Colbern Road Investments, Lots 1 & 2

STREET AND STORM CONSTRUCTION PLANS

Section 29, Township 48, Range 31

LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

Developer:
COLBERN ROAD INVESTORS LLC
1325 FAIR MARKET DR
WENTZVILLE, MO 63385

INDEX OF SHEETS:

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C.201 ~ SPOT ELEVATIONS
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C.203 ~ STREET PLAN & PROFILE
C.204 ~ SIDEWALK AND INTERSECTION PLAN
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C.253 ~ ROAD DIMENSION PLANS
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C.302 ~ DETENTION BASIN AND RIPRAP APRON DETAILS
C.600 ~ CONSTRUCTION DETAILS
C.601 ~ CONSTRUCTION DETAILS

CONSTRUCTION AND DESIGN NOTES:

STREET & STORM SEWERS:

1 ~ STREET PAVEMENT SHALL CONSIST OF TYPE CG-1 AND CG-2 CURBS WITH PAVEMENT PER TABLE LS-2 OF THE LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL

COMMERCIAL / INDUSTRIAL COLLECTOR STREET FOR NE RICE PARKWAY, NE HAROLD DR, NE COLBERN ROAD SEE BELOW FOR TYPICAL SECTION.
OPTION 1) 7.5" TYPE 5-01 ASPHALT BASE AND 2" TYPE 5-01 or 6-01 ASPHALT SURFACE OVER A 6" MoDOT TYPE 5 BASE AND A SUBGRADE MIXTURE OF 9" FLY ASH STABILIZED SUBGRADE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
OPTION 2) 7.5" TYPE 5-01 ASPHALT BASE AND 2" TYPE 5-01 or 6-01 ASPHALT SURFACE OVER 12" MoDOT TYPE 5 BASE OVERTOP A BIAXIAL GEOGRID MEETING THE CITY'S APPROVED PRODUCT LIST.

2 ~ STORM SEWER PIPE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) AS APPROVED BY CITY OF LEES SUMMIT DESIGN AND CONSTRUCTION MANUAL.

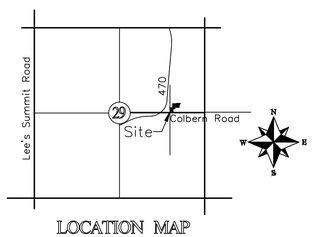
3 ~ JUNCTION BOXES SHALL BE PER CITY OF LEES SUMMIT STANDARD DRAWING NO. STM-3. FIELD INLETS SHALL BE PER CITY OF LEES SUMMIT STANDARD DRAWING STM-2. TOEWALLS SHALL BE PER CITY OF LEES SUMMIT DRAWING NO. STM-5. JUNCTION BOXES SHALL BE PER CITY OF LEES SUMMIT STM-3. ROCK LINING AND RIP RAP SHALL BE PER CITY OF LEES SUMMIT.

GENERAL NOTES:

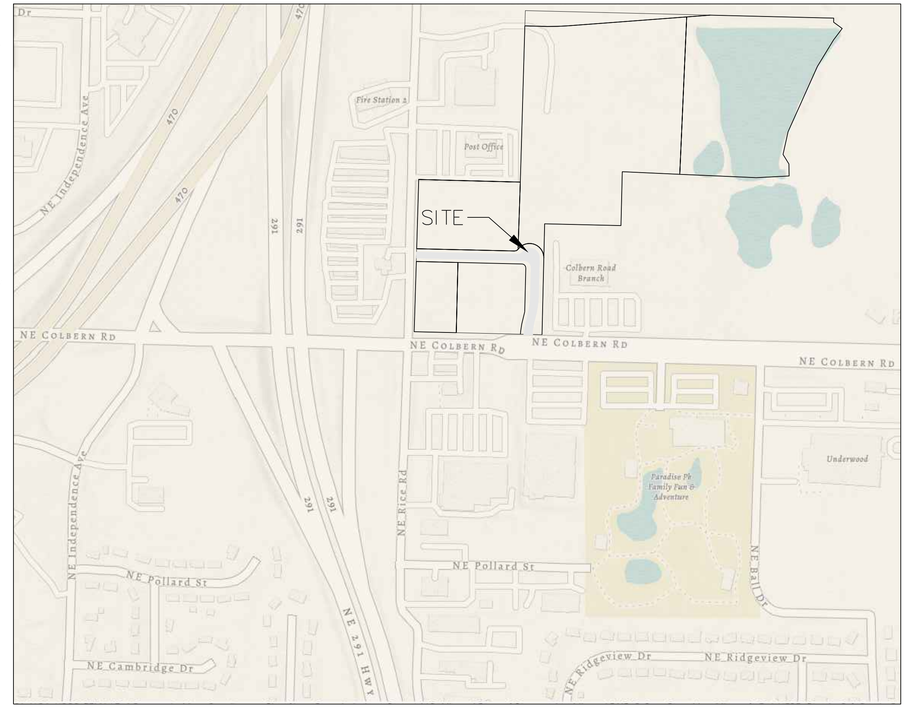
1 ~ ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
2 ~ ALL REQUIRED EASEMENTS WITHIN THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR ON THE FINAL PLAT.
3 ~ ANY REQUIRED EASEMENT LOCATED OUTSIDE OF THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR BY SEPARATE INSTRUMENT PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
4 ~ THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.
5 ~ THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH THE IMPROVEMENTS PROPOSED BY THESE PLANS AND SITE CONDITIONS.
6 ~ THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND OBTAIN THE APPROPRIATE BLASTING PERMITS FOR A REQUIRED BLASTING. IF BLASTING IS ALLOWED, ALL BLASTING SHALL CONFORM TO STATE REGULATIONS AND LOCAL ORDINANCES.

OIL - GAS WELLS
ACCORDING TO EDWARD ALTON MAY JR'S ENVIRONMENTAL IMPACT STUDY OF ABANDONED OIL AND GAS WELLS IN LEE'S SUMMIT, MISSOURI IN 1995, THERE ARE NOT OIL AND GAS WELLS WITHIN 185 FEET OF THE PROPERTY AS SURVEYED HEREON.

FLOOD INFORMATION:
THE SUBJECT PROPERTY SURVEYED LIES WITHIN A FLOOD ZONE DESIGNATED ZONE (X), AREAS LOCATED OUTSIDE THE 100 YEAR FLOOD PLAIN, PER F.E.M.A. MAP, COMMUNITY PANEL NO. 29095C0531G EFFECTIVE DATE: JANUARY 20, 2017.



LOCATION MAP
SECTION 29-T48N-R31W

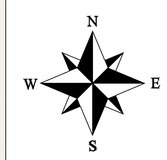


SITE LOCATION MAP

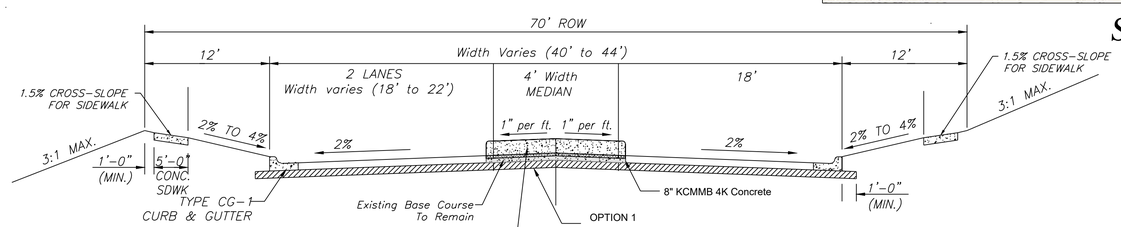
UTILITY COMPANIES:

THE FOLLOWING LIST OF UTILITY COMPANIES IS PROVIDED FOR INFORMATION ONLY. WE DO NOT OFFER ANY GUARANTEE OR WARRANTY THAT THIS LIST IS COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION AND VERIFYING THE ACTUAL LOCATION OF EACH UTILITY LINE. THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH PROPOSED IMPROVEMENTS.

EVERGY ~ 298-1196
MISSOURI GAS ENERGY ~ 756-5261
SOUTHWESTERN BELL TELEPHONE ~ 761-5011
COMCAST CABLE ~ 795-1100
WILLIAMS PIPELINE ~ 422-6300
CITY OF LEE'S SUMMIT PUBLIC WORKS ~ 969-1800
CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEERING INSPECTION AT 816.969.1200
CITY OF LEE'S SUMMIT WATER UTILITIES ~ 969-1900
MISSOURI ONE CALL (DIG RITE) ~ 1-800-344-7483



LEGEND:
B/L – BUILDING SET-BACK
C/A – COMMON AREA
D/E – DRAINAGE EASEMENT
FND. – FOUND
L/E – LANDSCAPE EASEMENT
L.N.A. – LIMITS OF NO ACCESS
R/W – RIGHT OF WAY
SAN – SANITARY SEWER LINE
S/W – SIDEWALK
U/E – UTILITY EASEMENT
W – WATER LINE
ST – STORM SEWER LINE

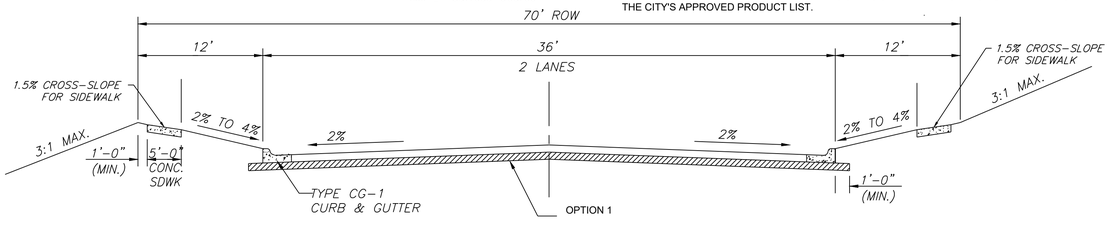


NE Rice Pakway Entry Section
(COLLECTOR)
N.T.S.

OPTION 1

7.5" TYPE 5-01 ASPHALT BASE AND 2" TYPE 5-01 or 6-01 ASPHALT SURFACE OVER A 6" MoDOT TYPE 5 BASE AND A SUBGRADE MIXTURE OF 9" FLY ASH STABILIZED SUBGRADE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
OPTION 2

7.5" TYPE 5-01 ASPHALT BASE AND 2" TYPE 5-01 or 6-01 ASPHALT SURFACE OVER 12" MoDOT TYPE 5 BASE OVERTOP A BIAXIAL GEOGRID MEETING THE CITY'S APPROVED PRODUCT LIST.



TYPICAL SECTION FOR
(COLLECTOR)
N.T.S.

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Summary of Quantities:

ASPHALT PAVING	S.Y.	3,126.00
CURBING	FT	1,758.00
5' SIDEWALK	S.F.	8,792.00
MoDOT Type 5 Base	S.Y.	3,516.00
GEOGRID	S.Y.	3,516.00
ADA SIDEWALK RAMP	UNIT	6
GRADING	LS	1
STORM		
30" HDPE	FT	243.15
24" HDPE	FT	23.70
15" HDPE	FT	209.25
15" FLARED END-SECTION W/ RIP RAP	UNIT	2
18" FLARED END-SECTION	UNIT	1
30" HDPE END SECTION W/ RIP RAP	LS	1.00
5' x 4' STORM CURB INLET	EA	3.00

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THIS PROJECT HAS BEEN DESIGNED AND THESE PLANS PREPARED IN ACCORDANCE WITH THE CURRENT DESIGN CRITERIA OF THE CITY OF LEE'S SUMMIT, MISSOURI AND THE STATE OF MISSOURI. I FURTHER CERTIFY THAT THESE PLANS WERE DESIGNED IN ACCORDANCE TO AASHTO STANDARDS.

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Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LSMO
Issue Date: February 7, 2023

Street & Storm Cover Sheet
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
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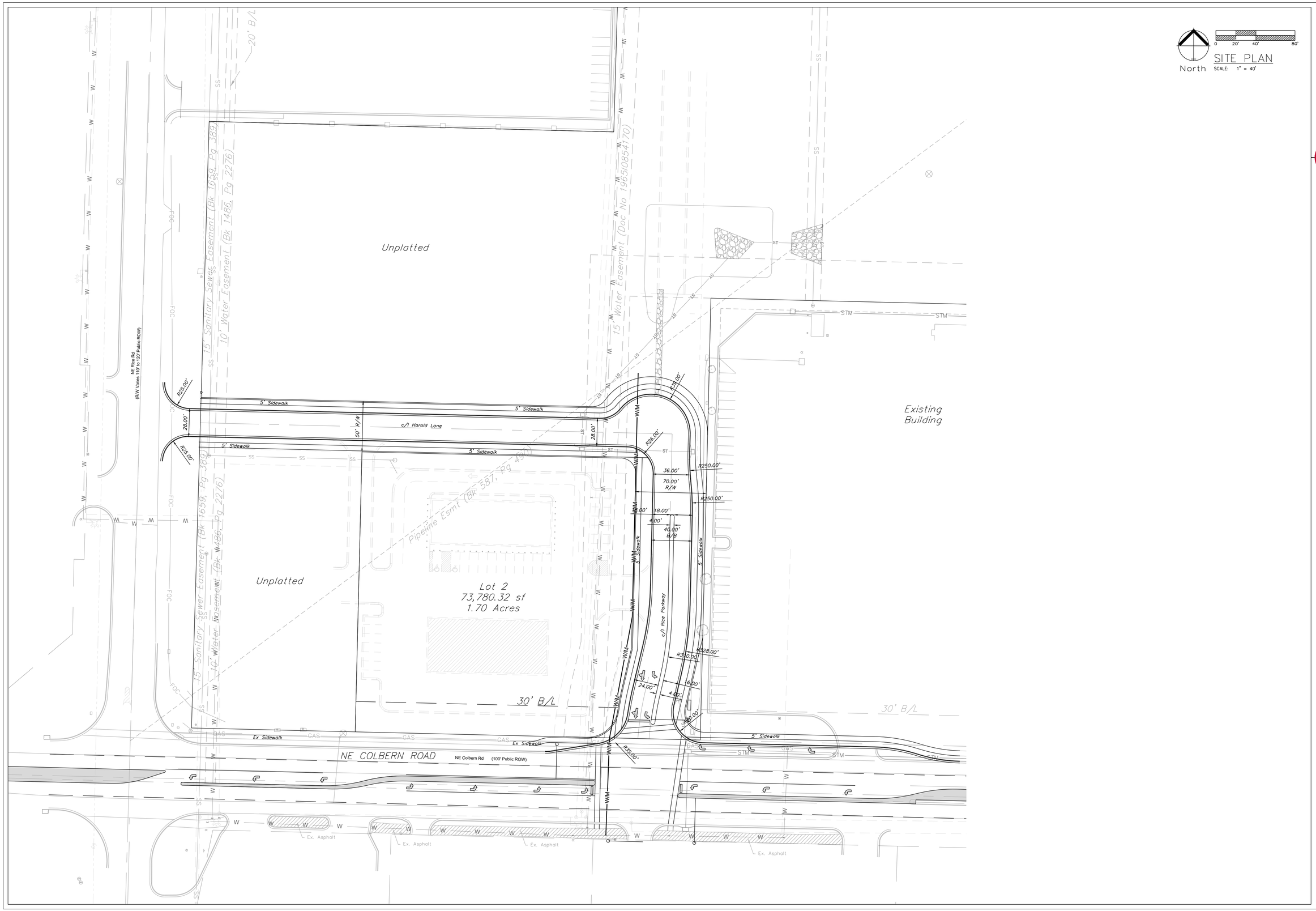
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
1 REV. 2/7/2023
2 REV. 9/1/2023



