NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

12.54 ACRES

SITE PLAN - SP-000832-2016

8 CARRIAGE RIGHT ELEVATION - COLOR
1/8" = 1'-0"

7 CARRIAGE REAR ELEVATION - COLOR
1/8" = 1'-0"

6 CARRIAGE LEFT ELEVATION - COLOR
1/8" = 1'-0"

5 CARRIAGE FRONT ELEVATION - COLOR
1/8" = 1'-0"

EXTERIOR COLOR SCHEME - CARRIAGES	
• BOARD AND BATTEN SIDING	SW 7018 DOVETAIL
• 6" CEMENTITIOUS LAP SIDING	SW 6235 FOGGY DAY
• ACCENT TRIM	SW 7069 IRON ORE
• DOORS	TYPICAL: SW 6991 BLACK MAGIC UTILITY DOORS: MATCH FIELD
• GARAGE DOORS	SW 7069 IRON ORE
• ASPHALT ROOF	TAMKO "RUSTIC BLACK"
• MASONRY	SUNSET STONE FIELDSTONE "WINTERSKY"
• METAL RAILINGS	PWDR. COAT BLACK FLAT BK 247

NOTES:

ALL PAINT COLORS BY SHERWIN WILLILAMS UNLESS OTHERWISE NOTED

RETURN WALLS TO MATCH EXTERIOR WALLS

ROOF
TAMKO: RUSTIC BLACK

METAL ROOF
BERRIDGE: CHARCOAL GREY

BODY 1
SHERWIN WILLIAMS: 6012 BROWSE BROWN

TRIM
SHERWIN WILLIAMS: 7069 IRON ORE

BODY 2
SHERWIN WILLIAMS: 7649 SILVERPLATE

ENTRY
SHERWIN WILLIAMS: 6991 BLACK MAGIC

GARAGE
SHERWIN WILLIAMS: 7069 IRON ORE

RAILINGS
CARDINAL: POWDER COATING BLACK FLAT BK247

MASONRY
SUNSET STONE: LIMESTONE WINTERSKY

WINDOWS
WHITE

4 CARRIAGE - REAR-RIGHT CORNER

3 CARRIAGE - REAR-LEFT CORNER

2 CARRIAGE - FRONT-RIGHT CORNER

1 CARRIAGE - FRONT-LEFT CORNER

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KA PROJECT #215093

11-08-2019
REVISION DATE: 09-27-2019 ISSUE DATE: 04-27-2017

BLDG. TYPE D - ELEVATIONS
SHEET 42 OF 51

OUTLOOK NINE MILE

NINE MILE FILING NO.1, LOT 1 **SCHEME 2**

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

12.54 ACRES

SITE PLAN - SP-000832-2016

8 CARRIAGE RIGHT ELEVATION - COLOR
1/8" = 1'-0"

7 CARRIAGE REAR ELEVATION - COLOR
1/8" = 1'-0"

6 CARRIAGE LEFT ELEVATION - COLOR
1/8" = 1'-0"

5 CARRIAGE FRONT ELEVATION - COLOR
1/8" = 1'-0"

EXTERIOR COLOR SCHEME - CARRIAGES	
• BOARD AND BATTEN SIDING	SW 7018 DOVETAIL
• 6" CEMENTITIOUS LAP SIDING	SW 6235 FOGGY DAY
• ACCENT TRIM	SW 7069 IRON ORE
• DOORS	TYPICAL: SW 6991 BLACK MAGIC UTILITY DOORS: MATCH FIELD
• GARAGE DOORS	SW 7069 IRON ORE
• ASPHALT ROOF	TAMKO "RUSTIC BLACK"
• MASONRY	SUNSET STONE FIELDSTONE "WINTERSKY"
• METAL RAILINGS	PWDR. COAT BLACK FLAT BK 247

NOTES:

ALL PAINT COLORS BY SHERWIN WILLILAMS UNLESS OTHERWISE NOTED

RETURN WALLS TO MATCH EXTERIOR WALLS

ROOF
TAMKO: RUSTIC BLACK

METAL ROOF
BERRIDGE: CHARCOAL GREY

BODY 1
SHERWIN WILLIAMS: 7622 HOMBURG GRAY

TRIM
SHERWIN WILLIAMS: 7069 IRON ORE

BODY 2
SHERWIN WILLIAMS: 7649 SILVERPLATE

ENTRY
SHERWIN WILLIAMS: 6991 BLACK MAGIC

GARAGE
SHERWIN WILLIAMS: 7069 IRON ORE

RAILINGS
CARDINAL: POWDER COATING BLACK FLAT BK247

MASONRY
SUNSET STONE: LIMESTONE WINTERSKY

WINDOWS
WHITE

4 CARRIAGE - REAR-RIGHT CORNER

3 CARRIAGE - REAR-LEFT CORNER

2 CARRIAGE - FRONT-RIGHT CORNER

1 CARRIAGE - FRONT-LEFT CORNER

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CARRIAGE ELEVATIONS

KA PROJECT #215093

REVISION DATE: 09-27-2019 ISSUE DATE: 04-27-2017 SHEET 34 OF 39

NINE MILE FILING NO.1, LOT 1 **SCHEME 3**

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

12.54 ACRES

SITE PLAN - SP-000832-2016

8 CARRIAGE RIGHT ELEVATION - COLOR
1/8" = 1'-0"

7 CARRIAGE REAR ELEVATION - COLOR
1/8" = 1'-0"

6 CARRIAGE LEFT ELEVATION - COLOR
1/8" = 1'-0"

5 CARRIAGE FRONT ELEVATION - COLOR
1/8" = 1'-0"

EXTERIOR COLOR SCHEME - CARRIAGES	
• BOARD AND BATTEN SIDING	SW 7018 DOVETAIL
• 6" CEMENTITIOUS LAP SIDING	SW 6235 FOGGY DAY
• ACCENT TRIM	SW 7069 IRON ORE
• DOORS	TYPICAL: SW 6991 BLACK MAGIC UTILITY DOORS: MATCH FIELD
• GARAGE DOORS	SW 7069 IRON ORE
• ASPHALT ROOF	TAMKO "RUSTIC BLACK"
• MASONRY	SUNSET STONE FIELDSTONE "WINTERSKY"
• METAL RAILINGS	PWDR. COAT BLACK FLAT BK 247

NOTES:

ALL PAINT COLORS BY SHERWIN WILLILAMS UNLESS OTHERWISE NOTED

RETURN WALLS TO MATCH EXTERIOR WALLS

ROOF
TAMKO: RUSTIC BLACK

METAL ROOF
BERRIDGE: CHARCOAL GREY

BODY 1
SHERWIN WILLIAMS: 7674 PEPPERCORN

TRIM
SHERWIN WILLIAMS: 7069 IRON ORE

BODY 2
SHERWIN WILLIAMS: 7649 SILVERPLATE

ENTRY
SHERWIN WILLIAMS: 6991 BLACK MAGIC

GARAGE
SHERWIN WILLIAMS: 7069 IRON ORE

RAILINGS
CARDINAL: POWDER COATING BLACK FLAT BK247

MASONRY
SUNSET STONE: LIMESTONE WINTERSKY

WINDOWS
WHITE

4 CARRIAGE - REAR-RIGHT CORNER

3 CARRIAGE - REAR-LEFT CORNER

2 CARRIAGE - FRONT-RIGHT CORNER

1 CARRIAGE - FRONT-LEFT CORNER

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CARRIAGE ELEVATIONS

KA PROJECT #215093

REVISION DATE: 09-27-2019 ISSUE DATE: 04-27-2017 SHEET 34 OF 39

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

12.54 ACRES

SITE PLAN - SP-000832-2016

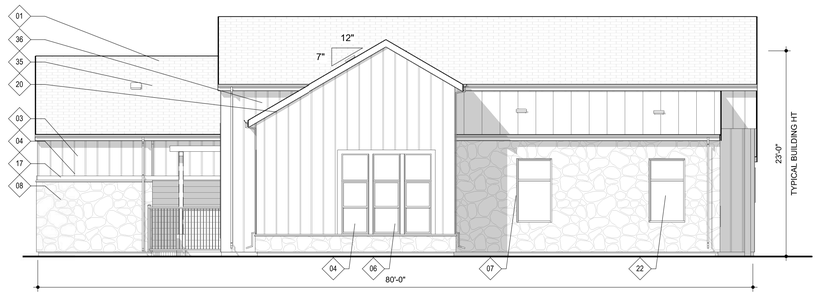
KEYNOTES	
01	ARCHITECTURAL COMPOSITE SHINGLE ROOF
02	5/4" X 8" PAINTED FASCIA
03	6" CEMENTITIOUS LAP SIDING
04	5/4" X 6" PAINTED CEMENTITIOUS ACCENT TRIM
06	VINYL SINGLE-HUNG WINDOW
07	VINYL FIXED WINDOW
08	STONE VENEER
09	OVERHEAD GARAGE DOOR; STEEL
12	BUILDING ENTRY DOOR, MAINTAIN ACCESSIBLE ROUTE TO THIS LOCATION
13	STANDING SEAM METAL ROOF
17	STONE SILL/CAP
20	5/4" X 10" PAINTED CEMENTITIOUS ACCENT TRIM
22	STOREFRONT
28	ELECTRIC METER
29	GAS METER
35	ROOF VENT; MATCH ROOF COLOR
36	CEMENTITIOUS BOARD AND BATTEN

EXTERIOR COLOR SCHEME - CLUBHOUSE	
• BOARD AND BATTEN SIDING	SW 7662 7674 PEPPERCORN
• 6" CEMENTITIOUS LAP SIDING	SW 6012 BROWSE BROWN
• ACCENT TRIM	SW 7069 IRON ORE
• DOORS	TYPICAL: SW 6991 BLACK MAGIC UTILITY DOORS: MATCH FIELD
• STOREFRONT	BLACK
• GARAGE DOORS	7069 IRON ORE
• ASPHALT ROOF	TAMKO "RUSTIC BLACK"
• STANDING SEAM METAL ROOF	BERRIDGE METALS "CHARCOAL GRAY"
• MASONRY	SUNSET STONE LIMESTONE "WINTERSKY"
• METAL RAILINGS	POWDER COAT FLAT BLACK BK247

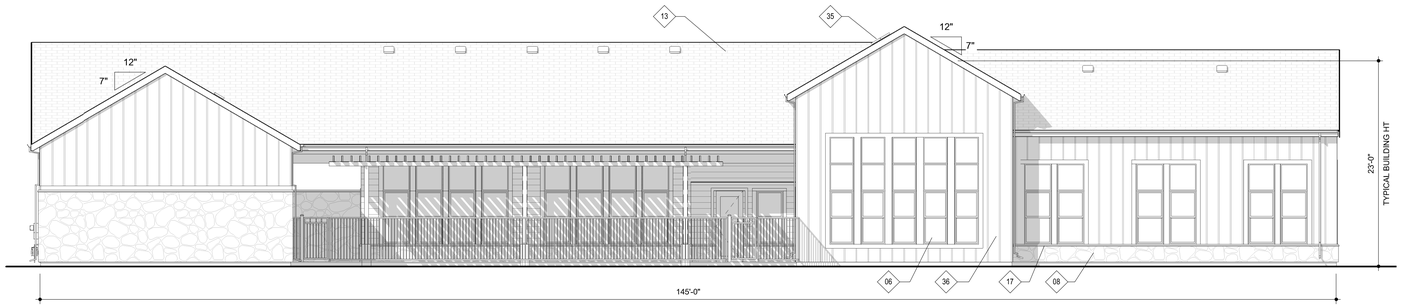
NOTES:

ALL PAINT COLORS BY SHERWIN WILLILAMS UNLESS OTHERWISE NOTED

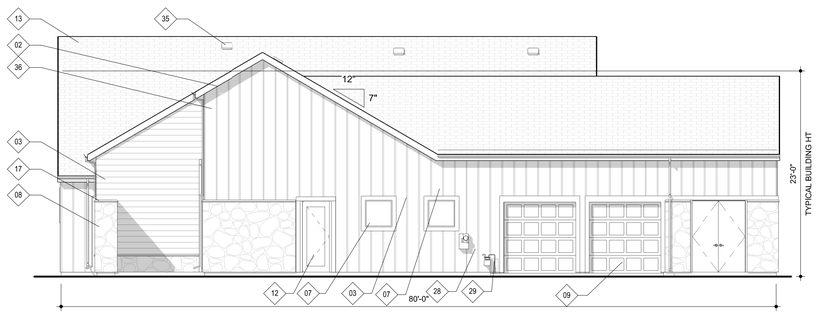
RETURN WALLS TO MATCH EXTERIOR WALLS



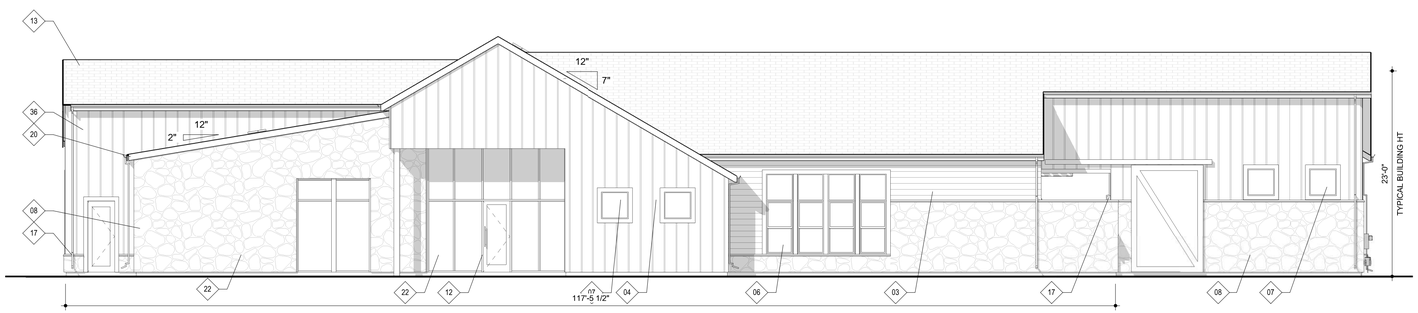
4 CLUBHOUSE - LEFT ELEVATION
1/8" = 1'-0"



3 CLUBHOUSE - REAR ELEVATION
1/8" = 1'-0"



2 CLUBHOUSE - RIGHT ELEVATION
1/8" = 1'-0"



1 CLUBHOUSE - FRONT ELEVATION
1/8" = 1'-0"

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11-08-2019
REVISION DATE: 09-27-2019 ISSUE DATE: 04-27-2017

CLUBHOUSE ELEVATIONS
SHEET 45 OF 51

OUTLOOK NINE MILE

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

12.54 ACRES

SITE PLAN - SP-000832-2016

8 CLUBHOUSE - FRONT ELEVATION
1/8" = 1'-0"

7 CLUBHOUSE - RIGHT ELEVATION
1/8" = 1'-0"

6 CLUBHOUSE - REAR ELEVATION
1/8" = 1'-0"

5 CLUBHOUSE - LEFT ELEVATION
1/8" = 1'-0"

4 CLUBHOUSE - FRONT LEFT CORNER

3 CLUBHOUSE - REAR LEFT CORNER

EXTERIOR COLOR SCHEME - CLUBHOUSE

• BOARD AND BATTEN SIDING	SW 7662 7674 PEPPERCORN
• 6" CEMENTITIOUS LAP SIDING	SW 6012 BROWSE BROWN
• ACCENT TRIM	SW 7069 IRON ORE
• DOORS	TYPICAL: SW 6991 BLACK MAGIC UTILITY DOORS: MATCH FIELD
• STOREFRONT	BLACK
• GARAGE DOORS	7069 IRON ORE
• ASPHALT ROOF	TAMKO "RUSTIC BLACK"
• STANDING SEAM METAL ROOF	BERRIDGE METALS "CHARCOAL GRAY"
• MASONRY	SUNSET STONE LIMESTONE "WINTERSKY"
• METAL RAILINGS	POWDER COAT FLAT BLACK BK247

NOTES:

ALL PAINT COLORS BY SHERWIN WILLILAMS UNLESS OTHERWISE NOTED

RETURN WALLS TO MATCH EXTERIOR WALLS

2 CLUBHOUSE - FRONT RIGHT CORNER

1 CLUBHOUSE - REAR RIGHT CORNER

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CLUBHOUSE ELEVATIONS
SHEET 46 OF 51

KA PROJECT #215093

OUTLOOK NINE MILE

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

12.54 ACRES

SITE PLAN - SP-000832-2016

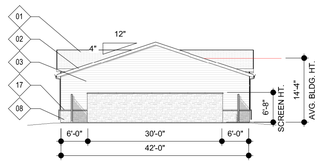
KEYNOTES	
#	DESCRIPTION
01	ARCHITECTURAL COMPOSITE SHINGLE ROOF
02	5/4" X 8" PAINTED FASCIA
03	6" CEMENTITIOUS LAP SIDING
04	5/4" X 6" PAINTED CEMENTITIOUS ACCENT TRIM
05	CEMENTITIOUS PANEL SIDING
08	STONE VENEER
09	OVERHEAD GARAGE DOOR; STEEL
17	STONE SILL/CAP
23	SECURITY GATE
26	METAL TRASH ENCLOSURE GATE
36	CEMENTITIOUS BOARD AND BATTEN

EXTERIOR COLOR SCHEME - GARAGES	
• BOARD AND BATTEN SIDING	SW 7649 SILVERPLATE
• 6" CEMENTITIOUS LAP SIDING	SW 7649 SILVERPLATE
• ACCENT TRIM	SW 7069 IRON ORE
• DOORS	SW 7069 IRON ORE
• GARAGE DOORS	SW 7069 IRON ORE
• ASPHALT ROOF	TAMKO "RUSTIC BLACK"
• MASONRY	SUNSET STONE LIMESTONE "WINTERSKY"

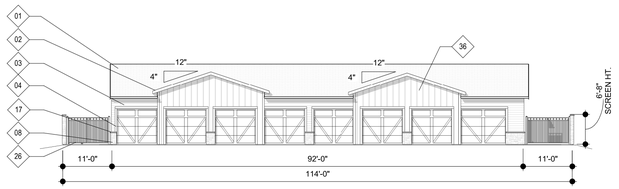
NOTES:

ALL PAINT COLORS BY SHERWIN WILLILAMS UNLESS OTHERWISE NOTED

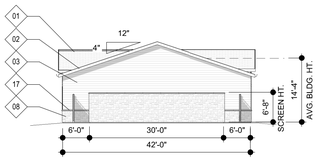
RETURN WALLS TO MATCH EXTERIOR WALLS



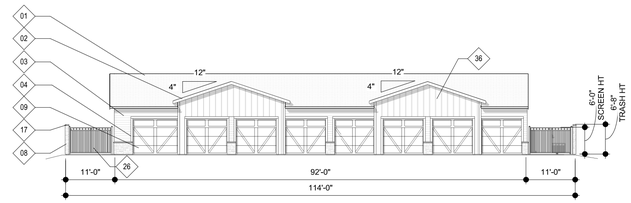
8 GARAGE TYPE B - RIGHT ELEVATION
1/16" = 1'-0"



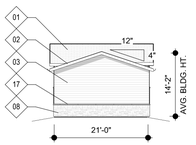
7 GARAGE TYPE B - REAR ELEVATION
1/16" = 1'-0"



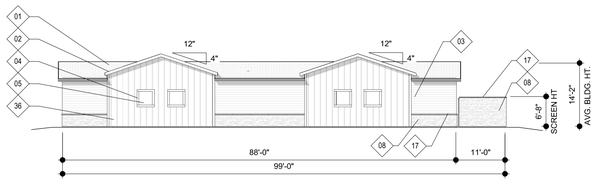
6 GARAGE TYPE B - LEFT ELEVATION
1/16" = 1'-0"



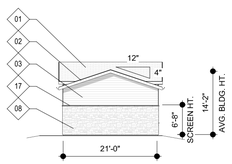
5 GARAGE TYPE B - FRONT ELEVATION
1/16" = 1'-0"



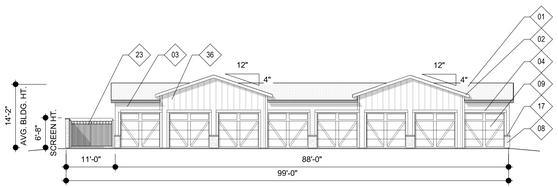
4 GARAGE TYPE A - RIGHT ELEVATION
1/16" = 1'-0"



3 GARAGE TYPE A - REAR ELEVATION
1/16" = 1'-0"



2 GARAGE TYPE A - LEFT ELEVATION
1/16" = 1'-0"



1 GARAGE TYPE A - FRONT ELEVATION
1/16" = 1'-0"

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REVISION DATE: 09-27-2019 ISSUE DATE: 04-27-2017

ACCESSORY ELEVATIONS

SHEET 47 OF 51

KA PROJECT #216002

OUTLOOK NINE MILE

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

12.54 ACRES

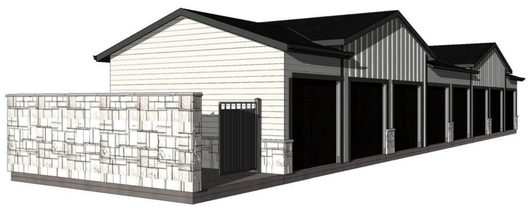
SITE PLAN - SP-000832-2016

16 GARAGE TYPE A - FRONT ELEVATION
1/16" = 1'-0"

15 GARAGE TYPE A - LEFT ELEVATION
1/16" = 1'-0"

14 GARAGE TYPE A - REAR ELEVATION
1/16" = 1'-0"

13 GARAGE TYPE A - RIGHT ELEVATION
1/16" = 1'-0"



12 GARAGE TYPE A - FRONT-LEFT CORNER

11 GARAGE TYPE A - FRONT-RIGHT CORNER

10 GARAGE TYPE A - REAR-LEFT CORNER

9 GARAGE TYPE A - REAR-RIGHT CORNER

8 GARAGE TYPE B - FRONT ELEVATION
1/16" = 1'-0"

7 GARAGE TYPE B - LEFT ELEVATION
1/16" = 1'-0"

6 GARAGE TYPE B - REAR ELEVATION
1/16" = 1'-0"

5 GARAGE TYPE B - RIGHT ELEVATION
1/16" = 1'-0"

4 GARAGE TYPE B - FRONT-LEFT CORNER

3 GARAGE TYPE B - REAR-LEFT CORNER

2 GARAGE TYPE B - REAR-RIGHT CORNER

1 GARAGE TYPE B -FRONT-RIGHT CORNER

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11-08-2019
REVISION DATE: 09-27-2019 ISSUE DATE: 04-27-2017

ACCESSORY ELEVATIONS

KA PROJECT #216002

OUTLOOK NINE MILE

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

OUTLOOK NINE MILE

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

12.54 ACRES

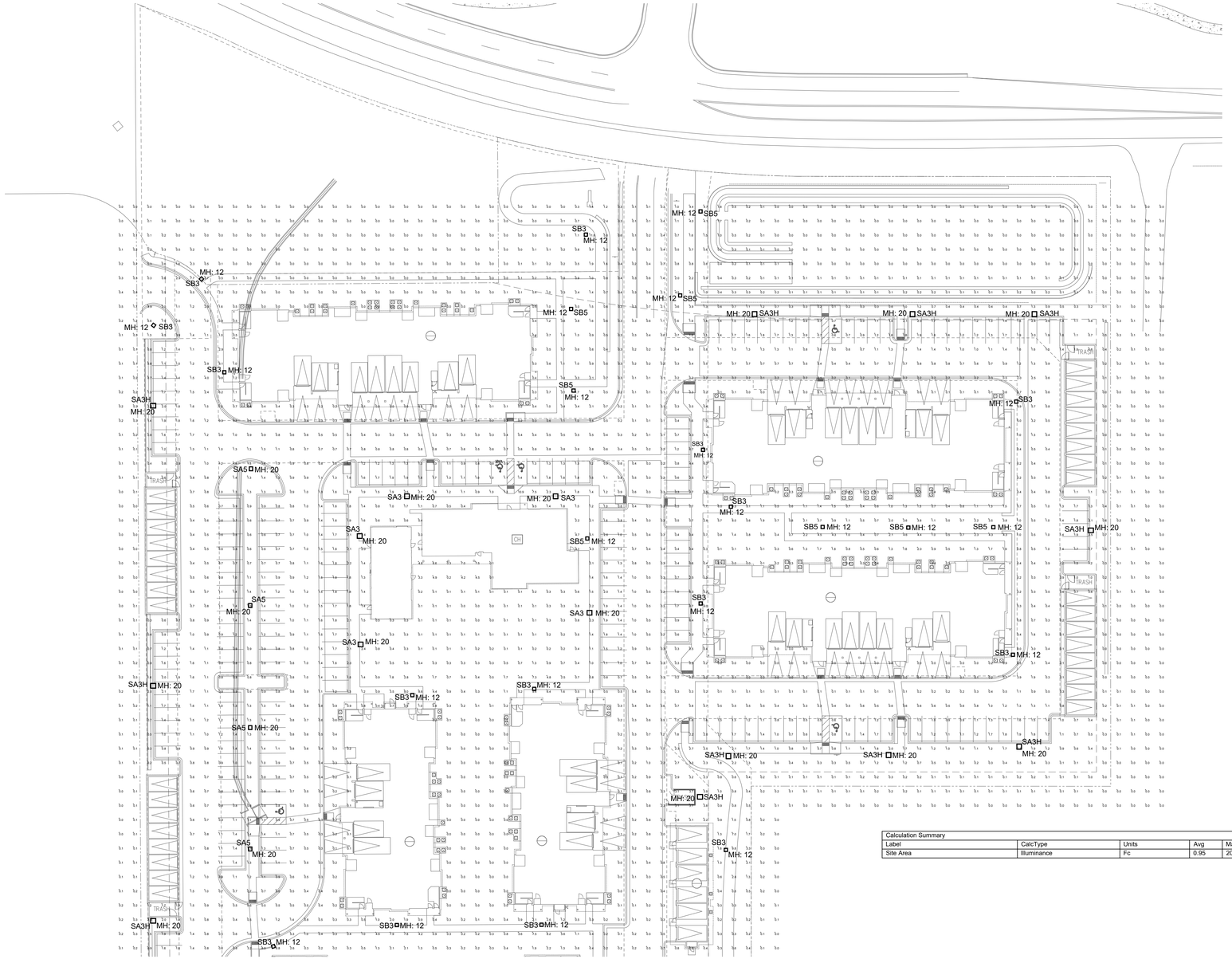
SITE PLAN - SP-000832-2016

GENERAL NOTES:

1. ANY PROPOSED LIGHT FIXTURES INSTALLED ON PRIVATE PROPERTY ADJACENT TO PUBLIC ROW, SHALL BE ORIENTED IN A MANNER OR LIMITED IN LUMEN OUTPUT TO PREVENT GLARE PROBLEMS AND SHALL NOT EXCEED NATIONAL IES LIGHTING STANDARDS FOR DISABILITY GLARE.

2. ALL VALUES ARE IN UNITS OF FOOTCANDLES. ILLUMINATION VALUES AT PROPERTY LINE COMPLY WITH THE RULES AND REGULATIONS FOR THE LANDSCAPING OF PARKING AREAS SECTION I, (3), WHERE THE REQUIREMENT OF 0.1 FOOTCANDLE DOES NOT APPLY TO PUBLIC RIGHT OF WAYS.

3. ALL FIXTURES TO BE FULL CUTOFF. REFER TO SPEC SHEETS FOR MORE INFORMATION.



SITE PHOTOMETRIC PLAN

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Site Area	Illuminance	Fc	0.95	20.3	0.0	N.A.	N.A.

40 0 40 80

SCALE: 1" = 40'

N

PROJECT NUMBER: 160602

11-08-2019
REVISION DATE: 09-27-2019

ISSUE DATE: 04-27-2017

SITE PHOTOMETRIC PLAN 1
SHEET 49 OF 51

OUTLOOK NINE MILE

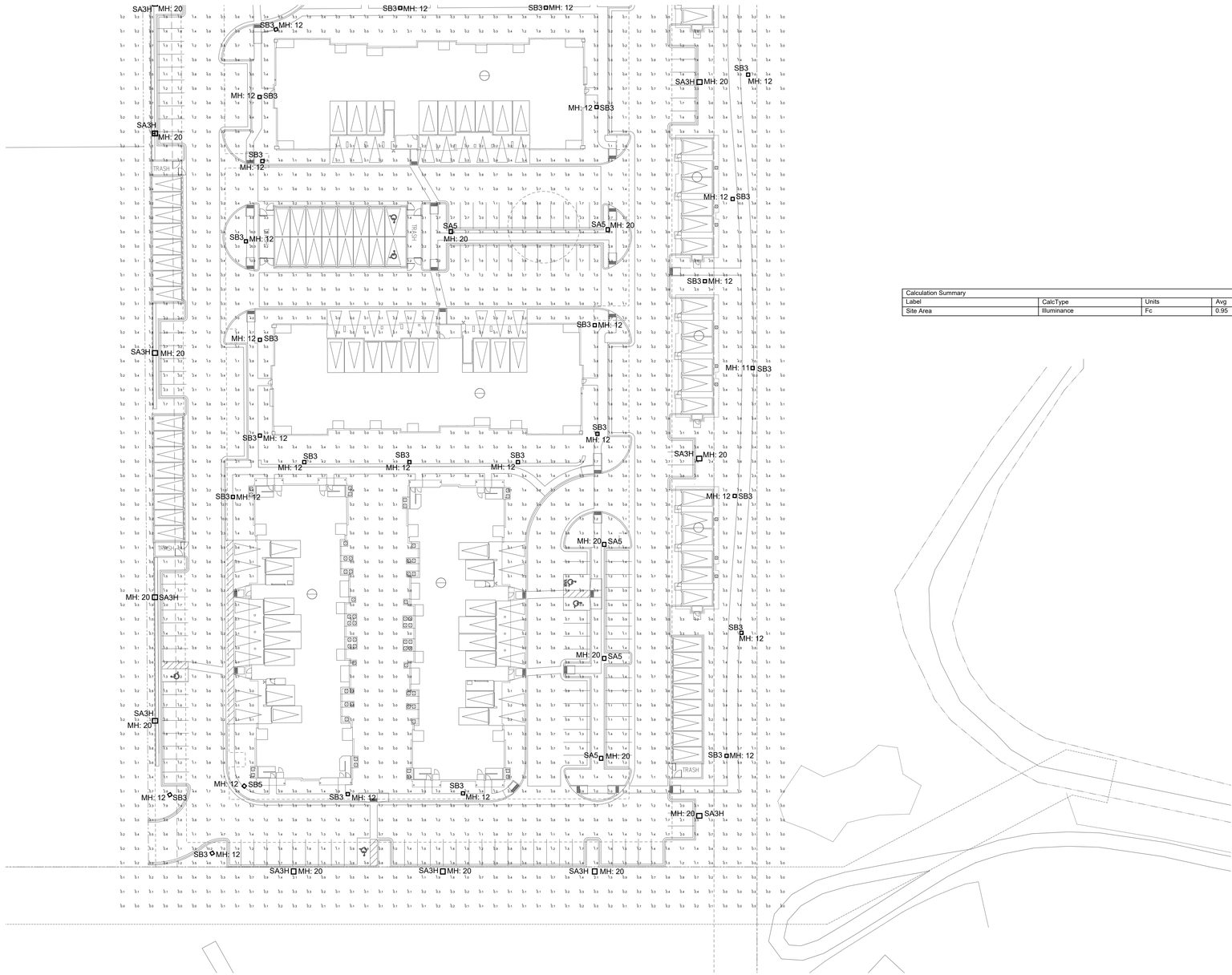
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

OUTLOOK NINE MILE

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

12.54 ACRES

SITE PLAN - SP-000832-2016



GENERAL NOTES:

1. ANY PROPOSED LIGHT FIXTURES INSTALLED ON PRIVATE PROPERTY ADJACENT TO PUBLIC ROW, SHALL BE ORIENTED IN A MANNER OR LIMITED IN LUMEN OUTPUT TO PREVENT GLARE PROBLEMS AND SHALL NOT EXCEED NATIONAL IES LIGHTING STANDARDS FOR DISABILITY GLARE.

2. ALL VALUES ARE IN UNITS OF FOOTCANDLES. ILLUMINATION VALUES AT PROPERTY LINE COMPLY WITH THE RULES AND REGULATIONS FOR THE LANDSCAPING OF PARKING AREAS SECTION i, (3), WHERE THE REQUIREMENT OF 0.1 FOOTCANDLE DOES NOT APPLY TO PUBLIC RIGHT OF WAYS.

3. ALL FIXTURES TO BE FULL CUTOFF. REFER TO SPEC SHEETS FOR MORE INFORMATION.

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Site Area	Illuminance	Fc	0.95	20.3	0.0	N.A.	N.A.

SITE PHOTOMETRIC PLAN

40 0 40 80

SCALE: 1" = 40'

N

PROJECT NUMBER: 160602

11-08-2019
REVISION DATE: 09-27-2019

SITE PHOTOMETRIC PLAN
ISSUE DATE: 04-27-2017 SHEET 50 OF 51

OUTLOOK NINE MILE

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

OUTLOOK NINE MILE

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

12.54 ACRES

SITE PLAN - SP-000832-2016

D-Series Size 1

LED Area Luminaire

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA: 1.01 ft² (0.09 m²)

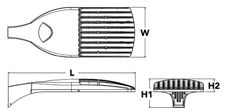
Length: 33" (83.8 cm)

Width: 13" (33.0 cm)

Height H1: 7-1/2" (19.0 cm)

Height H2: 3-1/2"

Weight (max): 27 lbs (12.2 kg)



Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 750W metal halide in pedestrian and area lighting applications with typical energy savings of 65% and expected service life of over 100,000 hours.

A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX1 LED P7 40K T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX1 LED

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX1 LED	**Forward optics** P1 P4 P7 P2 P5 P8 P3 P6 P9 **Rotated optics** P10[1] P12[1] P11[1] P13[1]	30K 3000 K 40K 4000 K 50K 5000 K	T1S Type I short T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short T5S Type V short T5M Type V medium T5W Type V wide SPUMBA Square pole universal mounting adaptor [2] BLC Backlight control [3] LCCO Left corner cutoff [3] RCCO Right corner cutoff [3]	MVOLT [4] 120 [4] 208 [4] 240 [4] 277 [4] 347 [4] 480 [4]	**Shipped included** SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor [2] RPUMBA Round pole universal mounting adaptor [2] **Shipped separately** KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish) [2]

Control options		Other options		Finish (required)	
Shipped installed		**Shipped installed**		DDBXD	Dark bronze
NLTAIR2 nLight AIR generation 2 enabled [7]	PIR High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc [5,6]	HS House-side shield [17]		DBLXD	Black
PIRHN Network, high/low motion/ambient sensor [8]	PIRH High/low, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc [5,6]	SF Single fuse (120, 277, 347V) [9]		DNAXD	Natural aluminum
PER NEMA twist-lock receptacle only (controls ordered separately) [9]	PIR1FC3V High/low, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc [5,6]	DF Double fuse (208, 240, 480V) [9]		DWHXD	White
PER5 Five-pin receptacle only (controls ordered separately) [9,10]	PIRH1FC3V Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc [5,6]	L90 Left rotated optics [1]		DDBTXD	Textured dark bronze
PER7 Seven-pin receptacle only (controls ordered separately) [9,10]	FAO Field adjustable output [6]	R90 Right rotated optics [1]		DBLBXD	Textured black
DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) [11]		**Shipped separately**		DNATXD	Textured natural aluminum
DS Dual switching [12,13,14]		BS Bird spikes [18]		DWHGXD	Textured white
		EGS External glare shield [18]			

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TYPE SA3,SA3H AND SA5

LED LIFESTYLE SMALL DECORATIVE AREA LIGHTS (XDLS)

US patent 7,828,456 8,002,428, 8,177,386 8,434,893 8,567,983 and US & int'l. patents pending

SMARTTEC™ - LSI drivers feature integral sensor which reduces drive current when ambient temperatures exceed rated temperature

ENERGY SAVING CONTROL OPTION - DIM - 0-10 volt dimming enabled with controls by others. BLS - Bi-level switching responds to external line voltage signal from separate 120-277V controller or sensor (by others), with low light level decreased to 30% maximum drive current.

LEDS - Select high-brightness LEDs in Cool White (5000K), Neutral White (4000K) or Warm White (3500K) color temperature. 70 CRI CW. 80 CRI NW and WW.

DISTRIBUTION PATTERN - Types 3, FT and 5. Exceptional uniformity creates bright environment at lower light levels. Improved backlight cutoff minimizes light trespass.

CROWN - Cast aluminum. Wiring emerges from crown through compression seal fitting to prevent water entry. One-piece silicone gasket seals crown to shade for water- and dust-tight construction.

SHADES - Spun aluminum. Two shade styles available - A - Angle and B - Bell.

OPTICAL UNIT - Optical unit and aluminum door frame recessed into shade and sealed with one-piece silicone gasket. Clear tempered flat glass lens sealed with silicone gasket to door frame (includes pressure-stabilizing breather). Optical unit is tethered and provides access to driver. Door frame retaining fasteners are captive.

BRACKETS - Brackets are extruded and cast aluminum assemblies or fabrications. All decorative elements are die cast or extruded aluminum.

MOUNTING - Classic Hook (CH) and Side Arm (SA - 4" O.D. minimum pole top required) available. See Steel Round Pole and Aluminum Round Pole data sheets for pole selection information. Side Arm pole mount requires 3" reduced drilling pattern. Classic hook mount requires a 4" O.D. pole or tenon.

ELECTRICAL - Two-stage surge protection (including separate surge protection built into electronic driver) meets IEEE C62.41.2-2002, Location Category C. Available with universal voltage power supply 120-277VAC (UE - 50/60Hz input), and 347-480 VAC. Optional button-type photocells (PCI) are available in 120, 208, 240, 277 or 347 volt (supply voltage must be specified).

DRIVERS - Available in SS (Super Saver) and HO (High Output) drive currents (Drive currents are factory programmed.). Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.

OPERATING TEMPERATURE - -40°C to +50°C (-40°F to +122°F).

FINISH - Each fixture is finished with LSI's DuraGrip polyester powder coat process. The DuraGrip finish withstands extreme weather changes without cracking or peeling.

WARRANTY - LSI LED fixtures carry a limited 5-year warranty.

PHOTOMETRICS - Please visit our web site at **www.lsi-industries.com** for detailed photometric data.

SHIPPING WEIGHT (IN CARTON) - 24 lbs. (10.8 kg)

LISTINGS - UL listed to U.S. and Canadian safety standards. Suitable for wet locations

LIGHT OUTPUT - XDLS

		Lumens (Nominal) Type 3	Type FT	Type 5	Watts (Nominal)
Cool White	SS	7100	6540	6220	71
	HO	9600	8890	8500	106
Neutral White	SS	6510	5840	5680	71
	HO	8810	7890	7780	106
Warm White	SS	4790	5170	5010	71
	HO	6460	6880	6740	106

LED Chips are frequently updated therefore values may increase.

This product, or selected versions of this product, meet the standards listed below. Please consult factory for your specific requirements.

ARRA Funding Compliant · cULus wet location · RoHS COMPLIANT · FC

Project Name _____ Fixture Type _____

Catalog # _____

9/09/19

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TYPE SB

D-Series LED Bollard

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Introduction

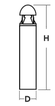
The D-Series LED Bollard is a stylish, energy-saving, long-life solution designed to perform the way a bollard should—with zero uplight. An optical leap forward, this full cut-off luminaire will meet the most stringent of lighting codes. The D-Series LED Bollard's rugged construction, durable finish and long-lasting LEDs will provide years of maintenance-free service.

Specifications

Diameter: 8" Round (20.3 cm)

Height: 42" (106.7 cm)

Weight (max): 27 lbs (12.25 kg)



Ordering Information

EXAMPLE: DSXB LED 16C 700 40K SYM MVOLT DDBXD

DSXB LED

Series	LEDs	Drive current	Color temperature	Distribution	Voltage	Control options	Other options	Finish (required)
DSXB LED	**Asymmetric** 12C 12 LEDs[1] **Symmetric** 16C 16 LEDs[2]	350 350 mA 450 450 mA [3,4] 530 530 mA 700 700 mA	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted AMBLW Amber limited wavelength [3,4]	ASY Asymmetric [1] SYM Symmetric [2]	MVOLT [5] 120 [5] 208 [5] 240 [5] 277 [5] 347 [6]	**Shipped installed** PE Photoelectric cell, button type DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) ELCW Emergency battery backup [7]	**Shipped installed** SF Single fuse (120, 277, 347V) [6,7] DF Double fuse (208, 240V) [6,7] H24 24" overall height H30 30" overall height H36 36" overall height FG Ground-fault festoon outlet L/AB Without anchor bolts L/AB4 4-bolt retrofit base without anchor bolts [8]	DWHXD White DNAXD Natural aluminum DDBXD Dark bronze DBLXD Black DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

Accessories

Ordered and shipped separately.

MRAB U Anchor bolts for DSXB [8]

NOTES

1. Only available in the 12C, ASY version.
2. Only available in the 16C, SYM version.
3. Only available with 450 AMBLW version.
4. Not available with ELCW.
5. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options), or photocontrol (PE option).
6. Not available with 347V. Not available with fusing. Not available with 450 AMBLW.
7. Single fuse (SF) requires 120, 277, or 347 voltage option. Double fuse (DF) requires 208 or 240 voltage option.
8. MRAB U not available with L/AB4 option.

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TYPE SC

LUMINAIRE SCHEDULE

TYPE	LAMPS/KELVIN	DESCRIPTION	MOUNTING HEIGHT	LUMENS	LOAD, VA	VOLTS	MANUFACTURER/CAT. NO.	NOTES
SA3	4000K LED	SINGLE HEAD LED AREA LIGHT. TYPE 3 DISRIBUTION	20' ABOVE GRADE	6468	54W	MVOLT	LITHONIA - DSX1 LED-P1-340K-T3M-MVOLT-SPA-DMG-DDBXD, SQUARE STEEL POLE	FULL CUT OFF, FIXTURES TO BE CONTROLLED BY TIMECLOCK AND EXTERNAL PHOTOCELL
SA3H	4000K LED	SINGLE HEAD LED AREA LIGHT. TYPE 3 DISRIBUTION, INTEGRAL HOUSE SIDED SHEILD	20' ABOVE GRADE	6468	54W	MVOLT	LITHONIA - DSX1 LED-P1-340K-T3M-MVOLT-SPA-DMG-HS-DDBXD, SQUARE STEEL POLE	FULL CUT OFF, FIXTURES TO BE CONTROLLED BY TIMECLOCK AND EXTERNAL PHOTOCELL
SA5	4000K LED	SINGLE HEAD LED AREA LIGHT. TYPE 5 DISRIBUTION	20' ABOVE GRADE	6711	54W	MVOLT	LITHONIA - DSX1 LED-P1-340K-T5M-MVOLT-SPA-DMG-DDBXD, SQUARE STEEL POLE	FULL CUT OFF, FIXTURES TO BE CONTROLLED BY TIMECLOCK AND EXTERNAL PHOTOCELL
SB3	4000k LED	SINGLE HEAD PEDESTRIAN AREA LIGHT, TYPE 3 DISTRIBUTION	12' ABOVE GRADE	5685	71	MVOLT	LSI INDUSTRIES - XDLSB-3-SS-NW-UE-BRZ-MOUNTING-S-DIM, ROUND STEEL POLE	FULL CUT OFF, FIXTURES TO BE CONTROLLED BY TIMECLOCK AND EXTERNAL PHOTOCELL
SB5	4000k LED	SINGLE HEAD PEDESTRIAN AREA LIGHT, TYPE 5 DISTRIBUTION	12' ABOVE GRADE	5685	71	MVOLT	LSI INDUSTRIES - XDLSB-5- SS-NW-UE-BRZ-MOUNTING-S-DIM, ROUND STEEL POLE	FULL CUT OFF, FIXTURES TO BE CONTROLLED BY TIMECLOCK AND EXTERNAL PHOTOCELL
SC	4000k LED	LED BOLLARD	40" ABOVE GRADE	1847	22	MVOLT	LITHONIA- DSXB-12C-530-40K-=SYM-MVOLT-DMG-H36-DDBXD	FULL CUT OFF, FIXTURES TO BE CONTROLLED BY TIMECLOCK AND EXTERNAL PHOTOCELL

1. VERIFY EXACT FIXTURE'S CATALOG NUMBER, FINISH, LAMP(S), LENGTHS AND OPTIONS WITH TENANT/ARCHITECT PRIOR TO ORDERING.
2. CONTRACTOR TO VERIFY COMPATIBLE DIMMER TYPE AND MANUFACTURER FROM LUMINAIRE CUT SHEET
3. CONTRACTOR TO PROVIDE ALL PARTS AND ACESSORIES FOR A COMPLETE, AND FUNCTIONING SYSTEM.

NINE MILE CORNER

PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.
XX-XXXXXX-XXXX
11 LOTS, 8 TRACTS - 47.63 ACRES (2,074,772 SQ. FT.)

GENERAL NOTES

1) THIS SURVEY WAS BASED ON THE TITLE COMMITMENT/REPORT BY LAND TITLE GUARANTEE COMPANY, FILE NO.: ABZ70471321-13 WITH AN EFFECTIVE DATE OF SEPTEMBER 30, 2019 AT 5:00 PM, AND DOES NOT CONSTITUTE A TITLE SEARCH BY THIS SURVEYOR FOR OTHER EASEMENTS AND/PR EXCEPTIONS.

2) FIELD WORK WAS COMPLETED ON: MAY 1, 2016.

3) BASIS OF BEARING: BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 34 AND MONUMENTED ON THE WEST BY A 2.5" ALUMINUM CAP STAMPED "PLS29752" IN A RANGE BOX FOR THE NORTH 1/4 CORNER OF SECTION 34, AND MONUMENTED ON THE EAST BY A 2.5" ALUMINUM CAP STAMPED "PLS12405" FOR THE NE CORNER OF SECTION 34, AND IS ASSUMED TO BEAR S 89°58'01" E.

4) PER THE FEMA FLOOD INSURANCE RATE MAPS (FIRM), MAP NO. 08013C0438J, HAVING AN MAP REVISED DATE OF DECEMBER 18, 2015, INDICATES THE SUBJECT PROPERTY TO BE DESIGNATED AS ZONE X OUTSIDE 0.2% CHANCE OF FLOOD. THIS SURVEY MAKES THIS STATEMENT BY GRAPHIC PLOTTING ONLY. THE SURVEYOR RECOMMENDS A FLOOD STUDY IF MORE INFORMATION IS REQUIRED.

5) ALL LINEAL MEASUREMENTS SHOWN ARE GROUND DISTANCES AND U.S. SURVEY FEET.

6) EASEMENTS AND PUBLIC DOCUMENTS SHOWN OR NOTED ON THIS SURVEY WERE EXAMINED AS TO LOCATION AND PURPOSE AND WERE NOT EXAMINED AS TO RESTRICTIONS, EXCLUSIONS, CONDITIONS, OBLIGATIONS, TERMS OR AS THE RIGHT TO GRANT THE SAME.

7) CAUTION: THE SURVEYOR PREPARING THIS MAP WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THIS MAP. ALL CHANGES TO THIS EXHIBIT MUST BE APPROVED IN WRITING BY THE SURVEYOR IN CHARGE.

8) THE RECORDING OF THIS PLAT VACATES ALL PREVIOUS PLATS FOR THE PROPERTIES ENCOMPASSED.

9) NOTICE: ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

10) UTILITY EASEMENTS, LABELED HEREON, SHALL BE GRANTED FOR THE INSTALLATION AND MAINTENANCE OF SANITARY SEWER LINES, WATER LINES, STORM DRAINAGE FACILITIES, SURFACE DRAINAGE AND FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC GAS, TELEVISION, CABLE, AND TELECOMMUNICATIONS FACILITIES, (DRY UTILITIES) AND ALL NECESSARY AND CONVENIENT APPURTENANCES THERETO, TOGETHER WITH A PERPETUAL RIGHT OF INGRESS AND EGRESS FOR INSTALLATION, MAINTENANCE, AND REPLACEMENT OF SUCH LINES AND APPURTENANCES. SAID EASEMENTS AND RIGHTS ARE TO BE UTILIZED IN A RESPONSIBLE AND PRUDENT MANNER.

11) A BLANKET DRAINAGE EASEMENT SHALL BE GRANTED OVER AND ACROSS LOTS __ AND TRACTS __ FOR THE INSTALLATION AND MAINTENANCE OF DRAINAGE LINES AND ALL NECESSARY AND CONVENIENT APPURTENANCES THERETO, AS WELL AS SURFACE DRAINAGE, TOGETHER WITH A PERPETUAL RIGHT OF INGRESS AND EGRESS FOR INSTALLATION, MAINTENANCE, AND REPLACEMENT OF SUCH LINES AND APPURTENANCES. SAID EASEMENTS AND RIGHTS ARE TO BE UTILIZED IN A RESPONSIBLE AND PRUDENT MANNER. THIS BLANKET EASEMENT IS RESTRICTED TO THOSE AREAS OUTSIDE OF THE BUILDING FOOTPRINTS.

12) A PERPETUAL EASEMENT OVER AND ACROSS LOTS __ AND TRACTS __ SHALL BE GRANTED FOR THE PUBLIC ACCESS; PROVIDED THAT THE AFORESAID EASEMENT SHALL BE RESTRICTED TO THE LOCATION OF SIDEWALKS, PEDESTRIAN PATHS, STREETS, PARKING LOTS, PARKS, COMMON AREAS AND LANDSCAPED AREAS AS REFLECTED ON AND CONSTRUCTED ACCORDING TO A SITE IMPROVEMENT PLAN ACCEPTED AND APPROVED BY THE TOWN OF ERIE.

13) A PERPETUAL EASEMENT OVER AND ACROSS LOTS __ AND TRACTS __ SHALL BE GRANTED FOR EMERGENCY PUBLIC ACCESS; SAID EASEMENT BEING SUBJECT TO RESTRICTIONS AND REQUIREMENTS OF THE TOWN OF ERIE MUNICIPAL CODE.

14) MAINTENANCE DEFINITION: MAINTENANCE IS THE PROCESS OF PRESERVING CAPITAL IMPROVEMENTS, STRUCTURES, DEVELOPMENT, OR SYSTEMS TO MEET ITS FUNCTION OR ORIGINAL INTENT OF THE FACILITY. THIS IS THE PRESERVATION, CONSERVATION, KEEPING IN GOOD CONDITIONS, OPERATING SAFELY, OPERATING EFFICIENTLY, TESTING, INSPECTION, SERVICING, REPAIRING, GRADING, CLEANING, PICKING UP TRASH AND DEBRIS, PEST CONTROL, PAINTING, MOWING, PRUNING, AND PROLONGING OF THESE FACILITIES. MAINTENANCE ALSO INCLUDES THE PROVISION OF FINANCIAL SUPPORT TO MAINTAIN THE FACILITIES. FACILITIES INCLUDE BUT ARE NOT LIMITED TO: LANDSCAPING, OPEN AREAS, GRASS, SHRUBS, TREES, PLAYGROUNDS, SITE FURNITURE AND FIXTURES, RETAINING WALLS, SIGNS, SIDEWALKS, DRAINAGE STRUCTURES SUCH AS PONDS, SWALES, DRAIN PANS, INLETS, AND OUTLET STRUCTURES.

15) ALL INTERIOR LOTS WILL HAVE PUBLIC ACCESS TO THE ROW AS DESCRIBED IN THE RECORDED EASEMENT, COVENANTS, CONDITIONS, AND RESTRICTIONS (ECCR).

16) THE EXISTING SOUTH BOULDER CANYON IRRIGATION DITCH EASEMENT DESCRIBED IN RECEPTION NUMBER 913694 HAS BEEN VACATED PER SEPARATE AGREEMENT, AND THE NEW PROPOSED EASEMENT SHOWN HEREON HAS BEEN RECORDED PER THE SAME AGREEMENT, RECEPTION NUMBER _____.

LAND SUMMARY CHART		
TYPE	AREA	% OF TOTAL AREA
RESIDENTIAL LOTS	11.67 AC.	25%
COMMERCIAL LOTS	25.92 AC.	54%
TRACTS	9.62 AC.	20%
PUBLIC ROW	0.42 AC.	1%

DEDICATION STATEMENT

KNOW BY ALL MEN THESE PRESENTS THAT THE UNDERSIGNED, BEING ALL THE OWNERS, MORTGAGEES, OR LIEN HOLDERS OF CERTAIN LANDS IN THE TOWN OF ERIE, COUNTY OF BOULDER, COLORADO, DESCRIBED AS FOLLOWS:

PARCEL A:
PART OF THE NORTH HALF NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF THE NORTH HALF NORTHEAST QUARTER FROM WHENCE THE NORTHWEST CORNER OF SAID NORTH HALF NORTHEAST QUARTER BEARS NORTH 00°04'00" EAST; THENCE SOUTH 89°48'30" EAST ALONG THE SOUTH LINE OF SAID NORTH HALF NORTHEAST QUARTER, A DISTANCE OF 1434.83 FEET; THENCE NORTH 00°14'20" EAST, 845.98 FEET TO THE SOUTH LINE OF THAT PROPERTY CONVEYED BY FLOYD E. HARRIS AND NEVADIA HARRIS TO LEONARD L. LANHAM AND NINA E. LANHAM, RECORDED MAY 15, 1968 ON FILM 635 AT RECEPTION NO. 879012; THENCE NORTH 89°41'50" WEST ALONG SAID SOUTH LINE, A DISTANCE OF 366.57 FEET TO A POINT ON THE EAST LINE OF THAT PROPERTY CONVEYED BY DEED FROM FLOYD EUGENE HARRIS AND NEVADIA HARRIS TO THE TOWN OF ERIE, A MUNICIPAL CORPORATION, RECORDED APRIL 29, 1968 IN FILM 633 AT RECEPTION NO. 877395; THENCE SOUTH 00°58'00" WEST ALONG SAID EAST LINE, 31.12 FEET TO THE CENTERLINE OF THE SOUTH BOULDER CANYON IRRIGATION DITCH; THENCE TRAVERSING ALONG THE CENTERLINE OF SAID DITCH AND THE SOUTH LINE OF PROPERTY DESCRIBED ON FILM 633 AT RECEPTION NO. 877395, THE FOLLOWING COURSES AND DISTANCES: SOUTH 71°36'00" WEST 508.65 FEET;
THENCE SOUTH 73°48'00" WEST, 241.52 FEET;
THENCE NORTH 89°40'00" WEST, 140.82 FEET;
THENCE NORTH 77°42'00" WEST, 114.23 FEET;
THENCE NORTH 62°24'00" WEST, 118.52 FEET TO A POINT ON THE WEST LINE OF THE NORTH HALF NORTHEAST QUARTER OF SAID SECTION 34;
SAID POINT BEING ALSO THE SOUTHWEST CORNER OF THAT PROPERTY DESCRIBED ON FILM 633 AT RECEPTION NO. 877395; THENCE SOUTH 00°04'00" WEST ALONG SAID WEST LINE OF THE NORTH HALF NORTHEAST QUARTER, A DISTANCE OF 675.12 FEET TO THE TRUE POINT OF BEGINNING,

EXCEPTING THEREFROM THAT PORTION DESCRIBED IN DEED RECORDED APRIL 15, 1983 AT RECEPTION NO. 543786, AND IN DEED RECORDED FEBRUARY 20, 1997 ON FILM NO. 2187 AT RECEPTION NO. 1678309,
COUNTY OF BOULDER, STATE OF COLORADO.

PARCEL B:

A PORTION OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTH LINE OF SAID NORTHEAST 1/4, 20 FEET WEST OF THE NORTHEAST CORNER OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE NORTH 89°41'50" WEST ALONG SAID NORTH LINE, 230.64 FEET; THENCE SOUTH 00°58' WEST, 469.96 FEET; THENCE SOUTH 89°41'50" EAST, 618.52; THENCE NORTH 00°14'20" EAST, 469.93 FEET TO THE NORTH LINE OF SAID NORTHEAST 1/4; THENCE NORTH 89°41'50" WEST, ALONG SAID NORTH LINE TO THE TRUE POINT OF BEGINNING;
EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE COUNTY OF BOULDER BY THE DEED RECORDED NOVEMBER 29, 1913 IN BOOK 381 AT PAGE 127,

COUNTY OF BOULDER, STATE OF COLORADO.

PARCEL C:

PARCEL I:

A PART OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF BOULDER, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:
BEGINNING AT THE NORTH 1/4 CORNER OF SAID SECTION; THENCE SOUTH 0°09' WEST 642.7 FEET; THENCE SOUTH 69° 45' EAST 211.4 FEET; THENCE NORTH 85° EAST 195 FEET; THENCE NORTH 71°53' EAST 718 FEET; THENCE NORTH 24°20' EAST 539 FEET TO A POINT O N THE NORTH LINE OF SAID SECTION, 20 FEET WEST OF THE NORTHEAST CORNER OF SAID NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE WEST ALONG SAID NORTH LINE OF SAID SECTION TO THE PLACE OF BEGINNING;

EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE COUNTY OF BOULDER BY THE DEED RECORDED NOVEMBER 29, 1913 IN BOOK 381 AT PAGE 127;
AND EXCEPT THAT PORTION DESCRIBED IN DEED RECORDED APRIL 29, 1968 UNDER RECEPTION NO. 877396;
AND EXCEPT THAT PORTION CONVEYED TO THE STATE DEPARTMENT OF HIGHWAYS, DIVISION OF HIGHWAYS, STATE OF COLORADO, BY THE DEED RECORDED FEBRUARY 8, 1983 UNDER RECEPTION NO. 532304.
AND EXCEPT THAT PORTION CONVEYED TO THE DEPARTMENT OF TRANSPORTATION, STATE OF COLORADO BY THE DEED RECORDED JANUARY 2, 1998 UNDER RECEPTION NO. 1759789.

AND INCLUDING THOSE PORTIONS OF RIGHT OF WAY VACATED BY _____ RECORDED

_____ UNDER RECEPTION NUMBERS _____ AND

_____.

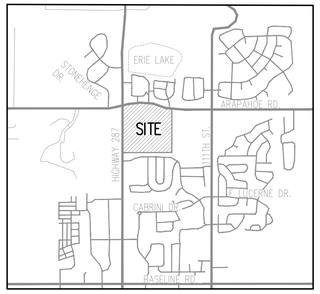
(CONTINUED)

TRACT SUMMARY CHART			
TRACT	AREA	USE	MAINTENANCE
A	4.29 AC.	LANDSCAPE BUFFER	OWNER
B	0.17 AC.	LANDSCAPE BUFFER	OWNER
C	0.96 AC.	LANDSCAPE BUFFER	OWNER
D	0.72 AC.	DRAINAGE	OWNER
E	1.17 AC.	DRAINAGE	OWNER
F	1.02 AC.	DRAINAGE	OWNER
G	0.70 AC.	DRAINAGE	OWNER
H	0.59 AC.	LANDSCAPE BUFFER	OWNER

SHEET INDEX

SHEET 1 COVER / NOTES / DEDICAITON
SHEET 2 BOUNDARY & UTILITY EASEMENTS
SHEET 3 BOUNDARY & ACCESS EASEMENTS
SHEET 4 LINE / CURVE TABLES

VICINITY MAP



DEDICATION STATEMENT (CONTINUED)

PARCEL II:

A PORTION OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF BOULDER, STATE OF COLORADO, DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTH QUARTER CORNER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, THENCE SOUTH 0°09' WEST, 642.7 FEET; THENCE SOUTH 69°45' EAST, 2.59 FEET TO A POINT ON THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 34, THE TRUE POINT OF BEGINNING; THENCE SOUTH 69°45' EAST, 208.81 FEET; THENCE NORTH 85°0' EAST, 195.00 FEET; THENCE NORTH 71°53' EAST, 718.00 FEET; THENCE SOUTH 0°58' WEST, 31.12 FEET TO A POINT ON THE CENTERLINE OF THE SOUTH BOULDER CANYON DITCH; THENCE WESTERLY, ALONG THE SAID DITCH CENTERLINE AS FOLLOWS: SOUTH 71°36' WEST, 508.65 FEET; SOUTH 73°48' WEST, 241.52 FEET; NORTH 89°40' WEST, 140.82 FEET; NORTH 77°42' WEST, 114.23 FEET; NORTH 62°24' WEST, 118.52 FEET TO A POINT ON THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 34; THENCE NORTH 0°04' WEST, ALONG THE SAID WEST LINE OF THE NORTHEAST QUARTER, 11.00 FEET TO THE TRUE POINT OF BEGINNING;

EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE STATE DEPARTMENT OF HIGHWAYS DIVISION OF HIGHWAYS, STATE OF COLORADO BY DEED RECORDED FEBRUARY 8, 1983 UNDER RECEPTION NO. 532304.

PARCEL III:

THAT PORTION OF THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF BOULDER, STATE OF COLORADO, LYING SOUTH OF THE COUNTY ROAD AS DESCRIBED IN DEED RECORDED NOVEMBER 29, 1913 IN BOOK 381 AT PAGE 127;

EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE STATE DEPARTMENT OF HIGHWAYS, DIVISION OF HIGHWAYS, STATE OF COLORADO, BY THE DEED RECORDED FEBRUARY 8, 1983 UNDER RECEPTION NO. 532304.

HAVE BY THESE PRESENTS LAID OUT, PLATTED AND SUBDIVIDED THE SAME INTO LOTS, BLOCKS, TRACTS, STREETS AND EASEMENTS AS SHOWN HEREON UNDER THE NAME AND SUBDIVISION OF **NINE MILE CORNER**. THE TRACTS AND EASEMENTS SHOWN HEREON ARE DEDICATED AND CONVEYED TO THE TOWN OF ERIE, COLORADO, IN FEE SIMPLE ABSOLUTE, WITH MARKETABLE TITLE, FOR PUBLIC USES AND PURPOSES AS SHOWN HEREON.

TOWN OF ERIE URBAN RENEWAL AUTHORITY

BY: _____ _____
DATE

TITLE: _____

ATTEST:

SECRETARY/TREASURER

STATE OF COLORADO)
) ss.
COUNTY OF _____)

ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 20_____

BY_____, AS _____ OF TOWN OF ERIE URBAN RENEWAL AUTHORITY.

WITNESS MY HAND AND OFFICIAL SEAL

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

TITLE VERIFICATION STATEMENT

WE LAND TITLE GUARANTEE COMPANY, DO HEREBY CERTIFY THAT WE HAVE EXAMINED THE TITLE OF ALL LAND PLATTED HEREON AND THAT TITLE TO SUCH LAND IS IN THE DEDICATOR(S) FREE AND CLEAR OF ALL LIENS, TAXES AND ENCUMBRANCES, EXCEPT AS FOLLOWS:

LAND TITLE GUARANTEE COMPANY

BY: _____ _____
(DATE)

TITLE: _____

ATTEST:

SECRETARY/TREASURER

STATE OF COLORADO)
) SS.
COUNTY OF _____)

ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 2017 BY

_____ AS _____.

WITNESS MY HAND AND OFFICIAL SEAL

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

BOARD OF TRUSTEES APPROVAL CERTIFICATE

THIS PLAT IS TO BE KNOWN AS NINE MILE CORNER IS APPROVED AND ACCEPTED BY RESOLUTION NO. _____, PASSED AND ADOPTED AT THE REGULAR (SPECIAL) MEETING OF THE BOARD OF TRUSTEES OF ERIE, COLORADO, HELD ON THE _____ DAY OF _____ 2017.

_____
MAYOR

ATTEST _____
TOWN CLERK

TOWN OF ERIE, WELD COUNTY, STATE OF COLORADO, A MUNICIPAL CORPORATION

BY: _____ _____
DATE

TITLE: _____

ATTEST:

SECRETARY/TREASURER

STATE OF COLORADO)
) ss.
COUNTY OF _____)

ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 20_____

BY_____, AS _____ OF TOWN OF ERIE, WELD COUNTY, STATE OF COLORADO, A MUNICIPAL CORPORATION.

WITNESS MY HAND AND OFFICIAL SEAL

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

COMMUNITY DEVELOPMENT AND PUBLIC WORKS APPROVAL CERTIFICATE

THIS PLAT IS HEREBY APPROVED BY THE TOWN OF ERIE COMMUNITY DEVELOPMENT DIRECTOR AND PUBLIC WORKS DIRECTOR ON THIS _____ DAY OF_____ _____, 2017.

_____
COMMUNITY DEVELOPMENT DIRECTOR

_____
PUBLIC WORKS DIRECTOR

ACCEPTANCE CERTIFICATE

THE DEDICATION OF TRACT(S) _____ IS HEREBY ACCEPTED FOR OWNERSHIP AND

MAINTENANCE BY THE _____ METROPOLITAN DISTRICT OR HOMEOWNERS/BUSINESS ASSOCIATION.

METROPOLITAN DISTRICT OR HOMEOWNERS/BUSINESS ASSOCIATION NAME

BY: _____ _____
(NAME OF AUTHORIZED OFFICIAL) DATE

TITLE: _____

STATE OF COLORADO)
) ss.
COUNTY OF _____)

ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 2017 BY

_____ AS _____.

WITNESS MY HAND AND OFFICIAL SEAL

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

SURVEYOR'S CERTIFICATE

I, BRIAN J. DENNIS, A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT TRULY AND CORRECTLY REPRESENTS THE RESULTS OF A SURVEY MADE ON MAY 1, 2016, BY ME OR UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS EXIST AS SHOWN HEREON; THAT MATHEMATICAL CLOSURE ERRORS ARE LESS THAN 1:50,000 (SECOND ORDER); AND THAT SAID PLAT HAS BEEN PREPARED IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO DEALING WITH MONUMENTS, SUBDIVISIONS OR SURVEYING OF LAND AND ALL APPLICABLE PROVISIONS OF THE TOWN OF ERIE UNIFIED DEVELOPMENT CODE.

I ATTEST THE ABOVE ON THIS _____ DAY OF _____, 2017.

_____
BRIAN J. DENNIS
COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR # 38069

PRELIMINARY

CLERK & RECORDER CERTIFICATE

STATE OF COLORADO)
) ss.
COUNTY OF BOULDER)

I HEREBY CERTIFY THAT THIS PLAT WAS FILED IN MY OFFICE ON THIS _____ DAY

OF_____, 2017 A.D. AND WAS RECORDED AT RECEPTION NUMBER _____.

_____
_____ COUNTY CLERK AND RECORDER

#	Date	Issue / Description	Init.
1	09.26.19	LOT LINE CHANGES	EMV
2	10.03.19	TRACT LINE CHANGES	EMV
3	10.15.19	REMOVED VACATED ITEMS	EMV
4	10.21.19	ADDED EASEMENTS	EMV
5	10.30.19	REVISED EASEMENTS	EMV
6	11.08.19	REVISED TRACT LINE	EMV

Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
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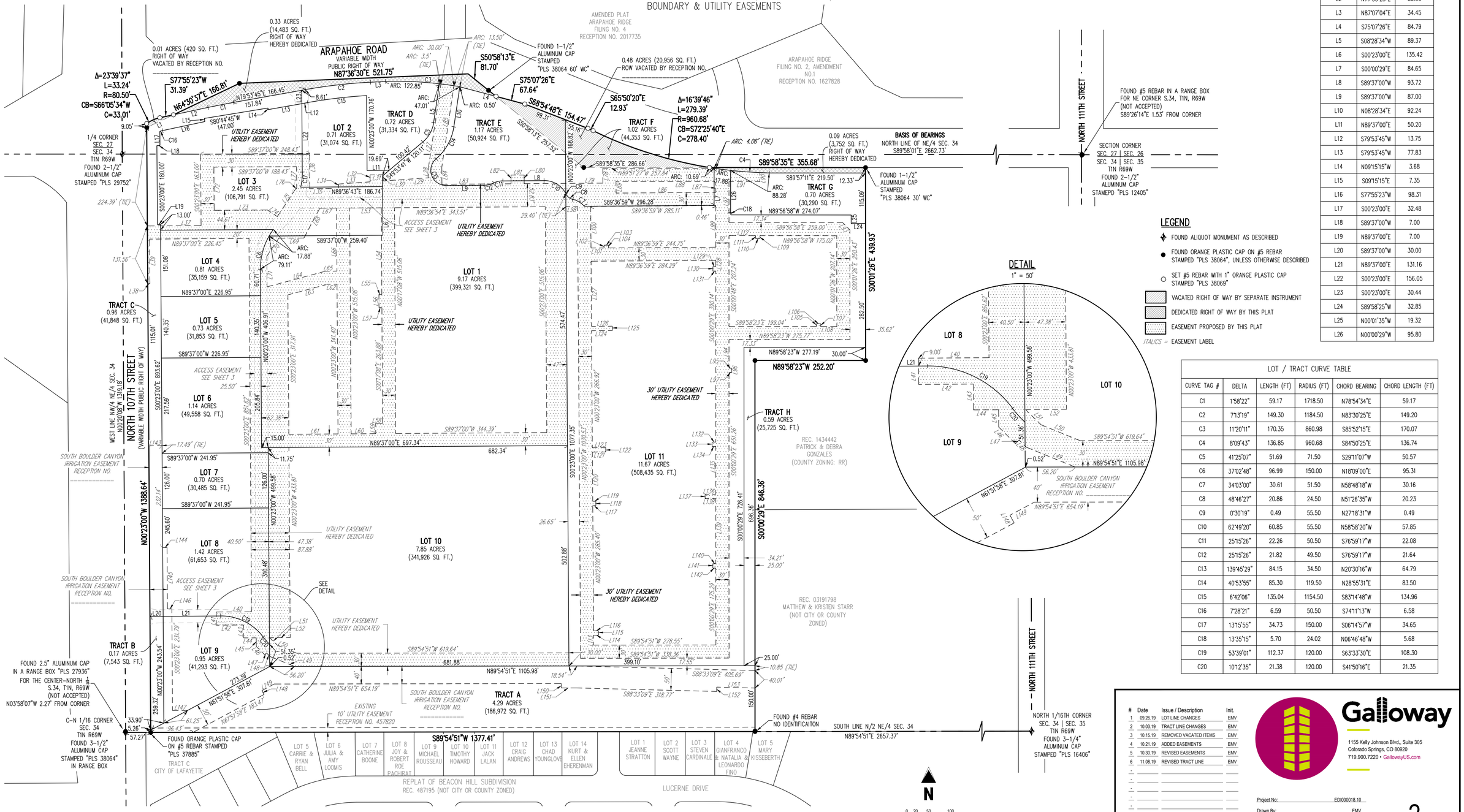
Project No: EDI000018.10
Drawn By: EMV
Checked By: BJD
Date: 10/15/2019

NINE MILE CORNER

PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.
XX-XXXXXX-XXXX

11 LOTS, 8 TRACTS - 47.63 ACRES (2,074,772 SQ. FT.)
BOUNDARY & UTILITY EASEMENTS

SEE SHEET 4 FOR UTILITY EASEMENT LINE AND CURVE TABLES.


ARAPAHOE ROAD
VARIABLE WIDTH PUBLIC RIGHT OF WAY
N87°36'30"E 521.75'
0.33 ACRES (14,483 SQ. FT.) RIGHT OF WAY HEREBY DEDICATED
0.01 ACRES (420 SQ. FT.) RIGHT OF WAY VACATED BY RECEPTION NO.
0.48 ACRES (20,956 SQ. FT.) ROW VACATED BY RECEPTION NO. _____
AMENDED PLAT ARAPAHOE RIDGE FILING NO. 4 RECEPTION NO. 2017735
ARAPAHOE RIDGE FILING NO. 2, AMENDMENT NO.1 RECEPTION NO. 1627828
FOUND 1-1/2" ALUMINUM CAP STAMPED "PLS 38064 60' WC"
Δ=23°39'37" L=33.24' R=80.50' CB=S66°05'34"W C=33.01'
S77°55'23"W 31.39'
N64°30'37"E 166.81'
S50°58'13"E 81.70'
S75°07'26"E 67.64'
S68°54'48"E 154.47'
S65°50'20"E 12.93'
Δ=16°39'46" L=279.39' R=960.68' CB=S72°25'40"E C=278.40'
S89°58'35"E 286.66'
S89°58'35"E 355.68'
BASIS OF BEARINGS NORTH LINE OF NE/4 SEC. 34 S89°58'01"E 2662.73'
FOUND #5 REBAR IN A RANGE BOX FOR NE CORNER S.34, T1N, R69W (NOT ACCEPTED) S89°26'14"E 1.53' FROM CORNER
NORTH 111TH STREET
SECTION CORNER SEC. 27 | SEC. 26 SEC. 34 | SEC. 35 T1N R69W FOUND 2-1/2" ALUMINUM CAP STAMPED "PLS 12405"
1/4 CORNER SEC. 27 SEC. 34 T1N R69W FOUND 2-1/2" ALUMINUM CAP STAMPED "PLS 29752"
FOUND 1-1/2" ALUMINUM CAP STAMPED "PLS 38064 30' WC"
0.09 ACRES (3,752 SQ. FT.) RIGHT OF WAY HEREBY DEDICATED
TRACT D 0.72 ACRES (31,334 SQ. FT.)
TRACT E 1.17 ACRES (50,924 SQ. FT.)
TRACT F 1.02 ACRES (44,353 SQ. FT.)
TRACT G 0.70 ACRES (30,290 SQ. FT.)
LOT 1 9.17 ACRES (399,321 SQ. FT.)
LOT 2 0.71 ACRES (31,074 SQ. FT.)
LOT 3 2.45 ACRES (106,791 SQ. FT.)
LOT 4 0.81 ACRES (35,159 SQ. FT.)
LOT 5 0.73 ACRES (31,853 SQ. FT.)
LOT 6 1.14 ACRES (49,558 SQ. FT.)
LOT 7 0.70 ACRES (30,485 SQ. FT.)
LOT 8 1.42 ACRES (61,653 SQ. FT.)
LOT 9 0.95 ACRES (41,293 SQ. FT.)
LOT 10 7.85 ACRES (341,926 SQ. FT.)
LOT 11 11.67 ACRES (508,435 SQ. FT.)
TRACT A 4.29 ACRES (186,972 SQ. FT.)
TRACT B 0.17 ACRES (7,543 SQ. FT.)
TRACT C 0.96 ACRES (41,848 SQ. FT.)
TRACT H 0.59 ACRES (25,725 SQ. FT.)
UTILITY EASEMENT HEREBY DEDICATED
ACCESS EASEMENT SEE SHEET 3
30' UTILITY EASEMENT HEREBY DEDICATED
SOUTH BOULDER CANYON IRRIGATION EASEMENT RECEPTION NO. _____
EXISTING 10' UTILITY EASEMENT RECEPTION NO. 457820
SEE DETAIL
NORTH 107TH STREET (VARIABLE WIDTH PUBLIC RIGHT OF WAY)
WEST LINE NW/4 NE/4 SEC. 34 N00°21'08"W 1319.18'
N00°23'00"W 1388.64'
S00°01'26"E 439.93'
S00°01'26"E 846.36'
N89°54'51"E 2657.37'
S89°54'51"W 1377.41'
N89°58'23"W 277.19'
N89°58'23"W 252.20'
FOUND 2.5" ALUMINUM CAP IN A RANGE BOX "PLS 27936" FOR THE CENTER-NORTH 1/16 S.34, T1N, R69W (NOT ACCEPTED) N03°58'07"W 2.27' FROM CORNER
C-N 1/16 CORNER SEC. 34 T1N R69W FOUND 3-1/2" ALUMINUM CAP STAMPED "PLS 38064" IN RANGE BOX
FOUND ORANGE PLASTIC CAP ON #5 REBAR STAMPED "PLS 37885"
TRACT C CITY OF LAFAYETTE
FOUND #4 REBAR NO IDENTIFICAITON
NORTH 1/16TH CORNER SEC. 34 | SEC. 35 T1N R69W FOUND 3-1/4" ALUMINUM CAP STAMPED "PLS 16406"
REC. 1434442 PATRICK & DEBRA GONZALES (COUNTY ZONING: RR)
REC. 03191798 MATTHEW & KRISTEN STARR (NOT CITY OR COUNTY ZONED)
REPLAT OF BEACON HILL SUBDIVISION REC. 487195 (NOT CITY OR COUNTY ZONED)
LUCERNE DRIVE
LOT 5 CARRIE & RYAN BELL
LOT 6 JULIA & AMY LOOMIS
LOT 7 CATHERINE BOONE
LOT 8 JOY & ROBERT ROE PACHIRAT
LOT 9 MICHAEL ROUSSEAU
LOT 10 TIMOTHY HOWARD
LOT 11 JACK LALAN
LOT 12 CRAIG ANDREWS
LOT 13 CHAD YOUNGLOVE
LOT 14 KURT & ELLEN EHERENMAN
LOT 1 JEANNE STRATTON
LOT 2 SCOTT WAYNE
LOT 3 STEVEN CARDINALE
LOT 4 GIANFRANCO & NATALIA & LEONARDO FINO
LOT 5 MARY KISSEBERTH
DETAIL
1" = 50'
LOT 8
LOT 9
LOT 10
N61°51'58"E 307.81'
N89°58'23"W 277.19'
30.00'
N89°54'51"E 1105.98'
S89°54'51"W 619.64'
N89°54'51"E 654.19'
S89°54'51"W 278.55'
S89°54'51"W 338.36'
N89°54'51"E 1105.98'
S88°33'09"E 405.69'
S88°33'09"E 318.77'
N89°56'58"W 274.07'
S89°56'58"E 259.00'
N89°56'58"W 175.02'
S89°57'11"E 219.50'
N89°51'27"W 257.84'
S89°36'59"W 296.28'
S89°36'59"W 285.11'
N89°36'59"E 244.75'
N89°36'59"E 284.29'
N89°36'43"E 186.74'
S89°37'00"W 188.43'
S89°37'00"W 248.43'
N89°37'00"E 226.45'
S89°37'00"W 259.40'
N89°37'00"E 226.95'
S89°37'00"W 226.95'
N89°37'00"E 697.34'
S89°37'00"W 344.39'
S89°37'00"W 241.95'
S89°37'00"W 241.95'
N00°23'00"W 1319.18'
N00°23'00"W 406.91'
N00°23'00"W 341.40'
N00°23'00"W 515.06'
N00°23'00"W 499.58'
N00°23'00"W 266.40'
N00°23'00"W 285.40'
N00°23'00"W 168.82'
N00°23'00"W 170.76'
S00°23'00"E 180.00'
S00°23'00"E 893.62'
S00°23'00"E 651.62'
S00°23'00"E 317.91'
S00°23'00"E 231.79'
S00°23'00"E 243.54'
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S00°23'00"E 1077.35'
S00°23'00"E 726.41'
S00°23'00"E 574.47'
S00°23'00"E 502.88'
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S00°00'29"E 651.26'
S00°00'29"E 696.36'
S00°00'29"E 175.29'
S00°00'29"E 282.56'
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S00°00'48"E 207.24'
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S89°36'59"W 285.11'
S89°36'59"W 296.28'
S89°56'58"E 259.00'
S88°33'09"E 405.69'
S88°33'09"E 318.77'
N61°51'58"E 307.81'
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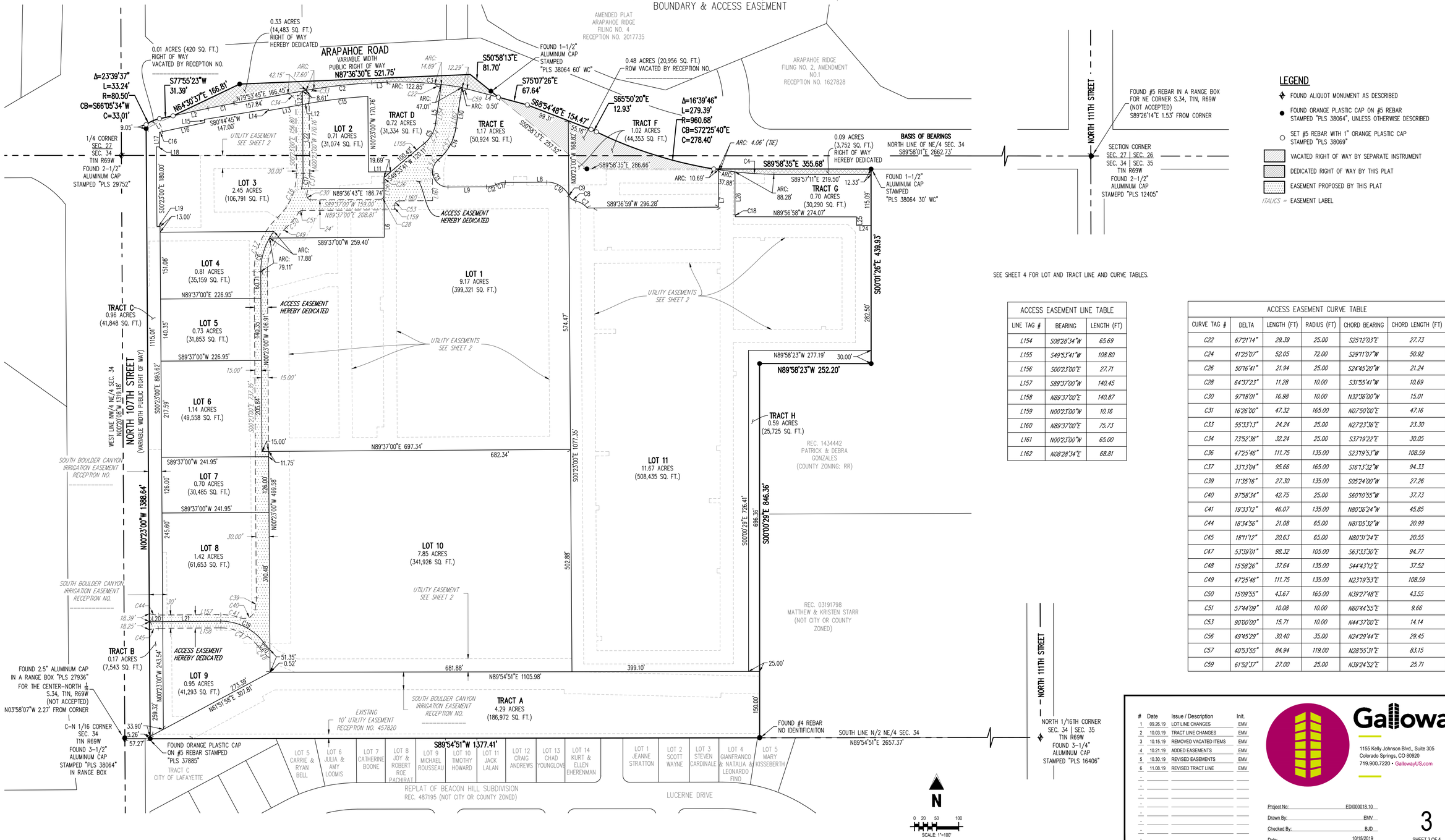
S89°54'51"W 307.81

NINE MILE CORNER

PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.
XX-XXXXXX-XXXX

11 LOTS, 8 TRACTS – 47.63 ACRES (2,074,772 SQ. FT.)
BOUNDARY & ACCESS EASEMENT



LEGEND

- FOUND ALIQUOT MONUMENT AS DESCRIBED
- FOUND ORANGE PLASTIC CAP ON #5 REBAR STAMPED "PLS 38064", UNLESS OTHERWISE DESCRIBED
- SET #5 REBAR WITH 1" ORANGE PLASTIC CAP STAMPED "PLS 38069"
- VACATED RIGHT OF WAY BY SEPARATE INSTRUMENT
- DEDICATED RIGHT OF WAY BY THIS PLAT
- EASEMENT PROPOSED BY THIS PLAT

ITALICS = EASEMENT LABEL

ACCESS EASEMENT LINE TABLE

LINE TAG #	BEARING	LENGTH (FT)
L154	S08°28'34"W	65.69
L155	S49°53'41"W	108.80
L156	S00°23'00"E	27.71
L157	S89°37'00"W	140.45
L158	N89°37'00"E	140.87
L159	N00°23'00"W	10.16
L160	N89°37'00"E	75.73
L161	N00°23'00"W	65.00
L162	N08°28'34"E	68.81

ACCESS EASEMENT CURVE TABLE

CURVE TAG #	DELTA	LENGTH (FT)	RADIUS (FT)	CHORD BEARING	CHORD LENGTH (FT)
C22	67°21'14"	29.39	25.00	S25°12'03"E	27.73
C24	41°25'07"	52.05	72.00	S29°11'07"W	50.92
C26	50°16'41"	21.94	25.00	S24°45'20"W	21.24
C28	64°37'23"	11.28	10.00	S31°55'41"W	10.69
C30	97°18'01"	16.98	10.00	N32°36'00"W	15.01
C31	16°26'00"	47.32	165.00	N07°50'00"E	47.16
C33	55°33'13"	24.24	25.00	N27°23'36"E	23.30
C34	73°52'36"	32.24	25.00	S37°19'22"E	30.05
C36	47°25'46"	111.75	135.00	S23°19'53"W	108.59
C37	33°13'04"	95.66	165.00	S16°13'32"W	94.33
C39	11°35'16"	27.30	135.00	S05°24'00"W	27.26
C40	97°58'34"	42.75	25.00	S60°10'55"W	37.73
C41	19°33'12"	46.07	135.00	N80°36'24"W	45.85
C44	18°34'56"	21.08	65.00	N81°05'32"W	20.99
C45	18°11'12"	20.63	65.00	N80°31'24"E	20.55
C47	53°39'01"	98.32	105.00	S63°33'30"E	94.77
C48	15°58'26"	37.64	135.00	S44°43'12"E	37.52
C49	47°25'46"	111.75	135.00	N23°19'53"E	108.59
C50	15°09'55"	43.67	165.00	N39°27'48"E	43.55
C51	57°44'09"	10.08	10.00	N60°44'55"E	9.66
C53	90°00'00"	15.71	10.00	N44°37'00"E	14.14
C56	49°45'29"	30.40	35.00	N24°29'44"E	29.45
C57	40°53'55"	84.94	119.00	N28°55'31"E	83.15
C59	61°52'37"	27.00	25.00	N39°24'52"E	25.71

#	Date	Issue / Description	Init.
1	09.26.19	LOT LINE CHANGES	EMV
2	10.03.19	TRACT LINE CHANGES	EMV
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4	10.21.19	ADDED EASEMENTS	EMV
5	10.30.19	REVISED EASEMENTS	EMV
6	11.08.19	REVISED TRACT LINE	EMV

Galloway
1155 Kelly Johnson Blvd., Suite 305
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Project No: EDI000018.10
Drawn By: EMV
Checked By: BJD
Date: 10/15/2019

NINE MILE CORNER

PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN,
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.
XX-XXXXXX-XXXX
11 LOTS, 8 TRACTS - 47.63 ACRES (2,074,772 SQ. FT.)
LINE AND CURVE TABLES

LOT / TRACT LINE TABLE

LINE TAG #	BEARING	LENGTH (FT)
L1	N64°30'37"E	67.37
L2	N77°55'23"E	80.96
L3	N87°07'04"E	34.45
L4	S75°07'26"E	84.79
L5	S08°28'34"W	89.37
L6	S00°23'00"E	135.42
L7	S00°00'29"E	84.65
L8	S89°37'00"W	93.72
L9	S89°37'00"W	87.00
L10	N08°28'34"E	92.24
L11	N89°37'00"E	50.20
L12	S79°53'45"W	13.75
L13	S79°53'45"W	77.83
L14	N09°15'15"W	3.68
L15	S09°15'15"E	7.35
L16	S77°55'23"W	98.31
L17	S00°23'00"E	32.48
L18	S89°37'00"W	7.00
L19	N89°37'00"E	7.00
L20	S89°37'00"W	30.00
L21	N89°37'00"E	131.16
L22	S00°23'00"E	156.05
L23	S00°23'00"E	30.44
L24	S89°58'25"W	32.85
L25	N00°01'35"W	19.32
L26	N00°00'29"W	95.80

LOT / TRACT CURVE TABLE

CURVE TAG #	DELTA	LENGTH (FT)	RADIUS (FT)	CHORD BEARING	CHORD LENGTH (FT)
C1	1°58'22"	59.17	1718.50	N78°54'34"E	59.17
C2	7°13'19"	149.30	1184.50	N83°30'25"E	149.20
C3	11°20'11"	170.35	860.98	S85°52'15"E	170.07
C4	8°09'43"	136.85	960.68	S84°50'25"E	136.74
C5	41°25'07"	51.69	71.50	S29°11'07"W	50.57
C6	37°02'48"	96.99	150.00	N18°09'00"E	95.31
C7	34°03'00"	30.61	51.50	N58°48'18"W	30.16
C8	48°46'27"	20.86	24.50	N51°26'35"W	20.23
C9	0°30'19"	0.49	55.50	N27°18'31"W	0.49
C10	62°49'20"	60.85	55.50	N58°58'20"W	57.85
C11	25°15'26"	22.26	50.50	S76°59'17"W	22.08
C12	25°15'26"	21.82	49.50	S76°59'17"W	21.64
C13	139°45'29"	84.15	34.50	N20°30'16"W	64.79
C14	40°53'55"	85.30	119.50	N28°55'31"E	83.50
C15	6°42'06"	135.04	1154.50	S83°14'48"W	134.96
C16	7°28'21"	6.59	50.50	S74°11'13"W	6.58
C17	13°15'55"	34.73	150.00	S06°14'57"W	34.65
C18	13°35'15"	5.70	24.02	N06°46'48"W	5.68
C19	53°39'01"	112.37	120.00	S63°33'30"E	108.30
C20	10°12'35"	21.38	120.00	S41°50'16"E	21.35

UTILITY EASEMENT LINE TABLE

LINE TAG #	BEARING	LENGTH (FT)
L27	S08°28'34"W	189.63
L28	S00°23'01"E	26.26
L29	S86°02'50"W	103.81
L30	N00°23'01"W	14.07
L31	S89°36'59"W	30.00
L32	S00°23'01"E	15.94
L33	S86°02'50"W	72.19
L34	S00°23'00"E	10.06
L35	S89°36'58"W	65.48
L36	N00°23'01"W	80.38
L37	S89°37'00"W	122.54
L38	N89°37'00"E	5.00
L39	N00°23'00"W	101.56
L40	S89°37'00"W	80.29
L41	S00°23'00"E	30.00
L42	N89°37'00"E	62.18
L43	S00°23'00"E	29.47
L44	N89°37'00"E	28.61
L45	S00°23'00"E	19.75
L46	S45°23'00"E	26.90
L47	N44°37'00"E	5.83
L48	S45°23'00"E	11.74
L49	S67°53'00"E	59.77
L50	N67°53'00"W	47.92
L51	N45°23'00"W	24.76
L52	N89°37'00"E	46.45
L53	N89°36'35"E	72.33
L54	S00°17'08"E	197.68
L55	S89°42'52"W	6.67
L56	S00°17'08"E	30.00
L57	N89°42'52"E	6.67
L58	S89°42'52"W	15.56
L59	S00°17'08"E	23.54
L60	S89°37'00"W	55.89
L61	N89°37'00"E	112.12
L62	S89°37'00"W	21.95
L63	S75°01'10"W	93.17
L64	N75°01'10"E	138.16
L65	N89°37'00"E	25.79
L66	N00°23'00"W	143.67
L67	S89°36'59"W	38.08
L68	S28°02'58"W	77.09
L69	S89°37'00"W	57.25
L70	S33°28'12"W	49.31
L71	S00°23'00"E	69.75
L72	S00°23'00"E	98.39
L73	N89°37'00"E	121.39
L74	S56°07'21"E	27.16
L75	N33°28'12"E	76.23
L76	N89°36'58"E	2.12

UTILITY EASEMENT LINE TABLE

LINE TAG #	BEARING	LENGTH (FT)
L77	N00°23'01"W	50.38
L78	S00°23'01"E	34.01
L79	S89°36'59"W	179.40
L80	N00°00'00"E	19.62
L81	N90°00'00"W	30.00
L82	S00°00'00"E	19.82
L83	S89°36'59"W	157.44
L84	N00°23'01"W	38.83
L85	N08°28'34"E	187.63
L86	N89°36'59"E	227.29
L87	N00°00'29"W	24.62
L88	N89°53'22"W	227.46
L89	S00°23'01"E	26.58
L90	S00°00'00"E	20.66
L91	N89°53'22"W	70.45
L92	S00°00'29"E	93.18
L93	S44°59'17"E	23.63
L94	S00°00'29"E	64.99
L95	N89°59'31"E	6.33
L96	S00°00'29"E	10.00
L97	S89°59'31"W	6.33
L98	S89°36'59"W	26.65
L99	N00°00'29"W	94.96
L100	S00°23'00"E	94.96
L101	N89°36'59"E	29.74
L102	N00°23'01"W	6.33
L103	N89°36'59"E	10.00
L104	S00°23'01"E	6.33
L105	N00°01'37"E	6.33
L106	S89°58'23"E	10.00
L107	S00°01'37"W	6.33
L108	S89°58'23"E	36.71
L109	S00°03'02"W	6.33
L110	N89°56'58"W	10.00
L111	N00°03'02"E	6.33
L112	N89°56'58"W	60.69
L113	N00°23'00"W	22.70
L114	N89°37'00"E	11.33
L115	N00°23'00"W	10.00
L116	S89°37'00"W	11.33
L117	N89°37'00"E	7.13
L118	N00°23'00"W	10.00
L119	S89°37'00"W	7.13
L120	N00°23'00"W	112.16
L121	N89°37'00"E	30.43
L122	N00°23'00"W	10.00
L123	S89°37'00"W	30.43
L124	N89°37'00"E	47.33
L125	N00°23'00"W	10.00
L126	S89°37'00"W	47.33

UTILITY EASEMENT LINE TABLE

LINE TAG #	BEARING	LENGTH (FT)
L127	N00°23'00"W	148.55
L128	S00°00'29"E	14.37
L129	S89°59'31"W	6.67
L130	S00°00'29"E	10.00
L131	N89°59'31"E	6.67
L132	S89°59'31"W	8.50
L133	S00°00'29"E	10.00
L134	N89°59'31"E	8.50
L135	S00°00'29"E	108.96
L136	S89°59'31"W	24.47
L137	S00°00'29"E	10.00
L138	N89°59'31"E	24.47
L139	S00°00'29"E	148.44
L140	S89°59'31"W	6.83
L141	S00°00'29"E	10.00
L142	N89°59'31"E	6.83
L143	N89°37'00"E	30.00
L144	N89°37'00"E	10.00
L145	S00°23'00"E	140.00
L146	N89°37'00"E	10.00
L147	N89°54'51"E	34.20
L148	N28°08'02"W	10.00
L149	N61°51'58"E	31.70
L150	S00°00'00"E	10.00
L151	N89°54'51"E	35.59
L152	N01°26'51"E	10.00
L153	S88°33'09"E	87.26

ACCESS EASEMENT LINE TABLE

LINE TAG #	BEARING	LENGTH (FT)
L154	S08°28'34"W	65.69
L155	S49°53'41"W	108.80
L156	S00°23'00"E	27.71
L157	S89°37'00"W	140.45
L158	N89°37'00"E	140.87
L159	N00°23'00"W	10.16
L160	N89°37'00"E	75.73
L161	N00°23'00"W	65.00
L162	N08°28'34"E	68.81

ACCESS EASEMENT CURVE TABLE

CURVE TAG #	DELTA	LENGTH (FT)	RADIUS (FT)	CHORD BEARING	CHORD LENGTH (FT)
C22	67°21'14"	29.39	25.00	S25°12'03"E	27.73
C24	41°25'07"	52.05	72.00	S29°11'07"W	50.92
C26	50°16'41"	21.94	25.00	S24°45'20"W	21.24
C28	64°37'23"	11.28	10.00	S31°55'41"W	10.69
C30	97°18'01"	16.98	10.00	N32°36'00"W	15.01
C31	16°26'00"	47.32	165.00	N07°50'00"E	47.16
C33	55°33'13"	24.24	25.00	N27°23'36"E	23.30
C34	73°52'36"	32.24	25.00	S37°19'22"E	30.05
C36	47°25'46"	111.75	135.00	S23°19'53"W	108.59
C37	33°13'04"	95.66	165.00	S16°13'32"W	94.33
C39	11°35'16"	27.30	135.00	S05°24'00"W	27.26
C40	97°58'34"	42.75	25.00	S60°10'55"W	37.73
C41	19°33'12"	46.07	135.00	N80°36'24"W	45.85
C44	18°34'56"	21.08	65.00	N81°05'32"W	20.99
C45	18°11'12"	20.63	65.00	N80°31'24"E	20.55
C47	53°39'01"	98.32	105.00	S63°33'30"E	94.77
C48	15°58'26"	37.64	135.00	S44°43'12"E	37.52
C49	47°25'46"	111.75	135.00	N23°19'53"E	108.59
C50	15°09'55"	43.67	165.00	N39°27'48"E	43.55
C51	57°44'09"	10.08	10.00	N60°44'55"E	9.66
C53	90°00'00"	15.71	10.00	N44°37'00"E	14.14
C56	49°45'29"	30.40	35.00	N24°29'44"E	29.45
C57	40°53'55"	84.94	119.00	N28°55'31"E	83.15
C59	61°52'37"	27.00	25.00	N39°24'52"E	25.71

#	Date	Issue / Description	Init.
1	09.26.19	LOT LINE CHANGES	EMV
2	10.03.19	TRACT LINE CHANGES	EMV
3	10.15.19	REMOVED VACATED ITEMS	EMV
4	10.21.19	ADDED EASEMENTS	EMV
5	10.30.19	REVISED EASEMENTS	EMV
6	11.08.19	REVISED TRACT LINE	EMV

Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220 • GallowayUS.com

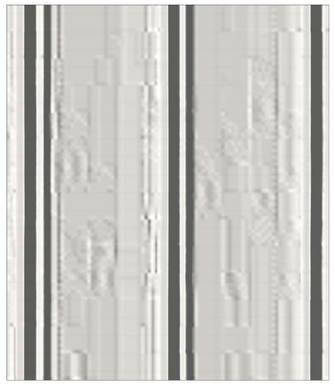
Project No: EDI000018.10
Drawn By: EMV
Checked By: BJD
Date: 10/15/2019

SCHEME 1
BOARD AND BATTEN:
SW 6012 BROWSE BROWN

SCHEME 2
BOARD AND BATTEN:
SW 7622 HORNBURG GRAY

SCHEME 3
BOARD AND BATTEN:
SW 7674 PEPPERCORN

SCHEMES 1, 2, 3 AND GARAGES
LAP SIDING:
SW 7649 SILVERPLATE



GARAGES
BOARD AND BATTEN:
SW 76490 SILVERPLATE

CLUBHOUSE
LAP SIDING
SW 6012 BROWSE BROWN

ALL SCHEMES + BUILDINGS
ADHERED STONE VENEER:
FIELD STONE, WINTERSKY

ALL SCHEMES + BUILDINGS
ACCENT TRIM + GARAGE DOORS:
SW 7069 IRON ORE

SCHEMES 1, 2, 3 AND CLUBHOUSE
STANDING SEAM ROOF:
BERRIDGE "CHARCOAL GRAY"

ALL SCHEMES + BUILDINGS
COMPOSITE SHINGLE ROOF:
TAMKO "RUSTIC BLACK"

ALL SCHEMES + BUILDINGS
WINDOWS:
WHITE

ALL SCHEMES + BUILDINGS
EXTERIOR DOORS:
SW 6991 BLACK MAGIC

CLUBHOUSE
BOARD AND BATTEN:
WOODTONE RUSTIC SERIES
"COASTAL GRAY"

BLDG TYPE C
BOARD AND BATTEN:
SW 7019 GAUNTLET GRAY

NOTE: ALL COLORS ARE SHERWIN-WILLIAMS UNLESS OTHERWISE NOTED

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OUTLOOK NINE MILE

11.12.2019

216002
1 OF 1

MATERIALS BOARD

KEPHART
community ■ planning ■ architecture

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ERIE NINE MILE | PLANNING AREA 2

Evergreen Development | Services | Investments
KEPHART community ■ planning ■ architecture
NORRIS DESIGN Planning | Landscape Architecture | Branding
Galloway Planning. Architecture. Engineering.
HKS HARRIS KOCHER SMITH

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OUTLOOK AT NINE MILE

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

CONSTRUCTION PLANS

LEGAL DESCRIPTION:

LOT 11, TRACTS H AND G
NINE MILE CORNER FILING NO. 1
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

BASIS OF BEARINGS:

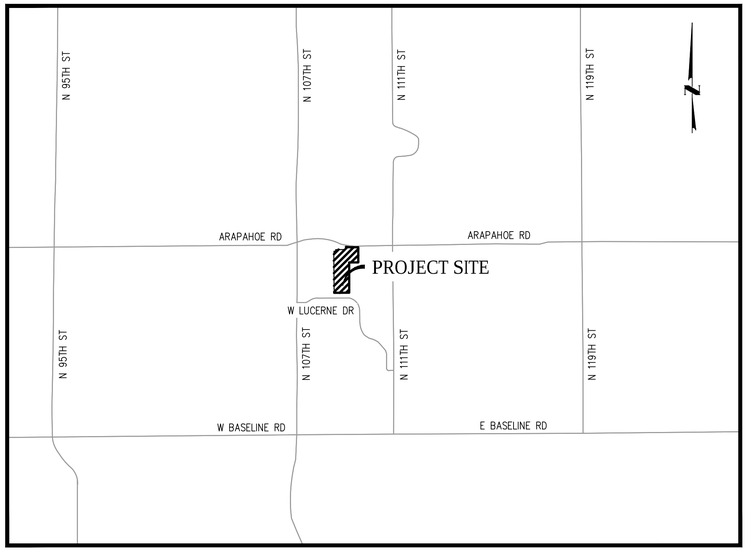
BEARINGS ARE BASED ON THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 34 AND MONUMENTED ON THE WEST BY A 2.5" ALUMINUM CAP STAMPED "PLS29752" IN A RANGE BOX FOR THE N ¼ CORNER AND MONUMENTED ON THE EAST BY A 2.5" ALUMINUM CAP STAMPED "PLS12405" FOR THE NE CORNER AND IS ASSUMED TO BEAR S 89°58'01"E.

