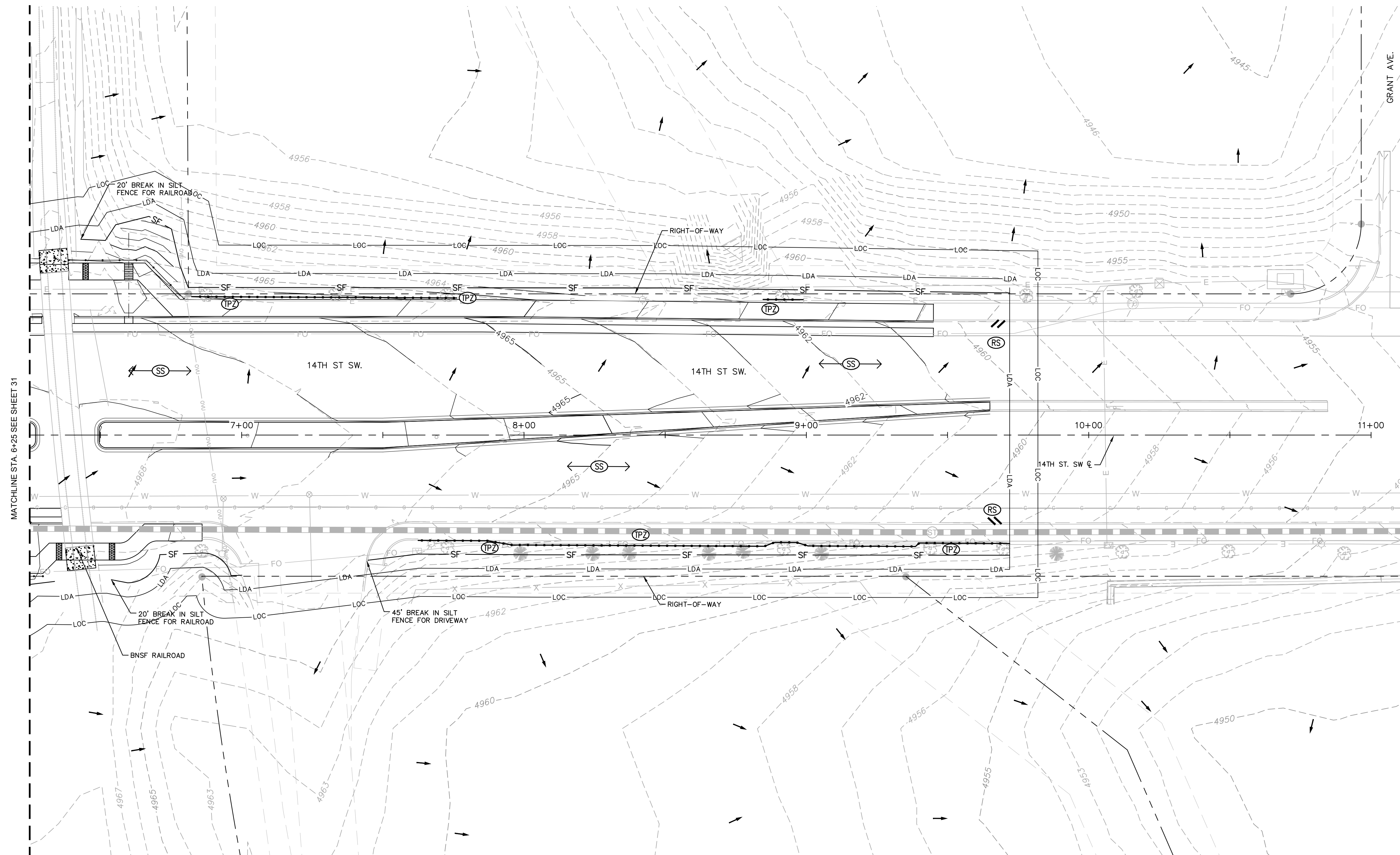
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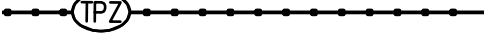
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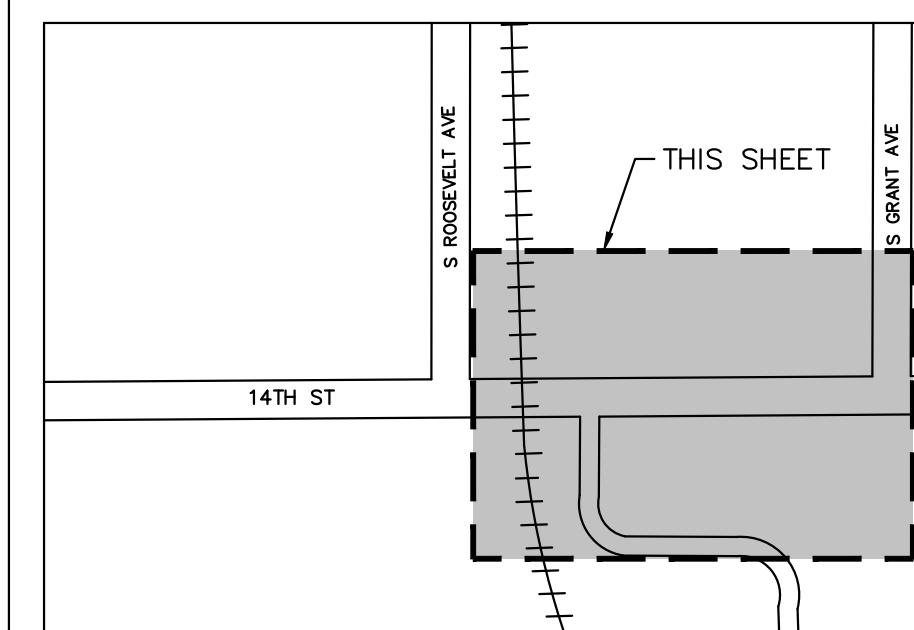
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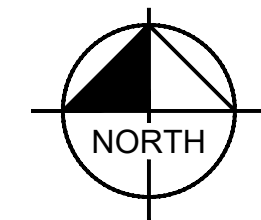
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|---|-------------------------|
| <u>LEGEND:</u> | |
| ----- - 5280 ----- | EXISTING CONTOUR |
| ===== 5280 ===== | PROPOSED CONTOUR |
| ----- | RIGHT OF WAY BOUNDARY |
| ----- X ----- X ----- | EXISTING FENCE |
| ----- | EXISTING GRAVEL ROAD |
| ----- SF ----- | SILT FENCE |
| ----- LOC ----- | LIMITS OF CONSTRUCTION |
| ----- LDA ----- | LIMITS OF DISTURBANCE |
|  | INLET PROTECTION |
|  | OUTLET PROTECTION |
|  | VEHICLE TRACKING PAD |
|  | CONCRETE WASHOUT AREA |
|  | STABILIZED STAGING AREA |
|  | STREET SWEEPING |
|  | ROCK SOCK |
|  | TREE PROTECTION ZONE |