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Colbern Road Investments
Lee's Summit, Jackson County, Missouri

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Site Plan
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

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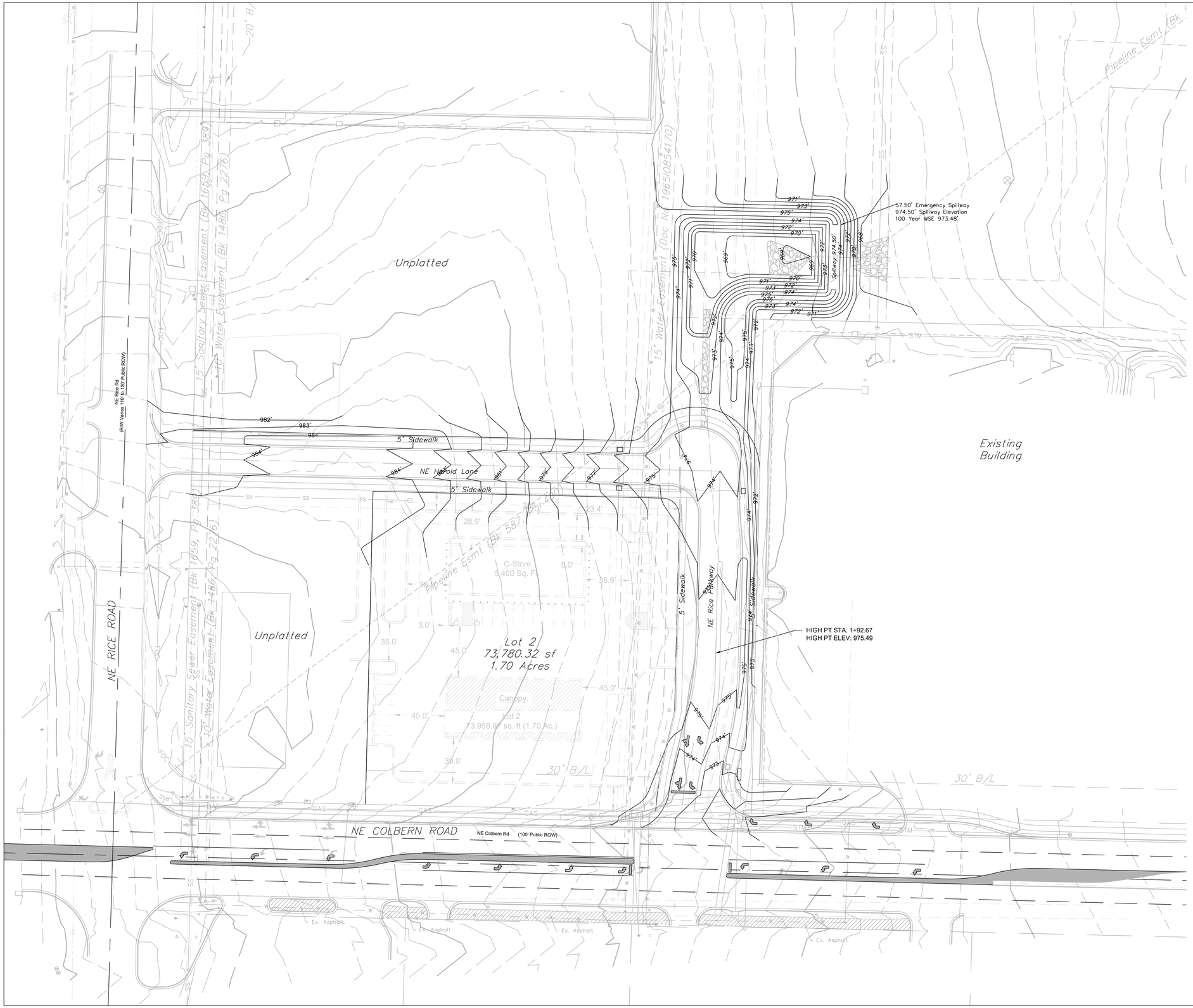
C.100



North

GRAPHIC SCALE
0 20' 40' 80'

GRADING PLAN

SCALE: 1" = 40'

REVISED WSE.

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Grading Plan
Construction Plans for:
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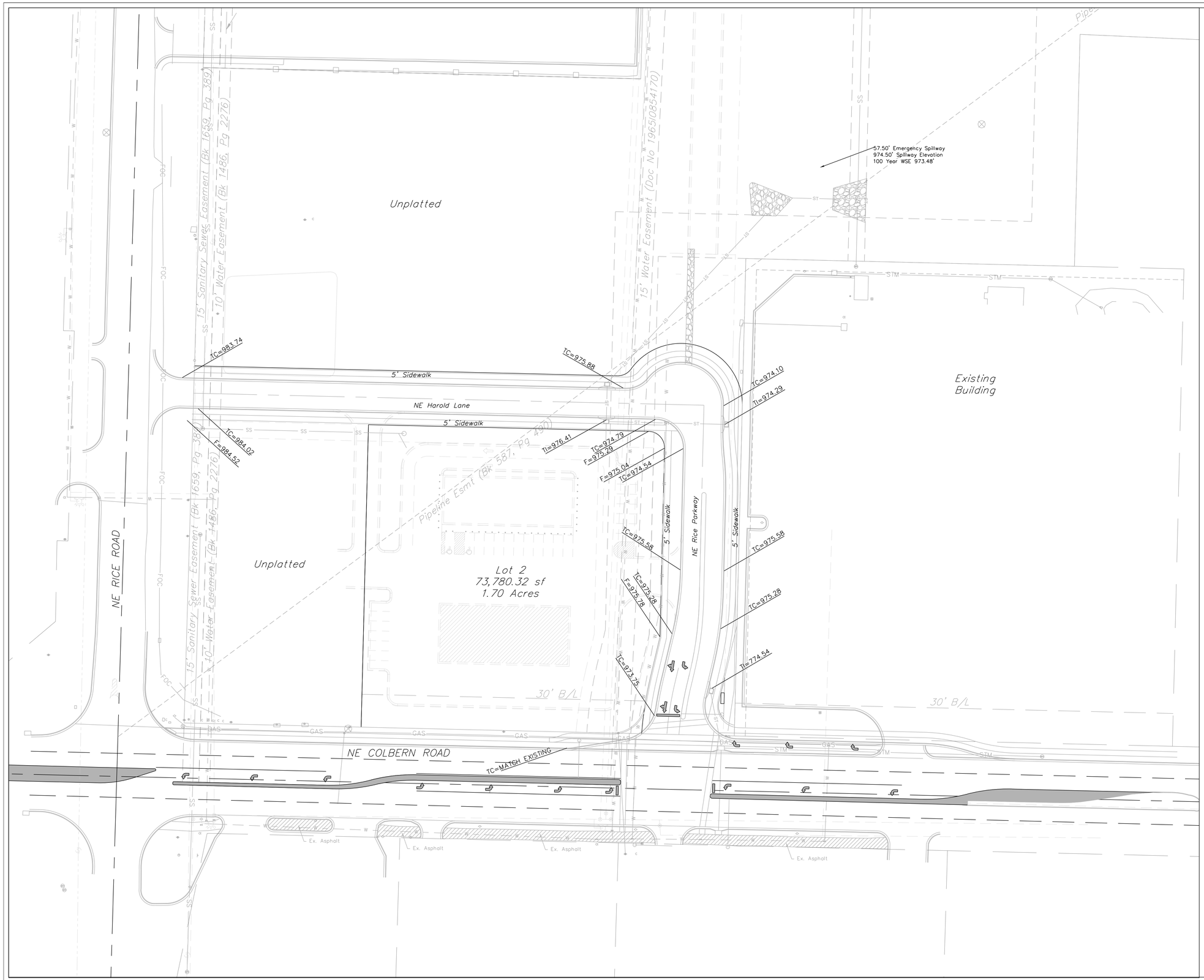
C.200



North

GRAPHIC SCALE
0 30' 60' 120'

SPOT ELEVATIONS

SCALE: 1" = 60'

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Spot Elevations
Construction Plans for:
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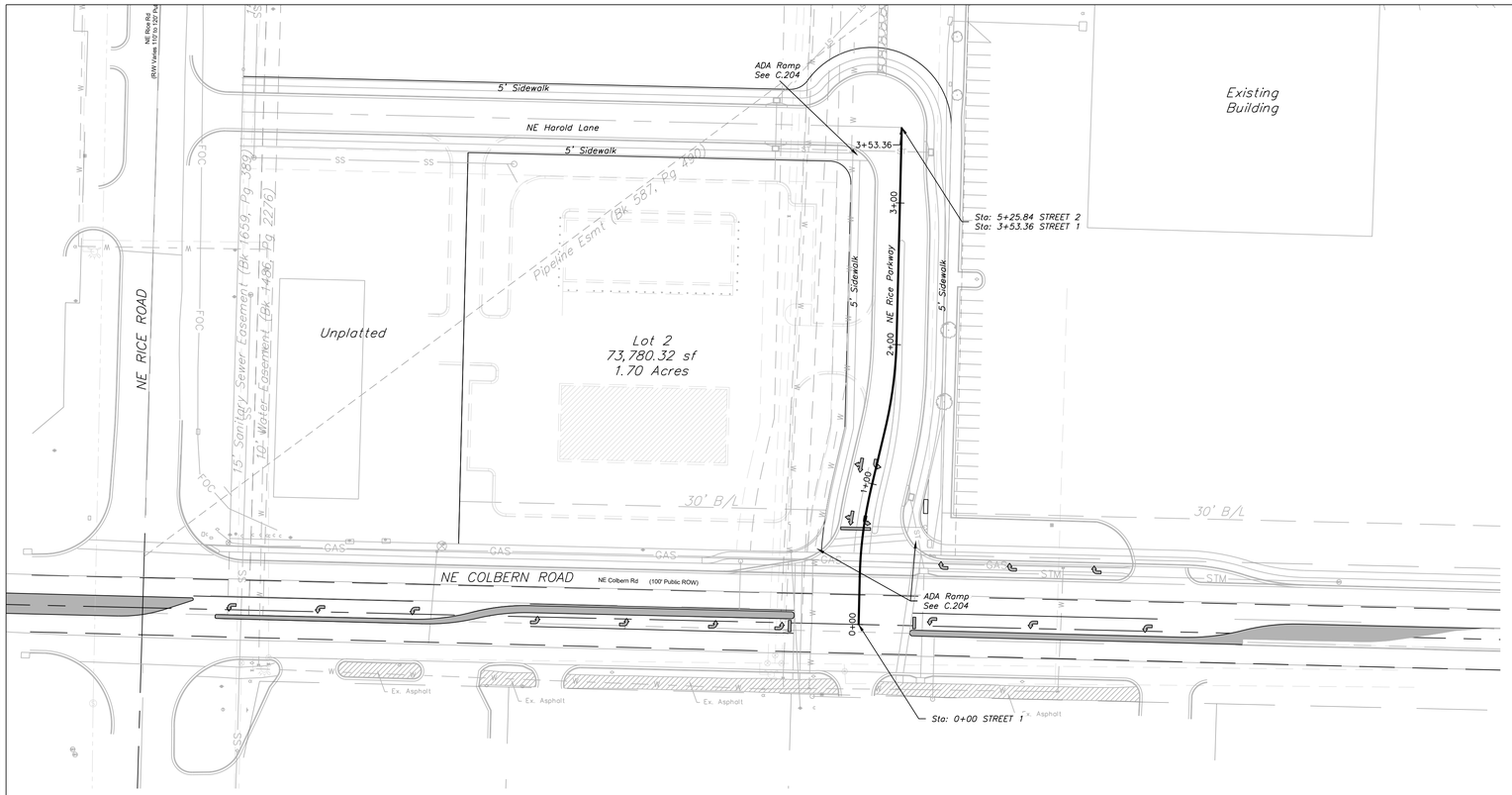
C.201



North

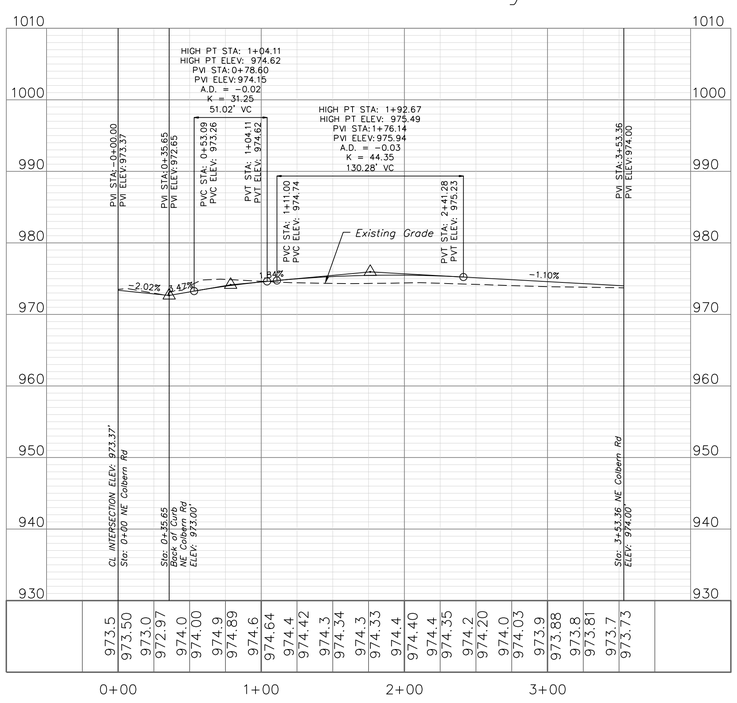
GRAPHIC SCALE

0 25' 50' 100'

STREET PLAN & PROFILE

SCALE: 1" = 50'

NE Rice Parkway



VERT. SCALE: 1"=10'

0 5' 10' 20'

HORIZ. SCALE: 1"=50'

0 25' 50' 100'