BENCHMARK:

ELEVATIONS SHOWN ARE NAVD88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
RIGHT-OF-WAY		
CONTOURS	5280	5280
SANITARY SEWER PIPE	SS	SS
WATER PIPE	W	8W
STORM SEWER PIPE	ST	
GAS	G	G
UNDERGROUND TELEPHONE	UT	UT
UNDERGROUND ELECTRIC	UE	UE
OVERHEAD ELECTRIC	OE	OE
TO BE ABANDONED OR REMOVED		
MANHOLE		
GATE VALVE		
HYDRANT		
TEE & FITTINGS		
WATER METER W/ CURB STOP		
WATER DOMESTIC SERVICE		
WATER FIRE SERVICE		
SANITARY SERVICE W/ CLEANOUT		
INLET		
LANDSCAPE DRAIN		
LIGHT		
TELEPHONE VAULT		
TELEPHONE JUNCTION BOX		
FIBER OPTIC PEDESTAL	FO	
FENCE POST/BOLLARD		
TRANSFORMER		



VICINITY MAP
SCALE: 1" = 2000'

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9	EROSION CONTROL PLAN INTERIM
10	EROSION CONTROL PLAN FINAL
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35	DETAILED GRADING PLAN
36	DETAILED GRADING PLAN
37	DETAILED GRADING PLAN
38	DETAILED GRADING PLAN
39	DETAILED GRADING PLAN
40	DETAILED GRADING PLAN
41	DETAILED GRADING PLAN
42	DETAILED GRADING PLAN
43	DETAILED GRADING PLAN
44	DETAILED GRADING PLAN
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ABBREVIATIONS

BOP	BOTTOM OF PIPE
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL (FG)
CONC	CONCRETE
DIA	DIAMETER
DR	DOOR
DS	DOWNSPOUT
E	EAST, EASTING
EL	ELEVATION
ESMT	EASEMENT
EX	EXISTING
FES	FLARED END SECTION
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
GV	GATE VALVE
HC	HANDICAP
HGL	HYDRAULIC GRADE LINE
HP	HIGH POINT
INV	INVERT
LP	LOW POINT
LSD	LANDSCAPE DRAIN
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N	NORTH, NORTHING
PR	PROPOSED
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SS	SANITARY SEWER
STA	STATION
STM	STORM
TB	THRUST BLOCK
TBC	TOP/BACK OF CURB
TOP	TOP OF PIPE
TS	TOP OF STEP
TW	TOP OF WALL (FG)
TYP	TYPICAL
WAT	WATER

I HEREBY AFFIRM THAT THESE FINAL CONSTRUCTION PLANS WERE PREPARED UNDER MY DIRECT SUPERVISION, IN ACCORDANCE WITH ALL APPLICABLE TOWN OF ERIE AND STATE OF COLORADO STANDARDS AND STATUTES, RESPECTIVELY; AND THAT I AM FULLY RESPONSIBLE FOR ALL DESIGN AND REVISIONS RELATIVE TO SAID PLANS.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DEVELOPER:
Evergreen
Development | Services | Investments

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

CIVIL ENGINEER:
HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

PRELIMINARY NOT FOR CONSTRUCTION

MICHAEL MOORE, P.E. 47854
ON THE BEHALF OF HARRIS KOCHER SMITH

Filepath: P:\160602\ENGINEERING\CIVIL\1 - COVER SHEET.DWG 1 Layout: COVER SHEET
Plotted: 11/07/19 8:22:52 AM By: Rachel Patton
Plotted: THU 11/07/19 8:22:52 By: Rachel Patton

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GENERAL NOTES – CONSTRUCTION

1. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST "STANDARDS AND SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS" BY THE TOWN OF ERIE. COPIES OF THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS MAY BE OBTAINED FROM THE TOWN OF ERIE WEB SITE. CONTRACTOR SHALL HAVE A SET ON SITE AT ALL TIMES.

2. THE OWNER SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE TOWN OF ERIE ENGINEERING STAFF PRIOR TO THE START OF CONSTRUCTION. THOSE IN ATTENDANCE SHALL INCLUDE THE OWNER, HIS ENGINEER, THE TOWN OF ERIE ENGINEERING STAFF, REPRESENTATIVES OF THE CONTRACTORS AND OTHER AFFECTED AGENCIES. PLANS SIGNED AND ACCEPTED BY THE TOWN OF ERIE WILL BE DISTRIBUTED AT THE PRECONSTRUCTION MEETING. CONTRACTOR SHALL HAVE (1) COPY OF THE SIGNED PLANS ON SITE AT ALL TIMES.

3. THE TOWN OF ERIE, THROUGH ACCEPTANCE OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. THE OWNER AND DESIGN ENGINEER UNDERSTAND THAT THE RESPONSIBILITY FOR THE ENGINEERING ADEQUACY OF THE FACILITIES DEPICTED IN THIS DOCUMENT LIES SOLELY WITH THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT. REPORT ALL DISCREPANCIES TO THE DESIGN ENGINEER IMMEDIATELY.

4. PRIOR TO BEGINNING THE WORK, THE CONTRACTOR SHALL OBTAIN ANY/ALL WRITTEN AGREEMENTS FOR INGRESS AND EGRESS TO THE WORK SITE FROM ADJACENT PRIVATE PROPERTY OWNERS. A COPY OF ALL AGREEMENTS SHALL BE PROVIDED TO THE TOWN. ACCESS TO ANY ADJACENT PRIVATE PROPERTY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

5. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE TOWN OF ERIE ENGINEERING STAFF. THE TOWN RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO TOWN STANDARDS AND SPECIFICATIONS. INSPECTIONS AND ONSITE VISITS ARE NOT TO BE CONSTRUED AS A GUARANTEE BY THE TOWN ENGINEERING STAFF OF THE CONTRACTORS' CONTRACTUAL COMMITMENT. REQUESTS FOR INSPECTION BY THE TOWN OF ERIE SHALL BE MADE BY THE CONTRACTOR A MINIMUM OF TWENTY- FOUR (24) HOURS IN ADVANCE.

6. CONSTRUCTION WATER IS AVAILABLE TO THE CONTRACTOR AS ESTABLISHED IN THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE TOWN OF ERIE REGARDING CURRENT REGULATIONS, FEES AND REQUIRED AGREEMENTS RELATED TO THE PROVISION OF CONSTRUCTION WATER.

7. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH THE AFFECTED UTILITY COMPANIES AND SHALL NOTIFY THE UTILITY NOTIFICATION CENTER, PHONE NUMBER 811, THREE (3) BUSINESS DAYS PRIOR TO THE START OF CONSTRUCTION.

8. UTILITIES IN THE AREA OF CONSTRUCTION ARE APPROXIMATE ONLY. THEY HAVE BEEN LOCATED FROM FIELD INVESTIGATION AND THE BEST AVAILABLE UTILITY RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR OF ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL CONTACT ALL RESPECTIVE UTILITIES AND HAVE ALL UTILITIES FIELD-LOCATED PRIOR TO CONSTRUCTION. IF ANY UNKNOWN SUBSURFACE STRUCTURES ARE ENCOUNTERED DURING CONSTRUCTION, IT SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE TOWN OF ERIE ENGINEERING STAFF AND DESIGN ENGINEER PRIOR TO PROCEEDING.

9. THE CONTRACTOR SHALL NOTIFY TOWN OF ERIE ENGINEERING STAFF OF ANY PROBLEM IMPACTING WATER AND WASTE WATER FACILITIES THAT WOULD POTENTIALLY REQUIRE A VARIANCE FROM THE APPROVED PLANS AND SPECIFICATIONS. ANY VARIANCE FROM THE APPROVED DOCUMENTS SHALL BE AT THE SOLE DISCRETION OF THE TOWN OF ERIE ENGINEERING STAFF.

10. CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE SPECIFICATIONS AND PERMITS NECESSARY TO PERFORM THE PROPOSED WORK.

11. AS-BUILT DRAWINGS AS REQUIRED IN THE SPECIFICATIONS, ARE TO BE SUBMITTED BY THE OWNER/DEVELOPER PRIOR TO INITIAL ACCEPTANCE OF THE CONSTRUCTION.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY EXISTING SIGNS, STRUCTURES, FENCES, ETC., ENCOUNTERED ON THE JOB AND RESTORING THEM TO THEIR ORIGINAL CONDITION.

13. THE CONTRACTOR IS RESPONSIBLE FOR:

    A. NOTIFYING THE TOWN OF ERIE UTILITY CUSTOMERS OF POTENTIAL SERVICE OUTAGES, AND COORDINATE WITH THE TOWN OF ERIE FOR DETERMINATION OF MINIMUM TIME REQUIREMENT.

    B. NOTIFYING THE TOWN OF ERIE ENGINEERING STAFF IF WORK IS SUSPENDED FOR ANY PERIOD OF TIME AFTER INITIAL START-UP. THE CONTRACTOR SHALL NOTIFY THE TOWN OF ERIE FORTY-EIGHT (48) HOURS PRIOR TO RESTART.

    C. IN THE EVENT OF AN AFTER HOURS EMERGENCY, CALL 303-441-4444.

    D. NOTIFYING THE MOUNTAIN VIEW FIRE PROTECTION DISTRICT OF ALL STREET CLOSURES AND EXISTING FIRE HYDRANTS TAKEN OUT OF SERVICE A MINIMUM OF FORTY-EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION.

14. PRIOR TO INSTALLATION OF UTILITY MAINS, ROAD CONSTRUCTION MUST HAVE COMPLETED THE OVER LOT GRADING STAGE.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. A CONSTRUCTION DEWATERING PERMIT MUST BE OBTAINED FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE). GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS OR EROSION OF ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. THE USE OF ANY SANITARY SEWER TO DISPOSE OF TRENCH WATER WILL NOT BE PERMITTED. NO CONCRETE SHALL BE PLACED WHERE GROUNDWATER IS VISIBLE OR UNTIL THE GROUNDWATER TABLE HAS BEEN LOWERED BELOW THE PROPOSED IMPROVEMENTS. ANY UNSTABLE AREAS, AS A RESULT OF GROUNDWATER, ENCOUNTERED DURING THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE STABILIZED AS AGREED UPON BY THE CONTRACTOR, THE TOWN OF ERIE, AND THE DESIGN ENGINEER AT THE TIME OF THE OCCURRENCE.

16. IT SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO RESOLVE CONSTRUCTION PROBLEMS WITH THE TOWN OF ERIE DUE TO CHANGED CONDITIONS ENCOUNTERED BY THE CONTRACTOR DURING THE PROGRESS OF ANY PORTION OF THE PROPOSED WORK. IF, IN THE OPINION OF THE TOWN OF ERIE, PROPOSED ALTERATIONS TO THE SIGNED CONSTRUCTION PLANS INVOLVES SIGNIFICANT CHANGES TO THE CHARACTER OF THE WORK, OR TO THE FUTURE CONTIGUOUS PUBLIC OR PRIVATE IMPROVEMENTS, THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR SUBMITTING REVISED PLANS TO THE TOWN OF ERIE FOR REVIEW, PRIOR TO ANY FURTHER CONSTRUCTION RELATED TO THAT PORTION OF THE WORK.

17. DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS. THE TOWN OF ERIE OR THE DESIGN ENGINEER EXERCISE NO CONTROLS OVER THE SAFETY OR ADEQUACY OF ANY EQUIPMENT, BUILDING COMPONENTS, SCAFFOLDING, FORMS OR OTHER WORK AIDS USED IN OR ABOUT THE PROJECT, OR IN THE SUPERINTENDING OF THE SAME. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER, THE DESIGN ENGINEER OR THE TOWN. THE TOWN OF ERIE ENGINEERING STAFF, OR ANY CONTRACTED ENGINEER, ARE NOT RESPONSIBLE FOR SAFETY IN, ON OR ABOUT THE PROJECT SITE, NOR FOR COMPLIANCE BY THE APPROPRIATE PARTY OF ANY REGULATIONS RELATING THERETO.

18. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE PROSECUTED TO COMPLETION WITHOUT DELAY SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.

19. REGULAR WORK HOURS ARE SEVEN (7) A.M. UNTIL SEVEN (7) P.M. OR DUSK (WHICHEVER OCCURS FIRST) OF THE SAME DAY, MONDAY THROUGH FRIDAY. THE CONTRACTOR WILL NOT PERMIT OVERTIME WORK OUTSIDE OF REGULAR WORKING HOURS OR THE PERFORMANCE OF WORK ON SATURDAY, SUNDAY OR ANY LEGAL HOLIDAY WITHOUT RECEIVING WRITTEN CONSENT FROM THE PUBLIC WORKS DIRECTOR. REQUESTS FOR WEEKEND WORK APPROVAL MUST BE SUBMITTED, IN WRITING TO THE TOWN OF ERIE NO LATER THAN WEDNESDAYS AT 3:30PM FOR SUBSEQUENT WEEKEND AND REQUESTS FOR HOLIDAY WORK APPROVAL MUST BE SUBMITTED, IN WRITING TO THE TOWN OF ERIE NO LATER THAN 7:00AM-2 BUSINESS DAYS PRIOR TO THE HOLIDAY. ALL EXPENSES INCURRED BY THE TOWN SHALL BE REIMBURSED AT A RATE TO BE DETERMINED BY DIRECTOR OF FINANCE.

20. THE CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FROM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR DEPOSITION OF DEBRIS RESULTING FROM ANY AND ALL WORK. THE OWNER/CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL APPROPRIATE PERMITS FROM BOTH THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT AND THE TOWN OF ERIE FOR ANY PROJECT DISTURBING ONE ACRE OR MORE OR ANY PROJECT LESS THAN ONE ACRE THAT IS PART OF A LARGER COMMON PLAN OF DEVELOPMENT.

21. EACH TYPE OF CONSTRUCTION SHALL BE COMPLETED BY A CONTRACTOR THAT HAS DEMONSTRATED ACCEPTABLE QUALIFICATIONS TO THE TOWN AND IS A LICENSED CONTRACTOR IN THE TOWN OF ERIE.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL DURING CONSTRUCTION. ALL TRAFFIC CONTROLS SHALL CONFORM TO THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) LATEST EDITIONS. A PLAN SHALL BE SUBMITTED TO THE TOWN FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.

23. ALL BACKFILL SHALL CONFORM TO THE TRENCH DETAIL LOCATED IN THE TOWN OF ERIE STANDARDS & SPECIFICATIONS.

24. THE OWNER/OPERATOR IS RESPONSIBLE FOR ENSURING THE IMMEDIATE REMOVAL OF ANY CONSTRUCTION DEBRIS OR MUD TRACKED ONTO EXISTING ROADWAYS.

25. THE CONTRACTOR SHALL REPAIR ANY EXCAVATION OR PAVEMENT FAILURES CAUSED BY HIS CONSTRUCTION.

26. THE CONTRACTOR SHALL RENEW OR REPLACE ANY EXISTING TRAFFIC STRIPING AND/OR PAVEMENT MARKINGS, WHICH HAVE BEEN EITHER REMOVED OR THE EFFECTIVENESS OF WHICH HAS BEEN REDUCED DURING HIS OPERATION. RENEWAL OF PAVEMENT STRIPING AND MARKING SHALL BE DONE IN CONFORMANCE WITH THE TOWN OF ERIE STANDARD SPECIFICATIONS.

27. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO TAKE EVERY MEASURE NECESSARY TO COMPLY WITH ANY STATE, COUNTY OR TOWN DUST CONTROL ORDINANCE.

28. CONSTRUCTION VEHICLES SHALL USE TRUCK ROUTES DESIGNATED BY THE TOWN.

29. THE OWNER/DEVELOPER WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF THE IMPROVEMENTS FOR A MINIMUM OF TWO (2) YEARS FROM THE DATE OF INITIAL ACCEPTANCE OF THE IMPROVEMENTS BY THE TOWN OF ERIE. ANY FAILURE DURING THIS PERIOD OF GUARANTEE SHALL BE REMEDIED BY THE OWNER/CONTRACTOR TO THE SATISFACTION OF THE TOWN OF ERIE AT NO EXPENSE TO THE TOWN.

30. THE SOILS ENGINEER SHALL PERFORM SUFFICIENT INSPECTIONS DURING GRADING AND CONSTRUCTION SO THAT AN OPINION CAN BE RENDERED AND VERIFIED IN WRITING AS TO COMPLIANCE WITH THE PLANS AND CODES WITHIN THE SOILS ENGINEER'S PURVIEW.

GENERAL NOTES – GRADING

1. ALL CONSTRUCTION ACTIVITIES THAT DISTURBS ONE OR MORE ACRES OF LAND, AS WELL AS ACTIVITIES THAT DISTURB LESS THAN ONE ACRE OF LAND, BUT IS PART OF A LARGER COMMON PLAN OF DEVELOPMENT, MUST COMPLY WITH BOTH LOCAL AND STATE REGULATIONS REGARDING STORMWATER DRAINAGE ON CONSTRUCTION SITES. OWNERS OR CONTRACTORS MUST OBTAIN A COLORADO STORMWATER DISCHARGE PERMIT FOR CONSTRUCTION ACTIVITIES FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) AND A GRADING AND STORMWATER QUALITY PERMIT FROM THE TOWN OF ERIE.
   CONTRACTOR SHALL:

   A. MAINTAIN A COPY OF THE STORM WATER MANAGEMENT PLAN (SWMP) ONSITE AT ALL TIMES OR PROVIDE AN UPDATED DIGITAL COPY WITHIN TWO BUSINESS DAYS UPON REQUEST. THE SWMP MUST BE MAINTAINED AND MADE AVAILABLE TO TOWN OF ERIE INSPECTORS UPON REQUEST.

   B. INSTALL AND MAINTAIN EROSION, SEDIMENT, AND MATERIALS MANAGEMENT CONTROL MEASURE AS SPECIFIED IN THE SWMP.

   C. INSPECT ALL CONTROL MEASURES AT LEAST EVERY SEVEN (7) DAYS OR EVERY FOURTEEN (14) DAYS AND WITHIN TWENTY FOUR (24) HOURS AFTER ANY PRECIPITATION OR SNOWMELT EVENT THAT CAUSES SURFACE RUNOFF.

   D. MAINTAIN INSPECTION AND MAINTENANCE RECORDS OF CONTROL MEASURES WITH THE SWMP. COPIES OF THESE REPORTS SHALL BE PROVIDED TO THE TOWN OF ERIE ENGINEERING STAFF.

   E. BASED ON INSPECTIONS PERFORMED BY THE PERMIT HOLDER OR BY TOWN PERSONNEL, MODIFICATIONS TO THE SWMP WILL BE NECESSARY IF AT ANY TIME THE SPECIFIED CONTROL MEASURES DO NOT MEET THE OBJECTIVES OF THE PERMIT. ALL MODIFICATIONS SHALL BE COMPLETED AS SOON AS PRACTICABLE AFTER THE REFERENCED INSPECTION, AND SHALL BE RECORDED ON THE OWNER'S COPY OF THE SWMP.

   F. THE OPERATOR SHALL AMEND THE SWMP WHENEVER THERE IS A SIGNIFICANT CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON THE POTENTIAL FOR DISCHARGE OF POLLUTANTS TO THE RECEIVING WATERS, OR IF THE SWMP PROVES TO BE INEFFECTIVE IN ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

   G. INSTALLATION AND MAINTENANCE OF CONTROL MEASURES SHALL BE SUPERVISED BY PERSONNEL CERTIFIED IN EROSION AND SEDIMENT CONTROL.

   H. ALL APPROPRIATE CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF EACH CONSTRUCTION PHASE.

   I. APPROPRIATE STABILIZED CONSTRUCTION ENTRANCES WITH VEHICLE TRACKING CONTROLS INSTALLED SHALL BE UTILIZED AT ALL TIMES TO REDUCE THE TRACKOUT OF SEDIMENT. IF NONSTRUCTURAL VEHICLE TRACKING CONTROLS ARE UTILIZED, CLEANUP OF TRACKOUT MUST OCCUR AT THE END OF EVERY BUSINESS DAY WITH CONSTRUCTION ACTIVITY OCCURRING.

2. ALL SITE GRADING (EXCAVATION, EMBANKMENT, AND COMPACTION) SHALL CONFORM TO THE RECOMMENDATIONS OF THE LATEST SOILS INVESTIGATION FOR THIS PROPERTY AND SHALL FURTHER BE IN CONFORMANCE WITH THE TOWN OF ERIE "STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS", LATEST EDITION.

3. ALL GRADING AND FILLING OPERATIONS SHALL BE OBSERVED, INSPECTED AND TESTED BY A LICENSED SOILS ENGINEER. ALL TEST RESULTS SHALL BE SUBMITTED TO THE TOWN OF ERIE ENGINEERING STAFF.

4. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATION AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO AVOID ANY DAMAGE TO EXISTING FOLIAGE THAT LIES IN THE PROJECT AREA UNLESS DESIGNATED FOR REMOVAL AND SHALL BE LIABLE FOR SUCH DAMAGE AT HIS/HER EXPENSE.

5. TOPSOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICABLE ON THE SITE FOR USE ON AREAS TO BE RE-VEGETATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROTECTED FROM EROSIVE ELEMENTS. IF MATERIALS ARE STORED OFFSITE, A WRITTEN USE AGREEMENT BETWEEN THE PERMITTEE AND THE OWNER/OPERATOR OF ANY CONTROL MEASURES BEING UTILIZED OUTSIDE OF THE PERMITTED AREA MUST BE MADE AVAILABLE TO TOWN PERSONNEL UPON REQUEST.

6. TEMPORARY VEGETATION/STABILIZATION SHALL BE INSTALLED ON ALL DISTURBED AREAS WHERE PERMANENT SURFACE IMPROVEMENTS ARE NOT SCHEDULED FOR IMMEDIATE INSTALLATION BUT NO LATER THAN FOURTEEN (14) DAYS. SEEDING WILL BE DONE ACROSS THE SLOPE FOLLOWING THE CONTOURS. VEGETATION SHALL CONFORM TO THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS. PROJECT SCHEDULING SHOULD TAKE ADVANTAGE OF SPRING OR FALL PLANTING SEASONS FOR NATURAL GERMINATION. SEEDED AREAS SHALL BE IRRIGATED IN ACCORDANCE WITH THE TOWN OF ERIE'S STANDARDS AND SPECIFICATIONS.

7. AT ALL TIMES, A WATER TRUCK SHALL BE ON-SITE AND THE PROPERTY SHALL BE MAINTAINED AND/OR WATERED TO PREVENT WIND-CAUSED EROSION. EARTHWORK OPERATIONS SHALL BE DISCONTINUED WHEN FUGITIVE DUST SIGNIFICANTLY IMPACTS ADJACENT PROPERTY. IF EARTHWORK IS COMPLETE OR DISCONTINUED AND DUST FROM THE SITE CONTINUES TO CREATE PROBLEMS, THE OWNER/DEVELOPER SHALL IMMEDIATELY INSTITUTE MITIGATIVE MEASURES AND SHALL CORRECT DAMAGE TO ADJACENT PROPERTY.

8. FILL SLOPES SHALL BE COMPACTED BY MEANS OF SHEEPSFOOT COMPACTOR OR OTHER SUITABLE EQUIPMENT. COMPACTING SHALL CONTINUE UNTIL SLOPES ARE STABLE AND THERE IS NOT AN APPRECIABLE AMOUNT OF LOOSE SOIL ON THE SLOPES.

9. TEMPORARY CUT/FILL SLOPES SHALL ABIDE BY THE SOILS REPORT. PERMANENT SLOPES SHALL BE AS SHOWN ON PLANS.

10. DEPTH OF MOISTURE-DENSITY CONTROL SHALL BE FULL DEPTH ON ALL EMBANKMENT AND SIX (6) INCHES ON THE BASE OF CUTS AND FILLS.

11. OUTLET SIDES OF ALL STORM PIPES SHALL BE GRADED TO DRAIN AND SHALL HAVE SUFFICIENT EROSION PROTECTION.

12. THE PERMITTEE OR HIS AGENT SHALL NOTIFY THE SITE GEOTECHNICAL ENGINEER WHEN THE GRADING OPERATION IS READY FOR EACH OF THE FOLLOWING INSPECTIONS:

    A. INITIAL INSPECTION WHEN THE PERMITTEE IS READY TO BEGIN WORK, BUT NOT LESS THAN TWO (2) DAYS BEFORE ANY GRADING OR GRUBBING IS STARTED.

    B. AFTER THE NATURAL GROUND OR BEDROCK IS EXPOSED AND PREPARED TO RECEIVE FILL, BUT BEFORE FILL IS PLACED.

    C. EXCAVATION INSPECTION AFTER THE EXCAVATION IS STARTED BUT BEFORE THE VERTICAL DEPTH OF THE EXCAVATION EXCEEDS TEN (10) FEET.

    D. FILL INSPECTION AFTER THE FILL PLACEMENT IS STARTED, BUT BEFORE THE FILL EXCEEDS TEN (10) FEET.

GENERAL NOTES – ROADWAY

1. ALL STATIONING IS BASED ON CENTERLINE OF ROADWAYS UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL PREPARE THE SUBGRADE BY SCARIFYING THE UPPER ONE (1) FOOT OF THE SUBGRADE IN CUT AREAS OR AREAS WITH LITTLE OR NO FILL, UNLESS SPECIFIED IN THE SOILS REPORT. THE WORK SHALL CONFORM TO THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

3. PAVEMENT SHALL NOT BE CONSTRUCTED UNTIL ALL UNDERGROUND UTILITIES HAVE BEEN INSTALLED, TESTED AND ACCEPTED BY THE TOWN OF ERIE ENGINEERING STAFF.

4. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO SUPERVISE AND CERTIFY THAT PROPER COMPACTION HAS BEEN OBTAINED BY SUBCONTRACTORS AND AGENCIES CONCERNING UTILITY LINE BACKFILL INCLUDING, BUT NOT LIMITED TO, SEWER, WATER, ELECTRICAL, GAS AND LANDSCAPE IRRIGATION LINES AND ACCEPTED BY THE TOWN OF ERIE ENGINEERING STAFF AND THE SOILS ENGINEER.

5. STREET PAVING SHALL NOT START UNTIL:

    A. A SOILS REPORT AND PAVEMENT DESIGN IS ACCEPTED BY THE TOWN OF ERIE ENGINEERING STAFF.

    B. ALL STREETS ARE COMPACTED IN ACCORDANCE WITH THE SOILS REPORT AND THE TOWN OF ERIE SPECIFICATIONS.

    C. ALL COMPACTION TEST REPORTS HAVE BEEN SUBMITTED TO THE TOWN ENGINEERING STAFF PRIOR TO PROOF ROLLS.

    D. PROOF ROLLS ARE PERFORMED USING A LOADED SINGLE AXLE 2000 GALLON WATER TRUCK AND MONITORED BY THE TOWN OF ERIE ENGINEERING STAFF.

6. THE OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL UTILITY MANHOLE COVERS AND ACCESS LIDS TO GRADE.

7. ALL CONCRETE SHALL BE A MINIMUM OF CLASS B, IN CONFORMANCE WITH CDOT STANDARDS.

8. ALL CONCRETE EDGES MUST BE ROUNDED TO A FOURTH (1/4) INCH RADIUS, EXCEPT WHERE SHOWN OTHERWISE ON DRAWINGS.

9. ONE HALF (1/2) INCH EXPANSION JOINTS SHALL BE INSTALLED AT ALL CURB RETURNS, CURB CUTS AND EXISTING STRUCTURES. CONTROL JOINTS SHALL BE INSTALLED PER THE TOWNS STANDARDS AND SPECIFICATIONS.

10. BEFORE PLACING OF ASPHALT THE SUBGRADE SHALL RECEIVE A GROUND STERILANT APPLIED AT A RATE IN ACCORDANCE TO MANUFACTURERS RECOMMENDATIONS.

11. THE GRADATION OF THE MINERAL AGGREGATE WILL BE GRADING SX (½" NOMINAL) FOR ALL TOP LIFTS AND OVERLAYS.

12. TACK COAT SHALL BE USED PRIOR TO OVERLAY, (CSS-1H), 50:50 DILUTION, 0.10 GAL/SY. ALL EDGES ABUTTING NEW PAVEMENT SHALL BE TACKED.

13. WHEN IT IS REQUIRED TO MATCH EXISTING PAVEMENT, EXISTING PAVEMENT SHALL BE SAW CUT IN A MANNER TO AFFECT A SMOOTH, VERTICAL STRAIGHT CUT EDGE. T PATCH MILLING MUST BE DONE PER STANDARD DETAILS.

14. ALL SAWCUT EDGES OF EXISTING PAVEMENT SHALL BE CLEAN AND COATED WITH TACK COAT PRIOR TO PLACING NEW PAVEMENT ADJACENT TO THE EXISTING PAVEMENT.

15. ALL ASPHALT SHALL BE ONE FOURTH (1/4) INCH ABOVE CONCRETE EDGES, MANHOLE COVERS AND ACCESS LIDS.

16. SIGNAGE AND STRIPING SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, THE COLORADO DEPARTMENT OF TRANSPORTATION M&S STANDARDS, AND THE TOWN OF ERIE STANDARD DESIGN CRITERIA AND STANDARD CONSTRUCTION REQUIREMENTS.

17. THE PURCHASE AND INSTALLATION OF STREET NAME SIGNS SHALL BE THE RESPONSIBILITY OF THE OWNER/CONTRACTOR. THE OWNER/CONTRACTOR SHALL SECURE THE APPROVAL OF THE TOWN OF ERIE ENGINEERING STAFF FOR TYPE AND LOCATION OF THE STREET NAME SIGNS PRIOR TO INSTALLATION.

18. ALL NEW ROADWAY SECTIONS SHALL HAVE SUBGRADE PREPARATION AND INITIAL ASPHALT PAVEMENT PLACED WITH A 1% CROWN. FINAL OVERLAY IS TO BE PLACED WITH A 2% CROWN. SEE DETAIL ST7 IN THE 'STANDARD DETAILS-STREET' FOR MORE INFORMATION.

19. DETERMINATION OF CROWN FOR CUL DE SAC PAVING SHALL BE EVALUATED ON A CASE BY CASE BASIS.

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: AEM
CHECKED BY: MSM
DRAWN BY: AEM

HKS HARRIS KOCHER SMITH
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HarrisKocherSmith.com

Evergreen
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OUTLOOK AT NINE MILE
GENERAL NOTES

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

SHEET NO.
2
2 OF 60

FILEPATH: P:\160602\ENGINEERING\CD\CD - GENERAL NOTES.DWG LAYOUT: GENERAL NOTES 1
NO XREFS
PLOTTED: THU 11/07/19 @ 2:57P BY: RACHEL PATTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

GENERAL NOTES – SEWER

1. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING SEWERS TO BE CONNECTED TO PRIOR TO CONSTRUCTION STAKING.
2. CONNECTION TO EXISTING TOWN OF ERIE LINES WILL BE PERMITTED UPON INITIAL ACCEPTANCE OF THE NEW SANITARY SEWER SYSTEM. EXISTING PIPE AT THE POINT OF CONNECTION SHALL NOT BE "BROKEN OUT" UNTIL THE NEW SYSTEM IS ACCEPTED. IF CONNECTING TO AN EXISTING MANHOLE, THE NEW LINE SHALL BE PLUGGED UNTIL THE NEW SYSTEM IS ACCEPTED.
3. MINIMUM VERTICAL SEPARATIONS BETWEEN ALL UTILITY PIPES SHALL BE EIGHTEEN (18) INCHES. IF VERTICAL SEPARATIONS ARE LESS THAN EIGHTEEN (18) INCHES, THE UTILITY PIPES SHALL BE REINFORCED AND PROTECTED AS REQUIRED BY CURRENT TOWN STANDARD SPECIFICATIONS.
4. WATER AND SANITARY SEWER LINES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET. WHEN A TEN (10) FOOT SEPARATION IS NOT PROVIDED OR WHEN SEWER LINES CROSS WATER LINES WITH LESS THAN ONE AND ONE–HALF (1½) FEET OF VERTICAL SEPARATION, SEWER LINE JOINTS SHALL BE CONCRETE ENCASED. FOR PERPENDICULAR CROSSINGS, ENCASED JOINTS SHALL EXTEND TEN (10) FEET, PERPENDICULAR TO THE WATER LINE IN BOTH DIRECTIONS.
5. ALL SANITARY SEWER SERVICES AND WATER SERVICES ARE TO BE TEN (10) FEET APART.
6. SERVICE LATERALS SHALL EXTEND FIVE (5) FEET BEYOND RIGHTS OF WAY OR UTILITY EASEMENTS, WHICHEVER IS GREATER. THE ENDS SHALL BE MARKED BY A GREEN PAINTED WOOD POST UNTIL CURB AND GUTTER IS IN PLACE. WHEN CURB AND GUTTER IS IN PLACE THE LATERALS SHALL BE MARKED ON THE CONCRETE CURB FACE WITH AN "S" OR "X".
7. THE LENGTH OF SANITARY SEWER LINE IS THE HORIZONTAL DISTANCE BETWEEN CENTER OF MANHOLE TO CENTER OF MANHOLE. THEREFORE, THE DISTANCES INDICATED ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND MANHOLE DIMENSIONS.
8. SERVICE LINE CONNECTIONS TO DEAD END MANHOLES THAT HAVE NO FURTHER POSSIBILITY OF EXTENSION SHALL BE ALLOWED AND SHALL HAVE A MINIMUM DROP OF 0.75 X MAIN DIAMETER. SERVICE LINE CONNECTIONS TO IN–LINE MANHOLES ARE NOT PERMITTED. MINIMUM SERVICE LINE SLOPE; 4 INCHES=2%; 6 INCHES= 1%; 8 INCHES=0.4%
9. ALL FOUR (4) THROUGH FIFTEEN (15) INCH SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) AND SHALL BE IN ACCORDANCE WITH ASTM D–3034–SDR35, "STANDARD SPECIFICATION FOR PVC SEWER PIPE AND FITTINGS". ANY SANITARY SEWER HAVING A DEPTH IN EXCESS OF FIFTEEN (15) FEET SHALL BE COORDINATED WITH THE PUBLIC WORKS DEPARTMENT.
10. BEDDING MATERIAL SHALL CONFORM TO TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
11. WARNING TAPE SHALL BE INSTALLED 12" MINIMUM AND 18" MAXIMUM ABOVE SEWER PIPE.
12. PRECAST CONCRETE MANHOLE SECTIONS SHALL BE IN ACCORDANCE WITH ASTM C–478. MANHOLE STEPS SHALL BE POLYPROPYLENE COVERED STEEL CONFORMING TO ASTM. D–4101 AND ASTMA–615. CAST IRON RING AND COVER SHALL CONFORM TO ASTM A–48.
13. MANHOLES SHALL BE A MINIMUM FOUR (4) FOOT DIAMETER AND CONSTRUCTED PER THE STANDARDS AND SPECIFICATIONS.
14. THE CONTRACTOR SHALL TAKE CARE TO PROPERLY SHAPE ALL MANHOLE INVERTS AND BENCHES IN ACCORDANCE WITH THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS, TO PROMOTE SMOOTH FLOW THROUGH THE MANHOLE. INVERTS OF LINES INTERSECTING AT 90 DEGREES AND AT HIGHLY DIVERGENT OR FLAT SLOPES ARE ESPECIALLY CRITICAL. MANHOLE INVERTS SHALL BE CONSTRUCTED WITH A SMOOTH TROWEL FINISH, AND BENCH FINISHED WITH A LIGHT BROOMED, NON–SKID, FINISH.
15. SEWER TEES AND/OR WYES SHALL BE STAKED BY A SURVEY CREW. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER "AS–CONSTRUCTED" LOCATION OF TEES AND WYES. ALL SERVICE LINES ARE FOUR (4) INCH UNLESS OTHERWISE NOTED.
16. THE CONTRACTOR, AT THE OWNER'S EXPENSE, WILL MAKE ALL SEWER SERVICE TAPS.
17. PRIOR TO BACKFILL THE TOWN OF ERIE ENGINEERING STAFF SHALL INSPECT ALL SANITARY SEWER MAINS AND SERVICE EXTENSIONS.
18. MANHOLE RIMS SHALL BE SET AT AN ELEVATION RELATIVE TO THE PAVEMENT, IN ACCORDANCE WITH THE TOWN OF ERIE STANDARDS. WHETHER THE MANHOLE IS AT PAVED OR UNPAVED GRADE, A MINIMUM OF ONE (1) AND A MAXIMUM OF FOUR (4) CONCRETE RINGS SHALL BE USED TO ADJUST THE RIM ELEVATION TO FINAL GRADE. THE MAXIMUM ACCEPTABLE VERTICAL ADJUSTMENT UTILIZING CONCRETE RINGS IS EIGHTEEN (18) INCHES.
19. INITIAL ACCEPTANCE OF THE NEW SANITARY SEWER MAINS IS CONTINGENT UPON COMPLETION OF ITEMS LISTED IN THE TOWNS STANDARDS AND SPECIFICATIONS.

GENERAL NOTES – STORM DRAIN

1. EXCEPT WHERE NOTED, ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE, CLASS III AND SHALL CONFORM TO REQUIREMENTS OF ASTM C76. ALL RCP SHALL HAVE RUBBER GASKETED JOINTS AND SHALL CONFORM TO REQUIREMENTS OF ASTM C443, AND SHALL PROVIDE WATERTIGHT PERFORMANCE CHARACTERISTICS.
2. TONGUE AND GROOVE JOINTS SHALL NOT BE ALLOWED.
3. THE MINIMUM COVERAGE FOR ALL STORM DRAINAGE PIPES SHALL BE 1.5 FEET FOR CLASS III PIPE AND 1 FOOT FOR CLASS IV PIPE.
4. BEDDING MATERIAL SHALL CONFORM TO TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
5. ALL MANHOLES SHALL BE CONCRETE AND CONFORM TO CDOT STANDARD M–604–20.
6. THE MINIMUM MANHOLE DIAMETER SHALL BE AS SPECIFIED BELOW:

PIPE DIAMETER	MANHOLE SIZE
15" TO 18"	4' DIAMETER
21" TO 42"	5' DIAMETER
48" TO 54"	6' DIAMETER
60" AND LARGER	BOX BASE MANHOLE

7. ALL STREET INLETS SHALL BE CURB OPENING TYPE R CONFORMING TO CDOT STANDARD M–604–12, EXCEPT WHERE OTHERWISE NOTED.
8. ALL INLET ACCESS COVERS SHALL HAVE THE WORDS 'NO DUMPING–DRAINS TO RIVERS' AND 'STORM SEWER' CAST INTO THE COVER PER TOWN OF ERIE STANDARD DETAIL.
9. ALL END SECTIONS SHALL CONFORM TO CDOT STANDARD M–603–10.
10. WHERE RIPRAP OR GROUTED BOULDERS ARE CALLED FOR ON THE PLANS FOR EROSION CONTROL, IT SHALL CONFORM TO THE URBAN STORM DRAINAGE CRITERIA MANUAL SPECIFICATIONS (LATEST REVISION).

GENERAL NOTES – WATER

1. AT ALL POINTS OF CONNECTION OF NEW WATER MAINS TO EXISTING MAINS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATING AND VERIFYING LOCATION OF THE EXISTING LINES PRIOR TO ANY CONSTRUCTION.
2. EXCEPT IN CASE OF AN EMERGENCY, VALVES ON THE TOWN OF ERIE WATER SYSTEM SHALL BE OPERATED BY OR UNDER THE DIRECTION OF THE APPROPRIATE TOWN OF ERIE PERSONNEL. THE CONTRACTOR SHALL GIVE THE TOWN OF ERIE ENGINEERING STAFF 48 HOURS NOTICE TO ARRANGE FOR OPERATING VALVES. BOTH THE CONTRACTOR AND THE APPROPRIATE TOWN OF ERIE PERSONNEL SHALL BE PRESENT WHEN THE VALVES ARE OPERATED.
3. WATER AND SANITARY SEWER LINES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET. WHEN A TEN (10) FOOT SEPARATION IS NOT PROVIDED OR WHEN SEWER LINES CROSS WATER LINES WITH LESS THAN ONE AND ONE–HALF (1½) FEET OF VERTICAL SEPARATION, SEWER LINE JOINTS SHALL BE CONCRETE ENCASED. FOR PERPENDICULAR CROSSINGS, ENCASED JOINTS SHALL EXTEND TEN (10) FEET, PERPENDICULAR TO THE WATER LINE IN BOTH DIRECTIONS.
4. ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR AND ONE–HALF (4½) FEET OF COVER AND BE LOCATED A MINIMUM OF TEN (10) FEET FROM THE SANITARY SEWER AND THREE (3) FEET FROM THE EDGE OF CONCRETE CURB AND GUTTER PAN.
5. CHANGES IN DIRECTION OF WATERLINE PIPE GREATER THAN ONE DEGREE SHALL REQUIRE FITTINGS IN ALL INSTANCES. AXIAL DEFLECTION AT THE JOINTS SHALL NOT BE IN EXCESS OF MANUFACTURER'S RECOMMENDATION OR IN NO CASE MORE THAN ONE DEGREE.
6. WHEN IT IS NECESSARY TO DEPRESS WATER LINES AT UTILITY CROSSINGS, A MINIMUM CLEARANCE OF ONE AND ONE–HALF (1–1/2) FEET SHALL BE MAINTAINED BETWEEN OUTSIDES OF PIPE.
7. DISTANCES FOR WATER LINES ARE THE HORIZONTAL DISTANCE BETWEEN THE CENTERS OF THE FITTINGS. THEREFORE, DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND FITTING DIMENSIONS.
8. ALL WATER LINE VALVES SHALL BE SET ADJACENT TO THE TEE, EXCEPT FOR POINTS THAT FALL IN THE FLOW LINE OF A CONCRETE CROSS PAN. IN WHICH CASE, THE VALVE SHALL BE LOCATED SO THAT SURFACE DRAINAGE DOES NOT INFILTRATE THE VALVE BOX. VALVE BOXES SHALL BE SET AT AN ELEVATION IN ACCORDANCE WITH TOWN PAVING REQUIREMENTS.
9. ALL WATER MAINS SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE PIPE UNLESS SPECIFIED OTHERWISE. NOMINAL PVC PIPE SIZES 6–INCH THROUGH 12–INCH SHALL CONFORM TO ALL REQUIREMENTS OF AWWA STANDARD C–900, PRESSURE CLASS 150 (DR18). NOMINAL PVC PIPE SIZES 16–INCH THROUGH 24–INCH SHALL CONFORM TO ALL REQUIREMENTS OF AWWA STANDARD C–905, PRESSURE CLASS 165 (DR25). ALL PVC PIPES SHALL HAVE OUTSIDE DIAMETERS EQUIVALENT TO CAST IRON PIPE.
10. FIRE HYDRANT ASSEMBLY INCLUDES THE FIRE HYDRANT, SIX (6) INCH VALVE, AND SIX (6) INCH PIPE. INSTALLATION SHALL BE IN ACCORDANCE WITH THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
11. ALL FITTINGS SHALL BE MADE FROM DUCTILE IRON, FURNISHED WITH MECHANICAL JOINT ENDS OR INTEGRAL RESTRAINED JOINTS, AND SHALL HAVE A PRESSURE RATING OF 350 PSI.
12. POLYETHYLENE WRAPPING SHALL BE INSTALLED AROUND ALL DUCTILE IRON PIPES, FITTINGS, VALVES, FIRE HYDRANT BARRELS AND ROD AND CLAMPS. THE POLYETHYLENE SHALL HAVE A MINIMUM THICKNESS OF EIGHT (8) MILS, IN ACCORDANCE WITH AWWA STANDARD C–105.
13. ALL WATER LINE PIPE SHALL BE PROVIDED WITH A MINIMUM GAGE SIZE OF 12 SINGLE STRAND INSULATED COPPER WIRE. SPLICES IN TRACER WIRE SHALL BE CAPPED IN WATER PROOF GEL CAP TYPE CONNECTORS SUITED FOR DIRECT BURY APPLICATION (3M TYPE DBY–6 LOW VOLTAGE OR EQUAL). WIRE SHALL BE ATTACHED TO TOP OF WATER LINE WITH 2–INCH WIDE PVC TAPE @ 5–FT INTERVALS ALONG PIPE TRACER WIRE SHALL EXTEND TO THE SURFACE AND BE COILED IN A LOCATE BOX AT THE BACKSIDE OF EITHER EACH FIRE HYDRANT OR VALVE. UNDER THE SUPERVISION OF TOWN OF ERIE ENGINEERING STAFF, TEST SHALL BE MADE BY THE CONTRACTOR @ THE COMPLETION OF CONSTRUCTION TO INSURE THAT THE TRACER WIRES CARRY A CONTINUOUS CURRENT BETWEEN ALL ACCESS POINTS.
14. WARNING TAPE SHALL BE INSTALLED 12" MINIMUM AND 18" MAXIMUM ABOVE WATER PIPE.
15. BEDDING MATERIAL SHALL CONFORM TO TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
16. VALVES SHALL OPEN COUNTER CLOCKWISE. VALVES 12–INCH AND SMALLER SHALL BE RESILIENT SEAT GATE VALVES. LARGER VALVES SHALL BE BUTTERFLY VALVES.
17. VALVE BOXES SHALL BE RAISED TO ONE–FOURTH (1/4) INCH BELOW GRADE AFTER COMPLETION OF SURFACE PAVING OR FINAL GRADING. VALVE BOXES IN NON–PAVED AREAS SHALL HAVE A CONCRETE COLLAR AROUND THE VALVE LID IN ACCORDANCE WITH THE DETAIL.
18. ALL SERVICE LINE TAPS SHALL HAVE DOUBLE STRAP BRASS TAPPING SADDLES. (ROMAC 202B OR APPROVED EQUAL).
19. ALL RESIDENTIAL WATER TAPS SHALL BE THREE–QUARTER (3/4) INCH OR AS REQUIRED BY THE CURRENT BUILDING CODE.
20. ALL WATER SERVICE LATERALS SHALL EXTEND FIVE (5) FEET BEYOND RIGHT OF WAY OR UTILITY EASEMENTS, WHICHEVER IS GREATER. THE ENDS SHALL BE MARKED BY A BLUE PAINTED WOOD POST UNTIL CURB AND GUTTER IS IN PLACE. WHEN CURB AND GUTTER IS IN PLACE THE LATERALS SHALL BE MARKED ON THE CONCRETE CURB FACE WITH A "V" OR "W".
21. CONCRETE THRUST BLOCKS AND/OR "MEGA–LUG" MECHANICAL RESTRAINTS ARE REQUIRED AT ALL MECHANICAL FITTINGS. THRUST BLOCKS MAY NOT BE REQUIRED IF PIPE RESTRAINT IS PROVIDED IN ACCORDANCE WITH RESTRAINED PIPE DETAIL.
22. NO WORK SHALL BE BACKFILLED (INCLUDING BEDDING MATERIAL ABOVE THE SPRING LINE OF THE PIPE) UNTIL THE CONSTRUCTION HAS BEEN INSPECTED AND APPROVED FOR BACKFILLING BY THE TOWN OF ERIE ENGINEERING STAFF.
23. ONLY ONE CONNECTION TO THE EXISTING WATER DISTRIBUTION SYSTEM SHALL BE MADE UNTIL ALL HYDROSTATIC TESTING, CHLORINATION AND FLUSHING HAS BEEN COMPLETED.
24. DISINFECTION AND HYDROSTATIC TESTING SHALL BE DONE IN THE PRESENCE OF A TOWN OF ERIE ENGINEERING STAFF. CONTACT THE TOWN OF ERIE DEPARTMENT OF PUBLIC WORKS, FORTY–EIGHT (48) HOURS PRIOR TO DISINFECTING AND/OR TESTING.
25. DISINFECTION AND FLUSHING SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE COLORADO DEPARTMENT OF HEALTH AND THE PROCEDURE SET FORTH IN AWWA C651, "STANDARD FOR DISINFECTING WATER MAINS". THE CHLORINATION OF THE WATER LINE SHALL BE PERFORMED PRIOR TO THE HYDROSTATIC TESTING. ALL VALVES, FIRE HYDRANTS AND OTHER APPURTANCES SHALL BE OPERATED WHILE PIPELINE IS FILLED WITH THE CHLORINATING AGENT TO INSURE THAT HIGH CHLORINE CONTACT IS MADE WITH ALL INTERNAL SURFACES.
26. ALL WATER LINES SHALL BE HYDROSTATIC TESTED. PRESSURE AN LEAKAGE TESTS SHALL BE CONDUCTED ACCORDING TO THE APPLICABLE SECTIONS OF AWWA C600/605 TO A MINIMUM PRESSURE OF ONE HUNDRED AND FIFTY (150) POUNDS PER SQUARE (PSI) INCH AT THE LOW POINT OF THE SECTION BEING TESTED FOR THE DURATION OF TWO (2) HOURS. THE MAXIMUM LENGTH OF LINE TO BE TESTED SHALL BE ONE THOUSAND (1,000) FEET. ALL JOINTS IN CONNECTIONS ARE TO BE WATERTIGHT WITHIN TOLERANCES ALLOWED BY THE SPECIFICATIONS IN AWWA C600/605. ANY LEAKAGE THAT IS DISCOVERED BY OBSERVATION OR TESTS SHALL BE LOCATED AND MADE WATERTIGHT BY THE CONTRACTOR. PRESSURE AND LEAKAGE TESTS SHALL NOT BE CONDUCTED UNTIL THE LINE HAS PASSED ALL REQUIRED DISINFECTION TESTS.
27. INITIAL ACCEPTANCE OF THE NEW WATER LINES ARE CONTINGENT UPON RECEIVING COPIES OF:
    A. WATER TRENCH COMPACTION TEST RESULTS
    B. HYDRO STATIC TESTING OF 100% OF THE SYSTEM
    C. HEALTH DEPARTMENT TESTS. (CHLORINE AND/OR CLEAR WATER AS REQUIRED)
28. ALL METER PITS AND CURB STOPS SHALL BE PROTECTED AT THE TIME OF INSTALLATION WITH A MINIMUM OF THREE (3) T–POSTS AND ORANGE SAFETY FENCE. THE T–POST AND SAFETY FENCE SHALL REMAIN IN PLACE AND IN GOOD CONDITION UNTIL THE LANDSCAPING IS INSTALLED.
29. ALL WATER VAULTS SHALL BE WATER TIGHT. CONTRACTOR SHALL SEAL VAULTS TO ENSURE SURFACE WATER DOES NOT INFILTRATE INTO THE VAULTS. VAULT LIDS SHALL BE PLACED TO ENSURE THAT SURFACE WATER DOES NOT FLOW INTO THE VAULTS.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: AEM
CHECKED BY: MSM
DRAWN BY: AEM

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OUTLOOK AT NINE MILE
GENERAL NOTES

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

SHEET NO.
3
3 OF 60

FILEPATH: P:\160602\ENGINEERING\CD\CD - GENERAL NOTES.DWG LAYOUT: GENERAL NOTES 2
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OWNER: PATRICK &
DEBRA GONZALES
LEGAL: 10 AC TR 4114
34-1N-69 PER DEED
1434442
RECEPTION NO. 1434442

OWNER: TOWN OF ERIE
LEGAL: OUTLOT C ARAPAHOE RIDGE
FLG 2 AMENDMENT 1

TRACT G

ARAPAHOE ROAD
ROW VARIES

OWNER: TOWN OF ERIE
LEGAL: TRACT C ARAPAHOE RIDGE
FLG 4 AMENDED

OWNER: PATRICK & DEBRA GONZALES
LEGAL: 10 AC TR 4114 34-1N-69
PER DEED 1434442
RECEPTION NO. 1434442

OWNER: MATTHEW & KRISTEN STARR
LEGAL: TR 4869 LESS 4869A 7.10
AC 34-1N-69
RECEPTION NO. 03191798

OWNER: CITY OF LAYAYETTE
LEGAL: TRACTS C & D & E BEACON
HILL REPLAT
TRACT D

TRACT H

SEE SHEET 5 FOR
DETAILED SITE PLAN

SEE SHEET 6 FOR
DETAILED SITE PLAN

SEE SHEET 7 FOR
DETAILED SITE PLAN

CH

TRASH

TRACT F

TRACT A

REPLAT OF BEACON HILL SUBDIVISION
BLOCK 2, LOTS 1 TO 5
RECEPTION NO. 487195

REPLAT OF BEACON
HILL SUBDIVISION
BLOCK 1, LOTS 1 TO
14
RECEPTION NO.
487195

NINE MILE CORNER
COMMERCIAL PROPERTY

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CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

50 0 50 100
SCALE: 1" = 50'

DESIGNED BY: TJS
CHECKED BY: MSM
DRAWN BY: TJS

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OUTLOOK AT NINE MILE
OVERALL SITE PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

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CONSTRUCTION

SHEET NO.
4
4 OF 60

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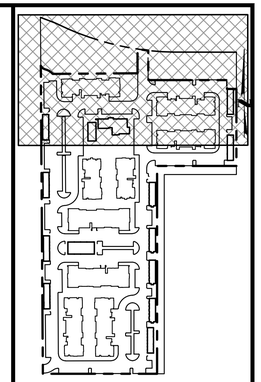

KEY MAP
SCALE: 1" = 250'

OWNER: TOWN OF ERIE
LEGAL: TRACT C ARAPAHOE RIDGE
FLG 4 AMENDED

OWNER: TOWN OF ERIE
LEGAL: OUTLOT C ARAPAHOE RIDGE
FLG 2 AMENDMENT 1

ARAPAHOE STREET
(ROW VARIES)

EX ROW
(TYP)

TRACT F

35.9' DRIVE CUT
(BYOT)

PR FENCE
(TYP)

TRACT G

PR
DETENTION
BASIN

100'
BLDG SETBACK

8'
SW-TBC

8'
TBC-SW

PR RETAINING
WALL (TYP)

PR FENCE
(TYP)

PROPERTY
LINE

PED CONNECTION TO
NINE MILE CORNER

PROPERTY
LINE

16.92'
BLDG-℄

PR SPEED
LIMIT SIGN

PR TRANSFORMER (TYP)

PR SPEED
LIMIT SIGN

PR RETAINING &
SCREEN WALL

71.7'
℄-BLDG

5'
LDSC BUFFER

9.31'
℄-TBC

20'
PRIMARY
BLDG SETBACK

NINE MILE CORNER
COMMERCIAL PROPERTY

TRASH

PR 30'
UTILITY ESMT

26'
DRIVE

PROPERTY
LINE

5'
℄-BLDG

49.11'
BLDG-TBC

PR FH

PR 30'
UTILITY ESMT

26'
℄-℄

5'

11'

9'

18.5'
(TYP)

LOT 11
MULTIFAMILY RESIDENTIAL

PR FH

HANDICAP VAN
PARKING

7'
WALK

CH

CH

7'
WALK

26'
DRIVE

7'
WALK

PR FH

9'
(TYP)

7'
WALK

26'
℄-℄

PR 30'
UTILITY ESMT

10' BLDG
SETBACK

OWNER: PATRICK &
DEBRA GONZALES
LEGAL: 10 AC TR 4114
34-1N-69 PER DEED
1434442
RECEPTION NO. 1434442

10.35'
BLDG-℄

PROPERTY
LINE

TRASH

49.63'
BLDG-BLDG

5'
WALK

PR 30'
UTILITY ESMT

TRASH

MATCHLINE - SEE SHEET 6

LEGEND:

- PROPERTY BOUNDARY
- ACCESSIBLE ROUTE
- RIGHT-OF-WAY
- BUILDING SETBACK
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING ENTRANCE
- PROPOSED HANDICAP RAMP
- SURFACE PARKING COUNT
- SURFACE COMPACT PARKING COUNT
- TANDEM PARKING COUNT
- GARAGE PARKING COUNT
- BUILDING NUMBER AND TYPE
- RETAINING WALL
- CONCRETE

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

30 0 30 60
SCALE: 1" = 30'

DESIGNED BY: TJS
CHECKED BY: MSM
DRAWN BY: TJS

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OUTLOOK AT NINE MILE
DETAILED SITE PLAN

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

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SHEET NO.
5
5 OF 60

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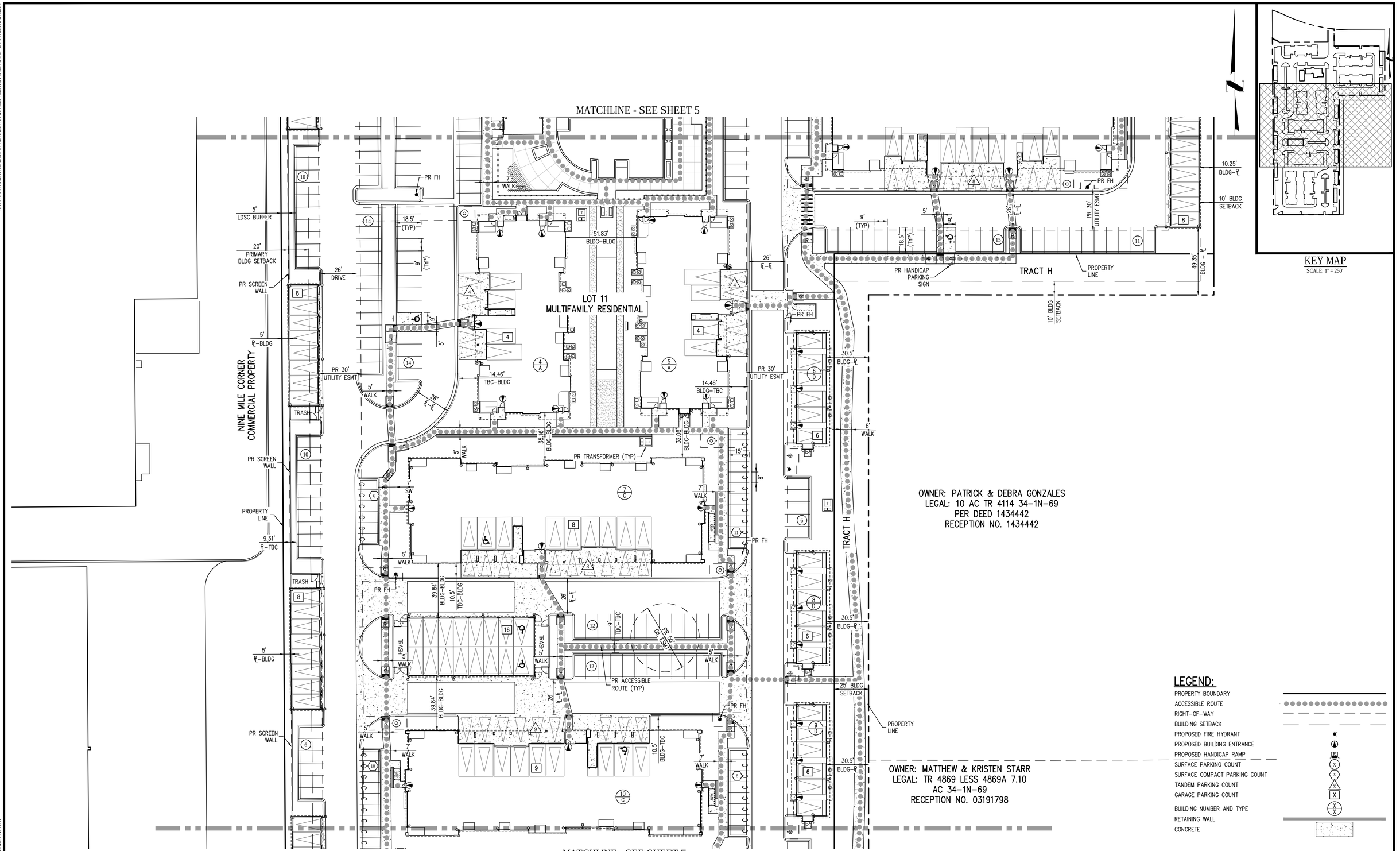

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30 0 30 60
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DRAWN BY: TJS

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DETAILED SITE PLAN

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

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SHEET NO. 6

6 OF 60

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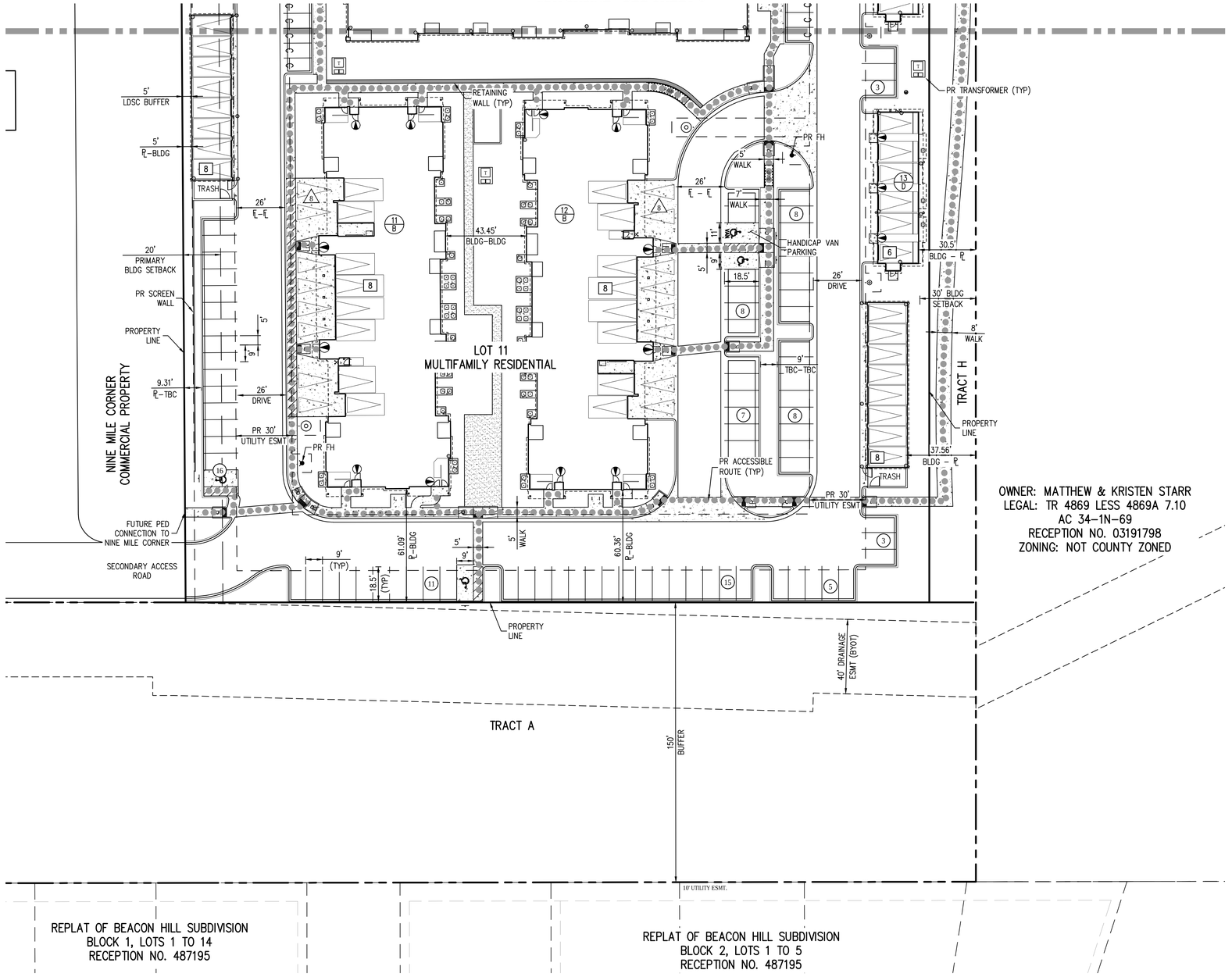
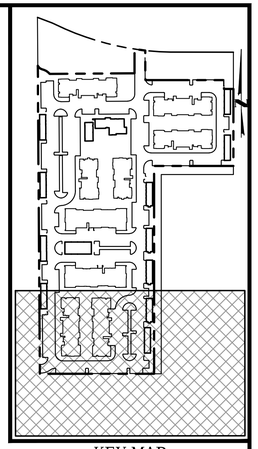
MATCHLINE - SEE SHEET 6





KEY MAP
SCALE: 1" = 250'

OWNER: MATTHEW & KRISTEN STARR
LEGAL: TR 4869 LESS 4869A 7.10
AC 34–1N–69
RECEPTION NO. 03191798
ZONING: NOT COUNTY ZONED

LEGEND:

- PROPERTY BOUNDARY
- ACCESSIBLE ROUTE
- RIGHT–OF–WAY
- BUILDING SETBACK
- PROPOSED FIRE HYDRANT
- PROPOSED BUILDING ENTRANCE
- PROPOSED HANDICAP RAMP
- SURFACE PARKING COUNT
- SURFACE COMPACT PARKING COUNT
- TANDEM PARKING COUNT
- GARAGE PARKING COUNT
- BUILDING NUMBER AND TYPE
- RETAINING WALL
- CONCRETE

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OUTLOOK AT NINE MILE
DETAILED SITE PLAN

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SHEET NO.
7
7 OF 60

FILEPATH: P:\160602\ENGINEERING\CIVCD - DETAILED SITE PLAN.DWG LAYOUT: LAYOUT3
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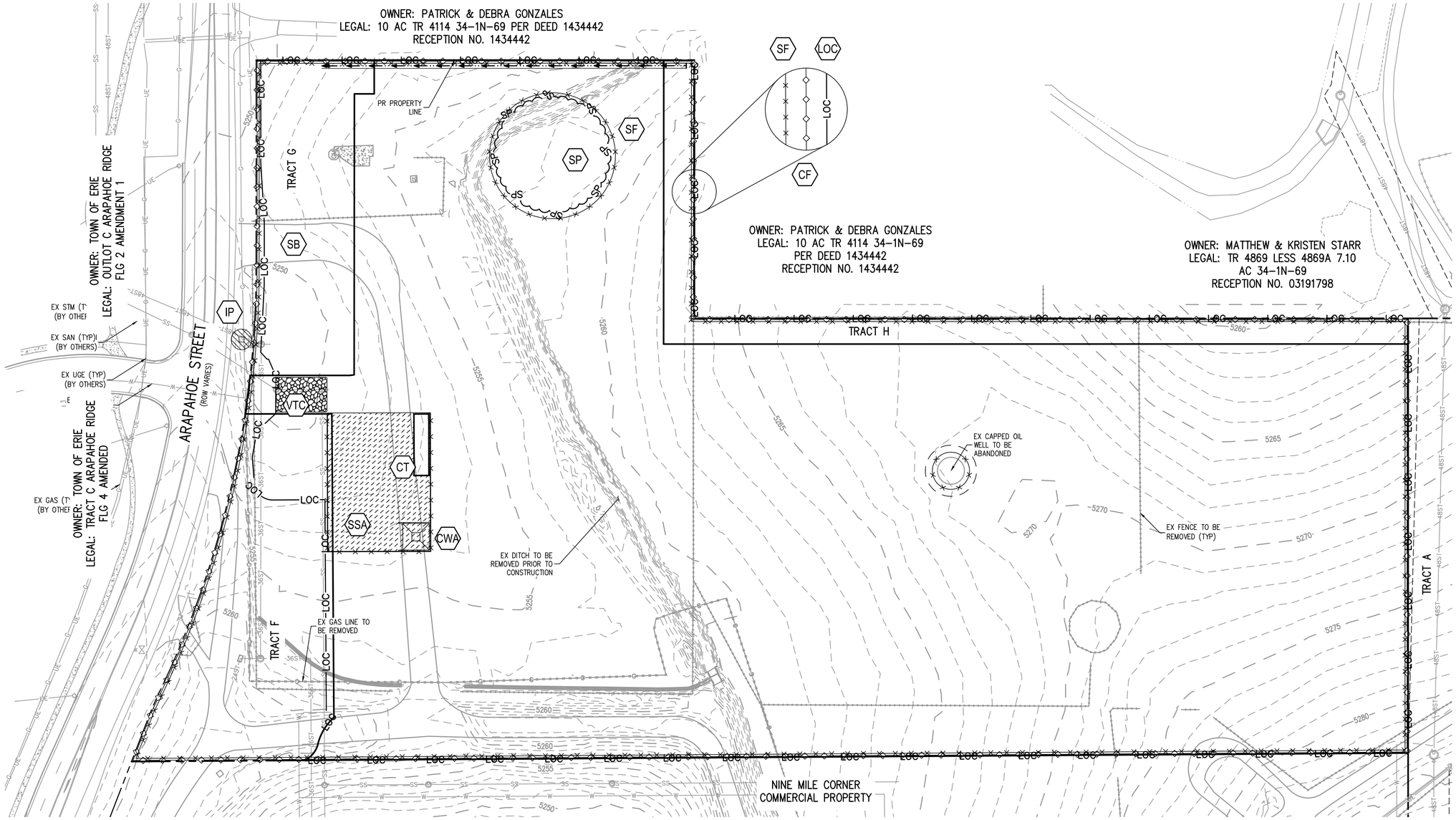

LEGEND:

- PROPERTY BOUNDARY
- EXISTING CONTOURS
- 100-YEAR FLOODPLAIN
- WETLANDS
- EXISTING WATER LINE
- EXISTING STORM MAIN
- EXISTING SANITARY SEWER
- LOC — LIMITS OF CONSTRUCTION
- CF — CONSTRUCTION FENCE
- SF — SILT FENCE
- RS — ROCK SOCK
- IP — INLET PROTECTION
- CWA — CONCRETE WASHOUT AREA
- SSA — STABILIZED STAGING AREA
- VTC — VEHICLE TRACKING CONTROL
- CT — CONSTRUCTION TRAILER
- SP — SOIL STOCKPILE
- SB — SEDIMENT BASIN

NOTES:

1. CONTRACTOR SHALL SEED AND MULCH ANY AREAS WHICH ARE TO REMAIN UNDISTURBED FOR MORE THAN FOURTEEN (14) DAYS.
2. FINAL STABILIZATION SHALL BE IN ACCORDANCE WITH FORMAL LANDSCAPING SHOWN ON THE APPROVED LANDSCAPE PLANS.
3. THE SEDIMENT BASIN IS ALSO BEING USED AS THE EXTENDED DETENTION BASIN. FULL STABILIZATION SHALL BE ACHIEVED WITHIN THE PERMANENT SEDIMENT CONTROL FACILITY BEFORE THE TERMINATION OF THE STORMWATER CONSTRUCTION ACTIVITY PERMIT.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

50 0 50 100
SCALE: 1" = 50'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

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OUTLOOK AT NINE MILE
EROSION CONTROL PLAN INITIAL

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 8

8 OF 60

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN INITIAL.DWG LAYOUT: EROSION CONTROL PLAN INITIAL
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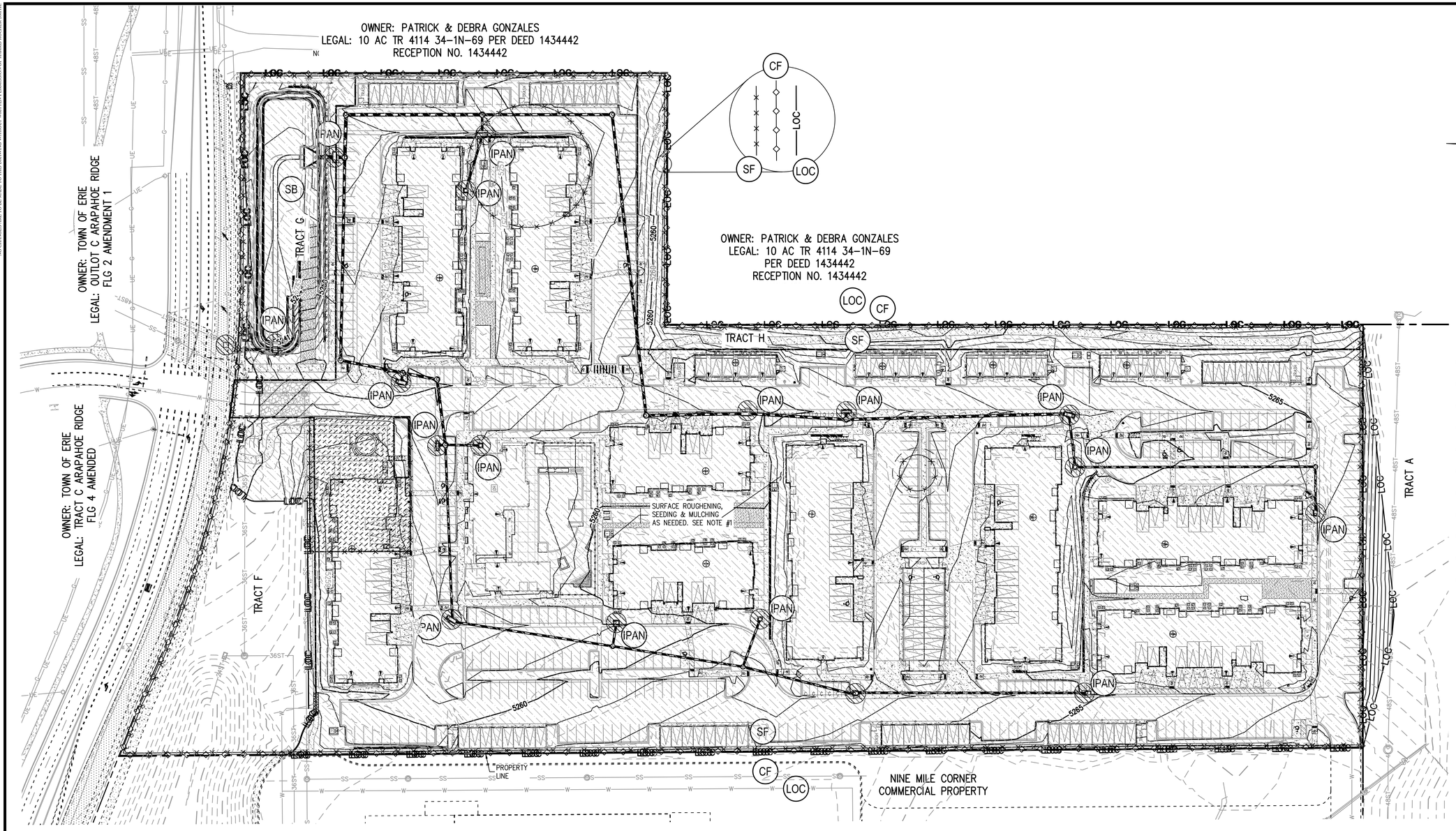

LEGEND:

- PROPERTY BOUNDARY
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- LIMITS OF CONSTRUCTION
- CONSTRUCTION FENCE
- SILT FENCE
- ROCK SOCK
- INLET PROTECTION
- CONCRETE WASHOUT AREA
- STABILIZED STAGING AREA
- VEHICLE TRACKING CONTROL
- CONSTRUCTION TRAILER
- SOIL STOCKPILE
- SEDIMENT BASIN
- TEMPORARY SEEDING & MULCHING

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OUTLOOK AT NINE MILE
EROSION CONTROL PLAN INTERIM

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

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SHEET NO.
9
9 OF 60

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN INTERIM.DWG LAYOUT: EROSION CONTROL PLAN INTERIM
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OWNER: TOWN OF ERIE
LEGAL: OUTLOT C ARAPAHOE RIDGE FLG 2 AMENDMENT 1

ARAPAHOE ROAD
ROW VARIES

OWNER: TOWN OF ERIE
LEGAL: TRACT C ARAPAHOE RIDGE FLG 4 AMENDED

TRACT G

OWNER: PATRICK & DEBRA GONZALES
LEGAL: 10 AC TR 4114 34-1N-69
PER DEED 1434442
RECEPTION NO. 1434442

TRACT H

TRACT A

TRACT F

NINE MILE CORNER
COMMERCIAL PROPERTY

LEGEND

5173
5170

5173
5170

NOTES:

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OUTLOOK AT NINE MILE
EROSION CONTROL PLAN FINAL

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

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SHEET NO.
10
10 OF 60

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN FINAL.DWG LAYOUT: EROSION CONTROL PLAN FINAL
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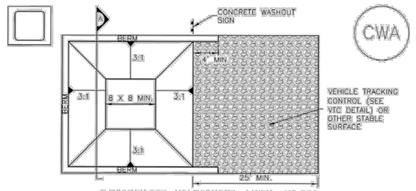
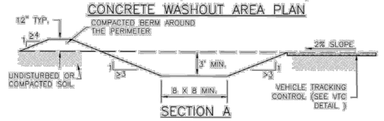


CONCRETE WASHOUT AREA PLAN



SECTION A

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.

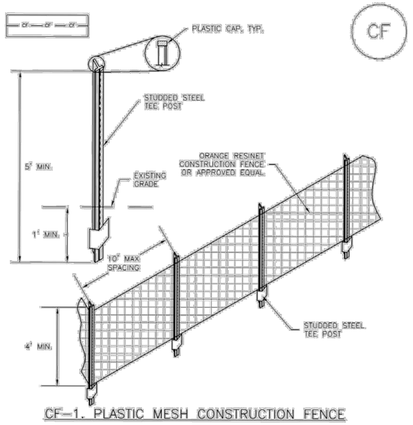
4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

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.



CF–1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

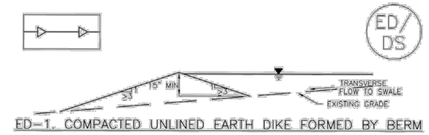
1. SEE PLAN VIEW FOR:
   –LOCATION OF CONSTRUCTION FENCE.

2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.

4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.

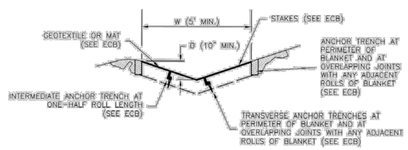
5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.



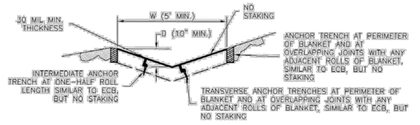
ED–1. COMPACTED UNLINED EARTH DIKE FORMED BY BERM

DS–1. COMPACTED UNLINED EXCAVATED SWALE

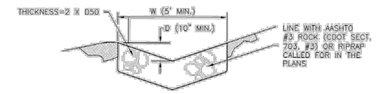
DS–2. COMPACTED UNLINED SWALE FORMED BY CUT AND FILL



DS–3. ECB LINED SWALE (CUT AND FILL OR BERM)



DS–4. SYNTHETIC LINED SWALE



DS–5. RIPRAP LINED SWALE

EARTH DIKE AND DRAINAGE SWALE INSTALLATION NOTES

1. SEE SITE PLAN FOR:
   – LOCATION OF DIVERSION SWALE
   – TYPE OF SWALE (UNLINED, COMPACTED AND/OR LINED).
   – LENGTH OF EACH SWALE.
   – DEPTH, D, AND WIDTH, W DIMENSIONS.
   – FOR ECB/TRM LINED DITCH, SEE ECB DETAIL.
   – FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, D50.

2. SEE DRAINAGE PLANS FOR DETAILS OF PERMANENT CONVEYANCE FACILITIES AND/OR DIVERSION SWALES EXCEEDING 2-YEAR FLOW RATE OF 10 CFS.

3. EARTH DIKES AND SWALES INDICATED ON SWMP PLAN SHALL BE INSTALLED PRIOR TO LAND-DISTURBING ACTIVITIES IN PROXIMITY.

4. EMBANKMENT IS TO BE COMPACTED TO 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D698.

5. SWALES ARE TO DRAIN TO A SEDIMENT CONTROL BMP.

6. FOR LINED DITCHES, INSTALLATION OF ECB/TRM SHALL CONFORM TO THE REQUIREMENTS OF THE ECB DETAIL.

7. WHEN CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION SWALE, INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12 INCHES.

MM-1 Concrete Washout Area (CWA)

CWA 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. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, 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.

Construction Fence (CF) SM-3

CONSTRUCTION FENCE 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. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

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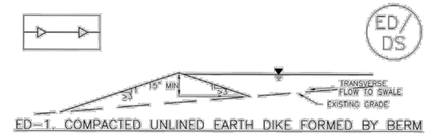
(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

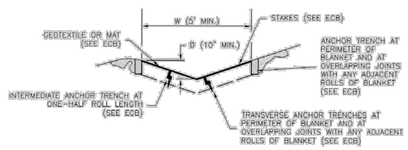
Earth Dikes and Drainage Swales (ED/DS) EC-10



ED–1. COMPACTED UNLINED EARTH DIKE FORMED BY BERM

DS–1. COMPACTED UNLINED EXCAVATED SWALE

DS–2. COMPACTED UNLINED SWALE FORMED BY CUT AND FILL



DS–3. ECB LINED SWALE (CUT AND FILL OR BERM)

Earth Dikes and Drainage Swales (ED/DS) EC-10

EARTH DIKE AND DRAINAGE SWALE MAINTENANCE NOTES

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3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SWALES SHALL REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION; IF APPROVED BY LOCAL JURISDICTION, SWALES MAY BE LEFT IN PLACE.

5. WHEN A SWALE IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF COLORADO SPRINGS, COLORADO, NOT AVAILABLE IN AUTOCAD)

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OUTLOOK AT NINE MILE
EROSION CONTROL PLAN DETAIL 1

ISSUE DATE: 11-08-2019 PROJECT #: 160602

DATE	REVISION COMMENTS

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SHEET NO. 11

11 OF 60

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN DETAIL.DWG LAYOUT: EROSION CONTROL PLAN DETAIL 1
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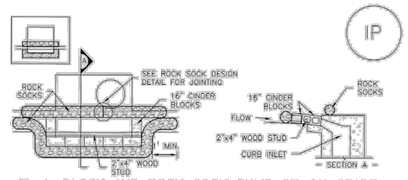


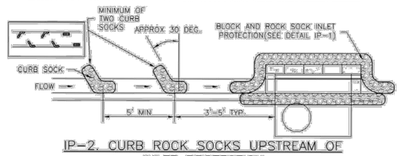
IP–1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP–2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

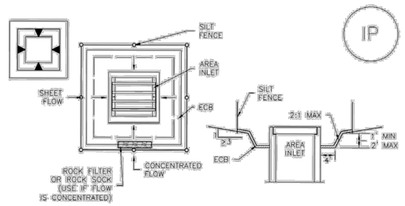
CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.

2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.

3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.



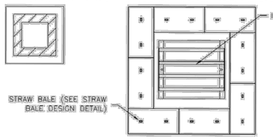
IP–5. OVEREXCAVATION INLET PROTECTION

OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES

1. THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY SMALL CONTRIBUTING DRAINAGE AREA.

2. WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.

3. SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.



IP–6. STRAW BALE FOR SUMP INLET PROTECTION

STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES

1. SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALES TIGHTLY ABUTTING ONE ANOTHER.

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF INLET PROTECTION.
   –TYPE OF INLET PROTECTION ((IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

3. 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.

INLET PROTECTION 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. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ¼ OF THE HEIGHT FOR STRAW BALES.

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.

6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE 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 INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; 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.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

TABLE SB–1. SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

Upstream Drainage Area (rounded to nearest acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 ½	2	3/32
2	21	3	15/16
3	28	5	2
4	33 ½	6	3/16
5	38 ½	8	2 7/32
6	43	9	2 11/32
7	47 ½	11	2 15/32
8	51	12	2 17/32
9	55	13	2 19/32
10	58 ½	15	2 21/32
11	61	16	2 23/32
12	64	18	2 25/32
13	67 ½	19	1 31/32
14	70 ½	21	1 ½
15	73 ½	22	1 5/16

SEDIMENT BASIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF SEDIMENT BASIN.
   –TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
   –FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
   –FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.

2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.

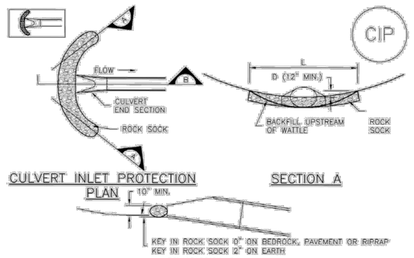
3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON ON BASINS AS AS A STORMWATER CONTROL.

4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.

5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.

6. PIPE SCH 40 OR GREATER SHALL BE USED.

7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.



CIP–1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF CULVERT INLET PROTECTION.

2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT INLET PROTECTION 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.

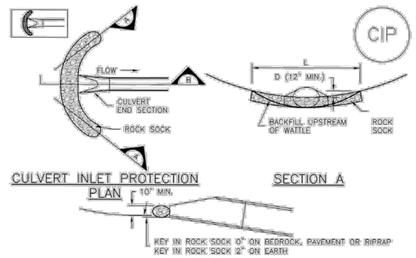
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ½ THE HEIGHT OF THE ROCK SOCK.

5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

(DETAILS ADAPTED FROM 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.



CIP–1. CULVERT INLET PROTECTION

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF CULVERT INLET PROTECTION.

2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT INLET PROTECTION 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.

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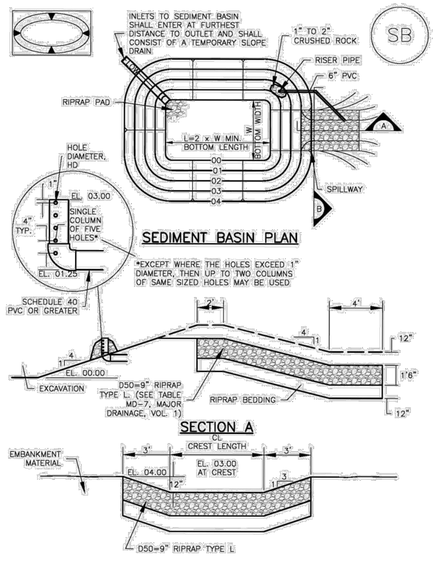
(DETAILS ADAPTED FROM AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

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.



SEDIMENT BASIN 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. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST).

5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.

6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

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.

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: DAM
CHECKED BY: MSM
DRAWN BY: DAM

HKS HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

Evergreen
Development | Services | Investments

OUTLOOK AT NINE MILE
EROSION CONTROL PLAN DETAIL 2

ISSUE DATE: 11-08-2019 PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 12

12 OF 60

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN DETAIL.DWG LAYOUT: EROSION CONTROL PLAN DETAIL 2
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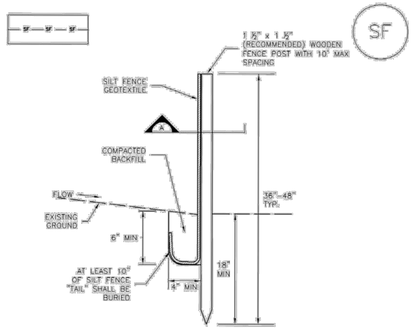
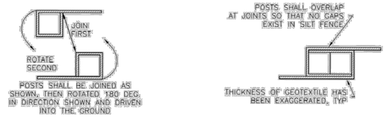
PLOTTED: THU 11/07/19 6:24:44P BY: RACHEL PATTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

Silt Fence (SF) SC-1



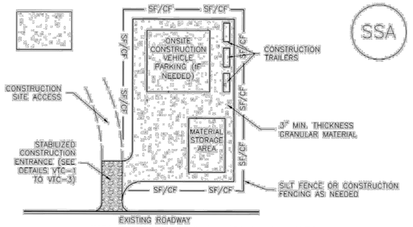
SILT FENCE



SECTION A

SF–1. SILT FENCE

Stabilized Staging Area (SSA) SM-6



SSA–1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF STAGING AREA(S).
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

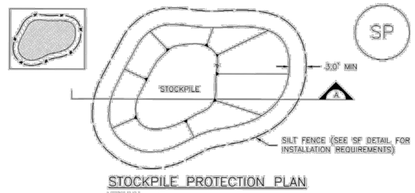
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

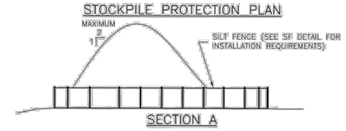
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

Stockpile Management (SP) MM-2



STOCKPILE PROTECTION PLAN



SECTION A

SP–1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

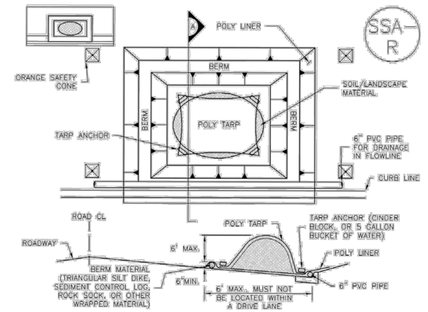
1. SEE PLAN VIEW FOR:
   –LOCATION OF STOCKPILES.
   –TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS; SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30–60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

Stockpile Management (SP) MM-2



SP–2. MATERIALS STAGING IN ROADWAY

MATERIALS STAGING IN ROADWAYS INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF MATERIAL STAGING AREA(S).
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. FEATURE MUST BE INSTALLED PRIOR TO EXCAVATION, EARTHWORK OR DELIVERY OF MATERIALS.

3. MATERIALS MUST BE STATIONED ON THE POLY LINER. ANY INCIDENTAL MATERIALS DEPOSITED ON PAVED SECTION OR ALONG CURB LINE MUST BE CLEANED UP PROMPTLY.

4. POLY LINER AND TARP COVER SHOULD BE OF SIGNIFICANT THICKNESS TO PREVENT DAMAGE OR LOSS OF INTEGRITY.

5. SAND BAGS MAY BE SUBSTITUTED TO ANCHOR THE COVER TARP OR PROVIDE BERMING UNDER THE BASE LINER.

6. FEATURE IS NOT INTENDED FOR USE WITH WET MATERIAL THAT WILL BE DRAINING AND/OR SPREADING OUT ON THE POLY LINER OR FOR DEMOLITION MATERIALS.

7. THIS FEATURE CAN BE USED FOR:
   –UTILITY REPAIRS.
   –WHEN OTHER STAGING LOCATIONS AND OPTIONS ARE LIMITED.
   –OTHER LIMITED APPLICATION AND SHORT DURATION STAGING.

SC-1 Silt Fence (SF)

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.

2. A UNIFORM 8" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.

3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.

5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH ½" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.

6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J–HOOK." THE "J–HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').

7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE 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. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".

5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

7. WHEN SILT FENCE IS 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, 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.

SM-6 Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE–ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

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.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

MM-2 Stockpile Management (SM)

STOCKPILE PROTECTION 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.

STOCKPILE PROTECTION MAINTENANCE NOTES

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

(DETAILS ADAPTED FROM PARKER, 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.

MM-2 Stockpile Management (SM)

MATERIALS STAGING IN ROADWAY 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. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.

5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

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.

(DETAILS ADAPTED FROM AURORA, COLORADO)

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

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CHECKED BY: MSM
DRAWN BY: DAM

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OUTLOOK AT NINE MILE
EROSION CONTROL PLAN DETAIL 3

ISSUE DATE: 11-08-2019 PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 13
13 OF 60

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN DETAIL.DWG LAYOUT: EROSION CONTROL PLAN DETAIL 3
3 XREFS: p-base, p-topo, p-util[U]
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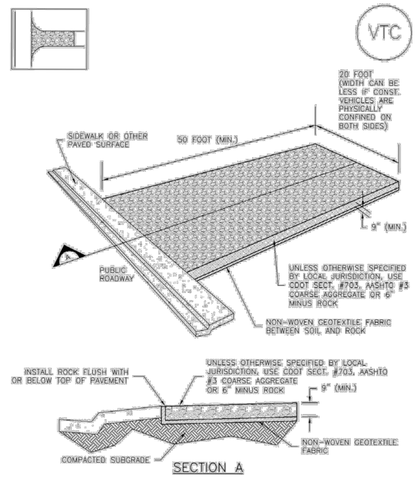
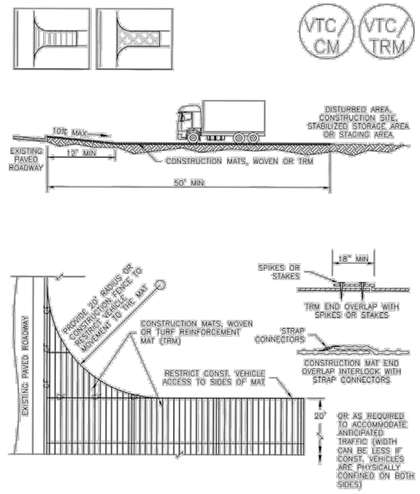


VTC–1. AGGREGATE VEHICLE TRACKING CONTROL



VTC–3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

Description

Temporary seeding can be used to stabilize disturbed areas that will be inactive for an extended period. Permanent seeding should be used to stabilize areas at final grade that will not be otherwise stabilized. Effective seeding includes preparation of a seedbed, selection of an appropriate seed mixture, proper planting techniques, and protection of the seeded area with mulch, geotextiles, or other appropriate measures.

Photograph TS/PS -1. Equipment used to drill seed. Photo courtesy of Douglas County.

Appropriate Uses

When the soil surface is disturbed and will remain inactive for an extended period (typically 30 days or longer), proactive stabilization measures should be implemented. If the inactive period is short-lived (on the order of two weeks), techniques such as surface roughening may be appropriate. For longer periods of inactivity, temporary seeding and mulching can provide effective erosion control. Permanent seeding should be used on finished areas that have not been otherwise stabilized.

Typically, local governments have their own seed mixes and timelines for seeding. Check jurisdictional requirements for seeding and temporary stabilization.

Design and Installation

Effective seeding requires proper seedbed preparation, selection of an appropriate seed mixture, use of appropriate seeding equipment to ensure proper coverage and density, and protection with mulch or fabric until plants are established.

The USDCM Volume 2 *Revegetation* Chapter contains detailed seed mix, soil preparations, and seeding and mulching recommendations that may be referenced to supplement this Fact Sheet.

Drill seeding is the preferred seeding method. Hydroseeding is not recommended except in areas where steep slopes prevent use of drill seeding equipment, and even in these instances it is preferable to hand seed and mulch. Some jurisdictions do not allow hydroseeding or hydromulching.