KEY MAP
N.T.S



GRAPHIC SCALE IN FEET

A horizontal line with vertical tick marks at 0, 10, 20, and 40. The segment between 0 and 10 is white. The segment between 10 and 20 is black. The segment between 20 and 40 is white.



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14TH ST. SW AND S. ROOSEVELT AVE. INTERSECTION IMPROVEMENTS

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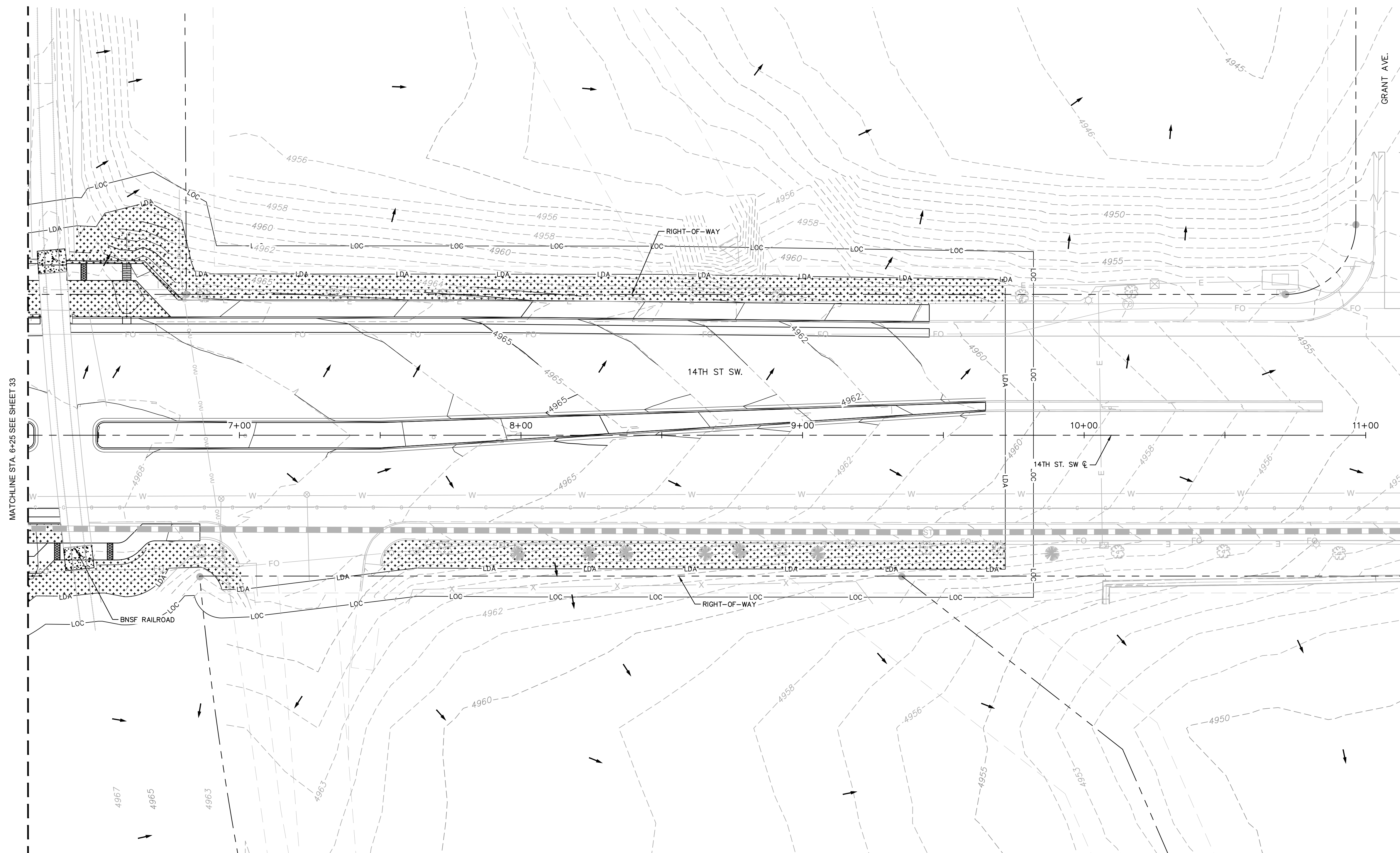
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NOTES

1. REFER TO REMOVAL AND RESET SHEETS FOR LOCATION OF ALL EXISTING UTILITIES.
2. EXACT LOCATION OF STABILIZED STAGING AREA SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR TO ENSURE STABILIZED STAGING AREA AND CONCRETE WASHOUT AREA ARE INSTALLED WITHIN THE LIMITS OF CONSTRUCTION AS SHOWN ON THESE PLANS.
3. CONTRACTOR TO INSTALL INLET PROTECTION ON THE NEXT INLET DOWNSTREAM OF CONSTRUCTION.
4. CONTRACTOR TO ENSURE PROTECTION OF TREES WITHIN AND ADJACENT TO LIMITS OF CONSTRUCTION.
5. ROAD SOCKS TO BE INSTALLED ALONG CURB LINES.
6. CONTRACTOR SHALL NOT PLACE MATERIALS WITHIN EXISTING DRAINAGEWAYS. CONTRACTOR TO MAINTAIN POSITIVE FLOWS THROUGHOUT CONSTRUCTION.