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Street Plan and Profile
Construction Plans for:
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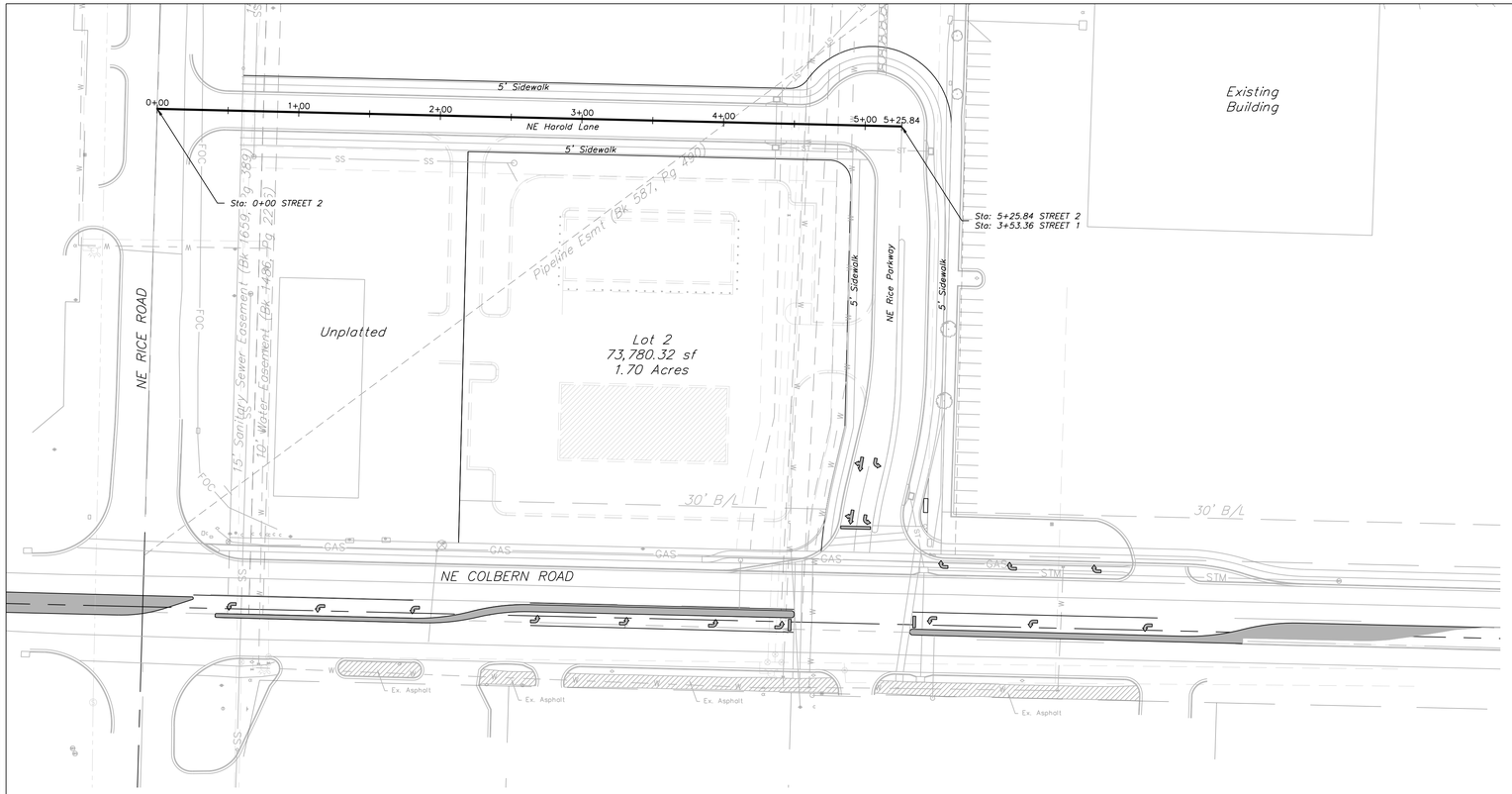
C.202



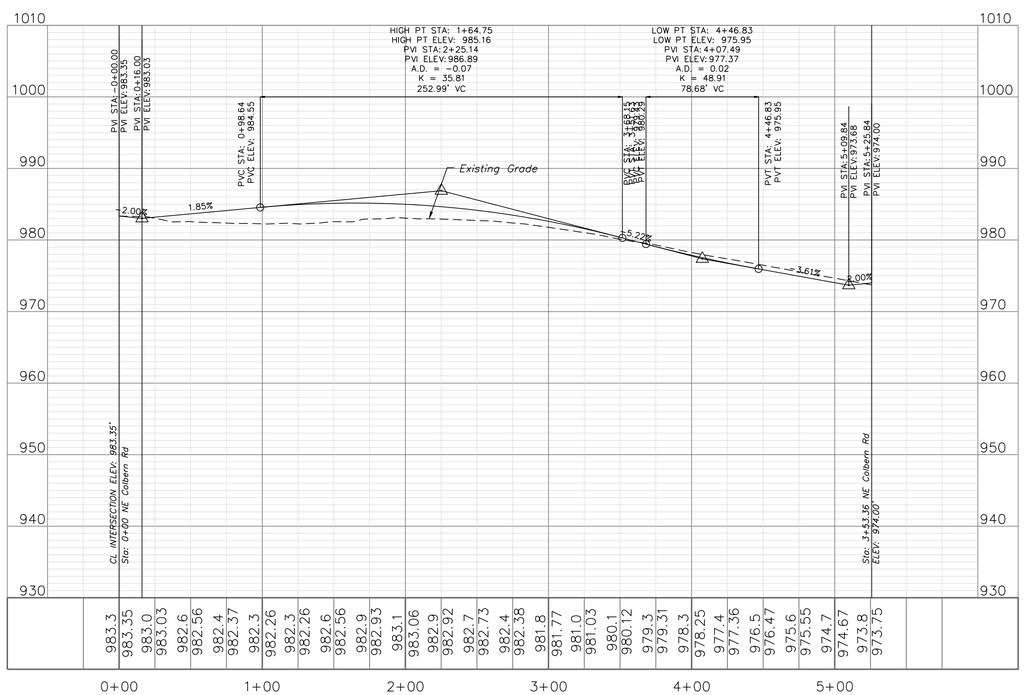
North

GRAPHIC SCALE
0 25' 50' 100'

STREET PLAN & PROFILE

SCALE: 1" = 50'

NE Harold Lane



VERT. SCALE: 1"=10'
0 5' 10' 20'

HORIZ. SCALE: 1"=50'
0 25' 50' 100'

NOT FOR CONSTRUCTION

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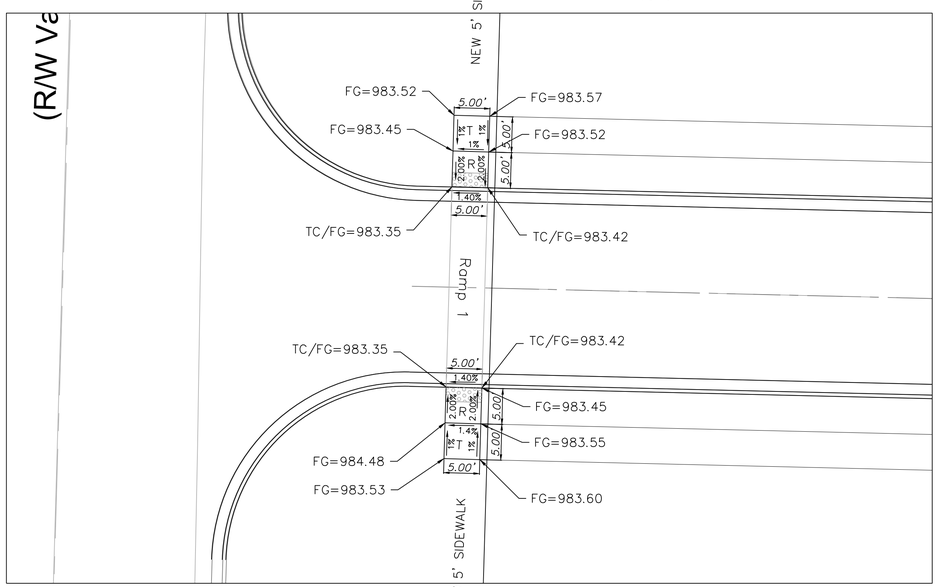
C.203

SIDEWALK AND INTERSECTION PLAN

North

SCALE: 1" = 10'



DETAIL 1

Legend:

EX TC = Existing Top of Curb

EX FG = Existing Finished Grade

FG = Finished Grade

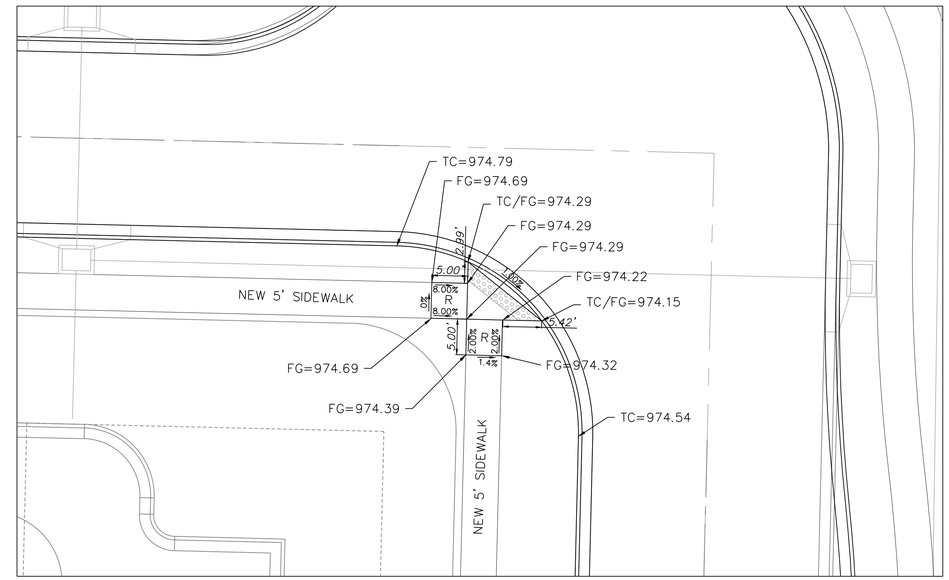
TC = Top of Curb

TC/FG = Top of Curb/Finished Grade

SIDEWALK AND INTERSECTION PLAN

North

SCALE: 1" = 10'



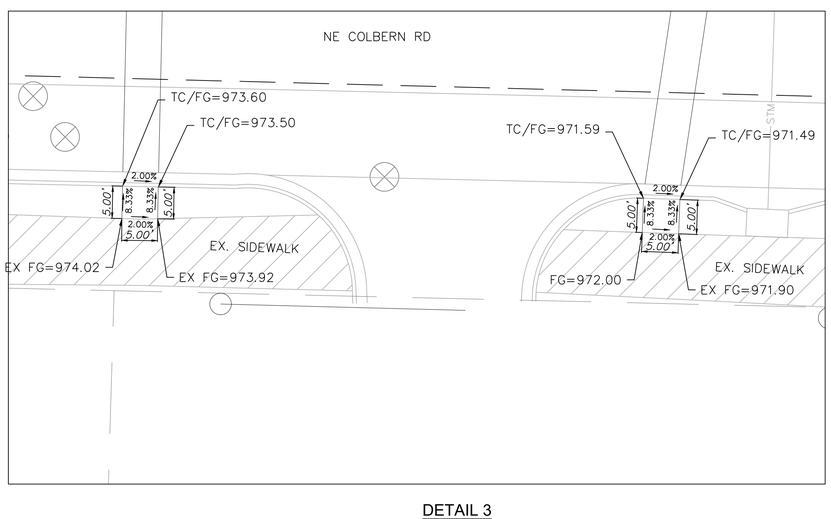
DETAIL 2

Added ADA-ramps in Plan views throughout the plan set.

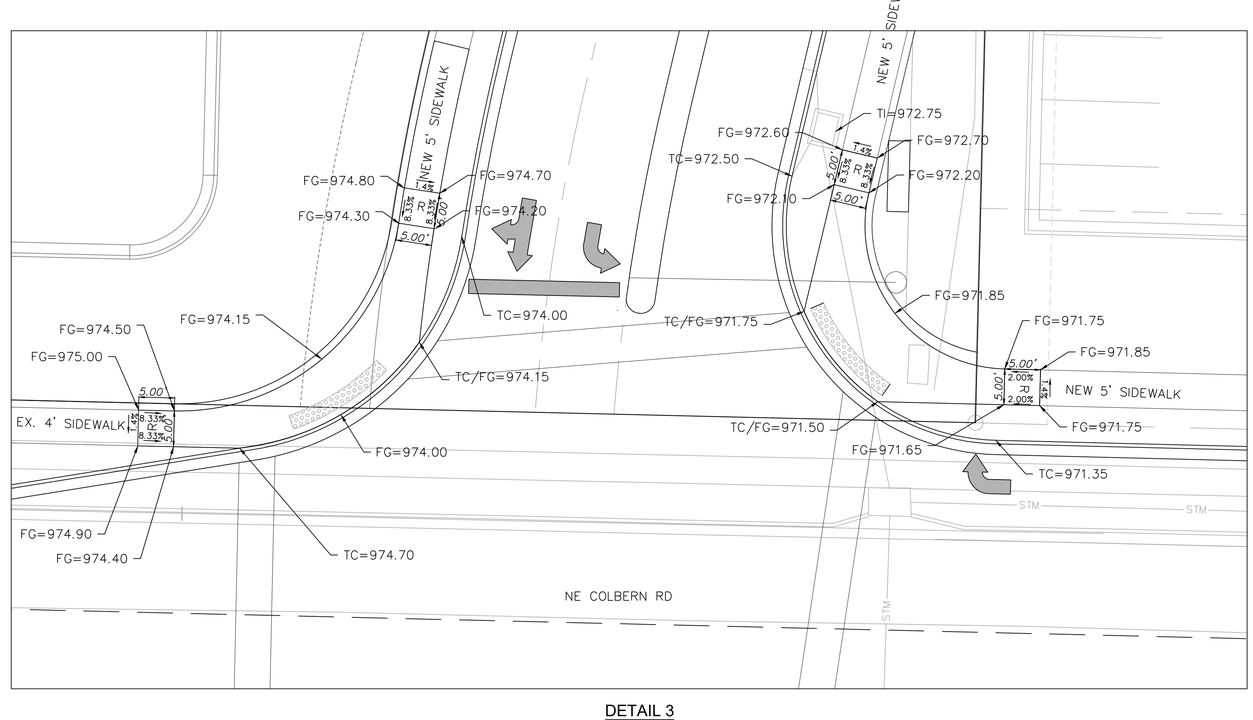
SIDEWALK AND INTERSECTION PLAN

North

SCALE: 1" = 10'



DETAIL 3



DETAIL 3

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SIDEWALK AND INTERSECTION PLAN
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C.204

NOTE:

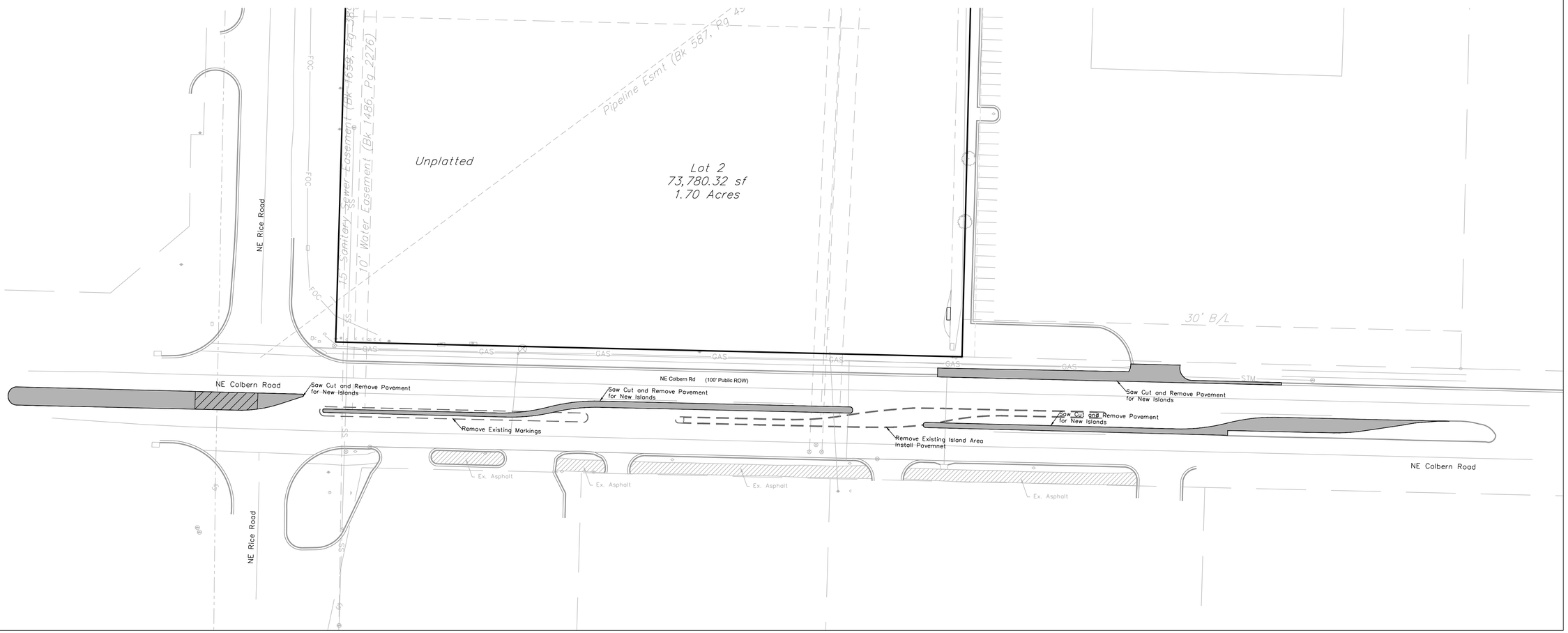
SEE TRAFFIC CONTROL DETAIL SHEET, C.206 FOR SIGNS, LANE CLOSURE, CHANNELIZERS AND OTHER TRAFFIC CONTROL DEVICES.