Seedbed Preparation

Prior to seeding, ensure that areas to be revegetated have soil conditions capable of supporting vegetation. Overlot grading can result in loss of topsoil, resulting in poor quality subsoils at the ground surface that have low nutrient value, little organic matter content, few soil microorganisms, rooting restrictions, and conditions less conducive to infiltration of precipitation. As a result, it is typically necessary to provide stockpiled topsoil, compost, or other

Temporary and Permanent Seeding	
Functions	
Erosion Control	Yes
Sediment Control	No
Site/Material Management	No

Seeding dates for the highest success probability of perennial species along the Front Range are generally in the spring from April through early May and in the fall after the first of September until the ground freezes. If the area is irrigated, seeding may occur in summer months, as well. See Table TS/PS-3 for appropriate seeding dates.

Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses

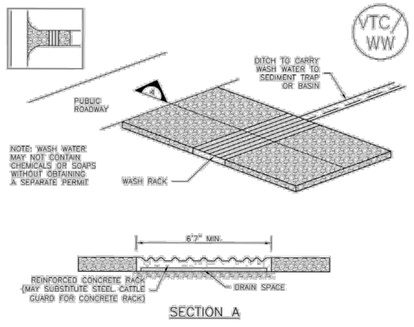
Species[a] (Common name)	Growth Season[b]	Pounds of Pure Live Seed (PLS)/acre[c]	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	½
5. Millet	Warm	3 - 15	½ - ¾
6. Sudangrass	Warm	5–10	½ - ¾
7. Sorghum	Warm	5–10	½ - ¾
8. Winter wheat	Cool	20–35	1 - 2
9. Winter barley	Cool	20–35	1 - 2
10. Winter rye	Cool	20–35	1 - 2
11. Triticale	Cool	25–40	1 - 2

[a] Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

[b] See Table TS/PS-3 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

[c] Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.



VTC–2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
   –TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.

4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT 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 SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

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.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

soil amendments and rototill them into the soil to a depth of 6 inches or more.

Topsoil should be salvaged during grading operations for use and spread on areas to be revegetated later. Topsoil should be viewed as an important resource to be utilized for vegetation establishment, due to its water-holding capacity, structure, texture, organic matter content, biological activity, and nutrient content. The rooting depth of most native grasses in the semi-arid Denver metropolitan area is 6 to 18 inches. At a minimum, the upper 6 inches of topsoil should be stripped, stockpiled, and ultimately respread across areas that will be revegetated.

Where topsoil is not available, subsoils should be amended to provide an appropriate plant-growth medium. Organic matter, such as well digested compost, can be added to improve soil characteristics conducive to plant growth. Other treatments can be used to adjust soil pH conditions when needed. Soil testing, which is typically inexpensive, should be completed to determine and optimize the types and amounts of amendments that are required.

If the disturbed ground surface is compacted, rip or rototill the surface prior to placing topsoil. If adding compost to the existing soil surface, rototilling is necessary. Surface roughening will assist in placement of a stable topsoil layer on steeper slopes, and allow infiltration and root penetration to greater depth.

Prior to seeding, the soil surface should be rough and the seedbed should be firm, but neither too loose nor compacted. The upper layer of soil should be in a condition suitable for seeding at the proper depth and conducive to plant growth. Seed-to-soil contact is the key to good germination.

Seed Mix for Temporary Vegetation

To provide temporary vegetative cover on disturbed areas which will not be paved, built upon, or fully landscaped or worked for an extended period (typically 30 days or more), plant an annual grass appropriate for the time of planting and mulch the planted areas. Annual grasses suitable for the Denver metropolitan area are listed in Table TS/PS-1. These are to be considered only as general recommendations when specific design guidance for a particular site is not available. Local governments typically specify seed mixes appropriate for their jurisdiction.

Seed Mix for Permanent Revegetation

To provide vegetative cover on disturbed areas that have reached final grade, a perennial grass mix should be established. Permanent seeding should be performed promptly (typically within 14 days) after reaching final grade. Each site will have different characteristics and a landscape professional or the local jurisdiction should be contacted to determine the most suitable seed mix for a specific site. In lieu of a specific recommendation, one of the perennial grass mixes appropriate for site conditions and growth season listed in Table TS/PS-2 can be used. The pure live seed (PLS) rates of application recommended in these tables are considered to be absolute minimum rates for seed applied using proper drill-seeding equipment.

If desired for wildlife habitat or landscape diversity, shrubs such as rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*) and skunkbrush sumac (*Rhus trilobata*) could be added to the upland seedmixes at 0.25, 0.5 and 1 pound PLS/acre, respectively. In riparian zones, planting root stock of such species as American plum (*Prunus americana*), woods rose (*Rosa woodsii*), plains cottonwood (*Populus sargentii*), and willow (*Populus spp.*) may be considered. On non-topsoiled upland sites, a legume such as Ladak alfalfa at 1 pound PLS/acre can be included as a source of nitrogen for perennial grasses.

Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses

Common[a] Name	Botanical Name	Growth Season[b]	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Alakali Soil Seed Mix					
Alkali sacaton	*Sporobolus airoides*	Cool	Bunch	1,750,000	0.25
Basin wildrye	*Elymus cinereus*	Cool	Bunch	165,000	2.5
Sodar streambank wheatgrass	*Agropyron riparium 'Sodar'*	Cool	Sod	170,000	2.5
Jose tall wheatgrass	*Agropyron elongatum 'Jose'*	Cool	Bunch	79,000	7.0
Arriba western wheatgrass	*Agropyron smithii 'Arriba'*	Cool	Sod	110,000	5.5
Total					**17.75**
Fertile Loamy Soil Seed Mix					
Ephriam crested wheatgrass	*Agropyron cristatum 'Ephriam'*	Cool	Sod	175,000	2.0
Dural hard fescue	*Festuca ovina 'duriuscula'*	Cool	Bunch	565,000	1.0
Lincoln smooth brome	*Bromus inermis leyss 'Lincoln'*	Cool	Sod	130,000	3.0
Sodar streambank wheatgrass	*Agropyron riparium 'Sodar'*	Cool	Sod	170,000	2.5
Arriba western wheatgrass	*Agropyron smithii 'Arriba'*	Cool	Sod	110,000	7.0
Total					**15.5**
High Water Table Soil Seed Mix					
Meadow foxtail	*Alopecurus pratensis*	Cool	Sod	900,000	0.5
Redtop	*Agrostis alba*	Warm	Open sod	5,000,000	0.25
Reed canarygrass	*Phalaris arundinacea*	Cool	Sod	68,000	0.5
Lincoln smooth brome	*Bromus inermis leyss 'Lincoln'*	Cool	Sod	130,000	3.0
Pathfinder switchgrass	*Panicum virgatum 'Pathfinder'*	Warm	Sod	389,000	1.0
Alkar tall wheatgrass	*Agropyron elongatum 'Alkar'*	Cool	Bunch	79,000	5.5
Total					**10.75**
Transition Turf Seed Mix[c]					
Ruebens Canadian bluegrass	*Poa compressa 'Ruebens'*	Cool	Sod	2,500,000	0.5
Dural hard fescue	*Festuca ovina 'duriuscula'*	Cool	Bunch	565,000	1.0
Citation perennial ryegrass	*Lolium perenne 'Citation'*	Cool	Sod	247,000	3.0
Lincoln smooth brome	*Bromus inermis leyss 'Lincoln'*	Cool	Sod	130,000	3.0
Total					**7.5**

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DRAWN BY: DAM

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OUTLOOK AT NINE MILE
EROSION CONTROL PLAN DETAIL 4

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 14
14 OF 60

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Table TS/PS-2. Minimum Drill Seeding Rates for Perennial Grasses (cont.)

Common Name	Botanical Name	Growth Season[b]	Growth Form	Seeds/ Pound	Pounds of PLS/acre
Sandy Soil Seed Mix					
Blue grama	*Bouteloua gracilis*	Warm	Sod-forming bunchgrass	825,000	0.5
Camper little bluestem	*Schizachyrium scoparium 'Camper'*	Warm	Bunch	240,000	1.0
Prairie sandreed	*Calamovilfa longifolia*	Warm	Open sod	274,000	1.0
Sand dropseed	*Sporobolus cryptandrus*	Cool	Bunch	5,298,000	0.25
Vaughn sideoats grama	*Bouteloua curtipendula 'Vaughn'*	Warm	Sod	191,000	2.0
Arriba western wheatgrass	*Agropyron smithii 'Arriba'*	Cool	Sod	110,000	5.5
Total					**10.25**
Heavy Clay, Rocky Foothill Seed Mix					
Ephriam crested wheatgrass[d]	*Agropyron cristatum 'Ephriam'*	Cool	Sod	175,000	1.5
Oahe Intermediate wheatgrass	*Agropyron intermedium 'Oahe'*	Cool	Sod	115,000	5.5
Vaughn sideoats grama[e]	*Bouteloua curtipendula 'Vaughn'*	Warm	Sod	191,000	2.0
Lincoln smooth brome	*Bromus inermis leyss 'Lincoln'*	Cool	Sod	130,000	3.0
Arriba western wheatgrass	*Agropyron smithii 'Arriba'*	Cool	Sod	110,000	5.5
Total					**17.5**

[a] All of the above seeding mixes and rates are based on drill seeding followed by crimped straw mulch. These rates should be doubled if seed is broadcast and should be increased by 50 percent if the seeding is done using a Brillion Drill or is applied through hydraulic seeding. Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1. If hydraulic seeding is used, hydraulic mulching should be done as a separate operation.

[b] See Table TS/PS-3 for seeding dates.

[c] If site is to be irrigated, the transition turf seed rates should be doubled.

[d] Crested wheatgrass should not be used on slopes steeper than 6H to 1V.

[e] Can substitute 0.5 lbs PLS of blue grama for the 2.0 lbs PLS of Vaughn sideoats grama.

Description

Mulching consists of evenly applying straw, hay, shredded wood mulch, rock, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers, netting or other measures. Mulching helps reduce erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff. Although often applied in conjunction with temporary or permanent seeding, it can also be used for temporary stabilization of areas that cannot be reseeded due to seasonal constraints.

Photograph MU-1. An area that was recently seeded, mulched, and crimped.

Mulch can be applied either using standard mechanical dry application methods or using hydromulching equipment that hydraulically applies a slurry of water, wood fiber mulch, and often a tackifier.

Appropriate Uses

Use mulch in conjunction with seeding to help protect the seedbed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed areas where growing season constraints prevent effective reseeding. Disturbed areas should be properly mulched and tacked, or seeded, mulched and tacked promptly after final grade is reached (typically within no longer than 14 days) on portions of the site not otherwise permanently stabilized.

Standard dry mulching is encouraged in most jurisdictions; however, hydromulching may not be allowed in certain jurisdictions or may not be allowed near waterways.

Do not apply mulch during windy conditions.

Design and Installation

Prior to mulching, surface-roughen areas by rolling with a crimping or punching type roller or by track walking. Track walking should only be used where other methods are impractical because track walking with heavy equipment typically compacts the soil.

A variety of mulches can be used effectively at construction sites. Consider the following:

Mulch	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	No

Table TS/PS-3. Seeding Dates for Annual and Perennial Grasses

	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
Seeding Dates	**Warm**	**Cool**	**Warm**	**Cool**
January 1–March 15			✓	✓
March 16–April 30	4	1,2,3	✓	✓
May 1–May 15	4		✓	
May 16–June 30	4,5,6,7			
July 1–July 15	5,6,7			
July 16–August 31				
September 1–September 30		8,9,10,11		
October 1–December 31			✓	✓

Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the Mulching BMP Fact Sheet for additional guidance.

Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

Protect seeded areas from construction equipment and vehicle access.

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.
- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).
- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.
- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.
- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)
- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

Maintenance and Removal

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

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DRAWN BY: DAM

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OUTLOOK AT NINE MILE
EROSION CONTROL PLAN DETAIL 5

ISSUE DATE: 11-08-2019 PROJECT #: 160602

DATE	REVISION COMMENTS

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15
15 OF 60

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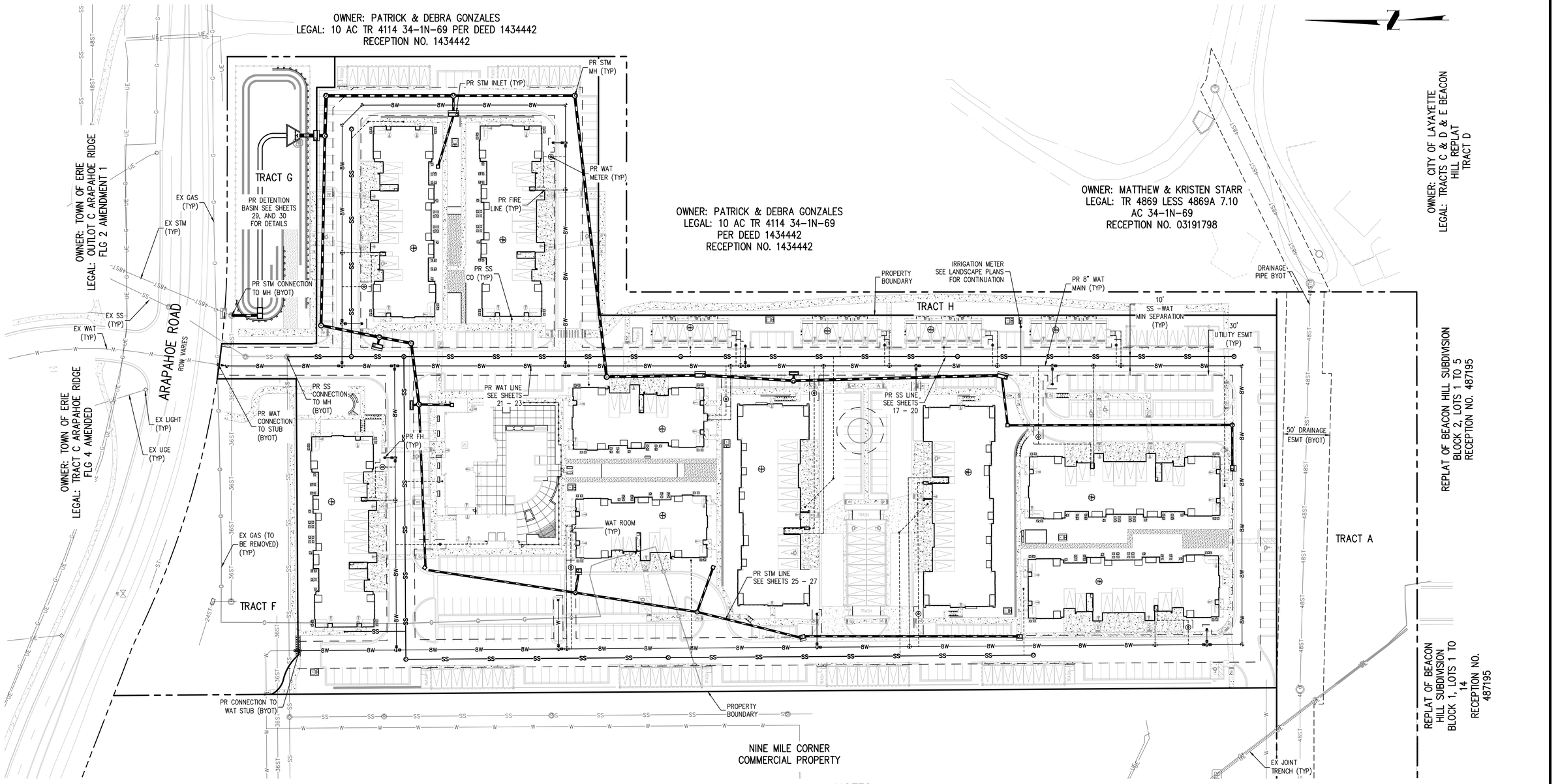

NOTES:

1. OVERALL PLAN DEPICTED IS INTENDED FOR GENERAL REFERENCE OF PROJECT DEVELOPMENT.
2. SEE APPROVED SANITARY PLAN SHEETS FOR DETAILS REGARDING SANITARY IMPROVEMENTS.
3. SEE APPROVED WATER PLAN SHEETS FOR DETAILS REGARDING WATER IMPROVEMENTS.
4. SEE APPROVED STORM SEWER PLAN SHEETS FOR DETAILS REGARDING STORM IMPROVEMENTS.
5. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE VERTICAL/HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING NOTIFICATION:
   a. UTILITY NOTIFICATION CENTER OF COLORADO, 811. CALL THREE (3) BUSINESS DAYS PRIOR TO DIGGING, GRADING OR EXCAVATING FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.
      - LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES, WHETHER SHOWN OR NOT SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS.
      - PROVIDING NOTIFICATION AND RECEIVING MARKING OF UNDERGROUND MEMBER UTILITIES IN NO WAY CONSTITUTES PERMISSION TO PERFORM CONSTRUCTION.

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

50 0 50 100
SCALE: 1" = 50'

DESIGNED BY: TJS
CHECKED BY: MSM
DRAWN BY: TJS

HARRIS KOCHER SMITH
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Evergreen
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OUTLOOK AT NINE MILE
OVERALL UTILITY PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

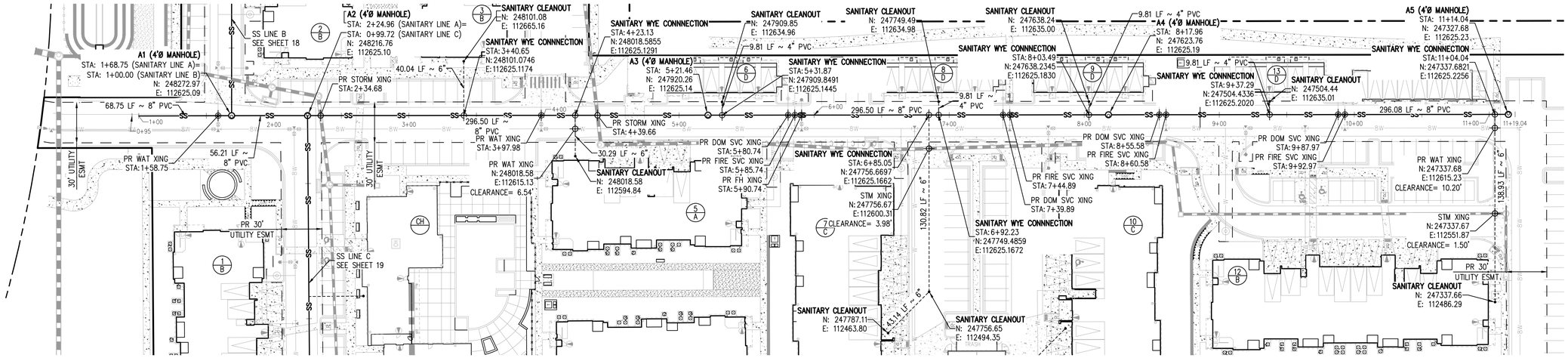
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 16

16 OF 60

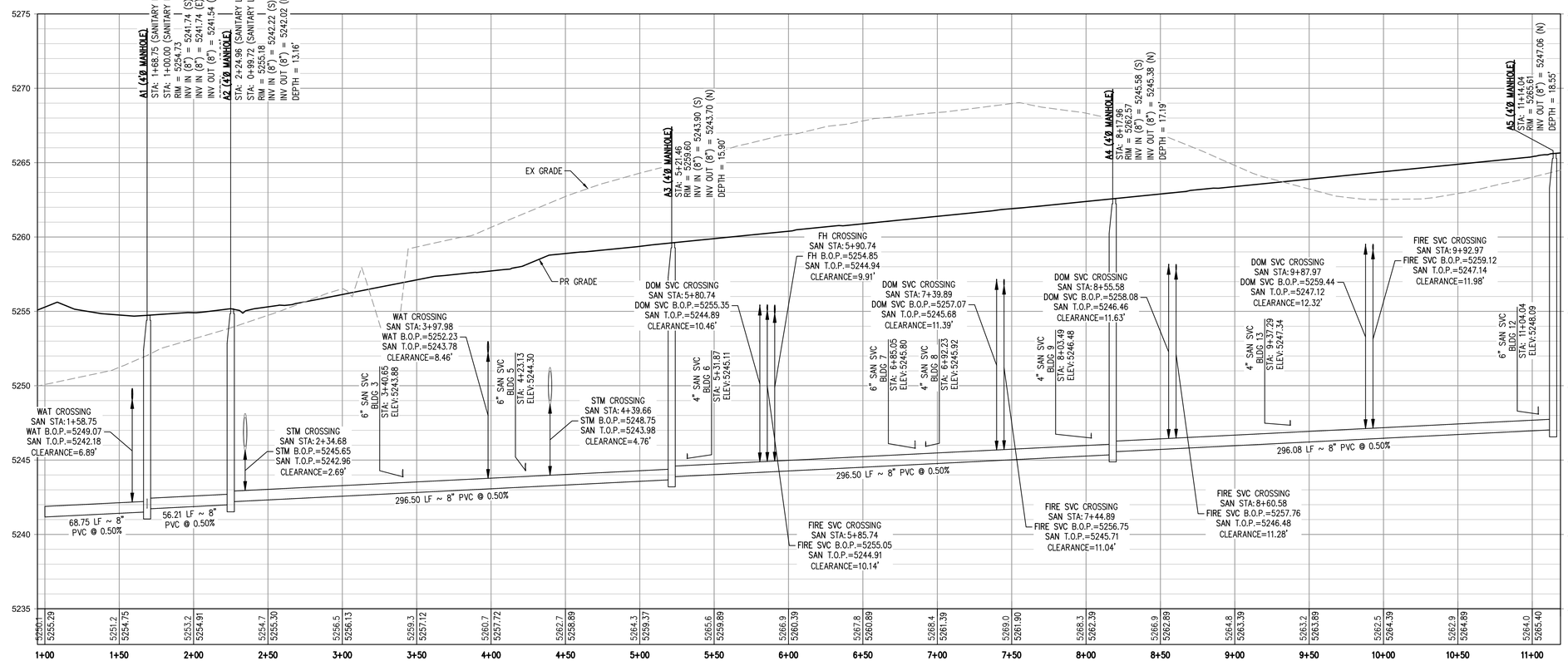
FILEPATH: P:\160602\ENGINEERING\UTILITIES\CD - OVERALL UTILITY PLAN.DWG, LAYOUT: OVERALL UTILITY PLAN
8.5 REFs: cd - stamp, cd_evergreen logo, e-base_bve, e-legal_bve[1], e-esd, p-base, p-legal, p-utl
PLOTTED: THU 11/07/19 6:25:52P BY: RACHEL PATTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.



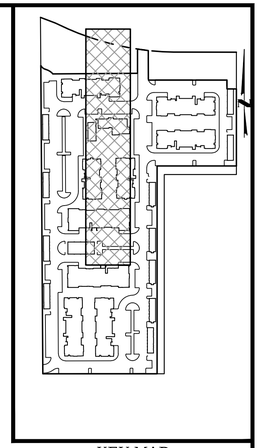
SANITARY LINE A PLAN

SCALE: 1" = 40'



SANITARY LINE A PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



KEY MAP
SCALE: 1" = 250'

SANITARY SERVICE TABLE

BLDG SERVICE	SAN STA @ MAIN	SERVICE INV @ MAIN	INV @ BLDG CLEANOUT	FFE	LENGTH (FT)	SLOPE (%)	SIZE (DIA. IN.)
3	3+40.65	5243.88	5248.89	5258.10	40.04	12.50	6"
5	4+23.13	5244.30	5248.09	5259.77	30.29	12.50	6"
6	5+31.87	5245.11	5247.22	5260.60	9.81	21.50	4"
7	6+85.05	5245.80	5256.04	5263.12	173.96	5.89	6"
8	6+92.23	5245.92	5248.03	5262.20	9.81	21.50	4"
9	8+03.49	5246.48	5248.59	5263.32	9.81	21.50	4"
13	9+37.29	5247.34	5249.45	5264.65	9.81	21.50	4"
12	11+04.04	5248.09	5260.46	5266.77	138.93	8.91	6"

NOTES:

1. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE VERTICAL/HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. STATIONING IS ALONG CENTER LINE OF PIPE UNLESS OTHERWISE NOTED.
3. NORTHINGS/EASTINGS SHOWN FOR MANHOLE PLACEMENT REFERS TO CENTER OF BARREL.
4. PIPE LENGTH IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. ALL MANHOLES ARE ECCENTRIC UNLESS OTHERWISE NOTED.
6. ALL PROPOSED MANHOLES, SANITARY MAINS, AND SERVICES SHALL BE IN ACCORDANCE WITH CITY OF ERIE STANDARD DETAILS.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: AEM
CHECKED BY: MSM
DRAWN BY: AEM

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Evergreen
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OUTLOOK AT NINE MILE
SANITARY SEWER P&P LINE A

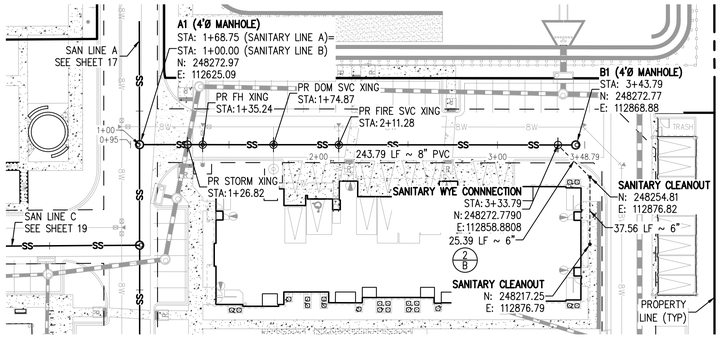
ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
17
17 OF 60

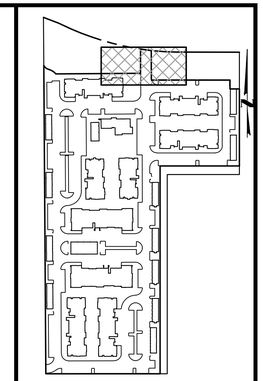
FILEPATH: P:\160602\ENGINEERING\UTILITIES\SANITARY\CD\ - SANITARY SEWER PLAN & PROFILE.DWG LAYOUT: SANITARY SEWER PLAN & PROFILE LINE A
6 XREFs: cd - sanitp, cd_evergreen logo, keyman, p-base, p-topo, p-util
PLOTTED: THU 11/07/19 6:26:18P BY: RACHEL PATTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.



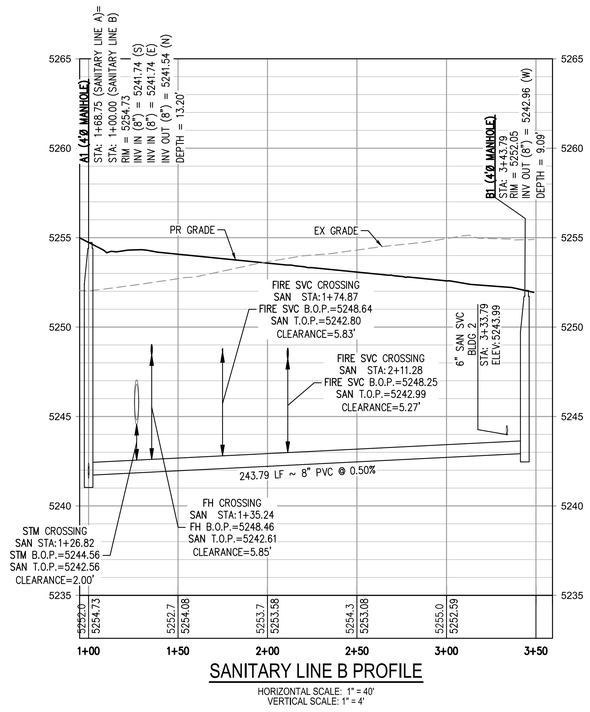
SANITARY LINE B PLAN

SCALE: 1" = 40'



KEY MAP

SCALE: 1" = 250'



SANITARY LINE B PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

SANITARY SERVICE TABLE

BLDG SERVICE	SAN STA @ MAIN	SERVICE INV @ MAIN	INV @ BLDG CLEANOUT	FFE	LENGTH (FT)	SLOPE (%)	SIZE (DIA. IN.)
2	3+33.79	5243.99	5249.88	5254.44	62.95	9.36	6"

NOTES:

1. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE VERTICAL/HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. STATIONING IS ALONG CENTER LINE OF PIPE UNLESS OTHERWISE NOTED.
3. NORTHINGS/EASTINGS SHOWN FOR MANHOLE PLACEMENT REFERS TO CENTER OF BARREL.
4. PIPE LENGTH IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. ALL MANHOLES ARE ECCENTRIC UNLESS OTHERWISE NOTED.
6. ALL PROPOSED MANHOLES, SANITARY MAINS, AND SERVICES SHALL BE IN ACCORDANCE WITH CITY OF ERIE STANDARD DETAILS.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: AEM
CHECKED BY: MSM
DRAWN BY: AEM

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Denver, Colorado 80203
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Evergreen
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OUTLOOK AT NINE MILE
SANITARY SEWER P&P LINE B

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
18
18 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\SANITARY\CD - SANITARY SEWER PLAN & PROFILE.DWG LAYOUT: SANITARY SEWER PLAN & PROFILE LINE B
6 XREFS: c4 - sump, c4_evergreen logo, keymap, p-base, p-legal, p-util
PLOTTED: THU 11/07/19 @ 2:20P BY: RACHEL PATTON

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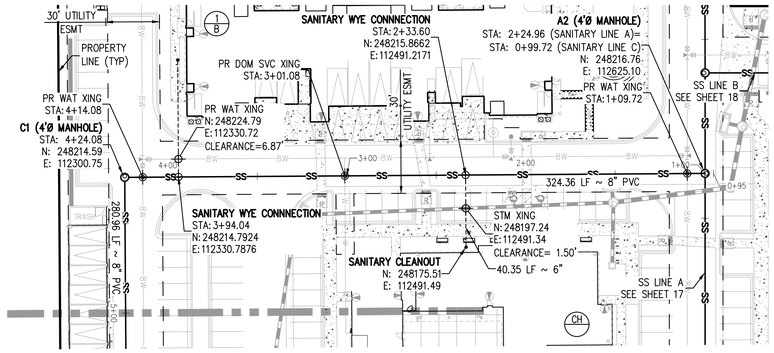
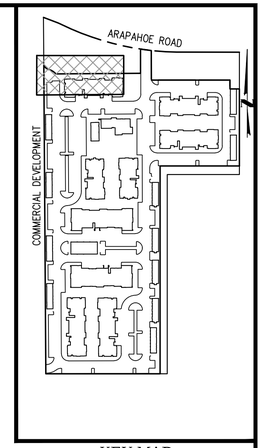


MATCHLINE STA: 5+00 - SEE SHEET 20

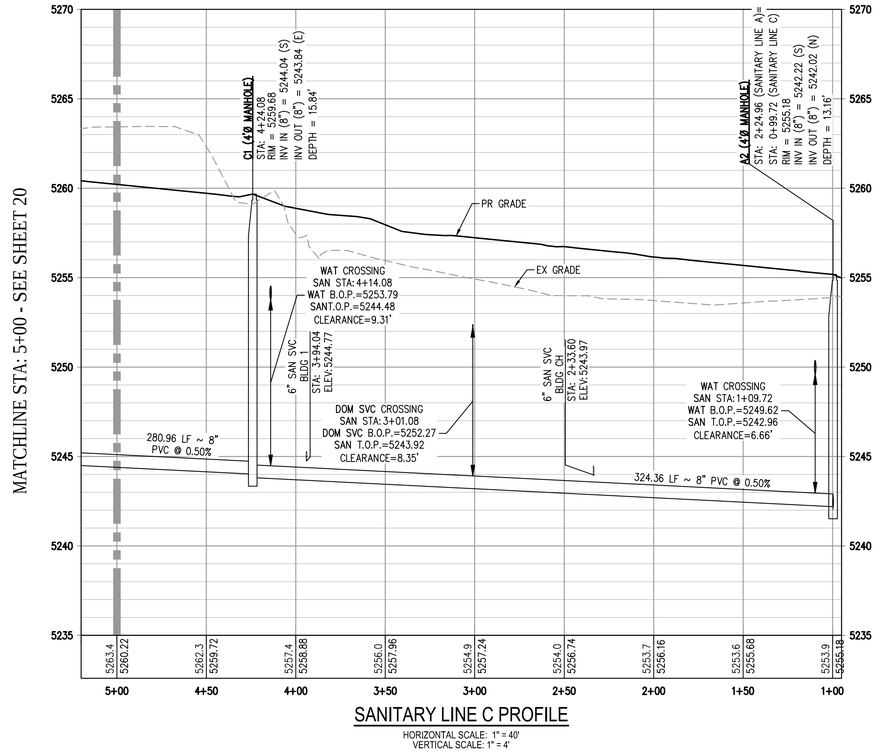
SANITARY LINE C

SCALE: 1" = 40'



KEY MAP

SCALE: 1" = 250'



SANITARY LINE C PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

SANITARY SERVICE TABLE

BLDG SERVICE	SAN STA @ MAIN	SERVICE INV @ MAIN	INV @ BLDG CLEANOUT	FFE	LENGTH (FT)	SLOPE (%)	SIZE (DIA. IN.)
CH	2+33.60	5243.97	5247.75	5257.92	40.35	9.36	6"
1	3+94.04	5244.77	5252.94	5258.77	65.36	12.50	6"

NOTES:

1. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE VERTICAL/HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. STATIONING IS ALONG CENTER LINE OF PIPE UNLESS OTHERWISE NOTED.
3. NORTHINGS/EASTINGS SHOWN FOR MANHOLE PLACEMENT REFERS TO CENTER OF BARREL.
4. PIPE LENGTH IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. ALL MANHOLES ARE ECCENTRIC UNLESS OTHERWISE NOTED.
6. ALL PROPOSED MANHOLES, SANITARY MAINS, AND SERVICES SHALL BE IN ACCORDANCE WITH CITY OF ERIE STANDARD DETAILS.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: AEM
CHECKED BY: MSM
DRAWN BY: AEM

HARRIS KOCHER SMITH
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Denver, Colorado 80203
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HarrisKocherSmith.com

Evergreen Development | Services | Investments

OUTLOOK AT NINE MILE
SANITARY SEWER P&P LINE C
(STA: 0+95 TO STA: 5+00)

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

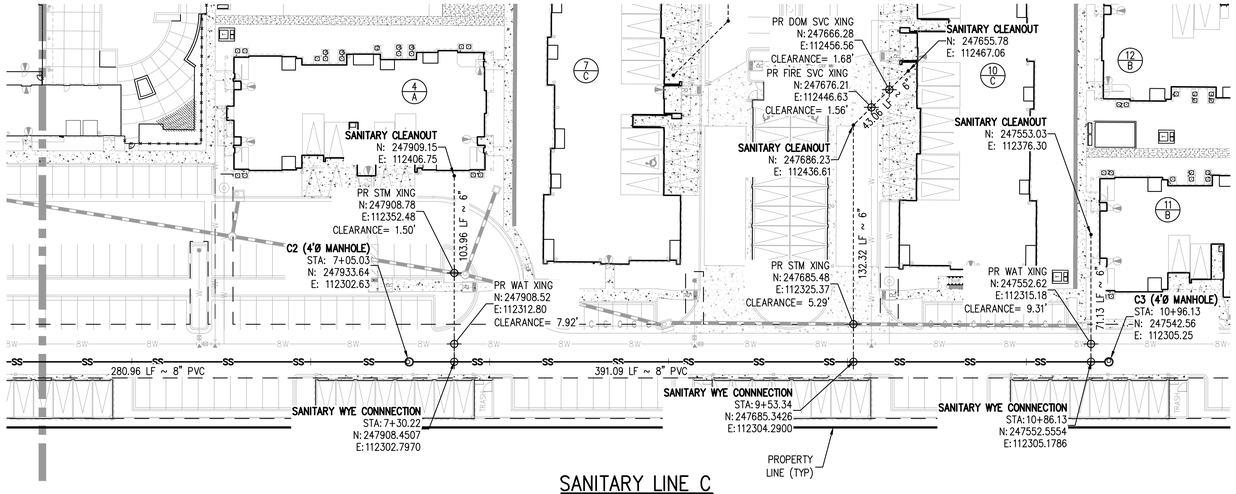
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
19
19 OF 60

FILEPATH: P:\16060\ENGINEERING\UTILITIES\SANITARY\CD - SANITARY SEWER PLAN & PROFILE.DWG LAYOUT: SANITARY SEWER PLAN & PROFILE LINES C & XREFs: cd - stamp, cd_evergreen logo, levmap, p-base, p-legal, p-util
PLOTTED: THU 11/07/19 6:26:22P BY: RACHEL PATTON

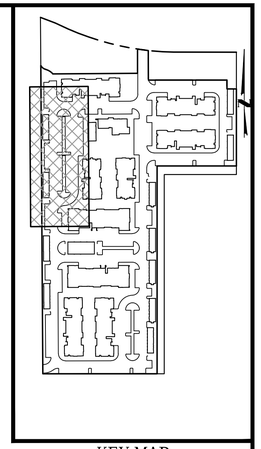
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE STA: 5+00 - SEE SHEET 19



SANITARY LINE C

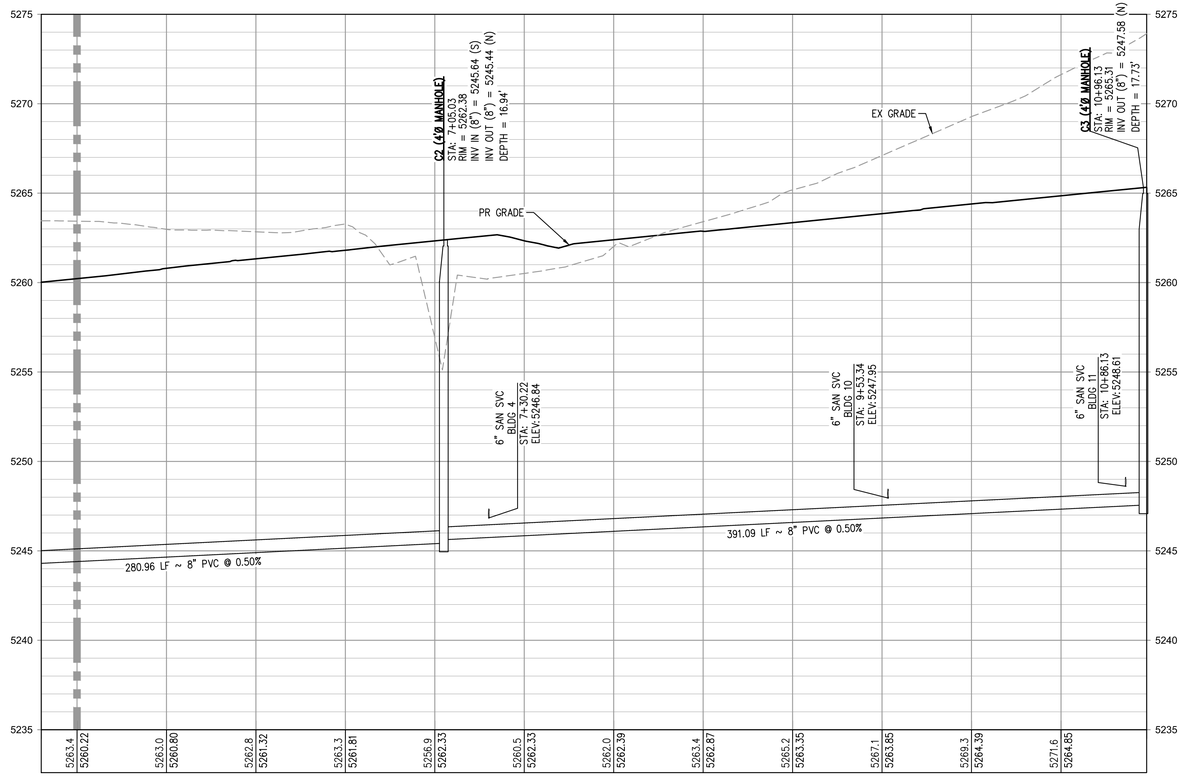
SCALE: 1" = 40'



KEY MAP

SCALE: 1" = 250'

MATCHLINE STA: 5+00 - SEE SHEET 19



SANITARY LINE C PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

SANITARY SERVICE TABLE

BLDG SERVICE	SAN STA @ MAIN	SERVICE INV @ MAIN	INV @ BLDG CLEANOUT	FFE	LENGTH (FT)	SLOPE (%)	SIZE (DIA. IN.)
4	7+30.22	5246.84	5253.95	5260.66	103.96	6.84	6"
10	9+53.54	5247.95	5257.67	5264.43	175.38	5.54	6"
11	10+86.13	5248.61	5257.50	5267.33	71.13	12.50	6"

NOTES:

1. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE VERTICAL/HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. STATIONING IS ALONG CENTER LINE OF PIPE UNLESS OTHERWISE NOTED.
3. NORTHINGS/EASTINGS SHOWN FOR MANHOLE PLACEMENT REFERS TO CENTER OF BARREL.
4. PIPE LENGTH IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. ALL MANHOLES ARE ECCENTRIC UNLESS OTHERWISE NOTED.
6. ALL PROPOSED MANHOLES, SANITARY MAINS, AND SERVICES SHALL BE IN ACCORDANCE WITH CITY OF ERIE STANDARD DETAILS.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: AEM
CHECKED BY: MSM
DRAWN BY: AEM

HARRIS KOCHER SMITH
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Denver, Colorado 80203
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HarrisKocherSmith.com

Evergreen
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OUTLOOK AT NINE MILE
SANITARY SEWER P&P LINE C
(STA: 5+00 TO STA: 10+98)

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

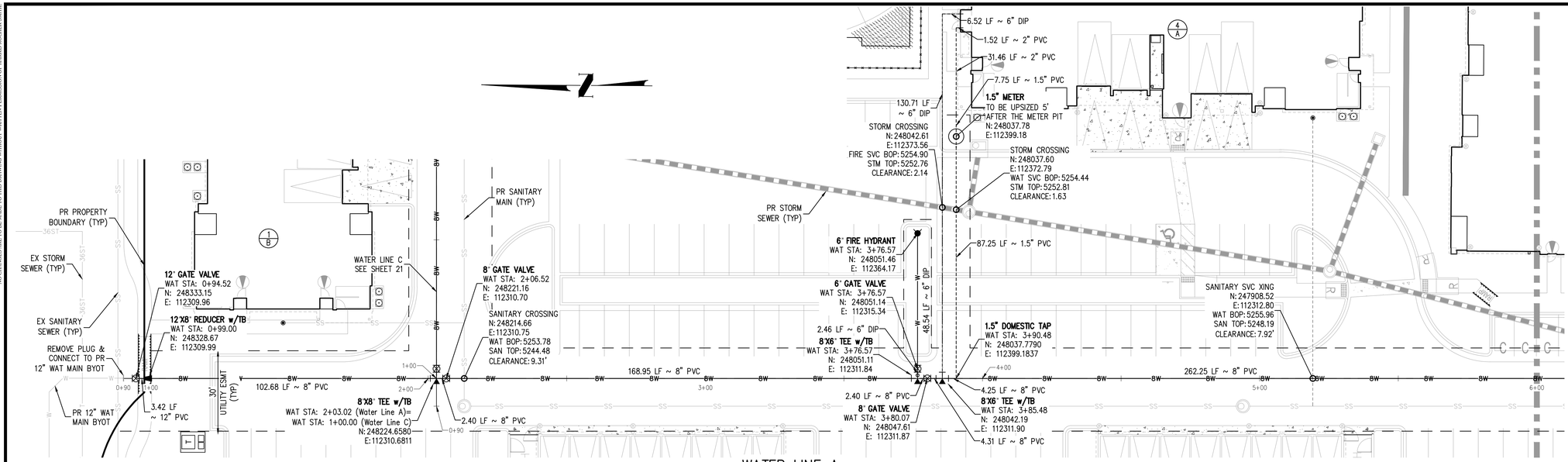
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

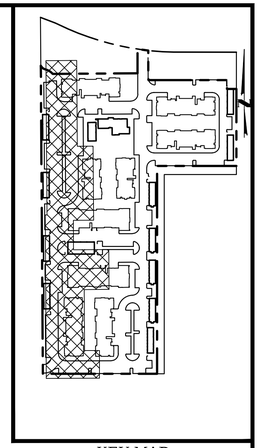
SHEET NO.
20
20 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\SANITARY\CD - SANITARY SEWER PLAN & PROFILE.DWG LAYOUT: SANITARY SEWER PLAN & PROFILE LINE C
6 XREFs: cd - stamp, cd - evergreen logo, keymap, p-base, p-pgrd, p-util
PLOTTED: THU 11/07/19 6:26:27P BY: RACHEL PATTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



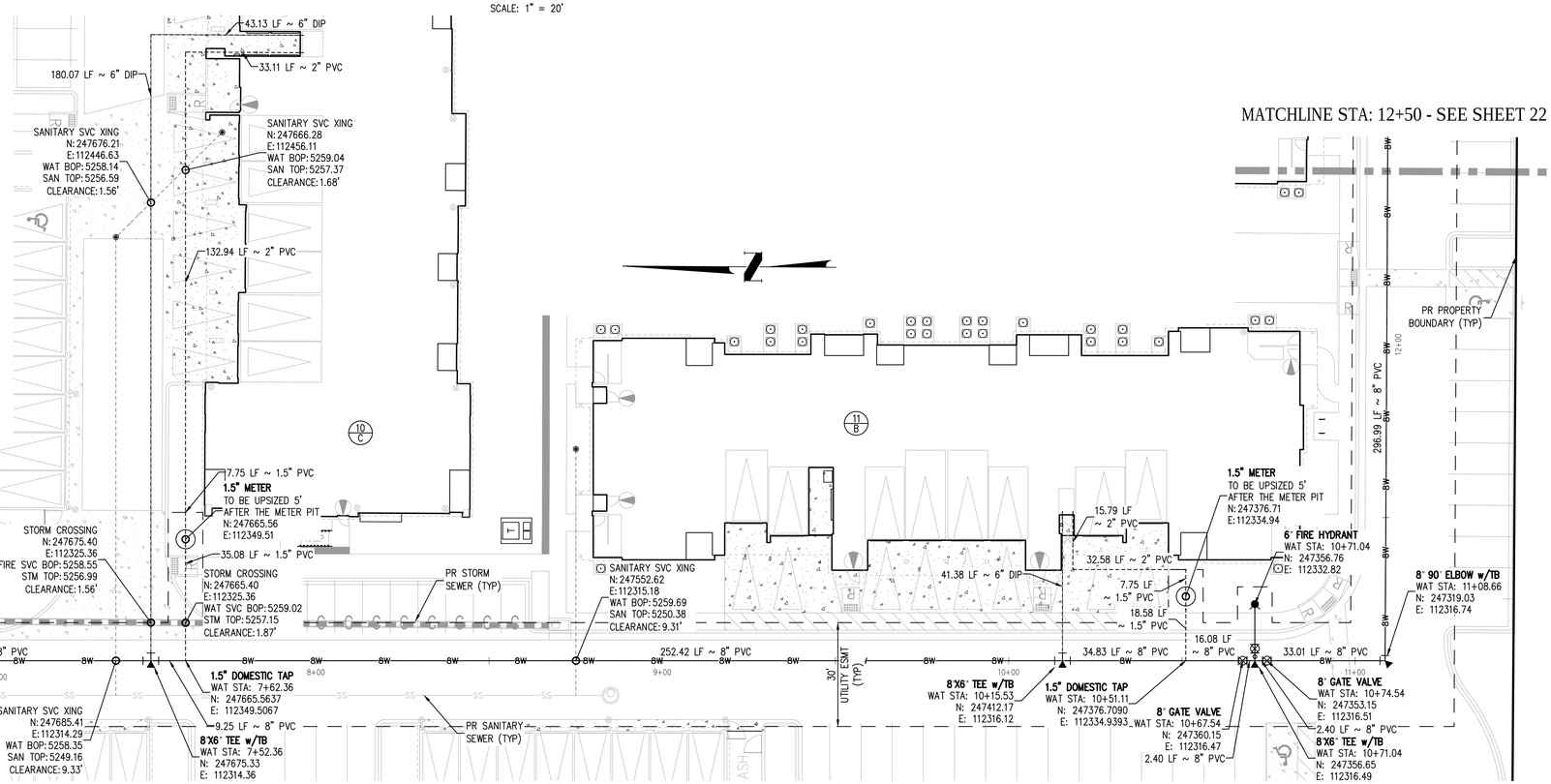
WATER LINE A
STA: 1+00 TO 6+00
SCALE: 1" = 20'



KEY MAP
SCALE: 1" = 250'

NOTES:

1. ALL WATER AND FIRE SERVICES SHALL BE INSTALLED A MINIMUM OF 4.5 FEET OF COVER FROM FINISHED GRADE.
2. STATIONING IS BASED ALONG WATER CENTER LINE.
3. PIPE LENGTH GIVEN FOR DOMESTIC WATER AND FIRE SERVICES ARE FROM MAIN TO BUILDING.
4. ALL HYDRANT ASSEMBLIES, VALVES, BENDS AND FITTINGS ARE TO BE FULLY RESTRAINED.
5. ALL VALVES, BENDS, TEES AND CROSSES SHALL HAVE THRUST BLOCKS.
6. ALL WORK SHALL BE IN ACCORDANCE WITH THE TOWN OF ERIE'S 2017 STANDARDS AND SPECIFICATIONS.
7. ALL WATER WILL BE PUBLIC UNLESS OTHERWISE NOTED.
8. CURB STOPS SHALL BE ONE FOOT FROM THE METER PIT.
9. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE VERTICAL/HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
10. FOR TOWN OF ERIE NOTES – SEE SHEETS 2 & 3



WATER LINE A
STA: 6+00 TO 12+50
SCALE: 1" = 20'

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

20 0 20 40
SCALE: 1" = 20'

DESIGNED BY: BMW
CHECKED BY: MSM
DRAWN BY: BMW

HARRIS KOCHER SMITH
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Denver, Colorado 80203
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HarrisKocherSmith.com

Evergreen
Development | Services | Investments

OUTLOOK AT NINE MILE
WATER PLAN LINE A
STA: 1+00 TO 12+50

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
21
21 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\WATER\CD - WATER PLAN\DWG LAYOUT\WATER PLAN 1
4 XREFs \wpmap, pbase, p-topo, p-util
PLOTTED: THU 11/07/19 6:26:49P BY: RACHEL PAYTON

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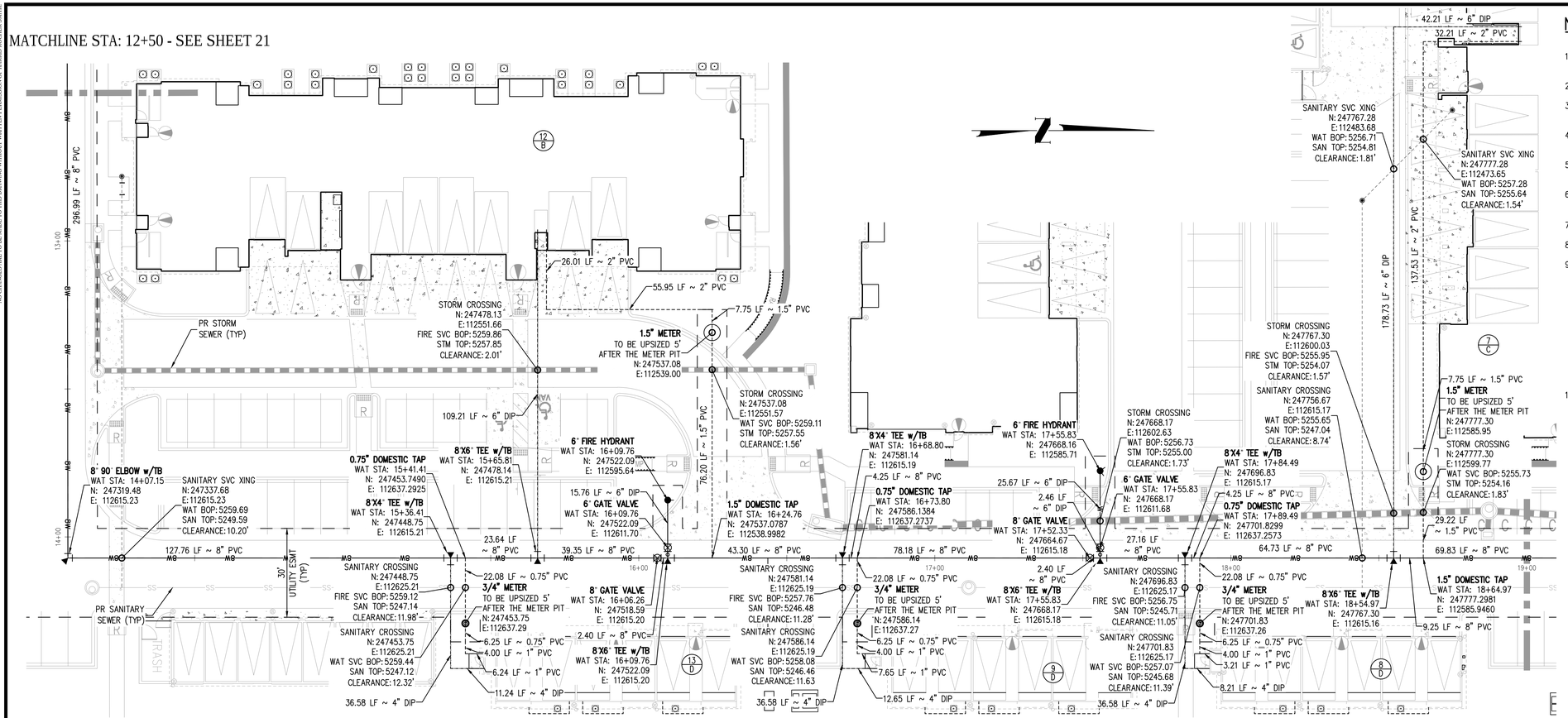
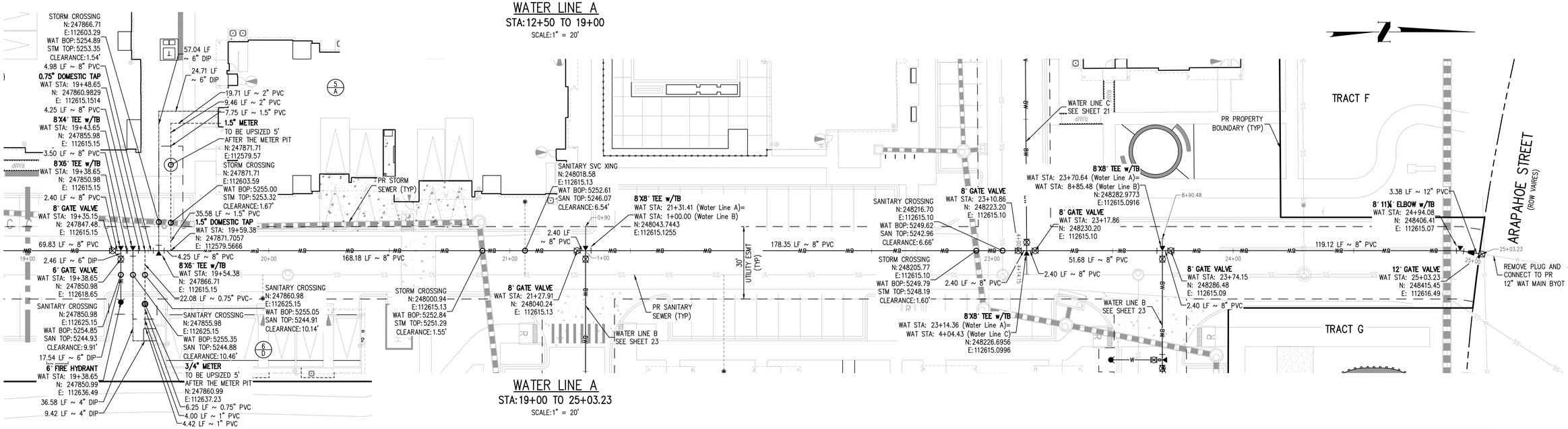
MATCHLINE STA: 12+50 - SEE SHEET 21



WATER LINE A
STA: 12+50 TO 19+00
SCALE: 1" = 20'

MATCHLINE STA: 19+00 - SEE THIS SHEET



WATER LINE A
STA: 19+00 TO 25+03.23
SCALE: 1" = 20'

KEY MAP
SCALE: 1" = 250'

NOTES:

1. ALL WATER AND FIRE SERVICES SHALL BE INSTALLED A MINIMUM OF 4.5 FEET OF COVER FROM FINISHED GRADE.
2. STATIONING IS BASED ALONG WATER CENTER LINE.
3. PIPE LENGTH GIVEN FOR DOMESTIC WATER AND FIRE SERVICES ARE FROM MAIN TO BUILDING.
4. ALL HYDRANT ASSEMBLIES, VALVES, BENDS AND FITTINGS ARE TO BE FULLY RESTRAINED.
5. ALL VALVES, BENDS, TEES AND CROSSES SHALL HAVE THRUST BLOCKS.
6. ALL WORK SHALL BE IN ACCORDANCE WITH THE TOWN OF ERIE'S 2017 STANDARDS AND SPECIFICATIONS.
7. ALL WATER WILL BE PUBLIC UNLESS OTHERWISE NOTED.
8. CURB STOPS SHALL BE ONE FOOT FROM THE METER PIT.
9. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE VERTICAL/HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
10. FOR TOWN OF ERIE NOTES – SEE SHEETS 2 & 3

MATCHLINE STA: 19+00 - SEE THIS SHEET

Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

SCALE: 1" = 20'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
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HarrisKocherSmith.com

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OUTLOOK AT NINE MILE
WATER PLAN LINE A
STA: 12+00 TO 25+03.23

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

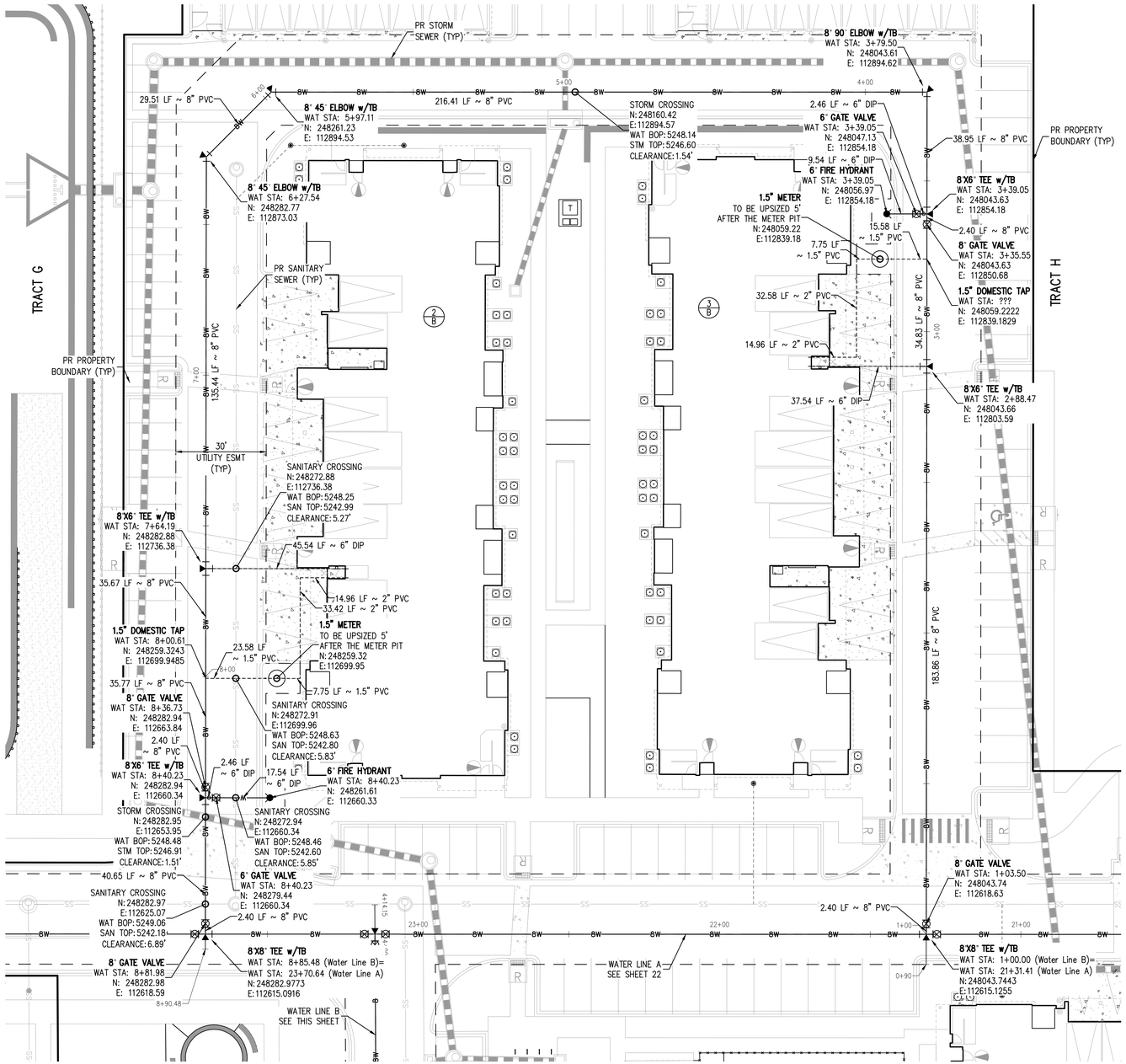
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 22

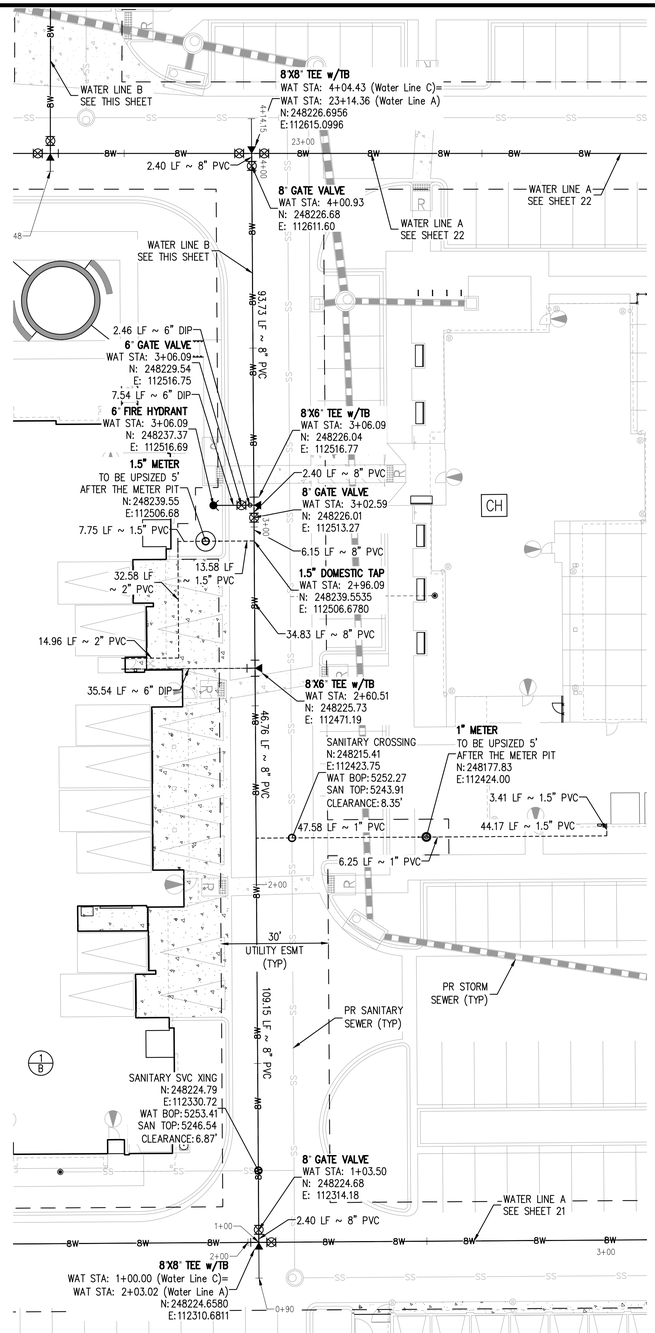
22 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\WATER\CD - WATER PLAN.DWG LAYOUT: WATER PLAN 2
4 XREFs: keymap, p-base, p-bgnd, p-util
PLOTTED: THU 11/07/19@26:55P BY: RACHEL PATTON

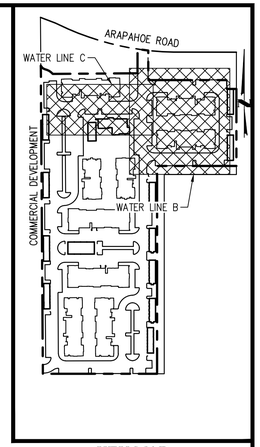
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



WATER LINE B
SCALE: 1" = 20'



WATER LINE C
SCALE: 1" = 20'



KEY MAP
SCALE: 1" = 250'

NOTES:

1. ALL WATER AND FIRE SERVICES SHALL BE INSTALLED A MINIMUM OF 4.5 FEET OF COVER FROM FINISHED GRADE.
2. STATIONING IS BASED ALONG WATER CENTER LINE.
3. PIPE LENGTH GIVEN FOR DOMESTIC WATER AND FIRE SERVICES ARE FROM MAIN TO BUILDING.
4. ALL HYDRANT ASSEMBLIES, VALVES, BENDS AND FITTINGS ARE TO BE FULLY RESTRAINED.
5. ALL VALVES, BENDS, TEES AND CROSSES SHALL HAVE THRUST BLOCKS.
6. ALL WORK SHALL BE IN ACCORDANCE WITH THE TOWN OF ERIE'S 2017 STANDARDS AND SPECIFICATIONS.
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10. FOR TOWN OF ERIE NOTES – SEE SHEETS 2 & 3

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20 0 20 40
SCALE: 1" = 20'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

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OUTLOOK AT NINE MILE
WATER PLAN LINE B & C
STA: 13+50 TO 22+00

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

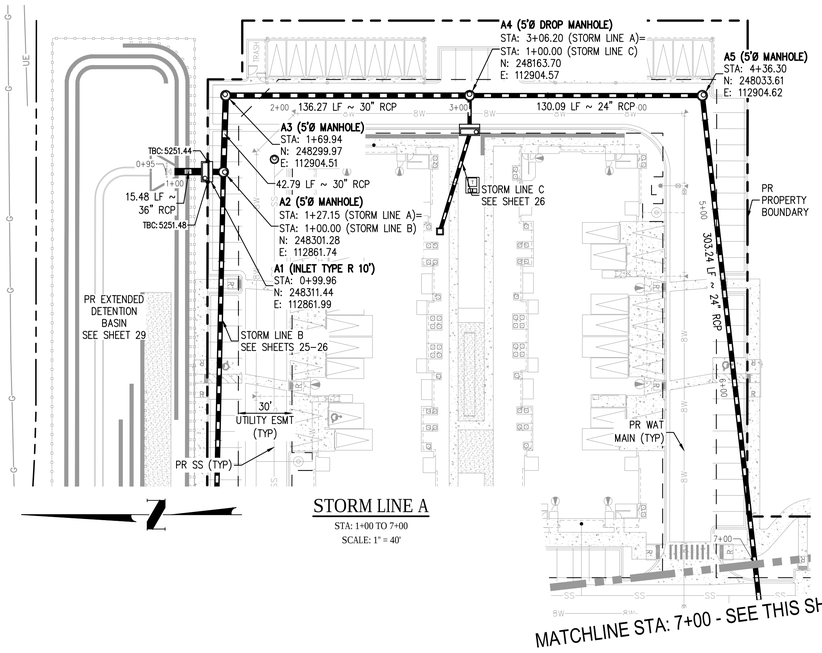
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

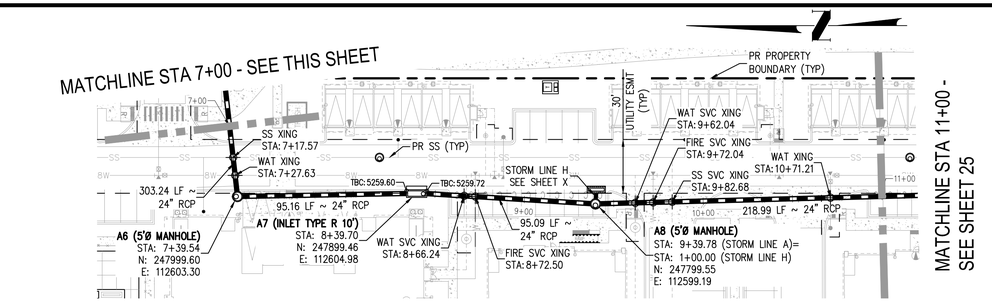
SHEET NO.
23
23 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\WATER\CD - WATER PLAN.DWG LAYOUT: WATER PLAN 3
4 XREFs: keymap, pbase, p-rigid, p-util
PLOTTED: THU 11/07/19 @ 2:26:59P BY: RACHEL PATTON

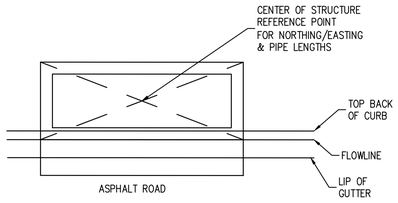
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



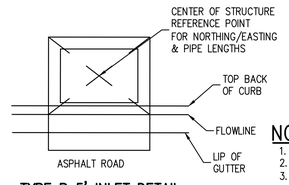
STORM LINE A
STA: 1+00 TO 7+00
SCALE: 1" = 40'



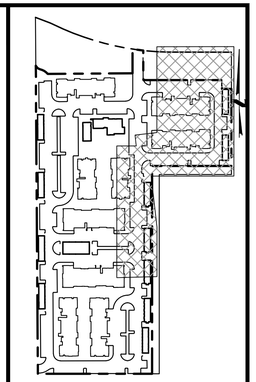
STORM LINE A,
STA: 7+00 TO 11+00
SCALE: 1" = 40'



TYPE R 10' INLET DETAIL
STRUCTURE REFERENCE POINT
SCALE: NTS



TYPE R 5' INLET DETAIL
STRUCTURE REFERENCE POINT
SCALE: NTS



KEY MAP
SCALE: 1" = 250'

NOTES:

1. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
2. ALL COORDINATES ARE AT THE CENTER OF THE STRUCTURE UNLESS OTHERWISE INDICATED.
3. ALL WORK SHALL BE IN ACCORDANCE WITH TOWN OF ERIE STANDARDS AND SPECIFICATIONS. STANDARDS ARE AVAILABLE AT THE TOWN'S WEBSITE. THE CONTRACTOR MUST HAVE A COPY ON SITE.
4. STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
5. CONTRACTOR SHALL MODIFY ALL INLETS AS NEEDED IN ORDER TO ENSURE ALL STORM PIPES CONNECT PROPERLY TO THE INLET. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS (MODIFIED INLETS AND OUTLET STRUCTURE) FOR APPROVAL BY OWNER, ENGINEER, AND TOWN OF ERIE PRIOR TO INSTALLATION.
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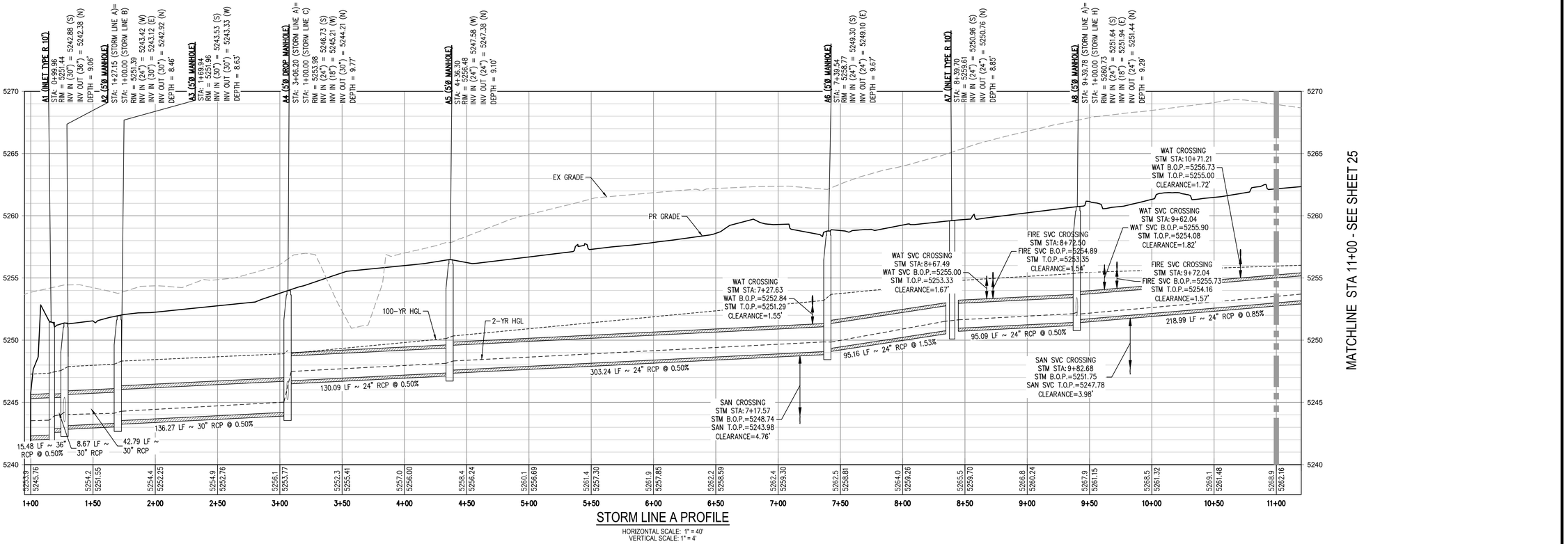
8. STORM SEWER MANHOLE RIMS SHALL BE ROTATED AS SHOWN ON PLAN.
9. INLETS WITHIN SIDEWALKS HAVE BEEN MARKED MODIFIED AND SHALL HAVE THE TOP OF THEIR BOX MODIFIED TO MATCH THE SIDEWALK GRADES NOTED ON THE GRADING PLAN.



STORM LINE A PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

SCALE: 1" = 40'

DESIGNED BY: JWM
CHECKED BY: MSM
DRAWN BY: JWM

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OUTLOOK AT NINE MILE
STORM SEWER PLAN & PROFILE LINE A

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
24
24 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM PKP.DWG LAYOUT: LINE A
7 XREFS: cd - stamp, cd_evergreen logo, cwill, levmap, phase, p-legal, p-util
PLOTTED: THU 11/07/19 6:27:28P BY: RACHEL PATTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

NOTES:

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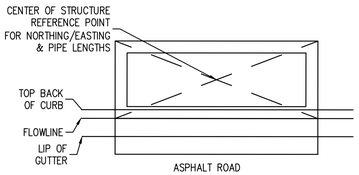
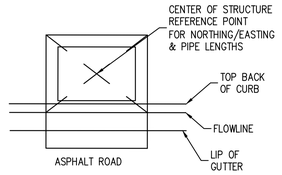
9. INLETS WITHIN SIDEWALKS HAVE BEEN MARKED MODIFIED AND SHALL HAVE THE TOP OF THEIR BOX MODIFIED TO MATCH THE SIDEWALK GRADES NOTED ON THE GRADING PLAN.



TYPE R 10' INLET DETAIL
STRUCTURE REFERENCE POINT
SCALE: NTS



TYPE R 5' INLET DETAIL
STRUCTURE REFERENCE POINT
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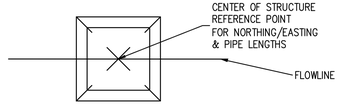
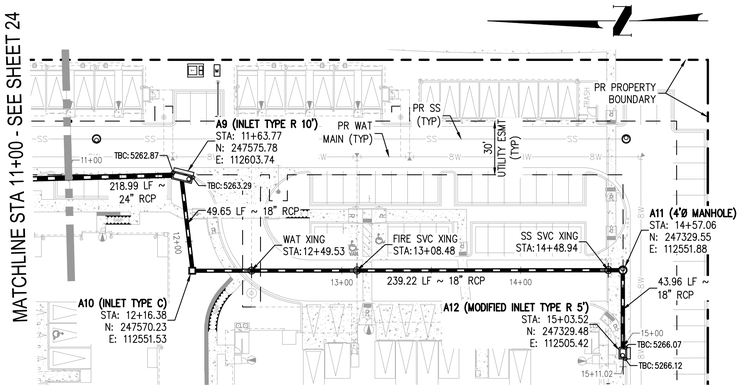
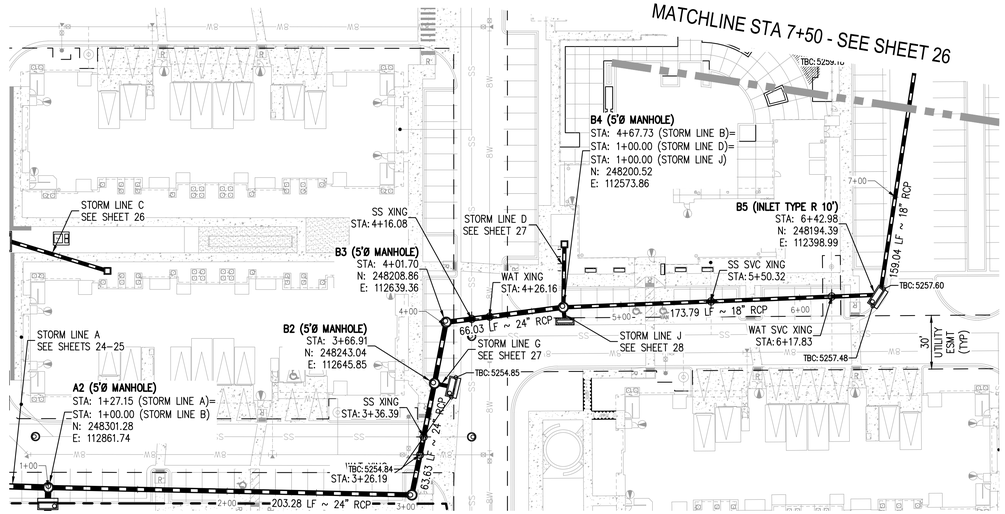


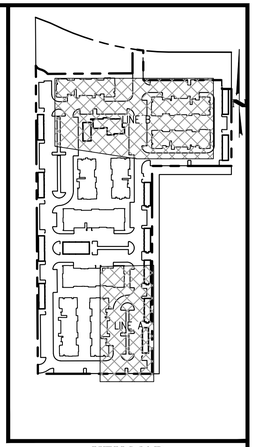
TYPE C INLET DETAIL
STRUCTURE REFERENCE POINT
SCALE: NTS



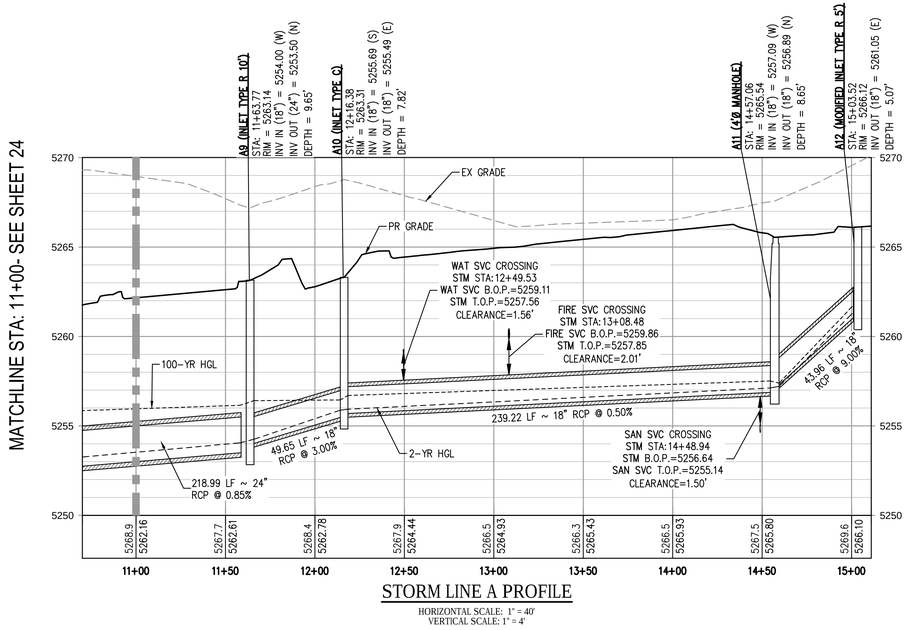
STORM LINE A PLAN
STA: 11+00 TO END
SCALE: 1" = 40'



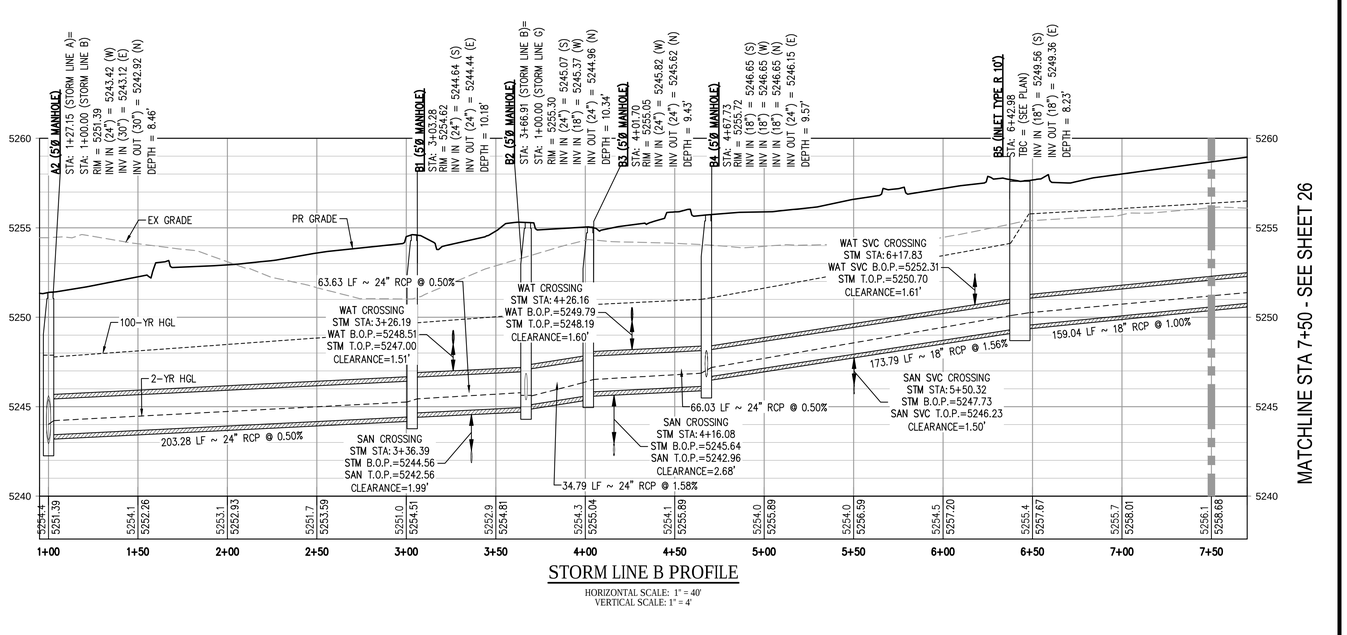
STORM LINE B PLAN
STA: 1+00 TO 7+50
SCALE: 1" = 40'



KEY MAP
SCALE: 1" = 250'



STORM LINE A PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



STORM LINE B PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

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Denver, Colorado 80203
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HarrisKocherSmith.com

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OUTLOOK AT NINE MILE
STORM SEWER PLAN & PROFILE LINES A & B

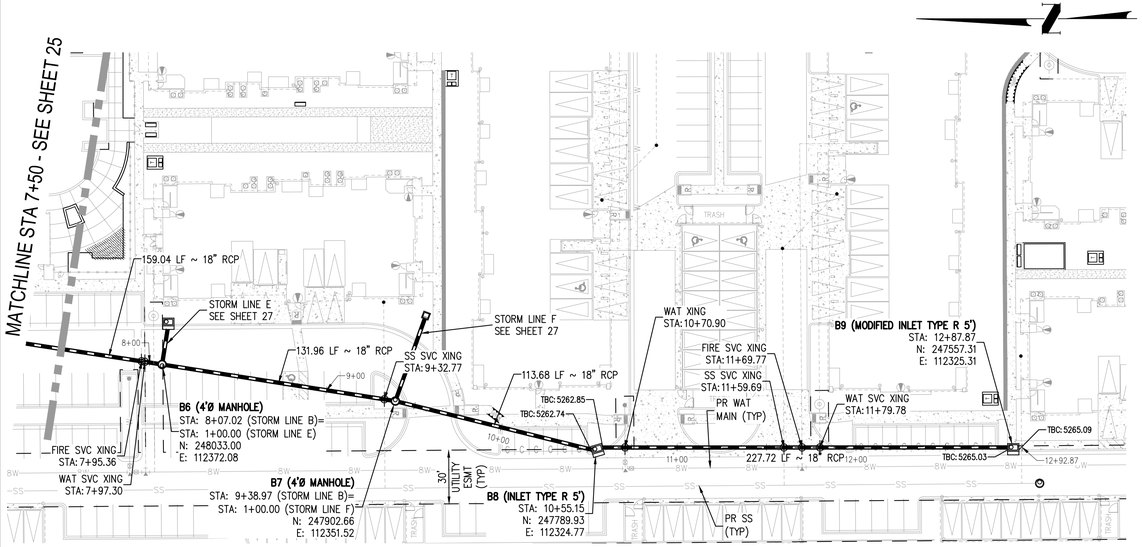
ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
25
25 OF 60

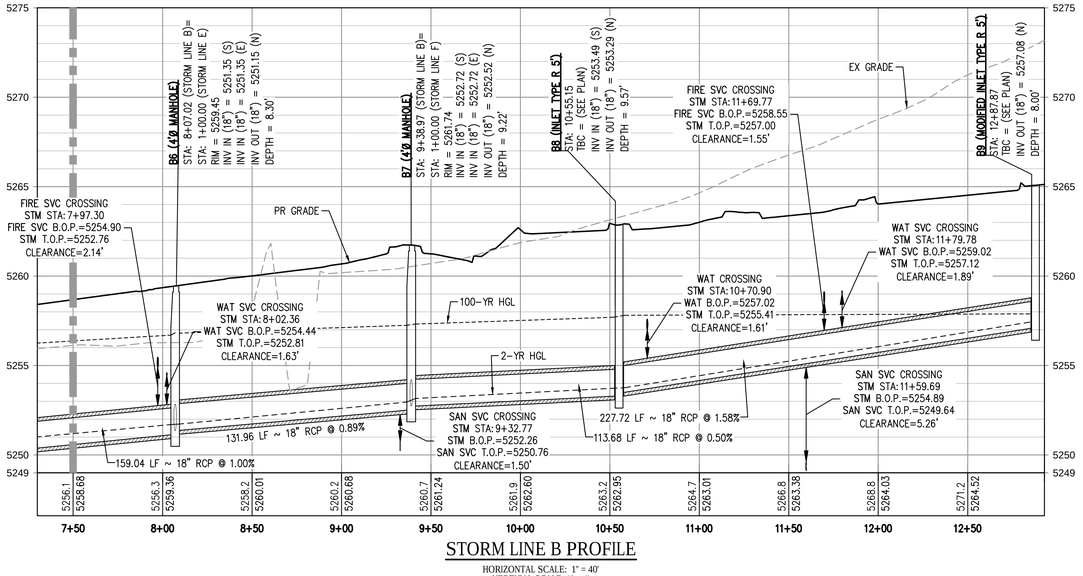
FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE A & B
7 XREFs: cd - stamp, cd_evergreen logo, c-ut, keymap, c-ut, keymap, p-base, p-legal, p-util
PLOTTED: THU 11/07/19 6:27:54P BY: RACHEL PATTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.



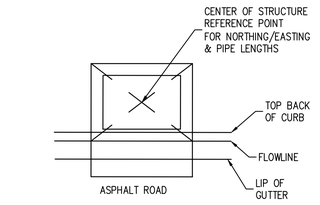
STORM LINE B PLAN

STA:7+50 TO END
SCALE: 1" = 40'



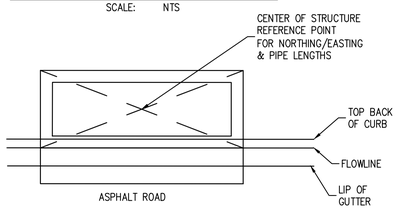
STORM LINE B PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



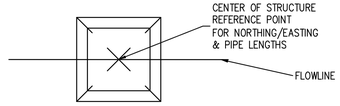
TYPE R 5' INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS



TYPE R 10' INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS



TYPE C INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS

NOTES:

1. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
2. ALL COORDINATES ARE AT THE CENTER OF THE STRUCTURE UNLESS OTHERWISE INDICATED.
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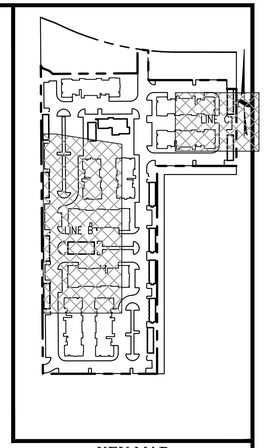
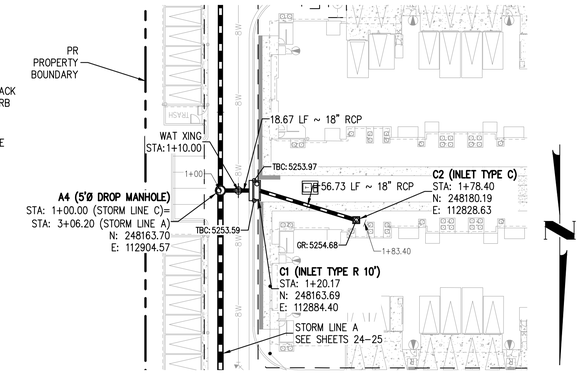


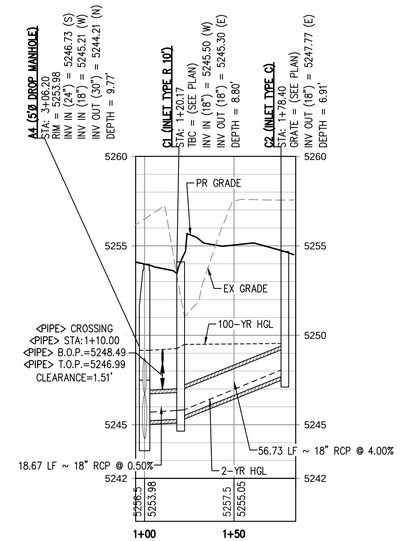
KEY MAP

SCALE: 1" = 250'



STORM LINE C PLAN

SCALE: 1" = 40'



STORM LINE C PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

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40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

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Denver, Colorado 80203
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OUTLOOK AT NINE MILE
STORM SEWER PLAN & PROFILE LINES B & C

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 26

26 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM PRP.DWG LAYOUT: LINE B & C
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PLOTTED: THU 11/07/19 6:27:41P BY: RACHEL PATTON

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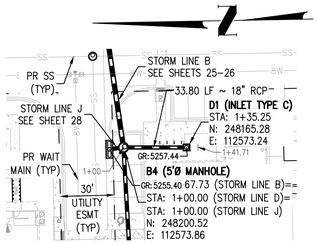
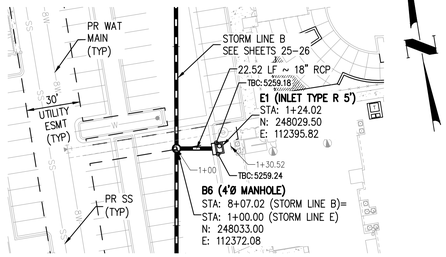


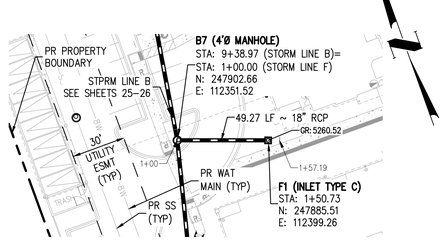
STORM LINE D PLAN

SCALE: 1" = 40'



STORM LINE E PLAN

SCALE: 1" = 40'



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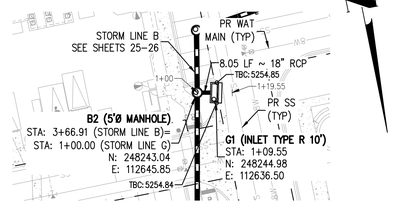
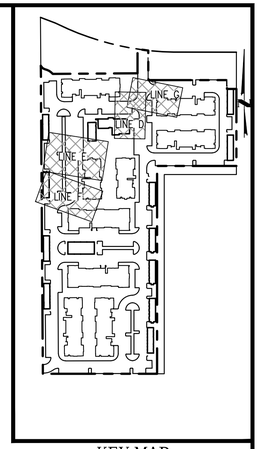


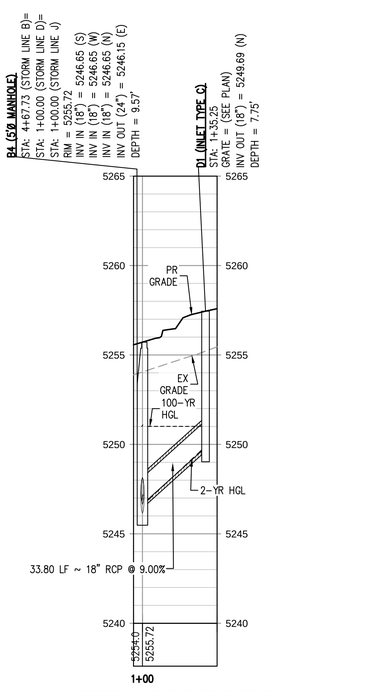
STORM LINE G PLAN

SCALE: 1" = 40'



KEY MAP

SCALE: 1" = 250'



STORM LINE D PROFILE

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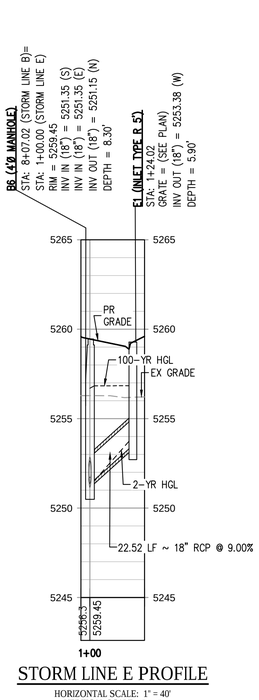
VERTICAL SCALE: 1" = 4'



STORM LINE E PROFILE

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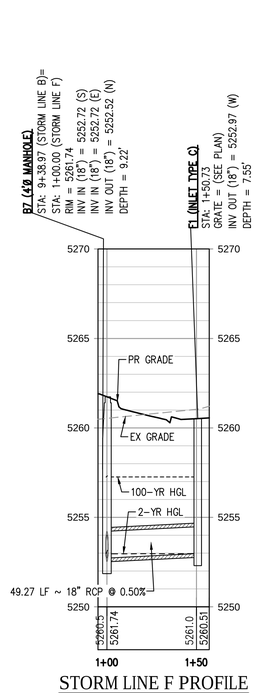
VERTICAL SCALE: 1" = 4'



STORM LINE F PROFILE

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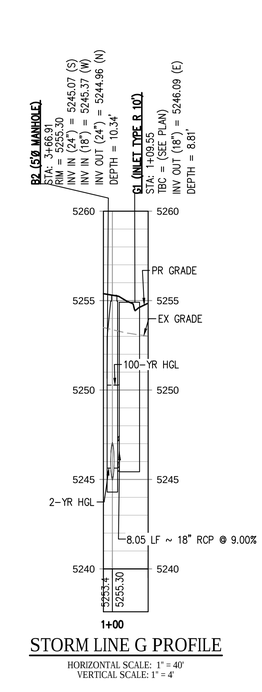
VERTICAL SCALE: 1" = 4'



STORM LINE G PROFILE

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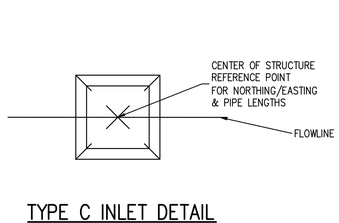
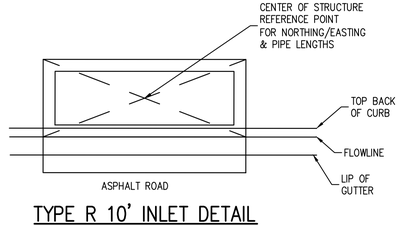
VERTICAL SCALE: 1" = 4'



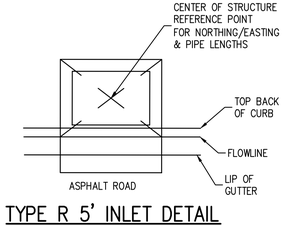
TYPE C INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS



TYPE R 10' INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS



TYPE R 5' INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS

NOTES:

1. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
2. ALL COORDINATES ARE AT THE CENTER OF THE STRUCTURE UNLESS OTHERWISE INDICATED.
3. ALL WORK SHALL BE IN ACCORDANCE WITH TOWN OF ERIE STANDARDS AND SPECIFICATIONS. STANDARDS ARE AVAILABLE AT THE TOWN'S WEBSITE. THE CONTRACTOR MUST HAVE A COPY ON SITE.
4. STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
5. CONTRACTOR SHALL MODIFY ALL INLETS AS NEEDED IN ORDER TO ENSURE ALL STORM PIPES CONNECT PROPERLY TO THE INLET. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS (MODIFIED INLETS AND OUTLET STRUCTURE) FOR APPROVAL BY OWNER, ENGINEER, AND TOWN OF ERIE PRIOR TO INSTALLATION.
6. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
7. ALL STORM SEWER INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
8. STORM SEWER MANHOLE RIMS SHALL BE ROTATED AS SHOWN ON PLAN.
9. INLETS WITHIN SIDEWALKS HAVE BEEN MARKED MODIFIED AND SHALL HAVE THE TOP OF THEIR BOX MODIFIED TO MATCH THE SIDEWALK GRADES NOTED ON THE GRADING PLAN.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

HARRIS KOCHER SMITH
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Denver, Colorado 80203
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OUTLOOK AT NINE MILE
STORM SEWER PLAN & PROFILE LINES D, E, F & G

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
27
27 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE D E F & G
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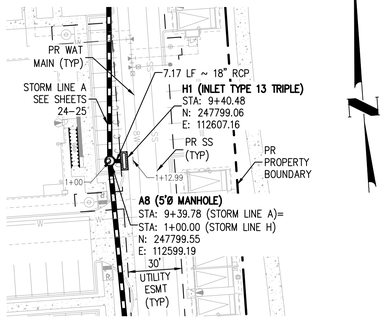
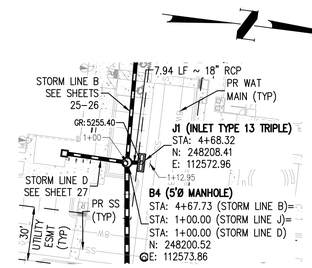


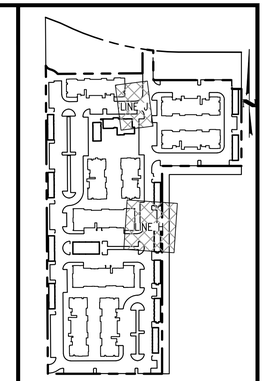
STORM LINE H PLAN

SCALE: 1" = 40'



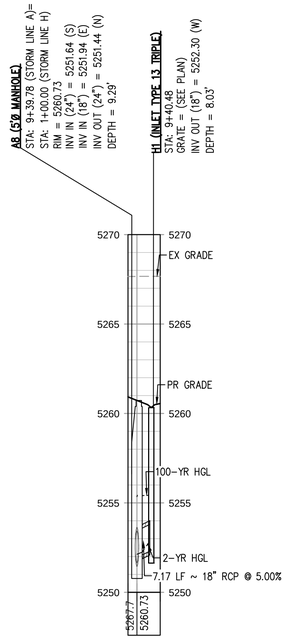
STORM LINE J PLAN

SCALE: 1" = 40'



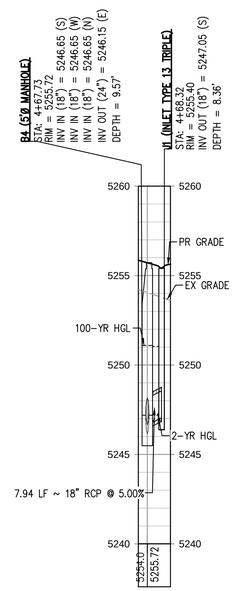
KEY MAP

SCALE: 1" = 250'



STORM LINE H PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



STORM LINE J PROFILE

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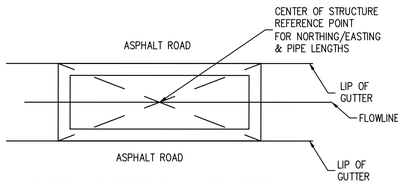
VERTICAL SCALE: 1" = 4'



TYPE 13 TRIPLE INLET DETAIL STRUCTURE REFERENCE POINT

SCALE: NTS

NOTES:

1. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
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CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

HARRIS KOCHER SMITH
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Denver, Colorado 80203
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OUTLOOK AT NINE MILE
STORM SEWER PLAN & PROFILE LINES H & J

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 28

28 OF 60

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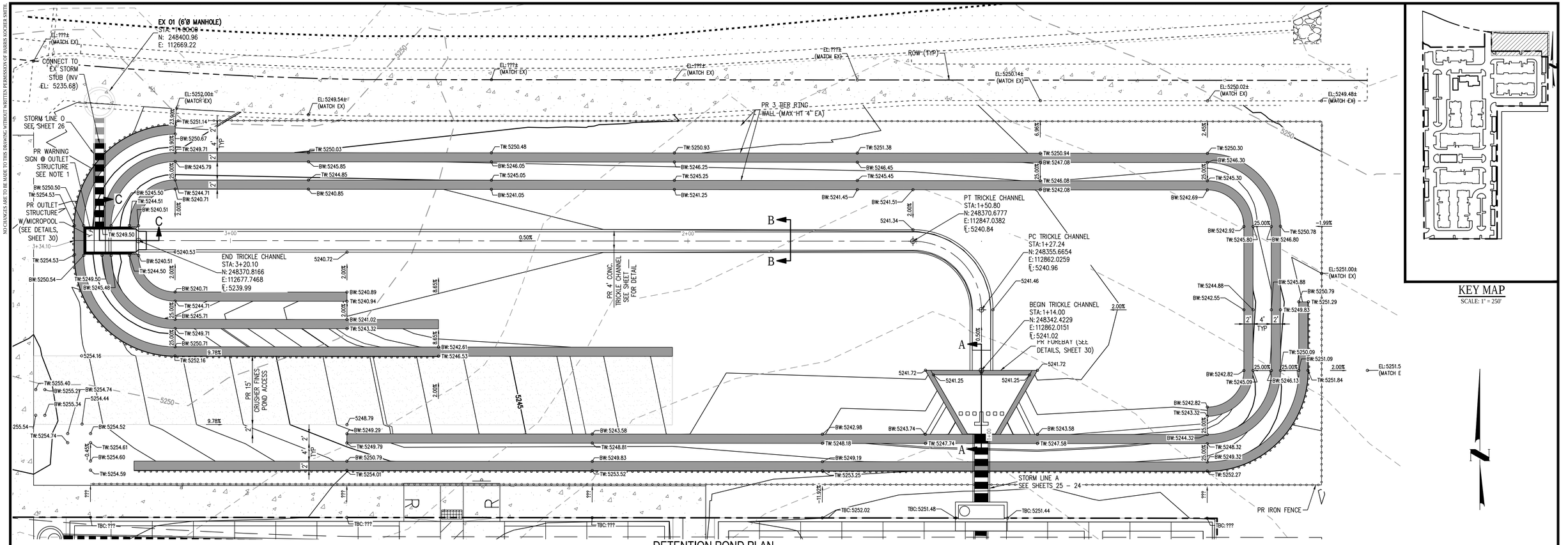
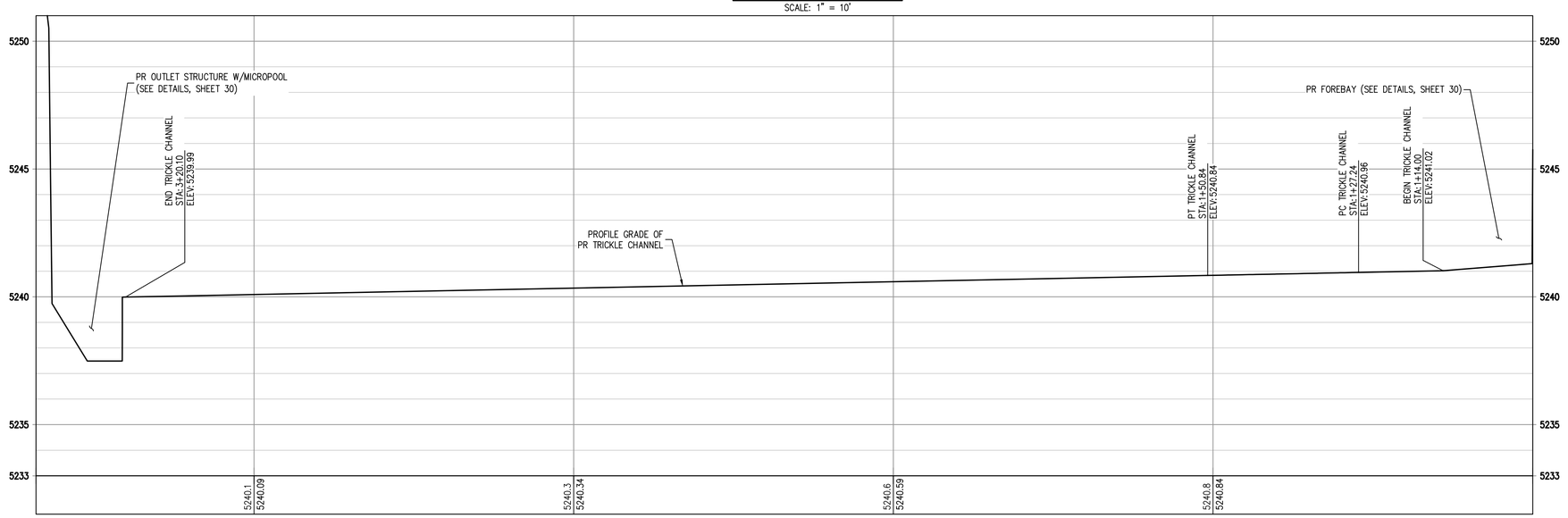


DETENTION POND PLAN

SCALE: 1" = 10'



TRICKLE CHANNEL PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 2'

OUTLET STRUCTURE NOTES:

1. SIGN SHALL STATE " WARNING UNAUTHORIZED MODIFICATION OF THIS OUTLET IS A CODE VIOLATION AND SUBJECT TO THE PENALTIES AS PROVIDED BY LAW". REFER TO CITY AND STATE REGULATION REGARDING SPECIFICS OF THIS SIGN.
2. SEE SHEETS 30 FOR SECTIONS A-A, B-B, C-C, AND FOR ALL SPECIFIC DETAILS FOR THIS DETENTION POND.