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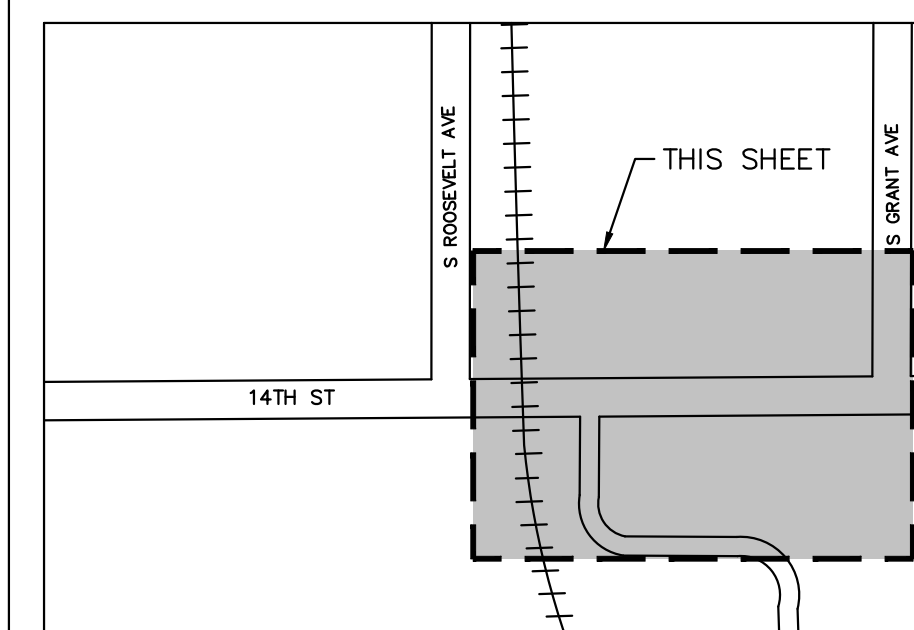


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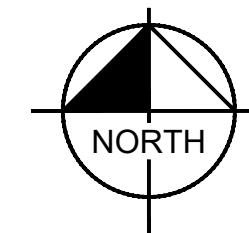
----- 5280 -----	EXISTING CONTOUR
----- 5280 -----	PROPOSED CONTOUR
-----	RIGHT OF WAY BOUNDARY
X-----X-----	EXISTING FENCE
-----	EXISTING GRAVEL ROAD
----- LOC -----	LIMITS OF CONSTRUCTION
----- LDA -----	LIMITS OF DISTURBANCE
	SEEDING (NATIVE)

NOTES

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KEY MAP
N.T.S



GRAPHIC SCALE IN FEET

0 10 20 40



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ENGINEERING CONSTRUCTION NOTES