North

0 20' 40' 80'

EXISTING PLAN

SCALE: 1" = 40'



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Colbern Road Investments
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Existing Site Conditions
Construction Plans for:
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C.251

NOTE:

SEE TRAFFIC CONTROL DETAIL SHEET, C.206 FOR SIGNS, LANE CLOSURE, CHANNELIZERS AND OTHER TRAFFIC CONTROL DEVICES.

STA. OFFSET TABLE		
LABEL	STA:	OFFSET FT.
1	0+00	3.88 L
2	1+84.34	2.57 R
3	2+36.77	10.84 L
4	2+52.53	1.06 R
5	3+92.14	0.72 L
6	3+99.46	2.36 R
7	4+33.32	6.60 L
8	4+37.48	2.55 L
9	4+74.44	12.47 L
10	4+75.16	7.48 L
11	6+77.15	10.59 L
12	7+34.11	0.24 L
13	9+36.60	2.41 L
14	9+77.65	8.16 L
15	10+18.37	13.91 L
16	10+59.59	2.56 L
17	11+47.26	14.17 L

STA. OFFSET TABLE		
LABEL	STA:	OFFSET FT.
A	9+36.60	2.41 L
B	9+36.60	47.68 L
C	9+78.52	47.68 L
D	10+20.41	41.75 L

2 ADDED TABLE FOR MORE PROPOSED MARKING DETAIL
1 ADDED DIAGONALS, REMOVED EXISTING ROW ARROW

North

0 20' 40' 80'

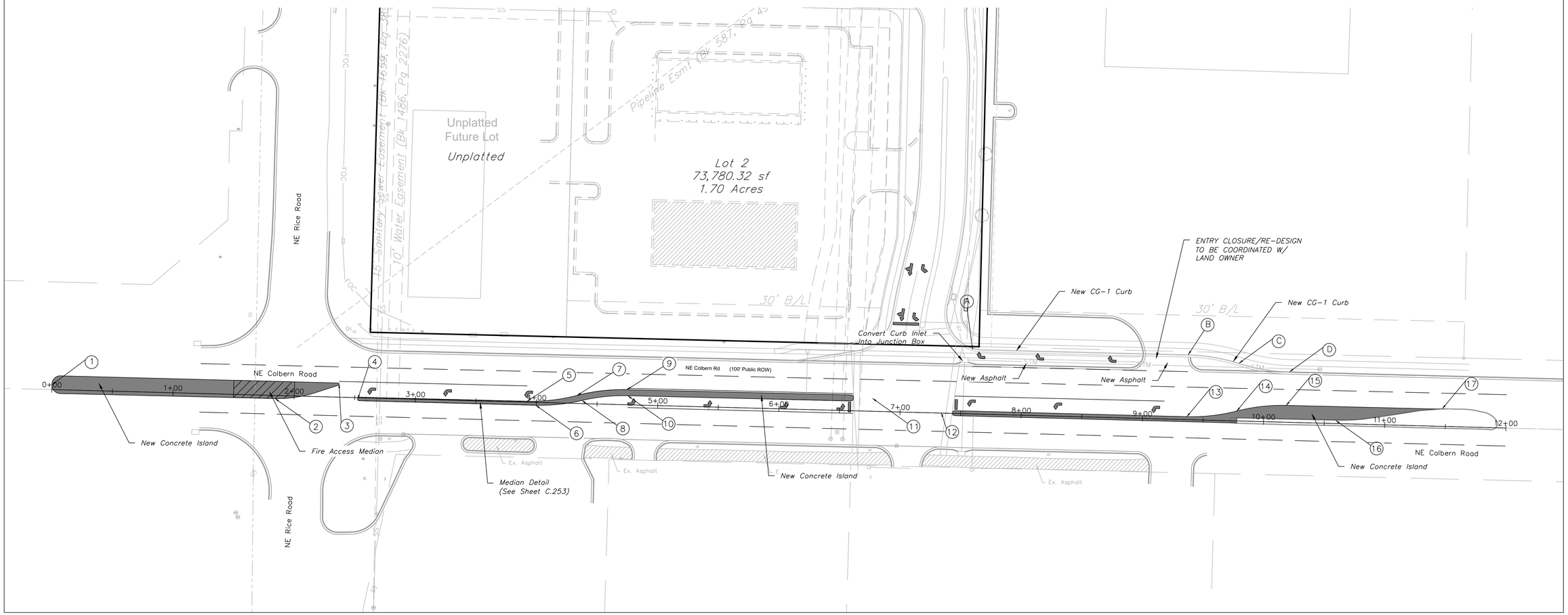
PROPOSED ROAD IMPROVEMENTS

SCALE: 1" = 40'

Notes:

1. New Arrows Shall Be Preformed Thermoplastic.

2. New Paint Stripes Shall Be High Build Paint In Accordance With City Standards and Specifications.



ENGINEERING SOLUTIONS
ENGINEERING & SURVEYING
50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
P:(816) 623-9888 F:(816)623-9849

Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LSMO

Issue Date: February 7, 2023

Proposed Road Improvements
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

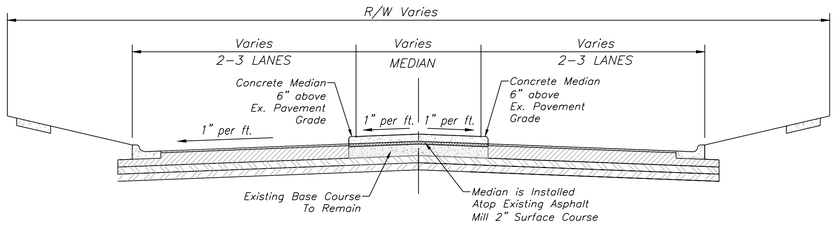
STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

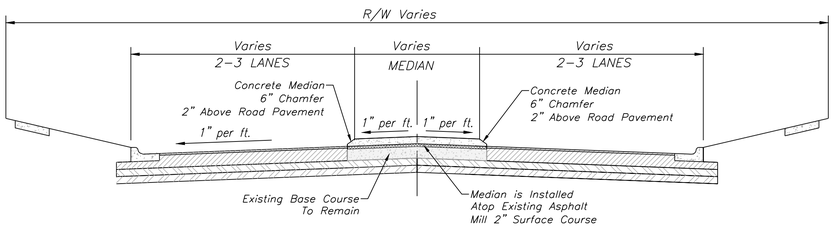
REVISIONS

1 REV. 2/7/2023

2 REV. 9/1/2023



TYPICAL MEDIAN SECTION FOR
NE COLBERN ROAD



MEDIAN SECTION FOR
NE COLBERN ROAD Sta 1+50 to 2+00
Fire Access Median

NOTE:

SEE TRAFFIC CONTROL DETAIL SHEET, C.206 FOR SIGNS, LANE CLOSURE, CHANNELIZERS AND OTHER TRAFFIC CONTROL DEVICES.

North

0 20' 40' 80'

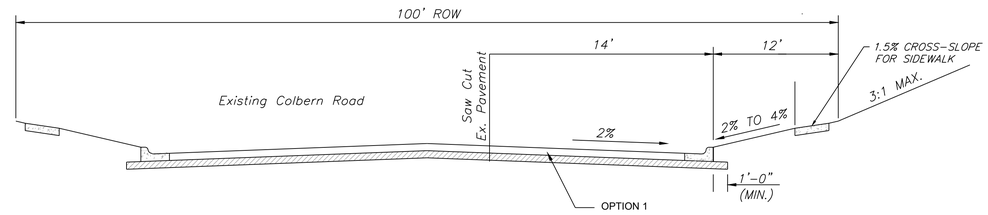
Road Dimension Plans

SCALE: 1" = 40'

Notes:

1. New Arrows Shall Be Preformed Thermoplastic.

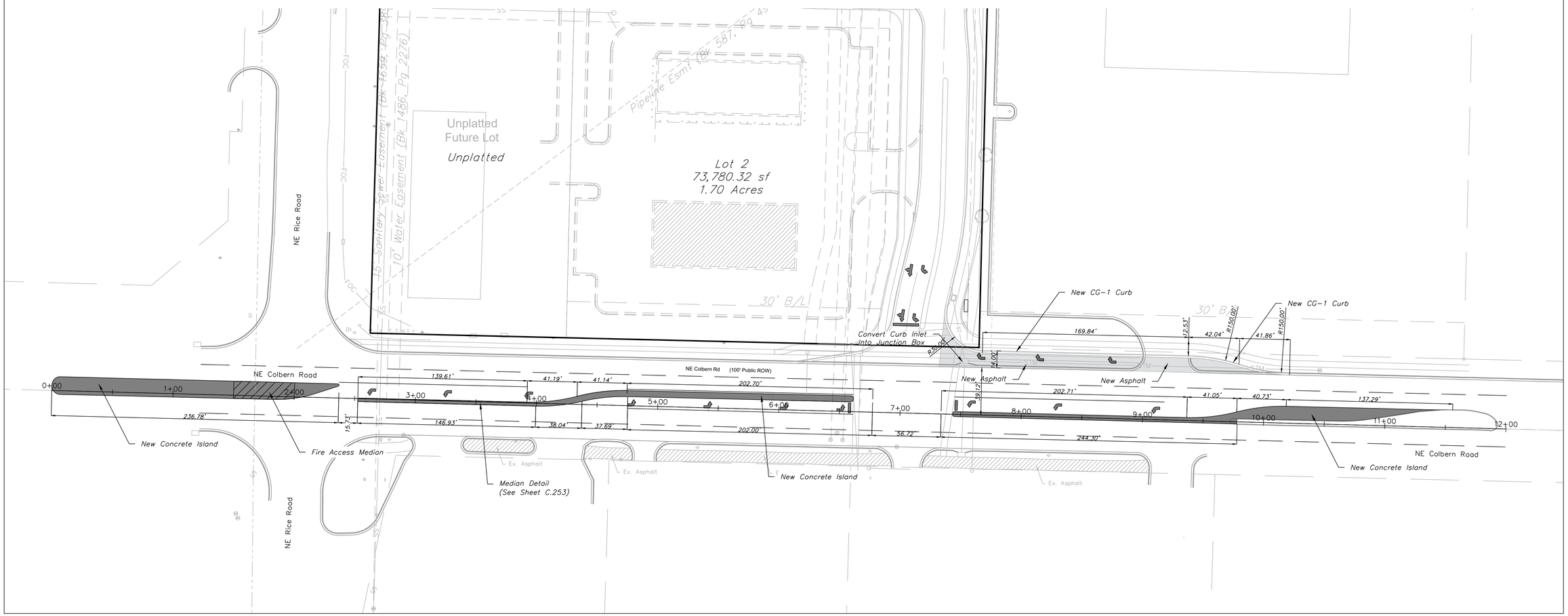
2. New Paint Stripes Shall Be High Build Paint In Accordance With City Standards and Specifications.



West Bound Right Turn Lane
NE Colbern Road & NE Rice Parkway
N.T.S.

7.5" TYPE 5-01 ASPHALT BASE AND 2" TYPE 5-01 or 6-01 ASPHALT SURFACE OVER A 6" MoDOT TYPE 5 BASE AND A SUBGRADE MIXTURE OF 9" FLY ASH STABILIZED SUBGRADE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
OPTION 2

7.5" TYPE 5-01 ASPHALT BASE AND 2" TYPE 5-01 or 6-01 ASPHALT SURFACE OVER 12" MoDOT TYPE 5 BASE OVERTOP A BIAXIAL GEOGRID MEETING THE CITY'S APPROVED PRODUCT LIST.



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Professional Registration
Missouri
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Surveying 2005000839-D
Kansas
Engineering E-1695
Surveying LS-218
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Engineering 6254
Nebraska
Engineering CA2821

Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LSMO

Issue Date: February 7, 2023

Road Dimension Plans
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
PE2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

1 REV. 2/7/2023

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C.253

NOTE:

SEE TRAFFIC CONTROL DETAIL SHEET, C.206 FOR SIGNS, LANE CLOSURE, CHANNELIZERS AND OTHER TRAFFIC CONTROL DEVICES.