KEY MAP

SCALE: 1" = 250'

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

10 0 10 20
SCALE: 1" = 10'

DESIGNED BY: KDB
CHECKED BY: MSM
DRAWN BY: KDB

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OUTLOOK AT NINE MILE
DETENTION POND PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
29
29 OF 60

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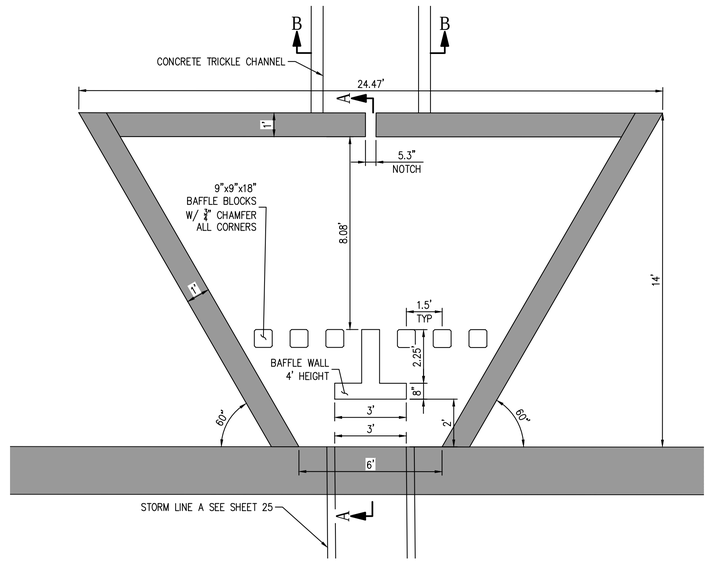
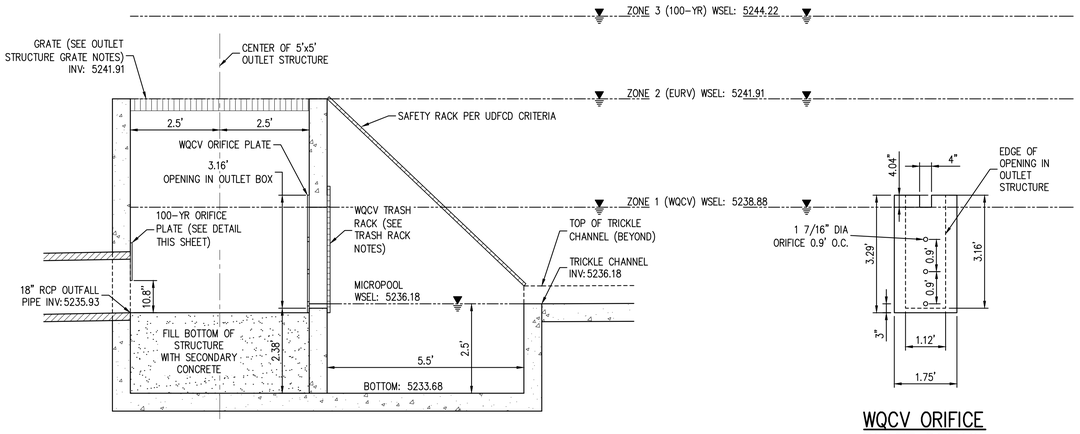


MODIFIED IMPACT STILLING BASIN PLAN

SEE NOTE #7 THIS SHEET
SCALE: 1" = 3'

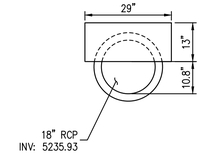


SECTION C-C
WATER QUALITY OUTLET STRUCTURE PROFILE

SCALE: N.T.S.

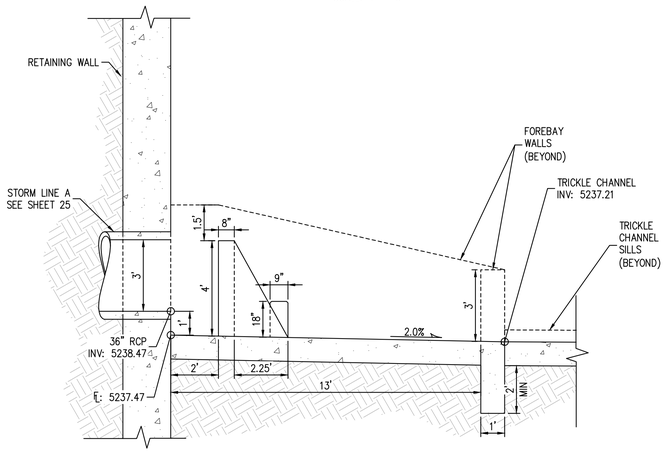
WQCV ORIFICE PLATE DETAIL

N.T.S.



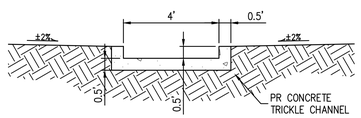
100-YR RESTRICTOR PLATE DETAIL

N.T.S.



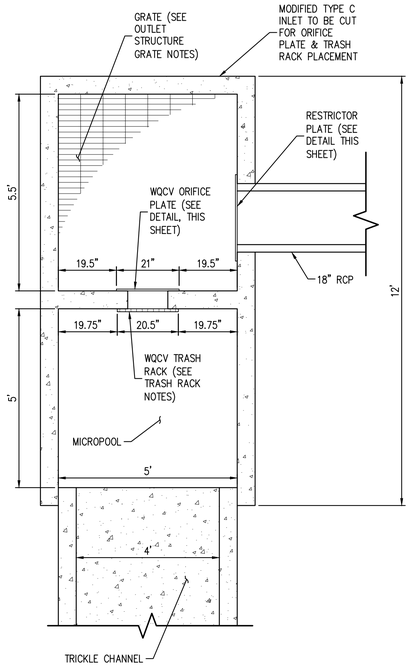
SECTION A-A
MODIFIED IMPACT STILLING BASIN PROFILE DETAIL

SEE NOTE #7 THIS SHEET
SCALE: 1" = 3'



SECTION B-B
TRICKLE CHANNEL DETAIL

SCALE: 1" = 3'



WATER QUALITY OUTLET STRUCTURE PLAN

SCALE: N.T.S.

OUTLET STRUCTURE NOTES:

GENERAL NOTES:

1. ALL PENETRATIONS AND JOINTING SHALL BE WATER-TIGHT, WITH LINK-SEAL OR APPPROVED EQUIVALENT.
2. THE EXTENDED DETENTION BASIN FOREBAY SHALL BE BUILT IN ACCORDANCE WITH CURRENT UDFCD CRITERIA AND DETAILS.
3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL TRASH RACKS AND ORIFICE PLATES PRIOR TO CONSTRUCTION.
4. STRUCTURAL DESIGN OF ALL TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.
5. CONTRACTOR SHALL PROVIDE STRUCTURAL DESIGN/SHOP DRAWINGS FOR THE POND WALLS, ENERGY DISSIPATION BAFFLE WALLS, FOREBAY SLAB, FOREBAY WALL, TRICKLE CHANNEL, MICROPOOL, WINGWALLS, AND OUTLET STRUCTURE.
6. ALL DESIGN ELEMENTS INCLUDING CONCRETE, THICKNESS, AND REINFORCEMENT FOR POND WALL ENERGY DISSIPATION BAFFLE WALL, FOREBAY SLAB, FOREBAY WALL, TRICKLE CHANNEL, MICROPOOL, WINGWALLS AND OUTLET STRUCTURE WILL BE ACCORDING TO UDFCD CRITERIA AND DETAILS.
7. MODIFIED IMPACT STILLING BASIN FIGURE 9-43 PER URBAN STORM DRAINAGE CRITERIA MANUAL, UPDATED SEPTEMBER 2017.

TRASH RACK NOTES:

1. TRASH RACK SHALL BE IN ACCORDANCE WITH UDFCD TYPICAL WELL SCREEN TRASH RACK
   - 1.1. NO. 93 JOHNSON VEE WIRE STAINLESS STEEL WELL SCREEN (OR EQUIVALENT)
   - 1.2. OPENING SLOT DIMENSION SHALL BE 0.139"
   - 1.3. STAINLESS STEEL SUPPORT BARS SHALL BE TE 0.074" X 0.50", 1' O.C.
   - 1.4. C8X18.75 AMERICAN STANDARD STRUCTURAL STEEL CHANNEL FORMED INTO CONCRETE BOTTOM AND SIDE OF TRASH RACK SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.

OUTLET STRUCTURE GRATE NOTES:

1. GRATE SHALL BE CLOSED MESH GRATE PER CDOT TYPE C INLET M-604-10
2. GRATE SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
3. GRATE SHALL BE STAINLESS ALUMINUM OR STEEL, SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.

ORIFICE/RESTRICTOR PLATE NOTES:

1. PROVIDE GASKET MATERIAL BETWEEN ORIFICE PLATE AND CONCRETE.
2. BOLT PLATE TO CONCRETE 12" MAX ON CONCRETE.

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DESIGNED BY: KDB
CHECKED BY: MSM
DRAWN BY: KDB

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Denver, Colorado 80203
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OUTLOOK AT NINE MILE
POND PLAN DETAIL

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
30
30 OF 60

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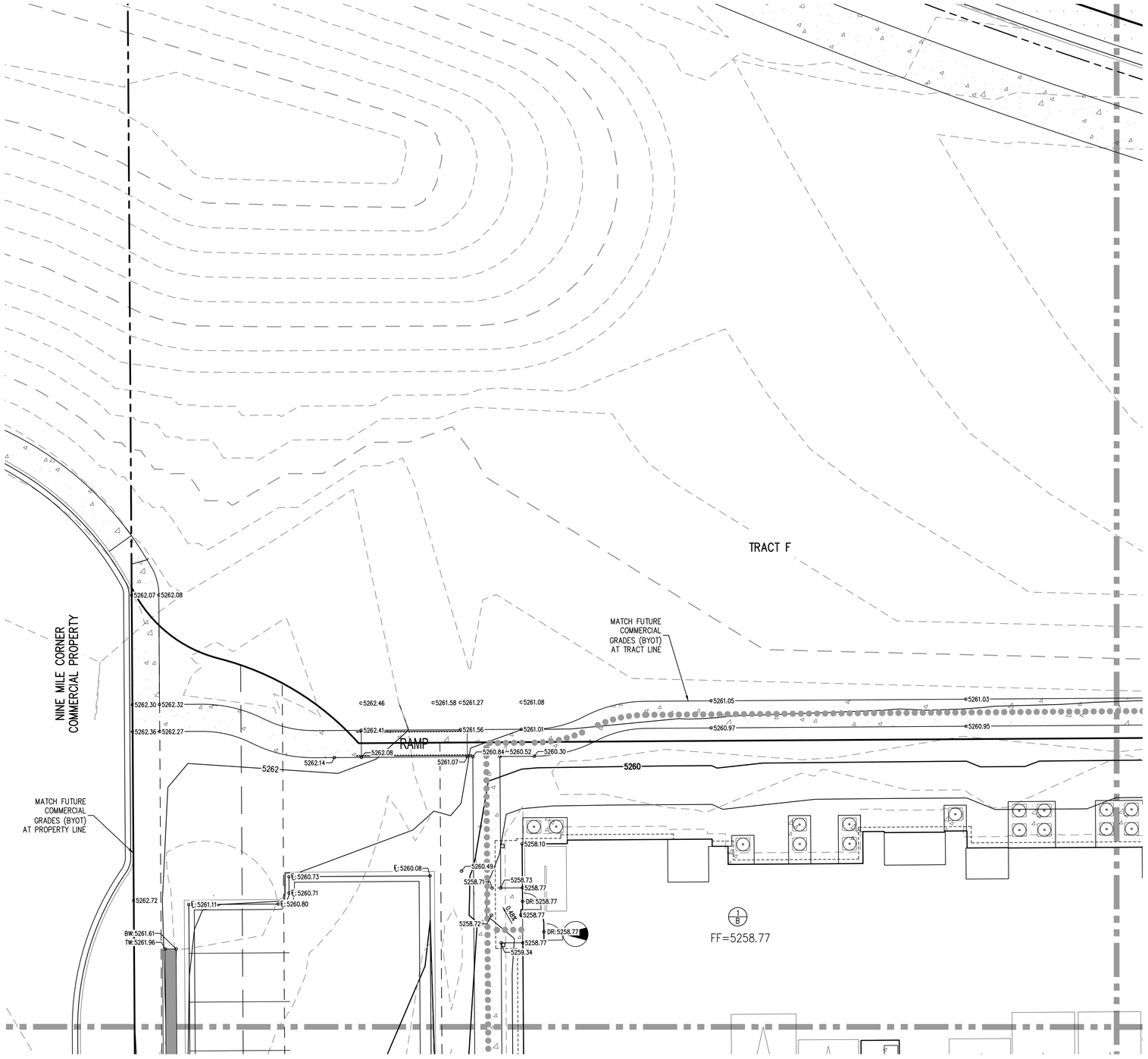

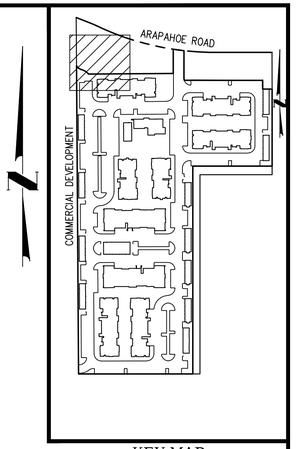

KEY MAP
SCALE: 1" = 250'

GENERAL GRADING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT HANDRAILS, STAIRS, CURB RAMPS, AND RAMPS ARE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL STATE AND/OR FEDERAL REGULATIONS AND STANDARDS, INCLUDING BUT NOT LIMITED TO, THE AMERICANS WITH DISABILITIES ACT (ADA), THE FAIR HOUSING ACT (FHA) AND THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
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4. GUTTER SLOPES AT THE CURB RAMPS SHALL NOT EXCEED 5%
5. GUTTER PANS SURROUNDING HANDICAP SPACES SHALL MATCH THE SLOPE OF THE ADJACENT PAVEMENT WITH A MAXIMUM 2% SLOPE IN ALL DIRECTIONS.
6. ALL GRADES ARE FINISHED GRADE, UNLESS OTHERWISE NOTED.
7. ROCK MULCH, IF PLACED UPSTREAM OF CONCRETE FLATWORK OR GRASSED AREA, SHALL BE PLACED ON TOP OF FINISHED GRADE SHOWN ON THESE PLANS. ROCK MULCH AREAS SHALL BE DESIGNED AND CONSTRUCTED TO ADEQUATELY DRAIN AND NOT RETAIN WATER. ALL LANDSCAPE EDGE MATERIALS SHALL NOT PREVENT DRAINAGE TO PASS THROUGH.
8. ALL GRADES ADJACENT TO THE BUILDINGS SHALL BE AT MINIMUM 8-INCHES BELOW FINISHED FLOOR ELEVATION, UNLESS OTHERWISE NOTED.
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11. REFER TO STRUCTURAL PLANS FOR BUILDING FOUNDATION STEP LOCATIONS WHEN APPLICABLE.
12. PORTIONS OF STAIRS THAT DO NOT MEET THE MINIMUM 4-INCH RISER HEIGHT (DUE TO AN ADJACENT SLOPING PUBLIC WAY) SHALL HAVE A DISTINCTIVE MARKING STRIPE, 1-INCH TO 2-INCHES IN WIDTH, WITH A SLIP-RESISTANT SURFACE, IN ACCORDANCE WITH CURRENT INTERNATIONAL BUILDING CODE REGULATIONS.
13. SEE LANDSCAPE ARCHITECT PLANS FOR HEIGHT AND TOP OF COURTYARD AMENITIES (PLANTER CURBS, SEAT WALLS, BENCHES, FIRE WALL, MEDIA WALL, BARS, AND GRILLS).
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16. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL ENGINEERING REPORT.
17. CONTRACTOR SHALL ENSURE ACCESSIBLE EXTERIOR DOORS AND GATES ARE CONSTRUCTED WITH ADEQUATE LANDING WIDTH AND DEPTH TO COMPLY WITH APPLICABLE AMERICANS WITH DISABILITIES ACT (ADA) AND AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) MANEUVERING CLEARANCES AT DOOR REQUIREMENTS (BASED ON THE DIRECTION OF APPROACH OF THE SIDEWALK).

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10 0 10 20
SCALE: 1" = 10'

DESIGNED BY: RJH
CHECKED BY: RCP
DRAWN BY: RJH

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

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OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
31
31 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - DETAILED GRADING PLAN 1.DWG LAYOUT: LAYOUT1
NO XREFs
PLOTTED: THU, 11/07/19 @ 3:04:45P BY: RACHEL PATTON

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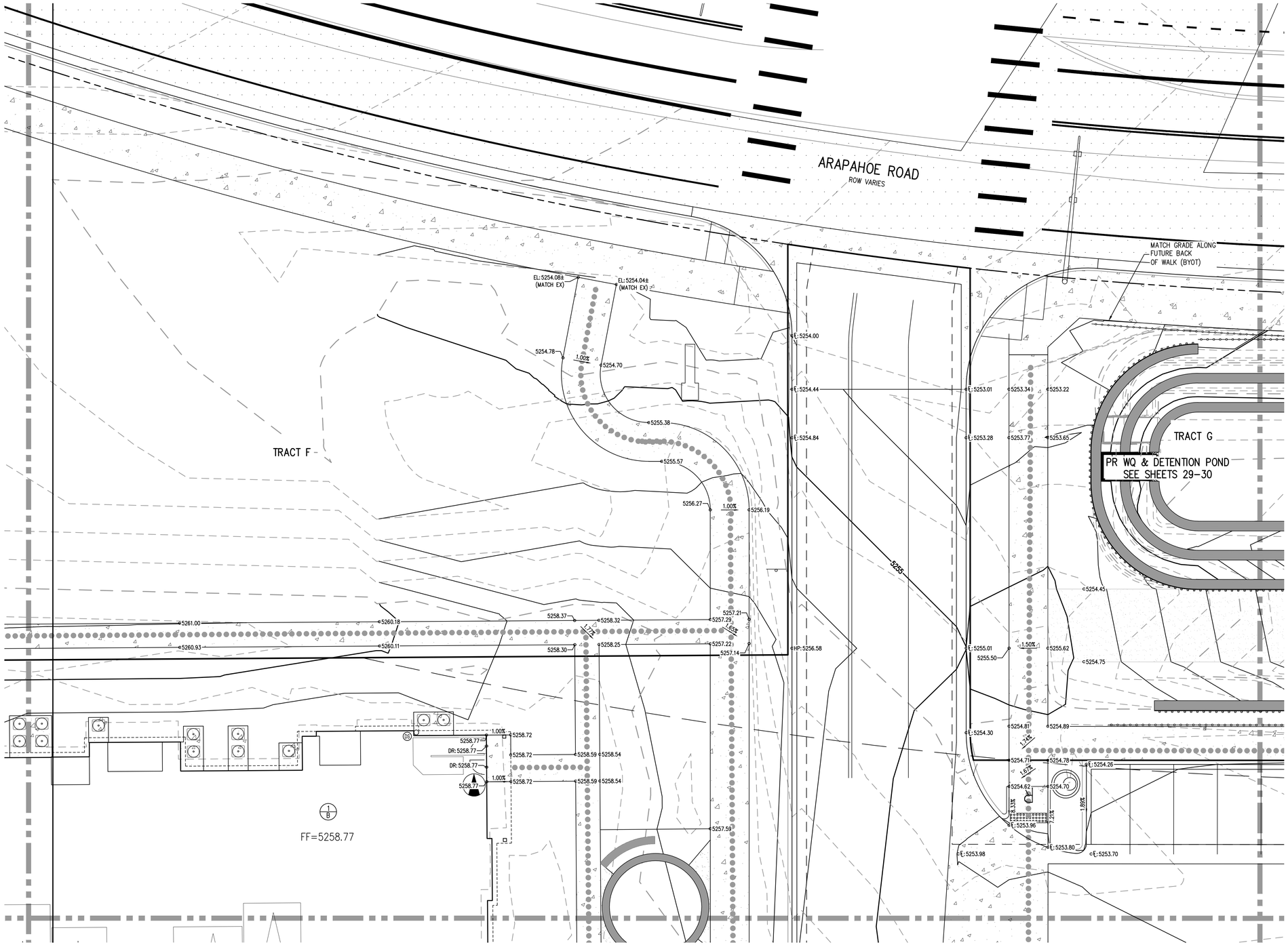

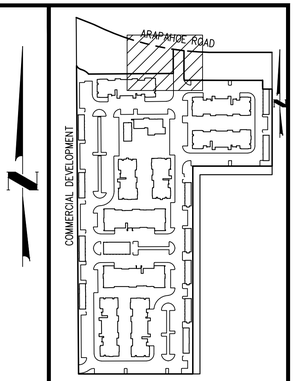

KEY MAP
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CHECKED BY: RCP
DRAWN BY: RJH

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OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

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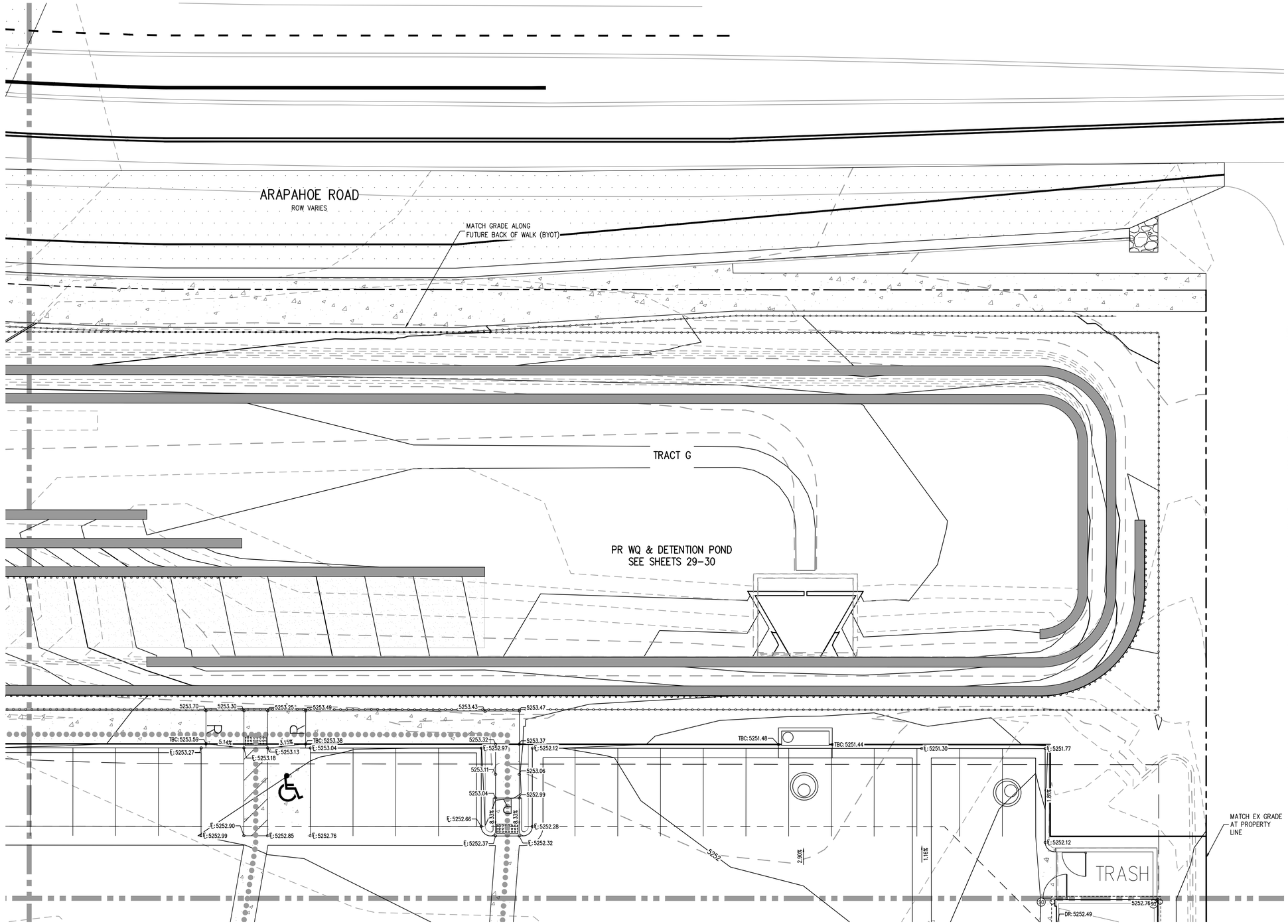
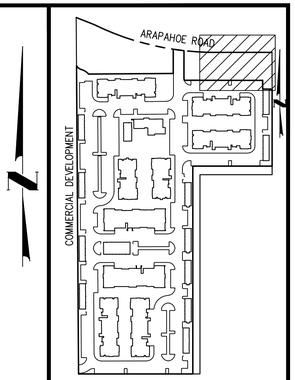
SHEET NO.
32
32 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - DETAILED GRADING PLAN 1.DWG LAYOUT: LAYOUT2
NO XREFS
PLOTTED: THU 11/07/19 6:30:48P BY: RACHEL PAYTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF HARRIS KOCHER SMITH





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OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

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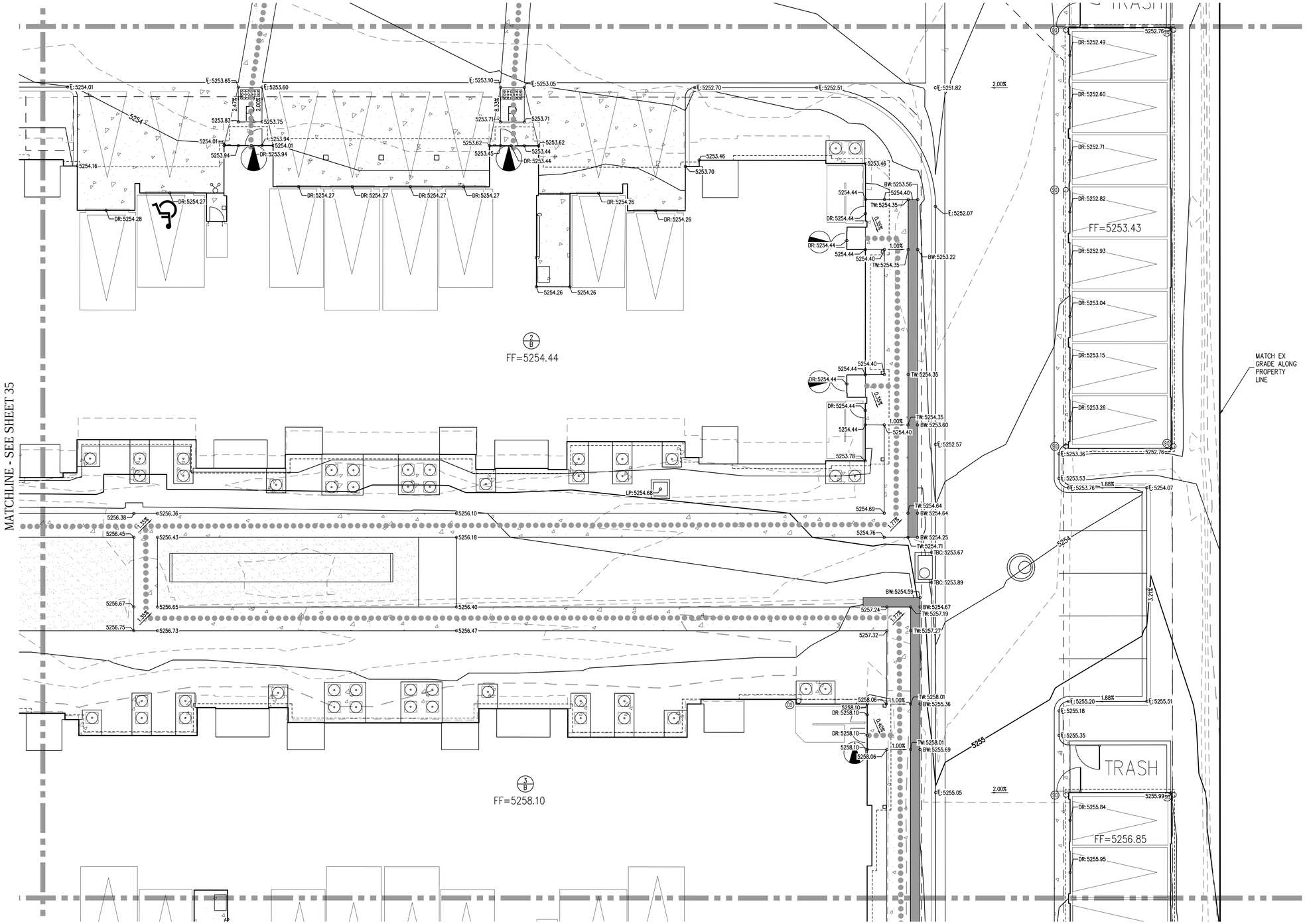
SHEET NO. 33
33 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - DETAILED GRADING PLAN 1.DWG LAYOUT: LAYOUT3
NO XREFS
PLOTTED: THU 11/07/19 6:30:50P BY: RACHEL PAYTON

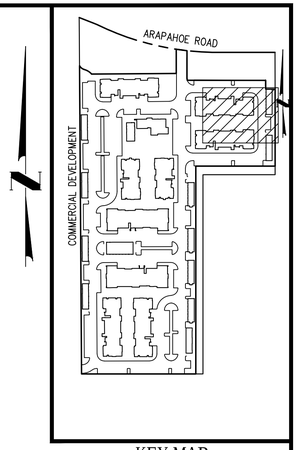
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE - SEE SHEET 33



MATCHLINE - SEE SHEET 35

MATCHLINE - SEE SHEET 39



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SHEET NO.
34
34 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - DETAILED GRADING PLAN 1.DWG LAYOUT: LAYOUT4
NO XREFS
PLOTTED: THU 11/07/19 6:30:53P BY: RACHEL PATTON

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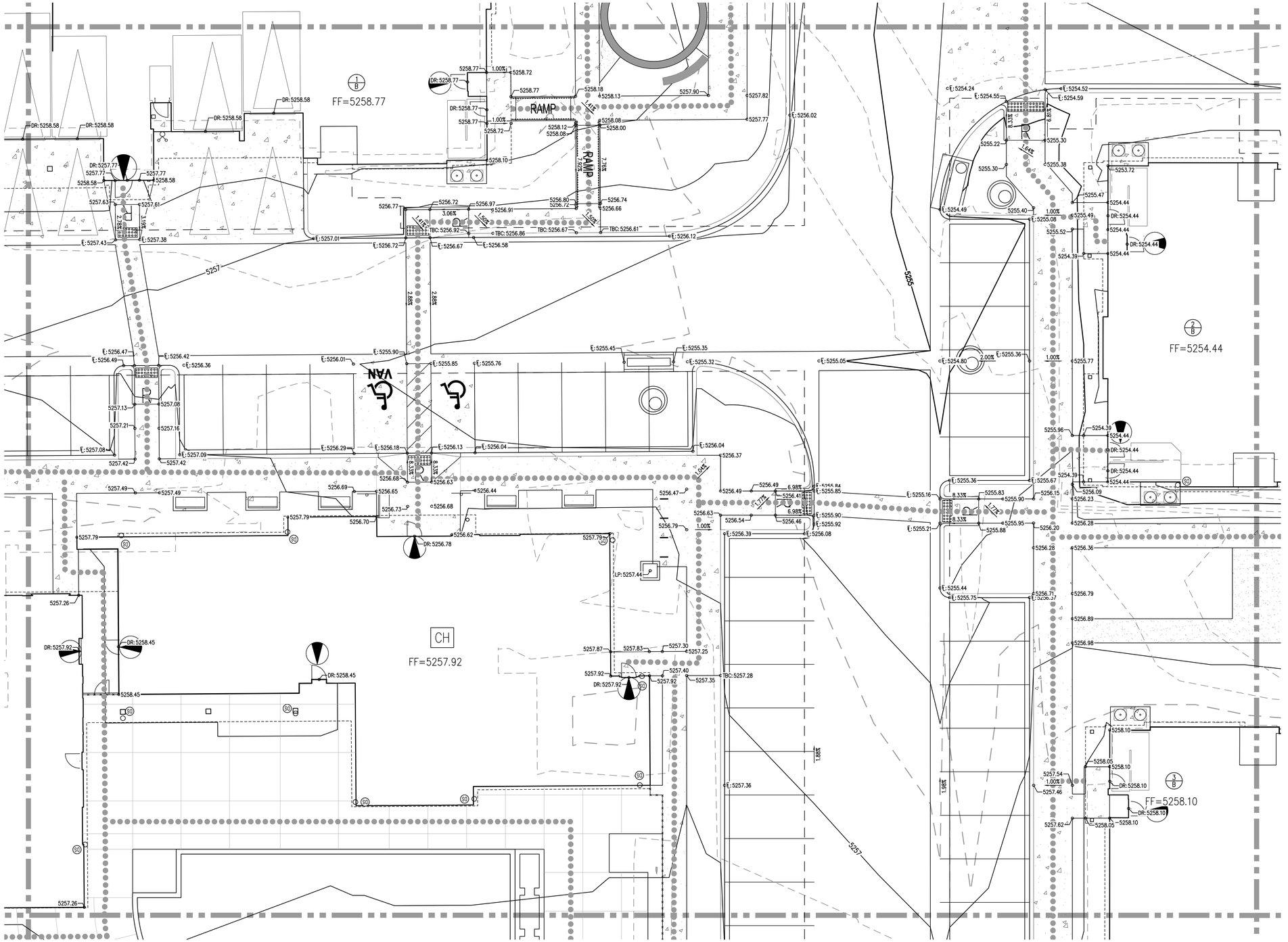
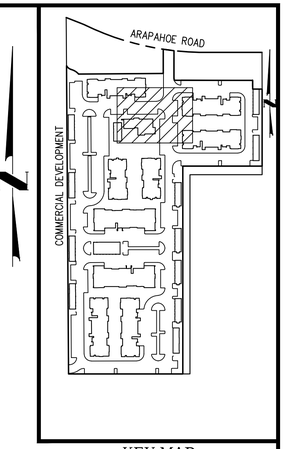
MATCHLINE - SEE SHEET 32



MATCHLINE - SEE SHEET 36

MATCHLINE - SEE SHEET 34

MATCHLINE - SEE SHEET 38



KEY MAP
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10 0 10 20
SCALE: 1" = 10'

DESIGNED BY: RJH
CHECKED BY: RCP
DRAWN BY: RJH

HARRIS KOCHER SMITH
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Denver, Colorado 80203
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OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
35
35 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - DETAILED GRADING PLAN 1.DWG LAYOUT: LAYOUT5
NO XREFS
PLOTTED: THU 11/07/19 6:30:57P BY: RACHEL PATTON

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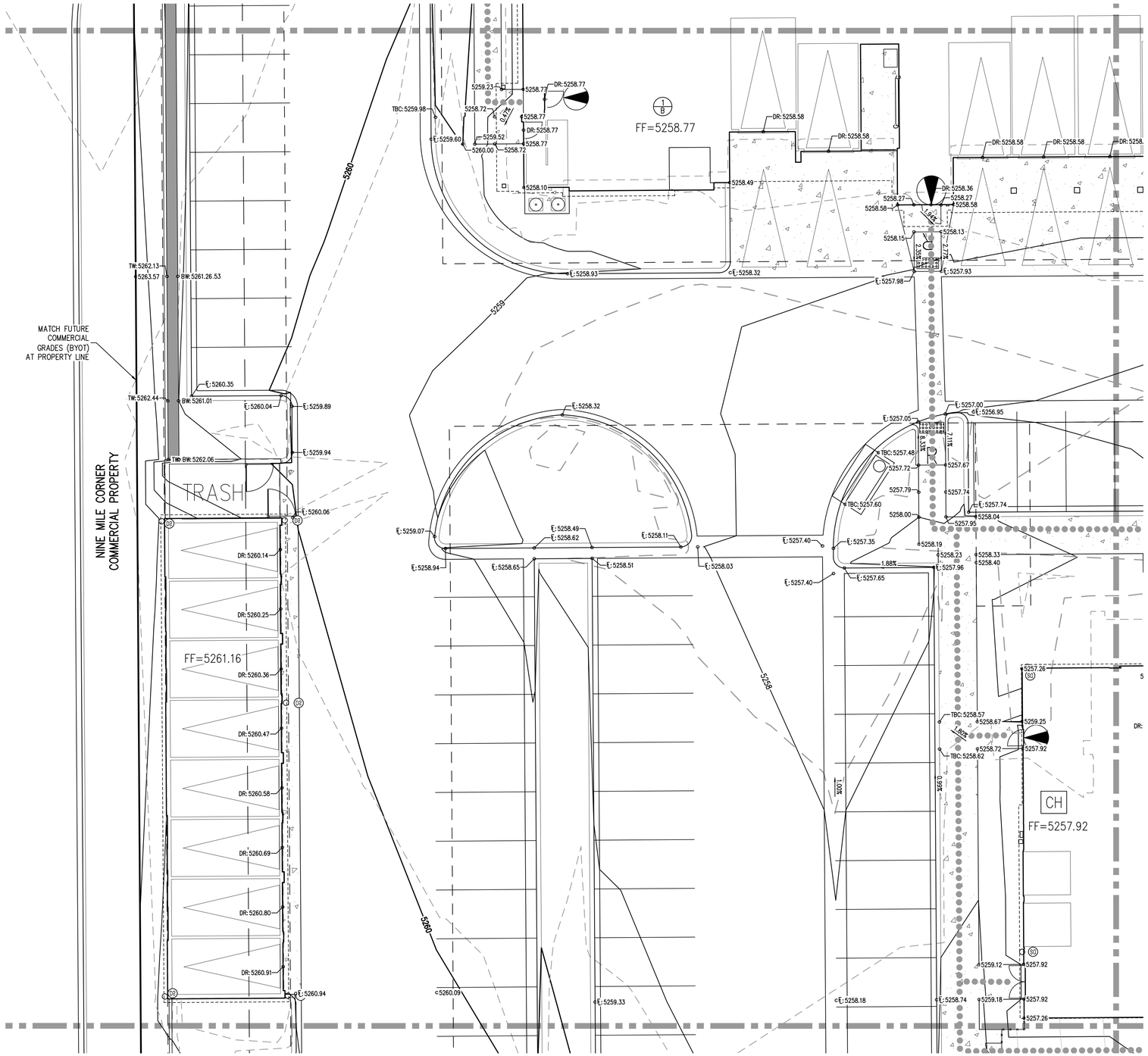
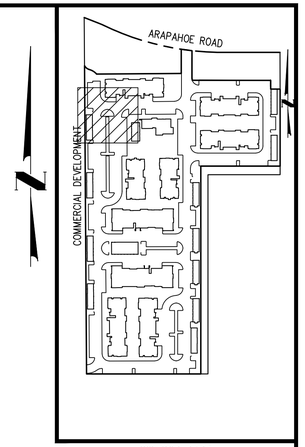
MATCHLINE - SEE SHEET 31



MATCHLINE - SEE SHEET 37



KEY MAP
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DETAILED GRADING PLAN

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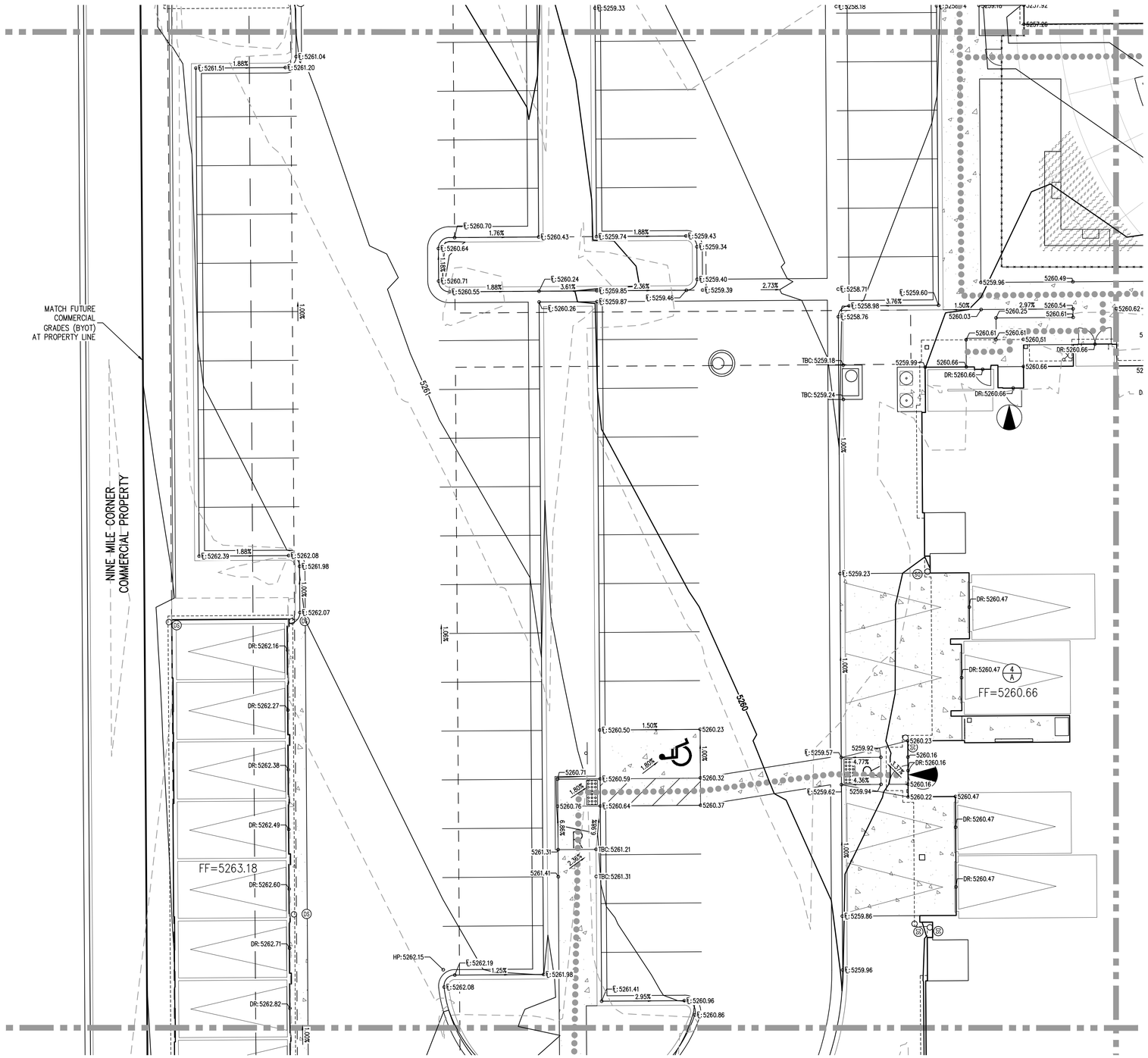
SHEET NO.
36
36 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - DETAILED GRADING PLAN 1.DWG LAYOUT: LAYOUT6
NO XREFs
PLOTTED: THU 11/07/19 6:31:00P BY: RACHEL PAYTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE - SEE SHEET 36


MATCH FUTURE COMMERCIAL GRADES (BYOT) AT PROPERTY LINE
NINE MILE CORNER
COMMERCIAL PROPERTY
E: 5261.51
1.88%
E: 5261.04
E: 5261.20
E: 5260.70
1.76%
E: 5260.43
E: 5259.74
1.88%
E: 5259.43
E: 5259.34
E: 5260.64
E: 5260.71
1.88%
E: 5260.55
E: 5260.24
3.61%
E: 5259.85
2.36%
E: 5259.40
E: 5259.39
E: 5259.87
E: 5259.46
E: 5260.26
2.73%
E: 5258.71
E: 5259.60
E: 5258.98
3.76%
E: 5258.76
1.50%
2.97%
5260.03
5260.25
5260.54
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5260.62
5260.61
5260.61
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DR: 5260.66
5260.66
5259.99
5260.66
DR: 5260.66
DR: 5260.66
TBC: 5259.18
TBC: 5259.24
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5260
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5260.1
5260.1

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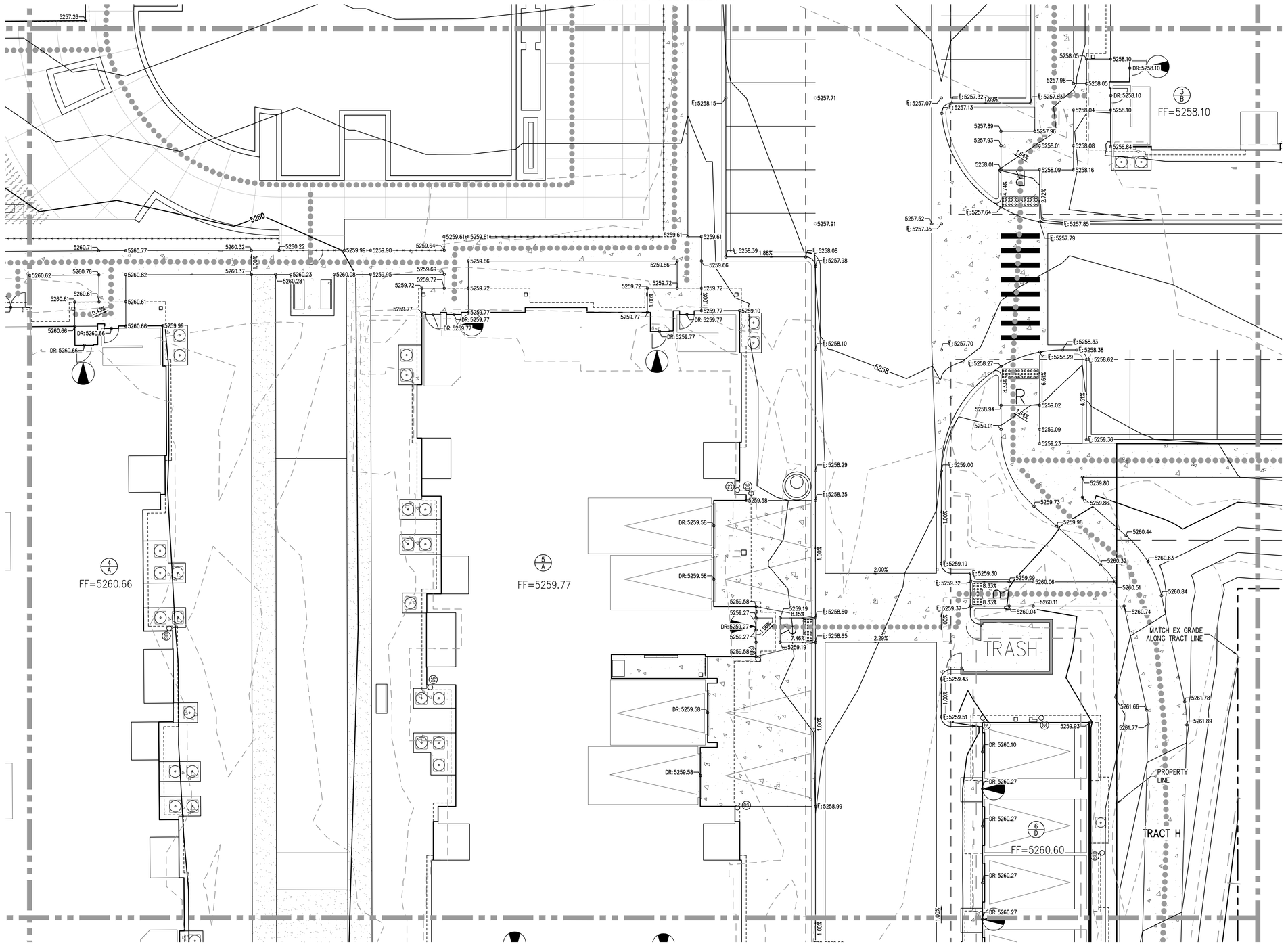

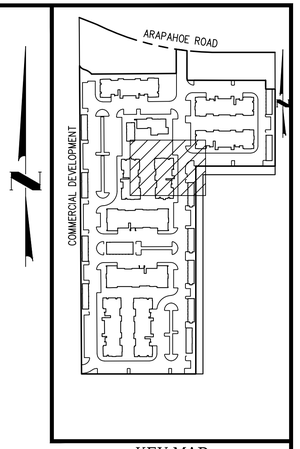

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DRAWN BY: RJH

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OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
38
38 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - DETAILED GRADING PLAN 2.DWG LAYOUT: LAYOUT2
NO XREFS
PLOTTED: THU 11/07/19 6:33:20P BY: RACHEL PATTON

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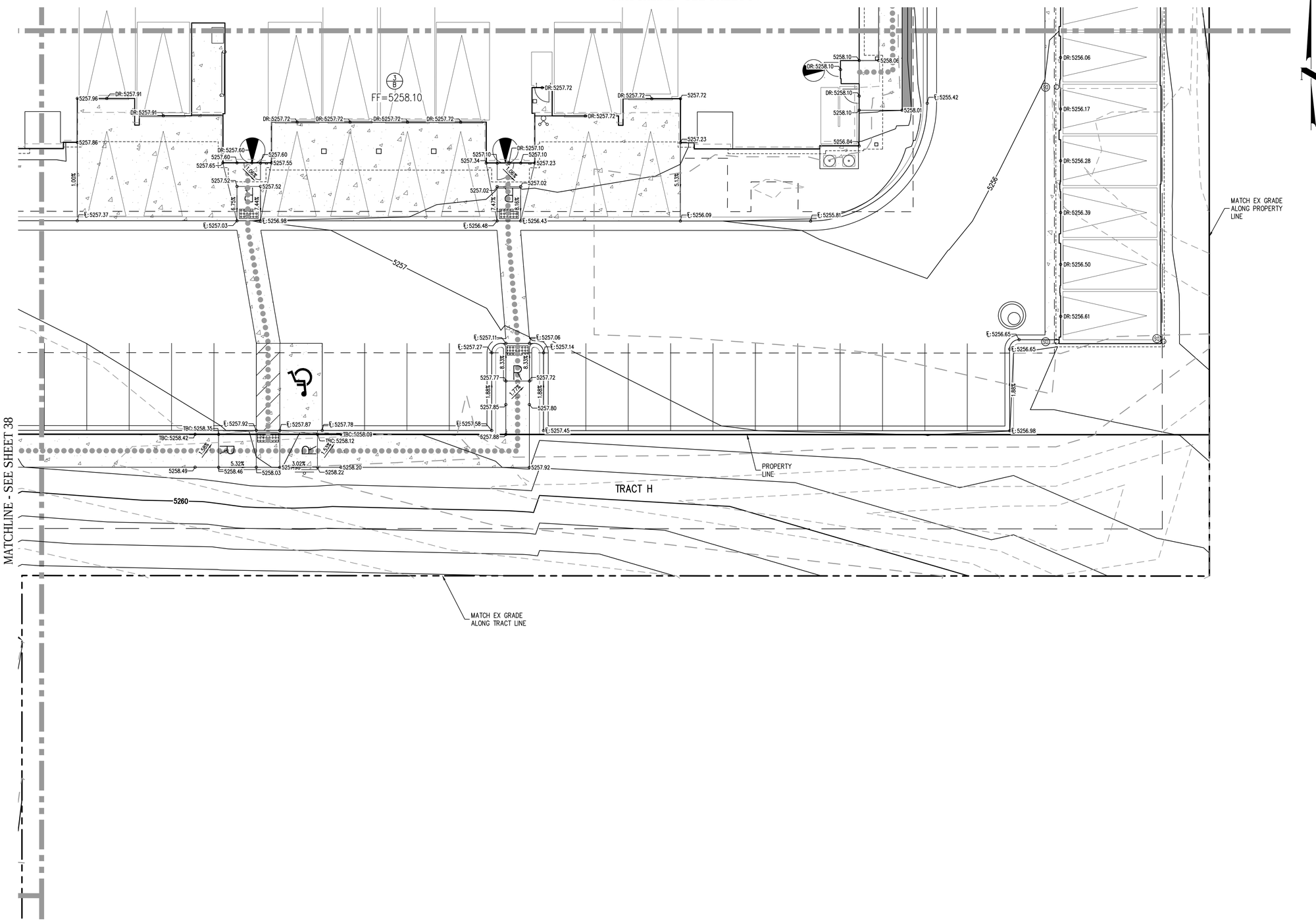

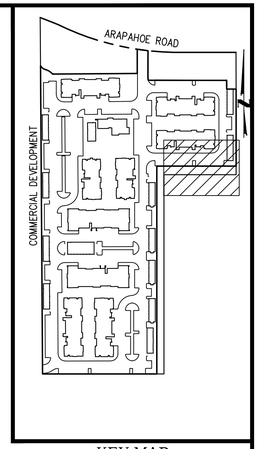

KEY MAP
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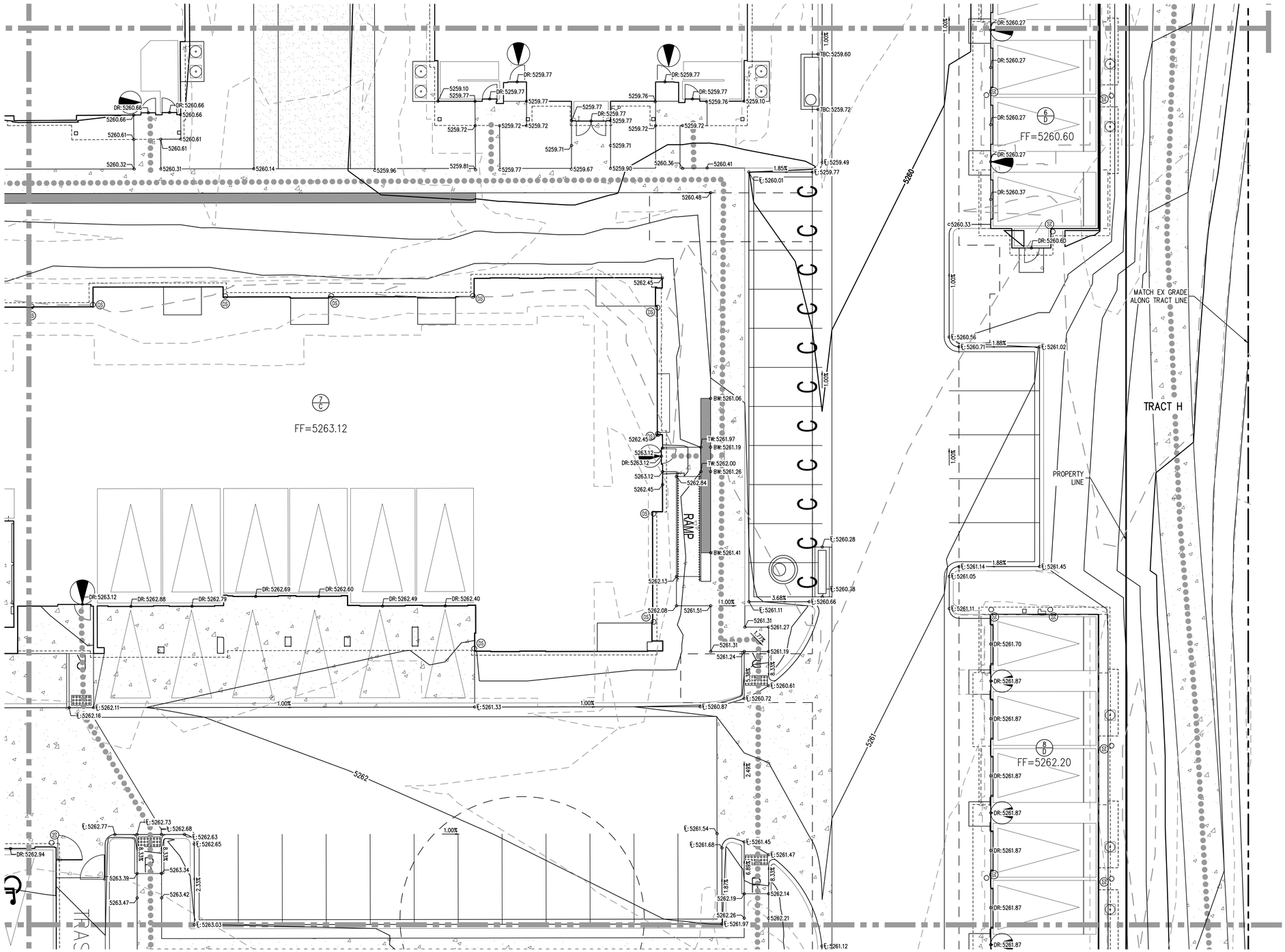
SHEET NO.
39
39 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - DETAILED GRADING PLAN 2.DWG LAYOUT: LAYOUT3
NO XREFS
PLOTTED: THU 11/07/19 6:32:52P BY: RACHEL PATTON

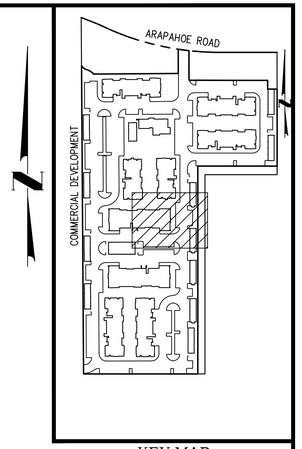
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE - SEE SHEET 38



MATCHLINE - SEE SHEET 41

MATCHLINE - SEE SHEET 43



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16. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL ENGINEERING REPORT.
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CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

10 0 10 20
SCALE: 1" = 10'

DESIGNED BY: RJH
CHECKED BY: RCP
DRAWN BY: RJH

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

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OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
40
40 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - DETAILED GRADING PLAN 2.DWG LAYOUT: LAYOUT4
NO XREFS
PLOTTED: THU 11/07/19 6:33:30P BY: RACHEL PATTON

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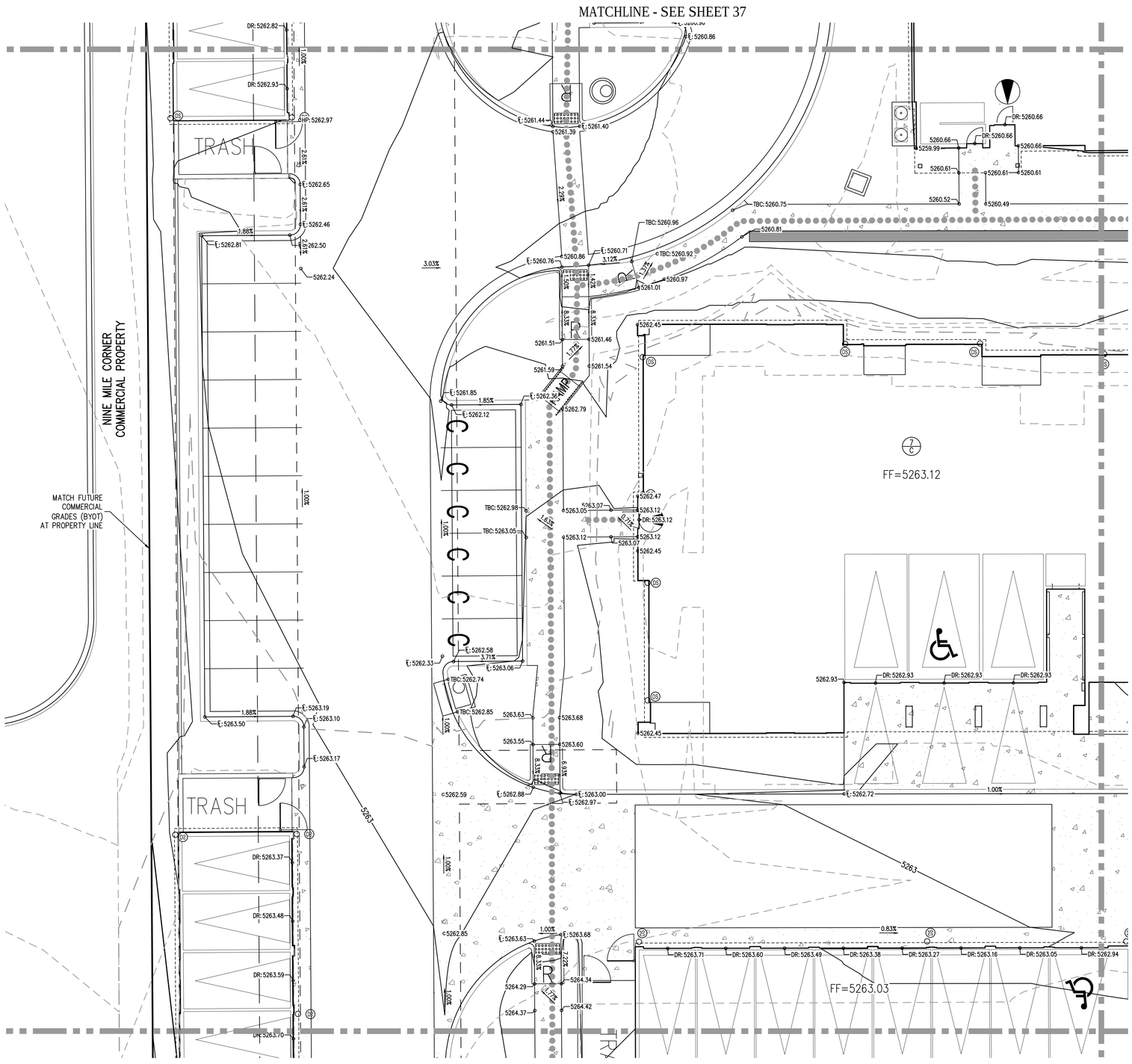

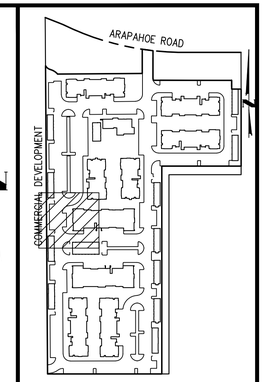

KEY MAP
SCALE: 1" = 250'

GENERAL GRADING NOTES:

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ISSUE DATE: 11-08-2019	PROJECT #: 160602
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SHEET NO.
41
41 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - DETAILED GRADING PLAN 2.DWG LAYOUT: LAYOUT5
NO XREFS
PLOTTED: THU 11/07/19 6:33:35P BY: RACHEL PATTON

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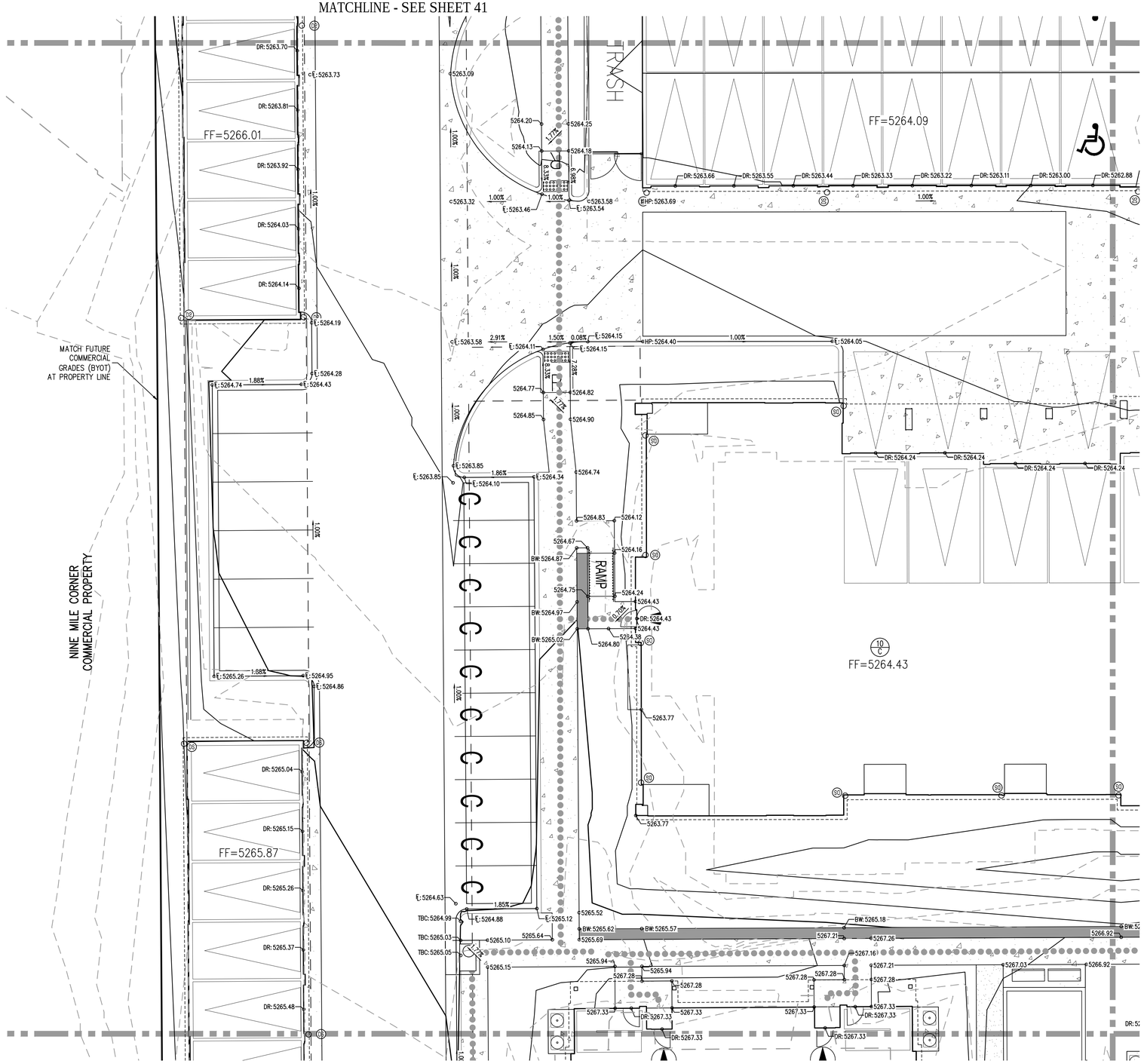
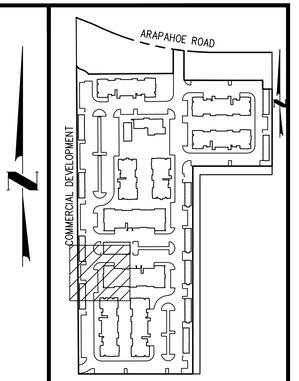
MATCHLINE - SEE SHEET 41





KEY MAP
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OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
42
42 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - DETAILED GRADING PLAN 3.DWG LAYOUT: LAYOUT1
NO XREFs
PLOTTED: THU 11/07/19 6:35:52P BY: RACHEL PATTON

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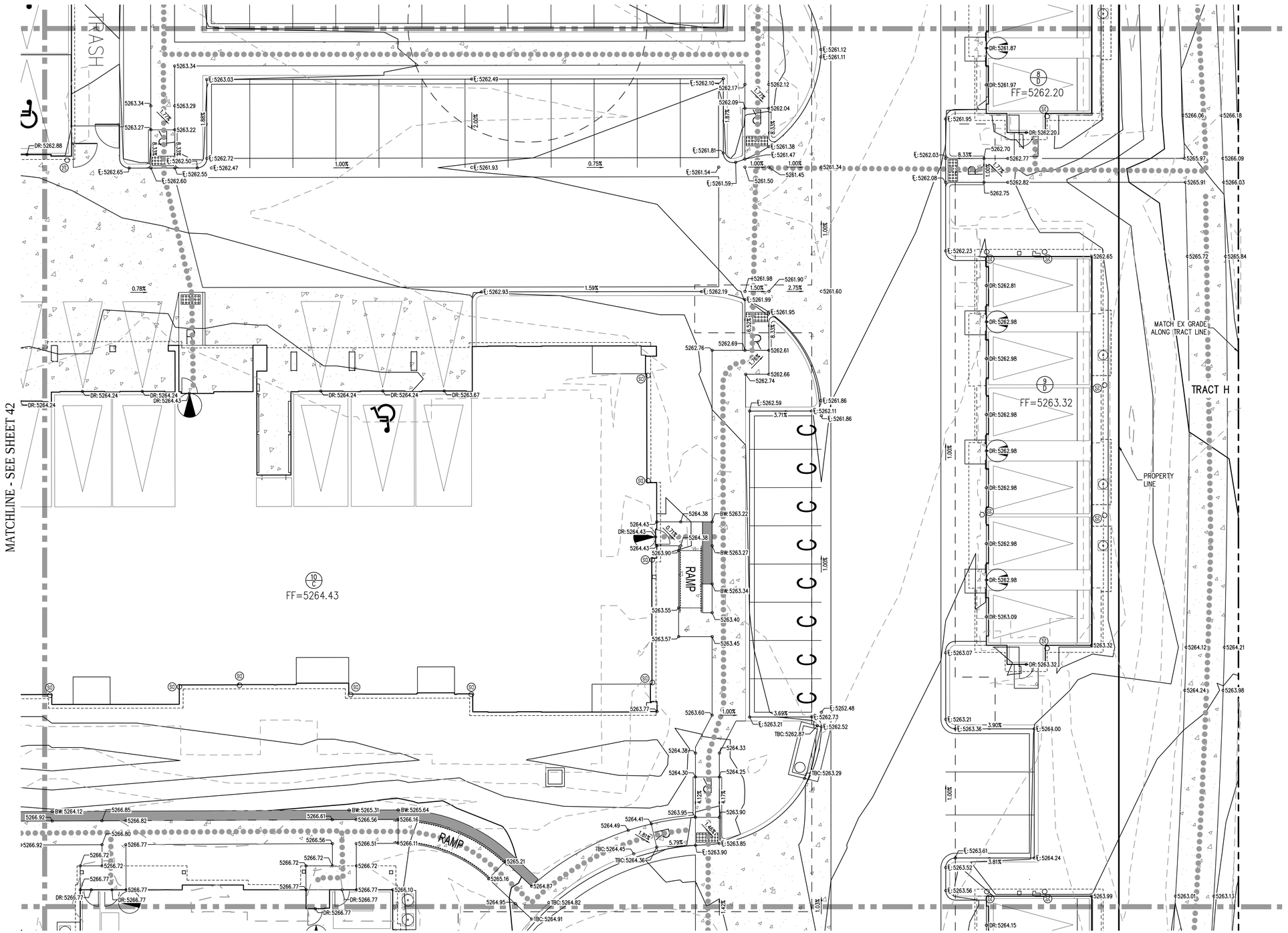

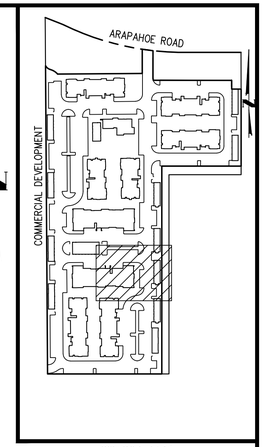

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OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

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SHEET NO. 43
43 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - DETAILED GRADING PLAN 3.DWG LAYOUT: LAYOUT2
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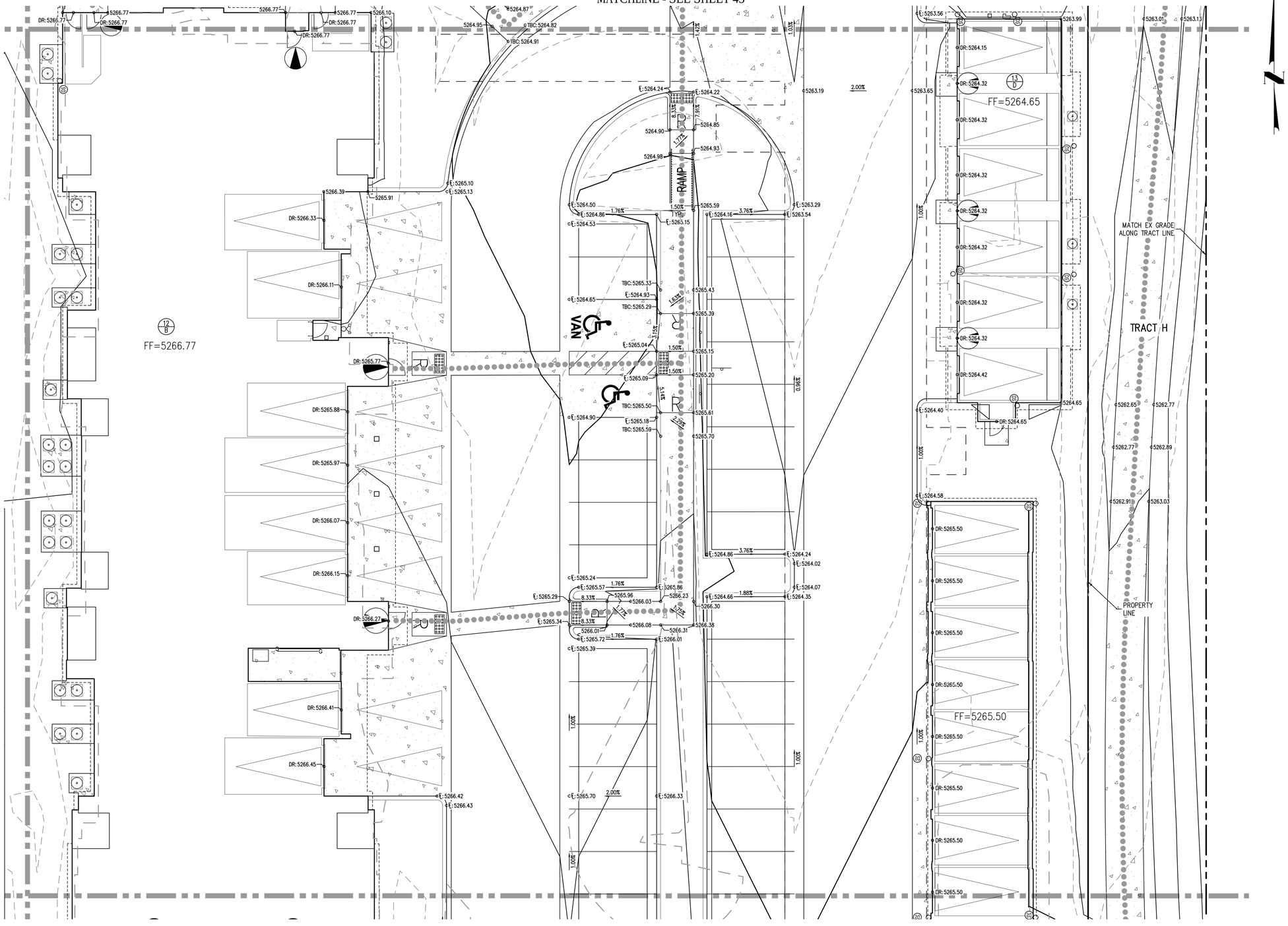

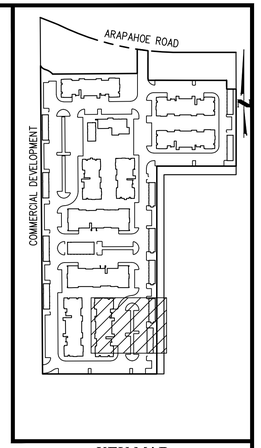

KEY MAP
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SHEET NO.
44

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - DETAILED GRADING PLAN 3.DWG LAYOUT: LAYOUT3
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PLOTTED: THU 11/07/19 6:35:57P BY: RACHEL PAYTON

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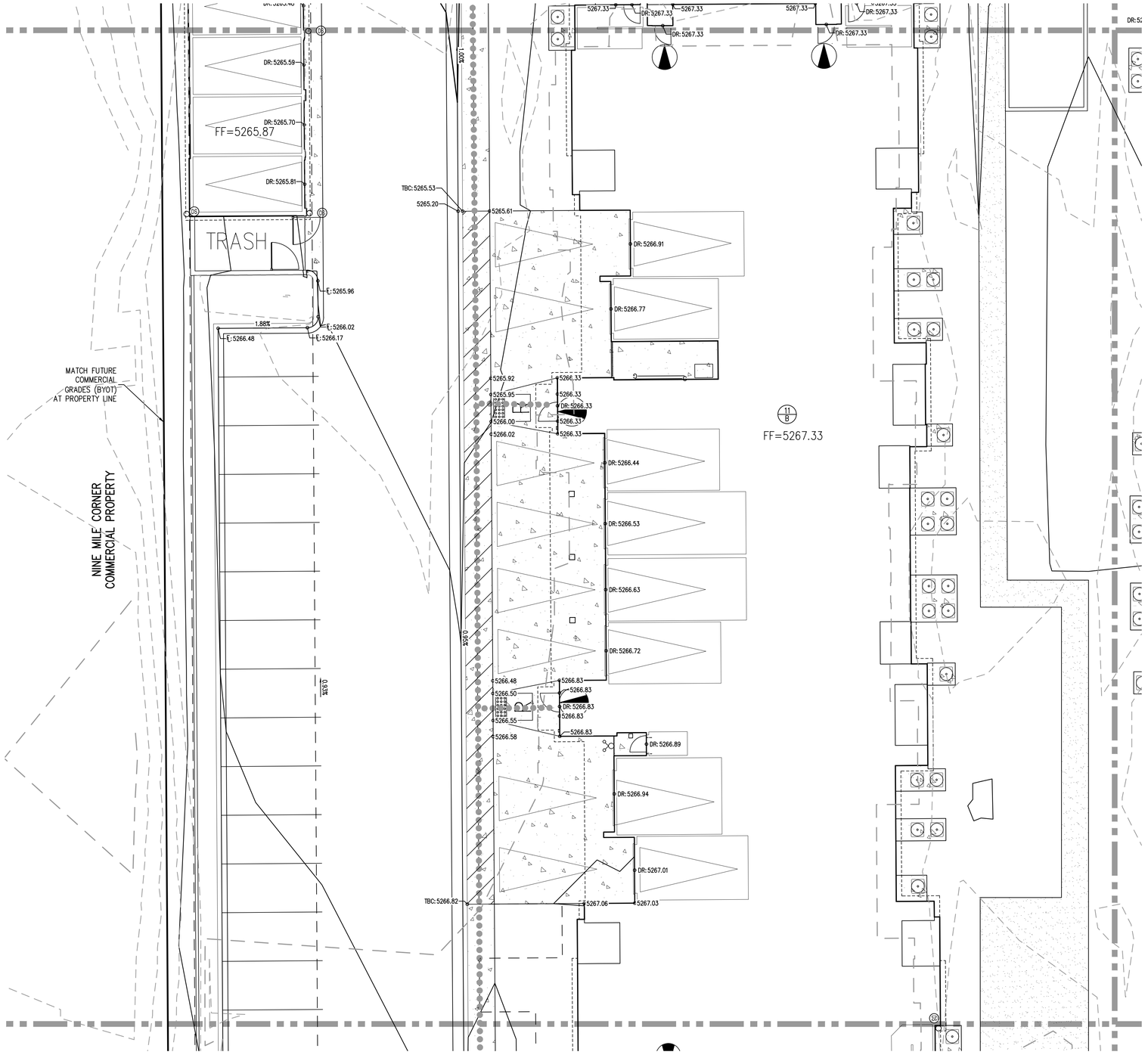
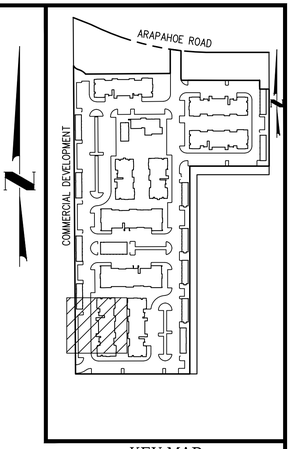
MATCHLINE - SEE SHEET 42



MATCHLINE - SEE SHEET 46



KEY MAP
SCALE: 1" = 250'

GENERAL GRADING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT HANDRAILS, STAIRS, CURB RAMPS, AND RAMPS ARE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL STATE AND/OR FEDERAL REGULATIONS AND STANDARDS, INCLUDING BUT NOT LIMITED TO, THE AMERICANS WITH DISABILITIES ACT (ADA), THE FAIR HOUSING ACT (FHA) AND THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
2. CROSS SLOPES ALONG THE ACCESSIBLE ROUTE OR AT LANDINGS SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. LONGITUDINAL SLOPES ALONG THE ACCESSIBLE ROUTE SHALL NOT EXCEED 5% LONGITUDINAL SLOPES ON RAMPS SHALL NOT EXCEED 8.33% RAMPS, EXCEPT CURB RAMPS, SHALL HAVE HANDRAILS ON BOTH SIDES.
4. GUTTER SLOPES AT THE CURB RAMPS SHALL NOT EXCEED 5%.
5. GUTTER PANS SURROUNDING HANDICAP SPACES SHALL MATCH THE SLOPE OF THE ADJACENT PAVEMENT WITH A MAXIMUM 2% SLOPE IN ALL DIRECTIONS.
6. ALL GRADES ARE FINISHED GRADE, UNLESS OTHERWISE NOTED.
7. ROCK MULCH, IF PLACED UPSTREAM OF CONCRETE FLATWORK OR GRASSED AREA, SHALL BE PLACED ON TOP OF FINISHED GRADE SHOWN ON THESE PLANS. ROCK MULCH AREAS SHALL BE DESIGNED AND CONSTRUCTED TO ADEQUATELY DRAIN AND NOT RETAIN WATER. ALL LANDSCAPE EDGE MATERIALS SHALL NOT PREVENT DRAINAGE TO PASS THROUGH.
8. ALL GRADES ADJACENT TO THE BUILDINGS SHALL BE AT MINIMUM 8-INCHES BELOW FINISHED FLOOR ELEVATION, UNLESS OTHERWISE NOTED.
9. NON-PAVED GRADES ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM ALL BUILDINGS AT A MINIMUM OF 10% FOR 10-FT. ALL PAVED GRADES ATTACHED TO BUILDINGS SHALL SLOPE AWAY FROM ALL BUILDINGS AT A MINIMUM OF 1%, UNLESS OTHERWISE NOTED.
10. ALL GRADES FOR WALLS ARE FINISHED GRADE ELEVATIONS AT BOTTOM OF FRONT FACE (BW) AND TOP-BACK OF WALL (TW). THE WALL ELEVATIONS DO NOT INDICATE FOUNDATION DEPTHS OR ELEVATIONS. RETAINING WALL DETAILS SHALL BE PROVIDED BY OTHERS.
11. REFER TO STRUCTURAL PLANS FOR BUILDING FOUNDATION STEP LOCATIONS WHEN APPLICABLE.
12. PORTIONS OF STAIRS THAT DO NOT MEET THE MINIMUM 4-INCH RISER HEIGHT (DUE TO AN ADJACENT SLOPING PUBLIC WAY) SHALL HAVE A DISTINCTIVE MARKING STRIPE, 1-INCH TO 2-INCHES IN WIDTH, WITH A SLIP-RESISTANT SURFACE, IN ACCORDANCE WITH CURRENT INTERNATIONAL BUILDING CODE REGULATIONS.
13. SEE LANDSCAPE ARCHITECT PLANS FOR HEIGHT AND TOP OF COURTYARD AMENITIES (PLANTER CURBS, SEAT WALLS, BENCHES, FIRE WALL, MEDIA WALL, BARS, AND GRILLS).
14. TOP STEP ELEVATIONS FOR STOOPS AND PATIOS ARE SHOWN FOR REFERENCE ONLY. TOP OF STEPS AND PATIO ELEVATIONS SHALL BE COORDINATED WITH ARCHITECTURAL PLANS/DETAILS AND AS-BUILT STOOP/PATIO ELEVATIONS.
15. ELECTRICAL TRANSFORMER PADS AND AC-UNIT PADS ARE TO BE SET A MINIMUM OF 2-INCHES ABOVE THE ADJACENT FINISHED GRADE AROUND THE PERIMETER OF THE PAD. CONTRACTOR SHALL PROVIDE A CONCRETE TURNDOWN AS NECESSARY. CONTRACTOR IS TO VERIFY POSITIVE DRAINAGE AWAY FROM, AND AROUND, ALL ELECTRICAL PADS AND AC-UNIT PADS.
16. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL ENGINEERING REPORT.
17. CONTRACTOR SHALL ENSURE ACCESSIBLE EXTERIOR DOORS AND GATES ARE CONSTRUCTED WITH ADEQUATE LANDING WIDTH AND DEPTH TO COMPLY WITH APPLICABLE AMERICANS WITH DISABILITIES ACT (ADA) AND AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) MANEUVERING CLEARANCES AT DOOR REQUIREMENTS (BASED ON THE DIRECTION OF APPROACH OF THE SIDEWALK).