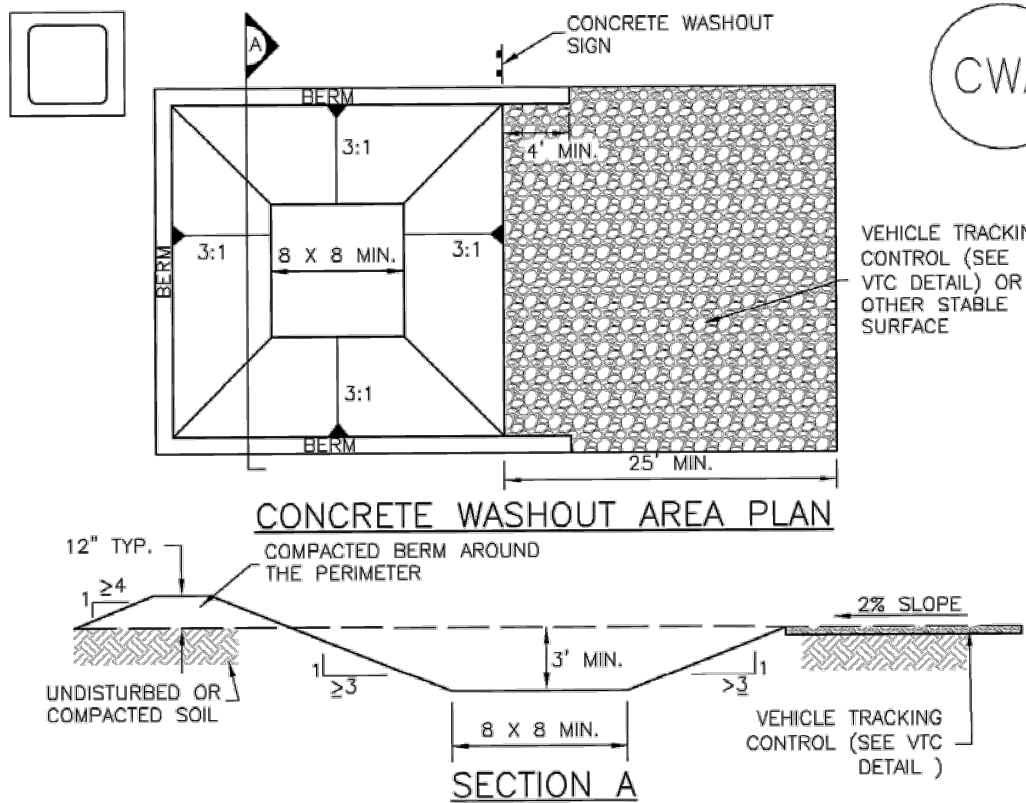
1. THE EROSION CONTROL INSPECTOR MUST BE NOTIFIED AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO ANY CONSTRUCTION ON THIS SITE.
2. THERE SHALL BE NO EARTH DISTURBING ACTIVITY OUTSIDE THE LIMITS DESIGNATED ON THE ACCEPTED PLANS.
3. ALL REQUIRED PERIMETER SILT AND CONSTRUCTION FENCING SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY (STOCKPILING, STRIPPING, GRADING, ETC.) ALL OTHER REQUIRED EROSION CONTROL MEASURES SHALL BE INSTALLED AT THE APPROPRIATE TIME IN THE CONSTRUCTION SEQUENCE AS INDICATED IN THE APPROVED PROJECT SCHEDULE, CONSTRUCTION PLANS, AND EROSION CONTROL REPORT.
4. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING ON-SITE EROSION INCLUDING KEEPING THE PROPERLY SUFFICIENTLY WATERED SO AS TO MINIMIZE WIND BLOWN SEDIMENT. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL EROSION CONTROL FACILITIES SHOWN HEREIN.
5. PRE-DISTURBANCE VEGETATION SHALL BE PROTECTED AND RETAINED WHEREVER POSSIBLE. REMOVAL OR DISTURBANCE OF EXISTING VEGETATION SHALL BE LIMITED TO THE ARE(S) REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS, AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
6. ALL SOILS EXPOSED DURING LAND DISTURBING ACTIVITY (STRIPPING, GRADING, UTILITY INSTALLATIONS, STOCKPILING, FILLING, ETC.) SHALL BE KEPT IN A ROUGHENED CONDITION BY RIPPING OR DISKING ALONG LAND CONTOURS UNTIL MULCH VEGETATION, OR OTHER PERMANENT EROSION CONTROL BMPs ARE INSTALLED. NO SOILS IN AREAS OUTSIDE PROJECT STREET RIGHT-OF-WAY SHALL REMAIN EXPOSED BY LAND DISTURBING ACTIVITY FOR MORE THAN THIRTY(30) DAYS BEFORE REQUIRED TO TEMPORARY OR PERMANENT EROSION CONTROL (E.G. SEED/MULCH, LANDSCAPING, ETC.) IS INSTALLED, UNLESS OTHERWISE APPROVED BY THE CITY OF LOVELAND.
7. IN ORDER TO MINIMIZE EROSION POTENTIAL, ALL TEMPORARY (STRUCTURAL) EROSION CONTROL MEASURES SHALL:
 - 7.A. BE INSPECTED AT A MINIMUM OF ONCE EVERY TWO (2) WEEKS AND AFTER EACH SIGNIFICANT STORM EVENT AND REPAIRED OR RECONSTRUCTED AS NECESSARY IN ORDER TO ENSURE THE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
 - 7.B. REMAIN IN PLACE UNTIL SUCH TIME AS ALL THE SURROUNDING DISTURBED AREAS ARE SUFFICIENTLY STABILIZED AS DETERMINED BY THE EROSION CONTROL INSPECTOR.
 - 7.C. BE REMOVED AFTER THE SITE HAS BEEN SUFFICIENTLY STABILIZED AS DETERMINED BY THE EROSION CONTROL INSPECTOR
8. WHEN TEMPORARY EROSION CONTROL MEASURES ARE REMOVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN UP AND REMOVAL OF ALL SEDIMENT AND DEBRIS FROM ALL DRAINAGE INFRASTRUCTURE AND OTHER PUBLIC FACILITIES.