North

0 25' 50' 100'

PAVEMENT MARKING PLAN

SCALE: 1" = 50'

Notes:

1. New Arrows Shall Be Preformed Thermoplastic.

2. New Paint Stripes Shall Be High Build Paint In Accordance With City Standards and Specifications.

STA. OFFSET TABLE		
LABEL	STA:	OFFSET FT.
A	1+22.20	24.68 L
B	1+22.20	15.42 R
C	2+36.77	12.98 L
D	2+36.77	12.98 L
E	4+75.16	2.24 R
F	6+77.15	2.14 L
G	7+34.10	14.30 L
H	9+17.86	14.79 L
I	12+00.00	27.54 L
J	12+00.00	14.87 R

STA. OFFSET TABLE		
LABEL	STA:	OFFSET FT.
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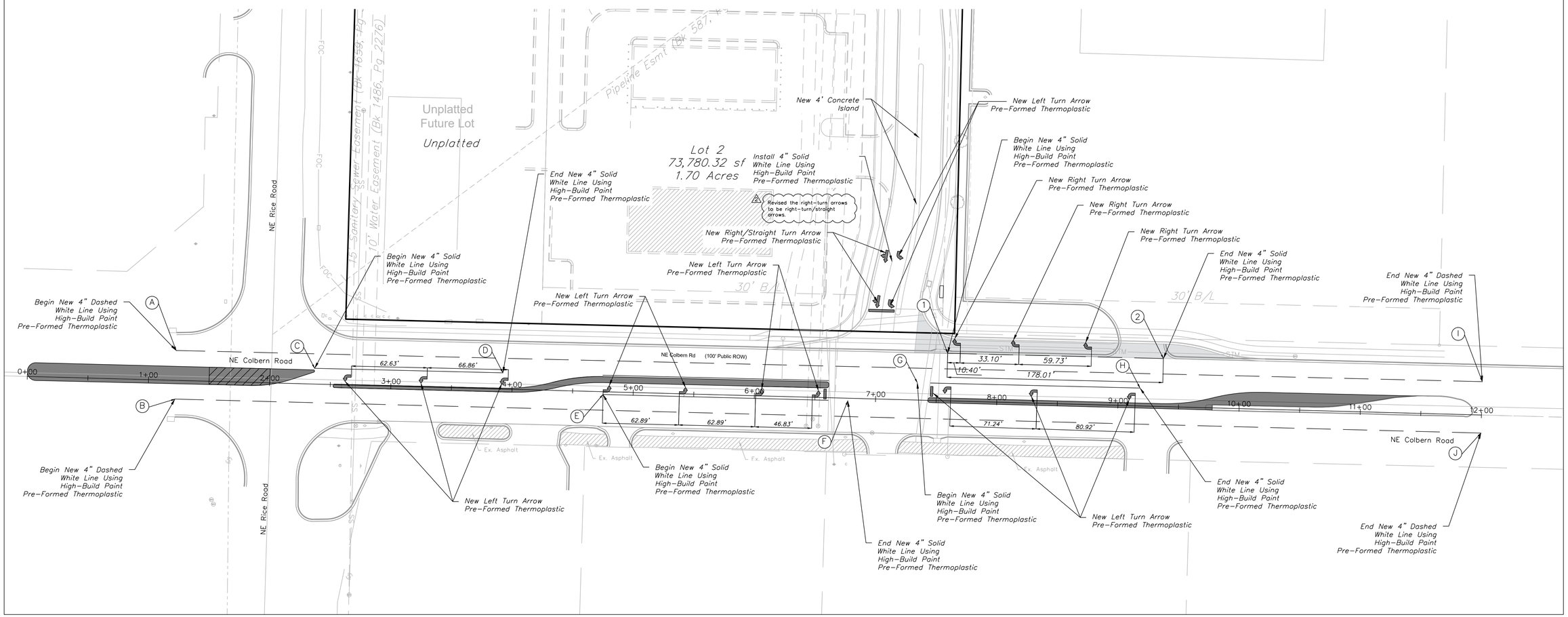
2	9+36.50	39.61 L



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50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
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Professional Registration
Missouri
Engineering 2005002186-D
Surveying 2005000319-D
Kansas
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Engineering CA2821

Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LSMO

Issue Date: February 7, 2023

Pavement Marking Plan
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
PE-2006019708
PROFESSIONAL ENGINEER

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NE PE E-14335

REVISIONS

1 REV. 2/7/2023

2 REV. 9/1/2023

GRAPHIC SCALE

0 20' 40' 80'

North

TRAFFIC CONTROL PLAN GENERAL LAYOUT

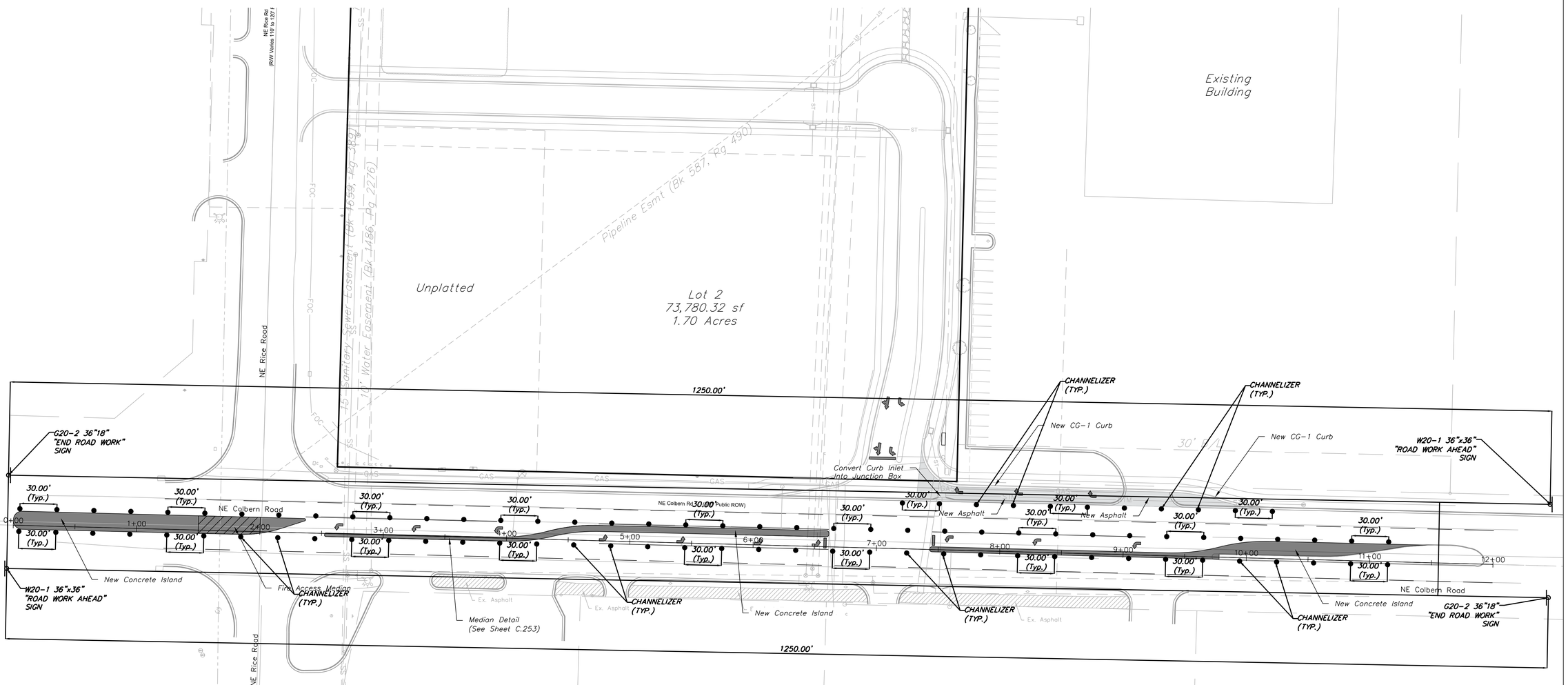
SCALE: 1" = 40'

NOTES:

1. ALL SIGNS TO BE PLACED PER MUTCD MANUAL.

2. A RIGHT-OF-WAY AND TRAFFIC CONTROL PERMIT APPLICATION WILL NEED TO BE COMPLETED PRIOR TO COMMENCEMENT OF THE WORK.

3. A PRE-CONSTRUCTION MEETING IS REQUIRED BETWEEN THE CONTRACTOR AND THE CITY'S FIELD ENGINEERING INSPECTOR PRIOR TO COMMENCEMENT OF ANY WORK.



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Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LSMO

Issue Date: February 7, 2023

TRAFFIC CONTROL PLAN GENERAL LAYOUT
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2006019708
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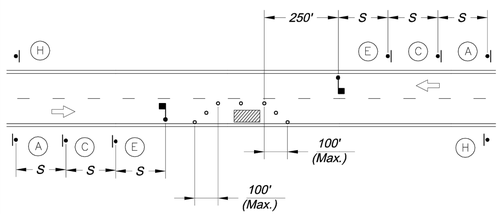
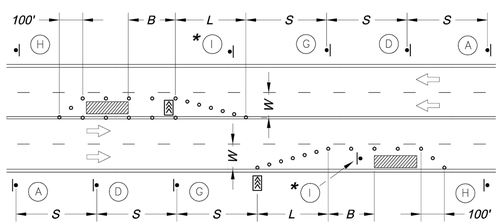
SYMBOL LEGEND

- Work Area
- Sign
- Barricade
- Direction of Travel
- Channelizer
- Arrow Panel
- Flagger

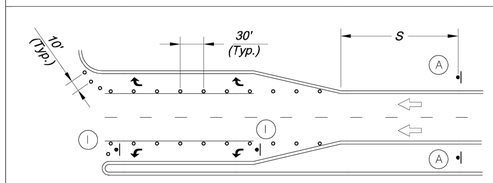


LANE CLOSURE - TWO LANE STREET



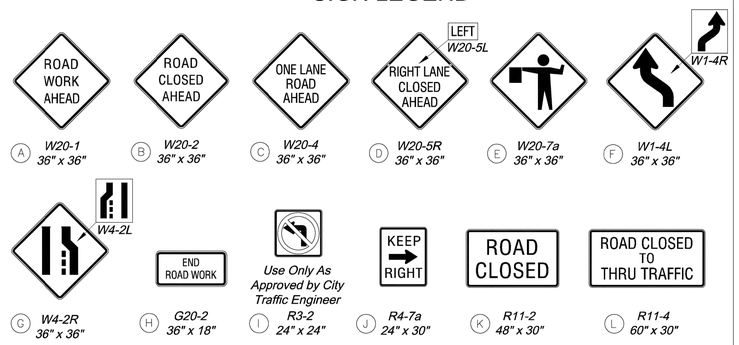
LANE CLOSURE - FOUR LANE STREET

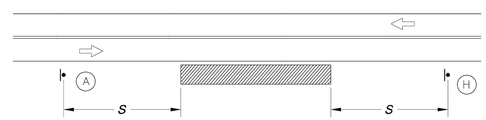
* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed



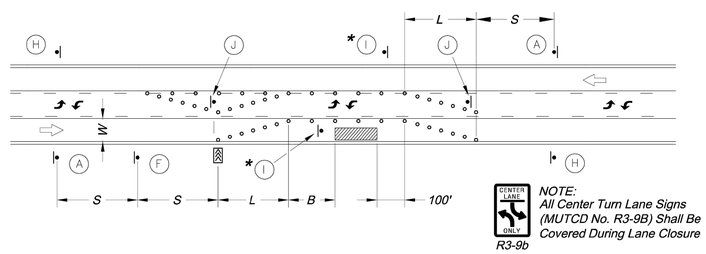
TURN LANE CLOSURE

SIGN LEGEND





TYPICAL SIGNING FOR WORK ADJACENT TO THE STREET



NOTE:
All Center Turn Lane Signs (MUTCD No. R3-9B) Shall Be Covered During Lane Closure

LANE CLOSURE - THREE LANE STREET

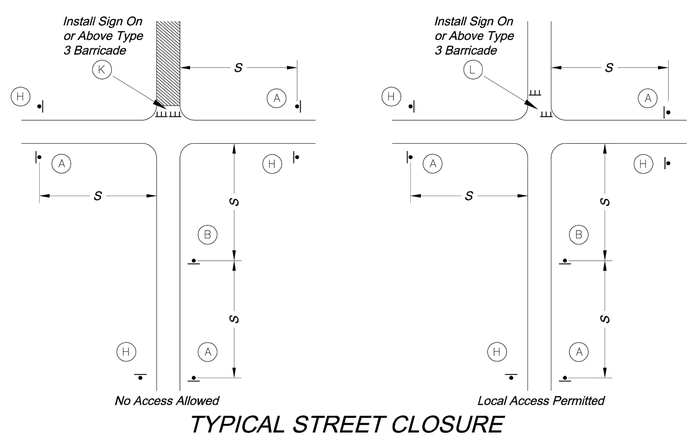
* Install Signs Every 200 Feet Throughout the Closed Lane or As Needed

Sign Spacing "S"	
Speed Limit (mph)	Spacing (Feet)
25	100
30 - 35	250
≥ 40	350

Taper Dimensions (Feet)				
Speed Limit (mph)	Minimum Taper Length "L", per Lane Width "W"			Minimum Number of Channelizers
	10	11	12	
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13

Guidelines for Length of Longitudinal Buffer Space "B"	
Speed Limit (mph)	Length (Feet)
25	35
30	55
35	85
40	120
45	170

Maximum Channelizer Spacing		
Speed Limit (mph)	Within Taper (Feet)	Outside Taper (Feet)
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90



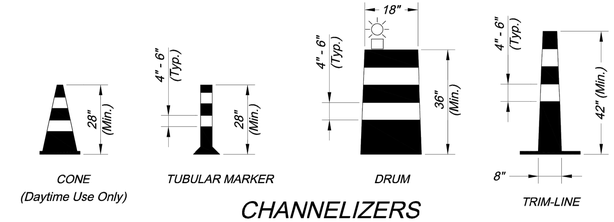
No Access Allowed

Local Access Permitted

TYPICAL STREET CLOSURE

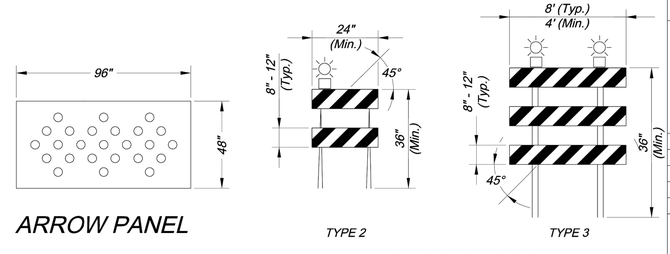
GENERAL NOTES:

1. All signs, barricades, channelizers, markings and other traffic control devices shall conform to the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. All traffic control devices shall be standard in size, shape, color, and message, in good condition, and retro-reflectorized. All signs shall be securely mounted with height and lateral location as described in the MUTCD.
3. Warning lights shall be used on barricades in place at night and on warning signs which alert drivers about a change in alignment, traffic control, lane closure, or road closure.
4. Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic, or where construction activities impose a restriction on traffic, as directed by the City Traffic Engineer. Where flaggers are used, advance signing shall be erected as shown in the details or as specified in the MUTCD. Flaggers shall meet the requirements in the MUTCD in regard to character, training, attire, and behavior.
5. Trim-lines are the City's preferred channelizing device. Cones may not be used at nighttime.
6. Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
7. The Contractor shall use barricades, street plates, or fencing as needed to effectively shield pedestrian and vehicular traffic from exposed objects, excavations, and construction activities.
8. Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
9. No street shall be closed without the approval of the City Traffic Engineer. The Contractor shall notify the City Traffic Engineer at least 7 days in advance of any street closure. If a detour route around the closure is to be provided, all detour signing shall be as shown on a plan approved by the City Traffic Engineer.
10. Construction vehicles parked along streets shall be located within the work area (traffic control) or where otherwise normally permitted. Construction materials, including traffic control and vehicles shall not restrict sight distance for vehicles exiting at streets or drives.
11. Construction materials shall be kept off of sidewalks, consolidated in one location within City right-of-way, and removed daily unless otherwise approved by the Inspector. Dirt, mud, and other construction debris on streets and sidewalks shall be removed immediately.
12. The Contractor shall not perform any work that will restrict vehicular traffic in any way between the hours of 7:00 a.m. and 9:00 a.m. or 4:00 p.m. and 6:00 p.m. Monday through Friday unless otherwise indicated in the specifications.
13. All travel lanes should be at least 11 feet wide unless otherwise authorized by the City Traffic Engineer. A "Narrow Lanes" sign shall be installed in advance of a lane width reduction to less than 11 feet.
14. All edge drop-offs of more than 2 inches and less than 4 inches should be protected by a wedge or barrier and all edge drop-offs greater than 4 inches shall have edge protection (see Traffic Control Specifications for edge treatment requirements).
15. The "Workers" symbolic sign (MUTCD No. W21-1a) may be used instead of the "Road Work Ahead" sign for work with a duration of 12 hours or less. The "End Road Work" sign is not required to be installed after the "Workers" sign.
16. No traffic signal shall be altered or modified in any way without a plan approved by the City Traffic Engineer.
17. The Contractor shall be responsible for maintaining all traffic control devices on an around-the-clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
18. The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the Contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of drivers, pedestrians, and workers at all times.
19. Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the City Traffic Engineer or representative, the City may take one or more of the following actions:
    - A) Employ another agency to correct deficiencies in traffic control devices and deduct the cost from the Contractor's pay estimate,
    - B) Stop the work until deficiencies are corrected,
    - C) Suspend all pay estimates until deficiencies are corrected, or
    - D) Place the Contractor in default.