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

10 0 10 20
SCALE: 1" = 10'

DESIGNED BY: RJH
CHECKED BY: RCP
DRAWN BY: RJH

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

Evergreen Development | Services | Investments

OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

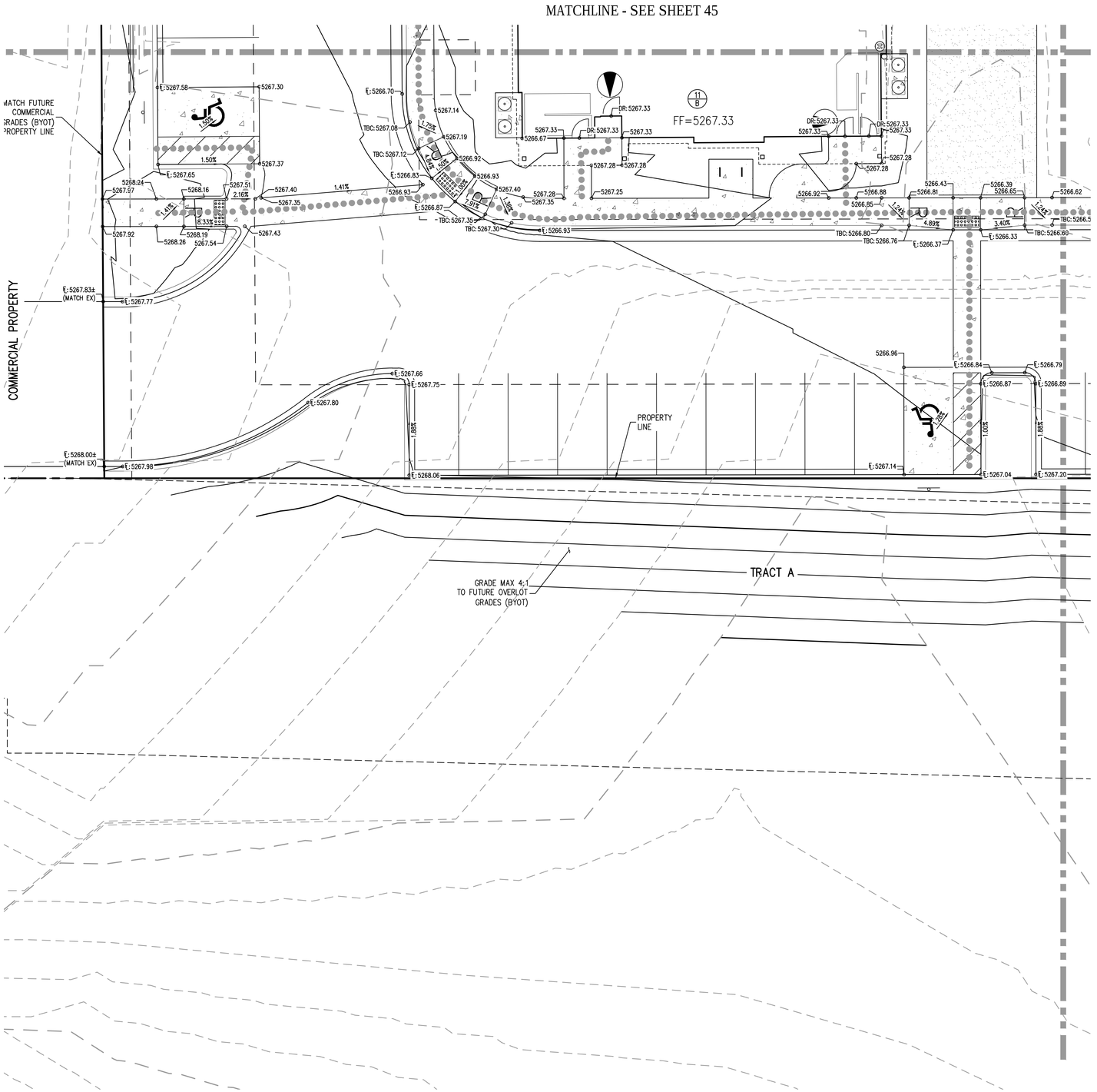
DATE	REVISION COMMENTS

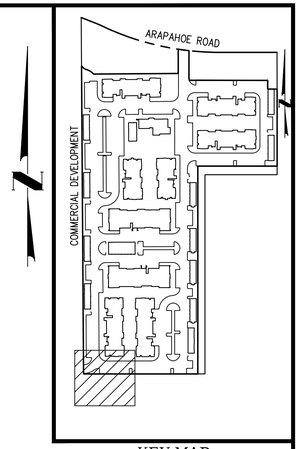
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
45
45 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - DETAILED GRADING PLAN 3.DWG LAYOUT: LAYOUT4
NO XREFs
PLOTTED: THU 11/07/19 6:36:01P BY: RACHEL PAYTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF HARRIS KOCHER SMITH





KEY MAP
SCALE: 1" = 250'

GENERAL GRADING NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT HANDRAILS, STAIRS, CURB RAMPS, AND RAMPS ARE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL STATE AND/OR FEDERAL REGULATIONS AND STANDARDS, INCLUDING BUT NOT LIMITED TO, THE AMERICANS WITH DISABILITIES ACT (ADA), THE FAIR HOUSING ACT (FHA) AND THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
2. CROSS SLOPES ALONG THE ACCESSIBLE ROUTE OR AT LANDINGS SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. LONGITUDINAL SLOPES ALONG THE ACCESSIBLE ROUTE SHALL NOT EXCEED 5% LONGITUDINAL SLOPES ON RAMPS SHALL NOT EXCEED 8.33% RAMPS, EXCEPT CURB RAMPS, SHALL HAVE HANDRAILS ON BOTH SIDES.
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10 0 10 20
SCALE: 1" = 10'

DESIGNED BY: RJH
CHECKED BY: RCP
DRAWN BY: RJH

HARRIS KOCHER SMITH
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Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

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OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
46
46 OF 60

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - DETAILED GRADING PLAN 3.DWG LAYOUT: LAYOUT5
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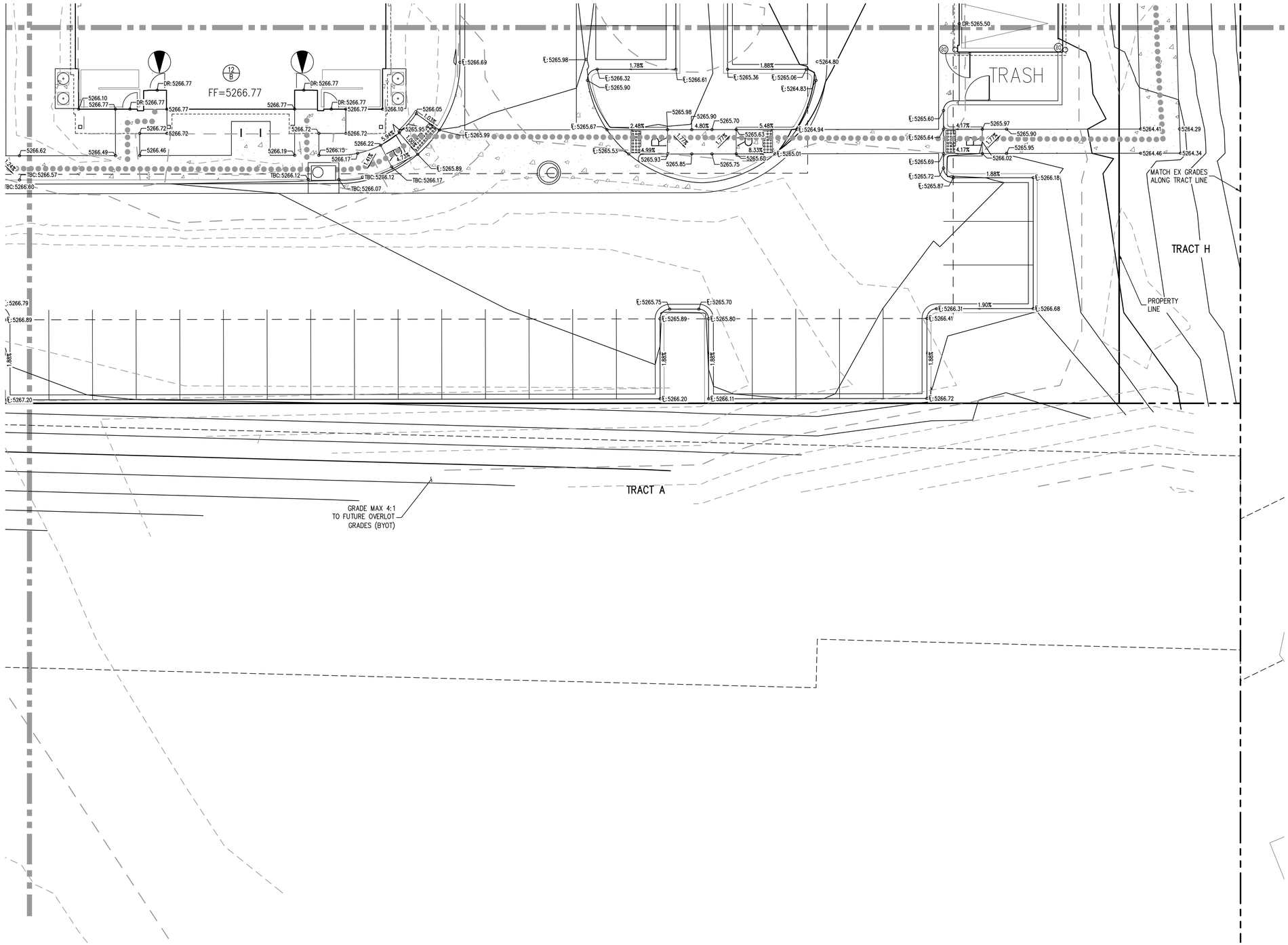
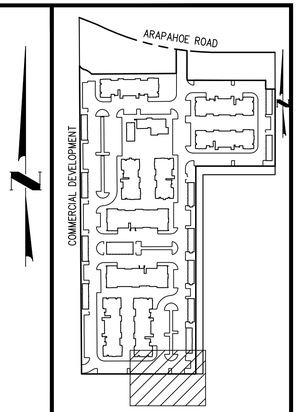
PLOTTED: THU 11/07/19 6:36:04P BY: RACHEL PATTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF HARRIS KOCHER SMITH





KEY MAP
SCALE: 1" = 250'

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CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

SCALE: 1" = 10'

DESIGNED BY: RJH
CHECKED BY: RCP
DRAWN BY: RJH

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
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HarrisKocherSmith.com

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OUTLOOK AT NINE MILE
DETAILED GRADING PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
47
47 OF 60

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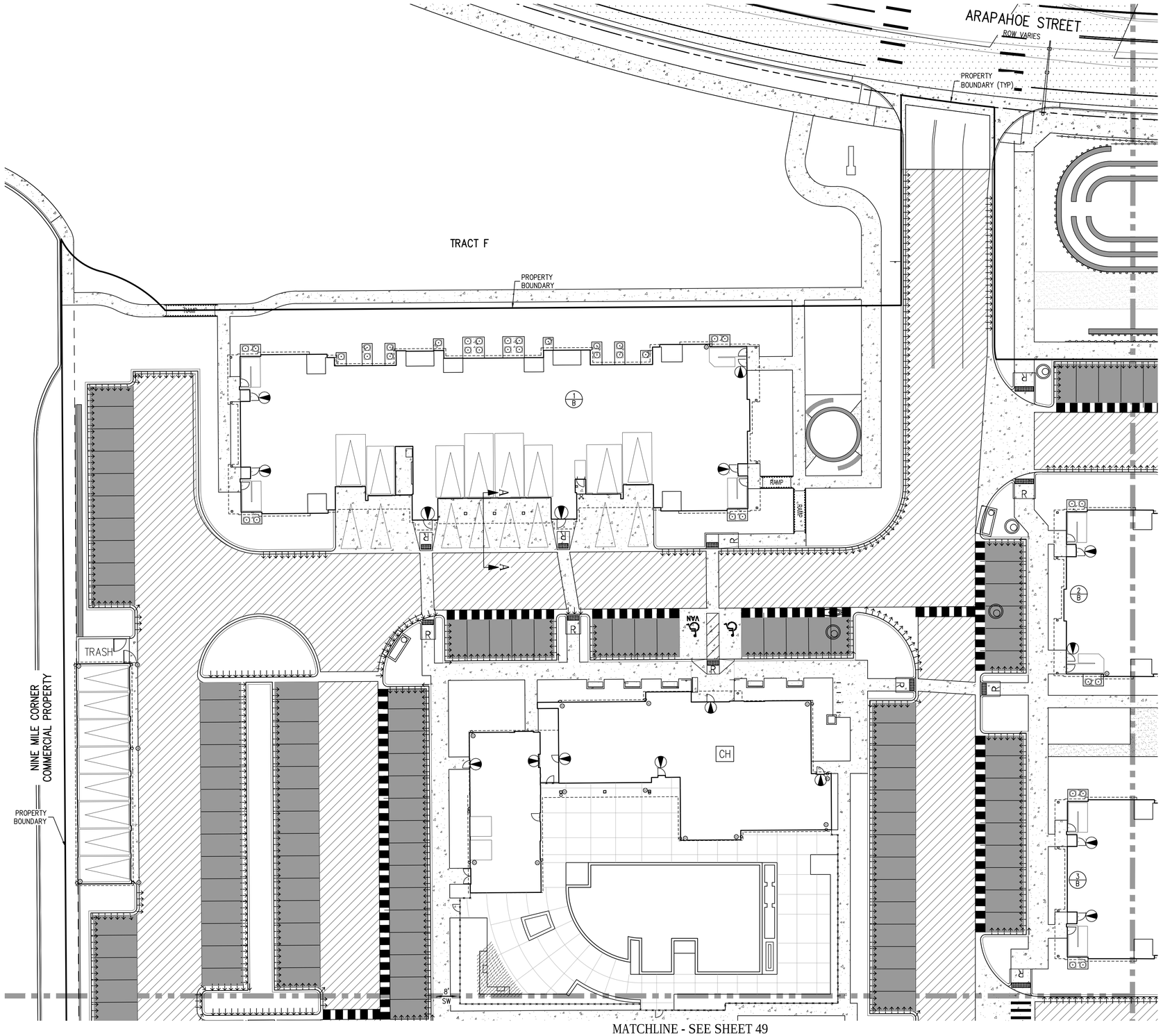
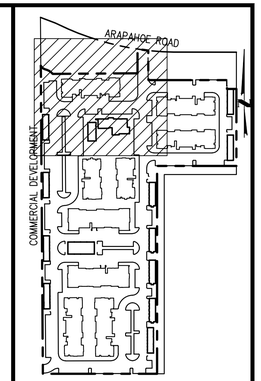
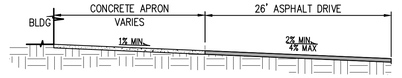
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

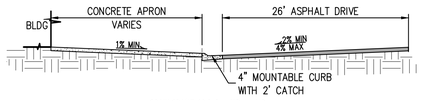




KEY MAP
SCALE: 1" = 250'



SECTION A–A
NTS



SECTION B–B
NTS

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

20 0 20 40
SCALE: 1" = 20'

DESIGNED BY: DAM
CHECKED BY: MSM
DRAWN BY: DAM

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

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OUTLOOK AT NINE MILE
PAVING PLAN

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
48
48 OF 60

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MATCHLINE - SEE SHEET 48

MATCHLINE - SEE SHEET 51

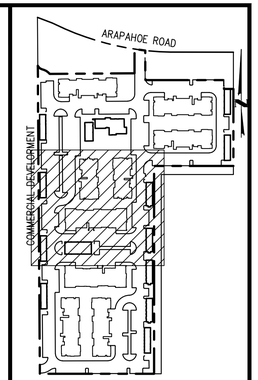
MATCHLINE - SEE SHEET 50

PROPERTY BOUNDARY

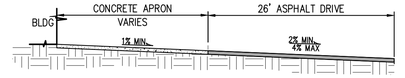
NINE MILE CORNER COMMERCIAL PROPERTY

TRACT H

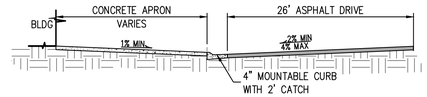
TRASH



KEY MAP
SCALE: 1" = 250'



SECTION A–A
NTS



SECTION B–B
NTS

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

20 0 20 40
SCALE: 1" = 20'

DESIGNED BY: DAM
CHECKED BY: MSM
DRAWN BY: DAM

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
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OUTLOOK AT NINE MILE
PAVING PLAN

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
49
49 OF 60

FILEPATH: P:\160602\ENGINEERING\BROADWAY\CD - PAVING PLAN.DWG LAYOUT: LAYOUT2
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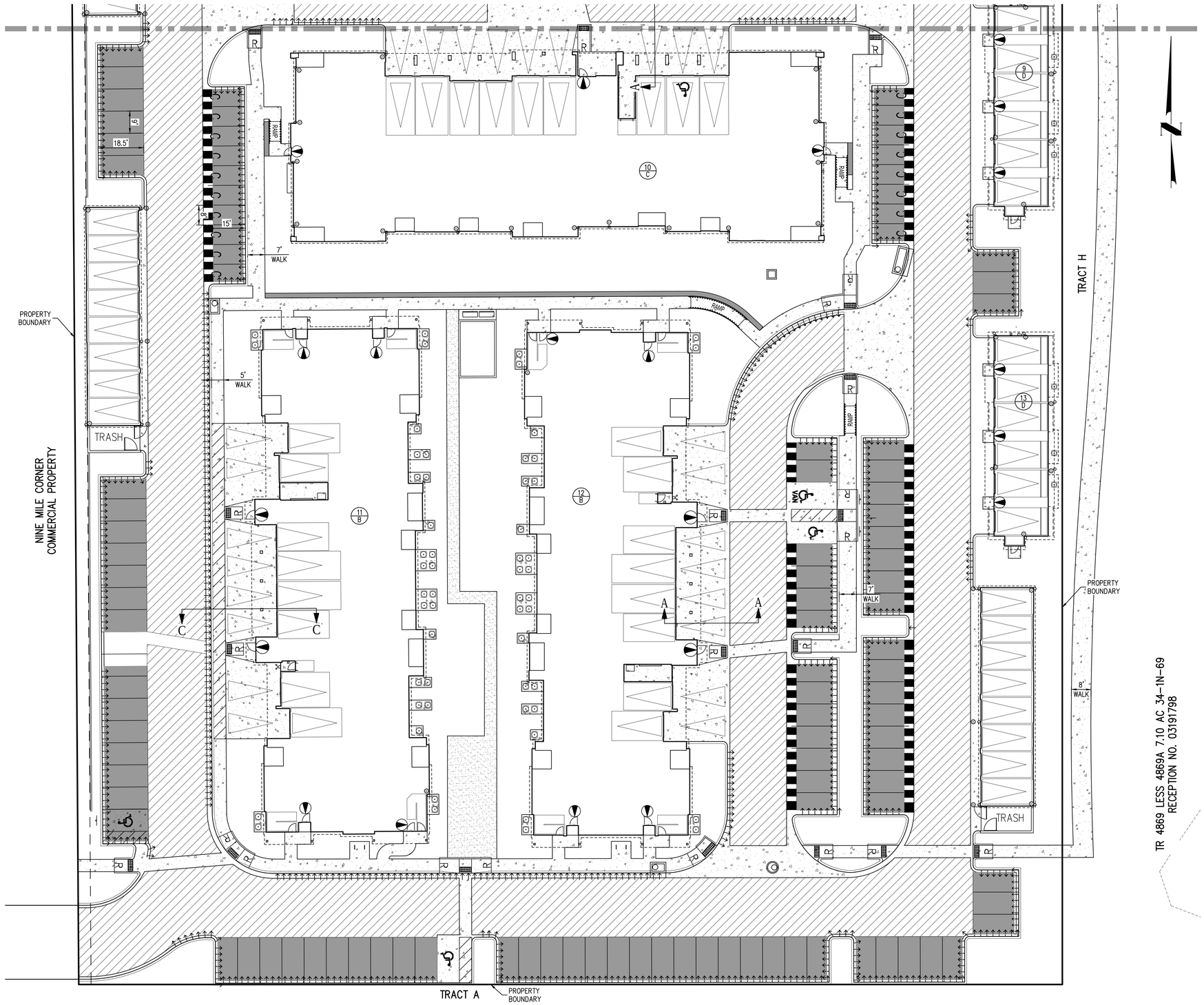
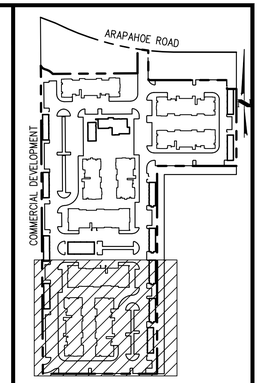
PLOTTED: THU 11/07/19 6:36:24P BY: RACHEL PATTON

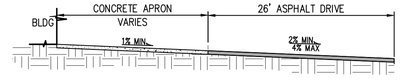
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE - SEE SHEET 49

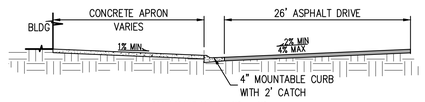




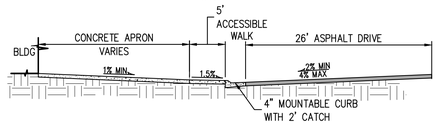
KEY MAP
SCALE: 1" = 250'



SECTION A-A
NTS



SECTION B-B
NTS



SECTION C-C
NTS

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20 0 20 40
SCALE: 1" = 20'

DESIGNED BY: DAM
CHECKED BY: MSM
DRAWN BY: DAM

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Development | Services | Investments

OUTLOOK AT NINE MILE
PAVING PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
50
50 OF 60

FILEPATH: P:\160602\ENGINEERING\BROADWAY\CD_PAVING PLAN.DWG, LAYOUT: LAYOUT3
6 XREFs: c:d - xamp, c:\base_lyot, levmap, p:\base p\base_offset_lyot, p:\base_offset_lyot, p:\legal
PLOTTED: THU 11/07/19 @ 6:36:28P BY: RACHEL PATTON

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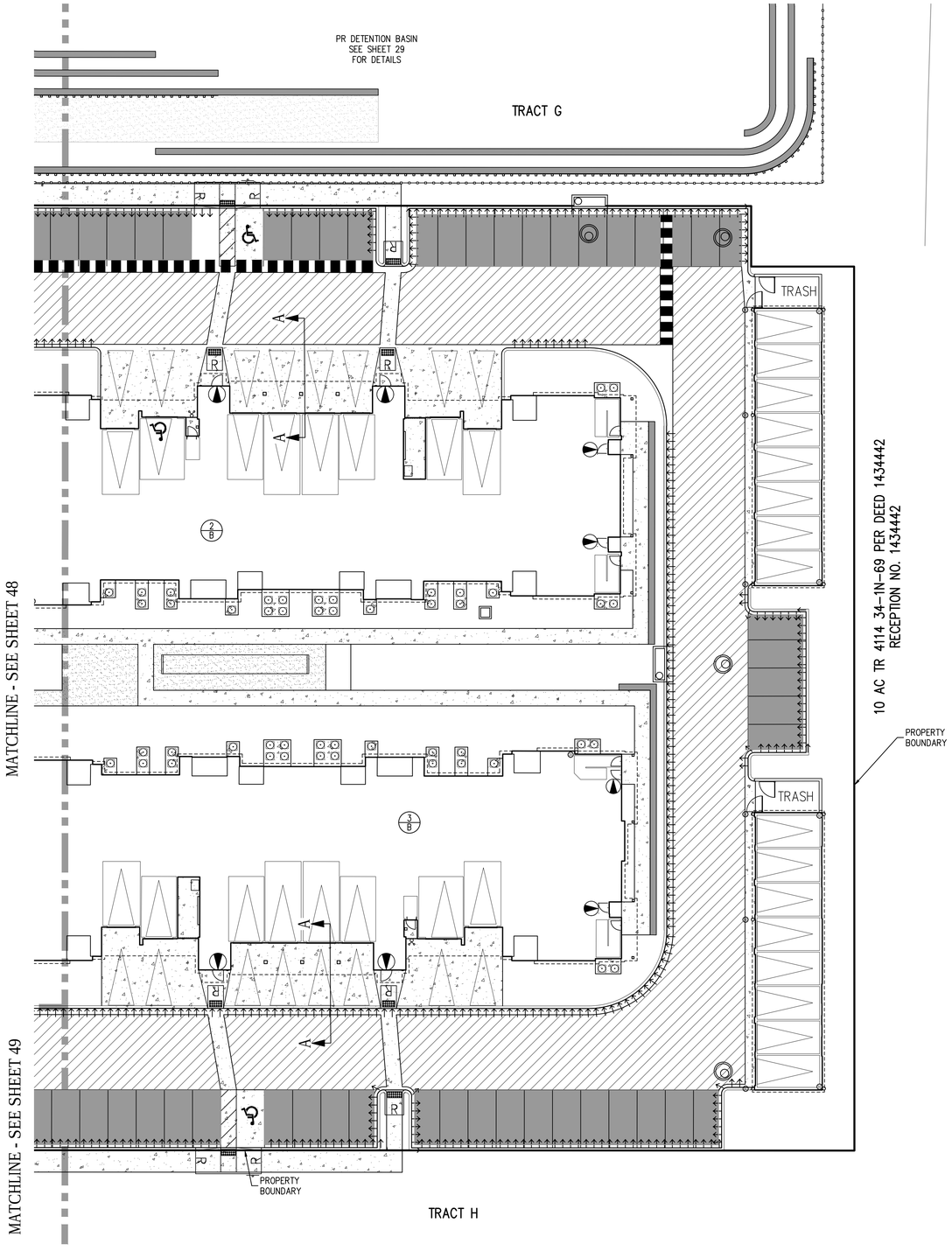

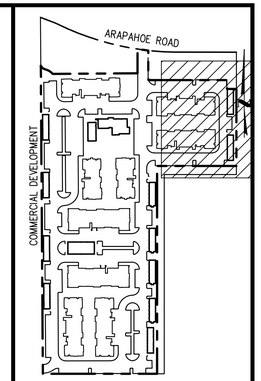

KEY MAP
SCALE: 1" = 250'

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

SCALE: 1" = 20'

DESIGNED BY: DAM
CHECKED BY: MSM
DRAWN BY: DAM

HARRIS KOCHER SMITH
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Evergreen
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OUTLOOK AT NINE MILE
PAVING PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
51
51 OF 60

FILEPATH: P:\160602\ENGINEERING\ROADWAY\CD - PAVING PLAN.DWG LAYOUT: LAYOUT4
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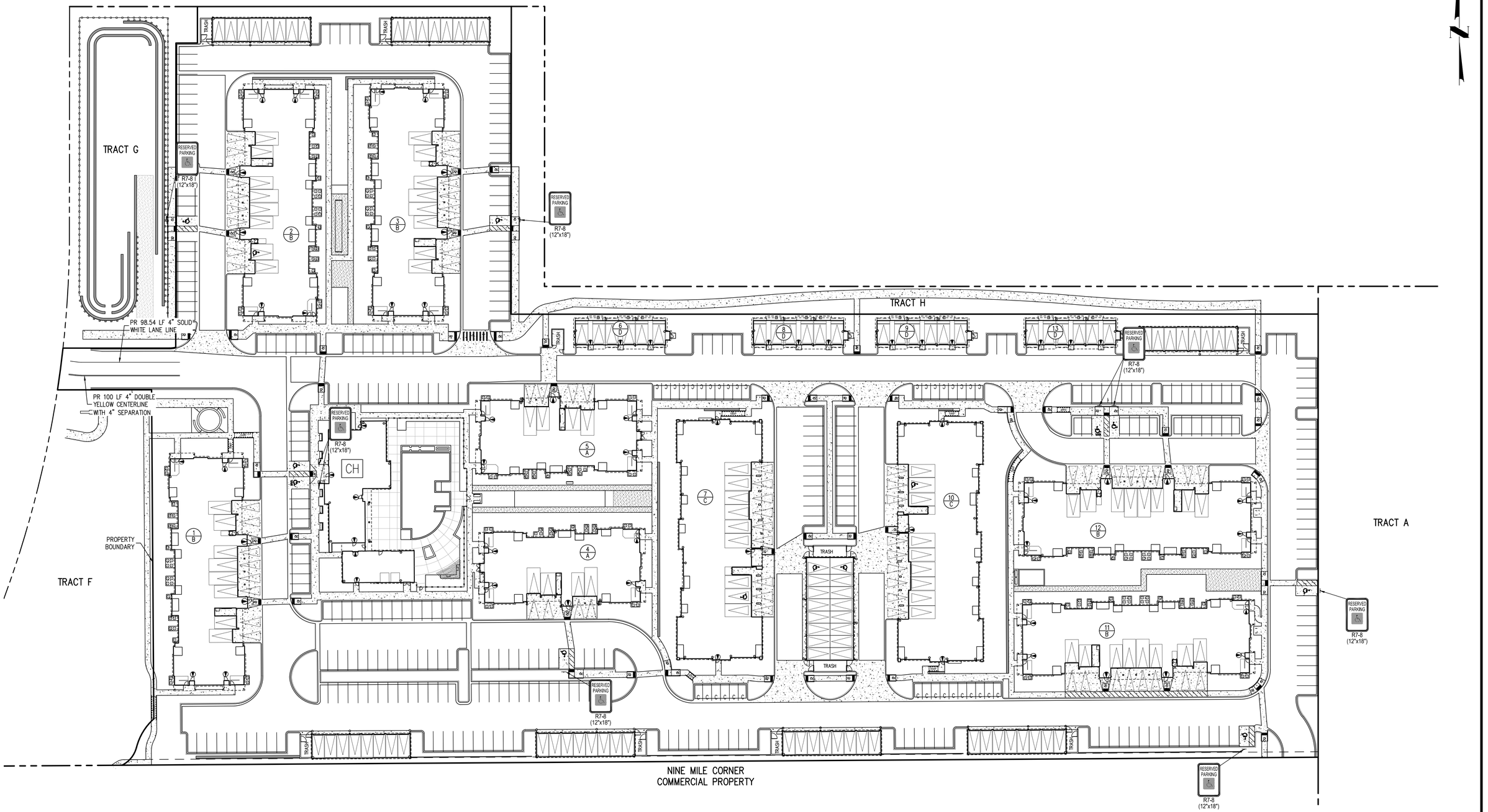

NOTES:

1. STRIPING AND SIGNAGE SHALL BE INSTALLED IN ACCORDANCE WITH TOWN OF ERIE STANDARD DETAILS AND SPECIFICATIONS.

253 LF 4" DOUBLE YELLOW CENTERLINE WITH 4" SEPARATION

Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: RCP
CHECKED BY: RCP
DRAWN BY: RCP

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Evergreen
Development | Services | Investments

OUTLOOK AT NINE MILE
SIGNING & STRIPING PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 52

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PHASE III DRAINAGE REPORT

FOR

OUTLOOK NINE MILE
ERIE, COLORADO

November 8, 2019

Prepared for:

Evergreen
Development | Services | Investments

1873 S. Bellaire Street, Suite 1200
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Phone: 303-757-0401

Prepared by:

HKS HARRIS KOCHER SMITH

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Harris Kocher Smith Project No.: 160602

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ENGINEER'S CERTIFICATION

I hereby certify that this Phase III Drainage Report for Outlook at Nine Mile was prepared by me, or under my direct supervision, in accordance with the provisions of the *Town of Erie Standards and Specifications for Design and Construction* for the owners thereof. I understand that the Town of Erie (Town) does not and will not assume liability for drainage facilities designed by others, including the designs presented in this report.

Michael Moore, P.E.
Registered Professional Engineer
State of Colorado License No. 47854
On Behalf of Harris Kocher Smith

TOWN ACCEPTANCE

This report has been reviewed and found to be in general compliance with the *Town of Erie Standards and Specifications for Design and Construction* and other Town requirements. **THE ACCURACY AND VALIDITY OF THE ENGINEERING DESIGN, DETAILS, DIMENSIONS, QUANTITIES, AND CONCEPTS IN THIS REPORT REMAINS THE SOLE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE APPEAR HEREON**.

Accepted by: _____ _____

Deputy Public Works Director Date

If during the construction process or at any time within one year following the acceptance by the Town of the completed improvements, any deficiencies or errors are discovered in the construction plans, specifications, drainage reports, or the actual constructed improvements, the Town shall have the right to require the developer to make any and all corrections which may be deemed necessary by the Town. The costs associated with any such corrections shall be the sole responsibility of the developer.

CONTACT INFORMATION

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Professional Engineer:	Michael Moore, P.E.
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Telephone #	(303) 623-6300
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General Location & Description

A. Location

The Outlook at Nine Mile development project is within a greater PD-Development that is within a portion of the northeast quarter of Section 34, Township 1 North, Range 69 West and the southeast quarter of Section 27, Township 1 North, Range 69 West of the Sixth Principal Meridian, in the Town of Erie, County of Boulder, State of Colorado. The PD-Development is located at the southeast corner of Arapahoe Road (variable width R.O.W.), and North 107th Street, aka State Highway 287 (variable width R.O.W.).

The PD-Development is bounded by Arapahoe Road to the north, rural residential developments to the south and east, and N 107th Street to the west. The South Boulder Canyon Ditch (Ditch) meanders east to west through the northern portion of the Site. In the recent past, there was an existing pond, Prince Lake Number 1, on the west side of the PD-Development that has been removed as part of the Site's greater development, Nine Mile Corner Planned Development (PD). A draft of the PD Development Plan is included in Appendix E for reference.

The area studied for the multifamily development (Site) includes lot 11, block 2, tract G and tract H, and the eastern portion of tract A of the PD-development. The Site will be developed as multi-family residential housing with 290 units. The proposed development will also include attached and detached garages, surface parking, a clubhouse with pool, maintenance facilities, trash enclosures, and on-site stormwater conveyance and detention facilities with water quality treatment.

A Vicinity Map is located in Appendix A of this report.

B. Description of Property

The Site is comprised of approximately 13.23 acres of primarily undeveloped land, with a few permanent and temporary structures – residential and other. Primary existing ground cover appears to be native grasses and weeds, some dirt drives, and dense vegetation along the Ditch including trees and shrubs. Small tracts of farmland are also present.

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, the underlying surface soils are Ascalon sandy loam, which is classified as Hydrologic Group B (see Appendix A).

The north portion of the Site drains north with 3% to 6% slopes, to Arapahoe Road. The middle portion of the Site drains north-northeast with 3% to 6% slopes, to South Boulder Canyon Ditch, which flows generally east through the north portion of the Site. The south portion of the Site drains generally to the east with 5% to 9% slopes. A small portion, along the west edge of the north portion of the Site, drains to the west, toward (former) Prince Lake Number 1.

Irrigation facilities exist on and adjacent to the property; plans to re-route an existing on-site irrigation ditch are currently in place.

No major drainageways exist within or adjacent to the Site. The Site is not within the bounds of any existing FHAD according to Urban Drainage & Flood Control District.

There are no known designated wetland areas within the Site or affected by the development.

Drainage Basins

C. Major Basin Description

The Site is a part of the Erie Outfall Systems Planning Preliminary Design, issued in May 2001. The study shows the Site to be tributary to Bullhead Gulch, with all runoff originating on the Site flowing to Bullhead Gulch in both the historic and developed conditions. This report was updated in 2007 but did not study the Prince/Bullhead Gulch tributary.

RESPEC Consulting & Services also prepared a report entitled *Town of Erie Outfall Systems Plan (West of Coal Creek)* in January 2014. This report identified existing drainage problems in the existing watershed and provided different alternatives for future improvements to help control outflow to the effected tributaries.

Much of the major basin remains undeveloped, relatively pervious land. The intent of the study was to update the hydrology for the watershed and ensure proper measures are taken as the watershed develops to prevent flooding and to treat stormwater. For private site development, the recommendations include runoff volume control practices including minimizing directly connected impervious areas, employing infiltrating BMPs, and utilizing stormwater detention.

The Site is shown to be in a Zone X (unshaded) Flood Area according to FIRM Map 08013C0438J effective December 18, 2012. Zone X (unshaded) is described by FEMA as areas determined to be outside the 500-year flood plain. A copy of the FEMA Firmette is included in Appendix A, for reference.

As mentioned above, South Boulder Canyon Ditch meanders through the Site. In order to develop the Site, the ditch will need to be re-routed to the South. A plan is in place and running concurrently with the development of the Site as part of the PD in order to shift the alignment of the Ditch to the south and alter the flow regime from open ditch to closed conduit for the section directly adjacent to the Site.

A previously existing pond, Prince Lake Number 1, to the west of the Site has been removed as part of the PD and will no longer be influenced by this Site.

D. Sub-basin Description

The Site is mostly undeveloped, pervious area with Type B soils and likely does not constitute a large portion of the runoff in the greater area. Runoff originating in the

southern portion of the Site nearly entirely drains toward the Ditch, leaving the Site at different locations but eventually making its way to the Ditch. The northern portion of the Site drains toward Arapahoe Road right of way.

Drainage Design Criteria

E. Development Criteria Reference and Constraints

The principal design criteria used for this Phase III Drainage Report was the Town of Erie Standards and Specifications for Design and Construction of Public Improvements (Erie Standards), 2019 Edition.

In addition, the Urban Storm Drainage Criteria Manual (USDCM), Volumes 1-3 for Urban Drainage and Flood Control District (UDFCD) was also consulted.

F. Hydrological Criteria

The design storms analyzed for this Site are the 2-year and 100-year for the initial and major storm, respectively.

Rainfall intensities were taken from the following USDCM equation:

$$I = \frac{28.5 P_1}{(10 + T_C)^{0.786}}$$

One hour rainfall P_1 values were taken from Table 800-2 in the Erie Standards. For the Site, the 2-year storm P_1=0.81 inches and for the 100-year storm, P_1=2.68 inches.

The Rational Method was used to analyze the initial and major storm for the design of storm sewer and inlets.

The empirical equations provided in Section 814.09 of the Erie Standards were used to compute the necessary 100-year detention volume for the extended detention basin (EDB). The release rates were computed using Table 800-4 of the Erie Standards. The Site is comprised of Hydrologic Type B soil and will use a unit release rate of 0.85 cfs per acre, subtracting any flow leaving the Site undetained. Table 800-4 and Section 814.09 of the Erie standards are included in Appendix G for reference.

The following equation was used for the 100-year detention volume:

$V_{100}=K_{100}*A$ where:
$K_{100} = (1.78*I – 0.002*I^2-3.56)/1000$
I = Developed basin imperviousness (%)
A = Tributary area

The EDB will use Full-Spectrum Detention. The USDCM was consulted in order to compute this volume and release rate. EDB volumes are tabulated in Section “I” of this report and calculations are provided in the appendices, for reference.

G. Hydraulic Criteria

Inlet capacity is based on fully developed conditions and designed utilizing the UDFCD spreadsheet “UD Inlet v4.05.xls”, released March 2017. Some on-grade inlets will bypass a portion of the major storm events. Roadway capacity will be adequate to convey all runoff during the major storm event minus discharge captured by roadway inlets. Cross-section capacity analysis has been provided in Appendix D, with cross-sections shown in the Final Drainage Plan in Appendix F.

All proposed storm sewer pipes will be sized to convey the major storm event. The existing ultimate receiving storm sewer system is being designed by others as part of the PD and will be adequate to receive the Site’s detained stormwater runoff.

Erie Standards were followed without variation or deviation, except where specifically noted.

Drainage Facility Design

H. General Concept

All impervious area developed within the Outlook at Nine Mile project will be routed to the proposed EDB along the north property boundary of the Site with the exception of a small portion of the private drive. The EDB will be designed for Full-Spectrum Detention and will outfall to a proposed storm sewer outfall designed by others as part of the PD.

The general concept of the drainage design is to route runoff into the major storm sewer inlets through grass swales, landscape & roof drains, and private drive curb & gutter. Inlets within the private drive are designed to be spaced at intervals that ensure the private drive is still passable to emergency vehicles during the major storm event.

The major storm sewer is routed through the Site generally from south to north toward the proposed EDB at the north end of the Site. Runoff will be conveyed to the EDB, detained and treated, and then be conveyed to the proposed storm sewer outfall (by others).

Inspection and maintenance of all private storm sewer facilities will be the responsibility of the property owner and shall be done in accordance with Town of Erie standards.

The EDB will exist in a tract of land that is to be owned and maintained by the Metro District. Access for maintenance to the EDP is provided off the main drive at the entrance to the Site.

I. Specific Details

Runoff from nearly all Site sub-basins is captured via proposed storm sewer and routed to the proposed EDB at the north end of the Site. One small sub-basin will flow off the Site un-detained. Peak discharge to the EDB in the fully developed condition will be approximately 12 cfs during the initial storm event and approximately 47 cfs during the major storm event.

The following is a summary of each on-site drainage sub-basin:

Basin A1 (0.71 acres) consists of landscaping only. The peak runoff rate from basin A1 is calculated to be 0.01 cfs during the initial storm event and 2.2 cfs during the major storm event. Peak runoff from basin A1 sheet flows to the north and joins runoff in basin A as described below.

Basin A (0.31 acres) consists of buildings, drives, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed 5' Type R on-grade curb inlet (inlet A12) within the private drive. The peak runoff rate from basin A combined with runoff from basin A1 is calculated to be 0.4 cfs during the initial storm event and 3.8 cfs during the major storm event. During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be conveyed by curb & gutter to the on-grade inlet. The inlet captures all runoff during the initial storm event and bypasses 1.1 cfs during the major storm event which will flow through curb & gutter to the inlet in downstream basin B (Design Point 2). In the event of a storm sewer clog, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin C (0.49 acres) consists of buildings, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through grass swales or be captured and conveyed by roof & landscape drains to Design Point 1 in basin F, described below. The peak runoff rate from basin C is calculated to be 0.4 cfs during the initial storm event and 2.4 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 1 in basin F. If the landscape drains clog, runoff will overtop the sump area and flow to Design Point 1.

Basin F (0.33 acres) consists of buildings and landscaping. Runoff originating within this basin will either surface-drain through grass swales or be captured and conveyed by roof & landscape drains to a proposed sump-condition Type C inlet (inlet A10) and then conveyed by closed conduit at Design Point 1. During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. The peak runoff rate from basin F is calculated to be 0.3 cfs during the initial storm event, all of which will be captured by the inlet and conveyed via closed conduit to Design Point 2. During the major storm event the peak runoff originating in Basin F, 1.7 cfs, will combine with carryover flow from upstream basin C to total 3.6 cfs of

surface flow routed to the inlet. The inlet will capture and convey 3.6 cfs from surface runoff and convey it to Design Point 2, along with 2.0 cfs conveyed via closed conduit from upstream basin A (a total of 5.1 cfs). If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin B1 (0.47 acres) consists of landscaping only. The peak runoff rate from basin B1 is calculated to be 0.01 cfs during the initial storm event and 1.4 cfs during the major storm event. Peak runoff from basin B1 sheet flows to the north and joins runoff in basin B as described below.

Basin B (1.18 acres) consists of buildings, drives, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed on-grade 10' Type R curb inlet (inlet A9) within the private drive (Design Point 2). During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. The peak runoff rate from basin B combined with runoff from basin B1 is calculated to be 1.39 cfs during the initial storm event, all of which will be captured by the inlet and conveyed via closed conduit to Design Point 3. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be conveyed by curb & gutter to the on-grade inlet. During the major storm event the peak runoff originating in basin B will combine with runoff from Basin B1 and bypass flow from upstream basin A for a total of 8.1 cfs to be routed to inlet A9. The inlet will capture 7.0 cfs from surface runoff and convey it to Design Point 3, along with 6.2 cfs conveyed via closed conduit from upstream basins (a total of 13.0 cfs). The inlet will bypass 1.1 cfs to Design Point 3. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin G (1.60 acres) consists of buildings, drives, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed on-grade Triple Type 13 valley inlet (inlet H1) within the private drive (Design Point 3). During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. The peak runoff rate from basin G is calculated to be 1.9 cfs during the initial storm event. The inlet will capture 1.6 cfs from the initial storm surface runoff to be conveyed via closed conduit to Design Point 3a. The inlet will bypass 0.3 cfs to Design Point 4 during the initial storm. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be conveyed by curb & gutter to the on-grade inlet at Design Point 3. During the major storm event the peak runoff originating in basin G, 8.5 cfs, will combine with bypassed flow from upstream basin B to total 8.1 cfs of surface flow routed to the inlet. The inlet will capture 5.3 cfs from surface runoff and convey it to Design Point 4, along with 13.0 cfs conveyed via closed conduit from upstream basins (a total of 17.2 cfs). The inlet will bypass 2.8 cfs to Design Point 4. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin I (0.29 acres) consists of buildings and landscaping. Runoff originating within this basin will either surface-drain through grass swales or be captured and conveyed by roof & landscape drains to the on-grade inlet in downstream basin J (Design Point 4). The peak runoff rate from basin I is calculated to be 0.3 cfs during the initial storm event and 1.4 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 4.

Basin J (0.32 acres) consists of buildings, sidewalks, drives, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed on-grade 10' type-R inlet (inlet A7) within the private drive (Design Point 4). During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. The peak runoff rate from basin J combined with runoff from basin I and bypass flow from basin G is calculated to be 0.9 cfs for the initial storm event. During the initial storm event, all runoff should ultimately be collected and conveyed to Design Point 6. During the major storm event the peak runoff originating in basin J, 2.0 cfs, will combine with runoff from basin I and bypass flow from upstream basin G to total 5.2 cfs of surface flow routed to the inlet. The inlet will capture 5.1 cfs from surface runoff and convey it to Design Point 4, along with 17.2 cfs conveyed via closed conduit from upstream basins (a total of 21.9 cfs). If the landscape drains clog, runoff will overtop the sump area and flow to the private drive and eventually to Design Point 4, or ultimately to the detention basin. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin N (0.55 acres) consists of buildings, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through grass swales or be captured and conveyed by roof & landscape drains to a sump condition Type C inlet (inlet C2) and then conveyed by closed conduit to Design Point 5. The peak runoff rate from basin N is calculated to be 0.6 cfs during the initial storm event and 2.9 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 5. If the inlet clogs, runoff will overtop the sump area and flow into the private drive and eventually to Design Point 5, or ultimately to the detention basin.

Basin L (0.87 acres) consists of buildings, drives, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed on-grade 10' Type R curb inlet (inlet C1) within the private drive (Design Point 5). During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. The peak runoff rate from basin L is calculated to be 1.0 cfs during the initial storm event and 4.9 cfs during the major storm event, all of which will be captured by the inlet and conveyed via closed conduit to Design Point 7. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be

conveyed by curb & gutter to inlet C1. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin D (0.61 acres) consists of consists of buildings, drives, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed on-grade 5' Type R curb inlet (inlet B9) within the private drive. The peak runoff rate from basin D is calculated to be 0.9 cfs during the initial storm event and 3.8 cfs during the major storm event. During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be conveyed by curb & gutter to the on-grade inlet. The inlet captures all runoff during the initial storm event and bypasses 0.9 cfs during the major storm event which will flow through curb & gutter to the inlet in downstream basin E (Design Point 8). In the event of a storm sewer clog, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin E (0.45 acres) consists of consists of buildings, drives, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed on-grade 5' Type R curb inlet (inlet B8) within the private drive (Design Point 8). The peak runoff rate from basin E is calculated to be 0.9 cfs during the initial storm event, all of which will be captured by inlet B8 and conveyed via closed conduit to Design Point 10. During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be conveyed by curb & gutter to the on-grade inlet. During the major storm event the peak runoff originating in basin E will combine with bypass flow from upstream basin D for a total of 3.2 cfs to be routed to inlet B8. The inlet will capture 2.5 cfs from surface runoff and convey it to Design Point 10, along with 2.8 cfs conveyed via closed conduit from upstream basin D (a total of 6.1 cfs). The inlet will bypass 0.7 cfs to Design Point 9. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin H (0.60 acres) consists of consists of buildings, drives, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed on-grade 5' Type R curb inlet (inlet E1) within the private drive (Design Point 9). The peak runoff rate from basin H is calculated to be 0.9 cfs during the initial storm event, all of which will be captured by inlet E1 and conveyed via closed conduit to Design Point 10. During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be conveyed by curb & gutter to the on-grade inlet. During the major storm event the peak runoff originating in basin H will combine with bypass flow from upstream basin E for a total of 3.7 cfs to be routed to inlet B8. The inlet will capture 2.7 cfs from surface runoff and convey it

to Design Point 10, where it will combine with 6.1 cfs conveyed via closed conduit from Design Point 8 for a total of 8.0 cfs to be conveyed via closed conduit to Design Point 11. The inlet will bypass 1.0 cfs to Design Point 11. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin P (1.20 acres) consists of consists of buildings, drives, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed on-grade 10' Type R curb inlet (inlet B5) within the private drive (Design Point 11). The peak runoff rate from basin P is calculated to be 2.0 cfs during the initial storm event, all of which will be captured by inlet B5 and conveyed via closed conduit to Design Point 12a. During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be conveyed by curb & gutter to the on-grade inlet. During the major storm event the peak runoff originating in basin P will combine with bypass flow from upstream basin H for a total of 6.8 cfs to be routed to inlet B5. The inlet will capture 6.3 cfs from surface runoff and convey it to Design Point 12a, along with 8.0 cfs conveyed via closed conduit from upstream Design Point 10 (a total of 13.9 cfs). The inlet will bypass 0.5 cfs to Design Point 12. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin Q (0.44 acres) consists of consists of buildings, drives, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed on-grade 10' Triple Valley inlet (inlet J1) within the private drive (Design Point 12). During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. The peak runoff rate from basin Q is calculated to be 0.7 cfs during the initial storm event. The inlet will capture 0.6 cfs from the initial storm surface runoff to be conveyed via closed conduit to Design Point 3a. The inlet will bypass 0.1 cfs to Design Point 13 during the initial storm. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be conveyed by curb & gutter to the on-grade inlet. During the major storm event the peak runoff originating in basin Q will combine with bypass flow from upstream basin P for a total of 2.6 cfs to be routed to inlet J1. The inlet will capture 2.1 cfs from surface runoff and convey it to Design Point 12a, where it will combine with 13.9 cfs conveyed via closed conduit from Design Point 11 for a total of 15.0 cfs to be conveyed via closed conduit to Design Point 14. The inlet will bypass 0.5 cfs to Design Point 13. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin O (0.75 acres) consists of buildings, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through grass swales or be captured and conveyed by roof & landscape drains to the on-grade inlet in downstream basin K (Design Point 13). The peak runoff rate from basin O is

calculated to be 0.5 cfs during the initial storm event and 3.5 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 13.

Basin K (0.86 acres) consists of buildings, sidewalks, drives, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed on-grade 10' type-R inlet (inlet G1) within the private drive (Design Point 13). During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. The peak runoff rate from basin K combined with runoff from basin O and bypass flow from basin Q is calculated to be 1.5 cfs for the initial storm event. During the initial storm event, all runoff should ultimately be collected and conveyed to Design Point 14. During the major storm event the peak runoff originating in basin K, 5.2 cfs, will combine with runoff from basin O and bypass flow from upstream basin Q to total 6.2 cfs of surface flow routed to the inlet. The inlet will capture 5.6 cfs from surface runoff and convey it to Design Point 14, where it will combine with 15.0 cfs conveyed via closed conduit from Design Point 11 for a total of 18.9 cfs to be conveyed via closed conduit to Design Point 7. The inlet will bypass 0.6 cfs to Design Point 7a. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately to the detention basin.

Basin R (0.32 acres) consists of buildings, sidewalks, and landscaping. Runoff originating within this basin will either surface-drain through grass swales or be captured and conveyed by roof & landscape drains to the on-grade inlet in downstream basin M (Design Point 7a). The peak runoff rate from basin O is calculated to be 0.3 cfs during the initial storm event and 1.6 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 7a.

Basin M (0.88 acres) consists of buildings, sidewalks, drives, and landscaping. Runoff originating within this basin will either surface-drain through curb & gutter or be captured and conveyed by roof & landscape drains to a proposed sump-condition 10' type-R inlet (inlet A1) within the private drive (Design Point 7a). During the initial storm event it is expected that the landscape drains will capture and convey all landscaping runoff. The peak runoff rate from basin M combined with runoff from basin R and bypass flow from basin K is calculated to be 1.5 cfs for the initial storm event. During the initial storm event, all runoff should ultimately be collected and conveyed to Design Point 7a where it will combined with 10.6 cfs conveyed via closed conduit from Design Point 7 for a total of 11.9 cfs to outfall into the detention basin. During the major storm event the peak runoff originating in basin M, 5.7 cfs, will combine with runoff from basin R and bypass flow from upstream basin K to total 5.1 cfs of surface flow routed to inlet A1. This surface flow will combine with 43.9 cfs conveyed via closed conduit from Design Point 7 to total 47.2 cfs to outfall into the detention basin during the major storm event.

Basin OS-3 (0.72 acres) consists of walk, landscaping, and EDB. All runoff originating in basin OS-3 will surface drain to the EDB where it will combine with all upstream runoff from the Site. Peak runoff during the initial and major storm events are 0.15 cfs and 2.5 cfs, respectively.

Basin OS-2 (0.02 acres) consists of the small portion of private drive between the most downstream inlet in the private storm sewer system and the northern property boundary. Runoff originating in this basin totals 0.2 cfs and 0.6 cfs in the initial and major storm events, respectively. The major and minor storm event runoff escaping the Site undetained into Arapahoe Road right of way is subtracted from the total allowable detention pond release. These flows ultimately collect at a downstream inlet to the east of the private drive entrance in Arapahoe Road.

Basin OS-1 (0.11 acres) consists of landscaping only. Runoff originating in this basin totals negligible and 0.4 cfs in the initial and major storm events, respectively. The major and minor storm event runoff escaping the Site undetained to the east is subtracted from the total allowable detention pond release.

The proposed EDB will outfall into a proposed storm sewer outfall location being designed by others as part of the PD. Controlled, detained runoff release will be conveyed from the outlet structure of the EDB to an outfall manhole along the northern property boundary of the Site. An overflow weir along the northern edge of the EDB will safely convey flows during outlet clogging or storms in excess of the 100-year event to Arapahoe Road right of way.

Due to the available footprint for the EDB, retaining walls were used to achieve adequate detention volume.

Design Storm Event	WSEL (feet)	Volume Provided CF	Volume Provided Acre-Feet	Release Rate (CFS)
WQCV	5242.78	13,250	0.304	40-Hour drain time
EURV	5245.53	37,813	0.868	12-32-Hour drain time*
100-Year	5247.03	64,211	1.474	10.2

*Independent of the WQCV

The EDB provides a micropool within the outlet box to and provides an adequate surcharge depth separate from the WQCV and EURV volumes. The EURV will be discharged through an orifice plate on the outlet box in standard conformance with the USDCM. Above the EURV water surface elevation, the outlet box will allow stormwater to flow into the outlet structure and discharge directly to the outlet pipe. The release will be controlled to the maximum allowable 10.3 cfs (13.23 acres * 0.85 cfs/acre – 1.0 cfs undetained release) via restrictor plate bolted over the outlet pipe designed to release 10.2 cfs with an accumulated head corresponding to the 100-year water surface elevation shown above.

Per Erie Standards, there is one foot of provided freeboard between the 100-year water surface elevation and the top of the berm. The weir has been designed to

discharge the peak runoff rate during the major storm event at a flow depth of approximately 3 inches. The discharge will flow over the weir crest and down the reinforced pond berm to the outfall location in Arapahoe Road right of way. EDB Pond details can be found in Appendix F.

Calculations for the pond hydraulic designs are included in Appendix D. Storm sewer profiles can be found in Appendix F.

Construction will be phased in a way that will utilize the existing low point where the EDB is proposed as a temporary sediment basin to receive discharge that may be conveying sediment during construction. As storm sewer and roadway infrastructure is built (from downstream to the southern corner of the Site), proper temporary BMPs will be put in place in order to limit the amount of sediment leaving the Site.

Summary & Conclusion

All proposed on-site drainage infrastructure shown on the Final Drainage Plan (Appendix F) will be designed to convey the major-storm event and all sumps will be designed to have points of overland relief in order to prevent property damage in the event of clogging.

Stormwater quality will be provided within the proposed EDB and where feasible, directly connected impervious areas will be avoided.

The proposed project will not adversely affect drainage patterns on the Site or negatively affect adjacent, upstream, or downstream property. The project was designed in accordance with the Town of Erie storm drainage criteria.

References

1. Town of Erie Standards and Specifications for Design and Construction of Public Improvements, Town of Erie, Colorado, 2019.

2. Town of Erie Outfall Systems Planning Preliminary Design, Town of Erie, Colorado, May 2001

3. Urban Storm Drainage Criteria Manual, Vol. 1, Urban Drainage and Flood Control District, Revised August 2018.

4. Urban Storm Drainage Criteria Manual, Vol. 2, Urban Drainage and Flood Control District, Revised September 2017.

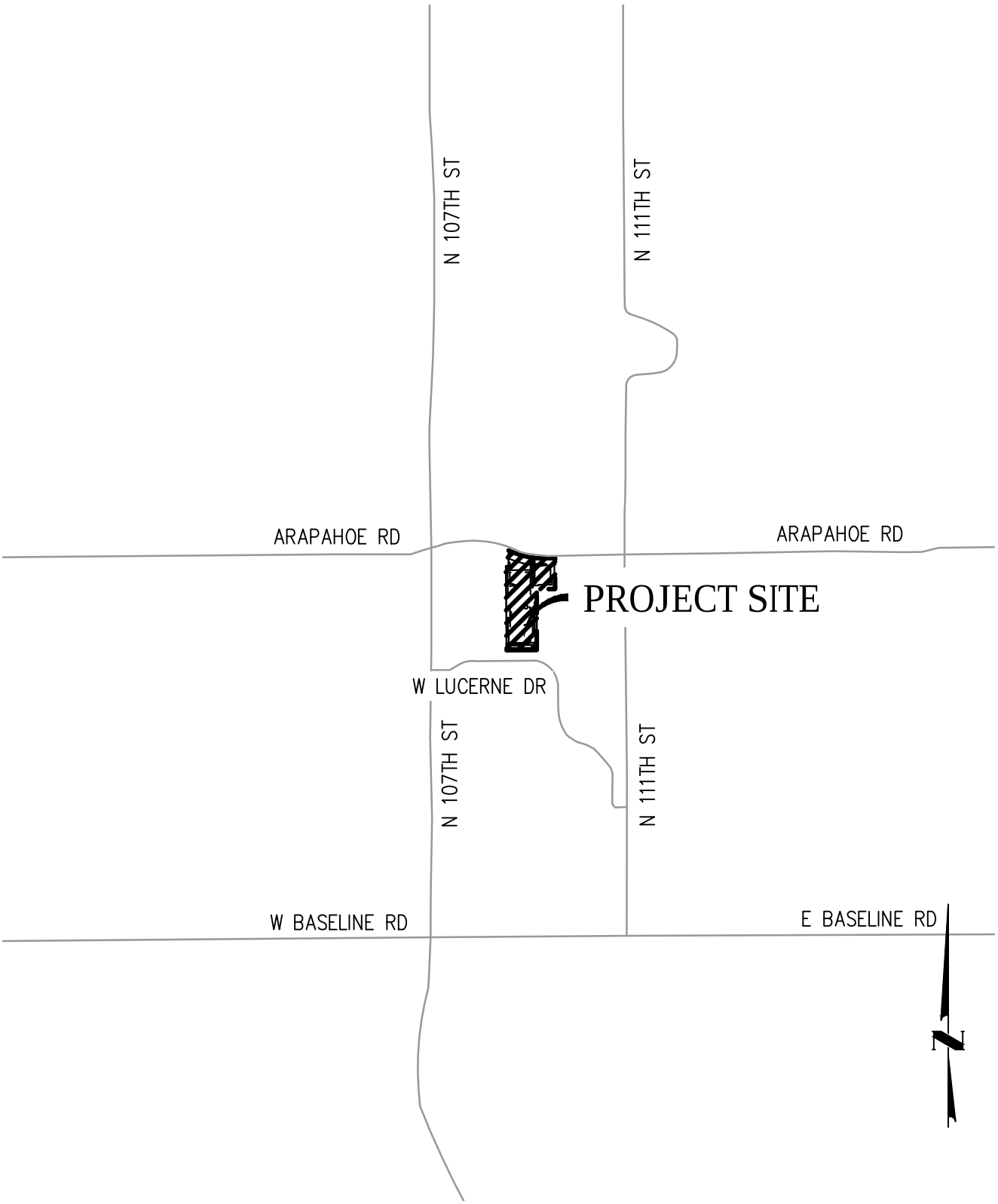
5. Urban Storm Drainage Criteria Manual, Vol. 3, Urban Drainage and Flood Control District, Revised April 2018.

6. United States Department of Agriculture, Natural Resources Conservation Service. Custom Soil Resource Report.

7. United States Department of Homeland Security, Federal Emergency Management Agency. Flood Insurance Rate Map. Map Number 08005C0194K, December 17, 2010

APPENDIX A

Vicinity Map
FEMA Firmette



Plotted: WED 04/26/17 4:37:12P By: Reggie Smith Filepath: p:\160602\engineering\xref\vicmap.dwg Layout: layout1

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

ISSUE DATE: 09/19/2016	PROJECT #: 160602
DATE	REVISION COMMENTS

EVERGREEN

OUTLOOK AT NINE MILE
VICINITY MAP

HARRIS KOCHER SMITH
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Denver, Colorado 80203
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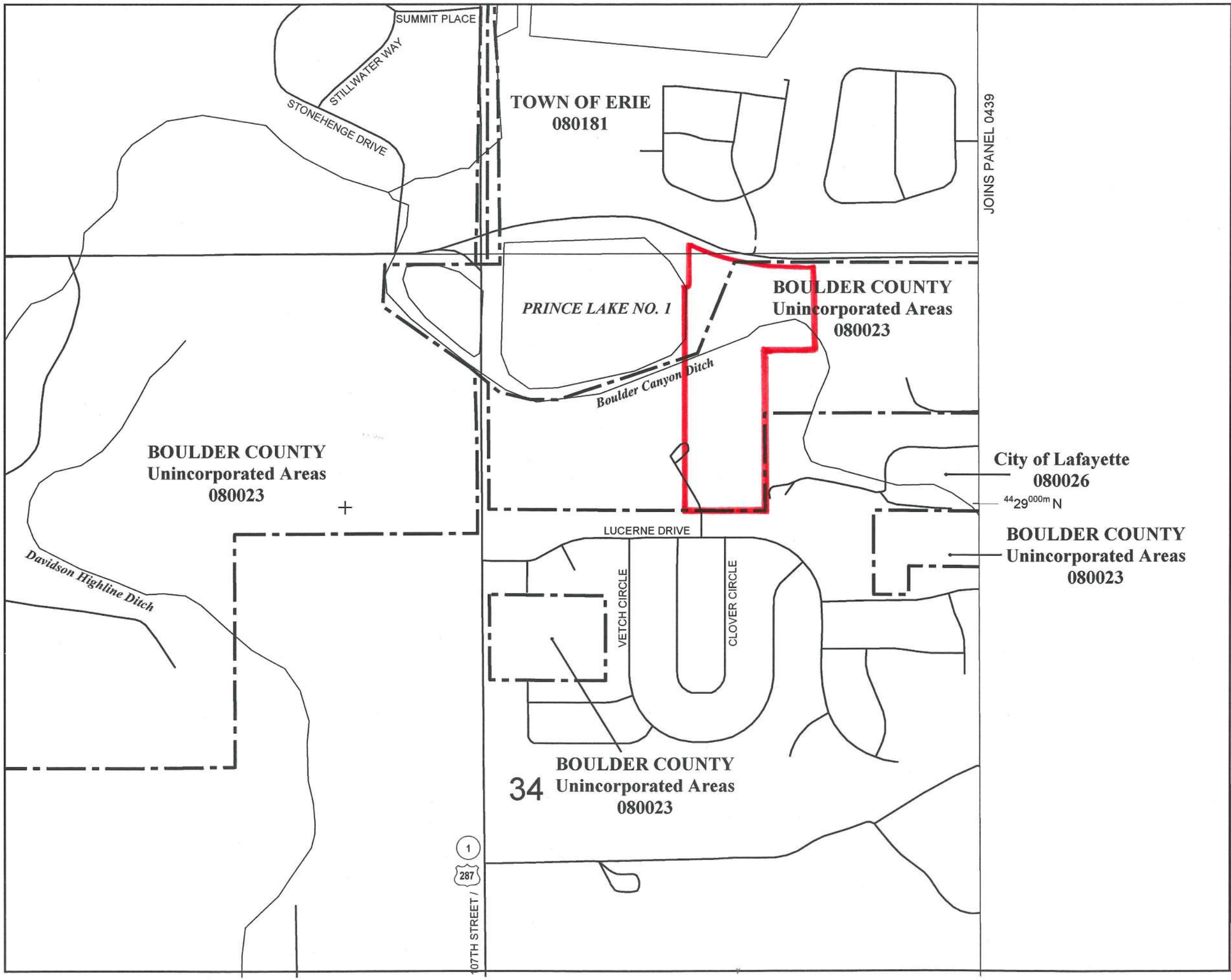
HarrisKocherSmith.com

DSN'D BY: MEG
CHK'D BY: TEG
DRAWN BY: MEG

SHEET NO.
1
1 OF 1



urance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

MET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0438J

FIRM

FLOOD INSURANCE RATE MAP

BOULDER COUNTY, COLORADO AND INCORPORATED AREAS

PANEL 438 OF 615

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BOULDER COUNTY	080023	0438	J
ERIE, TOWN OF	080181	0438	J
LAFAYETTE, CITY OF	080026	0438	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
08013C0438J

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

APPENDIX B

Soils Information

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Boulder County Area, Colorado

July 18, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

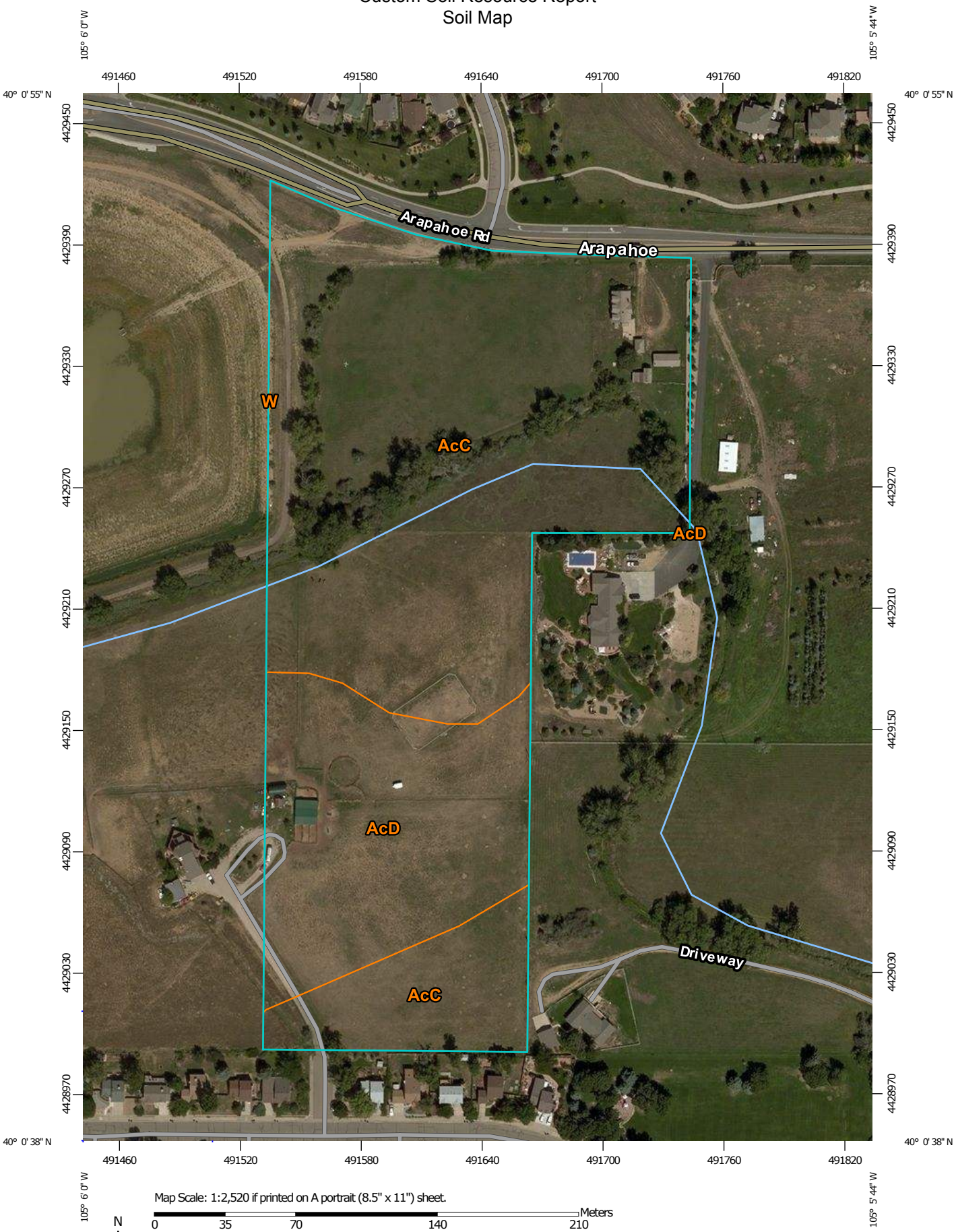
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,520 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boulder County Area, Colorado
Survey Area Data: Version 12, Sep 22, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 30, 2014—Sep 18, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Boulder County Area, Colorado (CO643)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AcC	Ascalon sandy loam, 3 to 5 percent slopes	11.9	74.6%
AcD	Ascalon sandy loam, 5 to 9 percent slopes	4.1	25.4%
W	Water	0.0	0.0%
Totals for Area of Interest		**15.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If

intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Boulder County Area, Colorado

AcC—Ascalon sandy loam, 3 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2tlnt
Elevation: 3,550 to 5,970 feet
Mean annual precipitation: 12 to 16 inches
Mean annual air temperature: 46 to 57 degrees F
Frost-free period: 135 to 160 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Ascalon and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ascalon

Setting

Landform: Interfluves
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Wind-reworked alluvium and/or calcareous sandy eolian deposits

Typical profile

Ap - 0 to 6 inches: sandy loam
Bt1 - 6 to 12 inches: sandy clay loam
Bt2 - 12 to 19 inches: sandy clay loam
Bk - 19 to 35 inches: sandy clay loam
C - 35 to 80 inches: sandy loam

Properties and qualities

Slope: 3 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline (0.1 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Ecological site: Sandy Plains (R067BY024CO), Sandy (North) Draft (April 2010) (PE 16-20) (R072XA022KS)

Minor Components

Stoneham

Percent of map unit: 10 percent
Landform: Interfluves
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Plains (R067BY002CO), Loamy Upland (North) (PE 16-20) (R072XA015KS)

Vona

Percent of map unit: 8 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope, footslope, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Sandy Plains (R067BY024CO), Sandy (North) Draft (April 2010) (PE 16-20) (R072XA022KS)

Platner

Percent of map unit: 2 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Plains (R067BY002CO), Loamy Upland (North) (PE 16-20) (R072XA015KS)

AcD—Ascalon sandy loam, 5 to 9 percent slopes

Map Unit Setting

National map unit symbol: jpr4
Elevation: 4,900 to 5,500 feet
Mean annual precipitation: 12 to 18 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 140 to 155 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ascalon and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ascalon

Setting

Landform: Terraces
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed loamy alluvium and/or eolian deposits

Typical profile

H1 - 0 to 5 inches: sandy loam
H2 - 5 to 16 inches: sandy clay loam, sandy loam
H2 - 5 to 16 inches: fine sandy loam, loamy fine sand, sandy loam
H3 - 16 to 60 inches:
H3 - 16 to 60 inches:
H3 - 16 to 60 inches:

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 10 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 16.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Sandy (R067XB026CO)

Minor Components

Olney

Percent of map unit: 10 percent

Otero

Percent of map unit: 5 percent

Terry

Percent of map unit: 5 percent

W—Water

Map Unit Composition

Water: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Aquolls

Percent of map unit: 5 percent
Landform: Marshes

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APPENDIX C

Hydrologic Computations

Project Name: Outlook Nine Mile

Composite C-Value Computations

Post-Development

Project No: 160602

Date: 11/04/19

Revised:

Design by: JWM

Checked by: MSM

NRCS Soil Group B

BASIN	TOTAL AREA (ACRES)	ROOFS (90%)	CONCRETE DRIVES & WALKS (90%)	STREETS (100%)	LANDSCAPE AREA (2%)	PERCENT IMPERVIOUS	C_2=	C_5=	C_{100}=
A	0.31	0.07	0.03	0.16	0.05	81%	0.66	0.69	0.81
B	1.18	0.20	0.22	0.50	0.25	75%	0.60	0.63	0.78
C	0.49	0.27	0.03	0.00	0.19	56%	0.42	0.45	0.69
D	0.61	0.18	0.09	0.24	0.10	79%	0.64	0.67	0.80
E	0.45	0.02	0.10	0.18	0.15	64%	0.50	0.53	0.73
F	0.33	0.19	0.00	0.00	0.14	53%	0.40	0.43	0.67
G	1.60	0.48	0.29	0.47	0.36	73%	0.58	0.61	0.77
H	0.60	0.11	0.07	0.28	0.13	75%	0.60	0.63	0.78
I	0.29	0.19	0.00	0.00	0.10	60%	0.46	0.49	0.71
J	0.32	0.04	0.06	0.11	0.11	63%	0.49	0.52	0.72
K	0.86	0.16	0.21	0.32	0.17	76%	0.61	0.64	0.78
L	0.87	0.21	0.09	0.30	0.27	66%	0.52	0.55	0.74
M	0.88	0.24	0.12	0.38	0.15	79%	0.64	0.67	0.80
N	0.55	0.28	0.06	0.00	0.20	58%	0.44	0.47	0.70
O	0.75	0.22	0.15	0.00	0.38	45%	0.33	0.36	0.64
P	1.20	0.16	0.09	0.69	0.26	77%	0.62	0.65	0.79
Q	0.44	0.15	0.10	0.13	0.06	82%	0.66	0.69	0.81
R	0.32	0.16	0.03	0.00	0.13	53%	0.40	0.44	0.68
On-Site Total	**12.05**	**3.34**	**1.75**	**3.76**	**3.21**	**70%**	**0.55**	**0.58**	**0.75**
A1	0.71	0.00	0.00	0.00	0.71	2%	0.01	0.01	0.44
B1	0.47	0.00	0.00	0.00	0.47	2%	0.01	0.01	0.44
OS-1	0.11	0.00	0.00	0.00	0.11	2%	0.01	0.01	0.44
OS-2	0.07	0.00	0.00	0.07	0.00	100%	0.84	0.86	0.90
OS-3	0.72	0.00	0.12	0.00	0.60	16%	0.10	0.12	0.50
OS (off-site) Total	**2.08**	**0.00**	**0.12**	**0.07**	**1.90**	**10%**	**0.06**	**0.07**	**0.47**

Project Name: Outlook Nine Mile
Project No: 160602
Date: 11/04/19
Revised:

STANDARD FORM SF-2
TIME OF CONCENTRATION

Designed By: JWM
Checked By: MSM

SUB-BASIN DATA			INITIAL/OVERLAND TIME (T_i)			TRAVEL TIME (T_t)					Tc CHECK (URBANIZED BASINS)			FINAL	REMARKS
BASIN	AREA (AC)	C_5	LENGTH (FT)	SLOPE %	Ti (MIN)	LENGTH (FT)	SLOPE %	C_v	VELOCITY (FPS)	Tt (MIN)	COMPOS. Tc (MIN)	TOTAL LENGTH	Tc = (L/180) + 10 (MIN)	T_c (MIN)	
A	0.31	0.69	69	2.00	5.01	104	1.50	20	2.45	0.71	5.72	173	10.96	5.72	
B	1.18	0.63	69	2.00	5.64	202	1.75	20	2.65	1.27	6.92	271	11.51	6.92	
C	0.49	0.45	114	2.00	10.05	47	5.53	15	3.53	0.22	10.27	161	10.89	10.27	
D	0.61	0.67	190	2.00	8.68	35	5.54	20	4.71	0.12	8.80	225	11.25	8.80	
E	0.45	0.53	50	2.00	5.83	220	1.10	20	2.10	1.75	7.58	270	11.50	7.58	
F	0.33	0.43	77	2.00	8.57	20	4.45	15	3.16	0.11	8.68	97	10.54	8.68	
G	1.60	0.61	220	2.00	10.49	154	1.97	20	2.81	0.91	11.41	374	12.08	11.41	
H	0.60	0.63	80	2.00	6.14	73	1.81	20	2.69	0.45	6.59	153	10.85	6.59	
I	0.29	0.49	182	2.00	11.96	25	5.60	15	3.55	0.12	12.08	207	11.15	11.15	
J	0.32	0.52	50	2.00	5.96	58	2.38	20	3.09	0.31	6.27	108	10.60	6.27	
K	0.86	0.64	113	2.00	7.09	260	1.76	20	2.65	1.63	8.73	373	12.07	8.73	
L	0.87	0.55	110	2.00	8.40	110	3.02	20	3.48	0.53	8.92	220	11.22	8.92	
M	0.88	0.67	116	2.00	6.81	96	1.94	20	2.79	0.57	7.39	212	11.18	7.39	
N	0.55	0.47	90	2.00	8.64	50	5.40	15	3.49	0.24	8.88	140	10.78	8.88	
O	0.75	0.36	85	2.00	9.90	29	6.90	15	3.94	0.12	10.02	114	10.63	10.02	
P	1.20	0.65	42	2.00	4.29	137	2.34	20	3.06	0.75	5.04	179	10.99	5.04	
Q	0.44	0.69	150	2.00	7.32	62	4.32	20	4.16	0.25	7.57	212	11.18	7.57	
R	0.32	0.44	100	2.00	9.68	38	3.18	15	2.67	0.24	9.91	138	10.77	9.91	
Off-Site															
A1	0.71	0.01	191	4.35	16.89	0	0.00	7	0.00	0.00	16.89	191	11.06	11.06	
B1	0.47	0.01	201	2.83	19.99	0	0.00	7	0.00	0.00	19.99	201	11.12	11.12	
OS-1	0.11	0.01	43	11.50	5.79	0	0.00	7	0.00	0.00	5.79	43	10.24	5.79	
OS-2	0.07	0.86	53	5.67	1.80	41	1.00	20	2.00	0.34	5.00	94	10.52	5.00	
OS-3	0.72	0.12	58	2.00	10.88	193	0.50	20	1.41	2.27	13.16	251	11.39	11.39	

Project Name: Outlook Nine Mile

Project No: 160602

Date: 11/04/19

Revised:

STANDARD FORM SF-2

Post-Development Rational Method Procedure

Designed By: JWM

Checked By: MSM

Design Storm: 2 YR

		DIRECT RUNOFF						TOTAL RUNOFF				STREET/INLET					STORM SEWER PIPE				TRAVEL TIME			CARRYOVER FLOWS					
BASIN (s)	DESIGN POINT	AREA (AC)	RUNOFF COEFF	Tc (min)	C x A (AC)	I (IN/HR)	DIRECT RUNOFF, Q (CFS)	Tc (min)	Σ(C x A) (AC)	I (IN/HR)	TOTAL RUNOFF, Q (CFS)	SLOPE (%)	STREET FLOW (CFS)	INLET DESIGN FLOW (CFS)	STREET OR INLET INTERCEPTION (CFS)	CARRYOVER (CFS)	DESIGN FLOW (CFS)	PIPE SLOPE (%)	PIPE SIZE (IN)	Q_{FULL} (CFS)	LENGTH (FT)	VELOCITY (FPS)	Tt (min)	Σ(C x A) BYPASS (AC)	LENGTH (FT)	SLOPE (%)	VELOCITY (FPS)	Tt (min)	REMARKS
A1		0.71	0.01	11.06	0.01	2.10	0.01	11.06	0.01	2.10	0.01													0.01	61.83	1.81	2.7	0.38	Basin A1 Direct Runoff
A		0.31	0.66	5.72	0.20	2.65	0.5	5.72	0.20	2.65	0.5																		Basin A Direct runoff
Basin A + Basin A1								11.44	0.21	2.07	0.4						0.4	3.8	18	26.8	283.0	15.1	0.31						Basin A + Basin A1 surface flow captured by Pr Inlet
C		0.49	0.42	10.27	0.21	2.17	0.4																	0.21	202	0.40	1.3	2.66	Basin C Direct Runoff
F		0.33	0.40	8.68	0.13	2.31	0.3																						Basin F Direct Runoff
Basin C + Basin F	1							12.93	0.34	1.97	0.7																		Total Flow captured by Type C Inlet at DP 1
								12.93	**0.55**	**1.97**	**1.1**						**1.1**	**2.1**	**18**	**19.6**	**50.2**	**2.2**	**0.39**						**Combined flow in Pipe at from DP 1 to DP 2**
B1		0.47	0.01	11.12	0.004	2.10	0.01	11.12	0.004	2.10	0.01													0.004	294.9	1.12	2.1	2.32	Basin B1 Direct Runoff
B		1.18	0.60	6.92	0.71	2.50	1.8																						Basin B Direct Runoff
Basin B + Basin B1								13.44	0.72	1.93	1.39																		Captured by PR Inlet at DP 2
Basin B + Basin B1 + DP 1	2							**13.32**	**1.26**	**1.94**	**2.5**						**2.5**	**0.50**	**18**	**9.7**	**206.2**	**5.5**	**0.63**						**Combined flow in pipe from DP 2 to DP3a**
G	3	1.60	0.58	11.41	0.94	2.08	1.9						1.9	1.6	1.6	0.3													Basin G Direct runoff
								11.41	0.77	2.08	1.6						1.6	5.0	18	30.5	7.2	17.3	0.01						Captured by PR Inlet at DP 3
DP 2 + DP 3	3a							**13.95**	**2.03**	**1.90**	**3.9**						**3.9**	**0.99**	**18**	**13.6**	**105.4**	**7.7**	**0.23**						**Combined flow in pipe from DP 3a to DP 4**
								11.41	0.17	2.08	0.3													0.17	101.4	1.00	2.0	0.85	Bypass Flows to DP 4
J		0.32	0.49	6.27	0.16	2.58	0.4																						Basin J Direct Runoff
I		0.29	0.46	11.15	0.13	2.10	0.3																	0.13	130	2.88	3.4	0.64	Basin I direct Runoff
Basin I + Basin J + Bypass								12.25	0.46	2.01	0.9																		Basin J Direct Runoff + Basin I Carryover + Bypass form Basin G (Captured by PR Inlet)
Basin J +Basin I + Bypass + DP 3a	4							**14.18**	**2.49**	**1.89**	**4.7**						**4.7**	**0.61**	**24**	**23.0**	**525.2**	**7.3**	**1.20**						**Combined flow in pipe from DP 4 to DP 6**
N		0.55	0.44	8.88	0.24	2.29	0.6										0.6	0.50	18	9.7	133.8	5.5	0.41						Basin N Direct Runoff
L		0.87	0.52	8.92	0.45	2.29	1.0																						Basin L Direct Runoff
Basin L + Basin N	5							**9.29**	**0.70**	**2.25**	**1.6**						**1.6**	**0.50**	**18**	**9.7**	**18.7**	**5.5**	**0.06**						**Combined flow in pipe at DP 5**
DP 4 + DP 5	6							**15.37**	**3.18**	**1.82**	**5.8**						**5.8**	**0.50**	**30**	**37.7**	**181.4**	**7.7**	**0.39**						**Combined flow in pipe at DP 6**
D		0.61	0.64	8.80	0.39	2.30	0.9										0.9	1.8	18	18.1	224.2	10.2	0.37						Basin D Direct Runoff
E		0.45	0.50	7.58	0.23	2.43	0.5																						Basin E Direct Runoff
Basin D + Basin E	8							**9.17**	**0.62**	**2.27**	**1.4**						**1.4**	**0.5**	**18**	**9.7**	**245.4**	**5.5**	**0.75**						**Combined flow in pipe at DP 8**
H	9	**0.60**	**0.60**	**6.59**	**0.36**	**2.54**	**0.9**										**0.9**	**9.0**	**18**	**41.0**	**22.5**	**23.2**	**0.02**						**Basin H Direct Runoff (Flow in Pipe from DP 9 to DP 10)**
DP 8 + DP 9	10							**9.92**	**0.98**	**2.20**	**2.1**						**2.1**	**0.5**	**18**	**9.7**	**161.5**	**5.5**	**0.49**						**Combined flow in Pipe at DP 10**
P		1.20	0.62	5.04	0.74	2.74	2.0																						Basin P Direct Runoff
Basin P + DP 10	11							**10.41**	**1.72**	**2.16**	**3.7**						**3.7**	**2.2**	**18**	**20.0**	**172.2**	**11.3**	**0.25**						**Combined flow in pipe at DP 11**
Q	12	0.44	0.66	7.57	0.29	2.43	0.7						0.7	0.6	0.6	0.1													Basin Q Direct Runoff
								7.57	0.25	2.43	0.6						0.6	5.0	18	30.5	7.9	17.3	0.01						Captured by Pr Inlet at DP 12
DP 11 + DP 12	12a							**10.66**	**1.96**	**2.14**	**4.2**						**4.2**	**0.9**	**18**	**12.8**	**99.7**	**7.2**	**0.23**						**Combined Flow in Pipe at DP 12a**
								7.57	0.04	2.43	0.1													0.04	95.12	1.00	2.0	0.79	Bypass Flow to DP 13
O		0.75	0.33	10.02	0.25	2.19	0.5																	0.25	354.1	1.00	2.0	2.95	Basin O Direct Runoff
K		0.86	0.61	8.73	0.53	2.31	1.2																						Basin K Direct Runoff
Basin O + Basin K + Bypass	13							**12.97**	**0.78**	**1.97**	**1.5**						**1.5**	**9.0**	**18**	**41.0**	**9.1**	**23.2**	**0.01**						**Combined Flow in Pipe at DP 13**
DP 12a + DP 13	14							**12.98**	**2.74**	**1.96**	**5.4**						**5.4**	**0.5**	**18**	**9.7**	**292.0**	**5.5**	**0.89**						**Combined Flow in Pipe from DP 14 to DP 7**
DP 14 + DP 6	7							**15.77**	**5.92**	**1.80**	**10.6**						**10.6**	**2.0**	**30**	**75.4**	**8.7**	**15.4**	**0.01**						**Combined Flow in Pipe at DP 7**
M		0.88	0.64	7.39	0.56	2.45	1.4																						Basin M direct Runoff
R		0.32	0.40	9.91	0.13	2.20	0.3																	0.13	402.6	1.49	2.4	2.75	Basin R Direct Runoff
Basin M + Basin R + Bypass								12.66	0.73	1.99	1.5																		Total Runoff to PR Inlet at DP 7a
Basin M + Basin R + Bypass + DP 7	7a							**15.78**	**6.66**	**1.80**	**12.0**						**12.0**	**0.5**	**36**	**61.3**	**15.5**	**8.7**	**0.03**						**Combined Flow in Pipe From DP 7a to DP 15**
TOTAL OUTFALL TO EDB	15							**15.81**	**6.66**	**1.79**	**11.9**																		**Total Flow at Outfall to EDB**
Off-Site																													
OS-1		0.11	0.01	5.79	0.001	2.64	0.003																						Basin OS-1 Flow Off Site
OS-2		0.07	0.84	5.00	0.06	2.75	0.2																						Basin OS-2 Flow Off Site to Arapahoe Rd
OS-3		0.72	0.10	11.39	0.07	2.08	0.15																						Basin OS 3 Direct Runoff

Project Name: Outlook Nine Mile

Project No: 160602

Date: 11/04/19

Revised:

STANDARD FORM SF-2

Post-Development
Rational Method Procedure

Designed By: JWM

Checked By: MSM

Design Storm: 100 YR

		DIRECT RUNOFF						TOTAL RUNOFF				STREET/INLET					STORM SEWER PIPE				TRAVEL TIME			CARRYOVER FLOWS					
BASIN (s)	DESIGN POINT	AREA (AC)	RUNOFF COEFF	Tc (min)	C x A (AC)	I (IN/HR)	DIRECT RUNOFF, Q (CFS)	Tc (min)	Σ(C x A) (AC)	I (IN/HR)	TOTAL RUNOFF, Q (CFS)	SLOPE (%)	STREET FLOW (CFS)	INLET DESIGN FLOW (CFS)	STREET OR INLET INTERCEPTION (CFS)	CARRYOVER (CFS)	DESIGN FLOW (CFS)	PIPE SLOPE (%)	PIPE SIZE (IN)	Q_{FULL} (CFS)	LENGTH (FT)	VELOCITY (FPS)	Tt (min)	Σ(C x A) BYPASS (AC)	LENGTH (FT)	SLOPE (%)	VELOCITY (FPS)	Tt (min)	REMARKS
A1		0.71	0.44	11.06	0.31	6.96	2.2	11.06	0.31	6.96	2.2													0.31	61.83	1.81	2.7	0.38	Basin A1 Direct Runoff
A		0.31	0.81	5.72	0.25	8.76	2.2																						Basin A Direct runoff
Basin A + Basin A1								11.44	0.56	6.86	3.8		3.8	2.7	2.7	1.1													Basin A + Basin A1 Direct Runoff
								11.44	0.39	6.86	2.7						2.7	3.84	18	26.8	283	15.1	0.31						Runoff From Basin A + A1 captured by Type R Inlet
								11.44	0.17	6.86	1.1													0.17	306.5	1.00	2.0	2.55	Bypass to DP 2
C		0.49	0.69	10.27	0.34	7.17	2.4																	0.34	202	0.40	1.3	2.66	Basin C Direct Runoff
F		0.33	0.67	8.68	0.22	7.65	1.7																						Basin F Direct Runoff
Basin C + Basin F	1							12.93	0.56	6.51	3.6																		Total Flow captured at Type C Inlet at DP 1
								12.93	**0.95**	**6.51**	**6.2**						**6.2**	**3.0**	**18**	**23.7**	**50.2**	**2.6**	**0.32**						**Combined flow in Pipe at DP 2**
B1		0.47	0.44	11.12	0.20	6.95	1.4	11.12	0.20	6.95	1.4													0.205	294.9	1.12	2.1	2.32	Basin B1 Direct Runoff
B		1.18	0.78	6.92	0.92	8.27	7.6																						Basin B Direct Runoff
Basin B + Bypass + Basin B1								14.00	1.29	6.28	8.1		8.1	7.0	7.0	1.1													Basin B Runoff + Basin A Bypass
								14.00	1.11	6.28	7.0																		Captured by PR Inlet
	2							**14.00**	**2.07**	**6.28**	**13.0**						**13.0**	**0.85**	**24**	**27.1**	**219**	**8.6**	**0.42**						**Combined flow in pipe at DP 3**
								14.00	0.18	6.28	1.1													0.18	335.2	1.00	2.0	2.79	Bypass Flow to DP 3
G		1.60	0.77	11.41	1.23	6.87	8.5																						Basin G Direct runoff
Basin G + Bypass	3							16.79	1.41	5.76	8.1		8.1	5.3	5.3	2.8													Basin G Runoff + Basin B Bypass
								16.79	0.92	5.76	5.3						5.3	5.0	18	30.5	7.2	17.3	0.01						Captured by PR Inlet
DP 2 +DP 3	3a							**16.80**	**2.99**	**5.76**	**17.2**						**17.2**	**0.50**	**24**	**20.8**	**95**	**6.6**	**0.24**						**Combined flow in pipe at DP 4**
								16.79	0.49	5.76	2.8													0.49	101.4	1.00	2.0	0.85	Bypass Flow to DP 4
I		0.29	0.71	11.15	0.20	6.94	1.4																	0.20	130	2.88	3.4	0.64	Basin I direct Runoff
J		0.32	0.72	6.27	0.23	8.53	2.0																						Basin J Direct Runoff
Basin J + Basin I + Bypass								17.64	0.93	5.62	5.2		5.2	5.1	5.1	0.1													Basin J Runoff + Basin G Bypass + Basin I Carryover
								17.64	0.91	5.62	5.1																		Captured by PR Inlet
Basin J + Basin I + Bypass + DP 3	4							**17.64**	**3.89**	**5.62**	**21.9**						**21.9**	**0.69**	**24**	**24.4**	**525**	**7.8**	**1.13**						**Combined flow in pipe from DP 4 to DP 6**
								17.64	0.02	5.62	0.1													0.02	354.5	1.37	2.3	2.52	Bypass flow to DP 13
N		0.55	0.70	8.88	0.38	7.59	2.9										2.9	4.55	18	29.1	58	16.5	0.06						Basin N Direct Runoff
L		0.87	0.74	8.92	0.64	7.57	4.9																						Basin L Direct Runoff
Basin L + Basin N	5							**8.94**	**1.03**	**7.57**	**7.8**						**7.8**	**0.50**	**18**	**9.7**	**19**	**5.5**	**0.06**						**Combined flow in pipe at DP 5**
DP 4 + DP 5	6							**18.76**	**4.92**	**5.45**	**26.8**						**26.8**	**0.50**	**30**	**37.7**	**182**	**7.7**	**0.40**						**Combined flow in pipe at DP 6**
D		0.61	0.80	8.80	0.49	7.61	3.7						3.7	2.8	2.8	0.9													Basin D Direct Runoff
								8.80	0.37	7.61	2.8						2.8	1.8	18	18.1	224.2	10.2	0.37						Captured by PR Inlet
								8.80	0.12	7.61	0.9													0.12	228.2	1.00	2.0	1.90	Bypass flow to DP 8
E		0.45	0.73	7.58	0.33	8.02	2.6																						Basin E Direct Runoff
Basin E + Bypass								10.70	0.45	7.06	3.2		3.2	2.5	2.5	0.7													Basin E Runoff + Bypass from Basin D
								10.70	0.35	7.06	2.5																		Captured by PR Inlet
Basin D + Basin E	**8**							**9.17**	**0.81**	**7.50**	**6.1**						**6.1**	**0.5**	**18**	**9.7**	**245.4**	**5.5**	**0.75**						**Combined flow in pipe at DP 8**
								10.70	0.10	7.06	0.7													0.10	276.3	1.00	2.0	2.30	Bypass flow to DP 9
H		0.60	0.78	6.59	0.47	8.40	3.9																						Basin H Direct Runoff
Basin H + Bypass								13.01	0.56	6.49	3.7		3.7	2.7	2.7	1.0													Basin H Runoff + Bypass from Basin E
	9							**13.01**	**0.42**	**6.49**	**2.7**						**2.7**	**9.0**	**18**	**41.0**	**22.5**	**23.2**	**0.02**						**Captured by PR Inlet (Flow from DP 9 to DP 10)**
								13.01	0.15	6.49	1.0													0.15	167.1	1.00	2.0	1.39	Bypass flow to DP 11
DP 8 + DP 9	**10**							**13.02**	**1.23**	**6.49**	**8.0**						**8.0**	**0.5**	**18**	**9.7**	**161.5**	**5.5**	**0.49**						**Combined flow in Pipe at DP 10**
P		1.20	0.79	5.04	0.94	9.07	8.6																						Basin P Direct Runoff
Basin P + Bypass								14.40	1.09	6.20	6.8		6.8	6.3	6.3	0.5													Basin P Runoff + Bypass from Basin H
								14.40	1.02	6.20	6.3																		Captured by PR Inlet
Basin P + DP 10	**11**							**13.52**	**2.17**	**6.38**	**13.9**						**13.9**	**2.2**	**18**	**20.0**	**172.2**	**11.3**	**0.25**						**Combined flow in pipe at DP 11**
								14.40	0.08	6.20	0.5													0.08	180.4	1.00	2.0	1.50	Bypass Flows to DP 12
Q		0.44	0.81	7.57	0.36	8.03	2.9																						Basin Q Direct Runoff
Basin Q + Bypass	12							15.90	0.43	5.92	2.6		2.6	2.1	2.1	0.5													Basin Q Runoff + bypass from Basin P
								15.90	0.35	5.92	2.1						2.1	5.0	18	30.5	7.9	17.3	0.01						Captured by PR Inlet
DP 11+ DP 12	**12a**							**15.91**	**2.53**	**5.92**	**15.0**						**15.0**	**0.9**	**24**	**27.6**	**99.7**	**8.8**	**0.19**						**Combined Flow in Pipe at DP 12a**
								15.90	0.08	5.92	0.5													0.08	95.12	1.00	2.0	0.79	Bypass Flow to DP 13
O		0.75	0.64	10.02	0.48	7.24	3.5																	0.48	354.1	1.00	2.0	2.95	Basin O Direct Runoff
K		0.86	0.78	8.73	0.68	7.64	5.2																						Basin K Direct Runoff
Basin K + Basin O + Bypass	13							20.16	1.17	5.25	6.2		6.2	5.6	5.6	0.6													Basin K Runoff + Basin J Bypass + Carryover from Basin O
								20.16	**1.07**	**5.25**	**5.6**						**5.6**	**9.0**	**18**	**41.0**	**9.1**	**23.2**	**0.01**						**Captured by PR Inlet (Combined flow from DP 13 to DP 14)**
								20.16	0.11	5.25	0.6													0.11	281.8	1.00	2.0	2.35	Bypass Flow to DP 7a
DP 12 + DP 13	**14**							**20.17**	**3.60**	**5.25**	**18.9**						**18.9**	**0.5**	**24**	**20.8**	**266.9**	**6.6**	**0.67**						**Combined flow in pipe from DP 14 to DP 7**
DP 6 + DP 14	**7**							**20.84**	**8.52**	**5.16**	**43.9**						**43.9**	**2.0**	**30**	**75.4**	**8.7**	**15.4**	**0.01**						**Combined Flow in Pipe at DP 7**
R		0.32	0.68	9.91	0.22	7.28	1.6																	0.22	402.6	1.49	2.4	2.75	Basin R Direct Runoff
M		0.88	0.80	7.39	0.70	8.09	5.7																						Basin M Direct Runoff
Basin M + Basin R + Bypass								22.51	1.03	4.95	5.1																		Total Runoff to PR Inlet at DP 7
Basin M + Basin R + Bypass + DP 7	**7a**							**22.51**	**9.54**	**4.95**	**47.2**						**47.2**	**0.5**	**36**	**61.3**	**15.5**	**8.7**	**0.03**						**Combined Flow in Pipe from DP 7a to DP 15**
Total Outfall to EDB								**22.54**	**9.54**	**4.95**	**47.2**																		**Total Flow at Outfall to EDB**
Off-Site																													
OS-1		0.11	0.44	5.79	0.05	8.73	0.4																						Basin OS-1 Flow Off Site
OS-2		0.07	0.90	5.00	0.06	9.09	0.6																						Basin OS-2 Flow Off Site to Arapahoe Rd
OS-3		0.72	0.50	11.39	0.36	6.88	2.5																						Basin OS 3 Direct Runoff

APPENDIX D

Hydraulic Computations

Version 4.05 Released March 2017

INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet A12 (Basin A)	Inlet A10 (Basin F)	Inlet A9 (Basin B)	Inlet H1 (Basin G)	Inlet A7 (Basin J)	Inlet C1 (Basin L)
Site Type (Urban or Rural)		RURAL				
Inlet Application (Street or Area)	STREET	AREA	STREET	STREET	STREET	STREET
Hydraulic Condition	On Grade	Swale	On Grade	On Grade	On Grade	On Grade
Inlet Type	CDOT Type R Curb Opening	CDOT Type C	CDOT Type R Curb Opening	CDOT/Denver 13 Valley Grate	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	0.5	0.3	1.8	1.9	0.9	1.0
Major Q_{Known} (cfs)	3.8	1.7	8.1	8.1	5.2	4.9

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)						
Percent Impervious						
NRCS Soil Type						

Watershed Profile

Overland Slope (ft/ft)						
Overland Length (ft)						
Channel Slope (ft/ft)						
Channel Length (ft)						

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)						
One-Hour Precipitation, P_1 (inches)						

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)						
One-Hour Precipitation, P_1 (inches)						

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**0.5**	**0.3**	**1.8**	**1.9**	**0.9**	**1.0**
Major Total Design Peak Flow, Q (cfs)	**3.8**	**1.7**	**8.1**	**8.1**	**5.2**	**4.9**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.0	0.3	0.0	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	1.1	0.0	1.1	2.8	0.1	0.0

Minor Storm (Calculated) Analysis of Flow Time

C	N/A	N/A	N/A	N/A	N/A	N/A
C_5	N/A	N/A	N/A	N/A	N/A	N/A
Overland Flow Velocity, Vi	N/A	N/A	N/A	N/A	N/A	N/A
Channel Flow Velocity, Vt	N/A	N/A	N/A	N/A	N/A	N/A
Overland Flow Time, Ti	N/A	N/A	N/A	N/A	N/A	N/A
Channel Travel Time, Tt	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Time of Concentration, T_c	N/A	N/A	N/A	N/A	N/A	N/A
Regional T_c	N/A	N/A	N/A	N/A	N/A	N/A
Recommended T_c	N/A	N/A	N/A	N/A	N/A	N/A
T_c selected by User	N/A	N/A	N/A	N/A	N/A	N/A
Design Rainfall Intensity, I	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Local Peak Flow, Q_p	N/A	N/A	N/A	N/A	N/A	N/A

Major Storm (Calculated) Analysis of Flow Time

C	N/A	N/A	N/A	N/A	N/A	N/A
C_5	N/A	N/A	N/A	N/A	N/A	N/A
Overland Flow Velocity, Vi	N/A	N/A	N/A	N/A	N/A	N/A
Channel Flow Velocity, Vt	N/A	N/A	N/A	N/A	N/A	N/A
Overland Flow Time, Ti	N/A	N/A	N/A	N/A	N/A	N/A
Channel Travel Time, Tt	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Time of Concentration, T_c	N/A	N/A	N/A	N/A	N/A	N/A
Regional T_c	N/A	N/A	N/A	N/A	N/A	N/A
Recommended T_c	N/A	N/A	N/A	N/A	N/A	N/A
T_c selected by User	N/A	N/A	N/A	N/A	N/A	N/A
Design Rainfall Intensity, I	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Local Peak Flow, Q_p	N/A	N/A	N/A	N/A	N/A	N/A

Version 4.05 Released March 2017

INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet C2 (Basin N)	Inlet A1 (Basin M)	Inlet B9 (Basin D)	Inlet B8 (Basin E)	Inlet E1 (Basin H)	Inlet B5 (Basin P)
Site Type (Urban or Rural)	RURAL					
Inlet Application (Street or Area)	AREA	STREET	STREET	STREET	STREET	STREET
Hydraulic Condition	Swale	In Sump	On Grade	On Grade	On Grade	On Grade
Inlet Type	CDOT Type C	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	0.6	1.4	0.9	0.5	0.9	2.0
Major Q_{Known} (cfs)	2.9	6.2	3.7	3.2	3.7	6.8

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)						
Percent Impervious						
NRCS Soil Type						

Watershed Profile

Overland Slope (ft/ft)						
Overland Length (ft)						
Channel Slope (ft/ft)						
Channel Length (ft)						

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)						
One-Hour Precipitation, P_1 (inches)						

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)						
One-Hour Precipitation, P_1 (inches)						

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**0.6**	**1.4**	**0.9**	**0.5**	**0.9**	**2.0**
Major Total Design Peak Flow, Q (cfs)	**2.9**	**6.2**	**3.7**	**3.2**	**3.7**	**6.8**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0	N/A	0.0	0.0	0.0	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	0.0	N/A	0.9	0.7	1.0	0.5

Minor Storm (Calculated) Analysis of Flow T

C	N/A	N/A	N/A	N/A	N/A	N/A
C_5	N/A	N/A	N/A	N/A	N/A	N/A
Overland Flow Velocity, Vi	N/A	N/A	N/A	N/A	N/A	N/A
Channel Flow Velocity, Vt	N/A	N/A	N/A	N/A	N/A	N/A
Overland Flow Time, Ti	N/A	N/A	N/A	N/A	N/A	N/A
Channel Travel Time, Tt	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Time of Concentration, T_c	N/A	N/A	N/A	N/A	N/A	N/A
Regional T_c	N/A	N/A	N/A	N/A	N/A	N/A
Recommended T_c	N/A	N/A	N/A	N/A	N/A	N/A
T_c selected by User	N/A	N/A	N/A	N/A	N/A	N/A
Design Rainfall Intensity, I	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Local Peak Flow, Q_p	N/A	N/A	N/A	N/A	N/A	N/A

Major Storm (Calculated) Analysis of Flow T

C	N/A	N/A	N/A	N/A	N/A	N/A
C_5	N/A	N/A	N/A	N/A	N/A	N/A
Overland Flow Velocity, Vi	N/A	N/A	N/A	N/A	N/A	N/A
Channel Flow Velocity, Vt	N/A	N/A	N/A	N/A	N/A	N/A
Overland Flow Time, Ti	N/A	N/A	N/A	N/A	N/A	N/A
Channel Travel Time, Tt	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Time of Concentration, T_c	N/A	N/A	N/A	N/A	N/A	N/A
Regional T_c	N/A	N/A	N/A	N/A	N/A	N/A
Recommended T_c	N/A	N/A	N/A	N/A	N/A	N/A
T_c selected by User	N/A	N/A	N/A	N/A	N/A	N/A
Design Rainfall Intensity, I	N/A	N/A	N/A	N/A	N/A	N/A
Calculated Local Peak Flow, Q_p	N/A	N/A	N/A	N/A	N/A	N/A

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INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet J1 (Basin Q)	Inlet G1 (Basin K)
Site Type (Urban or Rural)		
Inlet Application (Street or Area)	STREET	STREET
Hydraulic Condition	On Grade	On Grade
Inlet Type	CDOT/Denver 13 Valley Grate	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	0.7	1.2
Major Q_{Known} (cfs)	2.6	6.2

Bypass (Carry-Over) Flow from Upstream

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)		
Percent Impervious		
NRCS Soil Type		

Watershed Profile

Overland Slope (ft/ft)		
Overland Length (ft)		
Channel Slope (ft/ft)		
Channel Length (ft)		

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)		
One-Hour Precipitation, P_1 (inches)		

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)		
One-Hour Precipitation, P_1 (inches)		

CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	**0.7**	**1.2**
Major Total Design Peak Flow, Q (cfs)	**2.6**	**6.2**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.1	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	0.5	0.6

Minor Storm (Calculated) Analysis of Flow T

C	N/A	N/A
C_s	N/A	N/A
Overland Flow Velocity, Vi	N/A	N/A
Channel Flow Velocity, Vt	N/A	N/A
Overland Flow Time, Ti	N/A	N/A
Channel Travel Time, Tt	N/A	N/A
Calculated Time of Concentration, T_c	N/A	N/A
Regional T_c	N/A	N/A
Recommended T_c	N/A	N/A
T_c selected by User	N/A	N/A
Design Rainfall Intensity, I	N/A	N/A
Calculated Local Peak Flow, Q_p	N/A	N/A

Major Storm (Calculated) Analysis of Flow T

C	N/A	N/A
C_s	N/A	N/A
Overland Flow Velocity, Vi	N/A	N/A
Channel Flow Velocity, Vt	N/A	N/A
Overland Flow Time, Ti	N/A	N/A
Channel Travel Time, Tt	N/A	N/A
Calculated Time of Concentration, T_c	N/A	N/A
Regional T_c	N/A	N/A
Recommended T_c	N/A	N/A
T_c selected by User	N/A	N/A
Design Rainfall Intensity, I	N/A	N/A
Calculated Local Peak Flow, Q_p	N/A	N/A

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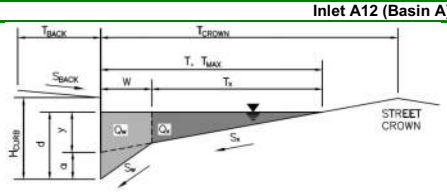
ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet A12 (Basin A)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.013	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	44.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.008	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	13.0	13.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

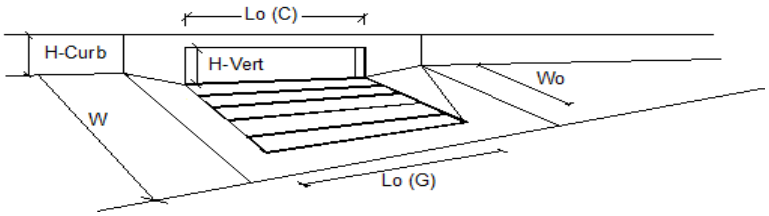
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**2.9**	**2.9**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

WARNING: MAJOR STORM max. allowable capacity is less than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	

Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.5**	**2.7**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**1.1**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**72**	**%**

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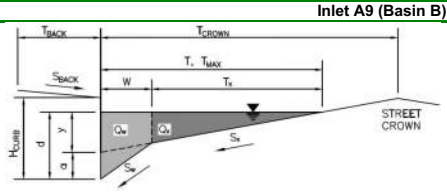
ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet A9 (Basin B)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	26.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.023	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.010	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	13.0	13.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

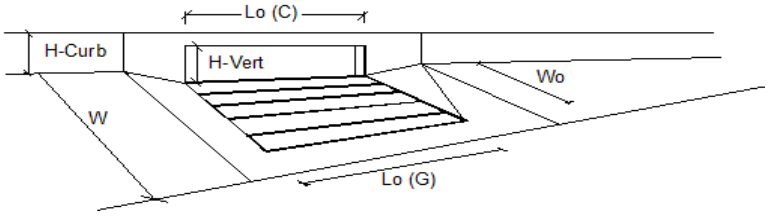
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**3.2**	**3.2**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

WARNING: MAJOR STORM max. allowable capacity is less than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	10.00	10.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	

Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**1.8**	**7.0**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**1.1**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**86**	**%**

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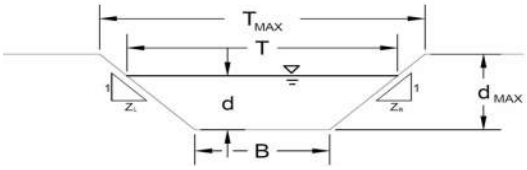
AREA INLET IN A SWALE

OUTLOOK AT NINE MILE

Inlet A10 (Basin F)



This worksheet uses the NRCS vegetal retardance method to determine Manning's n.