9. THE CONTRACTOR SHALL IMMEDIATELY CLEAN UP ANY CONSTRUCTION MATERIALS INADVERTENTLY DEPOSITED ON EXISTING STREETS, SIDEWALKS, OR OTHER PUBLIC RIGHTS OF WAY, AND MAKE SURE STREETS AND WALKWAYS ARE CLEANED AT THE END OF EACH WORKING DAY.
10. ALL RETAINED SEDIMENTS, PARTICULARLY THOSE ON PAVED ROADWAY SURFACES, SHALL BE REMOVED AND DISPOSED OF IN A MANNER AND LOCATION SO IT IS NOT TO CAUSE THEIR RELEASE INTO ANY WATERS OF THE UNITED STATES.
11. NO SOIL STOCKPILE SHALL EXCEED TEN (10) FEET IN HEIGHT. ALL SOIL STOCKPILES SHALL BE PROTECTED FROM SEDIMENT TRANSPORT BY SURFACE ROUGHENING, WATERING AND PERIMETER SILT FENCING. ANY SOIL STOCKPILE REMAINING AFTER THIRTY (30) DAYS SHALL BE SEEDED AND MULCHED.
12. CITY ORDINANCE AND COLORADO DISCHARGE PERMIT SYSTEM (CDPS) REQUIREMENTS MAKE IT UNLAWFUL TO DISCHARGE OR ALLOW THE DISCHARGE OF ANY POLLUTANT OR CONTAMINATED WATER FROM CONSTRUCTION SITES. POLLUTANTS INCLUDE, BUT ARE NOT LIMITED TO DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, OILS AND GAS PRODUCTS, LITTER AND SANITARY WASTE. THE CONTRACTOR SHALL AT ALL TIMES TAKE WHATEVER MEASURES ARE NECESSARY TO ASSURE THE PROPER CONTAMINANT AND DISPOSAL OF POLLUTANTS ON THE SITE IN ACCORDANCE WITH ANY AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
13. A DESIGNATED AREA SHALL BE PROVIDED ON SITE FOR CONCRETE TRUCK CHUTE WASHOUT. THE AREA SHALL BE CONSTRUCTED SO AS TO CONTAIN WASHOUT MATERIAL AND LOCATED AT LEAST FIFTY (50) FEET AWAY FROM ANY WATERWAY DURING CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION ACTIVITIES THE CONCRETE WASHOUT MATERIAL WILL BE REMOVED AND PROPERLY DISPOSED OF PRIOR TO THE AREA BEING RESTORED.
14. TO ENSURE THAT SEDIMENT DOES NOT MOVE OFF OF INDIVIDUAL LOTS ONE OR MORE OF THE FOLLOWING SEDIMENT/EROSION CONTROL BMPs SHALL BE INSTALLED AND MAINTAINED UNTIL THE LOTS ARE SUFFICIENTLY STABILIZED, AS DETERMINED BY THE CITY OF LOVELAND.
 - 14.A. BELOW ALL GUTTER DOWNSPOUTS.
 - 14.B. OUT TO DRAINAGE SWELLS
 - 14.C. ALONG LOT PERIMETER
 - 14.D. OTHER LOCATIONS IF NEEDED.
15. CONDITIONS IN THE FIELD MAY WARRANT EROSION CONTROL MEASURES IN ADDITION TO WHAT IS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL IMPLEMENT WHATEVER MEASURES ARE DETERMINED NECESSARY, AS DIRECTED BY THE CITY OF LOVELAND.
16. A VEHICLE TRACKING CONTROL PAD SHALL BE INSTALLED WHENEVER IT IS NECESSARY FOR CONSTRUCTION EQUIPMENT INCLUDING BUT NOT LIMITED TO PERSONAL VEHICLES EXISTING EXISTING ROADWAYS. NO EARTHEN MATERIALS, I.E. STONE, DIRT, ETC., SHALL BE PLACED IN THE CURB AND GUTTER OR ROADWAY AS A RAMP ACCESS TO TEMPORARY STOCKPILE(S), STAGING AREA(S), CONSTRUCTION MATERIAL(S), CONCRETE WASHOUT AREA(S), AND/OR BUILDING SITE(S).