CHANNELIZERS

NOTE: White Bands On Barricades and Channelizers Shall Be Made From High Intensity Sheeting Material.



ARROW PANEL

TYPE 2

TYPE 3

BARRICADES

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project:

TRAFFIC CONTROL DETAILS

Sheet Name:

STANDARD DRAWING TC-1

Drawn By: JJW
Checked By: MP
Date: 12-10-2008
Project No.: X

x OF x

X

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Kansas
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Nebraska
Engineering CA2821

Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LSMO

Issue Date: February 7, 2023

TRAFFIC CONTROL STANDARD DETAILS
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlicht
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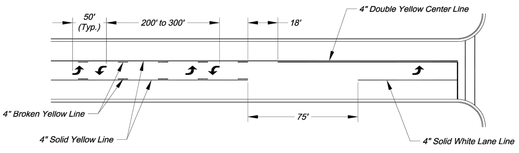
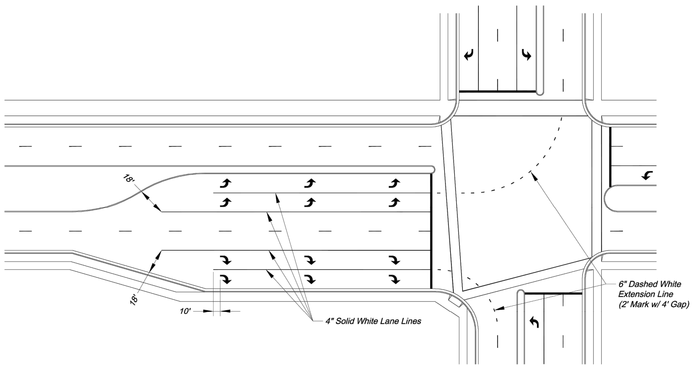
REVISIONS

1 REV. 2/7/2023
2 REV. 9/1/2023

C.256

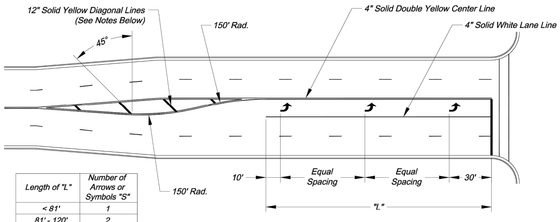


TYPICAL MARKINGS FOR TWO-WAY LEFT-TURN LANE



TYPICAL DUAL TURN LANE MARKINGS

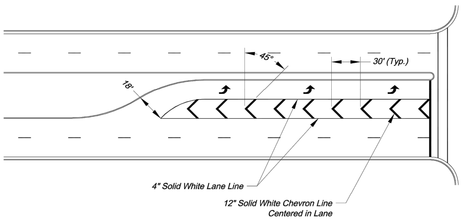
NOTE:
1. Dashed extension lines shall not extend through crosswalks.



Length of "L"	Number of Arrows or Symbols "S"
< 81'	1
81' - 120'	2
121' - 200'	3
201' - 280'	4
281' - 360'	5
361' - 440'	6

TYPICAL TURN LANE MARKINGS

NOTES:
1. Diagonal lines are required between centerlines if the width of the area between the center lines is greater than 12' and/or the length of the area between center lines is greater than 250'.
2. Diagonal lines should be spaced at 5' increments, equal to the posted speed limit.
3. Equal Spacing is calculated as (L - 40) / (S - 1).
4. When a through lane of traffic terminates as a mandatory turn lane, Arrow and "ONLY" symbols should be marked in the turn lane, in alternating order. The first and last symbols should be Arrows.



TYPICAL STRIPED OUT TURN LANE MARKINGS

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project:

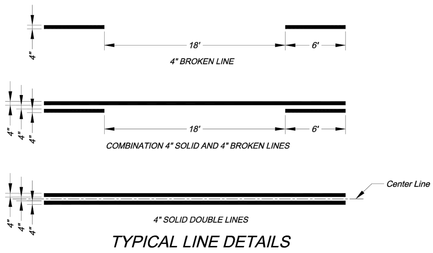
INTERSECTION MARKING DETAILS

Sheet Name: STANDARD DRAWING PM-2

Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#

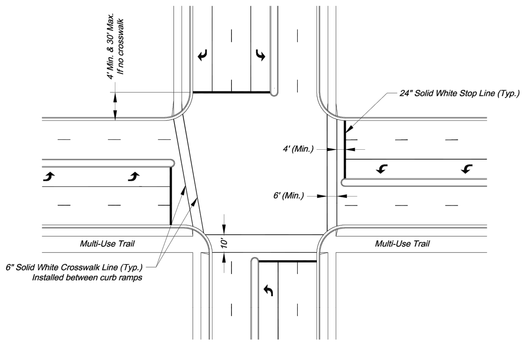
2 OF 2

2



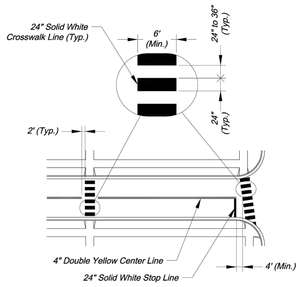
TYPICAL LINE DETAILS

NOTES:
1. All edge line, center line, and lane line pavement markings shall be 4" wide unless otherwise noted.
2. Edge lines shall be continuous solid white or yellow lines. Right side edge lines shall be solid white. Median or left side edge lines on divided roadways are to be solid yellow. Edge lines and center lines shall be continuous across driveways.

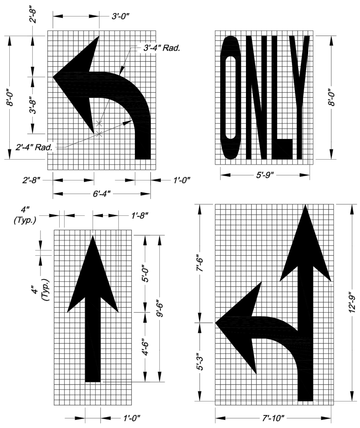


TYPICAL INTERSECTION MARKINGS

NOTES:
1. Transverse crosswalk lines shall be installed such that the distance between lines is at least 6 or 10 feet.
2. Stop lines are required at signalized intersections, on multi-lane stop controlled approaches, or in front of crosswalks at controlled intersections.

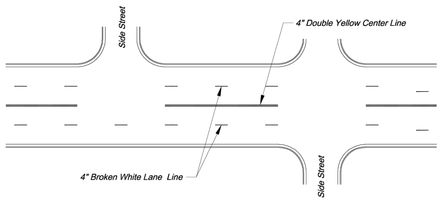


TYPICAL MIDBLOCK OR SCHOOL CROSS WALK

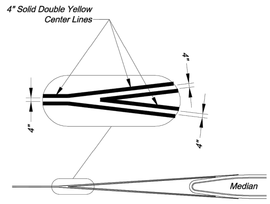


ARROW AND SYMBOL DETAILS

NOTES:
1. All arrow and symbol markings shall be white, and shall be centered in their respective traffic lanes.
2. Right-turn and combination right-turn/straight arrows are reverse of arrows shown.



TYPICAL MARKINGS FOR FOUR-LANE UNDIVIDED ROADWAY



TYPICAL MEDIAN NOSE CENTER LINE DETAIL

PAVEMENT MARKING GENERAL NOTES:
1. All pavement markings shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
2. All words and symbols shall conform to the latest edition of Standard Alphabets for Highway Signs and Pavement Markings printed by the U.S. Department of Transportation, Federal Highway Administration.
3. Pavement markings, either temporary or permanent are required at all times if the roadway is open to traffic.
4. All pavement markings that conflict with the desired markings shall be completely removed. Removals shall not leave the road surface scarred with an image that misleads traffic. Any excess damage or scarring of pavement shall be repaired at the Contractor's expense.
5. The proposed permanent markings shall be laid out by the Contractor in advance of the marking installation. Markings shall not be applied until the layout has been approved by the City Traffic Engineer.
6. Center lines shall be marked on all undivided arterial streets, and any other undivided street with more than two lanes and/or a speed limit of 30 mph or more.
7. Edge lines shall be marked on all non-curbed streets.

CITY OF LEE'S SUMMIT
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
220 SE GREEN STREET
LEE'S SUMMIT, MISSOURI 64063
PHONE: (816) 969-1800 FAX: (816) 969-1809

Project:

ROADWAY MARKING DETAILS

Sheet Name: STANDARD DRAWING PM-1

Drawn By: AS
Checked By: JW
Date: 09/09/2009
Project#

1 OF 2

1

C 257

REVISIONS
REV. 2/7/2023
REV. 6/1/2023

Matthew Sheridan
MO PE #2006019708
OK PE #19326
NE PE E-14335

PAVEMENT MARKING DETAILS
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project:
COLBERN ROAD
INVESTMENTS LSMO

Issue Date:
February 7, 2023

Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Professional Registration
Missouri
Engineering 2005002718-D
Surveying 2005000319-D
Kansas
Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA-0201

ENGINEERING SOLUTIONS
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50 SE 30TH STREET
LEE'S SUMMIT, MO 64082
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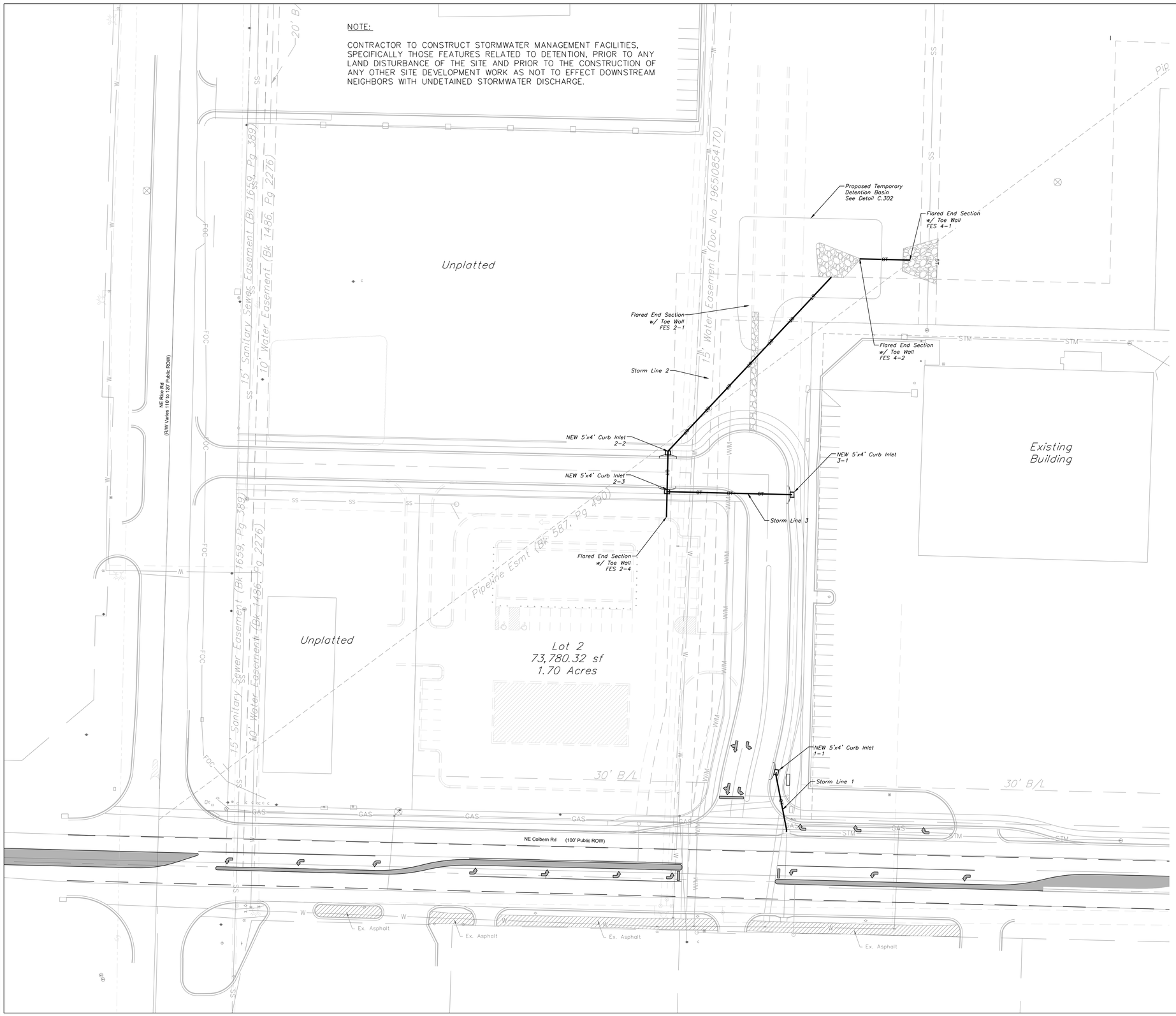
NOTE:

CONTRACTOR TO CONSTRUCT STORMWATER MANAGEMENT FACILITIES, SPECIFICALLY THOSE FEATURES RELATED TO DETENTION, PRIOR TO ANY LAND DISTURBANCE OF THE SITE AND PRIOR TO THE CONSTRUCTION OF ANY OTHER SITE DEVELOPMENT WORK AS NOT TO EFFECT DOWNSTREAM NEIGHBORS WITH UNDETAINED STORMWATER DISCHARGE.



NOTE:

ALL STORM SEWER IS PUBLIC UNLESS OTHERWISE NOTED.