For more information see Section 7.2.3 of the USDCM.

Analysis of Trapezoidal Grass-Lined Channel Using SCS Method

NRCS Vegetal Retardance (A, B, C, D, or E)	A, B, C, D or E		
Manning's n (Leave cell D16 blank to manually enter an n value)	n =	0.040	
Channel Invert Slope	S_O =	0.0200	ft/ft
Bottom Width	B =	0.00	ft
Left Side Slope	Z1 =	4.00	ft/ft
Right Side Slope	Z2 =	4.00	ft/ft

Check one of the following soil types:

Soil Type:	Max. Velocity (V_{MAX})	Max Froude No. (F_{MAX})
Non-Cohesive	5.0 fps	0.60
Cohesive	7.0 fps	0.80
Paved	N/A	N/A

Choose One:
- Non-Cohesive
- Cohesive
- Paved

		Minor Storm	Major Storm	
Max. Allowable Top Width of Channel for Minor & Major Storm	T_{MAX} =	6.00	9.00	feet
Max. Allowable Water Depth in Channel for Minor & Major Storm	d_{MAX} =	1.00	2.00	feet

Allowable Channel Capacity Based On Channel Geometry

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Top Width Criterion	Q_{allow} =	6.0	17.8	cfs
MAJOR STORM Allowable Capacity is based on Top Width Criterion	d_{allow} =	0.75	1.13	ft

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	0.3	1.7	cfs
Water Depth	d =	0.24	0.47	feet

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

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AREA INLET IN A SWALE

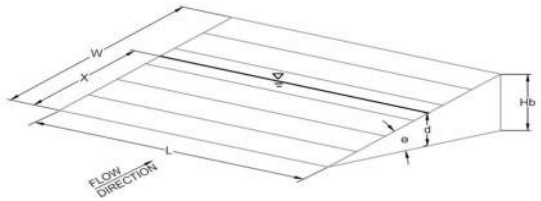
OUTLOOK AT NINE MILE

Inlet A10 (Basin F)

Inlet Design Information (Input)

Type of Inlet: CDOT Type C

Inlet Type = CDOT Type C



Angle of Inclined Grate (must be <= 30 degrees)	θ =	0.00	degrees
Width of Grate	W =	3.00	feet
Length of Grate	L =	3.00	feet
Open Area Ratio	A_{RATIO} =	0.70	
Height of Inclined Grate	H_B =	0.00	feet
Clogging Factor	C_f =	0.50	
Grate Discharge Coefficient	C_d =	0.96	
Orifice Coefficient	C_o =	0.64	
Weir Coefficient	C_w =	2.05	

		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	0.24	0.47	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**2.2**	**5.9**	**cfs**
	Bypassed Flow, Q_b =	**0.0**	**0.0**	**cfs**
	Capture Percentage = Q_a/Q_o = C%	**100**	**100**	**%**

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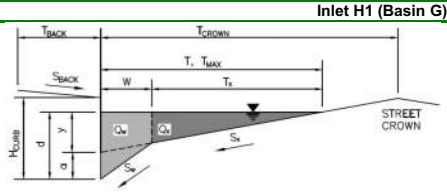
ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet H1 (Basin G)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	15.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	28.0	ft
Gutter Width	W =	4.00	ft
Street Transverse Slope	S_X =	0.023	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.042	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.010	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	13.0	13.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

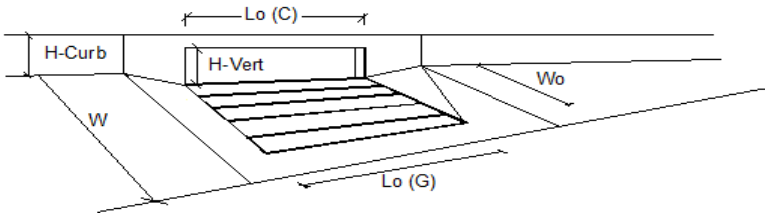
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**5.1**	**5.1**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

WARNING: MAJOR STORM max. allowable capacity is less than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	CDOT/Denver 13 Valley Grate	Type =	CDOT/Denver 13 Valley Grate	
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	2.0	2.0 inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	3	3
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	3.00	3.00 ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	1.73	1.73 ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f-G =	0.50	0.50
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f-C =	N/A	N/A

Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM	MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**1.6**	**5.3**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.3**	**2.8**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**85**	**66**	**%**

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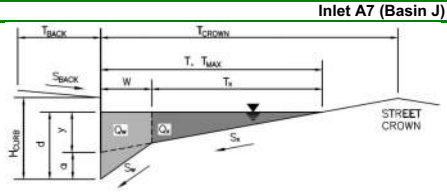
ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet A7 (Basin J)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	34.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.020	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.010	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	13.0	13.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

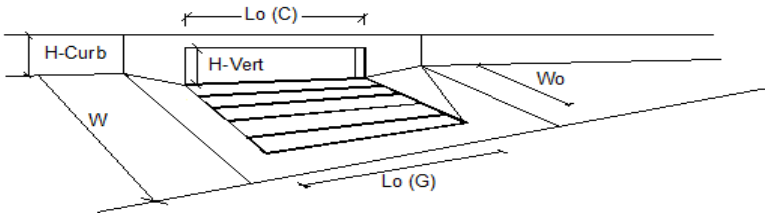
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**3.4**	**3.4**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

WARNING: MAJOR STORM max. allowable capacity is less than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	10.00	10.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	

Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.9**	**5.1**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.1**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**98**	**%**

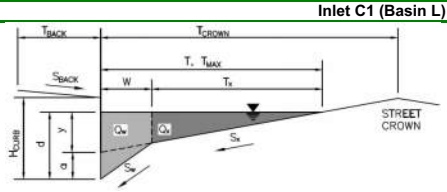
Version 4.05 Released March 2017

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet C1 (Basin L)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	44.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.023	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.021	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	13.0	13.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

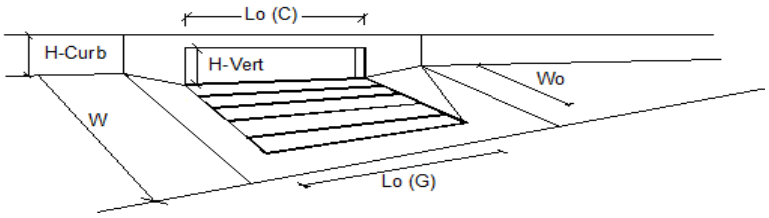
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**4.6**	**4.6**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

WARNING: MAJOR STORM max. allowable capacity is less than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	10.00	10.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	

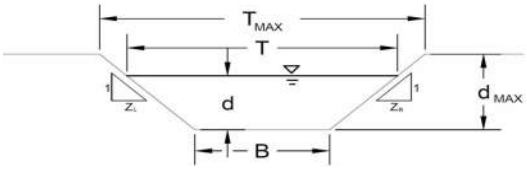
Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**1.0**	**4.9**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.0**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**99**	**%**

Version 4.05 Released March 2017

AREA INLET IN A SWALE

OUTLOOK AT NINE MILE

Inlet C2 (Basin N)



This worksheet uses the NRCS vegetal retardance method to determine Manning's n.

For more information see Section 7.2.3 of the USDCM.

Analysis of Trapezoidal Grass-Lined Channel Using SCS Method

NRCS Vegetal Retardance (A, B, C, D, or E)	A, B, C, D or E		
Manning's n (Leave cell D16 blank to manually enter an n value)	n =	0.040	
Channel Invert Slope	S_O =	0.0200	ft/ft
Bottom Width	B =	0.00	ft
Left Side Slope	Z1 =	4.00	ft/ft
Right Side Slope	Z2 =	4.00	ft/ft

Check one of the following soil types:

Soil Type:	Max. Velocity (V_{MAX})	Max Froude No. (F_{MAX})
Non-Cohesive	5.0 fps	0.60
Cohesive	7.0 fps	0.80
Paved	N/A	N/A

Choose One:
- ○ Non-Cohesive
- ◉ Cohesive
- ○ Paved

		Minor Storm	Major Storm	
Max. Allowable Top Width of Channel for Minor & Major Storm	T_{MAX} =	6.00	9.00	feet
Max. Allowable Water Depth in Channel for Minor & Major Storm	d_{MAX} =	1.00	2.00	feet

Allowable Channel Capacity Based On Channel Geometry

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Top Width Criterion	Q_{allow} =	6.0	17.8	cfs
MAJOR STORM Allowable Capacity is based on Top Width Criterion	d_{allow} =	0.75	1.13	ft

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	0.6	2.9	cfs
Water Depth	d =	0.32	0.57	feet

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Version 4.05 Released March 2017

AREA INLET IN A SWALE

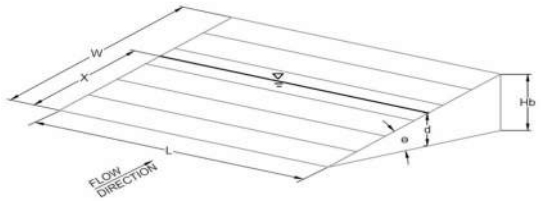
OUTLOOK AT NINE MILE

Inlet C2 (Basin N)

Inlet Design Information (Input)

Type of Inlet: CDOT Type C

Inlet Type = CDOT Type C



Angle of Inclined Grate (must be <= 30 degrees)	θ =	0.00	degrees
Width of Grate	W =	3.00	feet
Length of Grate	L =	3.00	feet
Open Area Ratio	A_{RATIO} =	0.70	
Height of Inclined Grate	H_B =	0.00	feet
Clogging Factor	C_f =	0.50	
Grate Discharge Coefficient	C_d =	0.96	
Orifice Coefficient	C_o =	0.64	
Weir Coefficient	C_w =	2.05	

		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	0.32	0.57	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**3.3**	**7.9**	**cfs**
	Bypassed Flow, Q_b =	**0.0**	**0.0**	**cfs**
	Capture Percentage = Q_a/Q_o = C%	**100**	**100**	**%**

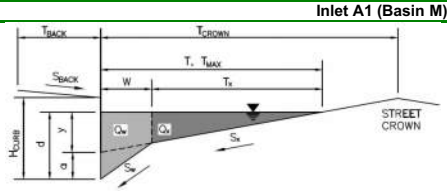
Version 4.05 Released March 2017

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet A1 (Basin M)



Gutter Geometry (Enter data in the blue cells)

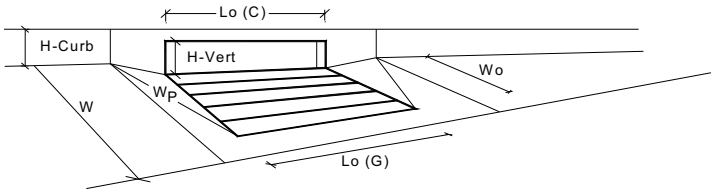
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	44.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.015	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	31.5	31.5	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a' from above)	a_{local} =	5.00	5.00	inches
Number of Unit Inlets (Grate or Curb Opening)	No =	1	1	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	4.0	inches
Grate Information		MINOR	MAJOR	Override Depths
Length of a Unit Grate	L_o (G) =	N/A	N/A	feet
Width of a Unit Grate	W_o =	N/A	N/A	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)	A_{ratio} =	N/A	N/A	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)	C_f (G) =	N/A	N/A	
Grate Weir Coefficient (typical value 2.15 - 3.60)	C_w (G) =	N/A	N/A	
Grate Orifice Coefficient (typical value 0.60 - 0.80)	C_o (G) =	N/A	N/A	
Curb Opening Information		MINOR	MAJOR	
Length of a Unit Curb Opening	L_o (C) =	10.00	10.00	feet
Height of Vertical Curb Opening in Inches	H_{vert} =	6.00	6.00	inches
Height of Curb Orifice Throat in Inches	H_{throat} =	6.00	6.00	inches
Angle of Throat (see USDCM Figure ST-5)	Theta =	63.40	63.40	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)	W_p =	2.00	2.00	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)	C_f (C) =	0.10	0.10	
Curb Opening Weir Coefficient (typical value 2.3-3.7)	C_w (C) =	3.60	3.60	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)	C_o (C) =	0.67	0.67	
Low Head Performance Reduction (Calculated)		MINOR	MAJOR	
Depth for Grate Midwidth	d_{Grate} =	N/A	N/A	ft
Depth for Curb Opening Weir Equation	d_{Curb} =	0.17	0.17	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.38	0.38	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.79	0.79	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**2.5**	**2.5**	**cfs**
WARNING: Inlet Capacity less than Q Peak for Major Storm	$Q_{PEAK\ REQUIRED}$ =	1.4	6.2	cfs

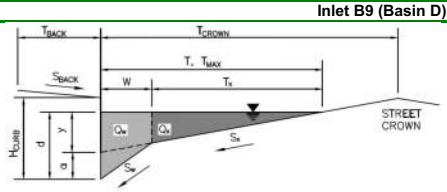
Version 4.05 Released March 2017

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet B9 (Basin D)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	26.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.025	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.010	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	13.0	13.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

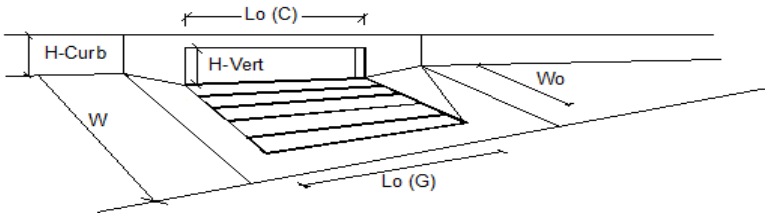
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**3.1**	**3.1**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

WARNING: MAJOR STORM max. allowable capacity is less than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	

Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.9**	**2.8**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.9**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**75**	**%**

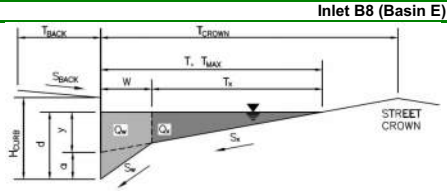
Version 4.05 Released March 2017

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet B8 (Basin E)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	45.5	ft
Gutter Width	W =	2.90	ft
Street Transverse Slope	S_X =	0.017	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.010	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	13.0	13.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

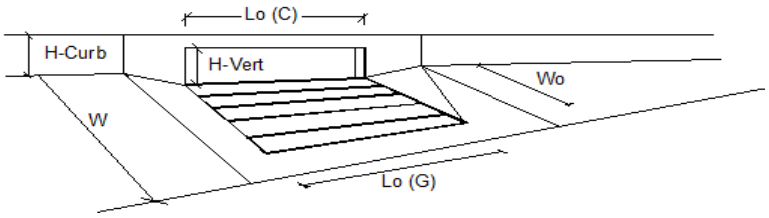
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**2.5**	**2.5**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

WARNING: MAJOR STORM max. allowable capacity is less than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	

Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.5**	**2.5**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.7**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**80**	**%**

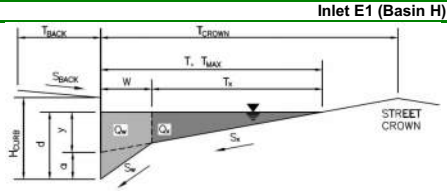
Version 4.05 Released March 2017

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet E1 (Basin H)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	44.5	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.023	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.010	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	13.0	13.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

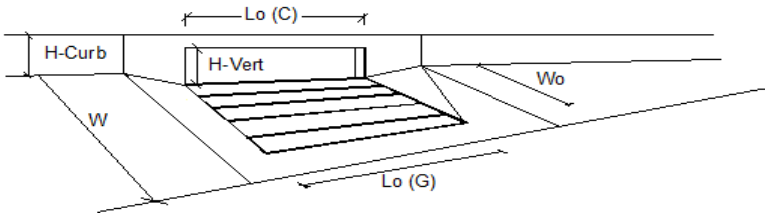
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**3.2**	**3.2**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

WARNING: MAJOR STORM max. allowable capacity is less than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	5.00	5.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	

Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.9**	**2.7**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**1.0**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**74**	**%**

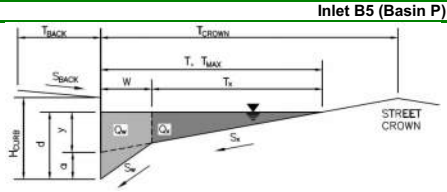
Version 4.05 Released March 2017

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet B5 (Basin P)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	34.4	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.028	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.010	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	17.2	17.2	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

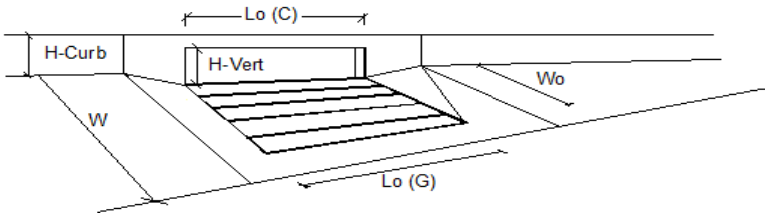
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**3.0**	**3.0**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

WARNING: MAJOR STORM max. allowable capacity is less than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	10.00	10.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	

Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**2.0**	**6.3**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.5**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**93**	**%**

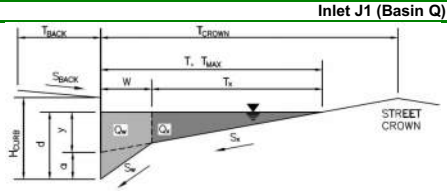
Version 4.05 Released March 2017

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet J1 (Basin Q)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.5	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	26.0	ft
Gutter Width	W =	4.00	ft
Street Transverse Slope	S_X =	0.025	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.042	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.010	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	13.0	13.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

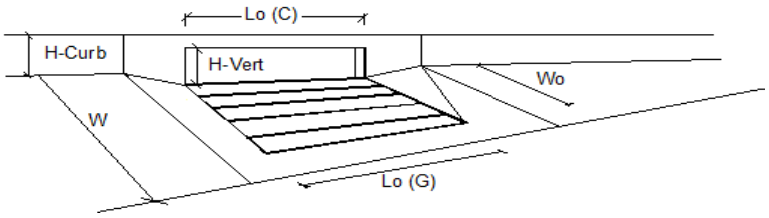
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**4.9**	**4.9**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	CDOT/Denver 13 Valley Grate	Type =	CDOT/Denver 13 Valley Grate	
Local Depression (additional to continuous gutter depression 'a')		a_{LOCAL} =	2.0	2.0 inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	3	3
Length of a Single Unit Inlet (Grate or Curb Opening)		L_o =	3.00	3.00 ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)		W_o =	1.73	1.73 ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C_f-G =	0.50	0.50
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C_f-C =	N/A	N/A

Street Hydraulics: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.6**	**2.1**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.1**	**0.5**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**92**	**82**	**%**

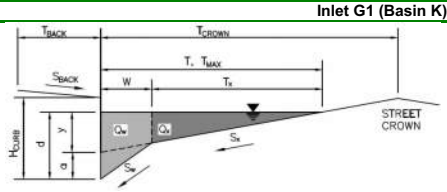
Version 4.05 Released March 2017

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: OUTLOOK AT NINE MILE

Inlet ID: Inlet G1 (Basin K)



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	0.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.020	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	37.2	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.014	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.010	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.016	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	13.2	13.2	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	4.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

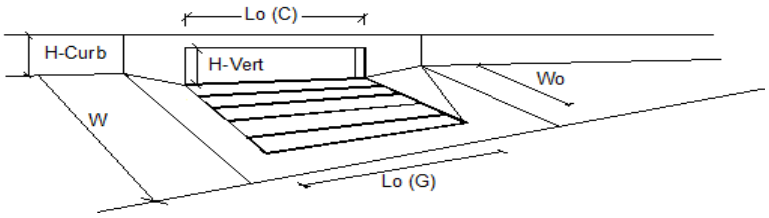
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Spread Criterion				
MAJOR STORM Allowable Capacity is based on Spread Criterion	**Q_{allow} =**	**3.7**	**3.7**	**cfs**

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

WARNING: MAJOR STORM max. allowable capacity is less than the design flow given on sheet 'Inlet Management'

INLET ON A CONTINUOUS GRADE

Version 4.05 Released March 2017



Design Information (Input)		MINOR	MAJOR	
Type of Inlet	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)	L_o =	10.00	10.00	ft
Width of a Unit Grate (cannot be greater than W, Gutter Width)	W_o =	N/A	N/A	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C_f-G =	N/A	N/A	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C_f-C =	0.10	0.10	

Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**1.2**	**5.6**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.6**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**91**	**%**

100-YEAR

FlexTable: Conduit Table

Label	Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Unified) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Manning's n	Flow (cfs)	Velocity (ft/s)	Capacity (Full Flow) (cfs)	Flow / Capacity (Design) (%)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
A-1 (p-storm)	A1 (p-storm)	5,242.38	O-1	5,242.30	15.5	0.005	36.0	0.013	47.20	6.68	47.16	100.1	5,247.35	5,247.27
A-2 (p-storm)	A2 (p-storm)	5,242.92	A1 (p-storm)	5,242.88	8.7	0.005	30.0	0.013	43.90	8.94	29.00	151.4	5,247.56	5,247.46
A-3 (p-storm)	A3 (p-storm)	5,243.33	A2 (p-storm)	5,243.12	42.8	0.005	30.0	0.013	26.80	5.46	29.00	92.4	5,248.07	5,247.88
A-4 (p-storm)	A4 (p-storm)	5,244.23	A3 (p-storm)	5,243.53	139.5	0.005	30.0	0.013	26.80	5.46	29.00	92.4	5,248.91	5,248.32
A-5 (p-storm)	A5 (p-storm)	5,247.38	A4 (p-storm)	5,246.75	126.8	0.005	24.0	0.013	21.90	6.97	16.00	136.9	5,250.13	5,248.95
A-6 (p-storm)	A6 (p-storm)	5,249.10	A5 (p-storm)	5,247.58	303.2	0.005	24.0	0.013	21.90	6.97	16.00	136.9	5,253.19	5,250.34
A-7 (p-storm)	A7 (p-storm)	5,250.76	A6 (p-storm)	5,249.30	95.2	0.015	24.0	0.013	21.90	6.97	28.02	78.2	5,254.57	5,253.68
A-8 (p-storm)	A8 (p-storm)	5,251.44	A7 (p-storm)	5,250.96	95.1	0.005	24.0	0.013	17.20	5.47	16.00	107.5	5,255.35	5,254.80
A-9 (p-storm)	A9 (p-storm)	5,253.50	A8 (p-storm)	5,251.64	219.0	0.008	24.0	0.013	13.00	4.14	20.83	62.4	5,256.15	5,255.43
A-10 (p-storm)	A10 (p-storm)	5,255.49	A9 (p-storm)	5,254.00	49.7	0.030	18.0	0.013	6.20	9.32	18.19	34.1	5,256.45	5,256.41
A-11 (p-storm)	A11 (p-storm)	5,256.89	A10 (p-storm)	5,255.69	239.2	0.005	18.0	0.013	2.70	3.87	7.43	36.4	5,257.51	5,256.70
A-12 (p-storm)	A12 (p-storm)	5,261.05	A11 (p-storm)	5,257.09	44.1	0.090	18.0	0.013	2.70	10.88	31.45	8.6	5,261.67	5,257.39
B-1 (p-storm)	B1 (p-storm)	5,244.44	A2 (p-storm)	5,243.42	203.3	0.005	24.0	0.013	18.90	6.02	16.00	118.2	5,249.20	5,247.78
B-2 (p-storm)	B2 (p-storm)	5,244.96	B1 (p-storm)	5,244.64	63.6	0.005	24.0	0.013	18.90	6.02	16.00	118.2	5,250.13	5,249.69
B-3 (p-storm)	B3 (p-storm)	5,245.62	B2 (p-storm)	5,245.07	34.8	0.016	24.0	0.013	15.00	4.77	28.44	52.7	5,250.41	5,250.26
B-4 (p-storm)	B4 (p-storm)	5,246.15	B3 (p-storm)	5,245.82	66.0	0.005	24.0	0.013	15.00	4.77	16.00	93.8	5,251.00	5,250.71
B-5 (p-storm)	B5 (p-storm)	5,249.36	B4 (p-storm)	5,246.65	173.8	0.016	18.0	0.013	13.90	7.87	13.12	106.0	5,254.13	5,251.09
B-6 (p-storm)	B6 (p-storm)	5,251.15	B5 (p-storm)	5,249.56	159.0	0.010	18.0	0.013	8.00	4.53	10.50	76.2	5,256.70	5,255.77
B-7 (p-storm)	B7 (p-storm)	5,252.52	B6 (p-storm)	5,251.35	132.0	0.009	18.0	0.013	6.10	3.45	9.89	61.7	5,257.25	5,256.81
B-8 (p-storm)	B8 (p-storm)	5,253.29	B7 (p-storm)	5,252.72	113.7	0.005	18.0	0.013	6.10	3.45	7.43	82.1	5,257.70	5,257.32
B-9 (p-storm)	B9 (p-storm)	5,257.08	B8 (p-storm)	5,253.49	224.2	0.016	18.0	0.013	2.80	5.96	13.29	21.1	5,257.89	5,257.81
C-1 (p-storm)	C1 (p-storm)	5,245.32	A4 (p-storm)	5,245.23	18.7	0.005	18.0	0.013	7.80	4.41	7.43	105.0	5,249.26	5,249.16
C-2 (p-storm)	C2 (p-storm)	5,247.77	C1 (p-storm)	5,245.52	57.8	0.039	18.0	0.013	2.90	1.64	20.72	14.0	5,249.54	5,249.49
D-1 (p-storm)	D1 (p-storm)	5,249.69	B4 (p-storm)	5,246.65	33.9	0.090	18.0	0.013	0.00	0.00	31.45	0.0	5,251.01	5,251.01
E-1 (p-storm)	E1 (p-storm)	5,253.38	B6 (p-storm)	5,251.35	22.6	0.090	18.0	0.013	2.70	1.53	31.45	8.6	5,256.84	5,256.83
F-1 (p-storm)	F1 (p-storm)	5,252.97	B7 (p-storm)	5,252.72	49.3	0.005	18.0	0.013	0.00	0.00	7.43	0.0	5,257.26	5,257.26
G-1 (p-storm)	G1 (p-storm)	5,246.09	B2 (p-storm)	5,245.37	8.1	0.090	18.0	0.013	5.60	3.17	31.45	17.8	5,250.29	5,250.27
H-1 (p-storm)	H1 (p-storm)	5,252.30	A8 (p-storm)	5,251.94	7.2	0.050	18.0	0.013	5.30	3.00	23.47	22.6	5,255.43	5,255.41
J-1 (p-storm)	J1 (p-storm)	5,247.05	B4 (p-storm)	5,246.65	8.0	0.050	18.0	0.013	2.10	1.19	23.47	8.9	5,251.04	5,251.04

100-YEAR

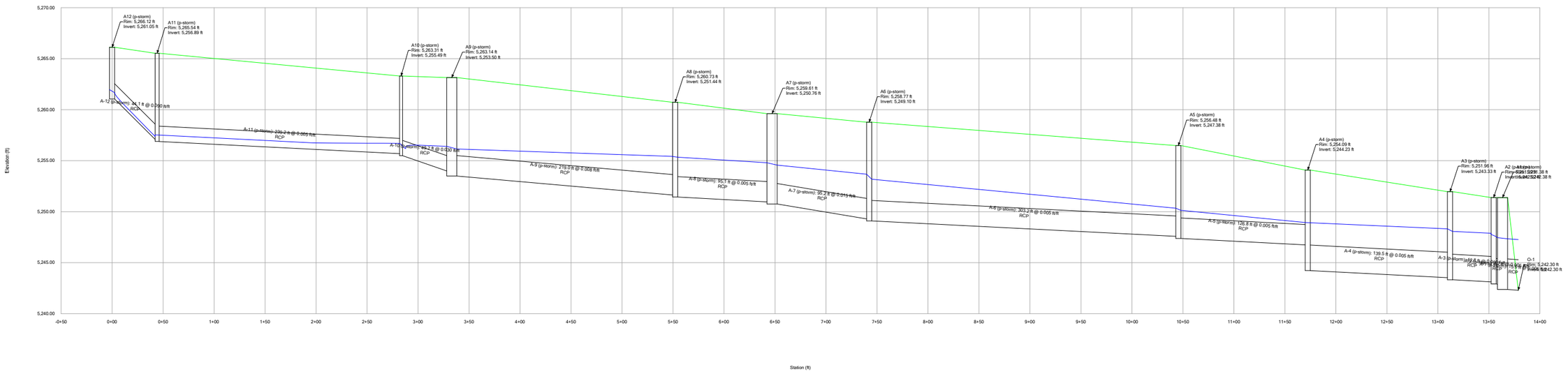
FlexTable: Manhole Table

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Out) (ft)	Flow (Total Out) (cfs)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Energy Grade Line (In) (ft)	Energy Grade Line (Out) (ft)	Headloss Method	Headloss Coefficient (Standard)	Headloss (ft)	HEC-22 Benching Method
A1 (p-storm)	5,251.38	5,242.38	4.97	47.20	5,247.46	5,247.35	5,248.70	5,248.04	HEC-22 Energy (Second Edition)		0.11	Flat
A2 (p-storm)	5,251.39	5,242.92	4.64	43.90	5,247.78	5,247.56	5,248.34	5,248.80	HEC-22 Energy (Second Edition)		0.22	Half
A3 (p-storm)	5,251.96	5,243.33	4.73	26.80	5,248.32	5,248.07	5,248.78	5,248.53	HEC-22 Energy (Second Edition)		0.25	Half
A4 (p-storm)	5,254.09	5,244.23	4.69	26.80	5,248.95	5,248.91	5,249.70	5,249.38	HEC-22 Energy (Second Edition)		0.03	Half
A5 (p-storm)	5,256.48	5,247.38	2.75	21.90	5,250.34	5,250.13	5,251.10	5,250.89	HEC-22 Energy (Second Edition)		0.21	Half
A6 (p-storm)	5,258.77	5,249.10	4.09	21.90	5,253.68	5,253.19	5,254.43	5,253.94	HEC-22 Energy (Second Edition)		0.49	Half
A7 (p-storm)	5,259.61	5,250.76	3.81	21.90	5,254.80	5,254.57	5,255.26	5,255.32	HEC-22 Energy (Second Edition)		0.23	Flat
A8 (p-storm)	5,260.73	5,251.44	3.91	17.20	5,255.41	5,255.35	5,255.55	5,255.81	HEC-22 Energy (Second Edition)		0.07	Half
A9 (p-storm)	5,263.14	5,253.50	2.65	13.00	5,256.41	5,256.15	5,256.60	5,256.42	HEC-22 Energy (Second Edition)		0.26	Flat
A10 (p-storm)	5,263.31	5,255.49	0.96	6.20	5,256.70	5,256.45	5,256.77	5,256.87	HEC-22 Energy (Second Edition)		0.25	Flat
A11 (p-storm)	5,265.54	5,256.89	0.63	2.70	5,257.53	5,257.51	5,259.37	5,257.74	HEC-22 Energy (Second Edition)		0.02	Half
A12 (p-storm)	5,266.12	5,261.05	0.62	2.70	5,261.96	5,261.67	5,262.20	5,261.90	Standard	1.250	0.29	<None>
B1 (p-storm)	5,254.62	5,244.44	4.76	18.90	5,249.69	5,249.20	5,250.25	5,249.76	HEC-22 Energy (Second Edition)		0.49	Half
B2 (p-storm)	5,255.30	5,244.96	5.17	18.90	5,250.26	5,250.13	5,250.61	5,250.70	HEC-22 Energy (Second Edition)		0.13	Half
B3 (p-storm)	5,255.05	5,245.62	4.79	15.00	5,250.71	5,250.41	5,251.07	5,250.77	HEC-22 Energy (Second Edition)		0.30	Half
B4 (p-storm)	5,255.72	5,246.15	4.85	15.00	5,251.01	5,251.00	5,251.01	5,251.36	HEC-22 Energy (Second Edition)		0.01	Half
B5 (p-storm)	5,257.59	5,249.36	4.77	13.90	5,255.77	5,254.13	5,256.09	5,255.09	HEC-22 Energy (Second Edition)		1.64	Flat
B6 (p-storm)	5,259.45	5,251.15	5.55	8.00	5,256.81	5,256.70	5,256.99	5,257.01	HEC-22 Energy (Second Edition)		0.11	Half
B7 (p-storm)	5,261.74	5,252.52	4.73	6.10	5,257.26	5,257.25	5,257.26	5,257.44	HEC-22 Energy (Second Edition)		0.01	Half
B8 (p-storm)	5,262.86	5,253.29	4.41	6.10	5,257.81	5,257.70	5,257.85	5,257.89	HEC-22 Energy (Second Edition)		0.11	Flat
B9 (p-storm)	5,265.04	5,257.08	0.81	2.80	5,258.05	5,257.89	5,258.18	5,258.02	Standard	1.250	0.16	<None>
C1 (p-storm)	5,254.22	5,245.32	3.94	7.80	5,249.49	5,249.26	5,249.53	5,249.56	HEC-22 Energy (Second Edition)		0.23	Flat
C2 (p-storm)	5,254.68	5,247.77	1.77	2.90	5,249.59	5,249.54	5,249.63	5,249.58	Standard	1.250	0.05	<None>
D1 (p-storm)	5,257.27	5,249.69	1.32	0.00	5,251.01	5,251.01	5,251.01	5,251.01	Standard	1.250	0.00	<None>
E1 (p-storm)	5,259.28	5,253.38	3.47	2.70	5,256.89	5,256.84	5,256.92	5,256.88	Standard	1.250	0.05	<None>
F1 (p-storm)	5,260.52	5,252.97	4.30	0.00	5,257.26	5,257.26	5,257.26	5,257.26	Standard	1.250	0.00	<None>
G1 (p-storm)	5,254.90	5,246.09	4.20	5.60	5,250.49	5,250.29	5,250.64	5,250.45	Standard	1.250	0.20	<None>
H1 (p-storm)	5,260.33	5,252.30	3.13	5.30	5,255.61	5,255.43	5,255.75	5,255.57	Standard	1.250	0.17	<None>
J1 (p-storm)	5,255.40	5,247.05	4.00	2.10	5,251.07	5,251.04	5,251.09	5,251.06	Standard	1.250	0.03	<None>

100-YEAR

Profile Report

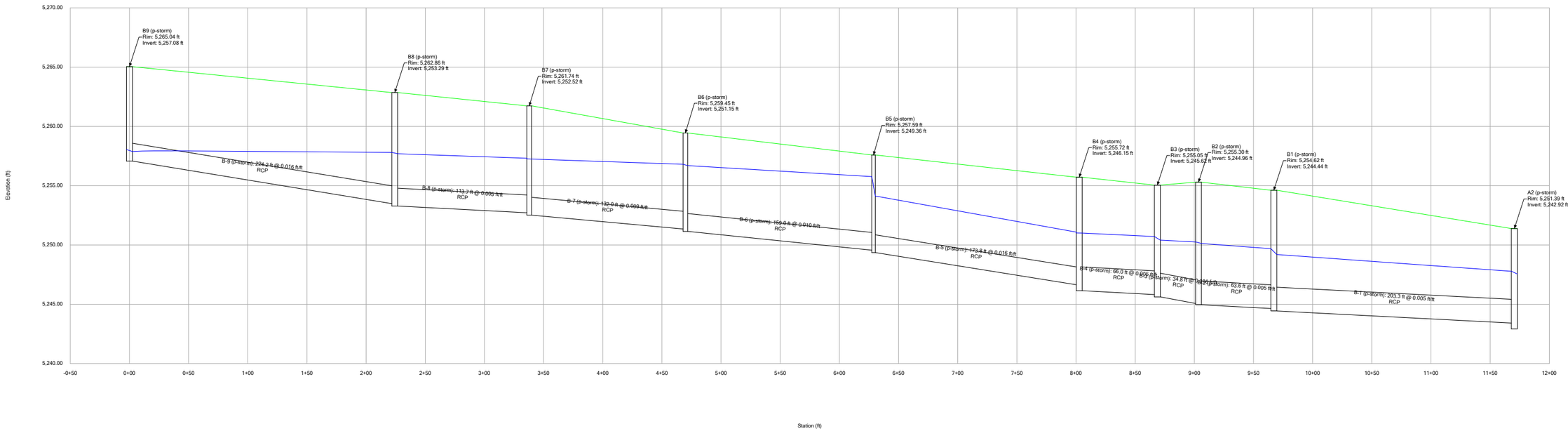
Engineering Profile - STORM LINE A (Untitled1.stsw)



100-YEAR

Profile Report

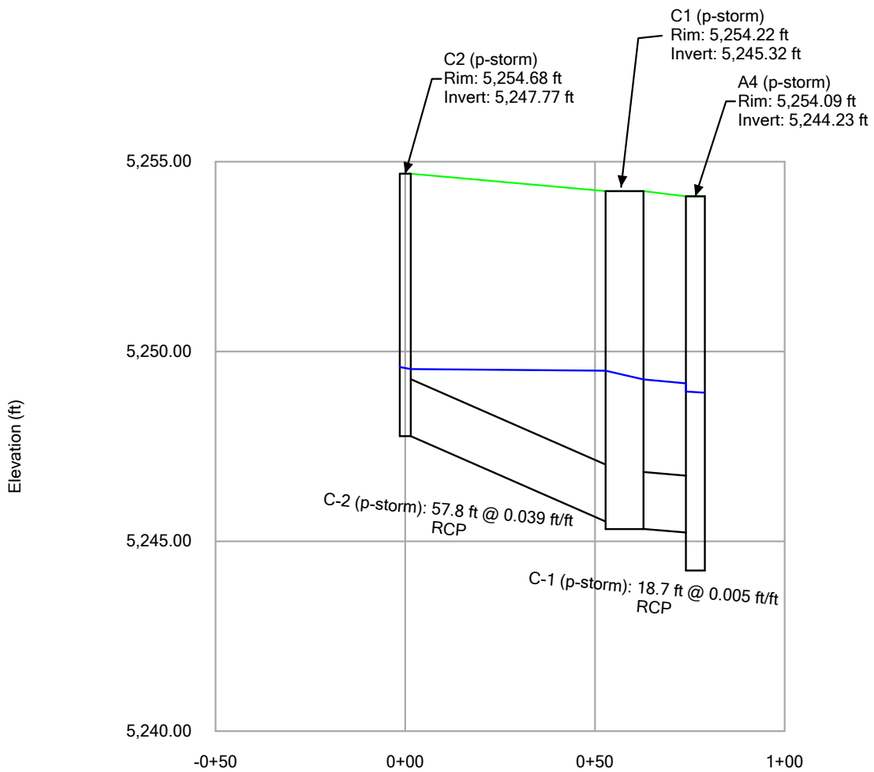
Engineering Profile - STORM LINE B (Untitled1.stsw)



100-YEAR

Profile Report

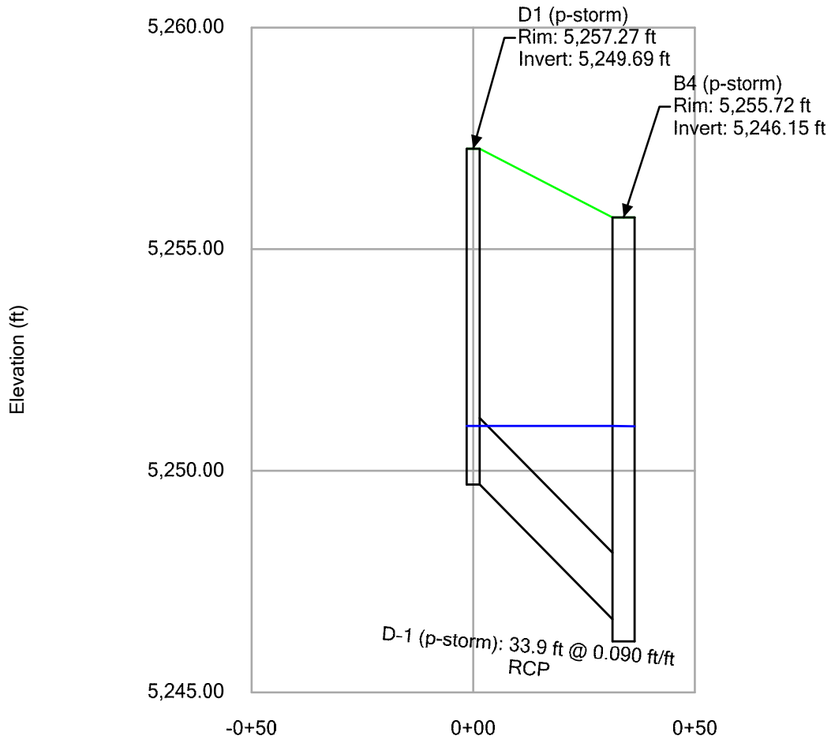
Engineering Profile - STORM LINE C (Untitled1.stsw)



100-YEAR

Profile Report

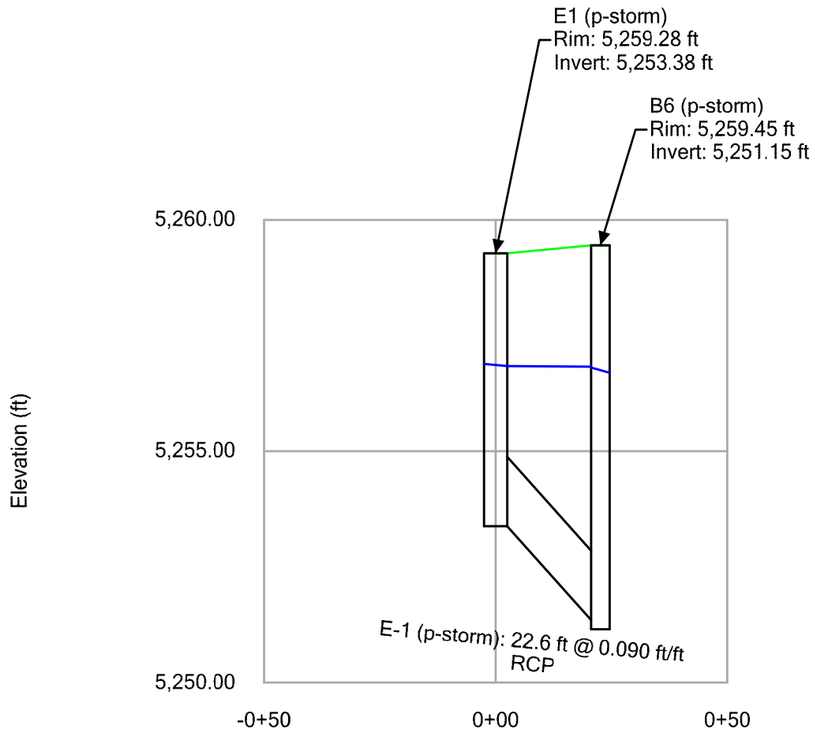
Engineering Profile - STORM LINE D (Untitled1.stsw)



100-YEAR

Profile Report

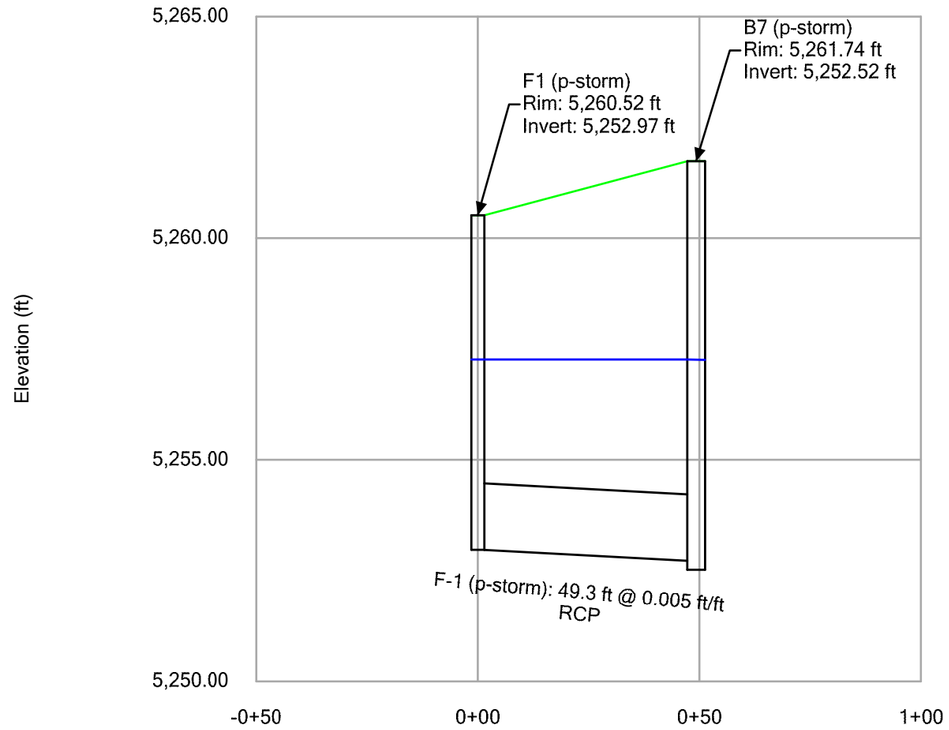
Engineering Profile - STORM LINE E (Untitled1.stsw)



100-YEAR

Profile Report

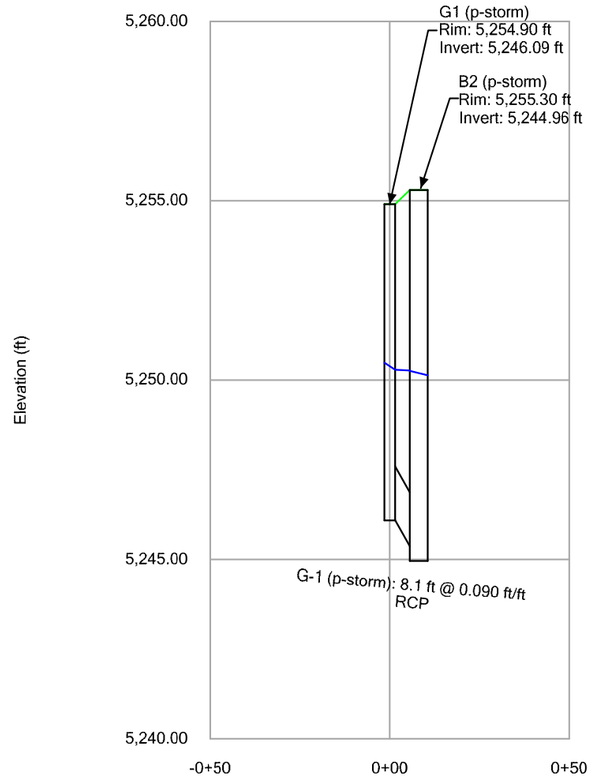
Engineering Profile - STORM LINE F (Untitled1.stsw)



100-YEAR

Profile Report

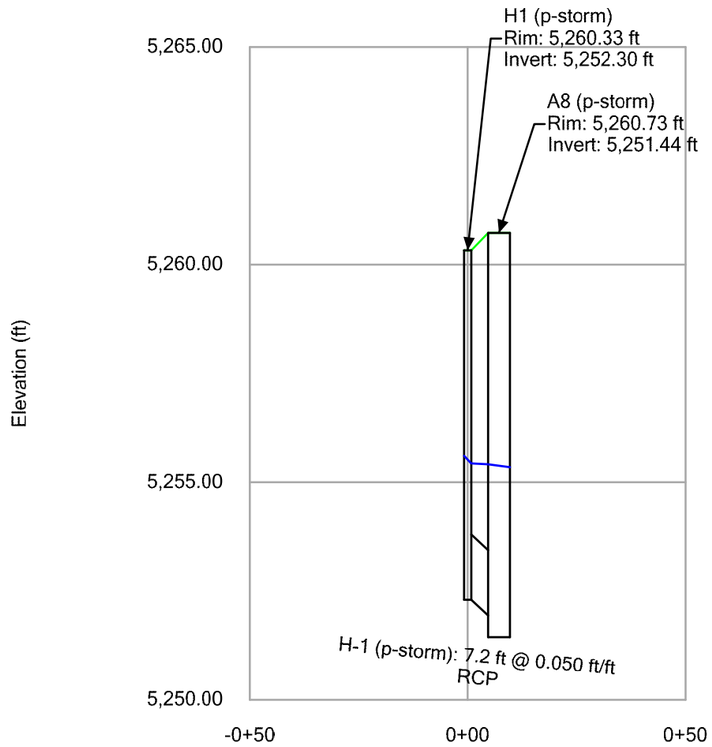
Engineering Profile - STORM LINE G (Untitled1.stsw)



100-YEAR

Profile Report

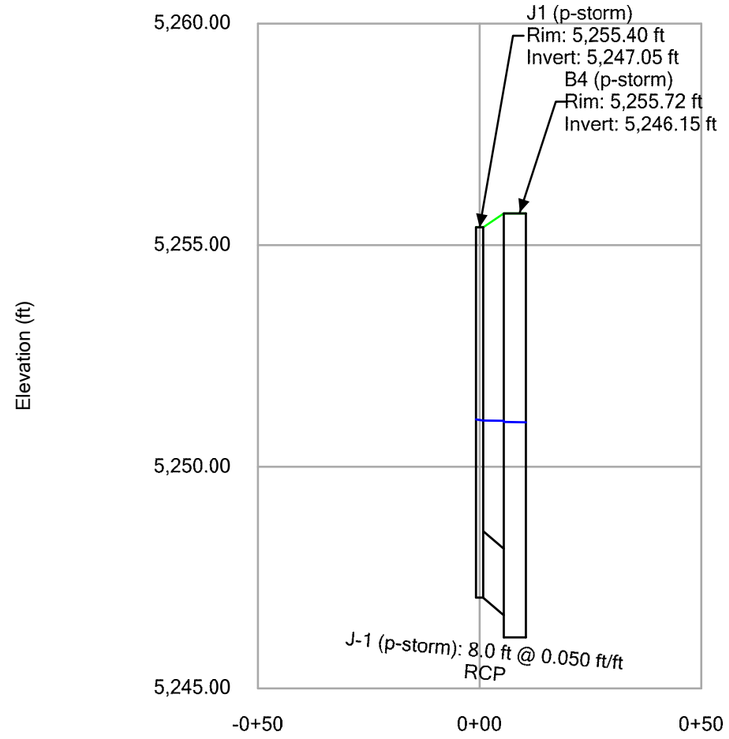
Engineering Profile - STORM LINE H (Untitled1.stsw)



100-YEAR

Profile Report

Engineering Profile - STORM LINE J (Untitled1.stsw)



2-YEAR

FlexTable: Conduit Table

Label	Start Node	Invert (Start) (ft)	Stop Node	Invert (Stop) (ft)	Length (Unified) (ft)	Slope (Calculated) (ft/ft)	Diameter (in)	Manning's n	Flow (cfs)	Velocity (ft/s)	Capacity (Full Flow) (cfs)	Flow / Capacity (Design) (%)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
A-1 (p-storm)	A1 (p-storm)	5,242.38	O-1	5,242.30	15.5	0.005	36.0	0.013	12.00	5.57	47.16	25.4	5,243.53	5,243.57
A-2 (p-storm)	A2 (p-storm)	5,242.92	A1 (p-storm)	5,242.88	8.7	0.005	30.0	0.013	10.60	5.45	29.00	36.5	5,244.01	5,243.93
A-3 (p-storm)	A3 (p-storm)	5,243.33	A2 (p-storm)	5,243.12	42.8	0.005	30.0	0.013	5.80	4.61	29.00	20.0	5,244.13	5,244.03
A-4 (p-storm)	A4 (p-storm)	5,244.23	A3 (p-storm)	5,243.53	139.5	0.005	30.0	0.013	5.80	4.61	29.00	20.0	5,245.02	5,244.29
A-5 (p-storm)	A5 (p-storm)	5,247.38	A4 (p-storm)	5,246.75	126.8	0.005	24.0	0.013	4.70	4.42	16.00	29.4	5,248.14	5,247.49
A-6 (p-storm)	A6 (p-storm)	5,249.10	A5 (p-storm)	5,247.58	303.2	0.005	24.0	0.013	4.70	4.42	16.00	29.4	5,249.86	5,248.33
A-7 (p-storm)	A7 (p-storm)	5,250.76	A6 (p-storm)	5,249.30	95.2	0.015	24.0	0.013	4.70	6.62	28.02	16.8	5,251.52	5,249.85
A-8 (p-storm)	A8 (p-storm)	5,251.44	A7 (p-storm)	5,250.96	95.1	0.005	24.0	0.013	3.90	4.20	16.00	24.4	5,252.13	5,251.64
A-9 (p-storm)	A9 (p-storm)	5,253.50	A8 (p-storm)	5,251.64	219.0	0.008	24.0	0.013	2.50	4.47	20.83	12.0	5,254.05	5,252.11
A-10 (p-storm)	A10 (p-storm)	5,255.49	A9 (p-storm)	5,254.00	49.7	0.030	18.0	0.013	1.10	5.68	18.19	6.0	5,255.88	5,254.25
A-11 (p-storm)	A11 (p-storm)	5,256.89	A10 (p-storm)	5,255.69	239.2	0.005	18.0	0.013	0.40	2.24	7.43	5.4	5,257.12	5,255.93
A-12 (p-storm)	A12 (p-storm)	5,261.05	A11 (p-storm)	5,257.09	44.1	0.090	18.0	0.013	0.40	6.15	31.45	1.3	5,261.28	5,257.21
B-1 (p-storm)	B1 (p-storm)	5,244.44	A2 (p-storm)	5,243.42	203.3	0.005	24.0	0.013	5.40	4.60	16.00	33.8	5,245.26	5,244.22
B-2 (p-storm)	B2 (p-storm)	5,244.96	B1 (p-storm)	5,244.64	63.6	0.005	24.0	0.013	5.40	4.60	16.00	33.8	5,245.78	5,245.44
B-3 (p-storm)	B3 (p-storm)	5,245.62	B2 (p-storm)	5,245.07	34.8	0.016	24.0	0.013	4.20	6.48	28.44	14.8	5,246.34	5,245.60
B-4 (p-storm)	B4 (p-storm)	5,246.15	B3 (p-storm)	5,245.82	66.0	0.005	24.0	0.013	4.20	4.29	16.00	26.3	5,246.87	5,246.52
B-5 (p-storm)	B5 (p-storm)	5,249.36	B4 (p-storm)	5,246.65	173.8	0.016	18.0	0.013	3.70	6.38	13.12	28.2	5,250.09	5,247.19
B-6 (p-storm)	B6 (p-storm)	5,251.15	B5 (p-storm)	5,249.56	159.0	0.010	18.0	0.013	2.10	4.64	10.50	20.0	5,251.70	5,250.25
B-7 (p-storm)	B7 (p-storm)	5,252.52	B6 (p-storm)	5,251.35	132.0	0.009	18.0	0.013	1.40	3.96	9.89	14.2	5,252.96	5,251.73
B-8 (p-storm)	B8 (p-storm)	5,253.29	B7 (p-storm)	5,252.72	113.7	0.005	18.0	0.013	1.40	3.23	7.43	18.8	5,253.73	5,253.16
B-9 (p-storm)	B9 (p-storm)	5,257.08	B8 (p-storm)	5,253.49	224.2	0.016	18.0	0.013	0.90	4.29	13.29	6.8	5,257.43	5,253.76
C-1 (p-storm)	C1 (p-storm)	5,245.32	A4 (p-storm)	5,245.23	18.7	0.005	18.0	0.013	1.60	3.35	7.43	21.5	5,245.80	5,245.70
C-2 (p-storm)	C2 (p-storm)	5,247.77	C1 (p-storm)	5,245.52	57.8	0.039	18.0	0.013	0.60	5.19	20.72	2.9	5,248.06	5,245.84
D-1 (p-storm)	D1 (p-storm)	5,249.69	B4 (p-storm)	5,246.65	33.9	0.090	18.0	0.013	0.00	0.00	31.45	0.0	5,249.69	5,246.87
E-1 (p-storm)	E1 (p-storm)	5,253.38	B6 (p-storm)	5,251.35	22.6	0.090	18.0	0.013	0.90	7.84	31.45	2.9	5,253.73	5,251.52
F-1 (p-storm)	F1 (p-storm)	5,252.97	B7 (p-storm)	5,252.72	49.3	0.005	18.0	0.013	0.00	0.00	7.43	0.0	5,252.97	5,252.96
G-1 (p-storm)	G1 (p-storm)	5,246.09	B2 (p-storm)	5,245.37	8.1	0.090	18.0	0.013	1.50	9.14	31.45	4.8	5,246.55	5,245.63
H-1 (p-storm)	H1 (p-storm)	5,252.30	A8 (p-storm)	5,251.94	7.2	0.050	18.0	0.013	1.60	7.59	23.47	6.8	5,252.77	5,252.25
J-1 (p-storm)	J1 (p-storm)	5,247.05	B4 (p-storm)	5,246.65	8.0	0.050	18.0	0.013	0.60	5.66	23.47	2.6	5,247.33	5,246.83

2-YEAR

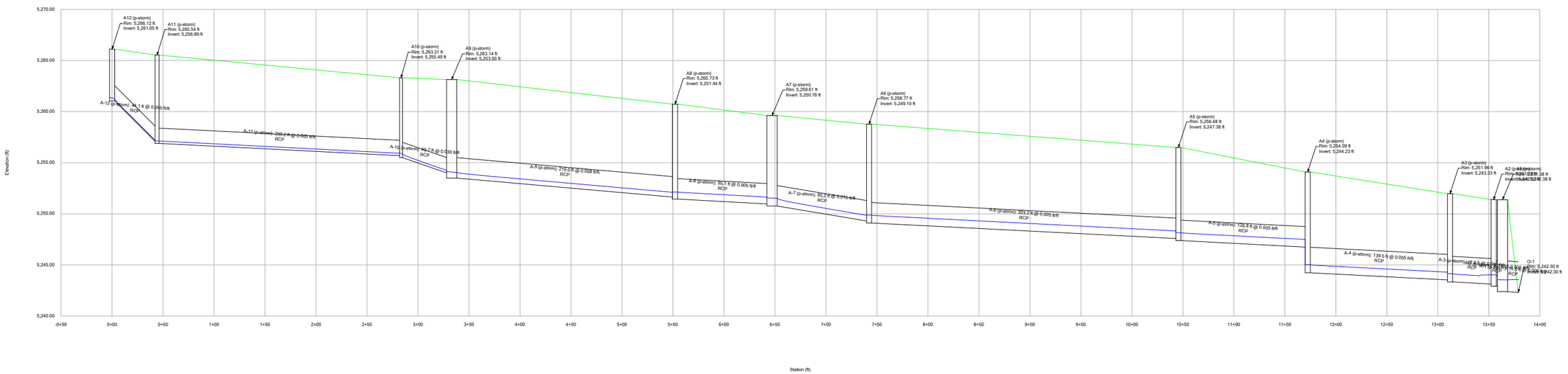
FlexTable: Manhole Table

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Out) (ft)	Flow (Total Out) (cfs)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)	Energy Grade Line (In) (ft)	Energy Grade Line (Out) (ft)	Headloss Method	Headloss Coefficient (Standard)	Headloss (ft)	HEC-22 Benching Method
A1 (p-storm)	5,251.38	5,242.38	1.16	12.00	5,243.56	5,243.53	5,244.01	5,243.89	HEC-22 Energy (Second Edition)		0.02	Flat
A2 (p-storm)	5,251.39	5,242.92	1.09	10.60	5,244.02	5,244.01	5,244.23	5,244.43	HEC-22 Energy (Second Edition)		0.01	Half
A3 (p-storm)	5,251.96	5,243.33	0.80	5.80	5,244.15	5,244.13	5,244.48	5,244.42	HEC-22 Energy (Second Edition)		0.02	Half
A4 (p-storm)	5,254.09	5,244.23	0.80	5.80	5,245.03	5,245.02	5,245.20	5,245.31	HEC-22 Energy (Second Edition)		0.00	Half
A5 (p-storm)	5,256.48	5,247.38	0.76	4.70	5,248.16	5,248.14	5,248.47	5,248.43	HEC-22 Energy (Second Edition)		0.02	Half
A6 (p-storm)	5,258.77	5,249.10	0.76	4.70	5,249.88	5,249.86	5,250.56	5,250.15	HEC-22 Energy (Second Edition)		0.02	Half
A7 (p-storm)	5,259.61	5,250.76	0.76	4.70	5,251.56	5,251.52	5,251.83	5,251.81	HEC-22 Energy (Second Edition)		0.03	Flat
A8 (p-storm)	5,260.73	5,251.44	0.69	3.90	5,252.14	5,252.13	5,252.45	5,252.39	HEC-22 Energy (Second Edition)		0.00	Half
A9 (p-storm)	5,263.14	5,253.50	0.55	2.50	5,254.12	5,254.05	5,254.62	5,254.24	HEC-22 Energy (Second Edition)		0.07	Flat
A10 (p-storm)	5,263.31	5,255.49	0.39	1.10	5,255.93	5,255.88	5,256.00	5,256.02	HEC-22 Energy (Second Edition)		0.05	Flat
A11 (p-storm)	5,265.54	5,256.89	0.24	0.40	5,257.13	5,257.12	5,257.71	5,257.20	HEC-22 Energy (Second Edition)		0.00	Half
A12 (p-storm)	5,266.12	5,261.05	0.23	0.40	5,261.38	5,261.28	5,261.46	5,261.36	Standard	1.250	0.10	<None>
B1 (p-storm)	5,254.62	5,244.44	0.82	5.40	5,245.28	5,245.26	5,245.61	5,245.56	HEC-22 Energy (Second Edition)		0.02	Half
B2 (p-storm)	5,255.30	5,244.96	0.82	5.40	5,245.78	5,245.78	5,246.39	5,246.09	HEC-22 Energy (Second Edition)		0.00	Half
B3 (p-storm)	5,255.05	5,245.62	0.72	4.20	5,246.36	5,246.34	5,246.64	5,246.60	HEC-22 Energy (Second Edition)		0.02	Half
B4 (p-storm)	5,255.72	5,246.15	0.72	4.20	5,246.87	5,246.87	5,247.28	5,247.13	HEC-22 Energy (Second Edition)		0.00	Half
B5 (p-storm)	5,257.59	5,249.36	0.73	3.70	5,250.25	5,250.09	5,250.36	5,250.38	HEC-22 Energy (Second Edition)		0.16	Flat
B6 (p-storm)	5,259.45	5,251.15	0.55	2.10	5,251.70	5,251.70	5,252.66	5,251.90	HEC-22 Energy (Second Edition)		0.00	Half
B7 (p-storm)	5,261.74	5,252.52	0.44	1.40	5,252.96	5,252.96	5,252.96	5,253.12	HEC-22 Energy (Second Edition)		0.00	Half
B8 (p-storm)	5,262.86	5,253.29	0.44	1.40	5,253.76	5,253.73	5,254.04	5,253.89	HEC-22 Energy (Second Edition)		0.02	Flat
B9 (p-storm)	5,265.04	5,257.08	0.35	0.90	5,257.59	5,257.43	5,257.71	5,257.56	Standard	1.250	0.16	<None>
C1 (p-storm)	5,254.22	5,245.32	0.48	1.60	5,245.84	5,245.80	5,245.91	5,245.97	HEC-22 Energy (Second Edition)		0.04	Flat
C2 (p-storm)	5,254.68	5,247.77	0.29	0.60	5,248.18	5,248.06	5,248.28	5,248.16	Standard	1.250	0.13	<None>
D1 (p-storm)	5,257.27	5,249.69	0.00	0.00	5,249.69	5,249.69	5,249.69	5,249.69	Standard	1.250	0.00	<None>
E1 (p-storm)	5,259.28	5,253.38	0.35	0.90	5,253.89	5,253.73	5,254.01	5,253.85	Standard	1.250	0.16	<None>
F1 (p-storm)	5,260.52	5,252.97	0.00	0.00	5,252.97	5,252.97	5,252.97	5,252.97	Standard	1.250	0.00	<None>
G1 (p-storm)	5,254.90	5,246.09	0.46	1.50	5,246.76	5,246.55	5,246.93	5,246.72	Standard	1.250	0.21	<None>
H1 (p-storm)	5,260.33	5,252.30	0.48	1.60	5,252.99	5,252.77	5,253.16	5,252.95	Standard	1.250	0.22	<None>
J1 (p-storm)	5,255.40	5,247.05	0.29	0.60	5,247.46	5,247.33	5,247.56	5,247.43	Standard	1.250	0.13	<None>

2-YEAR

Profile Report

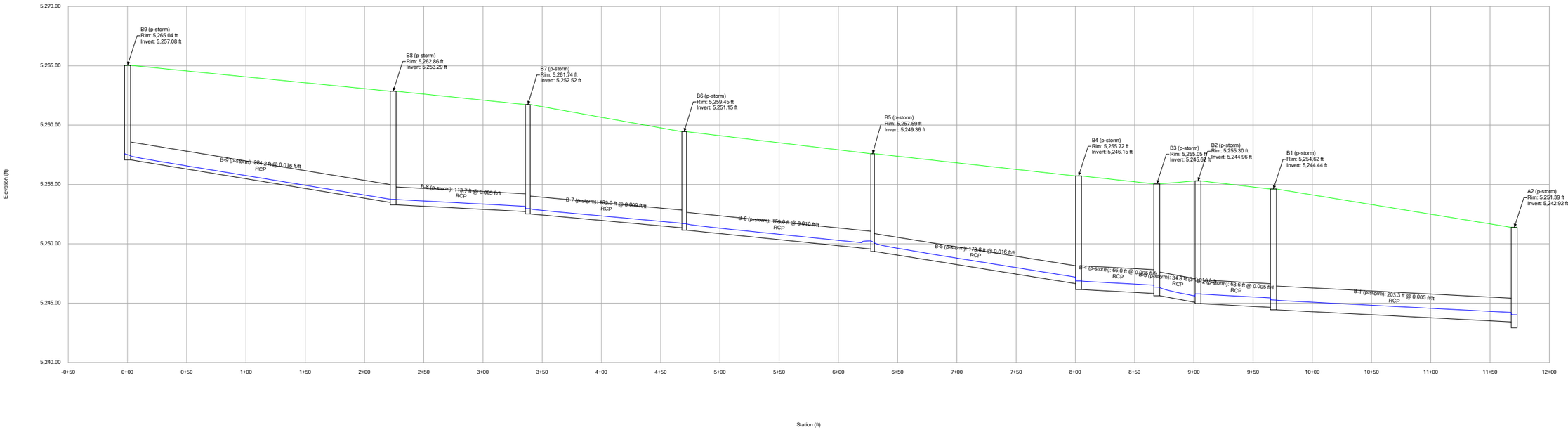
Engineering Profile - STORM LINE A (Untitled1.stsw)



2-YEAR

Profile Report

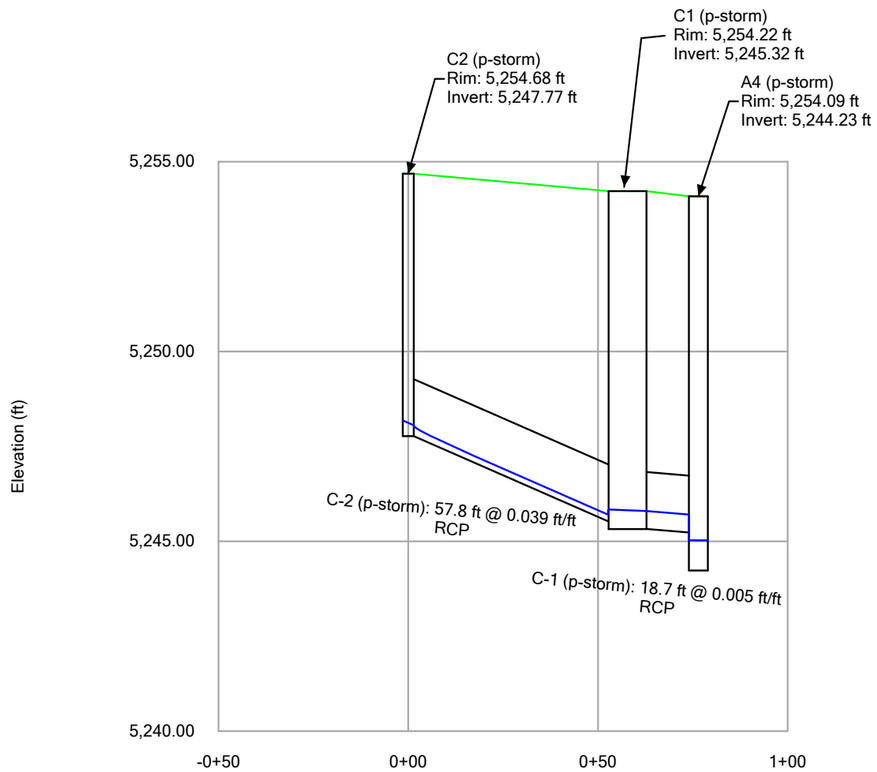
Engineering Profile - STORM LINE B (Untitled1.stsw)



2-YEAR

Profile Report

Engineering Profile - STORM LINE C (Untitled1.stsw)



2-YEAR

Profile Report

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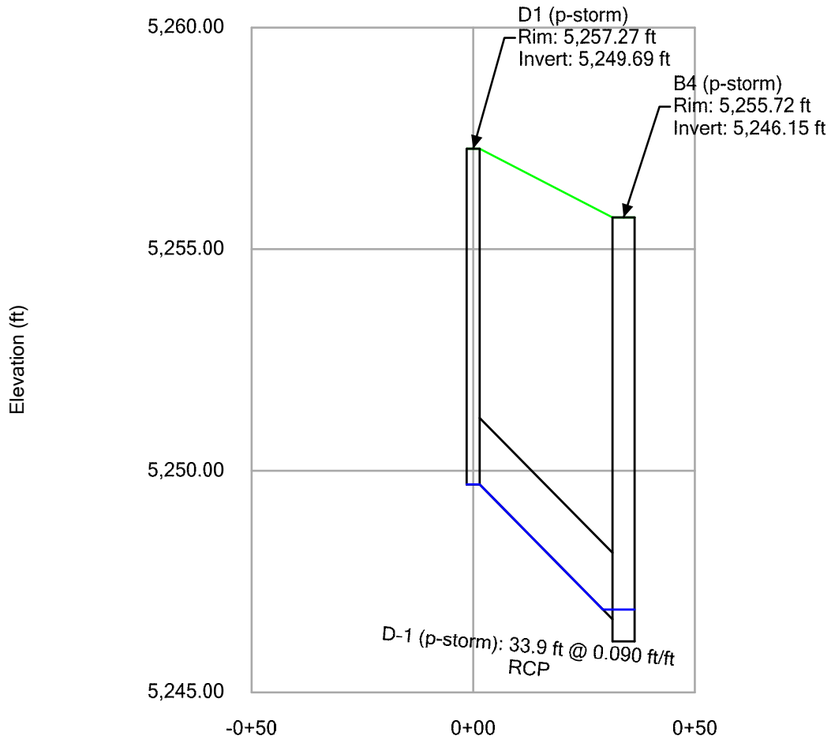

2-YEAR

Profile Report

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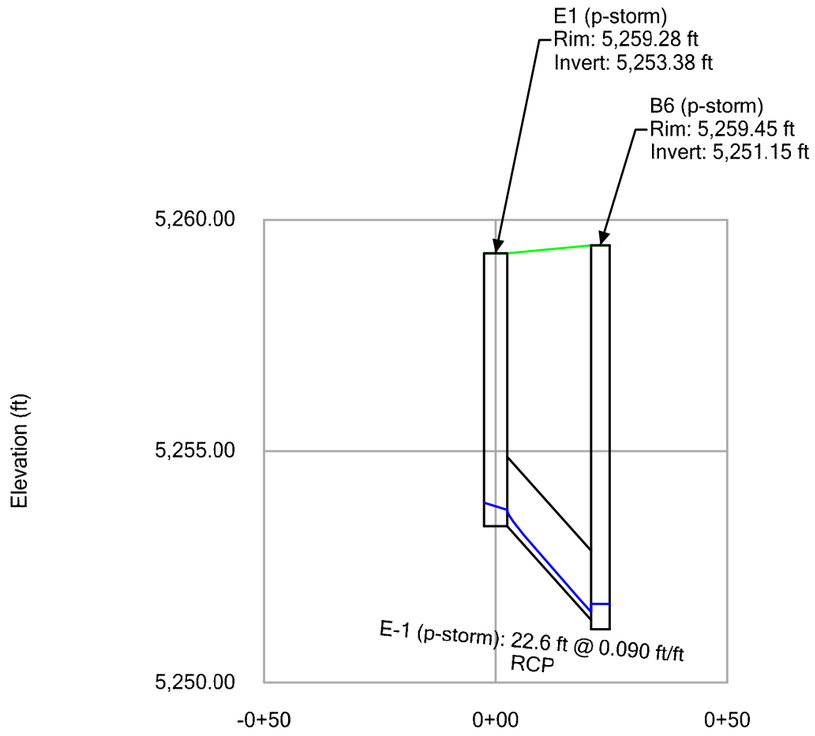
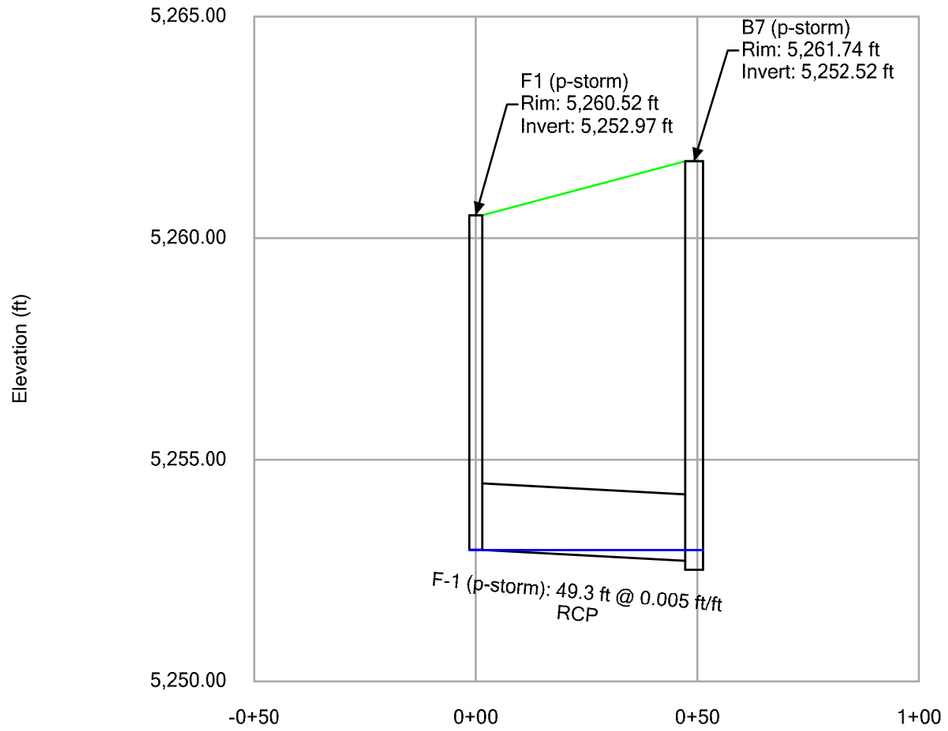


2-YEAR

Profile Report

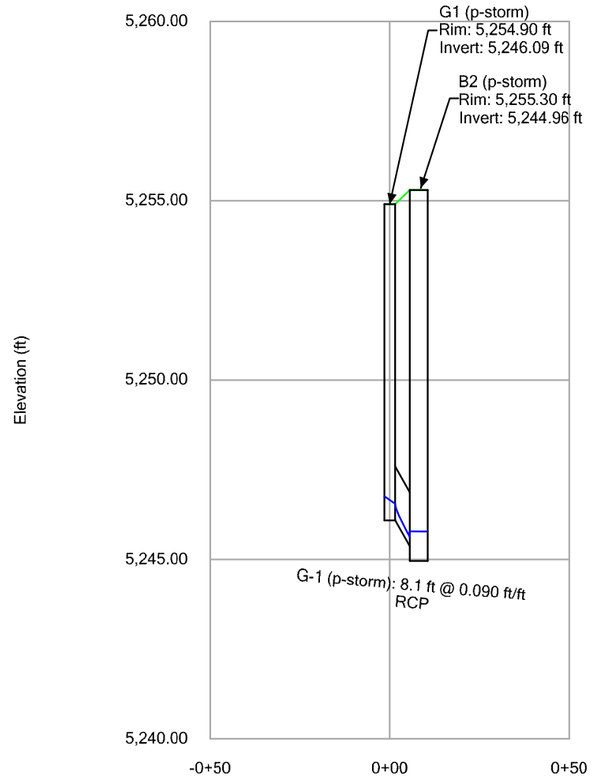
Engineering Profile - STORM LINE F (Untitled1.stsw)



2-YEAR

Profile Report

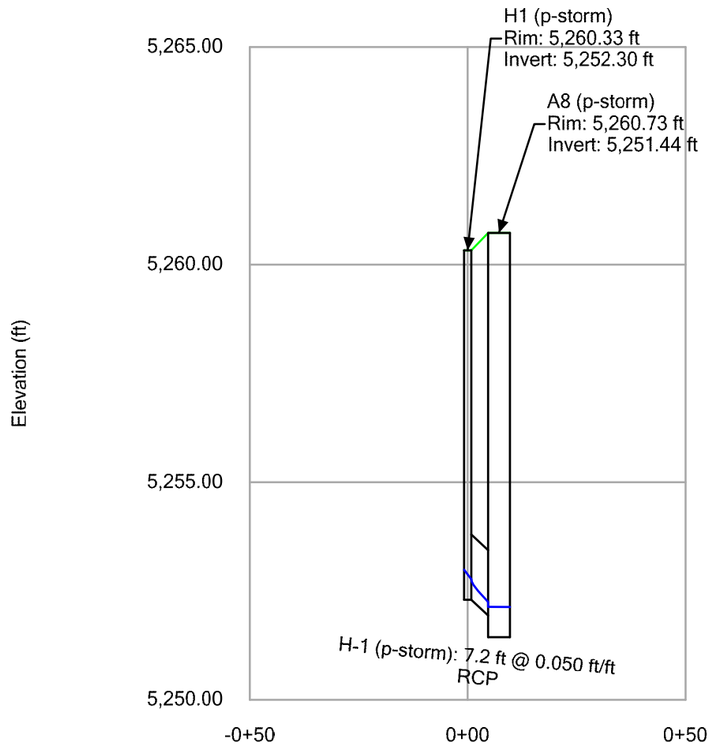
Engineering Profile - STORM LINE G (Untitled1.stsw)



2-YEAR

Profile Report

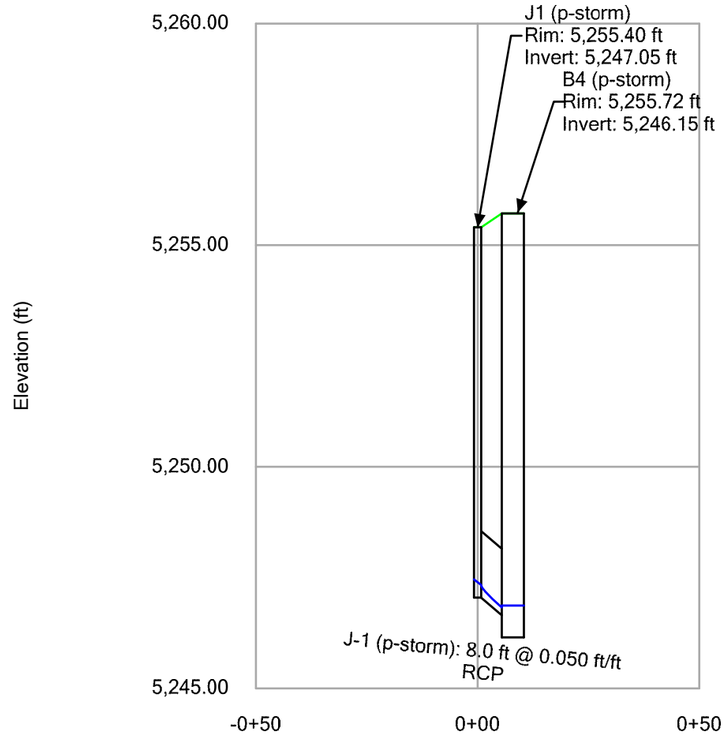
Engineering Profile - STORM LINE H (Untitled1.stsw)



2-YEAR

Profile Report

Engineering Profile - STORM LINE J (Untitled1.stsw)



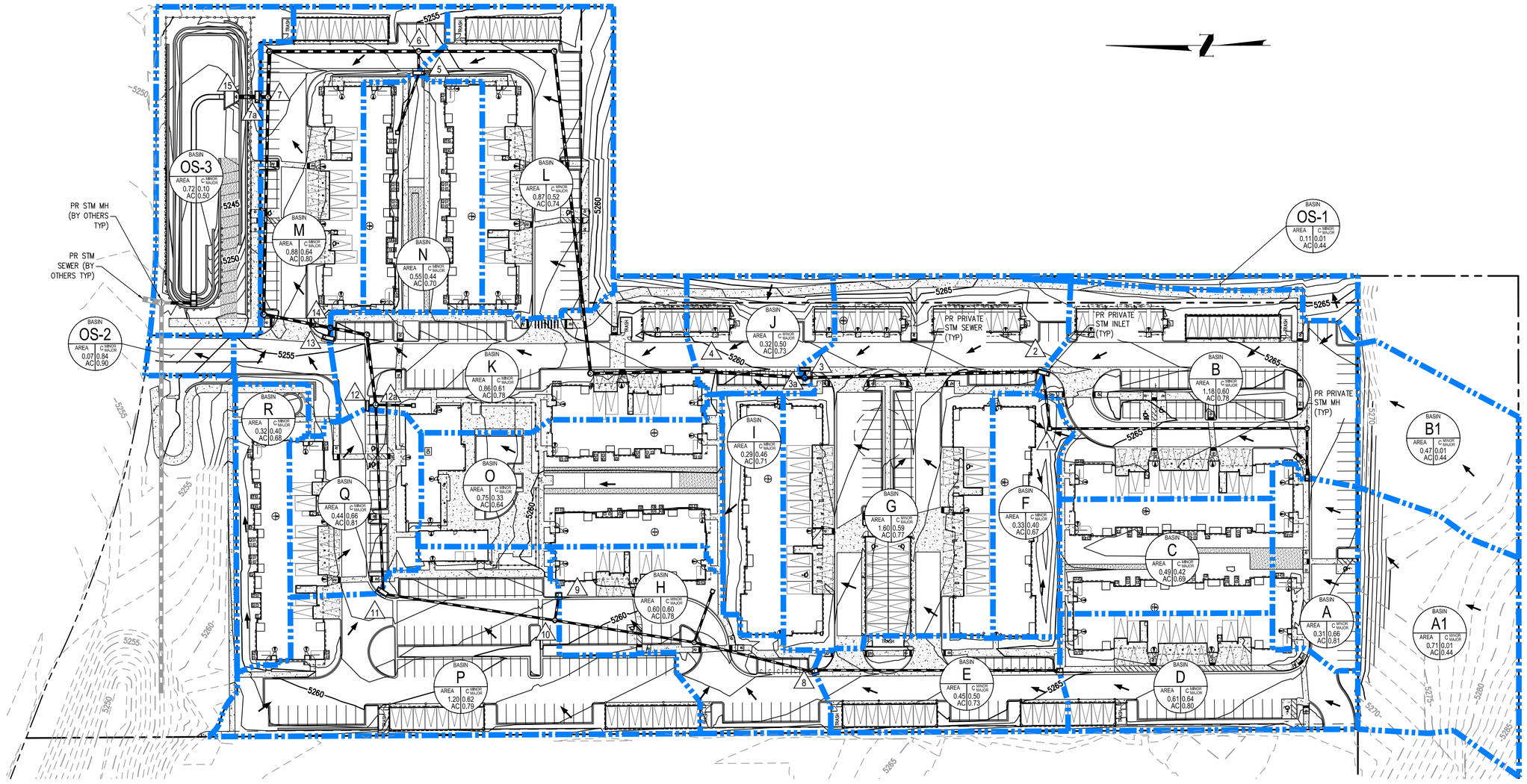
APPENDIX E

Final Drainage Plan

Detention Pond Details

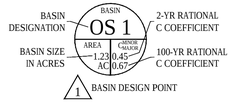
Storm Sewer Profiles

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



LENGEND:

- BASIN BOUNDARY
- DRAINAGE FLOW
- PROPOSED STORM SEWER
- PROPOSED CONTOURS
- PROPOSED OVERLOT GRADING CONTOURS BY OTHERS



NOTES:

1. THE OVERLOT GRADING SHOWN EXTERIOR TO THE SITE WAS PROVIDED BY GALLOWAY AND IS SHOWN FOR REFERENCE ONLY.

RUNOFF SUMMARY TABLE

DESIGN POINT	CONTRIBUTING AREA (ACRES)	RUNOFF PEAK 2-YEAR EVENT (CFS)	RUNOFF PEAK 100-YEAR EVENT (CFS)
1	1.84	1.10	6.20
2	1.65	1.39	11.60
3	1.60	1.90	8.50
4	0.61	0.59	3.00
5	1.42	1.60	7.80
7a	1.20	1.50	6.00
8	1.06	1.40	6.10
9	0.60	0.90	3.90
11	1.20	2.00	8.60
12	0.44	0.70	2.90
13	1.61	1.50	7.50

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

50 0 50 100
SCALE: 1" = 50'

DESIGNED BY: JWM
CHECKED BY: MSM
DRAWN BY: JWM

HKS HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

Evergreen
Development | Services | Investments

OUTLOOK AT NINE MILE
DRAINAGE PLAN

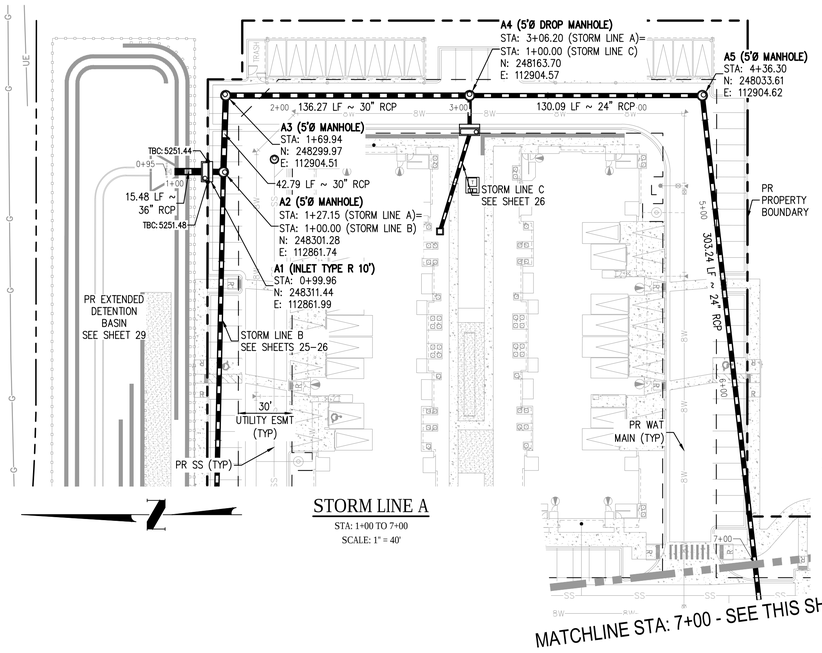
ISSUE DATE: 11-01-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 1 OF 1

FILEPATH: P:\160602\ENGINEERING\DRAINAGE\DRAINAGE PLAN.DWG LAYOUT: DRAINAGE MAP
9 XREFs: cd, evergreen logo, e-base, byor[U], e-veg[U], e-util[U], p-base, p-legal, byor[U], e-util[U], p-base, p-legal, p-util, p-water[U]
PLOTTED: FRI 11/01/19 4:20:40P BY: JEFF MINNICH

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

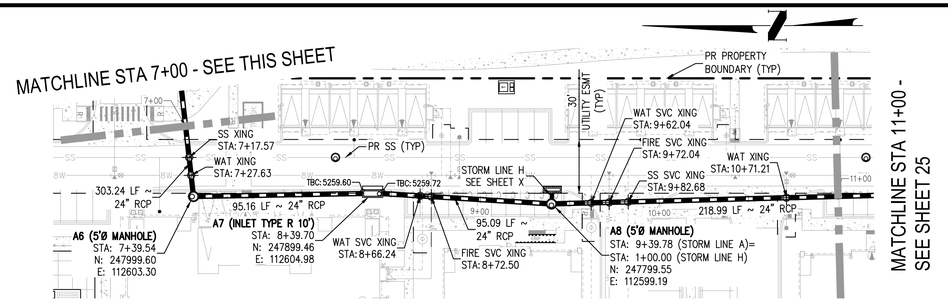


STORM LINE A

STA: 1+00 TO 7+00

SCALE: 1" = 40'

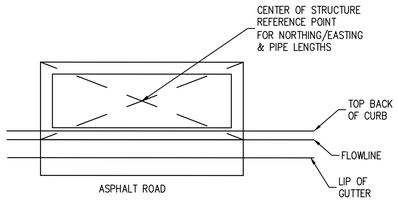
MATCHLINE STA: 7+00 - SEE THIS SHEET



STORM LINE A,

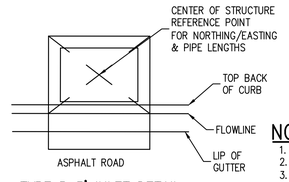
STA: 7+00 TO 11+00

SCALE: 1" = 40'



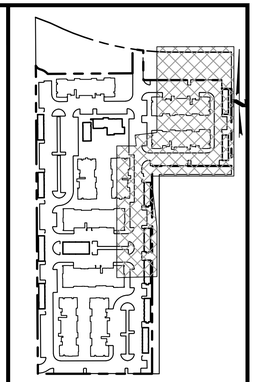
TYPE R 10' INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS



TYPE R 5' INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS



KEY MAP

SCALE: 1" = 250'

NOTES:

1. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
2. ALL COORDINATES ARE AT THE CENTER OF THE STRUCTURE UNLESS OTHERWISE INDICATED.
3. ALL WORK SHALL BE IN ACCORDANCE WITH TOWN OF ERIE STANDARDS AND SPECIFICATIONS. STANDARDS ARE AVAILABLE AT THE TOWN'S WEBSITE. THE CONTRACTOR MUST HAVE A COPY ON SITE.
4. STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
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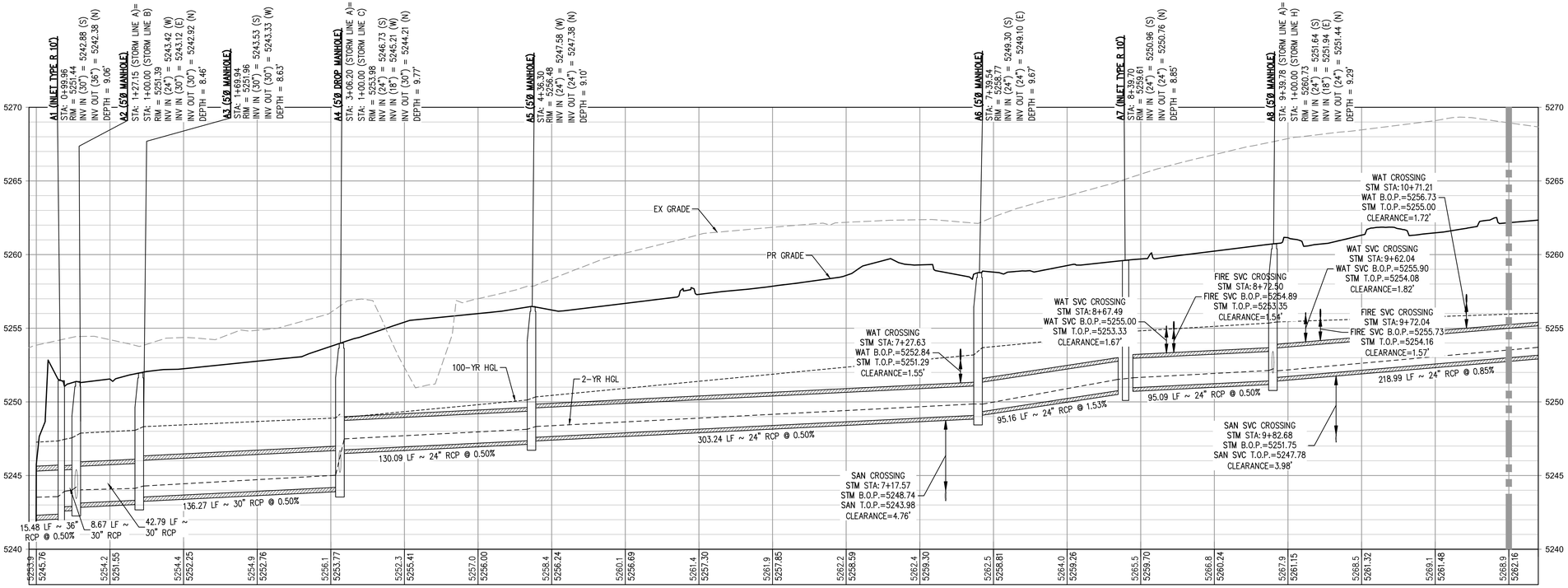
9. INLETS WITHIN SIDEWALKS HAVE BEEN MARKED MODIFIED AND SHALL HAVE THE TOP OF THEIR BOX MODIFIED TO MATCH THE SIDEWALK GRADES NOTED ON THE GRADING PLAN.