Concrete Washout Area (CWA)

MM-1

MM-1

Concrete Washout Area (CWA)



CWA-1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - CWA INSTALLATION LOCATION.
2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

November 2010 Urban Drainage and Flood Control District CWA-3
Urban Storm Drainage Criteria Manual Volume 3

CWA-4 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

Rock Sock (RS)

SC-5

SC-5

Rock Sock (RS)

Rock Sock (RS)

SC-5

Description

A rock sock is constructed of gravel that has been wrapped by wire mesh or a geotextile to form an elongated cylindrical filter. Rock socks are typically used either as a perimeter control or as part of inlet protection. When placed at angles in the curb line, rock socks are typically referred to as curb socks. Rock socks are intended to trap sediment from stormwater runoff that flows onto roadways as a result of construction activities.



Photograph RS-1. Rock socks placed at regular intervals in a curb line can help reduce sediment loading to storm sewer inlets. Rock socks can also be used as perimeter controls.

Appropriate Uses

Rock socks can be used at the perimeter of a disturbed area to control localized sediment loading. A benefit of rock socks as opposed to other perimeter controls is that they do not have to be trenched or staked into the ground; therefore, they are often used on roadway construction projects where paved surfaces are present.

Use rock socks in inlet protection applications when the construction of a roadway is substantially complete and the roadway has been directly connected to a receiving storm system.

Design and Installation

When rock socks are used as perimeter controls, the maximum recommended tributary drainage area per 100 lineal feet of rock socks is approximately 0.25 acres with disturbed slope length of up to 150 feet and a tributary slope gradient no steeper than 3:1. A rock sock design detail and notes are provided in Detail RS-1. Also see the Inlet Protection Fact Sheet for design and installation guidance when rock socks are used for inlet protection and in the curb line.

When placed in the gutter adjacent to a curb, rock socks should protrude no more than two feet from the curb in order for traffic to pass safely. If located in a high traffic area, place construction markers to alert drivers and street maintenance workers of their presence.