North

0 20' 40' 80'

STORM SEWER GENERAL LAYOUT

SCALE: 1" = 40'

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Surveying LS-218
Oklahoma
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Nebraska
Engineering CA2821

Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LSMO

Issue Date: February 7, 2023

Storm Sewer General Layout
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
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PROFESSIONAL ENGINEER

Matthew J. Schlicht
MO PE 2005019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

1 REV. 2/7/2023

2 REV. 9/1/2023

C.300

North

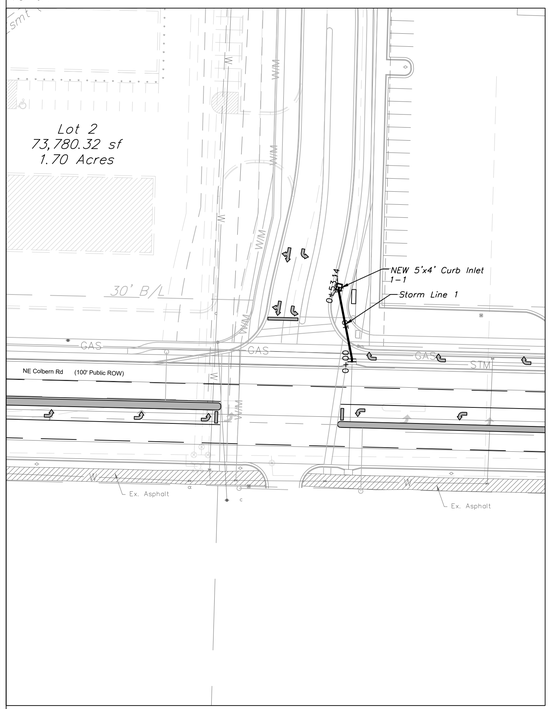
GRAPHIC SCALE
0 25' 50' 100'

STORM SEWER PLAN & PROFILE

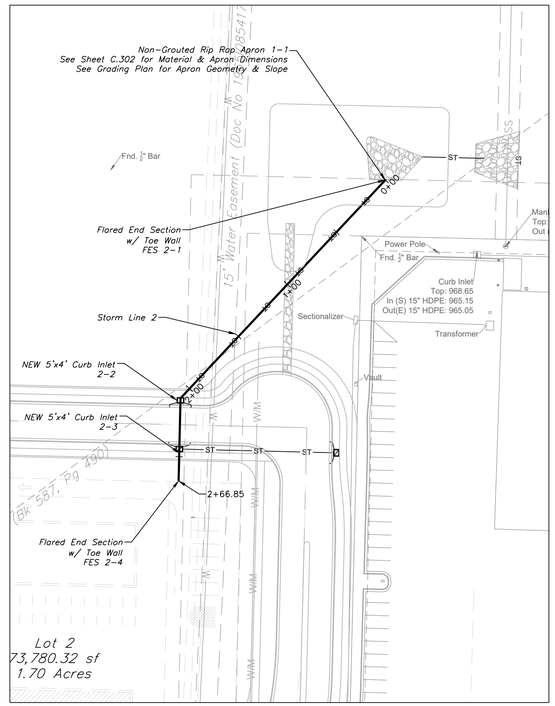
SCALE: 1" = 50'

Note:

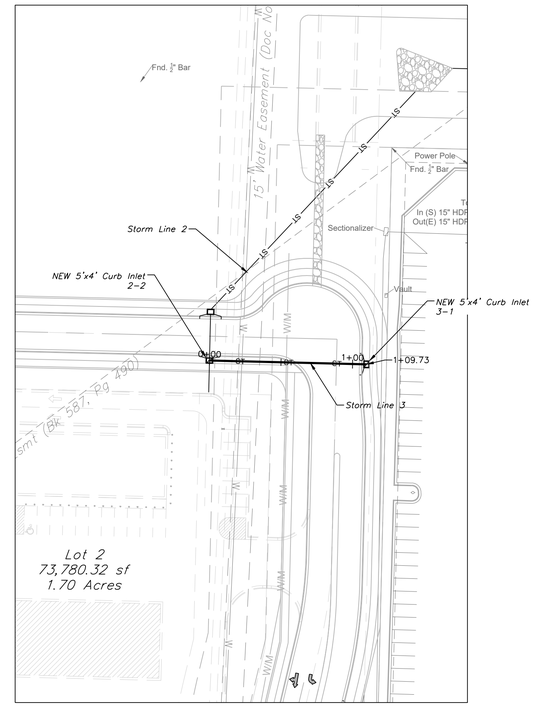
Compacted Fill shall be placed to a minimum 18" above the top of the pipe prior to installation.



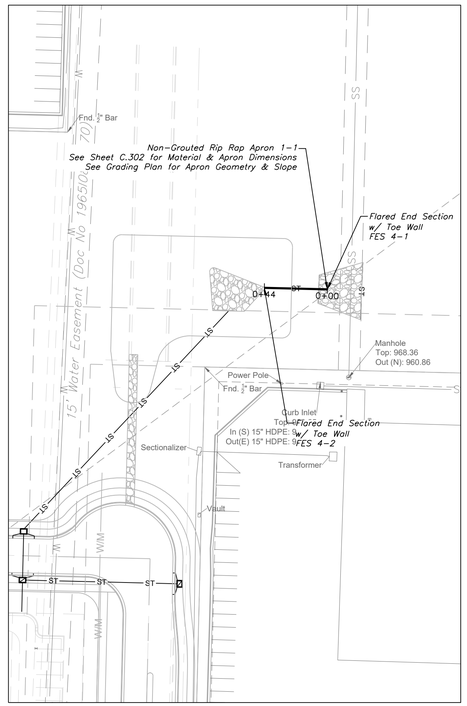
STORM LINE 1



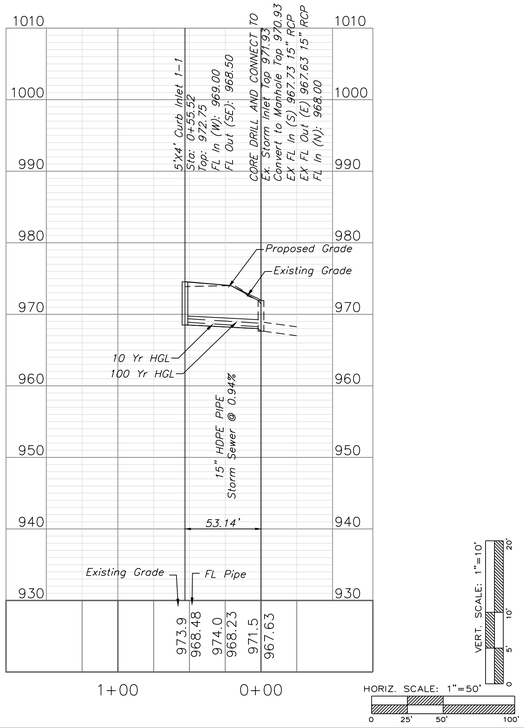
STORM LINE 2

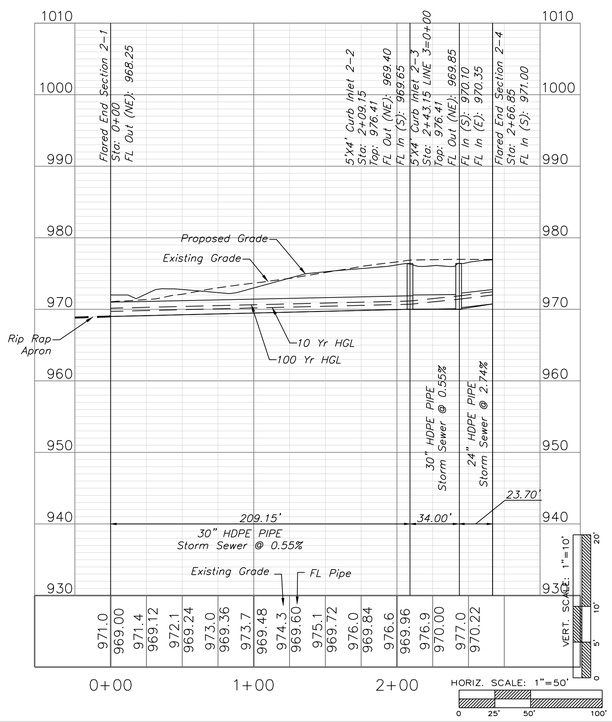


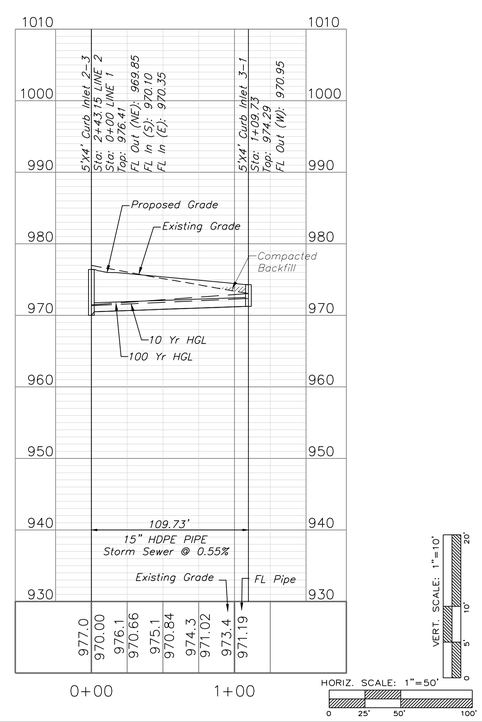
STORM LINE 3

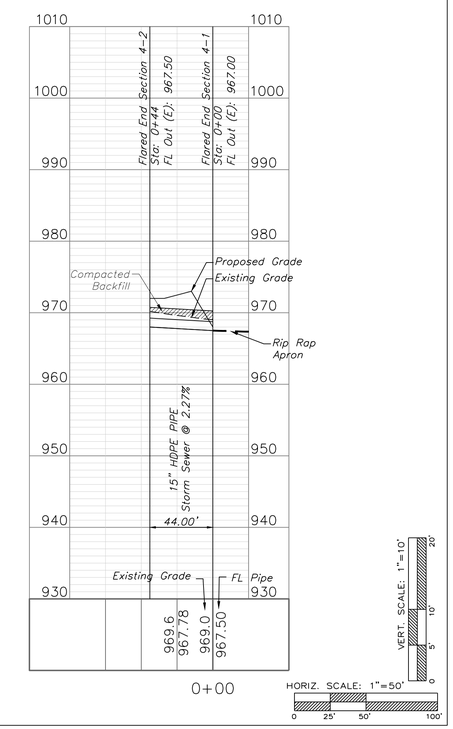


STORM LINE 4









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Nebraska
Engineering CA2821

Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LSMO
Issue Date: February 7, 2023

Storm Sewer Plan and Profile
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
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PROFESSIONAL ENGINEER

Matthew J. Schlicht
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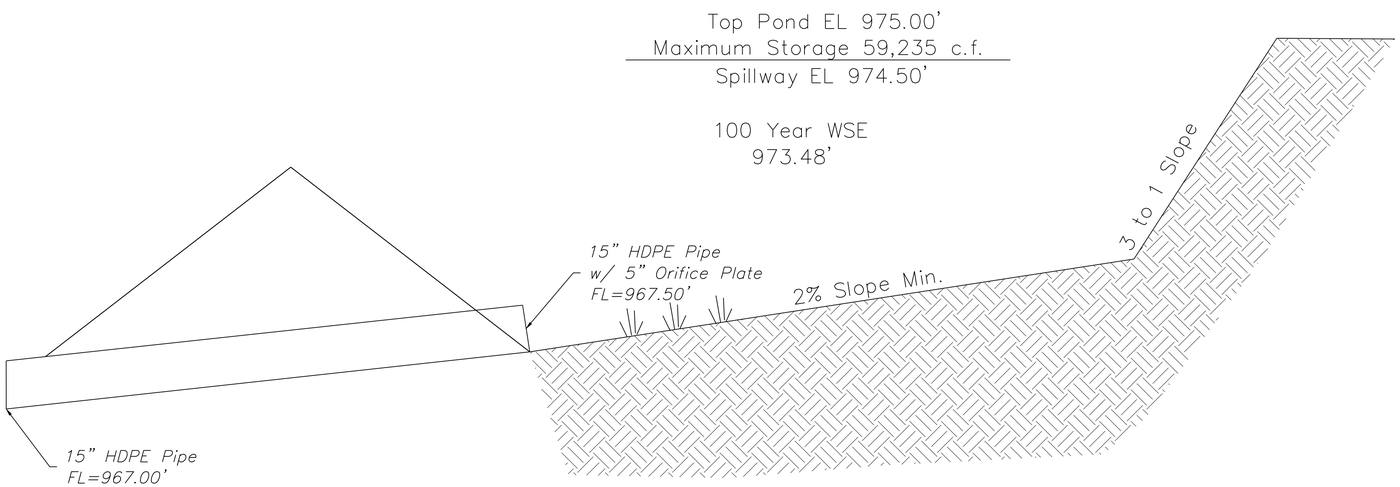
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS

1 REV. 2/7/2023
2 REV. 9/1/2023

C.301



SECTION VIEW – BASIN

Field End Section #	1-1	
Q =	25.35	cfs
D =	3	ft
Tw =	1.2	ft
g =	32.2	ft/s^2
D_{50} =	3.4	inches
Use	5	inches

D_{50} = riprap size, m(ft)
Q = design discharg, m^3/s (ft^3/s)
D = culvert diameter (circular), m(ft)
Tw = tailwater depth, m(ft)
g = acceleration due to gravity, 9.81 m/s^2 (32.2 ft/s^2)

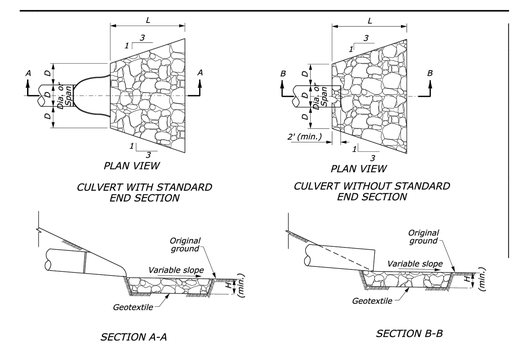
*Taken From Publication No. FHWA-NHI-06-086
Hydraulic Engineering Circular No. 14, 3rd Edition

Class 1

Apron Length =	4*D	12.00 ft	use	12.00 ft
Apron Depth =	3.5*D_{50}	17.50 inches	use	18.00 inches
Apron Width =	3*D+(2/3)L	17.00 ft	use	17.00 ft

				RipRap Apron					
RipRap Apron	Area (ac.)	Q100 (cfs)	Dia. (ft)	Class	D_{50} (in)	Length (ft)	Depth (in)	Width (ft)	Slope (%)
1-1	5.83	25.35	3	1	5	12	18	17	2.00

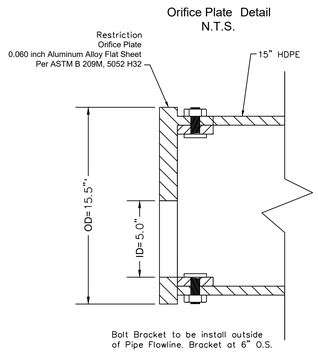
STANDARD RIPRAP APRON DETAIL

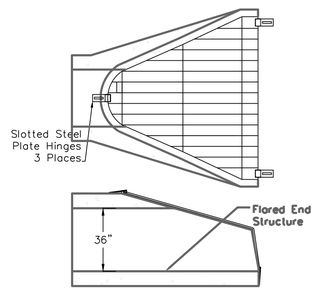


NOTES:
1. ALL RIPRAP APRONS SHALL CONFORM TO THE STANDARD CONFIGURATION SHOWN IN THE STANDARD DETAIL ABOVE UNLESS OTHERWISE NOTED. PLAN VIEW DIMENSIONS SHOWN SHALL BE MET OR EXCEEDED INCLUDING AREAS OF LONGITUDINAL AND/OR TRANSVERSE SLOPE.
2. DIMENSIONS FOR EACH RIPRAP APRON AND ASSOCIATED RIPRAP ARE DETAILED IN THE TABLE ABOVE.
3. WIDTH REFERS TO DIMENSION OPPOSITE PIPE AND DEPTH IS DIMENSION H.
4. GEOTEXTILE SHALL BE "GEI WORKS 4 OUNCE" NON-WOVEN FILTER FABRIC DESIGNED FOR FILTRATION, STABILIZATION AND SEPARATION WRAPPED CONTINUOUSLY ALONG THE SIDEWALLS AND BOTTOM OF THE PREPARED AREA OR SLOPE.
   - WATER FLOW = 120 GPM/SF
   - GRAB STRENGTH (MIN) = 400 N
   - PUNCTURE STRENGTH (MIN) = 178 N
   - TRAPEZOIDAL TEAR (MIN) = 133 N
   - ELONGATION (MIN) = 15%

N.T.S.

Orifice Plate Detail
N.T.S.