MATCHLINE STA 11+00 - SEE SHEET 25

STORM LINE A PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

40 0 40 80

SCALE: 1" = 40'

DESIGNED BY: JWM
CHECKED BY: MSM
DRAWN BY: JWM

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

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OUTLOOK AT NINE MILE
STORM SEWER PLAN & PROFILE LINE A

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.

24

24 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM PKP.DWG LAYOUT: LINE A
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PLOTTED: THU 11/07/19 6:37:52P BY: RACHEL PATTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

NOTES:

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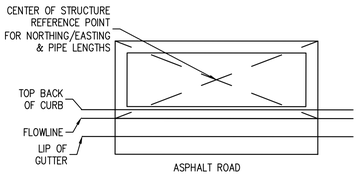
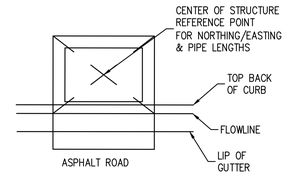
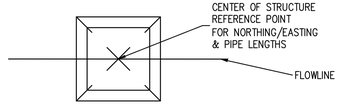


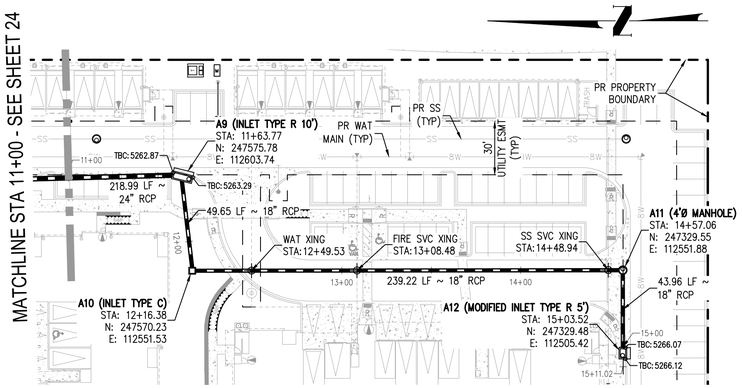
TYPE R 10' INLET DETAIL
STRUCTURE REFERENCE POINT
SCALE: NTS



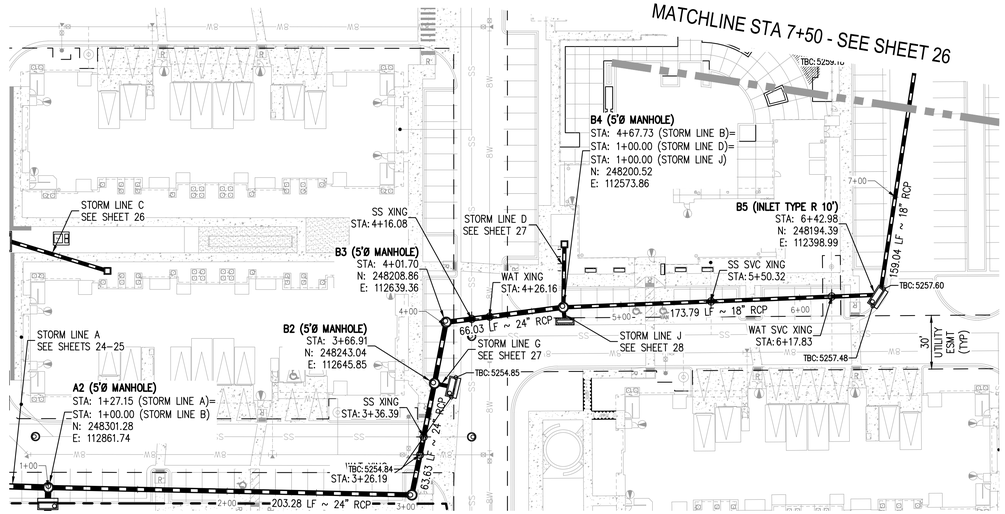
TYPE R 5' INLET DETAIL
STRUCTURE REFERENCE POINT
SCALE: NTS



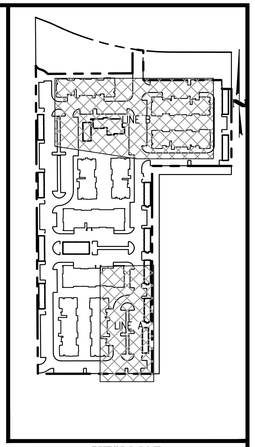
TYPE C INLET DETAIL
STRUCTURE REFERENCE POINT
SCALE: NTS



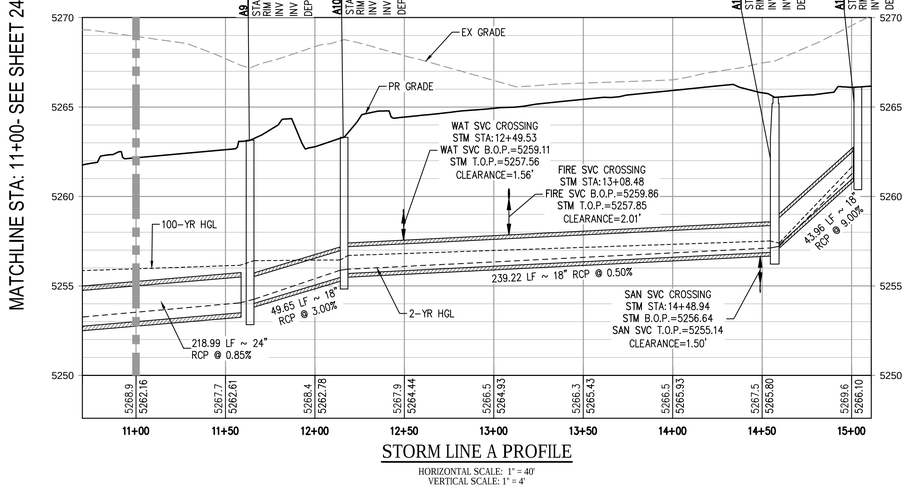
STORM LINE A PLAN
STA: 11+00 TO END
SCALE: 1" = 40'



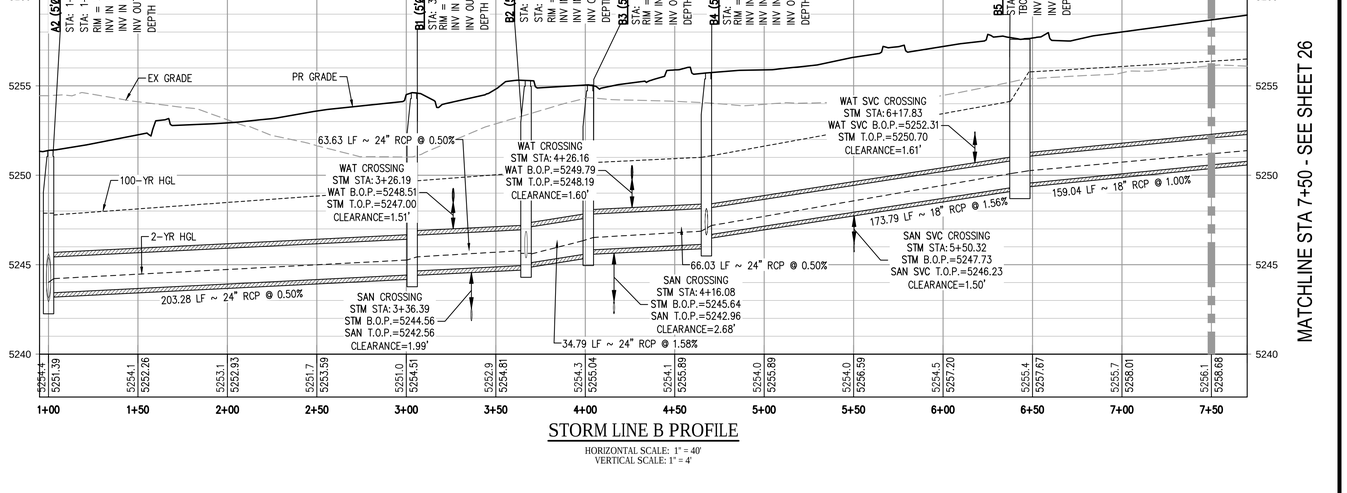
STORM LINE B PLAN
STA: 1+00 TO 7+50
SCALE: 1" = 40'



KEY MAP
SCALE: 1" = 250'



STORM LINE A PROFILE
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



STORM LINE B PROFILE
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40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
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OUTLOOK AT NINE MILE
STORM SEWER PLAN & PROFILE LINES A & B

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
25
25 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE A & B
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PLOTTED: THU 11/07/19 6:38:00P BY: RACHEL PATTON

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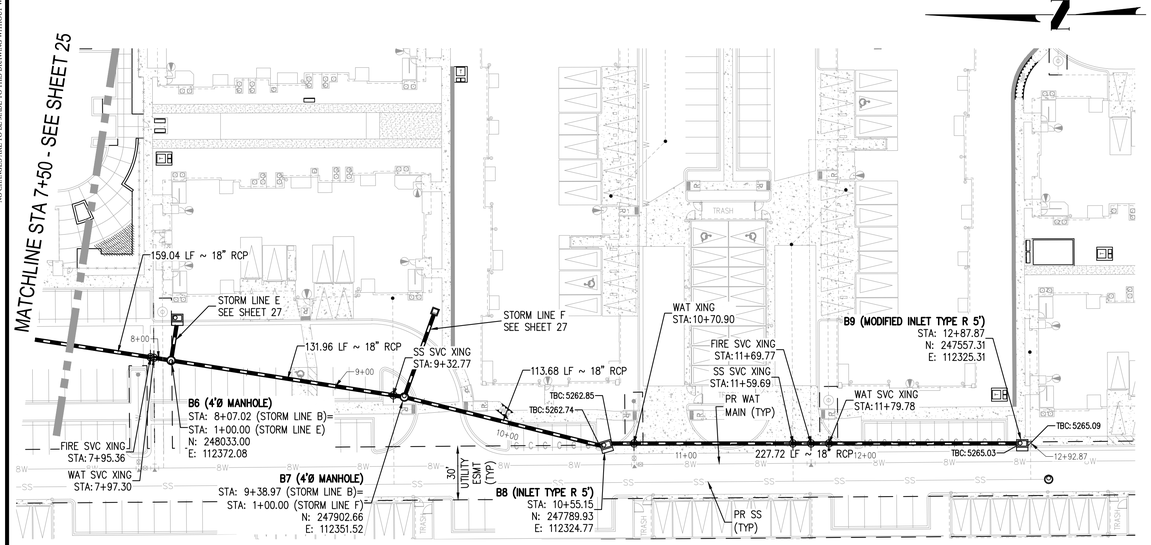
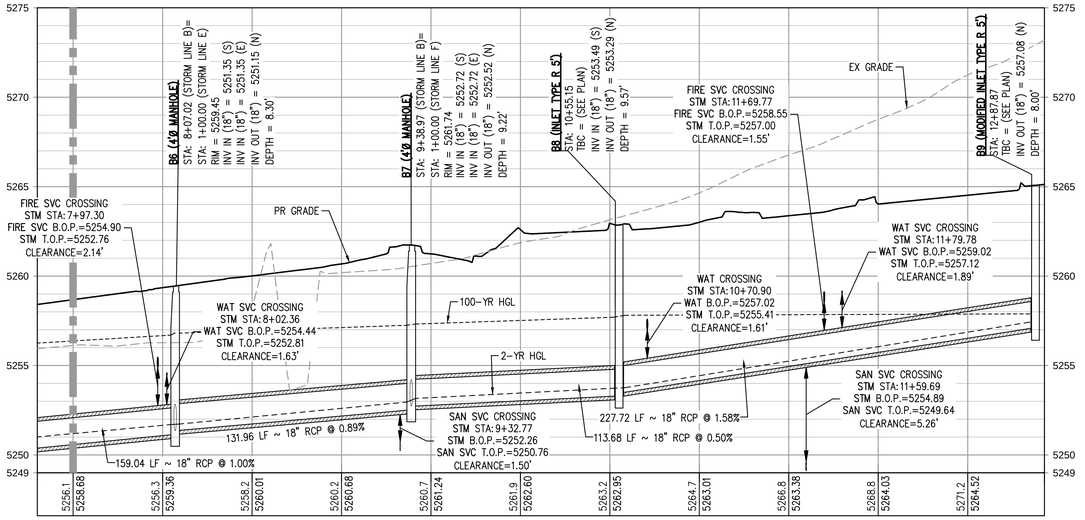


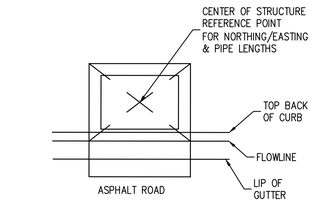
STORM LINE B PLAN

STA:7+50 TO END
SCALE: 1" = 40'



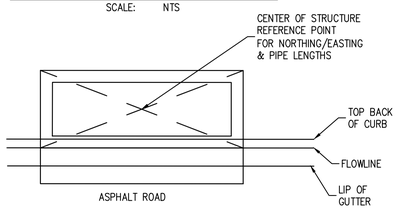
STORM LINE B PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



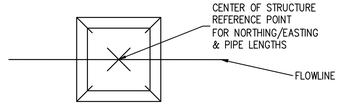
TYPE R 5' INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS



TYPE R 10' INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS



TYPE C INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS

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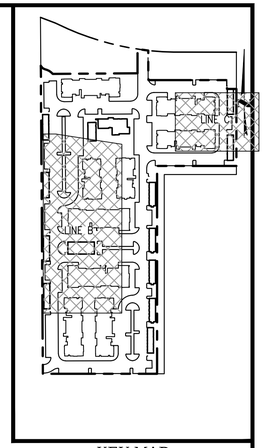
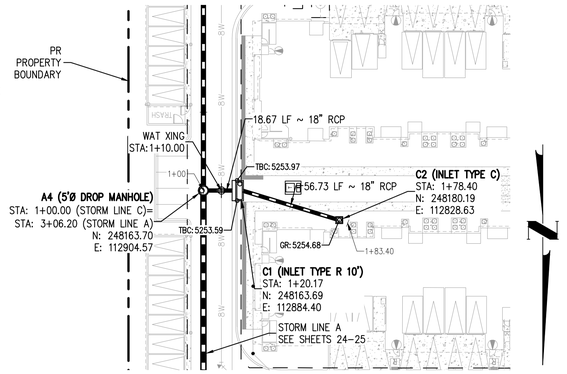


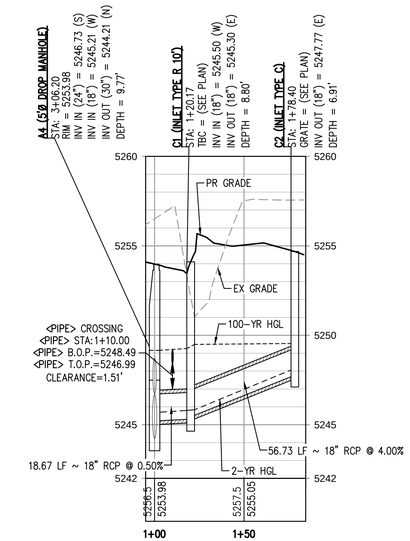
KEY MAP

SCALE: 1" = 250'



STORM LINE C PLAN

SCALE: 1" = 40'



STORM LINE C PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

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40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
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OUTLOOK AT NINE MILE
STORM SEWER PLAN & PROFILE LINES B & C

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
26
26 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM PRP.DWG LAYOUT: LINE B & C
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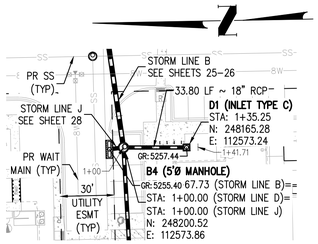
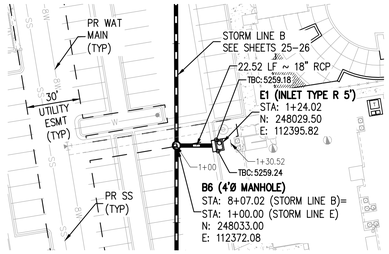
PLOTTED: THU 11/07/19 6:38:05P BY: RACHEL PATTON

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.



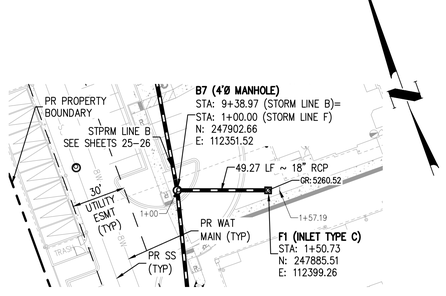
STORM LINE D PLAN

SCALE: 1" = 40'



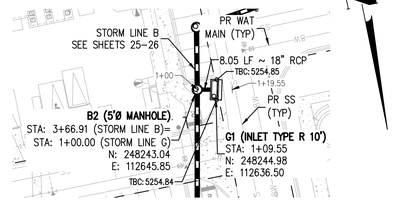
STORM LINE E PLAN

SCALE: 1" = 40'



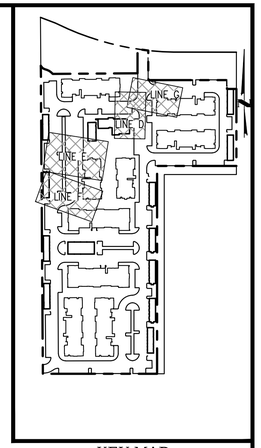
STORM LINE F PLAN

SCALE: 1" = 40'



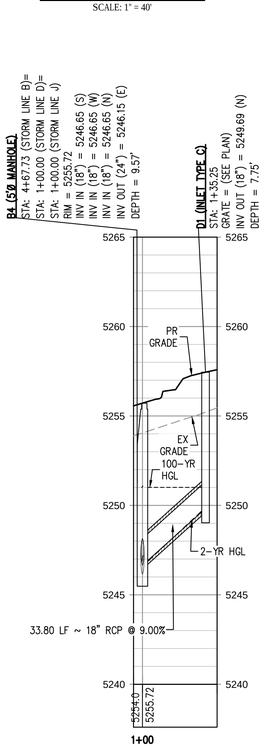
STORM LINE G PLAN

SCALE: 1" = 40'



KEY MAP

SCALE: 1" = 250'



STORM LINE D PROFILE

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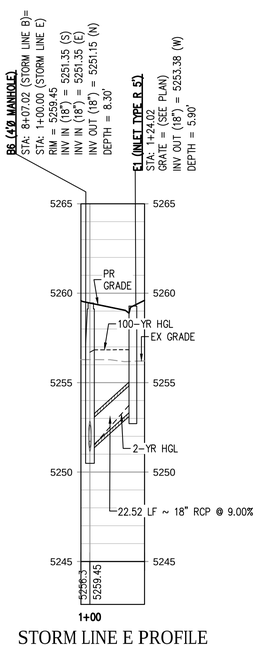
VERTICAL SCALE: 1" = 4'



STORM LINE E PROFILE

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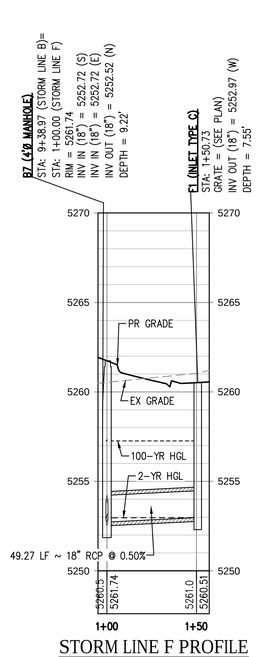
VERTICAL SCALE: 1" = 4'



STORM LINE F PROFILE

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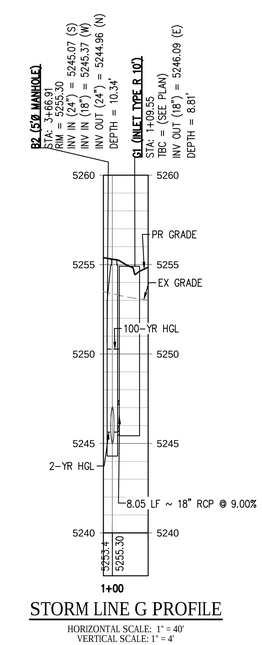
VERTICAL SCALE: 1" = 4'



STORM LINE G PROFILE

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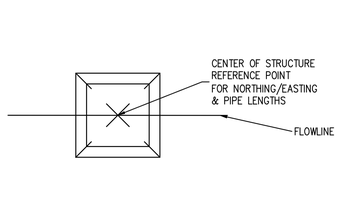
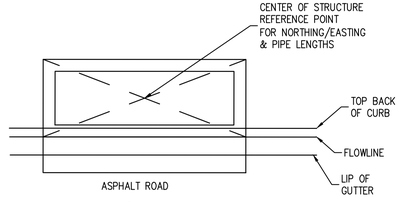
VERTICAL SCALE: 1" = 4'



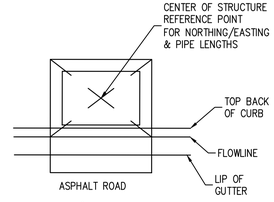
TYPE C INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS



TYPE R 10' INLET DETAIL
STRUCTURE REFERENCE POINT

SCALE: NTS



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OUTLOOK AT NINE MILE
STORM SEWER PLAN & PROFILE LINES D, E, F & G

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
27
27 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE D E F & G
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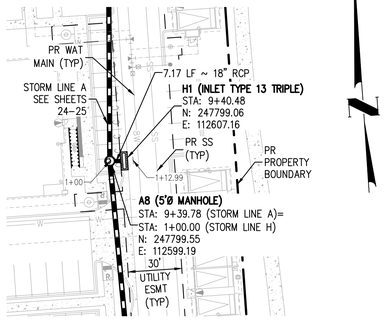
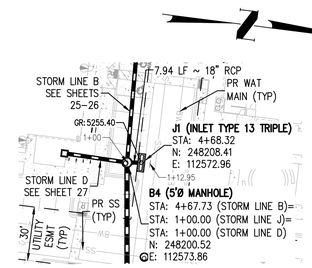


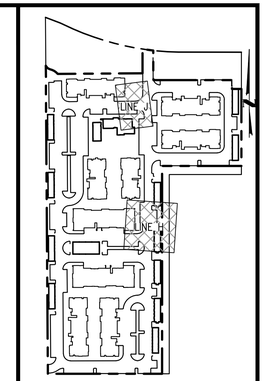
STORM LINE H PLAN

SCALE: 1" = 40'



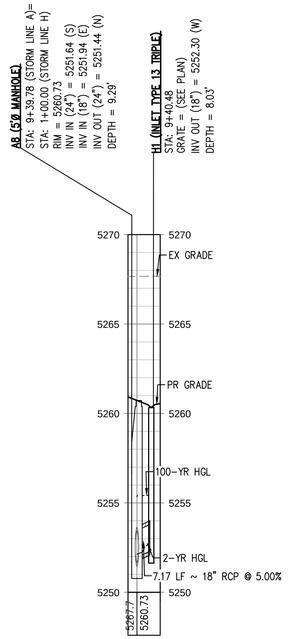
STORM LINE J PLAN

SCALE: 1" = 40'



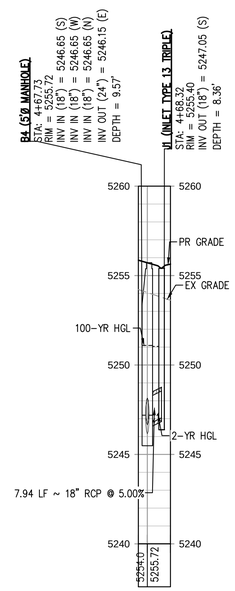
KEY MAP

SCALE: 1" = 250'



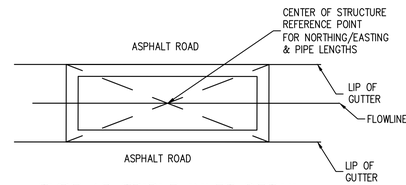
STORM LINE H PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



STORM LINE J PROFILE

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



TYPE 13 TRIPLE INLET DETAIL STRUCTURE REFERENCE POINT

SCALE: NTS

NOTES:

1. PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
2. ALL COORDINATES ARE AT THE CENTER OF THE STRUCTURE UNLESS OTHERWISE INDICATED.
3. ALL WORK SHALL BE IN ACCORDANCE WITH TOWN OF ERIE STANDARDS AND SPECIFICATIONS. STANDARDS ARE AVAILABLE AT THE TOWN'S WEBSITE. THE CONTRACTOR MUST HAVE A COPY ON SITE.
4. STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
5. CONTRACTOR SHALL MODIFY ALL INLETS AS NEEDED IN ORDER TO ENSURE ALL STORM PIPES CONNECT PROPERLY TO THE INLET. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS (MODIFIED INLETS AND OUTLET STRUCTURE) FOR APPROVAL BY OWNER, ENGINEER, AND TOWN OF ERIE PRIOR TO INSTALLATION.
6. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
7. ALL STORM SEWER INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
8. STORM SEWER MANHOLE RIMS SHALL BE ROTATED AS SHOWN ON PLAN.
9. INLETS WITHIN SIDEWALKS HAVE BEEN MARKED MODIFIED AND SHALL HAVE THE TOP OF THEIR BOX MODIFIED TO MATCH THE SIDEWALK GRADES NOTED ON THE GRADING PLAN.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

40 0 40 80
SCALE: 1" = 40'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
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HarrisKocherSmith.com

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OUTLOOK AT NINE MILE
STORM SEWER PLAN & PROFILE LINES H & J

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 28

28 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD_STORM PAP.DWG LAYOUT: LINE H & J
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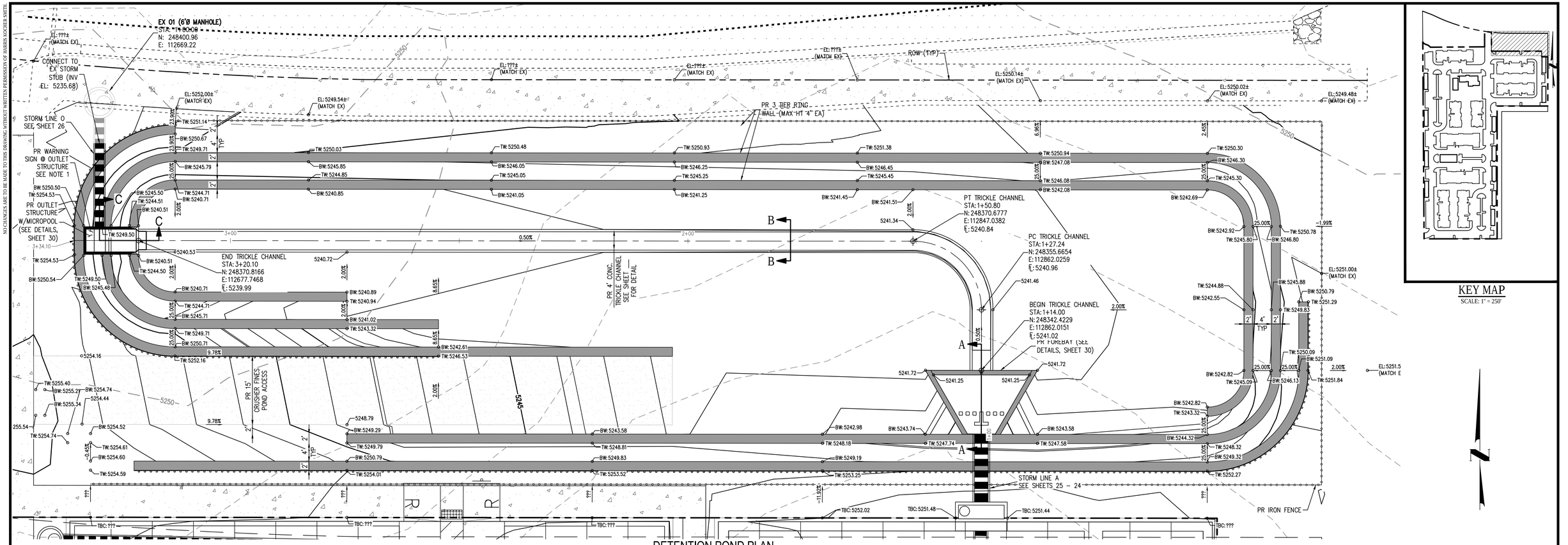
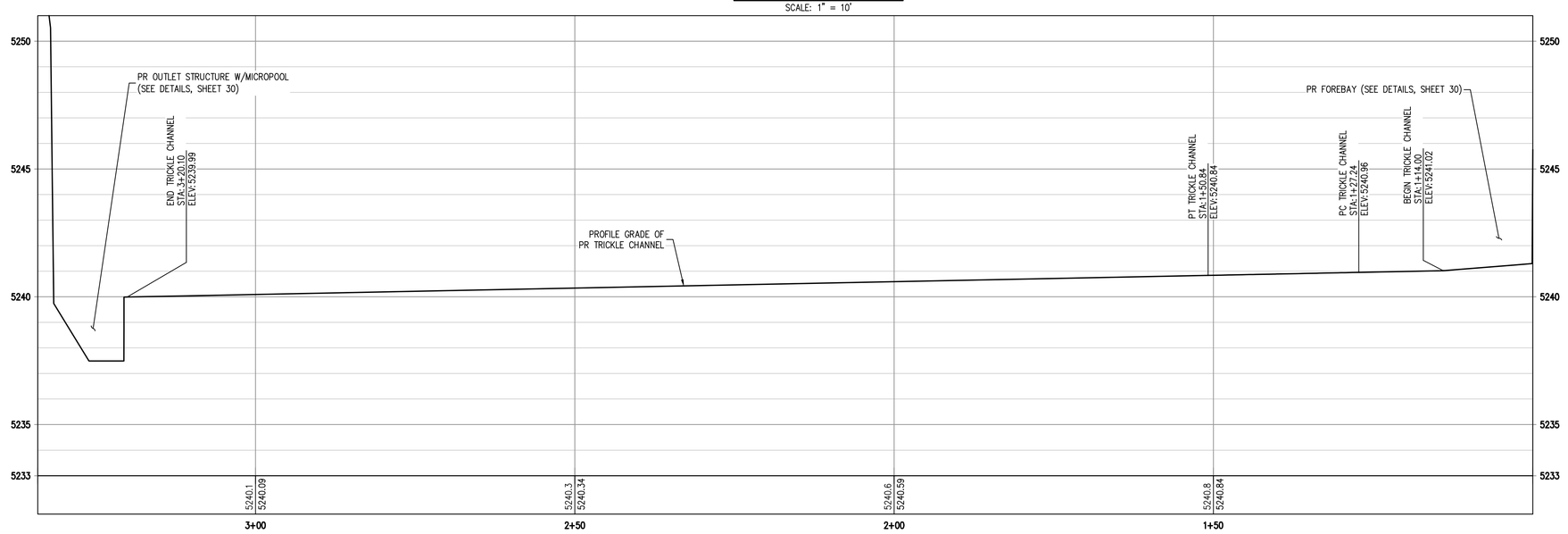


DETENTION POND PLAN
SCALE: 1" = 10'

KEY MAP
SCALE: 1" = 250'



TRICKLE CHANNEL PROFILE
HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 2'

OUTLET STRUCTURE NOTES:

1. SIGN SHALL STATE " WARNING UNAUTHORIZED MODIFICATION OF THIS OUTLET IS A CODE VIOLATION AND SUBJECT TO THE PENALTIES AS PROVIDED BY LAW". REFER TO CITY AND STATE REGULATION REGARDING SPECIFICS OF THIS SIGN.
2. SEE SHEETS 30 FOR SECTIONS A-A, B-B, C-C, AND FOR ALL SPECIFIC DETAILS FOR THIS DETENTION POND.

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

10 0 10 20
SCALE: 1" = 10'

DESIGNED BY: KDB
CHECKED BY: MSM
DRAWN BY: KDB

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Denver, Colorado 80203
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OUTLOOK AT NINE MILE
DETENTION POND PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
29
29 OF 60

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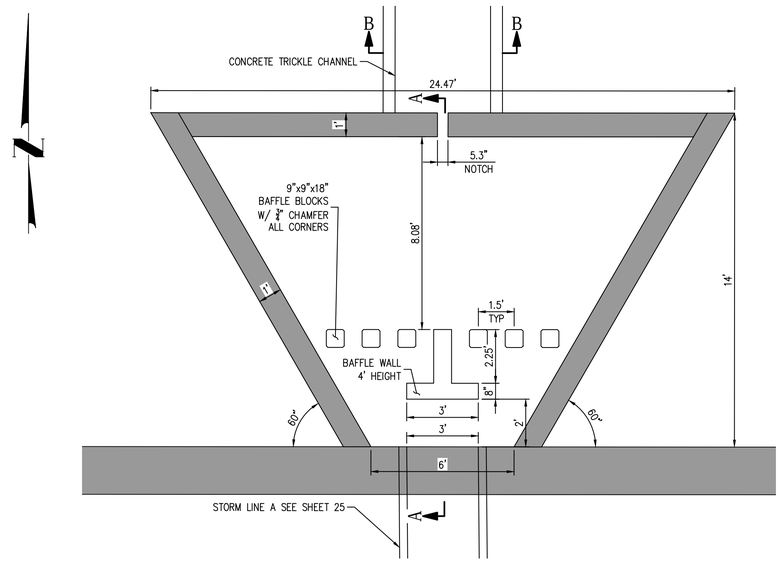
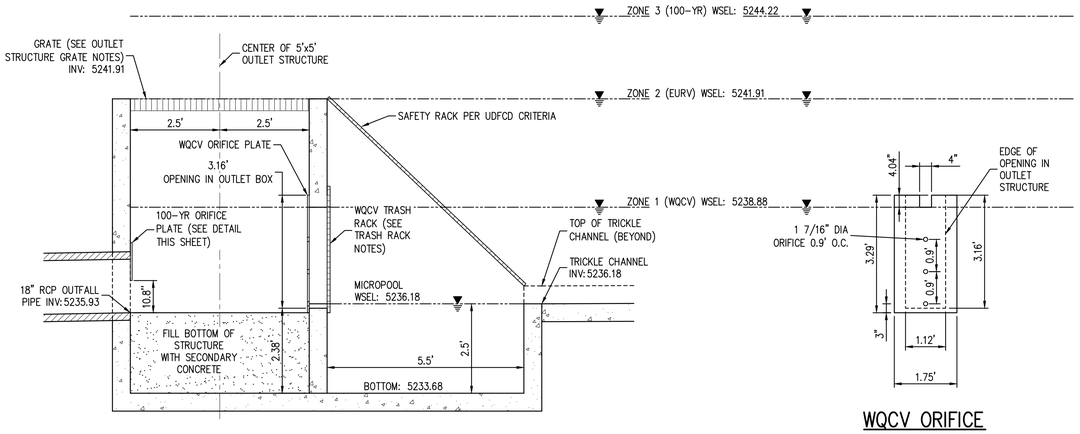


MODIFIED IMPACT STILLING BASIN PLAN

SEE NOTE #7 THIS SHEET
SCALE: 1" = 3'

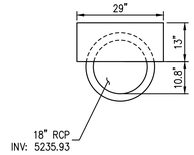


SECTION C-C
WATER QUALITY OUTLET STRUCTURE PROFILE

SCALE: N.T.S.

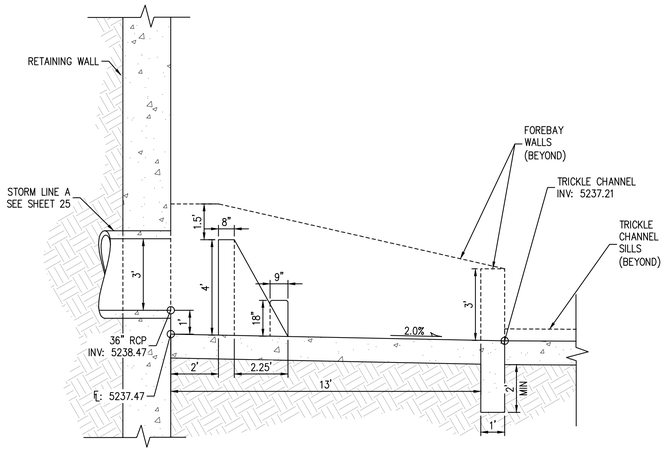
WQCV ORIFICE PLATE DETAIL

N.T.S.



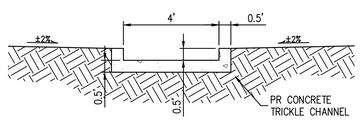
100-YR RESTRICTOR PLATE DETAIL

N.T.S.



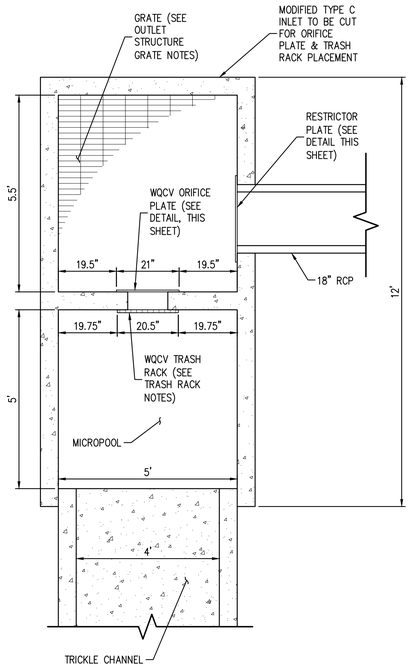
SECTION A-A
MODIFIED IMPACT STILLING BASIN PROFILE DETAIL

SEE NOTE #7 THIS SHEET
SCALE: 1" = 3'



SECTION B-B
TRICKLE CHANNEL DETAIL

SCALE: 1" = 3'



WATER QUALITY OUTLET STRUCTURE PLAN

SCALE: N.T.S.

OUTLET STRUCTURE NOTES:

GENERAL NOTES:

1. ALL PENETRATIONS AND JOINTING SHALL BE WATER-TIGHT, WITH LINK-SEAL OR APPPROVED EQUIVALENT.
2. THE EXTENDED DETENTION BASIN FOREBAY SHALL BE BUILT IN ACCORDANCE WITH CURRENT UDFCD CRITERIA AND DETAILS.
3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL TRASH RACKS AND ORIFICE PLATES PRIOR TO CONSTRUCTION.
4. STRUCTURAL DESIGN OF ALL TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.
5. CONTRACTOR SHALL PROVIDE STRUCTURAL DESIGN/SHOP DRAWINGS FOR THE POND WALLS, ENERGY DISSIPATION BAFFLE WALLS, FOREBAY SLAB, FOREBAY WALL, TRICKLE CHANNEL, MICROPOOL, WINGWALLS, AND OUTLET STRUCTURE.
6. ALL DESIGN ELEMENTS INCLUDING CONCRETE, THICKNESS, AND REINFORCEMENT FOR POND WALL ENERGY DISSIPATION BAFFLE WALL, FOREBAY SLAB, FOREBAY WALL, TRICKLE CHANNEL, MICROPOOL, WINGWALLS AND OUTLET STRUCTURE WILL BE ACCORDING TO UDFCD CRITERIA AND DETAILS.
7. MODIFIED IMPACT STILLING BASIN FIGURE 9-43 PER URBAN STORM DRAINAGE CRITERIA MANUAL, UPDATED SEPTEMBER 2017.

TRASH RACK NOTES:

1. TRASH RACK SHALL BE IN ACCORDANCE WITH UDFCD TYPICAL WELL SCREEN TRASH RACK
   - 1.1. NO. 93 JOHNSON VEE WIRE STAINLESS STEEL WELL SCREEN (OR EQUIVALENT)
   - 1.2. OPENING SLOT DIMENSION SHALL BE 0.139"
   - 1.3. STAINLESS STEEL SUPPORT BARS SHALL BE TE 0.074" X 0.50", 1' O.C.
   - 1.4. C8X18.75 AMERICAN STANDARD STRUCTURAL STEEL CHANNEL FORMED INTO CONCRETE BOTTOM AND SIDE OF TRASH RACK SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.

OUTLET STRUCTURE GRATE NOTES:

1. GRATE SHALL BE CLOSED MESH GRATE PER CDOT TYPE C INLET M-604-10
2. GRATE SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
3. GRATE SHALL BE STAINLESS ALUMINUM OR STEEL, SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.

ORIFICE/RESTRICTOR PLATE NOTES:

1. PROVIDE GASKET MATERIAL BETWEEN ORIFICE PLATE AND CONCRETE.
2. BOLT PLATE TO CONCRETE 12" MAX ON CONCRETE.

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: KDB
CHECKED BY: MSM
DRAWN BY: KDB

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

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OUTLOOK AT NINE MILE
POND PLAN DETAIL

ISSUE DATE: 11-08-2019	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
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30 OF 60

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PLOTTED: THU 11/07/19 6:46:17P BY: RACHEL PATTON

FINAL UTILITY REPORT

FOR

OUTLOOK NINE MILE

Prepared: November 5, 2019

Prepared for:

Evergreen

Development | Services | Investments

1873 S. Bellaire Street, Suite 1200

Denver, Colorado 80222

Phone: 303-757-0401

Prepared by:

HKS HARRIS KOCHER SMITH

Michael Moore, P.E.

1120 Lincoln Street, Suite 1000

Denver, CO 80203

Ph.: 303-623-6300, Fax: 303-623-6311

Harris Kocher Smith Project No.: 160602

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Appendices:

Appendix A: Water Demands

Appendix B: Water Hydraulic Analysis & Modeling & Fire Hydrant Test Results

Appendix C: Wastewater Flow Calculations

Appendix D: Proposed Overall Utility Plan

ENGINEER'S STATEMENT

The enclosed utility report, and exhibits, were prepared by me or under my direct supervision and is correct to the best of my knowledge and belief. Said utility report has been prepared in accordance with applicable Town of Erie criteria and is in conformance with the master utility plans for the affected area. I accept responsibility for any liability caused by negligent acts, errors or omissions on my part in preparing this report.

_____ _____

Michael S. Moore, PE 47854 Date

For and on behalf of Harris Kocher Smith

OWNER/DEVELOPER STATEMENT:

As Owner/Developer of land identified within this report; I agree to proceed, implement and comply with all recommendations and requirements outlined herein.

_____

Name of Developer

_____

Authorized Signature

I. PROJECT LOCATION AND DESCRIPTION

A. Site Location

The proposed Outlook Nine Mile project ("Site") is located within the Town of Erie, County of Boulder, Colorado at the southeast corner of Arapahoe Road and N. 107th Street. More specifically, it is situated within the Northeast ¼ of Section 34, and the Southeast ¼ of Section 27, Township 1 North, Range 69 West of the 6th Principal Meridian.

The Site is bordered by Arapahoe Road to the north, vacant land to the east, a single-family residential development to the south and the future Nine Mile Commercial project ("Commercial") to the west.

The Site is a part of a master development, Nine Mile Corner.

B. Description of Property

The Site consists of approximately 11.65 acres of vacant land which will be used for a multi-family development. Vegetation cover is comprised of native grasses and bare ground with approximately 100% coverage.

The existing ground generally slopes from south to north, with slopes ranging from 0.5% to 25%. Construction will include overlot grading, installation of internal roadway and utility infrastructure, and construction of the retail and multi-family buildings.

The Site will be developed as nine multi-family residential buildings, a clubhouse/leasing office, a swimming pool and various site amenities, such as landscaping, and associated infrastructure improvements, including construction of private drives and utility installation.

One detention/water quality pond is proposed to accommodate runoff from the development.

Easements will be provided around water mains, fire hydrants, water meters, and sanitary sewer mains outside of the public rights-of-way, in accordance with Town of Erie (Town) standards regarding location and size. The proposed easements are to be dedicated by plat.

There is an existing irrigation ditch located on-Site. As a part of the master development, the ditch will be filled in, and flows will be conveyed via storm pipe along the southern portion of the Site. At the time of the Site development, the ditch will no longer be located on site.

As previously mentioned, the Site is a part of a master development, and the water and sanitary sewer infrastructure was analyzed in the "Preliminary Utility Report for Nine Mile Corner at Nine Mile Subdivision Filing 1" prepared by Galloway & Company, Inc.

II. CALCULATED WATER DEMANDS

The design of the water distribution system was based on the information provided in THE Erie Planning & Development Standards and Specifications Section 600 – Water Facilities (Water Manual). Demands were computed for the full build out of the Project. Water demand calculations by building can be found in Appendix A.

A. AVERAGE DAY DEMANDS (ADD)

The Average Daily Demand rate is 140 GPCD (Gallons Per Capita/Day) for Multi-Family Residential per the Water Manual. Per the planned development zoning document, a value of 2.89 persons/dwelling unit was used.

Land Use	Dwelling Units	ADD (GPD)	ADD (GPM)
Multi-Family Residential	290	117,334	82

B. MAX DAY DEMANDS (MDD)

The Maximum Day Demand rate is 2.6 MDD/ADD per the Water Manual.

Land Use	Dwelling Units	ADD (GPD)	MDD (GPD)	MDD (GPM)
Multi-Family Residential	290	117,334	305,068	212

C. MAX HOUR DEMANDS (MH)

The Max Hour Demand Rate is 3.9 (MH/ADD) per the Water Manual.

Land Use	Dwelling Units	ADD (GPD)	MH (GPD)	PHD (GPM)
Multi-Family Residential	290	117,334	457603	318

D. FIRE FLOW DEMANDS

Fire flow was calculated based on 2018 International Fire Code flow rates. All buildings were assumed to be construction Type V-A or V-B. It was also assumed that only one fire would be fought at a time. Based on Table B 105.1, a minimum fire flow demand of 4,250 GPM was derived. An automatic commercial sprinkler system is to be installed within the buildings allowing a 50% reduction in flow, resulting in a final required fire flow of 2,125 GPM for a 2-hour duration. An excerpt of Table B 105.1 is below for reference.

TABLE B105.1(2)
REFERENCE TABLE FOR TABLES B105.1(1) AND B105.2

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute)[b]	FLOW DURATION (hours)
Type IA and IB[a]	Type IIA and IIIA[a]	Type IV and V-A[a]	Type IIB and IIIB[a]	Type V-B[a]		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	2
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	3
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	4
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

For SI: 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.

a.Types of construction are based on the *International Building Code*.

b.Measured at 20 psi residual pressure.

III. EXISTING WATER SYSTEM

A. Existing Distribution System

An existing 12" water main is located along the north side of Arapahoe Road. This is the only existing water distribution system near the Site.

IV. PROPOSED WATER SYSTEM

A. Proposed Distribution System

The proposed on-site water infrastructure will be designed to accommodate the entire development. Water service sizes are summarized in the table below. The water services sizes below have been upsized to the next size five feet after the building's water meter.

Water Service Sizes	
Building Type	**Service Size (in)**
Type A	2
Type B	2
Type C	2
Type D	1
Clubhouse	1.5

The proposed water system, consisting mainly of 8" water mains, will be looped through the Site and connect to the proposed 12" water main being designed by Galloway. Thus, we will upsize our mains just before connecting to the proposed water main by Galloway. The water main will be connected at two locations: the entrance to the Site from Arapahoe Street, and at the northwest corner of the Site. As part of the master development, Galloway will be placing new water main along Arapahoe Street, as well as in their commercial development previously discussed.

V. PROPOSED WATER SYSTEM ANALYSIS AND MODELING

A. Hydraulic Models and Pressure Constraints

The proposed water system was modeled using Bentley WaterCAD V8i software. Per the Water Manual, water distribution pipes must have a maximum velocity of 10 feet per second, which applies to all scenarios. A Hazen Williams "C" factor of 100 was used. Maximum allowable head loss is 2 feet per 1000 feet, which applies to the maximum daily demand scenario. Operating pressure requirements from the manual are: a maximum static pressure of 125 psi, a minimum static pressure of 43 psi, maintaining 20 psi residual pressure during required fire flow and 40 psi residential residual pressure during peak residential flow, and maximum pressure drop from static head to either fire flow or peak residential shall not exceed 30 psi.

B. Hydraulic Modeling Scenarios

The Following scenarios were modeled and results can be found in Appendix B:

- Average Daily Demand
- Maximum Daily Demand plus Fire Flow for the full build-out of the development
- Maximum Hour Demand for the full build-out of the development

C. Hydraulic Modeling Output

The total demand supplied by the model for each scenario can be found in Table 1 below. The Maximum Daily Demand + Fire Scenarios were calculated by adding the Fire Flow GPM to the Maximum Daily Demand scenario. Per the Water Manual, the complete fire flow demand is applied at a single hydrant location, where the pressure is lowest within the proposed water system.

Scenario	Demand (GPM)
Average Daily Demand	82
Max Hour Demand	319
Max Daily Demand [MDD]	208
MDD + Fire Building CH	2,458
MDD + Fire Building 1	1,908
MDD + Fire Building 2	1,908
MDD + Fire Building 3	1,908
MDD + Fire Building 4	1,908
MDD + Fire Building 5	1,908
MDD + Fire Building 6	1,908
MDD + Fire Building 7	2,634
MDD + Fire Building 8	1,908
MDD + Fire Building 9	2,634
MDD + Fire Building 10	1,908
MDD + Fire Building 11	1,908
MDD + Fire Building 12	1,908
MDD + Fire Building 13	1,908

D. FIRE HYDRANT TEST RESULTS

A fire hydrant was tested just south of the Site. The results were used in the water model discussed above. A copy of the results can be found in Appendix B

VI. CALCULATED WASTEWATER FLOWS

A. Average Daily Flows

Average Daily Flows (ADF) for wastewater were calculated per the Town of Erie Public Works Standards and Specifications Section 700 – Sanitary Sewer Facilities. A flow of 189 gallons/unit/day was utilized for the multi-family units. This information is based off multi-family buildings with similar occupancy.

Peak Daily Flows were determined by multiplying the Average Daily Flow by the Peaking Factor (PF). The Peaking Factor is calculated using the following equation:

$$PF = 3.8/(ADF)^{0.17}$$

The Peaking Factor shall not be less than 2.5 or greater than 5 per Town of Erie criteria.

The Design Flow rate is calculated by multiplying the Average Design Flows with the Peaking Factor. The sanitary sewers must convey the peak flow at a maximum flow depth of 80% of the pipe diameter.

The Peak Design Flow rate has been calculated to be 274,050 gpd or 0.42 cfs.

Average Design Flows and Peak Design Flows for the development are as follows:

Sanitary Flow Calculations

Multi-Family Area		
	290	Units
	2.1	Capita/Unit
	189	Gal/Unit/Day
Average Day	54,810	Gal/Day
	0.08	cfs
	5	Peaking Factor
Max Flow Rate	274,050	Gal/Day
	0.42	cfs

VII. EXISTING WASTEWATER SYSTEM

A. Existing Collection System

An existing 8” sanitary main is located on the north side of the site in the road that will be connecting to Arapahoe Road. As a part of the commercial and master development, the commercial development is building

VIII. PROPOSED WASTEWATER SYSTEM

A. Proposed Collection System

The proposed on-site sanitary infrastructure will be designed to accommodate the entire development. Service sizes for the future buildings A, B, C and the Clubhouse are currently 6”. The service size for the carriage unit building type is 4”.

The sanitary infrastructure will generally flow northeast within the development. A sanitary extension will connect the multi-family flows to the existing 8” sewer main located adjacent Arapahoe Road and the private roadway connecting to Arapahoe Road.

B. Proposed Wastewater Facilities

No new wastewater facilities will be constructed as part of this development.

IX. PROPOSED WASTEWATER SYSTEM ANALYSIS AND MODELING

Because the total wastewater loading from the Site is less than that anticipated in the Master Report, no modeling is necessary.

X. FUTURE DEVELOPMENT REQUIREMENTS

Future development of water and/or sanitary infrastructure and service stubs have been incorporated within the design.

XI. REFERENCES

- Town of Erie Public Works Standards and Specifications Section 600 – Water Facilities
- Town of Erie Public Works Standards and Specifications Section 700 – Sanitary Sewer Facilities

Appendix A – Water Demands

BLDG	Total Sq Ft	Count	Construction Type	Stories	Calculated Fire Flow (Table B105.1) (GPM)	W/50% Reduction (Min 1,500)	Min Hydrants	Average Spacing	Max Spacing	Hose Pull	Number of Hydrants Used	Fire Flow to Each Hydrant (GPM)
Clubhouse	6,350	1	V-B	1	2,250	No Reduction	2	500	300	250	2	1,125
Carriage	3,753	4	V-B	2	1,750	1,500	1	500	300	250	1	1,500
18-Plex	18,388	2	V-A	3	2,500	1,500	1	500	300	250	1	1,500
28-Plex	27,751	5	V-A	2	3,000	1,500	1	500	300	250	1	1,500
51-Plex	57,383	2	V-A	4	4,250	2,125	2	450	300	225	2	1,063

BUILDING	Type	TOTAL BUILDING SQUARE FOOTAGE	CONSTRUCTION TYPE	NUMBER OF STORIES	SPRINKLED	CALCULATED FIRE FLOW (IFC TABLE B105.1) (GPM)	CALCULATED FIRE FLOW W/ 50% REDUCTION (IFC SECTION B105) (GPM)	MINIMUM NUMBER OF HYDRANTS (IFC TABLE C105.1)	NUMBER OF HYDRANTS USED	FIRE FLOW TO EACH HYDRANT (GPM)
Building 1	28-Plex	27,751	V-A	2	Yes	3,000	1,500	1	2	750
Building 2	28-Plex	27,751	V-A	2	Yes	3,000	1,500	1	2	750
Building 3	28-Plex	27,751	V-A	2	Yes	3,000	1,500	1	2	750
Building 4	18-Plex	18,388	V-A	3	Yes	2,500	1,500	1	1	1500
Building 5	18-Plex	18,388	V-A	3	Yes	2,500	1,500	1	1	1500
Building 6	Carriage	3,753	V-B	2	Yes	1,750	1,500	1	1	1500
Building 7	51-Plex	57,383	V-A	4	Yes	4,250	2,125	2	2	1063
Building 8	Carriage	3,753	V-B	2	Yes	1,750	1,500	1	1	1500
Building 9	Carriage	3,753	V-B	2	Yes	1,750	1,500	1	1	1500
Building 10	51-Plex	57,383	V-A	4	Yes	4,250	2,125	2	2	1063
Building 11	28-Plex	27,751	V-A	2	Yes	3,000	1,500	1	1	1500
Building 12	28-Plex	27,751	V-A	2	Yes	3,000	1,500	1	1	1500
Building 13	Carriage	3,753	V-B	2	Yes	1,750	1,500	1	1	1500
Clubhouse	Clubhouse	6,350	V-B	1	No	2,250	N/A	2	2	1125

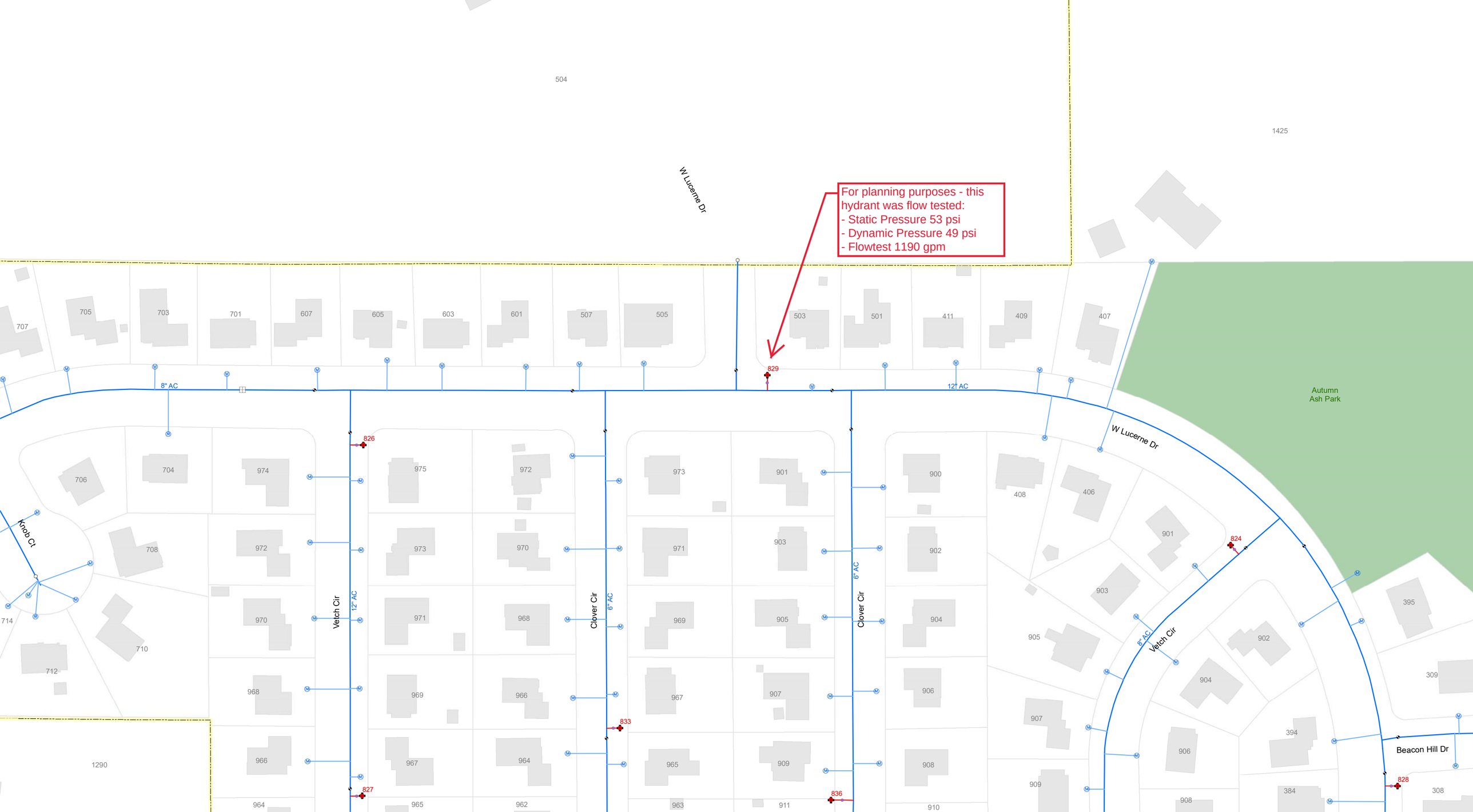
- unknown quantities (from previous iteration of calcs in 2017)

Lot/Parcel	Land Use	Area (acre)	Units	Persons/Unit	ADF/Unit* Gal/Unit/Day	ADF (gpd)	Max Hour Factor** (MHD)	MHD (gpm)	Max Daily Factor*** (MDD)	MDD (gpm)
Block 2	Multi-Family	12.54	290	2.89	140	117334	3.9	318	2.6	212

BUILDING TYPE	# OF UNITS	SPRINKLER FIRE FLOWS (GPM)	AVG DAILY DEMAND (GPD)	AVG DAILY DEMAND (GPM)	MAX DAILY DEMAND (GPM)	MAX HOUR DEMAND (GPM)
51-PLEX	51	300	20634.6	14.33	37.26	55.89
28-PLEX	28	200	11328.8	7.87	20.45	30.68
18-PLEX	18	200	7282.8	5.06	13.15	19.72
CARRIAGE	3	200	1213.8	0.84	2.19	3.29

** MAX DAY/AVG DAY 2.6
*** MAX HR./FLOW RATIO 3.9

Appendix B – Water Hydraulic Analysis & Modeling & Fire Hydrant Test Results


For planning purposes - this hydrant was flow tested:
- Static Pressure 53 psi
- Dynamic Pressure 49 psi
- Flowtest 1190 gpm
W Lucerne Dr
Autumn Ash Park
Knob Ct
Vetch Cir
Clover Cir
Beacon Hill Dr
8" AC
12" AC
6" AC
826
827
829
833
836
824
828
504
1425
1290
705
703
701
607
605
603
601
507
505
503
501
411
409
407
707
706
704
974
975
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964
965
962
963
911
910
909
1290
394
906
384
908
308
902
904
309
395

Scenario: Avg Day
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	8	66
1Fire	5,251.80	0	66
2Dom	5,248.40	8	68
2Fire	5,248.00	0	68
3Dom	5,251.10	8	66
3Fire	5,251.50	0	66
4Dom	5,255.80	5	64
4Fire	5,255.80	0	64
5Dom	5,254.60	5	65
5Fire	5,254.70	0	65
6Dom	5,254.80	1	65
6Fire	5,254.80	0	65
7Dom	5,255.60	14	64
7Fire	5,255.70	0	64
8Dom	5,256.40	1	64
8Fire	5,256.40	0	64
9Dom	5,257.50	1	64
9Fire	5,257.60	0	64
10Dom	5,258.70	14	63
10Fire	5,258.60	0	63
11Dom	5,261.40	8	62
11Fire	5,261.10	0	62
12Dom	5,258.00	8	63
12Fire	5,258.60	0	63
13Dom	5,258.80	1	63
13Fire	5,258.90	0	63
CHDOM	5,252.30	0	66
H1	5,248.80	0	67
H2	5,251.00	0	66
H3	5,254.90	0	65
H4	5,256.70	0	64
H5	5,258.10	0	63
H6	5,261.60	0	62
H7	5,257.60	0	64
H8	5,255.70	0	64
H9	5,251.30	0	66
Tee1	5,250.10	0	67
Tee2	5,250.20	0	67
Tee3	5,252.60	0	66
Tee4	5,254.30	0	65

Total: 82

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Scenario: Max Day
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	66
1Fire	5,251.80	0	66
2Dom	5,248.40	20	67
2Fire	5,248.00	0	68
3Dom	5,251.10	20	66
3Fire	5,251.50	0	66
4Dom	5,255.80	13	64
4Fire	5,255.80	0	64
5Dom	5,254.60	13	65
5Fire	5,254.70	0	65
6Dom	5,254.80	2	65
6Fire	5,254.80	0	65
7Dom	5,255.60	37	64
7Fire	5,255.70	0	64
8Dom	5,256.40	2	64
8Fire	5,256.40	0	64
9Dom	5,257.50	2	63
9Fire	5,257.60	0	63
10Dom	5,258.70	37	63
10Fire	5,258.60	0	63
11Dom	5,261.40	20	62
11Fire	5,261.10	0	62
12Dom	5,258.00	20	63
12Fire	5,258.60	0	63
13Dom	5,258.80	2	63
13Fire	5,258.90	0	63
CHDOM	5,252.30	0	66
H1	5,248.80	0	67
H2	5,251.00	0	66
H3	5,254.90	0	65
H4	5,256.70	0	64
H5	5,258.10	0	63
H6	5,261.60	0	62
H7	5,257.60	0	63
H8	5,255.70	0	64
H9	5,251.30	0	66
Tee1	5,250.10	0	67
Tee2	5,250.20	0	67
Tee3	5,252.60	0	66
Tee4	5,254.30	0	65
		Total: 208	

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Scenario: Max Hour
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	31	66
1Fire	5,251.80	0	66
2Dom	5,248.40	31	67
2Fire	5,248.00	0	68
3Dom	5,251.10	31	66
3Fire	5,251.50	0	66
4Dom	5,255.80	20	64
4Fire	5,255.80	0	64
5Dom	5,254.60	20	65
5Fire	5,254.70	0	65
6Dom	5,254.80	3	65
6Fire	5,254.80	0	65
7Dom	5,255.60	56	64
7Fire	5,255.70	0	64
8Dom	5,256.40	3	64
8Fire	5,256.40	0	64
9Dom	5,257.50	3	63
9Fire	5,257.60	0	63
10Dom	5,258.70	56	63
10Fire	5,258.60	0	63
11Dom	5,261.40	31	62
11Fire	5,261.10	0	62
12Dom	5,258.00	31	63
12Fire	5,258.60	0	63
13Dom	5,258.80	3	63
13Fire	5,258.90	0	63
CHDOM	5,252.30	0	66
H1	5,248.80	0	67
H2	5,251.00	0	66
H3	5,254.90	0	65
H4	5,256.70	0	64
H5	5,258.10	0	63
H6	5,261.60	0	62
H7	5,257.60	0	63
H8	5,255.70	0	64
H9	5,251.30	0	66
Tee1	5,250.10	0	67
Tee2	5,250.20	0	67
Tee3	5,252.60	0	66
Tee4	5,254.30	0	65

Total: 319

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Scenario: 1Fire H9
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	63
1Fire	5,251.80	200	63
2Dom	5,248.40	20	65
2Fire	5,248.00	0	66
3Dom	5,251.10	20	64
3Fire	5,251.50	0	64
4Dom	5,255.80	13	63
4Fire	5,255.80	0	63
5Dom	5,254.60	13	62
5Fire	5,254.70	0	62
6Dom	5,254.80	2	62
6Fire	5,254.80	0	62
7Dom	5,255.60	37	62
7Fire	5,255.70	0	62
8Dom	5,256.40	2	62
8Fire	5,256.40	0	62
9Dom	5,257.50	2	61
9Fire	5,257.60	0	61
10Dom	5,258.70	37	61
10Fire	5,258.60	0	61
11Dom	5,261.40	20	60
11Fire	5,261.10	0	60
12Dom	5,258.00	20	61
12Fire	5,258.60	0	61
13Dom	5,258.80	2	61
13Fire	5,258.90	0	61
CHDOM	5,252.30	0	63
H1	5,248.80	0	65
H2	5,251.00	0	64
H3	5,254.90	0	62
H4	5,256.70	0	62
H5	5,258.10	0	61
H6	5,261.60	0	60
H7	5,257.60	0	62
H8	5,255.70	0	63
H9	5,251.30	1,500	63
Tee1	5,250.10	0	65
Tee2	5,250.20	0	64
Tee3	5,252.60	0	63
Tee4	5,254.30	0	63
		TOTAL 1,908	

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Scenario: 2Fire H1
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	62
2Fire	5,248.00	200	63
3Dom	5,251.10	20	63
3Fire	5,251.50	0	63
4Dom	5,255.80	13	63
4Fire	5,255.80	0	63
5Dom	5,254.60	13	62
5Fire	5,254.70	0	62
6Dom	5,254.80	2	62
6Fire	5,254.80	0	62
7Dom	5,255.60	37	62
7Fire	5,255.70	0	61
8Dom	5,256.40	2	61
8Fire	5,256.40	0	61
9Dom	5,257.50	2	61
9Fire	5,257.60	0	61
10Dom	5,258.70	37	61
10Fire	5,258.60	0	61
11Dom	5,261.40	20	60
11Fire	5,261.10	0	60
12Dom	5,258.00	20	61
12Fire	5,258.60	0	61
13Dom	5,258.80	2	60
13Fire	5,258.90	0	60
CHDOM	5,252.30	0	64
H1	5,248.80	1,500	62
H2	5,251.00	0	63
H3	5,254.90	0	62
H4	5,256.70	0	61
H5	5,258.10	0	61
H6	5,261.60	0	60
H7	5,257.60	0	62
H8	5,255.70	0	63
H9	5,251.30	0	64
Tee1	5,250.10	0	64
Tee2	5,250.20	0	64
Tee3	5,252.60	0	63
Tee4	5,254.30	0	64
		TOTAL 1,908	

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Scenario: 3Fire H2
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	64
2Fire	5,248.00	0	63
3Dom	5,251.10	20	59
3Fire	5,251.50	200	59
4Dom	5,255.80	13	63
4Fire	5,255.80	0	63
5Dom	5,254.60	13	61
5Fire	5,254.70	0	60
6Dom	5,254.80	2	60
6Fire	5,254.80	0	60
7Dom	5,255.60	37	60
7Fire	5,255.70	0	60
8Dom	5,256.40	2	60
8Fire	5,256.40	0	60
9Dom	5,257.50	2	60
9Fire	5,257.60	0	60
10Dom	5,258.70	37	61
10Fire	5,258.60	0	61
11Dom	5,261.40	20	59
11Fire	5,261.10	0	59
12Dom	5,258.00	20	60
12Fire	5,258.60	0	59
13Dom	5,258.80	2	59
13Fire	5,258.90	0	59
CHDOM	5,252.30	0	64
H1	5,248.80	0	64
H2	5,251.00	1,500	58
H3	5,254.90	0	60
H4	5,256.70	0	60
H5	5,258.10	0	60
H6	5,261.60	0	59
H7	5,257.60	0	61
H8	5,255.70	0	63
H9	5,251.30	0	64
Tee1	5,250.10	0	64
Tee2	5,250.20	0	64
Tee3	5,252.60	0	61
Tee4	5,254.30	0	64
		TOTAL 1,908	

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Scenario: 4Fire H8
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	66
2Fire	5,248.00	0	66
3Dom	5,251.10	20	64
3Fire	5,251.50	200	64
4Dom	5,255.80	13	58
4Fire	5,255.80	0	58
5Dom	5,254.60	13	62
5Fire	5,254.70	0	62
6Dom	5,254.80	2	62
6Fire	5,254.80	0	62
7Dom	5,255.60	37	61
7Fire	5,255.70	0	61
8Dom	5,256.40	2	61
8Fire	5,256.40	0	61
9Dom	5,257.50	2	60
9Fire	5,257.60	0	60
10Dom	5,258.70	37	58
10Fire	5,258.60	0	58
11Dom	5,261.40	20	57
11Fire	5,261.10	0	57
12Dom	5,258.00	20	60
12Fire	5,258.60	0	59
13Dom	5,258.80	2	59
13Fire	5,258.90	0	59
CHDOM	5,252.30	0	64
H1	5,248.80	0	66
H2	5,251.00	0	64
H3	5,254.90	0	62
H4	5,256.70	0	60
H5	5,258.10	0	59
H6	5,261.60	0	57
H7	5,257.60	0	58
H8	5,255.70	1,500	58
H9	5,251.30	0	64
Tee1	5,250.10	0	65
Tee2	5,250.20	0	65
Tee3	5,252.60	0	63
Tee4	5,254.30	0	63
		TOTAL 1,908	

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Scenario: 5Fire H3
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	65
2Fire	5,248.00	0	65
3Dom	5,251.10	20	62
3Fire	5,251.50	0	62
4Dom	5,255.80	13	61
4Fire	5,255.80	0	62
5Dom	5,254.60	13	57
5Fire	5,254.70	200	56
6Dom	5,254.80	2	56
6Fire	5,254.80	0	55
7Dom	5,255.60	37	54
7Fire	5,255.70	0	54
8Dom	5,256.40	2	54
8Fire	5,256.40	0	54
9Dom	5,257.50	2	54
9Fire	5,257.60	0	55
10Dom	5,258.70	37	58
10Fire	5,258.60	0	58
11Dom	5,261.40	20	56
11Fire	5,261.10	0	56
12Dom	5,258.00	20	55
12Fire	5,258.60	0	55
13Dom	5,258.80	2	55
13Fire	5,258.90	0	55
CHDOM	5,252.30	0	64
H1	5,248.80	0	65
H2	5,251.00	0	62
H3	5,254.90	1,500	54
H4	5,256.70	0	55
H5	5,258.10	0	55
H6	5,261.60	0	56
H7	5,257.60	0	60
H8	5,255.70	0	62
H9	5,251.30	0	64
Tee1	5,250.10	0	65
Tee2	5,250.20	0	64
Tee3	5,252.60	0	61
Tee4	5,254.30	0	64
		TOTAL 1,908	

P:\160602\Documents\Utilities\Water\WaterCAD\2nd submittal\Outlook Erie 2nd-pipe-addition.wtg

Scenario: 6Fire H3
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	65
2Fire	5,248.00	0	65
3Dom	5,251.10	20	62
3Fire	5,251.50	0	62
4Dom	5,255.80	13	61
4Fire	5,255.80	0	62
5Dom	5,254.60	13	57
5Fire	5,254.70	0	56
6Dom	5,254.80	2	56
6Fire	5,254.80	200	55
7Dom	5,255.60	37	54
7Fire	5,255.70	0	54
8Dom	5,256.40	2	54
8Fire	5,256.40	0	54
9Dom	5,257.50	2	54
9Fire	5,257.60	0	54
10Dom	5,258.70	37	58
10Fire	5,258.60	0	58
11Dom	5,261.40	20	56
11Fire	5,261.10	0	56
12Dom	5,258.00	20	54
12Fire	5,258.60	0	55
13Dom	5,258.80	2	55
13Fire	5,258.90	0	55
CHDOM	5,252.30	0	64
H1	5,248.80	0	65
H2	5,251.00	0	63
H3	5,254.90	1,500	54
H4	5,256.70	0	54
H5	5,258.10	0	55
H6	5,261.60	0	56
H7	5,257.60	0	59
H8	5,255.70	0	62
H9	5,251.30	0	64
Tee1	5,250.10	0	65
Tee2	5,250.20	0	64
Tee3	5,252.60	0	61
Tee4	5,254.30	0	63
		TOTAL 1,908	

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Scenario: 7Fire H4 & H7
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	63
1Fire	5,251.80	0	63
2Dom	5,248.40	20	64
2Fire	5,248.00	0	64
3Dom	5,251.10	20	61
3Fire	5,251.50	0	61
4Dom	5,255.80	13	54
4Fire	5,255.80	0	55
5Dom	5,254.60	13	56
5Fire	5,254.70	0	55
6Dom	5,254.80	2	55
6Fire	5,254.80	0	54
7Dom	5,255.60	37	51
7Fire	5,255.70	300	50
8Dom	5,256.40	2	49
8Fire	5,256.40	0	49
9Dom	5,257.50	2	48
9Fire	5,257.60	0	48
10Dom	5,258.70	37	48
10Fire	5,258.60	0	48
11Dom	5,261.40	20	46
11Fire	5,261.10	0	46
12Dom	5,258.00	20	47
12Fire	5,258.60	0	47
13Dom	5,258.80	2	47
13Fire	5,258.90	0	47
CHDOM	5,252.30	0	62
H1	5,248.80	0	64
H2	5,251.00	0	61
H3	5,254.90	0	53
H4	5,256.70	1,063	48
H5	5,258.10	0	47
H6	5,261.60	0	46
H7	5,257.60	1,063	48
H8	5,255.70	0	56
H9	5,251.30	0	63
Tee1	5,250.10	0	64
Tee2	5,250.20	0	63
Tee3	5,252.60	0	60
Tee4	5,254.30	0	62
		TOTAL: 2634	

P:\160602\Documents\Utilities\Water\WaterCAD\2nd submittal\Outlook Erie 2nd-pipe-addition.wtg

Scenario: 8Fire H3
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	65
2Fire	5,248.00	0	65
3Dom	5,251.10	20	62
3Fire	5,251.50	0	62
4Dom	5,255.80	13	61
4Fire	5,255.80	0	62
5Dom	5,254.60	13	57
5Fire	5,254.70	0	56
6Dom	5,254.80	2	56
6Fire	5,254.80	0	55
7Dom	5,255.60	37	54
7Fire	5,255.70	0	54
8Dom	5,256.40	2	54
8Fire	5,256.40	200	54
9Dom	5,257.50	2	54
9Fire	5,257.60	0	54
10Dom	5,258.70	37	58
10Fire	5,258.60	0	58
11Dom	5,261.40	20	55
11Fire	5,261.10	0	56
12Dom	5,258.00	20	54
12Fire	5,258.60	0	54
13Dom	5,258.80	2	54
13Fire	5,258.90	0	54
CHDOM	5,252.30	0	64
H1	5,248.80	0	65
H2	5,251.00	0	63
H3	5,254.90	1,500	54
H4	5,256.70	0	54
H5	5,258.10	0	54
H6	5,261.60	0	55
H7	5,257.60	0	59
H8	5,255.70	0	62
H9	5,251.30	0	64
Tee1	5,250.10	0	65
Tee2	5,250.20	0	64
Tee3	5,252.60	0	61
Tee4	5,254.30	0	63
		TOTAL 1,908	

P:\160602\Documents\Utilities\Water\WaterCAD\2nd submittal\Outlook Erie 2nd-pipe-addition.wtg

Scenario: 8Fire H4
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	65
2Fire	5,248.00	0	65
3Dom	5,251.10	20	63
3Fire	5,251.50	0	63
4Dom	5,255.80	13	61
4Fire	5,255.80	0	61
5Dom	5,254.60	13	58
5Fire	5,254.70	0	57
6Dom	5,254.80	2	57
6Fire	5,254.80	0	56
7Dom	5,255.60	37	54
7Fire	5,255.70	0	53
8Dom	5,256.40	2	52
8Fire	5,256.40	200	51
9Dom	5,257.50	2	51
9Fire	5,257.60	0	51
10Dom	5,258.70	37	57
10Fire	5,258.60	0	57
11Dom	5,261.40	20	54
11Fire	5,261.10	0	54
12Dom	5,258.00	20	51
12Fire	5,258.60	0	51
13Dom	5,258.80	2	51
13Fire	5,258.90	0	52
CHDOM	5,252.30	0	64
H1	5,248.80	0	65
H2	5,251.00	0	63
H3	5,254.90	0	56
H4	5,256.70	1,500	51
H5	5,258.10	0	51
H6	5,261.60	0	53
H7	5,257.60	0	58
H8	5,255.70	0	61
H9	5,251.30	0	64
Tee1	5,250.10	0	65
Tee2	5,250.20	0	65
Tee3	5,252.60	0	62
Tee4	5,254.30	0	63
		TOTAL 1,908	

P:\160602\Documents\Utilities\Water\WaterCAD\2nd submittal\Outlook Erie 2nd-pipe-addition.wtg

Scenario: 9Fire H4
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	65
2Fire	5,248.00	0	65
3Dom	5,251.10	20	63
3Fire	5,251.50	0	63
4Dom	5,255.80	13	61
4Fire	5,255.80	0	61
5Dom	5,254.60	13	58
5Fire	5,254.70	0	57
6Dom	5,254.80	2	57
6Fire	5,254.80	0	56
7Dom	5,255.60	37	54
7Fire	5,255.70	0	53
8Dom	5,256.40	2	52
8Fire	5,256.40	0	52
9Dom	5,257.50	2	50
9Fire	5,257.60	200	50
10Dom	5,258.70	37	56
10Fire	5,258.60	0	57
11Dom	5,261.40	20	53
11Fire	5,261.10	0	54
12Dom	5,258.00	20	50
12Fire	5,258.60	0	51
13Dom	5,258.80	2	51
13Fire	5,258.90	0	51
CHDOM	5,252.30	0	64
H1	5,248.80	0	65
H2	5,251.00	0	63
H3	5,254.90	0	56
H4	5,256.70	1,500	50
H5	5,258.10	0	51
H6	5,261.60	0	53
H7	5,257.60	0	58
H8	5,255.70	0	61
H9	5,251.30	0	64
Tee1	5,250.10	0	65
Tee2	5,250.20	0	65
Tee3	5,252.60	0	62
Tee4	5,254.30	0	63
		TOTAL 1,908	

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Scenario: 10Fire H4 & H7
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	63
1Fire	5,251.80	0	63
2Dom	5,248.40	20	64
2Fire	5,248.00	0	64
3Dom	5,251.10	20	62
3Fire	5,251.50	0	61
4Dom	5,255.80	13	54
4Fire	5,255.80	0	55
5Dom	5,254.60	13	56
5Fire	5,254.70	0	55
6Dom	5,254.80	2	55
6Fire	5,254.80	0	54
7Dom	5,255.60	37	52
7Fire	5,255.70	0	51
8Dom	5,256.40	2	50
8Fire	5,256.40	0	49
9Dom	5,257.50	2	47
9Fire	5,257.60	0	47
10Dom	5,258.70	37	47
10Fire	5,258.60	300	47
11Dom	5,261.40	20	45
11Fire	5,261.10	0	46
12Dom	5,258.00	20	47
12Fire	5,258.60	0	47
13Dom	5,258.80	2	47
13Fire	5,258.90	0	47
CHDOM	5,252.30	0	62
H1	5,248.80	0	64
H2	5,251.00	0	62
H3	5,254.90	0	54
H4	5,256.70	1,063	48
H5	5,258.10	0	47
H6	5,261.60	0	45
H7	5,257.60	1,063	47
H8	5,255.70	0	56
H9	5,251.30	0	63
Tee1	5,250.10	0	64
Tee2	5,250.20	0	63
Tee3	5,252.60	0	60
Tee4	5,254.30	0	62
		TOTAL 2634	

P:\160602\Documents\Utilities\Water\WaterCAD\2nd submittal\Outlook Erie 2nd-pipe-addition.wtg

Scenario: 11Fire H6
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	66
2Fire	5,248.00	0	66
3Dom	5,251.10	20	64
3Fire	5,251.50	0	64
4Dom	5,255.80	13	58
4Fire	5,255.80	0	59
5Dom	5,254.60	13	60
5Fire	5,254.70	0	60
6Dom	5,254.80	2	60
6Fire	5,254.80	0	59
7Dom	5,255.60	37	58
7Fire	5,255.70	0	58
8Dom	5,256.40	2	57
8Fire	5,256.40	0	56
9Dom	5,257.50	2	55
9Fire	5,257.60	0	54
10Dom	5,258.70	37	51
10Fire	5,258.60	0	52
11Dom	5,261.40	20	47
11Fire	5,261.10	200	47
12Dom	5,258.00	20	54
12Fire	5,258.60	0	52
13Dom	5,258.80	2	52
13Fire	5,258.90	0	52
CHDOM	5,252.30	0	64
H1	5,248.80	0	66
H2	5,251.00	0	64
H3	5,254.90	0	59
H4	5,256.70	0	56
H5	5,258.10	0	53
H6	5,261.60	1,500	47
H7	5,257.60	0	54
H8	5,255.70	0	60
H9	5,251.30	0	64
Tee1	5,250.10	0	65
Tee2	5,250.20	0	65
Tee3	5,252.60	0	63
Tee4	5,254.30	0	63
		TOTAL 1,908	

P:\160602\Documents\Utilities\Water\WaterCAD\2nd submittal\Outlook Erie 2nd-pipe-addition.wtg

Scenario: 12Fire H5
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	65
2Fire	5,248.00	0	65
3Dom	5,251.10	20	63
3Fire	5,251.50	0	63
4Dom	5,255.80	13	60
4Fire	5,255.80	0	60
5Dom	5,254.60	13	59
5Fire	5,254.70	0	58
6Dom	5,254.80	2	58
6Fire	5,254.80	0	57
7Dom	5,255.60	37	55
7Fire	5,255.70	0	55
8Dom	5,256.40	2	53
8Fire	5,256.40	0	53
9Dom	5,257.50	2	50
9Fire	5,257.60	0	50
10Dom	5,258.70	37	55
10Fire	5,258.60	0	56
11Dom	5,261.40	20	52
11Fire	5,261.10	0	52
12Dom	5,258.00	20	49
12Fire	5,258.60	200	49
13Dom	5,258.80	2	49
13Fire	5,258.90	0	49
CHDOM	5,252.30	0	64
H1	5,248.80	0	65
H2	5,251.00	0	63
H3	5,254.90	0	57
H4	5,256.70	0	52
H5	5,258.10	1,500	49
H6	5,261.60	0	51
H7	5,257.60	0	57
H8	5,255.70	0	61
H9	5,251.30	0	64
Tee1	5,250.10	0	65
Tee2	5,250.20	0	65
Tee3	5,252.60	0	62
Tee4	5,254.30	0	63
		TOTAL 1,908	

P:\160602\Documents\Utilities\Water\WaterCAD\2nd submittal\Outlook Erie 2nd-pipe-addition.wtg

Scenario: 13Fire H5
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	64
1Fire	5,251.80	0	64
2Dom	5,248.40	20	65
2Fire	5,248.00	0	65
3Dom	5,251.10	20	63
3Fire	5,251.50	0	63
4Dom	5,255.80	13	60
4Fire	5,255.80	0	60
5Dom	5,254.60	13	59
5Fire	5,254.70	0	58
6Dom	5,254.80	2	58
6Fire	5,254.80	0	57
7Dom	5,255.60	37	55
7Fire	5,255.70	0	55
8Dom	5,256.40	2	54
8Fire	5,256.40	0	53
9Dom	5,257.50	2	51
9Fire	5,257.60	0	50
10Dom	5,258.70	37	55
10Fire	5,258.60	0	56
11Dom	5,261.40	20	52
11Fire	5,261.10	0	52
12Dom	5,258.00	20	49
12Fire	5,258.60	0	49
13Dom	5,258.80	2	49
13Fire	5,258.90	200	49
CHDOM	5,252.30	0	64
H1	5,248.80	0	65
H2	5,251.00	0	63
H3	5,254.90	0	57
H4	5,256.70	0	52
H5	5,258.10	1,500	49
H6	5,261.60	0	51
H7	5,257.60	0	57
H8	5,255.70	0	61
H9	5,251.30	0	64
Tee1	5,250.10	0	65
Tee2	5,250.20	0	65
Tee3	5,252.60	0	62
Tee4	5,254.30	0	63
		TOTAL 1,908	

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Scenario: CH H8 & H9
Current Time Step: 0.000Hr
FlexTable: Junction Table

Label	Elevation (ft)	Demand (gpm)	Pressure (psi)
1Dom	5,251.50	20	62
1Fire	5,251.80	0	62
2Dom	5,248.40	20	65
2Fire	5,248.00	0	65
3Dom	5,251.10	20	63
3Fire	5,251.50	0	63
4Dom	5,255.80	13	59
4Fire	5,255.80	0	59
5Dom	5,254.60	13	61
5Fire	5,254.70	0	61
6Dom	5,254.80	2	61
6Fire	5,254.80	0	61
7Dom	5,255.60	37	61
7Fire	5,255.70	0	60
8Dom	5,256.40	2	60
8Fire	5,256.40	0	60
9Dom	5,257.50	2	59
9Fire	5,257.60	0	59
10Dom	5,258.70	37	58
10Fire	5,258.60	0	58
11Dom	5,261.40	20	57
11Fire	5,261.10	0	57
12Dom	5,258.00	20	59
12Fire	5,258.60	0	59
13Dom	5,258.80	2	59
13Fire	5,258.90	0	59
CHDOM	5,252.30	0	62
H1	5,248.80	0	65
H2	5,251.00	0	63
H3	5,254.90	0	61
H4	5,256.70	0	60
H5	5,258.10	0	59
H6	5,261.60	0	57
H7	5,257.60	0	58
H8	5,255.70	1,125	59
H9	5,251.30	1,125	62
Tee1	5,250.10	0	64
Tee2	5,250.20	0	63
Tee3	5,252.60	0	62
Tee4	5,254.30	0	62
		TOTAL 2,458	

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Appendix C – Wastewater Flow Calculations

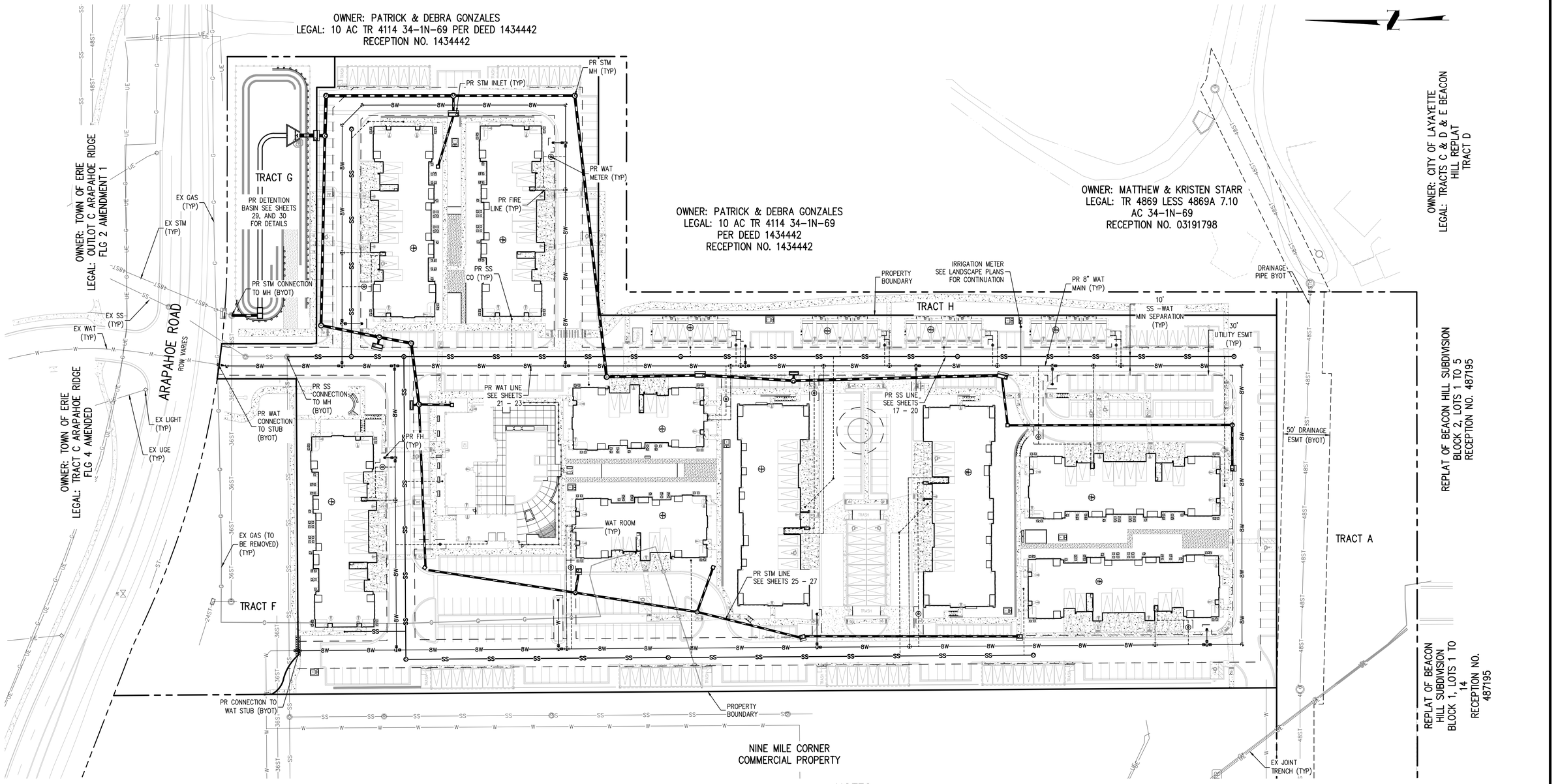
HARRIS KOCHER SMITH
DENVER • DALLAS/FORT WORTH

Outlook Nine Mile
Nov. 8, 2019

Sanitary Sewer Peak Flow									
	Units	Capita/Unit	Gal/Capita/Day	Gal/Unit/Day	Average Day (Gal/Day)	Average Day (cfs)	Peaking Factor	Max Flow Rate (Gal/Day)	Max Flow Rate (cfs)
Multi-Family Area	290	2.1	90	189	54,810	0.08	5	274,050	0.42

Appendix D – Proposed Overall Utility Plan

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



NOTES:

1. OVERALL PLAN DEPICTED IS INTENDED FOR GENERAL REFERENCE OF PROJECT DEVELOPMENT.
2. SEE APPROVED SANITARY PLAN SHEETS FOR DETAILS REGARDING SANITARY IMPROVEMENTS.
3. SEE APPROVED WATER PLAN SHEETS FOR DETAILS REGARDING WATER IMPROVEMENTS.
4. SEE APPROVED STORM SEWER PLAN SHEETS FOR DETAILS REGARDING STORM IMPROVEMENTS.
5. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE VERTICAL/HORIZONTAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOLLOWING NOTIFICATION:
   a. UTILITY NOTIFICATION CENTER OF COLORADO, 811. CALL THREE (3) BUSINESS DAYS PRIOR TO DIGGING, GRADING OR EXCAVATING FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.
      - LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES, WHETHER SHOWN OR NOT SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS.
      - PROVIDING NOTIFICATION AND RECEIVING MARKING OF UNDERGROUND MEMBER UTILITIES IN NO WAY CONSTITUTES PERMISSION TO PERFORM CONSTRUCTION.

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

50 0 50 100
SCALE: 1" = 50'

DESIGNED BY: TJS
CHECKED BY: MSM
DRAWN BY: TJS

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

Evergreen
Development | Services | Investments

OUTLOOK AT NINE MILE
OVERALL UTILITY PLAN

ISSUE DATE: 11-08-2019 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 16

16 OF 60

FILEPATH: P:\160602\ENGINEERING\UTILITIES\CD - OVERALL UTILITY PLAN.DWG, LAYOUT: OVERALL UTILITY PLAN
8.5 REFs: cd - stamp, cd_evergreen logo, e-base_bw, e-legal_byot[], e-util, p-base, p-legal, p-util
PLOTTED: THU 11/07/19 6:41:57P BY: RACHEL PATTON

November 15, 2019

Town of Erie – Planning Division
Ms. Hannah L. Hippely, AICP
645 Holbrook Street
Erie, CO 80516

Re: Nine Mile Corner PD – Multi Family SitePlan, Pocket Parks and Amenities Provision

Dear Hannah:

Thank you for the time and input you have provided regarding the site plan for the Nine Mile Corner Multi-Family community. We understand the intent of park provision is to "provide opportunities for passive outdoor recreation at a sub-neighborhood scale" for residents of Erie.

The design team believes that the existing site plan meets this core intent, but deviation from standards is the result of the requirement being written to meet the needs of less dense residential neighborhood, such as a more typical single-family detached neighborhood in the Town of Erie. The following excerpts from the code imply their application to single family detached residences, given the requirements that:

> *Pocket parks shall be located within ¼ mile of the residences they are intended to serve… centrally located to the neighborhoods they served…bordered on at least 1 side by public streets…(and) owned and maintained by an HOA or metropolitan district.* (10.6.3.B.4.a.i.)

Specifically, the provision that they be within ¼ mile of residences indicates that they are to serve as supplement to, rather than primarily as residents' outdoor space. Given the nature of multi-family developments, the project team has designed the pocket parks to serve as primary outdoor space (or backyard equivalent) within close proximity to residents. The applicant believes that provision of multiple smaller areas provides the amenities that people want without the impersonality of a single large space shared with fellow residents.

Please see the breakdown of provided pocket park amenities below.

List A—Infrastructure (all required)			
Requirement	**Proposed**	**Notes**	**Locations in Landscape Plan**
Benches (2 min.)	15 Benches		Near buildings 3, 5, 11
Bike Racks (4 bikes min.)	16 Racks / 32 Bike Spaces		Near buildings 1, 5, 11, and clubhouse
Dog pick up station (1)	6 stations		Near buildings 1, 3, 5, 11
Individual shelter with 2 picnic tables	1 shelter / 2 picnic tables		Between buildings 2 and 3
Identification Sign	N/A	Property owners will maintain full site, no need to identification of park maintainers.	