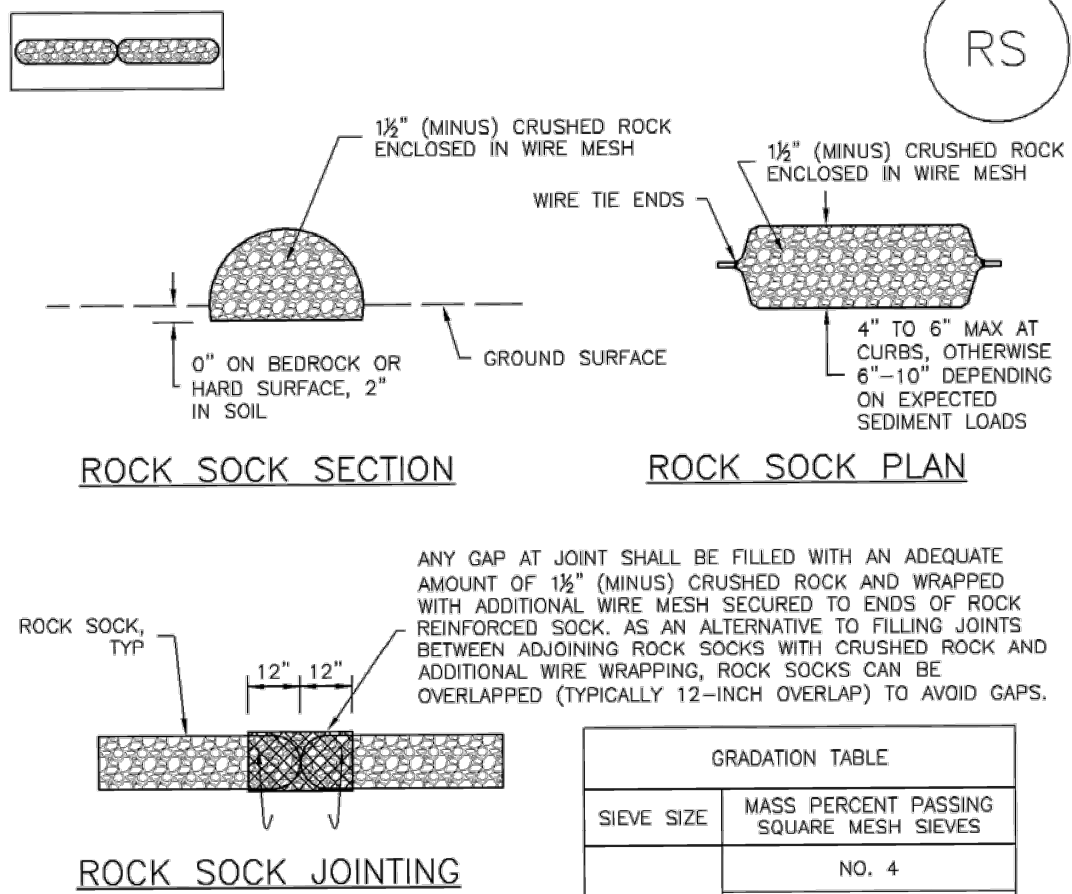
Maintenance and Removal

Rock socks are susceptible to displacement and breaking due to vehicle traffic. Inspect rock socks for damage and repair or replace as necessary. Remove sediment by sweeping or vacuuming as needed to maintain the functionality of the BMP, typically when sediment has accumulated behind the rock sock to one-half of the sock's height.

Once upstream stabilization is complete, rock socks and accumulated sediment should be removed and properly disposed.

Rock Sock	
Functions	
Erosion Control	No
Sediment Control	Yes
Site/Material Management	No

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ROCK SOCK JOINTING

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
 - LOCATION(S) OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1/2" MINUS).
3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48"
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.
5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS-1. ROCK SOCK PERIMETER CONTROL

RS-2 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3

ROCK SOCK MAINTENANCE NOTES

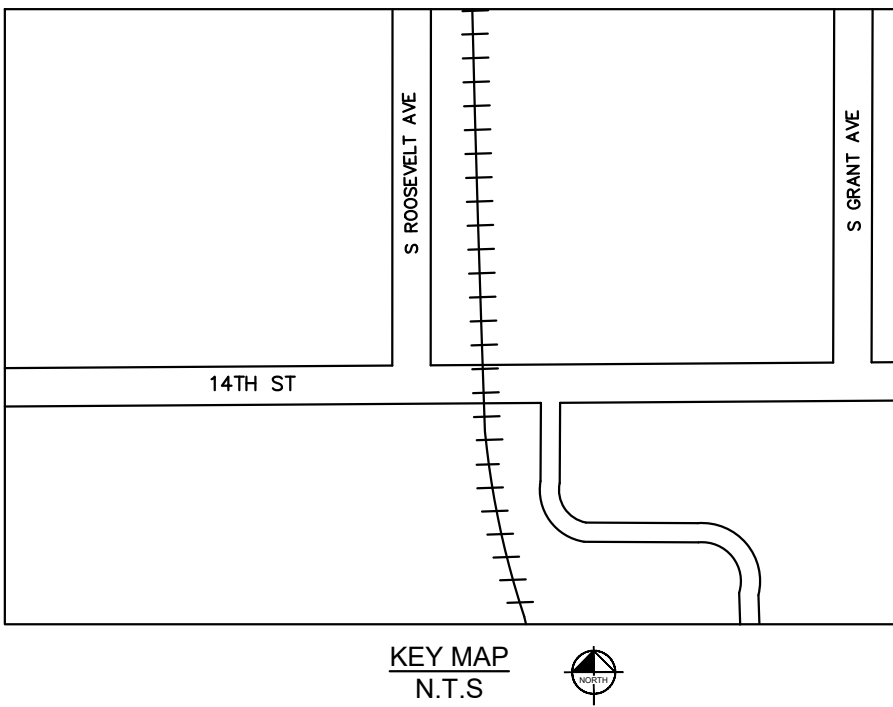
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.
5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 1/2 OF THE HEIGHT OF THE ROCK SOCK.
6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

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EC - DETAILS

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