Galvanized
Trash Guard
For Influent Flared Ends
(Both Basins)

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Oklahoma
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Nebraska
Engineering CA2821

Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LSMO
Issue Date: February 7, 2023

Detention Basin and Riprap Apron Details
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLICHT
NUMBER
PE2006019708
PROFESSIONAL ENGINEER

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MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

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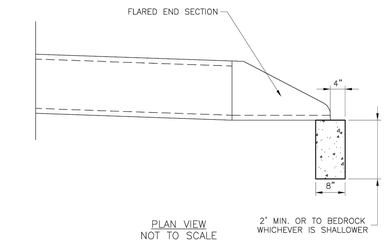
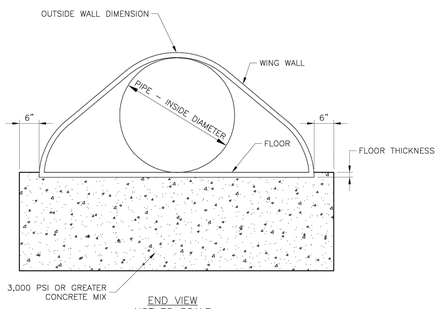
1 REV. 2/7/2023
2 REV. 9/1/2023

C.305



PLAN VIEW
NOT TO SCALE

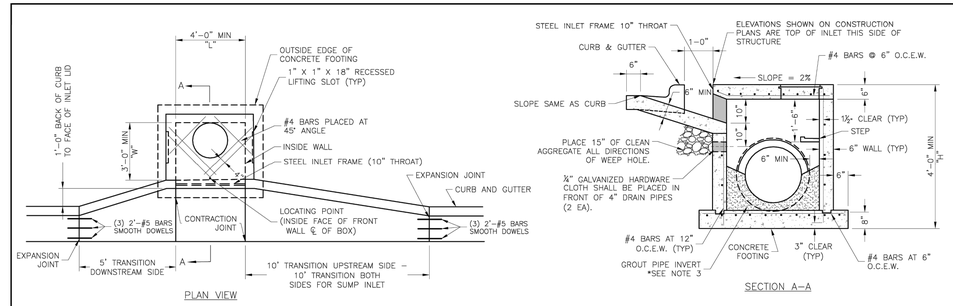


END VIEW
NOT TO SCALE

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

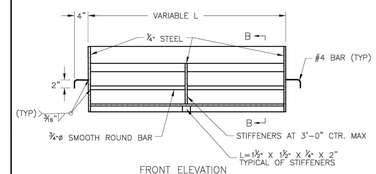
FLARED END SECTION SUPPORT DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL
STM-5

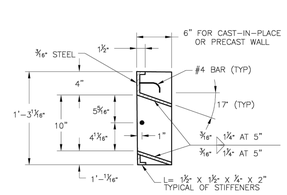


PLAN VIEW

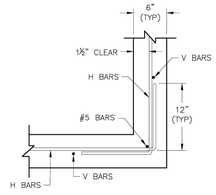
SECTION A–A



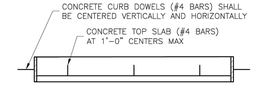
FRONT ELEVATION



SECTION B–B



WALL CORNER DETAIL



PLAN VIEW

STEEL FRAME NOTES:
1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.
2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED APPEARANCE.
3. THE ENTIRE FRAME SHALL BE PAINTED A SINGLE COAT OF CHEM–PRIME #37H–78 PRIMER (GRAY) OR EQUAL.

GENERAL NOTES:
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION.
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'–4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED EDGES WITH ¾"CHAMFER OR ½" TOOLED EDGE.
7. ON–GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON–SHRINKABLE GROUT
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: CURB INLET DETAIL

Project:
Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:
STM-1

ENGINEERING SOLUTIONS
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Kansas
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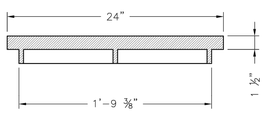
Colbern Road Investments
Lee's Summit, Jackson County, Missouri



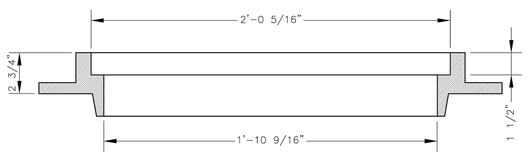
STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

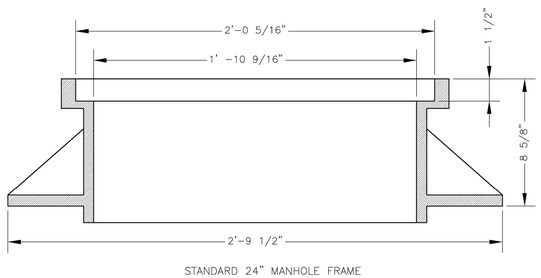
LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE COVER DETAIL

Date: 04/17
Drawn By: MJF
Checked By: DL
STM-6



SLAB MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS103A
MINIMUM WEIGHT = 145 LB



STANDARD 24" MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS101A
MINIMUM WEIGHT = 250 LB

*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

LEE'S SUMMIT
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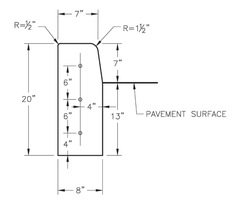
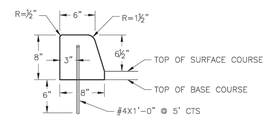
STORM MANHOLE FRAME DETAIL

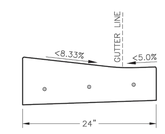
Date: 04/17
Drawn By: MJF
Checked By: DL
STM-7



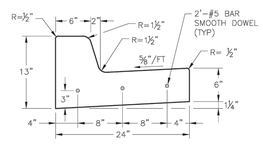
STRAIGHT CURB
(TYPE C–1)



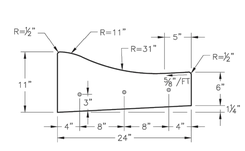
DOWELLED CURB
(TYPE DC)



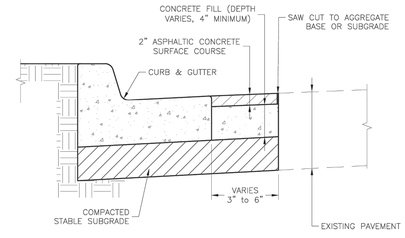
CURB & GUTTER DETAIL AT RAMP
(ADA SLOPE REQUIREMENTS)



STRAIGHT BACK CURB & GUTTER
(TYPE CG–1)



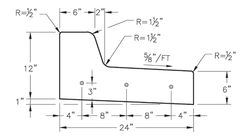
ROLL BACK CURB & GUTTER
(TYPE CG–2)



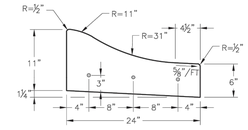
CURB REPLACEMENT DETAIL

GENERAL NOTES

1. ¾" ISOLATION JOINTS WITH 3 (2'–#5 BAR) SMOOTH DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWEL BARS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 3" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. CONCRETE FILL SHALL HAVE UNIFORM AND SMOOTH FINISH
4. KCMMB 4K CONCRETE SHALL BE USED FOR ALL CURB.
5. ASPHALTIC CONCRETE SURFACE COURSE SHALL CONFORM TO STANDARD SPECIFICATIONS SECTION 2205.2.
6. CURBS FOR NEW STREETS SHALL BE BUILT ON ASPHALT OR AGGREGATE BASE AS SHOWN IN TYPICAL SECTION DETAIL.
7. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
8. ALL DOWELS & TIE BARS SHALL BE EPOXY COATED.



STRAIGHT BACK DRY CURB & GUTTER
(TYPE CG–1 DRY)



ROLL BACK DRY CURB & GUTTER
(TYPE CG–2 DRY)

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Sheet Name: CURB & GUTTER DETAIL

Project:
Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:
GEN-4

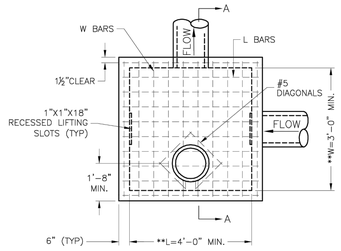
Project: COLBERN ROAD INVESTMENTS LSMO
Issue Date: February 7, 2023

Construction Details
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

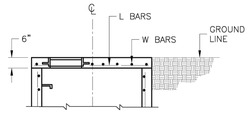
Matthew J. Schlicht
MO PE 2006019708
KS PE 19071
OK PE 25226
NE PE E-14335

REVISIONS
1 REV. 2/7/2023
2 REV. 9/1/2023

C.600



PLAN

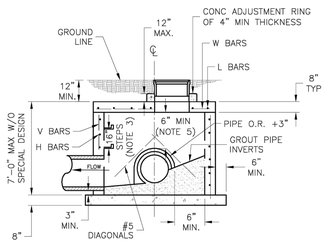


SLAB TOP ALTERNATE FOR JUNCTION BOX (SHALLOW)

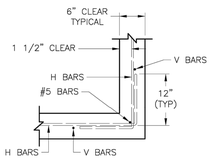
** INCREASE IN MULTIPLES OF 6" (7'-0") MAX WITHOUT SPECIAL DESIGN. (SEE PROJECT PLANS FOR DETAILS)

REINFORCING

BARS	BAR SIZE	SPACING (IN.)
H	4	12
V	4	12
L	5	6
W	5	6



SECTION A–A



WALL CORNER DETAIL

GENERAL NOTES:

1. LOCATE RING AND COVER ON BLANK WALL.
2. USE ¾" CHAMFER STRIP OR ½" R EDGER TOOL ON ALL EXPOSED CONCRETE CORNERS.
3. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 4' ON BLANK WALL IF POSSIBLE.
4. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE AND THE MINIMUM DISTANCE BETWEEN BOXOUTS IS 6".
5. THE MINIMUM REINFORCING SHALL BE 1 H–BAR OVER A CAST–IN–PLACE PIPE AND 2 H–BARS OVER A PRECAST BOXOUT.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

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PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

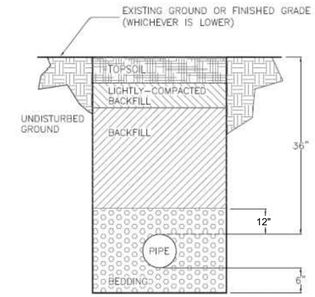
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Project:
Sheet Name: JUNCTION BOX DETAIL

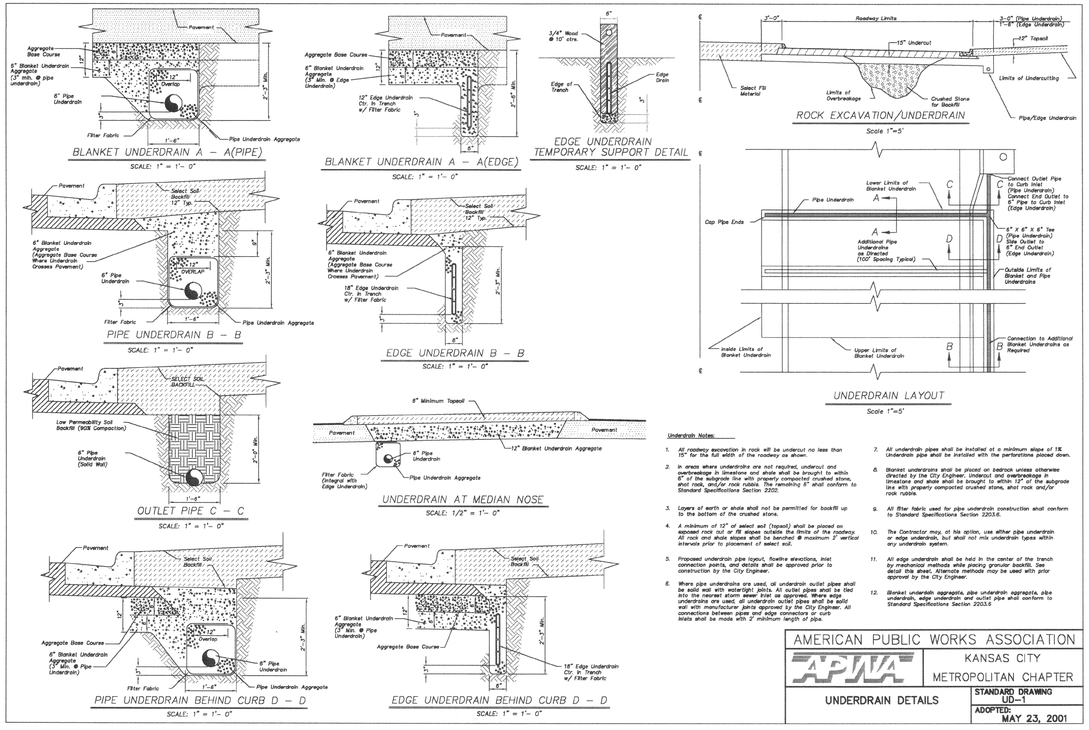
Drawn By: MJF
Checked By: DL
Date: 04/17
Proj. #:

STM-3

Added junction box detail.



TRENCH AND BACKFILL DETAIL
N.T.S.



Underdrain Notes:

1. All roadway excavation in rock will be undercut no less than 15" for the full width of the roadway as shown.
2. In areas where underdrains are not required, undercut and overbreakage in limestone and shale shall be brought to within 6" of the subgrade line with properly compacted crushed stone, shot rock, and/or rock rubble. The remaining 6" shall conform to Standard Specifications Section 2202.
3. Layers of earth or shale shall not be permitted for backfill up to the bottom of the crushed stone.
4. A minimum of 12" of select soil (topsoil) shall be placed on undercut areas to the subgrade line within the limits of the roadway. All rock and shale slopes shall be benched @ maximum 2' vertical intervals prior to placement of select soil.
5. Proposed underdrain pipe layout, flowline elevations, inlet connection points, and details shall be approved prior to construction by the City Engineer.
6. Where pipe underdrains are used, all underdrain outlet pipes shall be solid wall with watertight joints. All outlet pipes shall be tied into the nearest storm sewer inlet as approved. Where edge drains are used, the edge drain shall be solid wall pipe, or perforated wall with manufacturer joints approved by the City Engineer. All connections between pipes and edge connectors or curb inlets shall be made with 2' minimum length of pipe.
7. All underdrain pipes shall be installed at a minimum slope of 1%. Underdrain pipe shall be installed with the perforations placed down.
8. Blanket underdrains shall be placed on bedrock unless otherwise directed by the City Engineer. Undercut and overbreakage in limestone and shale shall be brought to within 12" of the subgrade line with properly compacted crushed stone, shot rock and/or rock rubble.
9. All filter fabric used for pipe underdrain construction shall conform to Standard Specifications Section 2203.6.
10. The Contractor may, at his option, use either pipe underdrain or edge underdrain, but shall not mix underdrain types within any underdrain system.
11. All edge underdrain shall be held in the center of the trench by mechanical methods while placing granular backfill. See detail this sheet. Alternate methods may be used with prior approval by the City Engineer.
12. Blanket underdrain aggregate, pipe underdrain aggregate, pipe underdrain, edge underdrain and outlet pipe shall conform to Standard Specifications Section 2203.6

AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METROPOLITAN CHAPTER
UNDERDRAIN DETAILS
STANDARD DRAWING UD–1
ADOPTED: MAY 23, 2001

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Surveying 2005000319-D
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Engineering E-1695
Surveying LS-218
Oklahoma
Engineering 6254
Nebraska
Engineering CA2821

Colbern Road Investments
Lee's Summit, Jackson County, Missouri

Project: COLBERN ROAD INVESTMENTS LSMO
Issue Date: February 7, 2023

Construction Details
Construction Plans for:
Colbern Road Investments
Lee's Summit, Jackson County, Missouri

STATE OF MISSOURI
MATTHEW J. SCHLIGHT
NUMBER PE-2006019708
PROFESSIONAL ENGINEER

Matthew J. Schlight
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KS PE 19071
OK PE 25226
NE PE E–14335

REVISIONS

1 REV. 2/7/2023
2 REV. 9/1/2023

C.601