Irrigation	All landscape will be irrigated		Throughout site
Open turf areas (min. 3,000 sf, max. 15,000 sf)	3 open lawns totaling 4,425 sf		
Sidewalks (ADA accessible)	Accessible route provided throughout site		Throughout site
Trash Receptacles (2 min.)	6 receptacles		Near buildings 3, 5, 11, mail room and clubhouse
Plant Materials Five (5) deciduous trees. Three (3) ornamental trees. Two (2) evergreen trees. Twenty (20) shrubs. Twenty-four (24) perennials. Three (3) ornamental grasses.	19 deciduous 18 ornamental 18 coniferous 228 shrubs 35 perennials 170 grasses	All required plant material listed is exceeded within the courtyard areas and does not include additional plant material in the display garden.	In courtyard areas

List B—Pre-Selected Components (select 2)			
Requirement	**Proposed**	**Notes**	**Locations in Landscape Plan**
Display Garden	Provided		Between pool and buildings 4 and 5
Group picnic shelter (min. size 500 sf and four tables in place of individual shelter in List A).			
Loop walk (min. length 2,000 sf).			
Natural area (min. size 10,000 sf).	26,000 sf provided within the trail corridor		Northern perimeter of site
Multi-level play structure.			

List C—Components of Choice (select 3)			
Requirement	**Proposed**	**Notes**	**Locations in Landscape Plan**
Loop walk (min. length 2,000 sf).			
Natural area (min. size 10,000 sf).	26,000 sf provided within the trail corridor		Northern perimeter of site
Multi-level play structure.			
Individual shelters with two tables (in addition to shelter in List A)	2 (total) Pergola with benches and grills		Between buildings 2 and 3, 11 and 12
Basketball (one full court).			
Bocce ball.			
Boulder play area or climbing structure.	Boulder play area		Between buildings 10, 11, and 12
Community garden.			

Fitness course.			
Handball.			
Horseshoe pits.	2 pits provided		Between buildings 2 and 3
Open turf sculpted as a play berm, mound or hill with a minimum three-foot height.			
Other play features that include swings, spring toys, sand play, dramatic play, tetherball, tetherball, etc. (at least 3)			
Outdoor classroom to seat 20.			
Public art.			
Shuffleboard.			
Tennis.			
Volleyball.			
Water spray ground.			
Water feature (A passive, water-based amenity such as fountains, ponds, or waterfalls).			
Or equivalent component as approved by Town of Erie.			

List D—Comfort and Convenience Features (select 2)			
Requirement	**Proposed**	**Detail/Justification**	**Locations in Landscape Plan**
BBQ grills (min. one per every two tables).	2 pedestal grills proposed		Between buildings 2 and 3, 11 and 12
Benches (min. two per acre, in addition to benches in List A).	11 lounge & Adirondack chairs proposed		Near buildings 3, 5, 12,
Drinking fountain (may include dog bowl attachment).			
Electricity and lighting to shelter for night use (counted one per item).	All pergolas have post-mounted lighting		Between buildings 2 and 3, 11 and 12
Landscaping (results in double the 'List A' landscaping requirements).			

September 27, 2017

Town of Erie - Community Planning and Development
Mr. Todd Bjerkaas, Senior Planner
645 Holbrook St.
Erie, CO 80516

RE: Nine Mile Corner Site Plan and Minor Subdivision Plat – Third Review Comments
Site Plan Case No: SP-000832-2016
Minor Subdivision Plat Case No: MS-000884-2017

Dear Mr. Bjerkaas,

Enclosed herein are the completeness review comments provided to us in regards to our third formal submittal of the Nine Mile Corner Site Plan and Minor Subdivision Plat. These have been addressed and are included with this letter.

We appreciate your timely review and assistance with this Application. Please do not to hesitate to contact me if you have any questions or further information is needed.

Sincerely,
Norris Design

Ryan F. McBreen
Principal

PLANNING DEPARTMENT COMMENTS

Please provide a written response to each of the Town's comments and referral agency responses below with your re-submission. Staff proposes to meet with you and your team to go over these comments prior to any re-submission. The Minor Subdivision and Site Plan resubmittal shall contain:

- A PDF of the resubmittal
- 3 copies – half size sheets of the revised plans (CD, PW, Public) and all response letters to the Town
- 3 copies – full size sheets of the revised plans (CD, PW, P&R)
- USB flash drives for all referral agencies needing additional or revised application materials.
  Response: All of the above are included as a part of this submittal.

Minor Subdivision Plat

1. General Comments
   a. Update the ALTA survey.
      Response: Can the town provide more detail on the nature of this comment? The ALTA will be revised and resubmitted upon discussion around this comment.

   b. Rename the plat to Nine Mile Filing No. 1.
      Response: Plat has been renamed to "Nine Mile Filing No. 1"

   c. Provide a 1" border around the entire sheet per Boulder County Recorder requirements.
      Response: Border has been adjusted to 1".

   d. Per the Nine Mile Corner PD – Development Plan, the High Density Residential Planning Area is +/- 14 acres in size, consistent with the Comprehensive Plan's maximum of 30 percent residential for the Regional Commercial Land Use. The area of the plat outside of ROW dedication is 47.243 acres. The maximum size of the residential lot in the plat is 14.17 acres. The plat (and the multi-family Site Plan) shows the lot as 15.137 acres in size.
      Response: The MF Lot is 14.376 acres, and will be looked at further by the town for acceptance.

   e. Add the following items to the Title Block for each sheet: the project number of MS-000884-2017; the total number of lots and tracts; and the total acreage of the plat.
      Response: Number of Lots and Tracts and total acreage of plat (including ROW acreage) have been added to each sheet.

   f. Change all No. 107th Street labels to Highway 287.
      Response: All 107th Street labels have been removed and replaced with "Highway 287"

g. Provide a separate exhibit that overlays the plat and site plan on top of the PD map.
Response: This exhibit has been prepared and is part of this submittal.

h. Vacate all existing easements encumbering this and future development prior to final plat recordation.
Response: Separate documents vacating existing easements that are not needed will be forthcoming.

i. A cross access agreement shall be recorded prior to final plat recordation.
Response: Understood and Evergreen is working on establishing this agreement.

j. Any required off-site easement agreements (utility and construction) shall be recorded prior to final plat recordation.
Response: Understood. This will be further coordinated with the developer and the Town when final utility and off-site construction items are finalized. Then separate easement exhibits can be prepared to accompany these agreements.

k. Record a Deed of Avigation Easement prior to plat recordation.
Response: Understood. This has been relayed to the developer to record this easement.

l. Conduct a Neighborhood Meeting per the UDC.
Response: A neighborhood meeting took place on September 7, 2017 per the UDC requirement.

m. See redlines for technical adjustments and comments.
Response: All redlines have been addressed.

2. Sheet 1 – Cover Sheet

a. Add the Planning Commission public hearing certificate.
Response: Galloway was unable to find this Certificate within the guide book, Town will need to provide.

b. Fill in the BOT certificate with the subdivision names.
Response: Subdivision Name has been added to the BOT Certificate.

c. The Acceptance Certificate lists a Metro District or HOA. Metro District formation and/or HOA Incorporation (and documentation thereof) shall be required prior to plat approval.
Response: Galloway will update at a future submittal

d. Change the Clerk and Recorder Certificate from Weld to Boulder.
Response: replaced "Weld" with "Boulder" in the Clerk and Recorder Certificate.

e. The owner(s) in the Dedication Statement is a placeholder that shall be filled in closer to plat approval and recordation.
Response: Galloway will update at a future submittal

f. Reduce the limits of the Vicinity Map to only ~1 mile radius around the site. Add roads to the Vicinity Map.
Response: Vicinity Map has been reduced and side streets and other distinctive features have been added.

g. Add a Tract Summary Chart that includes the Tract Name, Use, Owner, and Maintenance Responsibility.
Response: Tract Summary Chart has been added.

h. Remove all title exceptions from the plat.
Response: Exceptions have been removed.

i. Add the following notes:
   X) Notice: According to Colorado Law, you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

   X) Tract _ is for a park area and shall be maintained by the subdivider, its successor or assigns.

   X) Utility and drainage easements, labeled hereon, shall be granted for the installation and maintenance of sanitary sewer lines, water lines, storm drainage facilities, surface drainage and for the benefit of the applicable utility providers for the installation, maintenance, and replacement of electric gas, television, cable, and telecommunications facilities, (dry utilities) and all necessary and convenient appurtenances thereto, together with a perpetual right of ingress and egress for installation, maintenance, and replacement of such lines and appurtenances. Said easements and rights are to be utilized in a responsible and prudent manner.

   X) A blanket drainage easement shall be granted over and across Lots __ and Tracts __ for the installation and maintenance of drainage lines and all necessary and convenient appurtenances thereto, as well as surface drainage, together with a perpetual right of

ingress and egress for installation, maintenance, and replacement of such lines and appurtenances. Said easements and rights are to be utilized in a responsible and prudent manner. This blanket easement is restricted to those areas outside of the building footprints.

X) A perpetual easement over and across Lots __ and Tracts __ shall be granted for the public access; provided that the aforesaid easement shall be restricted to the location of sidewalks, pedestrian paths, streets, parking lots, parks, common areas and landscaped areas as reflected on and constructed according to a site improvement plan accepted and approved by the Town of Erie.

X) A perpetual easement over and across Lots __ and Tracts __ shall be granted for emergency public access; said easement being subject to restrictions and requirements of the Town of Erie Municipal Code.

X) Maintenance Definition: Maintenance is the process of preserving capital improvements, structures, development, or systems to meet its function or original intent of the facility. This is the preservation, conservation, keeping in good conditions, operating safely, operating efficiently, testing, inspection, servicing, repairing, grading, cleaning, picking up trash and debris, pest control, painting, mowing, pruning, and prolonging of these facilities. Maintenance also includes the provision of financial support to maintain the facilities. Facilities include but are not limited to: landscaping, open areas, grass, shrubs, trees, playgrounds, site furniture and fixtures, retaining walls, signs, sidewalks, drainage structures such as ponds, swales, drain pans, inlets, and outlet structures.

Response: The above Notes have been added to the General Notes on the Plat

3. Sheet 2 – Plat
   a. The commercial portion of the plat shall be a future development tract (Tract A).
   Response: Commercial portion has been labeled as "Tract A"

   b. The residential portion of the plat shall be Lot 1.
   Response: Lot has been numbered 1 and labeled "Lot 1"

   c. Add the Reception No. for the 30' ditch easement.
   Response: This was removed from the Plat until it is finally recorded.

   d. Vacate the 15' roadway and maintenance easement on the residential lot.
   Response: This will be done by separate document.

e. Increase the size of the 20' Storm Drainage Easement to 30'.
Response: The easement has been enlarged to 30'.

f. Add a 30' easement for the water main on Block 1 (Tract A).
Response: A "utility" easement has been added to cover the proposed water and storm lines through Tract A since these will both be town owned and maintained lines.

g. The ROW to be vacated shall be vacated prior to the plat by separate approval and instrument. On this plat, show this area as if it has already been vacated.
Response: The plat has been adjusted to reflect the vacated right of way.

h. Modify the oil and gas information on the plat per the recorded Relinquishment and Quitclaim.
Response: The relinquishment and Quitclaim does not appear to modify the oil and gas easements redlines on the markups.

i. Tie the P&A well to a property corner. Monument per state requirements.
Response: This has been addressed to tie it to a property corner.

j. Add utility easements around the perimeter of lots and tracts.
Response: Perimeter Easements have been added

k. Provide easements for use by dry utility providers.
Response: These have been added per the new perimeter easements.

l. Provide drainage easements for the detention ponds and the storm sewer.
Response: Drainage easements have been added for Detention Ponds.

<u>Site Plan</u>

4. General Comments
   a. Coordinate with staff to provide an exhibit showing a potential commercial layout to ensure the depth and size of the remaining commercial tract is viable.
   Response: Exhibit was created and provided to the Town separately.

   b. Code requires bicycle parking for the multi-family units (10.6.5.G.1).
   Response: Bicycle parking has been provided, labelled on the site plan sheets and accounted for on the cover sheet.

   c. At a unit count of 300, a 0.43 acre Pocket Park is required. Dimension this area on the plans and include an enlargement showing how the park meets the minimum Pocket Park Component

Standards of the Town of Erie Parks, Recreation, Open Space and Trails Master Plan (PROST).
Response: A diagram showing the areas counting towards the minimum Pocket Park areas and provided amenities has been added.

a. Move the scale to the bottom right hand corner.
Response: Scales have been moved.

b. Insert an Overall Site Plan as the second sheet.
Response: An Overall Site Plan has been included.

c. Provide a 5' setback to the accessory buildings and parking areas on the west property line (PD Dimensional Standards Table).
Response: The internal lot line has been moved to provide the 5' setback from the property line the building face.

d. Provide additional sidewalks/pedestrian connections and curb ramps for continuous circulation between building entrances as shown in the redlines.
Response: Connections and ramps have added per the redlines to greatest degree feasible Not all ramps/connections are feasible or needed from an ADA perspective.

e. Provide irrigation plan sheets.
Response: Irrigation plan sheets have been included with this submittal.

f. Add notes to bury any overhead lines.
Response: A note has been added to the utility sheets as requested.

g. Provide an exhibit showing the distance of resident and guest parking from the entrance of the building the parking is intended to serve. This off-street parking shall be located within 200 feet of the primary building entrance (10.6.6.D.c).
Response: An exhibit has been prepared addressing the resident and guest parking.

h. Conduct a Neighborhood Meeting per the UDC.
Response: A neighborhood meeting took place on September 7, 2017 per the UDC requirement.

i. Move all walls outside of utility easements.
Response: Walls and utility easements have been adjusted.

j. There are some misspelled words in the set.
Response: The plans have been revised.

k. See redlines for technical adjustments and comments.
Response: Acknowledged.

5. Sheet 1
   a. Add a Parks and Open Space Summary Chart.
   Response: This chart has been added as requested.

   b. In the Site Data Summary Chart, add a breakdown of unit types (studio vs. 1 bedroom vs. 2 bedroom, etc.) and the total number of units to calculate parking requirements.
   Response: The chart has been updated as requested.

6. Sheet 2
   a. In multi-family developments, sidewalks along all public and private streets shall be detached and include a tree lawn minimum of 8' in width (10.6.5.F.1.c).
   Response: The walks discussed with Todd have been modified.

   b. Manhole covers are shown within the trail/sidewalk. Move outside of trail.
   Response: These manholes have been moved out of the walk/trail.

   c. Provide dimensions along the west property line to the edge of parking spaces.
   Response: Dimensions provided.

   d. Dimension the width of the parking lot medians.
   Response: Widths dimensioned.

   e. Keep the sidewalk detached along the north drive stub to the commercial site.
   Response: Sidewalk has been adjusted to remain detached.

   f. Provide a street stub into the property to the east for future cross access if developed.
   Response: Street stub provided.

   g. What appears to be a fence line type is shown on the north and south sides of the detention pond. Please call out and provide a detail.
   Response: The fence around the detention pond has been labeled and a detail has been provided.

   h. Given the heights of the wall at the detention pond on Sheet 20, portions of the fence may need to meet guardrail requirements.
   Response: Acknowledged

i. Provide a fence along the east property line.
Response: A 3-rail fence has been added on the east side along Matt Starr's property line only. Per Mr. Starr's request, an 5' opening has been provided in the fence.

j. Double lines are shown at the edges of roads and curb ramps at the apartment building garage parking aprons. Double lines are consistently used in the plans as identifying vertical curbs. Show the extents of flush or rollover curb (typical of all sheets).
Response: All curb and gutter is proposed a 4" mountable. Additional detail will provided with the Civil CDs.

k. The curb ramps on either side of these parking aprons are oriented to the street and would cause individuals using the accessible route to enter into the street in order to access building entrances. Provide an accessible route from sidewalks to building entrances (typical of all sheets).
Response: The accessible route has been raised as requested by Town staff, though ADA doesn't require this.

l. Accessible paths from sidewalks to building entrances cross the parking aprons at building garages. To receive credit (and to avoid blocking accessible routes) as a parking stall, the depth of the stall between the garage door and the accessible route shall be a minimum of 20'.
Response: The minimum parking stall depth is 20', the raised accessible route is behind this 20' minimum depth.

m. Provide a design detail to differentiate the accessible route and the tandem garage parking stall. This could be colored concrete, pattern, or other enhancement.
Response: The accessible route has been raised at the request of the Town, though ADA doesn't require this.

n. Delete background items that have been/will be removed from the Site Plan sheets 2-4. If this removal information is needed, please include it in a separate demolition/removal plan.
Response: Background items have been deleted.

o. Provide dimensions between buildings.
Response: Dimensions provided.

p. Provide typical dimensions for walks and trails.
Response: Typical dimensions provided.

q. Show utility easements from the plat.
Response: Utility Easements for the multi-family site are shown.

r. Show a sidewalk connection from the east terminus of the Arapahoe Road sidewalk back south to the development.
Response: Connection shown.

s. Parking lot islands are to be a minimum of 10' in width (10.6.4.E.8.e.i).
Response: Acknowledged.

t. Widen the tree lawn along Arapahoe Road north of the detention pond to at least 7'.
Response: Tree lawns have been widened to 8'.

u. Dimension the distance between the Clubhouse/Leasing Office and the secondary building. Check the building code for separation requirements.
Response: The clubhouse is composed of two wings connected by a single roof and as such is not subject to building separation requirements.

v. By staff's count, 11 handicap stalls are shown. Coordinate with staff to determine the number and location required by the UDC and ADA Guidelines.
Response: ADA spaces are provided in accordance with UDC and ADA guidelines.

w. Are mailboxes/kiosks accommodated at the clubhouse?
Response: Yes. A central mail location is provided adjacent to the clubhouse.

7. Sheet 3

a. Show the limits of the fence around the pool area.
Response: Fence limits shown.

b. Provide dimensions between the edge of drives/parking areas and the building. Dimension to be a minimum of 10'.
Response: Dimensions shown.

c. Meet with staff to discuss the orientation and pedestrian access to the carriage units.
Response: Comment noted. A meeting with staff was held 8/14/2017. The location of pedestrian access to the carriage units is fixed by the unit design.

d. Adjust the location of garages and the landscaped islands/medians to provide a visual and physical connection between buildings 7 and 10. See redlines for concept.
Response: This area has been modified per the redlines concept.

8. Sheet 4
   a. Pull the trail to the western edge of the trail easement along the Starr property's buildings.
   Response: Trail adjusted.

   b. Provide pedestrian connections from Building 14's sidewalks south to the trail. Island locations may need to be adjusted/aligned and stairs may need to be incorporated into the wall at the western connection.
   Response: A pedestrian connection has been added.

   c. Provide a pedestrian sidewalk connection to the commercial property from the Lucerne Drive stub. With the wall design proposed, examine the elevation, slope, and alignment of this walk so it is viable in providing a connection to the commercial properties.
   Response: Connection has been proposed and is in the process of being coordinated with the commercial property.

   d. At the southeast and southwest corners of Building 14, walls are shown within the ditch easement. Move all walls outside of easement.
   Response: Walls and easements have been adjusted.

   e. Show a barrier/landscaping/delineation at the end of the Lucerne Dr. stub.
   Response: Bollards been provided adjacent to the trail connection at the end of Lucerne Dr. stub.

9. Sheet 6
   a. The area shown in the landscape calculation table for interior areas is 181,836.5 sf. The planted area shown on the cover sheet in the Site Data Summary chart is 186,087 sf. Reconcile the two area calculations and modify plans accordingly.
   Response: The landscape area in the landscape calculation chart and in the Site Data Summary chart now match.

   b. In the plant replacement table, change the text from "maximize water consumption" to "minimize water consumption" or "maximize water conservation."
   Response: The language in the plant replacement table has been revised and now reads "maximize water conservation".

10. Sheet 8
   a. The parking area north of Building 2 is visible from Arapahoe Road. Show a combination of berming, walls, fencing, landscaping, etc., between 3' and 4' in height to screen this parking area (10.6.2.C.2.e).
   Response: A 3-rail fence and landscape material has been added to this area.

b. All ground mount and wall mount mechanical equipment and meters are to be screened (10.6.4.G.7 & 9), typical of all landscape sheets. Show and call out locations of ground mount and wall mount mechanical equipment and meters.
Response: All ground mounted equipment has been called out and screen where possible. No equipment will be wall mounted.

c. Show sight distance triangles, typical of all landscape sheets.
Response: Sight distance triangle has been shown and labeled.

d. Add plant callouts, typical of all landscape sheets.
Response: All plants have been labeled.

e. The bed (staff assumes mulch) hatch is turned off on all sheets.
Response: Bed hatch has been removed from the legend.

11. Sheet 10
    a. Provide a detail callout and detail for the sign.
    Response: A detail and callout have been provided for the monument sign.

12. Sheet 11
    a. Add landscaping in the island north of the leasing center.
    Response: The parking island north of the clubhouse is an ADA ramp and would leave only narrow landscape areas on either side. For maintenance reasons, the ownership group would like this area to remain hardscape.

    b. Show ground cover in the parking lot median.
    Response: Additional landscape has been added.

    c. Add trees to parking lot islands, typical of all sheets.
    Response: Trees have been added to the parking lot islands where possible. In many locations a tree cannot be added due to a conflict with either a light pole or under ground utilities.

13. Sheet 17
    a. Does the secondary building southwest of the Clubhouse require a water or sanitary sewer services?
    Response: No, the clubhouse and accessory building are under the same roof and are both serviced by 1 water tap and 1 sanitary sewer tap.

b. Line sizes and service sizes are missing from certain areas of the plans.
Response: Typical sizes are called out of main sizes where they differ. Additional details are provided in the submitted civil CDs.

c. Where does the development anticipate running dry utilities? Show separate easement locations for dry utilities in the plat.
Response: A blanket easement is typically provided (not platted) to Xcel when service applications are made to Xcel. After the utilities have been installed, and at the request of the property owner, the Xcel improvements can be located, surveyed and then described in a metes and bounds legal description easement. A dry utility plan will eventually be included in the civil CDs, but is not required by the Town as a part of the civil CDs. We can provide this to the Town to review, as needed, at a later date.

d. What appear to be area drains (circle symbol with three horizontal lines) are not connected to the stormwater system.
Response: The civil CDs will detail the proposed landscape drain system.

e. Provide easements for the storm system.
Response: Easements over the storm sewer have been included.

14. Sheet 19
    a. Provide a water stub to the commercial site.
    Response: A water stub has been provided.

    b. Label the ditch pipe.
    Response: The ditch pipe has been labeled as "48" STM PIPE (BY OTHERS)".

15. Sheets 20-22
    a. Show existing grades on properties to the east and the proposed grades tying in.
    Response: Galloway has yet to provide this survey information as it is private property. HKS is matching the existing grades along the property boundary as surveyed by Galloway.

16. Sheet 23
    a. The lighting on the carriage houses may change per previous comments. Staff prefers that bollard lights be used along the trail instead of relying on the rear wall sconces on the carriage houses.
    Response: Bollard lights are now shown along the trail. Rear wall lights on the carriage houses deleted.

    b. Add bollard lights along the trail to the Lucerne Dr. stub.
    Response: Lights added all the way to the Lucerne Dr.

c. Add lighting at the entry drive's intersection with Arapahoe, if not already incorporated into a traffic signal.
Response: Lighting has been added as requested.

d. Add shields to the SA-3 and SA-4 fixtures on the south end of the site adjacent to Beacon Hill.
Response: All SA3 and SA4 lights are already specified with the house side shield as listed on the lighting fixture schedule. SA4 light moved farther away from the property line with Beacon Hill.

17. Sheet 24
    a. Provide the light pole height for the SA3, 4, and 5 fixtures installed in landscape areas.
    Response: Light pole height added on the detail.

Site Plan Architecture

1. General Comments
    a. Provide typical floor plans for each building type. Where floors differ provide floor plan for each typical floorplate. Include overall exterior dimensions and dimensions of wall planes that step back/protrude.
    Response: Dimensioned floor plans for each building type have been provided.

    b. Provide overall and intermediate dimensions on all building elevations.
    Response: Three-dimensional views have been included in order to better illustrate each building type.

    c. In addition to the overall/average building heights, show building heights at the ends of stepped buildings and roof height changes.
    Response: Building heights have been added to the ends of stepped buildings.

    d. Label roof pitches (between 3:12 and 12:12; NMPD V.B.1.b.i.D).
    Response: Roof pitches have been labelled.

    e. Dimension roof overhangs (min. 12"; NMPD V.B.1.b.i.E).
    Response: Roof overhangs have been dimensioned.
    f. Provide partial elevations for interior corners not visible from the four standard elevations.
    Response: Three-dimensional views have been included in order to better illustrate each building type.

    g. Provide callouts on all elevations for meter and HVAC locations. These are only labeled on some elevations.

Response: Callouts for meter and HVAC locations have been added to all elevations.

h. Enclose exterior stairways.
Response: The exterior stairways have been revised so as to be hidden from view.

i. At attached garages, stone material is shown above the garages, garages are flanked by lap siding, and columns are wrapped with lap siding. "Buildings are to incorporate visually heavier and more massive elements at the building base, and lighter elements above the base. Upper stories shall not appear heavier or demonstrate greater mass than the lower stories of the building" (NMPD V.B.1.c.i.A.4). Replace lap siding with stone in these areas.
Response: Stone has been added to the columns below to give visual support to the masonry above the garages.

j. The apartment building type elevations appear to incorporate a few different architectural styles, several material and color changes across the façade, areas of symmetry flanked by asymmetry, etc. Staff would like to discuss the overall style and appearance of Nine Mile (including the commercial portions) to understand how this architecture is cohesive with the vision of the development as a whole.
Response: This topic was discussed during the meeting held 8/14/2017. Details including brackets and additional roof forms have been added to enhance symmetry and the Contemporary Craftsman styling of the architecture.

k. Add details consistent with the architectural style of each building type (i.e. roof brackets, corbels, window grids, etc. as applicable).
Response: Noted. Details including brackets and additional roof forms have been added to enhance the Contemporary Craftsman styling of the architecture.

l. Two color schemes are called out of which the only difference is Color #1. The color elevations show only one color scheme for each building type (A, B, C, Carriage). Does the applicant intend to use both color schemes on each building type?
Response: Each building type will have its own color scheme.

m. Provide a summary of how each of the building types are distinct and meet at least two of the five distinguishing requirements (NMPD V.B.1.c.i.A.6)
Response: This summary has been provided separately as supporting documentation.

n. All balconies are inset into the building. Consider extending some of the balconies to cantilever a couple extra feet for added articulation/shadowing/detail. See picture below for an example.

Response: Balconies have been extended on the end units of the 18 and 28-plex buildings.

o. See redlines for technical adjustments and comments.
Response: Comment noted.

2. Sheet 25 - Building A
   a. Review articulation requirements on the right and left elevations following enclosure of the stairways.
   Response: Building A meets all articulation requirements.

3. Sheet 27 - Building B
   a. Review articulation requirements on the right and left elevations following enclosure of the stairways.
   Response: Building B meets all articulation requirements.

4. Sheet 29 - Building C
   a. The max building height for 4-story buildings is 49' (NMPD Dimensional Standards Table). The building height is shown as 49'-10".
   Response: Building C has been revised to measure 49'-0".

   b. Provide for/lower the overhead awnings at the three main entrances.
   Response: Overhead awnings at the main entrances have been lowered.

   c. The left and right elevations do not meet the articulation requirements of the PD. Elevations are dominated by lap siding and smaller windows. Incorporate changes in material, wall planes, roof changes, window types, extend overhangs, etc. to achieve visual interest to the same level and quality as the front and rear elevations.

Response: Building C meets all articulation requirements. Three-dimensional views have been included in order to better illustrate each elevation.

d. Show wall plane changes on the left half of the front elevation. Project the main entrance out and set back the first unit to the left similar to the right half of the elevation.
Response: The main entrance has been projected further out. Building C meets all articulation requirements. Three-dimensional views have been included in order to better illustrate each elevation.

5. Sheet 31 - Clubhouse
   a. Provide the four standard elevations for each building separately.
   Response: The clubhouse is composed of two wings connected by a single roof. Three-dimensional views have been included in order to better illustrate each elevation.

6. Sheet 33 – Carriage
   a. While the unit entrances may be oriented to the parking areas, reference the Site Plan comments for staff's concerns about access and orientation. Please discuss with staff the ability to move the end units to the edges and even orient them to the sides, and the feasibility of orienting the center unit's door to the trail corridor or corners.
   Response: A meeting with staff was held 8/14/2017. The entry locations are fixed by the unit design.

   b. Label the louvered openings on the front elevations.
   Response: The louvered openings have been labelled.

   c. Provide articulation on the first floor of the rear elevation. Note that this elevation faces a trail/open space corridor.
   Response: Articulation has been added to the rear elevation.

   d. The character/style of the carriage units is different than the apartment units. The carriage units incorporate more of a horizontal design with a belly band, trim, and material changes vertically, whereas the apartments emphasize more the vertical with material changes occurring as you move horizontally across the building face.
   Response: The elevations have been modified to emphasize the vertical aspects of the building. Details consistent with a Contemporary Craftsman style have been added.

   e. The elevation reads as 3 identical and repeated units. Modify elevation s to avoid monotony and repetition to provide variety and visual interest.
   Response: The elevations have been modified to emphasize the vertical aspects of the building.

7. Sheet 35 – Garages and Trash Enclosures
    a. Move the keynotes below the title block for clarity.
    Response: Keynotes have been moved.

    b. For garage Types A and B, add roof and wall articulation similar to Type C. On the rear elevations, add articulation (roof change, material change, spandrel glass, etc.).
    Response: Articulation has been added to the roof and rear elevations.

    c. On Type C's left and right elevations, add articulation.
    Response: Articulation has been added to the left and right elevations.

    d. Enlarge trash enclosure elevations and dimension. Trash enclosures are to match the material and design of the principal structures and be a maximum height of 6'.
    Response: The trash enclosure graphics have been enlarged and dimensioned.

    e. Provide a detail of the trash enclosure gates to show they are opaque to a height of 6'.
    Response: A detail of the enclosure gate has been provided.

<u>Public & Site Infrastructure Plans</u>

1. General Comments
    a. Certain sheets are identified as preliminary. This set is for final construction document acceptance.
    Response: Preliminary has been removed from the sheet titles

    b. Coordinate with RTD for the location and any improvements of a bus stop for the apartment residents.
    Response: The bus stop has been shown to be relocated and the team is coordinating with RTD on further necessary details that may be required.

    c. Note that all ground mounted utility equipment (i.e. transformers) must be set back a minimum of 100-feet from the intersection of two public streets (10.6.4.G.9.a).
    Response: Acknowledged.

    d. Move the north arrow and scale to the bottom right hand corner of sheets.
    Response: The north arrow and scale has been moved to the bottom right hand corner of all sheets.

    e. Show location and easement for interim secondary emergency access to the multi-family site.
    Response: This secondary access is shown on the overall site plan.

f. Provide landscape plans for those areas disturbed by construction.
Response: All areas outside our property boundary disturbed by contraction will be reseeded per the Erosion Control Plans.

2. Sheet 2
   a. Sidewalks along Arapahoe and Highway 287 shall be constructed with this plat. Delete "Future" from sidewalk labels.
   Response: Sidewalks are labeled as proposed.

3. Sheet 3
   a. The west water line from Arapahoe Road will serve the commercial area. Show a tee and valve that provides a connection point for a future commercial area main.
   Response: A water line loop has been designed to also serve the commercial area.

4. Sheet 4
   a. The curve of the drive between the two commercial detention ponds is awkward with tight radii. As a part of the commercial concept exhibit mentioned in the Site Plan comments, staff will review the shape and location of the detention ponds.
   Response: Acknowledged.

5. Sheet 15
   a. The retaining walls do not match those shown on the multi-family site plan. Coordinate sets.
   Response: The grading of the commercial and multi-family areas have been coordinated to include the retaining wall area.

PARKS AND OPEN SPACE COMMENTS

1. Previously staff has requested that the developer retain the remaining tree located on the eastern edge of the development. It appears that the developer is unable to keep this tree based on the current design.
Response: That is correct. Grading and site plan restrictions make keeping this tree infeasible.

2. Per Title 10 of the Unified Development Code – 10.6.2 (6.a.) that can be found at the following link http://www.erieco.gov/documentcenter/view/351. We would request the developer add additional trees as outlined in Section 6.4 or if this cannot be achieved, a fee-in-lieu payment may be considered by the Town.
Response: Per the "Native and Tree Vegetation Survey" by Mike McGill, two large Plains Cottonwood trees were identified as suitable for preservation. No caliber size was included in the survey for the existing trees suitable for preservation, therefore we have made an assumption that both trees are 30" in size. Per code, mitigation shall be provided at a ratio of 1.5 times the existing inches resulting in 90" needed for mitigation. The landscape plan provides additional trees to satisfy

this mitigation. This information has been added to the required plant material chart. The remaining vegetation on site was noted as a mix of native and non-native, undesirable and in poor condition.

3. Please show sight triangles as required using Public Works ST5 detail that can be found at the following link http://erieco.gov/DocumentCenter/View/7422
Response: Sight triangles have been shown on the plan.

OSTAB COMMENTS:

Open Space and the Natural Areas Inventory (NAI):
Discussion: Sheet 3 of the PD-Development Plan indicates that this roughly 47 acre parcel is being subdivided into 2 tracts: a 33 acre commercial tract on the western side, and a 14 acre high density residential tract on the east side. This Site Plan is for only the residential tract. That Sheet also states that there will be 330 dwelling units. The Town's Unified Development Code (UDC), section 10.6.3, requires 17 acres of dedicated open space for every 1,000 new residents; each dwelling units is assumed to have 2.85 occupants. We calculate that the required dedicated open space is roughly 15.9 acres.

There is no proposed dedicated open space in this application. The Town at its discretion may require the developer to pay cash in-lieu of dedicating land. There are multiple criteria to determine whether or not to substitute cash for land, including:

1. Are any sites in the Natural Areas Inventory (NAI) within the application area. There are none;
2. Is there a location that is contiguous with, or connected to, adjacent open space or parks. There is none;
3. Would open space serve one or more of many functions, such as:
    a. Preserving rural/agricultural lands;
    b. Providing aquatic, wetland and riparian habitat and buffers; or
    c. Preserving native wildlife habitat and their migration and travel corridors.

In our opinion, there is no location within this application area that essentially fulfills any of the functions described in the UDC. Thus we believe that cash, not land, should be used to meet the requirement for dedicated open space in the UDC.

Recommendation: Pay cash in lieu of dedicating land to meet the open space requirement in the UDC.
Response: Noted.

Spine Trail and Neighborhood Trails:
Discussion: Spine Trails provide a town-wide network that connect neighborhoods, town facilities and nearby municipalities. There are no adjacent Spine Trails. The PROST (Parks, Recreation, Open Space

and Trails) Master Plan does not contain a proposed spine trail on this property. The applicant is proposing an 8-foot concrete trail, as described in the written statement:

> "an 8-foot concrete regional trail connection is provided that originates at the Arapahoe Road entrance to the north and proceeds south along the eastern boundary of the project, eventually turning south and terminating at Lucerne Dr. in the existing single-family detached neighborhood to the south of this project. This trail corridor will serve both the residents of this development as well as the residents of the surrounding community"…On the east side…"a public trail corridor is provided in this area that both increases the buffer area and supplies additional room for enhanced landscaping. The southern side of the property includes a trail corridor and heavily landscaped buffer area as well, and provides a minimum 100' building setback from the existing single-family detached neighborhood located in Lafayette."

We agree with the proposed 8' concrete trail. There is not a sheet in the Site Plan entitled "Trails Plan". Therefore, we used Sheet 7, Overall Landscape Plan, to review the exact location of this trail and buffer. It appears that the portion from Arapahoe Rd southward past the detention basin and first 2 buildings is a sidewalk on the eastern side of the proposed road opposite Beasley Dr. The trail then runs along the eastern and southern borders as described in the Written Statement. We calculate that the width of the landscaped buffer (from the buildings/garages to the property line) on the east side is roughly 30 feet; on the south side, it is roughly 44 feet. We believe that an appropriate width is 50'

It is probable that many residents of the proposed multi-family dwelling units will want to access the existing trails north of Arapahoe Rd. Safe pedestrian access across Arapahoe Road should be an important design component. The heavily used intersection of US 287 and Arapahoe Rd, which has a traffic signal, is NOT a safe pedestrian access across Arapahoe Rd. Therefore, there should be a traffic signal on Arapahoe Rd, either at Beasley Drive or the eastern access way into the Safeway shopping center.

Recommendations:

1. Build a meandering 8' concrete trail in a landscaped buffer on the south and east sides, as described in the Written Comments and on Sheet 7;
   Response: A meandering 8' trail is being provided on the east and south sides between the Arapahoe Road and the Lucerne Dr stub.

2. Increase the width of the landscaped buffers to 50';
   Response: Due to site constraints the landscape buffer cannot be increased.

3. Provide a safe pedestrian access across Arapahoe Rd.
   Response: Access is provided at controlled intersections.

ENGINEERING DEPARTMENT COMMENTS

Comments for Preliminary Utility Report:

1. As this is a Site Plan submittal, the utility report needs to be a Final Utility Report with all its associated detail, analysis, and models.
   Response: A final utility report will be submitted with the design of the sanitary sewer outfall alignment down N. 111th Street.

2. The sewer layout and connections will need to be re-evaluated given the recently completed Merrick sewer analysis.
   Response: The sanitary sewer layout for the site will include an outfall within N. 111th Street.

Comments for Phase III Drainage Report:

1. See the attached comments from the Town's Drainage Consultant.
   Response: Drainage Report has been modified and comments addressed.

Comments for Site Plan:

1. Final Civil Construction Plans for on-site improvements were not included. Therefore detailed comments on the on-site utilities and improvements cannot be provided.
   Response: Acknowledged.

2. Easement for Town utilities must be a minimum 30 feet wide.
   Response: All utility easements have been adjusted to 30' wide.

3. On the overall utility plans:
   a. Pipe sizing for water and sanitary lines are inconsistently labeled. In addition, there are non-standard 10 inch water lines in areas which the Town does not allow. Standard pipe sizes are 8, 12, 16, etc.
      Response: All water and sanitary mains on site are proposed as is recommended in the utility reports as 8" mains.

   b. Fire line connections need a valve on the main. The valve layout needs to ensure that fire lines and the nearest fire hydrant are separated by a valve.
      Response: A valve has been added where applicable to ensure that fire lines and the nearest fire hydrant are separated by a valve.

4. On the grading plans, contours are not shown on the properties to the east and the contours do not appear to tie into the existing grades at the property line. Contours need to be shown for a minimum of 150 feet off-site.
   Response: Galloway has yet to provide this survey information as it is private property. HKS is matching the existing grades along the property boundary as surveyed by Galloway.

5. A second paved access needs to be provided to the site.
   Response: A Temporary access has been provided until the commercial site can be built.

6. On sheet 17, retaining walls for the pond are being shown directly over storm lines.
   Response: The storm line has been revised to not conflict with the pond walls.

7. On sheet 19, a water line stub needs to be provided to the future commercial site.
   Response: Water line stub provided.

Comments for Preliminary Plat:

1. Easement for Town utilities must be a minimum 30 feet wide.
   Response: Easements have been revised to 30' wide.

Comments for Public & Site Infrastructure Plans:

1. These plans appear to be off-site construction plans for the Multi-Family project and should be titled as such. In addition, they need to be Final Construction Plans. Due to these being preliminary in nature, additional detailed comments will be provided when they are final plans.
   Response: Acknowledged.

2. The Town standard notes and details need to be included in these plans.
   Response: Standard notes and details have been added to the plan set.

3. The sewer layout and connections will need to be re-evaluated given the recently completed Merrick sewer analysis.
   Response: Galloway is in the process of obtaining additional survey information for the design of the sanitary sewer system that will be constructed in N. 111th Street.

4. No plans for the water line connections to Arapahoe Ridge are provided.
   Response: Water plans have been added to the sheet set.

5. No plans are provided for the new signal at Arapahoe Road and Beasley Drive and potentially at the Safeway access on Arapahoe Road.
   Response: Signal designs will be provided once final roadway improvements and phasing are finalized.

6. All references to N 107th Street need to be removed. It is just Highway 287.
   Response: All 107th Street labels have been removed and replaced with "Highway 287"

7. On sheet 1:
   a. Please correctly spell my last name in the Utility Contacts.

Response: Spelling has been corrected.

b. The Town's standard signature block needs to be added.
Response: The signature block has been added to the cover sheet.

8. On sheet 3:
   a. The site plan for the multi-family shows 10 inch water lines on-site which will have to be increased to 12 inch lines. However, these plans are only showing 8 inch lines connecting into Arapahoe Ridge.
   Response: The proposed water line connections have been relabeled as 12" waterlines.

   b. There are lines appearing to connect the two detention ponds separated by the middle access, but no label.
   Response: A plan & profile has been added to the storm sewer sheets.

   c. The water line across the future commercial site needs to have a tee in it to provide for a future connection.
   Response: The design of the water lines have been coordinated within the site.

9. On sheets 6 and 7, the erosion control plans do not include any of the off-site areas.
Response: Roadway erosion control is part of the design. Once final off-site utility layouts are confirmed, ECP's for those specific improvements can be prepared.

10. On sheet 9 through 11:
    a. The plan views are missing substantial details typically shown like contours, easement descriptions, existing utilities, street names, etc. In addition, future Highway 287 improvements are only partially shown, while current improvements are not.
    Response: Contours and additional details have been included on the sheets.

    b. No detail is provided for the Proposed Box Structure at sta1+07.37.
    Response: Based on conversations with the city, the structure has been relocated to the west side of Highway 287. Additional survey is being obtained for the area and the structure will be designed to reflect the design of the existing irrigation structure near the frontage of the Safeway shopping center to the north.

    c. Manholes vary in size between 7 and 8 foot manholes. In addition, it seems standard CDOT T-Base manholes could be used.
    Response: Manholes that are located at bends are 8' diameter. One's located along straight section reference the CDOT T-Base manholes.

d. The ditch pipe outfall needs to be better detailed. The flared end section needs to have a cutoff wall, there needs to be rip-rap for erosion protection and with the pipe coming in at an angle, the far slope of the ditch needs to be armored.
Response: A manhole has been added and the flared end section rotated to align with the ditch. A cut-off wall and riprap are included with the design.

e. No utility crossings are shown in the profile.
Response: Crossings will be added, particularly on the MF site where they have utility crossings, once final horizontal layout is confirmed. These proposed crossings should fall above the irrigation pipe with adequate clearance as the irrigation pipe is deeper at this crossing locations.

11. On sheet 13:
    a. The plan views are missing substantial details typically shown like contours, easement descriptions, existing utilities, street names, etc.
    Response: Contours and additional details included on the sheets.

    b. No details are provided on the existing storm line under Highway 287 that is being connected to.
    Response: As-Built length and slope information has been added to the plan view.

    c. The water line crossing is not shown in the profile.
    Response: Water crossing information has been added to the sheets.

12. On sheet 14:
    a. The plan views are missing substantial details typically shown like contours, easement descriptions, existing utilities, street names, etc.
    Response: Contours and additional details have been included on the sheets

    b. No utility crossings are shown in the profile.
    Response: The utility information has been added to the profile views.

    c. A section of existing sidewalk on the north side of Arapahoe Road will need to be replaced.
    Response: Acknowledged. With final design of the utilities in that area, a plan will be created for the revised sidewalks.

    d. The structures for the detention pond do not match what are shown on the Site Plan.
    Response: A detention pond detail sheet has been added to the set. The plan includes the elevation of the pond, the pipe connecting the ponds and details for the outlet structure. Final elevations and sizing will be included with the next submittal.

13. On sheet 15:
    a. The existing sidewalk will need to be relocated based on the proposed grading.
    Response: Acknowledged. With final design of the utilities in that area, a plan will be created for the revised sidewalks

    b. The storm outfall needs more detail and will need to follow UDFCD design standards.
    Response: Acknowledged. Outfall will meet these standards.

    c. Grading is shown extending off of the Town property.
    Response: The grading for the storm sewer outfall has been revised.

14. On sheet 17, an existing storm line crossing Arapahoe Road is not shown in the utility plan.
    Response: The 24" existing storm line is now shown and labeled.

15. On sheet 17 through 19:
    a. All asphalt patch limits on Arapahoe Road need to be a the nearest lane line; meaning no asphalt joints in the middle of lanes.
    Response: All asphalt patch limits have been expanded to the nearest lane line.

    b. A 4 foot wide striped bike lane needs to be provided on the south side of Arapahoe Road.
    Response: The Town of Erie typical sections for minor arterials (Detail ST2) shows an 8-ft detached bike path and a 15-ft outside lane wide enough to accommodate bikes. These sections do not require a 4-ft wide striped bike lane.

    c. Streetlights are needed on the south side of Arapahoe Road.
    Response: Streetlights are now proposed along the south side of Arapahoe Road at alternating 150' intervals per Table 900-1 of Section 900.

16. On sheet 18:
    a. Only the limits of the new leg at the Safeway access to be constructed with these plans should be shown and not the entire access.
    Response: Only the concrete crosspan for the commercial access across from Safeway will be constructed. All other improvements associated with the commercial development have been moved to a future layer (dashed, screened linework).

    b. A sanitary sewer line is shown on the utility plan crossing Arapahoe Road at the Safeway access.
    Response: This line has been removed from the design.

    c. The proposed signal at the Safeway access should be labeled as Future unless the plan is to construct it with these improvements.

Response: The intersection at this location has been labeled "Future Signalized Intersection" and all proposed signal poles have been removed. The existing stop sign at the Safeway access is to remain and a stop sign is now proposed at the commercial access.

d. There is no detail on what is happening to the existing bus stop on the south side of Arapahoe Road.
Response: A new bus stop is now proposed on the south side of Arapahoe Road, west of the Safeway intersection. This location still needs to be reviewed and approved by RTD.

17. On sheet 18 & 19:
    a. The right most eastbound lane on Arapahoe Road prior to Beasley Drive needs to be a dedicated right turn only lane. To the east of Beasley Drive it can be an acceleration lane until it tapers to an end.
    Response: The right most eastbound lane on Arapahoe prior to Beasley Drive has been changed to a right turn only lane. "Right Lane Must Turn Right" signage has also been added.

18. On sheet 21, a cross pan is need to convey drainage across the access point across from the Safeway access.
    Response: Concrete crosspans are now shown at all proposed accesses along the south side of Arapahoe Road.

19. On sheet 21, an inlet is needed on the southeast corner of the Safeway intersection to capture drainage from the south half of Arapahoe Road.
    Response: A Type R inlet is now proposed at the low point within the south side of Arapahoe Road, east of the Safeway intersection.

20. On sheet 22:
    a. An inlet is needed on the southwest corner of the Beasley Drive intersection to capture drainage from the south half of Arapahoe Road.
    Response: A Type R inlet is now proposed along the south side of Arapahoe Road, east of the Beasley Drive intersection.

    b. There is no method of capturing and conveying the drainage from the south half of Arapahoe Road before it flows off-site.
    Response: Two Type R inlets are now proposed along the south side of Arapahoe Road.

21. On sheet 24 through 28, all improvements made to Highway 287 will be reviewed and approved by CDOT.
    Response: Noted, thank you for your review and comment.

22. On sheet 28:
    a. The crosswalk across the east leg of the intersection changes mid-intersection. We're not sure how this could be ADA compliant.
    Response: Although the crosswalk striping bends in the existing condition, we are proposing to restripe this crosswalk to make it ADA compliant.

    b. The mast arm for westbound Arapahoe Road would put signal heads to the left of the lanes over eastbound traffic. This is not MUTCD compliant.
    Response: New signal poles are now proposed for both westbound and eastbound traffic to make the intersection MUTCD compliant.

REFERRAL AGENCY COMMENTS

XCEL Comments:

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the site plan and minor plat for Nine Mile Corner. As always, thank you for the opportunity to take part in the review process. To ensure that adequate utility easements are available within this development, PSCo requests that minimum 10-foot wide utility easements be dedicated on private property abutting all public streets and around the remaining perimeter property lines of Block 1 and Block 2.
Response: HKS requests that the 10' perimeter easement not be required along the western portion of the multi-family lot (eastern lot line) of the shared property boundary between the commercial and multi-family property. The perimeter easement will still existing along this lot line on the commercial side. The reasoning for this is that the multi-family development (eastern lot) will provide Xcel with a blanket easement across the entire tract for development of the multi-family gas/electric trench as required during the service application process.

Utility easements are dedicated to the Town of Erie for the installation, maintenance, and replacement of electric, gas, television, cable, and telecommunications facilities. Utility easements shall also be granted within any access easements and private streets in the subdivision. Permanent structures, improvements, objects, buildings, wells, and other objects that may interfere with the utility facilities or use thereof (Interfering Objects) shall not be permitted within said utility easements and the utility providers, as grantees, may remove any Interfering Objects at no cost to such grantees, including, without limitation, vegetation. Public Service Company of Colorado (PSCo) and its successors reserve the right to require additional easements and to require the property owner to grant PSCo an easement on its standard form.
Response: Acknowledged. We will continue to coordinate with Xcel during the design process.

Public Service Company also requests that all utility easements be depicted graphically on the preliminary and final plats. While these easements may accommodate certain utilities to be installed in the subdivision, some additional easements may be required as planning and building progresses.
Response: Perimeter easements are now provided on the plat.

In addition, 31-23-214 (3), C.R.S., requires the subdivider, at the time of subdivision platting, to provide for major utility facilities such as electric substation sites, gas or electric transmission line easements and gas regulator/meter station sites as deemed necessary by PSCo. While this provision will not be required on every plat, when necessary, PSCo will work with the subdivider to identify appropriate locations. This statute also requires the subdivider to submit a letter of agreement to the municipal/county commission that adequate provision of electrical and/or gas service has been provided to the subdivisions.
Response: We are not aware of any of these facilities on the property.

Please be aware PSCo owns and operates existing natural gas and electric distribution facilities within the proposed project area. The property owner/developer/contractor must complete the application process for any new gas or electric service, or modification to existing facilities including relocation and/or removal via FastApp, Fax, Email, or USPS (go to: https://www.xcelenergy.com/start, stop, transfer/new construction service activation for builders). It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

FHU Comments:

Written Statement:

1. The site is divided into Block 1, the commercial component, and Block 2, the residential component. With this submittal, only the residential component of development is being considered.
   Response: This is correct.

2. Per the Written Statement, three site accesses are proposed: two full- movement accesses on Arapahoe Road and one full-movement access on US 287 (through the future commercial site. [In the future, the commercial component will add two more site accesses: one Right-In/Right-Out (RIRO) access on Arapahoe Road and one RIRO access on US 287].
   Response: This is correct.

3. Although only the three accesses are mentioned in the statement, the Roadway Construction Plans include all five accesses as well as improvements at the intersection of US 287/Arapahoe Road.
   Response: These accesses and improvements are still being finalized.

Traffic Impact Study:

1. The Traffic Impact Study (TIS) evaluates three future scenarios: 2019, 2020, and 2040. The 2019 evaluation isolates the traffic impacts specific to the residential component, in which the commercial uses are not yet developed. In the 2019 scenario, only two accesses are assumed: at Arapahoe Road/Beasley Drive, and at the full-movement site access on US 287.
   Response: The Applicant is working with Town Staff and referral agencies to address these comments in a way that is satisfactory to all. At this time, an updated Traffic Report is not included. Upon resolution, a revised Traffic Report will be provided.

2. In our previous review comments, we noted that the proposed accesses along US 287 did not meet CDOT spacing criteria and would require variances from the standards established in the State Highway Access Code. The full-movement access, which is proposed to be signalized, also does not meet signal spacing criteria. The current submittal has refined the access locations, but access spacing concerns remain. The TIS notes the need for variances.
   Response: The Applicant is working with Town Staff and referral agencies to address these comments in a way that is satisfactory to all. At this time, an updated Traffic Report is not included. Upon resolution, a revised Traffic Report will be provided.

3. The report does not contain a progression analysis for US 287 that might help justify the proposed signalized site access. Typically, a progression analysis to support a new traffic signal would be expected.
   Response: The Applicant is working with Town Staff and referral agencies to address these comments in a way that is satisfactory to all. At this time, an updated Traffic Report is not included. Upon resolution, a revised Traffic Report will be provided.

4. The TIS recommends that the existing full-movement access at Lucerne Drive be restricted to RIRO movements. This will impact existing residents to the south of the Nine Mile Corner site.
   Response: The Applicant is working with Town Staff and referral agencies to address these comments in a way that is satisfactory to all. At this time, an updated Traffic Report is not included. Upon resolution, a revised Traffic Report will be provided.

5. The trip generation analysis accounts for both internal trip making and pass-by trips, both of which are appropriate for this type of development. The trip reductions that were applied are documented in Appendix C of the report. Note that, for the pass-by rates, the report references data contained in the 2004 and 2012 editions of ITE's Trip Generation Handbook, rather than the current 2014 edition. Any resultant discrepancies would, however, be minor, and would not affect the results of the analyses.

Response: The Applicant is working with Town Staff and referral agencies to address these comments in a way that is satisfactory to all. At this time, an updated Traffic Report is not included. Upon resolution, a revised Traffic Report will be provided.

6. The TIS makes recommendations for auxiliary lanes at the site accesses. The recommendations specify acceleration, deceleration, storage, and taper requirements.
   Response: The Applicant is working with Town Staff and referral agencies to address these comments in a way that is satisfactory to all. At this time, an updated Traffic Report is not included. Upon resolution, a revised Traffic Report will be provided.

Road Construction Plans:

1. Sheet 16 depicts improvements on the west leg of the US 287/Arapahoe Road intersection. The existing raised "pork chop" median is to be reduced in order to provide an additional left-turn lane and an additional through-lane eastbound. The right-turn channelization is to be shifted south. The existing signal pole assembly is to be reset. My concerns are:

   a. The transition to the lane improvements is too abrupt; appropriate transition taper should be provided.
      Response: The lane transition at this location is limited by existing historic monuments that are adjacent to both sides of the road.

   b. The existing mast arm for westbound signal heads will be too short when relocated. The heads will not extend above the westbound lanes. A new mast/arm assembly will likely be required.
      Response: New mast arm assemblies for both westbound and eastbound traffic are now proposed.

2. Sheet 18 depicts improvements at the full-movement access aligning with the existing Safeway access. A traffic signal is shown. A westbound left-turn lane of about 150 feet is depicted. My concerns are: The TIS does not show volumes at this intersection for the residential component. A signal will not be warranted until commercial development occurs; therefore, this intersection should instead have a STOP sign (MUTCD R1-1) on the northbound approach.
   Response: The intersection at this location has been labeled "Future Signalized Intersection" and all proposed signal poles have been removed. The existing stop sign at the Safeway access is to remain and a stop sign is now proposed at the commercial access.

3. Sheet 19 depicts improvements at the site access aligning with Beasley Drive. A traffic signal is depicted, as is a westbound left-turn lane of about 150 feet. My concerns are:

    a. The volumes in the TIS would not be sufficient to warrant a signal in 2019. Until warrants are met, a STOP sign should be used to control the northbound approach.

    Response: The intersection at this location has been labeled "Future Signalized Intersection" and all proposed signal poles have been removed. The existing stop sign at Beasley Drive is to remain and a stop sign is now proposed at the commercial access.

    b. An existing bus stop is located just east of this intersection. The proposed widening along the south side of Arapahoe Road will require a relocation of the bus stop.
    Response: A new bus stop is now proposed on the south side of Arapahoe Road, west of the Safeway intersection. This location still needs to be reviewed and approved by RTD.

4. Sheet 24 depicts improvements at the proposed full-movement access on US 287. A southbound left-turn lane is shown with about 410 feet of decel/storage and 300 feet of taper. Dual left-turn lanes are shown exiting the site. My concerns are:

    a. The TIS recommends 500 feet of decel/storage to accommodate the projected residential traffic in the southbound left-turn lane.
    Response: There is only enough space to provide 425-ft of decal/storage between the Arapahoe/287 intersection and the proposed commercial access.

    b. The outbound dual lefts are recommended to include 200 feet of storage; the plans do not extend into the site sufficiently to show this improvement.
    Response: The plan view has been extended to show the storage for the left turn lanes. 125-ft of storage is proposed for both lanes due to space restrictions created by the proposed retaining walls on the south side of the site.

5. Sheets 26 and 27 depict improvements at US 287/Arapahoe Road. In addition to improvements discussed above (for Sheet 16), widening of Arapahoe Road and a shift south in the southeast radius are shown. My concerns are as follows:

    a. Shifting the radius south will impact an existing pedestrian signal pedestal pole. Relocation or replacement is required.

Response: The existing pedestrian signal pedestal is called out as "to be removed and relocated." A new location is proposed for the signal pedestal within the pedestrian island.

b. With the proposed widening along the south side of Arapahoe Road, the existing mast arm in the northeast quadrant will no longer reach over the eastbound lanes. This equipment will likely need replacement.
Response: New signal poles are now proposed for both westbound and eastbound traffic to make the intersection MUTCD compliant.

6. Sheet 28 appears to be a duplicate of Sheet 27.
Response: The Intersection Plan (Sheet 28) shows all the proposed improvements to the entire intersection. Sheet 27 only shows a portion of those improvements.

Site Plan:

1. Sheet 2 shows on-site improvements at the Beasley Drive access on Arapahoe Road. A northbound left-turn lane of about 50 feet is depicted; the TIS recommends 100 feet of storage for this movement.
Response: Comment acknowledged.

NCWCD Comments:

1. This parcel must be included within both the Northern Colorado Water Conservancy District and the Municipal Subdistrict, Northern Colorado Water Conservancy District boundaries before any water service can be provided.
Response: Comment noted; the Applicant will be included within this District.

Mountain View Fire Rescue Comments

I have reviewed the submitted material pertaining to the Nine Mile Corner located south of Arapahoe Road and east of Highway 287 in Erie. The Fire District does not object to the proposed development provided the development is able to meet the requirements of the Fire District. All applicable codes must be met as they pertain to building construction, water supply, fire hydrant locations, and fire department access.

It appears that fire hydrant locations are acceptable as shown on the plans submitted. Access appears satisfactory as at least 26 feet has been provided to stage fire apparatus for the multi-family buildings.

Plans for all buildings will need to be submitted to the Fire District for review and approval before buildings permits should be issued.
Response: Comment noted.

Colorado Geological Survey Comments:

Colorado Geological Survey has reviewed the Nine Mile Corner site plan and minor subdivision plat referral. CGS previously reviewed the Nine Mile Corner property at PD rezoning; comments were provided in a letter dated January 31, 2017. I understand the applicant proposes commercial and multi-family development on approximately 43 acres located southeast of the intersection of Highway 287 and Arapahoe Road, site of the former Prince Lake No. 1 water supply reservoir.

CTL provides a good description of subsurface conditions and soil and bedrock engineering properties, and makes appropriate recommendations regarding sub-excavation, foundation design and construction, pavements, surface drainage, etc. Provided CTL's recommendations are adhered to, CGS has no objection to approval of the site plan and minor subdivision plat.

Settlement. CTL states (page 7 of the geotechnical report for the planned commercial area) that, within the former lake area where up to about 21 feet of fill is planned, "We estimated up to about 4 inches of potential settlement in the previous reservoir area after grading. Additional settlement will occur as the fill is placed. We anticipate settlement will occur fairly rapidly after grading, likely within a few months or less. We recommend installing survey benchmarks to monitor the potential settlement after grading. Construction of the north anchor should be delayed until survey measurements confirm settlement has substantially ceased." CGS agrees with the recommendations for settlement monitoring and a construction delay until settlement has substantially ceased.
Response: Comments noted.

Boulder Valley School District Comments:

Thank you for submitting the Nine Mile Minor Subdivision and Site Plan materials for review by the Boulder Valley School District (BVSD). BVSD reviews development application in terms of capacity impacts on neighborhood schools and impacts on school land or facilities. This development application proposes to construct 304 apartment units with an expected impact of 48 students on the Sanchez Elementary, Angevine Middle, and Centaurus High school feeder system. The current capacity status including this project's impacts are noted below.

School	Current Capacity Status (Oct. '16)				Project Impact		
	Resident Students*	Program Capacity	School Enrollment	Perc. Capacity	Student Impact	New Enrollment	New % Capacity
Elementary	648	369	344	93.2%	27	371	100.5%
Middle School	1096	950	710	74.7%	9	719	75.7%
High School	1591	1833	1127	61.5%	7	1134	61.9%
Total	3335		2181		43		

*represents the number of BVSD students for the given grade level living within the attendance area.

note: resident and enrollment information above is preliminary and subject to revision

Currently, the BVSD planning office is analyzing the impact of this development as well as changes to the Erie Comprehensive Plan and will update this referral response when that process is complete. It is clear Sanchez Elementary cannot accommodate the student impact from this and other new development, however Angevine Middle and Centaurus High will require further analysis. The addition of residential units from this development may accelerate the need of the school district to acquire a second school site in this area.

Since the Nine Mile development is not currently party to any land dedications to the school district, each unit will be assessed the cash in-lieu of land fee per the Fair Contributions for School Sites Intergovernmental Agreement between the Town of Erie and BVSD. Currently, that fee is $589 for an apartment unit, however the fee charged will be the fee in effect at the time of payment.
Response: Comment noted.

Colorado Department of Transportation Comments:

On May 22, 2017, your Application for Access Permit was accepted for review by this office. The application requested a new full movement, signalized access to your property to serve a 130,000 sq. ft. superstore, 130,000 sq. ft. home improvement store, 18 fueling station gas station, and 35,800 sq. ft of retail/restaurants. The property is located on the east side of US 287, between Arapahoe Road and Lucerne Drive, in the southeast quadrant of the US 287/SH 7 (Arapahoe Road) intersection.

1. Colorado Revised Statutes 43-2-147, Paragraph (1)(a) declares all state highways to be controlled access highways in order to protect the public health, safety and welfare, to maintain smooth traffic flow, to maintain highway right-of-way drainage and to protect the functional level of public highways. The allowance of this access would counter the Transportation Commission's regulation pursuant to statutory authority.
   Response: The Applicant is working with Town Staff and referral agencies to address these comments in a way that is satisfactory to all. At this time, an updated Traffic Report is not included. Upon resolution, a revised Traffic Report will be provided.

2. The access would create a substandard design with the installation of necessary auxiliary lanes and signalization less than 320 feet from an already permitted signalized intersection.
   Response: The Applicant is working with Town Staff and referral agencies to address these comments in a way that is satisfactory to all. At this time, an updated Traffic Report is not included. Upon resolution, a revised Traffic Report will be provided.

3. An Access Management Plan for this section of state highway identified a full movement/signalized access across from the existing Lucerne Drive.
   Response: The Applicant is working with Town Staff and referral agencies to address these comments in a way that is satisfactory to all. At this time, an updated Traffic Report is not included. Upon resolution, a revised Traffic Report will be provided.

4. The property has other reasonable access available from the city street on the north property boundary.
   Response: The Applicant is working with Town Staff and referral agencies to address these comments in a way that is satisfactory to all. At this time, an updated Traffic Report is not included. Upon resolution, a revised Traffic Report will be provided.

We have given careful consideration to the application submitted and for the reasons listed above, we are denying your request for new access at this location because the access request complies with neither the statute nor the State Highway Access Code (2 CCR 601-1).

Enclosed are copies of the materials that you submitted. Also enclosed is a copy of Section 2. 9 explaining your rights concerning this denial, Section 3.10 of the State Highway Access Code and a copy of the Access Statute.

Merrick & Company Comments:

Phase II Drainage Report for Nine Mile Corner:

1. In the report, there is confusion of whether this report is a Phase I or Phase II drainage report. Clarify and update the report and provide all items necessary for Phase II reports as specified in the Town of Erie criteria.
   Response: The Phase II drainage report checklist was completed and the appropriate missing sections were added to the report.

2. In Section 2A of the report, it is stated that the site is part of the Erie Outfall Systems Planning Preliminary Design, issued May 2001. This OSP was updated by Love and Associates in December 2007. Verify that all proposed designs are in accordance with the recommendations of the 2007 OSP and any other studies for this area.

Response: The updated Love 2007 report was obtained and reviewed. The updated sections were east of Coal Creek and didn't affect the project area.

3. All developments in the Town of Erie must accept historic flows from off-site properties. It appears that a sump condition exists on the southwest corner of North 107th Street and Arapahoe Road. The existing settling pond at this location is owned by the Town and they have given permission to use the settling pond for detention storage. The analysis of the additional detention with the existing 24" RCP across North 107th Street as the outlet pipe shall be provided. Additionally, the existing conditions at this intersection must be analyzed to determine if runoff overtops the roadways or not based on the capacity of the existing 24" RCP under North 107th Street. If North 107th Street overtops during the existing 100-year storm event condition, the extent of the overtopping shall be identified and accounted for in the development design.
   Response: The routing of the flows through the settling pond is shown in the SWMM model. The gap in the berm of the settling pond will be filled to contain the additional 2' of depth needed. This will allow the 100-yr event to be contained within the settling pond and not overflow into the intersection.

4. Clarify when the study will be completed, and by who, that will determine if and when the downstream channel along 111th Street should be built. No development shall occur until the capacity of the downstream channel has been verified and determined to be able to accept the proposed runoff.
   Response: Once the HKS drainage report is complete we will make a determination as to whether the 111th Street channel will need to be built. This will be included in the Phase III report.

5. For the drainage criteria and design methods, use the most current version of the Urban Storm Drainage Criteria Manual (USDCM) and the Town of Erie Standards and Specifications.
   Response: We are now using the current versions of the USDCM and Town of Erie standards.

6. Utilize the current version of the UD-Detention spreadsheet (v3.07, February 2017) for the design of on-site ponds.
   Response: We are now using ver 3.07 UD-Detention.

7. It appears that the aerial on the drainage plan (DR01) may have covered items including contours and drainage basin divides. Update drainage map to show these items as specified in the Town of Erie criteria. It is also unclear how the outlet from the proposed ponds are connected to the outfall storm system; please clarify.
   Response: The proper layers have been brought to the front so the pond connections and drainage boundaries are visible.

Phase III Drainage Report for Outlook at Nine Mile:

1. In Section C of the report, it is stated that the site is part of the Erie Outfall Systems Planning Preliminary Design, issued May 2001. This OSP was updated by Love and Associates in December 2007. Verify that all proposed designs are in accordance with the recommendations of the 2007 OSP.
   Response: The updated 2007 OSP does not encompass the site. The Town of Erie OSP (West of Coal Creek) by Respec Consulting & Services does encompass the Prince tributary / Bull head gulch which the site is tributary to and will be checked for conformance.

2. The description of Basin O1 states that the major storm event runoff escapes the Site un-detained. Please also describe the flow path of the minor storm event. For the major storm event, provide calculations to verify that the existing downstream inlets in Arapahoe have adequate capacity to intercept this runoff.
   Response: Both the minor and major storm event will leave the site undetained. The Major event run off from basin O1 of 0.5cfs is insignificant to the 961cfs received by Prince Lake #2

3. Runoff from Basin C2 flows towards Design Point 10. Please state that this is the same location as inlet C6 in the basin description.
   Response: Design points and Basins have been reevaluated in this report.

4. Provide calculations for sizing, details, and plans of connection to the storm sewer system for all landscape drains. Verify that the homeowners' association will maintain the landscape drainage system. Since all streets appear to be private, clarify that all inlets and storm sewers within the development will be maintained by the homeowners' association.
   Response: Landscape drains are provided to pick up nuisance flows and emergency overflows have been established for the major event. Area inlets have been provided to capture the major storm event.

5. Per the Town of Erie criteria, Phase III drainage reports shall include hydraulic computations for the storm sewer systems including sewer profiles and open channel designs among others. Provide calculations and documentation of all hydraulic computations.
   Response: Storm Sewer profiles with hydraulic grade lines have been included in this report.

6. Provide details and plans for the EDB and outlet structure.
   Response: A detention pond plan and outlet structure details have been included in this report

7. Clarify that the EDB has available volume for adequate surcharge depth and a micropool at the outlet structure.
   Response: A micropool and surcharge depth has been provided.

8. Per the Town standards, existing off-site topography shall be shown for a distance of at least fifty feet in every direction. As a minimum, show all areas that drain to the site as indicated in the report.
   Response: Comment Noted.

9. It appears the storm sewer from Design Point 17 to Design Point 19 has been removed on the Overall Utility Plan. Clarify the alignment of the storm sewer system and correct plans and calculations as necessary.
   Response: Comment noted. See Response to comment #3

10. It appears that the existing street at the southernmost portion of the site near Lucerne Drive will become a dead-end street in proposed conditions. Clarify if the existing gate will remain in place or identify what other safety control measures will be installed.
    Response: The existing gate will be removed and bollards will be installed.

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016

SITE DATA SUMMARY CHART

ZONE DISTRICT:

ITEM	SQUARE FOOTAGE	% OF GROSS SITE
GROSS SITE AREA	659,355	83.6%
· BUILDING FOOTPRINT	132,789	20.1%
· PARKING/ROADS (INCLUDING PLANTED INTERIOR ISLANDS)	217,898	33.0%
HARDSCAPE TOTAL	350,687	53.2%
· PLANTED AREA (EXCLUDING PLANTED INTERIOR PARKING ISLANDS)	136,968	20.8%
· EXISTING VEGETATION	0	0.0%
· TRAILS, SIDEWALKS, AND PLAZAS	63,369	9.6%
LANDSCAPE TOTAL	200,337	30.4%
ITEM	DESCRIPTION	
BUILDING SIZE: CLUBHOUSE - 1 STORY		
· RESIDENTIAL	5,863 SQ.FT.	
TOTAL (1 BUILDING)	5,863 SQ.FT.	
BUILDING SIZE: CARRIAGE UNITS - 2 STORIES		
· RESIDENTIAL	3,754 SQ.FT.	
TOTAL (4 BUILDINGS)	15,016 SQ.FT.	
BUILDING SIZE: 18-PLEX - 3 STORIES		
· RESIDENTIAL	20,858 SQ.FT.	
TOTAL (2 BUILDINGS)	41,716 SQ.FT.	
BUILDING SIZE: 28-PLEX - 3 STORIES		
· RESIDENTIAL	32,305 SQ.FT.	
TOTAL (6 BUILDINGS)	193,830 SQ.FT.	
BUILDING SIZE: 44-PLEX - 4 STORIES		
· RESIDENTIAL	52,478 SQ.FT.	
TOTAL (2 BUILDINGS)	104,956 SQ.FT.	
TOTAL (ALL BUILDINGS)	361,381 SQ.FT.	
PARKING		
· TOTAL REQUIRED (SEE TABLE)	605	
· PROVIDED (INCLUDING HANDICAP)	605	
· HANDICAP PROVIDED	8	

PARKING DATA

		REQUIRED	PROVIDED
REQUIRED VEHICLE PARKING SPACES			
ONE BEDROOM	158 DU X 1.5 SP/DU	237	
TWO BEDROOM	146 DU X 2.0 SP/DU	292	
304 TOTAL UNITS	1 SP/DU GUEST SPACES	76	
PROVIDED VEHICLE PARKING SPACES			
DETACHED SPACES			80 (3 ACCESSIBLE)
ATTACHED GARAGE SPACES			96
TANDEM SPACES			72
UNCOVERED SPACES			357
ACCESSIBLE SPACES (INCLUDED IN UNCOVERED SPACES)			8
TOTAL PARKING SPACES		605	605
BICYCLE PARKING SPACES		30.25	32

PARKS AND OPEN SPACE SUMMARY CHART

TYPE	REQUIRED	PROVIDED
POCKET PARK	.43 ACRES	1.8 ACRES*
NEIGHBORHOOD PARK	2.57 ACRES	0**
COMMUNITY PARK	4.28 ACRES	0**
OPEN SPACE	14.54 ACRES	0**

*POCKET PARK AREA AND AMENITIES DISPERSED THROUGHOUT THREE COURTYARDS AND TRAIL AMENITY
**PARK FEE AND FEE IN-LIEU

VICINITY MAP

2000 0 2000 4000

SCALE: 1" = 2000'

LEGAL DESCRIPTION

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

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31	SITE PHOTOMETRIC PLAN
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33	BLDG A - ELEVATIONS
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35	BLDG B - ELEVATIONS
36	BLDG B - ELEVATIONS
37	BLDG C - ELEVATIONS
38	BLDG C - ELEVATIONS
39	ACCESSORY ELEVATIONS
40	ACCESSORY ELEVATIONS
41	CARRIAGE ELEVATIONS
42	CARRIAGE ELEVATIONS
43	CLUBHOUSE ELEVATIONS
44	CLUBHOUSE ELEVATIONS

SITE PLAN APPROVAL CERTIFICATE

THIS SITE PLAN HAS BEEN REVIEWED AND FOUND TO BE COMPLETE AND IN ACCORDANCE WITH APPLICABLE TOWN OF ERIE REGULATIONS.

_____ _____
DIRECTOR OF COMMUNITY DEVELOPMENT DATE

_____ _____
PLANNING COMMISSION CHAIR (IF APPLICABLE) DATE

THE UNDERSIGNED AS THE OWNER OR OWNER'S REPRESENTATIVE OF THE LANDS DESCRIBED HEREIN, HEREBY AGREES ON BEHALF OF HIMSELF/HERSELF, THEIR HEIRS, SUCCESSORS, AND ASSIGNS TO DEVELOP AND MAINTAIN THE PROPERTY DESCRIBED HEREON IN ACCORDANCE WITH THIS APPROVED SITE PLAN AND IN COMPLIANCE WITH THE TOWN OF ERIE UNIFIED DEVELOPMENT CODE AND MUNICIPAL CODE.

_____ _____
OWNER SIGNATURE OWNER PRINTED NAME

ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 2017

BY _____ AS _____

WITNESS MY HAND AND OFFICIAL SEAL

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

DEVELOPER:
EVERGREEN DEVCO, INC.
P.O. Box 271066
Littleton, Colorado 80127
Ph: 602-808-8600
Fax: 602-567-7147

ARCHITECT:
KEPHART ARCHITECTS
2555 Walnut Street
Denver, Colorado 80205
Ph: 303-832-4474
Fax: 303-623-6311

CIVIL ENGINEER:
GALLOWAY
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
Ph: 303.770.8884
Fax: 303.770.3636

CIVIL ENGINEER:
HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

LANDSCAPE ARCHITECT:
NORRIS DESIGN
Planning | Landscape Architecture
1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

PHOTOMETRIC:
RG ENGINEERING CONSULTANTS, INC.
2555 Walnut St, Suite B
Denver, Colorado 80205
Ph: 303-355-5534

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P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

PROJECT NUMBER: 160602

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Last Edited: 9/27/2017 11:06:03A By: Tim Sayler
Printed: TUE 09/26/17 11:06:03A By: Tim Sayler

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 1 OF 44

COVER SHEET

NINE MILE FILING NO.1, LOT 1

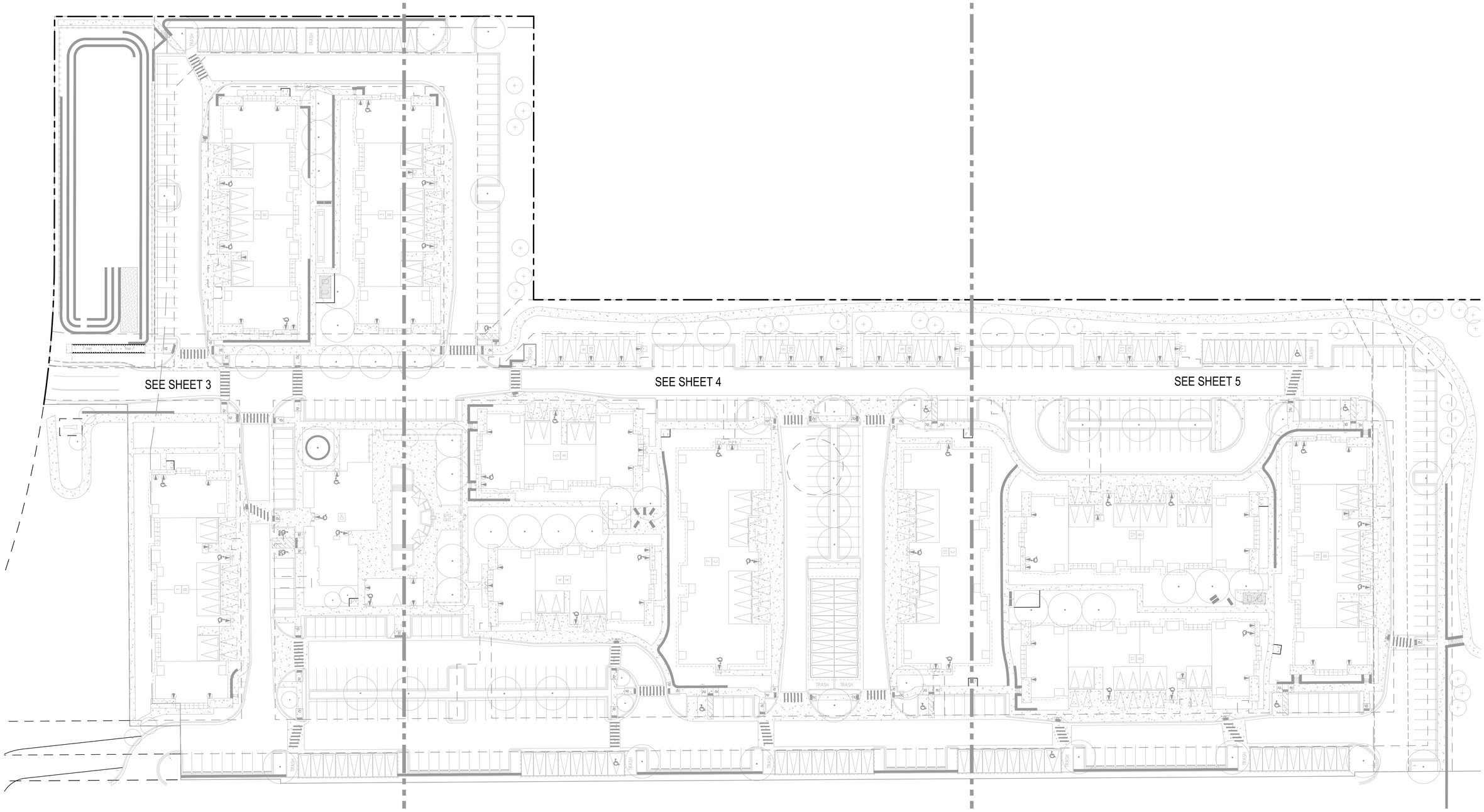
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016



HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

40 0 40 80

SCALE: 1" = 40'

PROJECT NUMBER: 160602

OVERALL SITE PLAN

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 2 OF 44

Filepath: P:\160602\ENGINEERING\SITE PLAN\SP - OVERALL SITE PLAN.DWG Layout: OVERALL SITE PLAN
Plotted: 9/26/2017 11:06:09A By: Tim Sayler

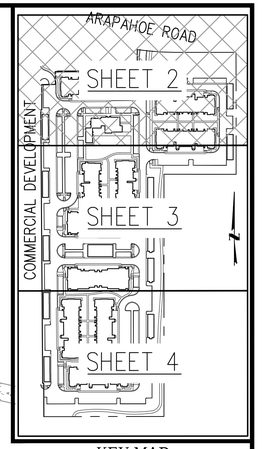
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016



KEY MAP
SCALE: 1" = 250'

OWNER: TOWN OF ERIE
LEGAL: TRACT C ARAPAHOE RIDGE FLG 4 AMENDED
ZONING: NOT COUNTY ZONED

OWNER: TOWN OF ERIE
LEGAL: OUTLOT C ARAPAHOE RIDGE FLG 2 AMENDMENT 1
ZONING: NOT COUNTY ZONED

ARAPAHOE STREET
(ROW VARIES)

EX ROW (TYP)

26' TEMPORARY FIRE DRIVE

PR NO BUILD ESMT

PR PROPERTY LINE

PR FENCE (TYP)

PR 30' ACCESS ESMT

36' DRIVE CUT

PR 15' SIGN ESMT

PR STOP SIGN

PR NO BUILD ESMT

8' SW-TBC

PR LOT LINE

PR SPEED LIMIT SIGN

8' TBC-SW

PR DETENTION BASIN

PR RETAINING WALL (TYP)

PR FENCE (TYP)

20' BLDG SETBACK

PR SPEED LIMIT SIGN

20' BLDG - LOT LINE

1 B

BLDG-WALK

20' MIN

BLDG-TBC

20.58'

9' (TYP)

20' (TYP)

26' E - E

5' MIN WALK

20.17' E - E

PR 30' UTILITY ESMT

10' BLDG SETBACK

TRASH

PR STREET LIGHT (TYP)

OUTLOOK NINE MILE COMMERCIAL PROPERTY

4' LOT LINE - TBC

PR TREE (TYP)

PR 30' UTILITY ESMT

5' MIN SW

20.17' E - E

9' 9' 9'

20' 20' 20'

92' E - E

HANDICAP VAN PARKING

TRASH

OWNER: PATRICK & DEBRA GONZALES
LEGAL: 10 AC TR 4114 34-1N-69
PER DEED 1434442
RECEPTION NO. 1434442
ZONING: RR - RURAL RESIDENTIAL

10.4' BLDG - PL

26' E - E

PROPERTY LINE

PR 30' UTILITY ESMT

PR LOT LINE

26' DRIVE

26' DRIVE

PR HANDICAP PARKING SIGN

CH

7' SW

5' SW

50.36' BLDG-BLDG

30' TRAIL ESMT

5' BLDG - LOT LINE

8' SW

5.85' BLDG-BLDG

PR BIKE RACK (TYP)

6' TBC-TBC

8' TRAIL

3 B

PR POOL

MATCHLINE - SEE SHEET 4

NOTE:
SEE LANDSCAPE SHEETS FOR WALK/TRAIL MATERIAL SPECIFICATIONS.

30 0 30 60
SCALE: 1" = 30'

HARRIS KOCHER SMITH
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PROJECT NUMBER: 160602

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 3 OF 44

SITE PLAN

NINE MILE FILING NO.1, LOT 1

Filepath: P:\160602\ENGINEERING\SITE PLANS\P - SITE PLAN.DWG Layout: SITE PLAN
File Name: P - SITE PLAN.DWG Date: 9/26/2017 Time: 4:45:00 PM Author: Tim Saylor
Plotted: TUE 09/26/17 11:07:24 By: Tim Saylor

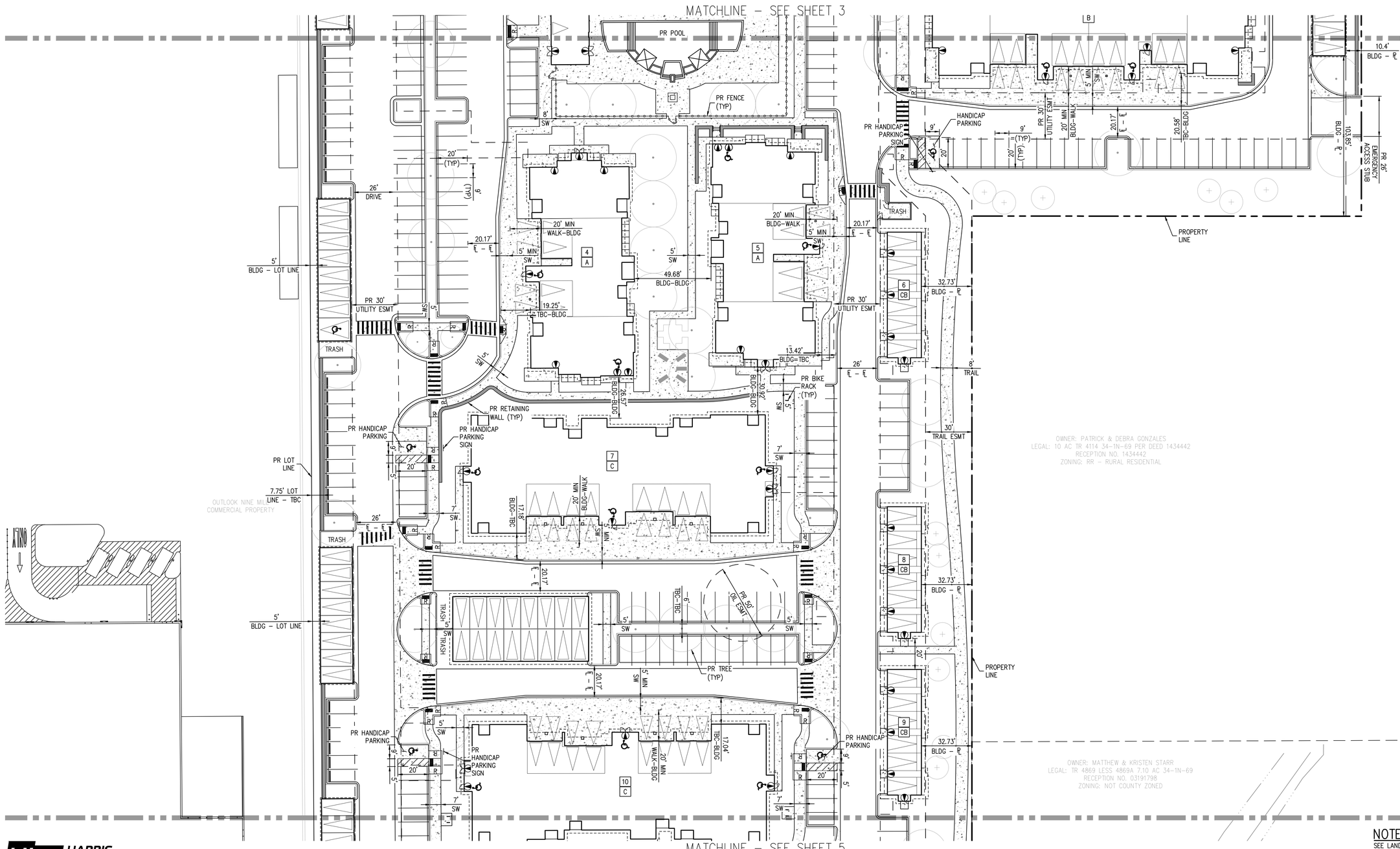
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

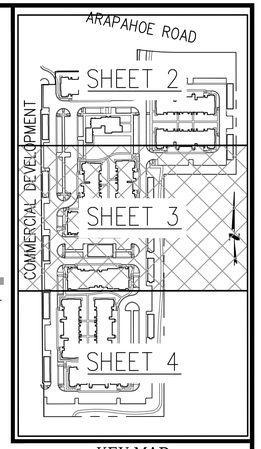
NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016





KEY MAP
SCALE: 1" = 250'

NOTE:
SEE LANDSCAPE SHEETS FOR WALK/TRAIL MATERIAL SPECIFICATIONS.

30 0 30 60
SCALE: 1" = 30'

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PROJECT NUMBER: 160602

Filepath: P:\160602\ENGINEERING\SITE PLANS\P- SITE PLANDWG Layout: 3 SITE PLAN
Plotted By: Tim Saylor Plot Date/Time: 9/26/2017 11:07:27A By: Tim Saylor
Plotted TLH: 09/26/17 11:07:27A By: Tim Saylor

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 4 OF 44

SITE PLAN

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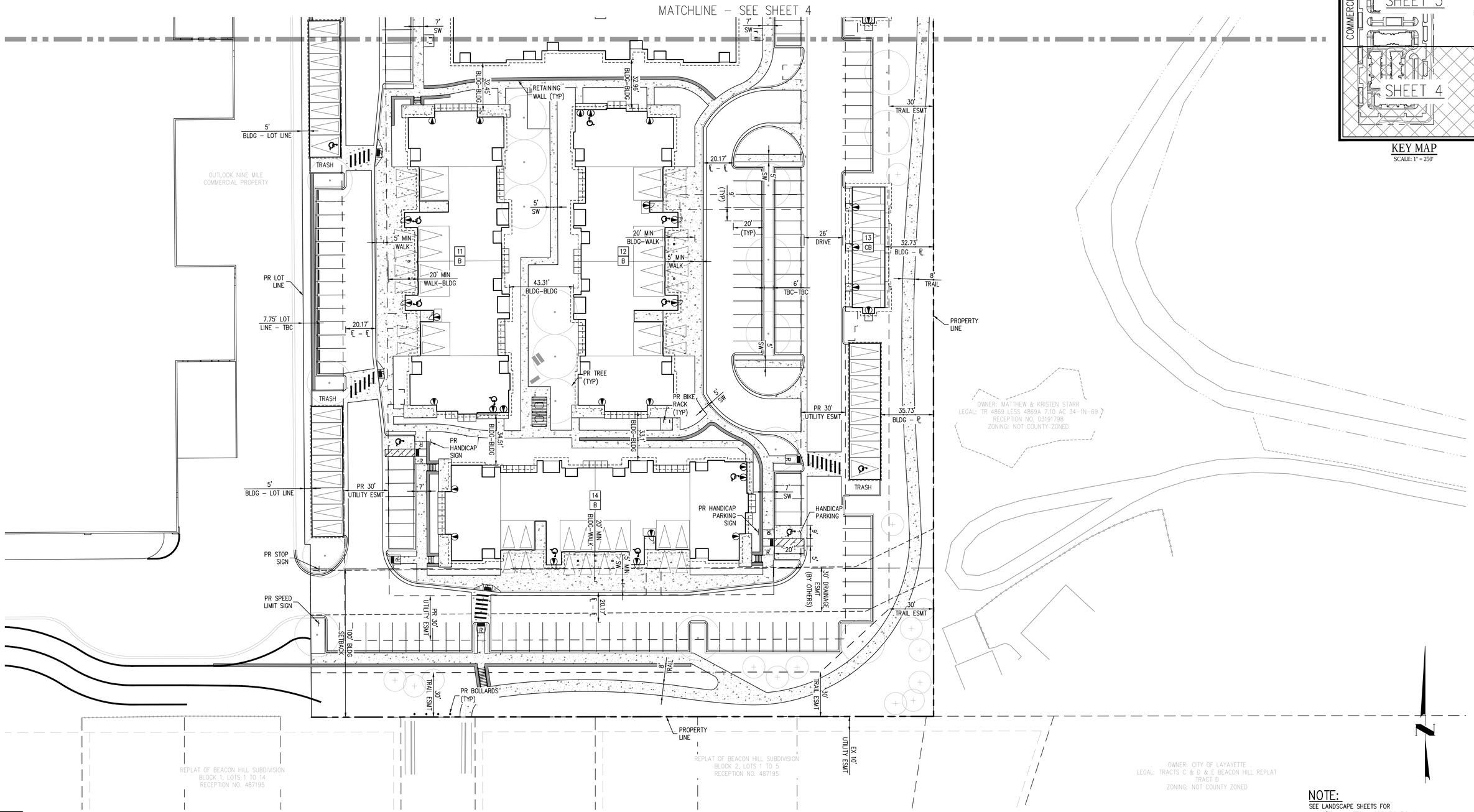
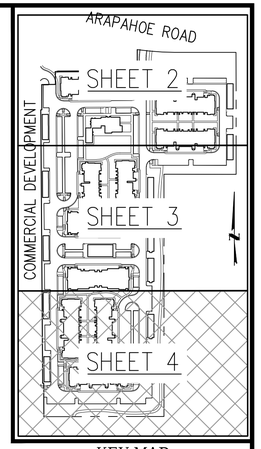
NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016





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PROJECT NUMBER: 160602

Filepath: P:\160602\ENGINEERING\SITE PLANS\P - SITE PLAN.DWG Layout: 4 SITE PLAN
RS Hill Co. 24x36.ctb Modified: Wednesday, September 27, 2017 - 11:07am By: Tim Saylor
Plotted: TUE 09/26/17 11:07:32A By: Tim Saylor

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 5 OF 44

SITE PLAN

NINE MILE FILING NO.1, LOT 1

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NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

GENERAL NOTES

1. THE CONTRACTOR AND OWNER'S REPRESENTATIVE SHALL CONTACT THE LANDSCAPE ARCHITECT FOR A PRE-CONSTRUCTION MEETING PRIOR TO START OF ANY WORK SHOWN ON THESE PLANS.
2. THESE PLANS SHALL NOT BE UTILIZED FOR CONSTRUCTION OR PERMITTING UNLESS STATED FOR SUCH USE IN THE TITLE BLOCK.
3. DRAWINGS ARE INTENDED TO BE PRINTED ON 24 X 36 PAPER. PRINTING THESE DRAWINGS AT A DIFFERENT SIZE WILL IMPACT THE SCALE. VERIFY THE GRAPHIC SCALE BEFORE REFERENCING ANY MEASUREMENTS ON THESE SHEETS. THE RECIPIENT OF THESE DRAWINGS SHALL BE RESPONSIBLE FOR ANY ERRORS RESULTING FROM INCORRECT PRINTING, COPYING, OR ANY OTHER CHANGES THAT ALTER THE SCALE OF THE DRAWINGS.
4. VERIFY ALL PLAN DIMENSIONS PRIOR TO START OF CONSTRUCTION. NOTIFY THE OWNER'S REPRESENTATIVE TO ADDRESS ANY QUESTIONS OR CLARIFY ANY DISCREPANCIES.
5. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
6. SUBMIT A CHANGE ORDER FOR APPROVAL FOR ANY CHANGES TO WORK SCOPE RESULTING FROM FIELD CONDITIONS OR DIRECTION BY OWNER'S REPRESENTATIVE WHICH REQUIRE ADDITIONAL COST TO THE OWNER PRIOR TO PERFORMANCE OF WORK.
7. THE CONTRACTOR SHALL PROVIDE A STAKED LAYOUT OF ALL SITE IMPROVEMENTS FOR INSPECTION BY THE OWNER'S REPRESENTATIVE AND MAKE MODIFICATIONS AS REQUIRED. ALL LAYOUT INFORMATION IS AVAILABLE IN DIGITAL FORMAT FOR USE BY THE CONTRACTOR.
8. IF A GEOTECHNICAL SOILS REPORT IS NOT AVAILABLE AT THE TIME OF CONSTRUCTION, NORRIS DESIGN RECOMMENDS A REPORT BE AUTHORIZED BY THE OWNER AND THAT ALL RECOMMENDATIONS OF THE REPORT ARE FOLLOWED DURING CONSTRUCTION. THE CONTRACTOR SHALL USE THESE CONTRACT DOCUMENTS AS A BASIS FOR THE BID. IF THE OWNER ELECTS TO PROVIDE A GEOTECHNICAL REPORT, THE CONTRACTOR SHALL REVIEW THE REPORT AND SUBMIT AN APPROPRIATE CHANGE ORDER TO THE OWNER'S REPRESENTATIVE IF ADDITIONAL COSTS ARE REQUESTED.
9. CONTRACTOR SHALL CONFIRM THAT SITE CONDITIONS ARE SIMILAR TO THE PLANS, WITHIN TOLERANCES STATED IN THE CONTRACT DOCUMENTS, AND SATISFACTORY TO THE CONTRACTOR PRIOR TO START OF WORK. SHOULD SITE CONDITIONS BE DIFFERENT THAN REPRESENTED ON THE PLANS OR UNSATISFACTORY TO THE CONTRACTOR, THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE FOR CLARIFICATION AND FURTHER DIRECTION.
10. CONTRACTOR IS RESPONSIBLE TO PAY FOR, AND OBTAIN, ANY REQUIRED APPLICATIONS, PERMITTING, LICENSES, INSPECTIONS AND METERS ASSOCIATED WITH WORK.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO ANY VIOLATIONS OR NON-CONFORMANCE WITH THE PLANS, SPECIFICATIONS, CONTRACT DOCUMENTS, JURISDICTIONAL CODES, AND REGULATORY AGENCIES.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL UTILITY LOCATES PRIOR TO ANY EXCAVATION. REFER TO ENGINEERING UTILITY PLANS FOR ALL PROPOSED UTILITY LOCATIONS AND DETAILS. NOTIFY OWNER'S REPRESENTATIVE IF EXISTING OR PROPOSED UTILITIES INTERFERE WITH THE ABILITY TO PERFORM WORK.
13. UNLESS IDENTIFIED ON THE PLANS FOR DEMOLITION OR REMOVAL, THE CONTRACTOR IS RESPONSIBLE FOR THE COST TO REPAIR UTILITIES, ADJACENT OR EXISTING LANDSCAPE, ADJACENT OR EXISTING PAVING, OR ANY PUBLIC AND PRIVATE PROPERTY THAT IS DAMAGED BY THE CONTRACTOR OR THEIR SUBCONTRACTOR'S OPERATIONS DURING INSTALLATION, ESTABLISHMENT OR DURING THE SPECIFIED MAINTENANCE PERIOD. ALL DAMAGES SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS AS DETERMINED BY THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL BE RESPONSIBLE FOR LOGGING ANY DAMAGES PRIOR TO START OF CONSTRUCTION AND DURING THE CONTRACT PERIOD.
14. ALL WORK SHALL BE CONFINED TO THE AREA WITHIN THE CONSTRUCTION LIMITS AS SHOWN ON THE PLANS. ANY AREAS OR IMPROVEMENTS DISTURBED OUTSIDE THESE LIMITS SHALL BE RETURNED TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. IN THE EVENT THE CONTRACTOR REQUIRES A MODIFICATION TO THE CONSTRUCTION LIMITS, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER'S REPRESENTATIVE PRIOR TO ANY DISTURBANCE OUTSIDE OF THE LIMITS OF WORK.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY OF THEIR TRENCHES OR EXCAVATIONS THAT SETTLE.
16. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN TO THE APPROPRIATE JURISDICTIONAL AGENCIES AND THE OWNER'S REPRESENTATIVE IF THEIR WORK AND OPERATIONS AFFECT OR IMPACT THE PUBLIC RIGHTS-OF-WAY. OBTAIN APPROVAL PRIOR TO ANY WORK WHICH AFFECTS OR IMPACTS THE PUBLIC RIGHTS-OF-WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THIS REQUIREMENT DURING THE CONTRACT PERIOD.
17. SIGHT TRIANGLES AND SIGHT LINES SHALL REMAIN UNOBSTRUCTED BY EQUIPMENT, CONSTRUCTION MATERIALS, PLANT MATERIAL OR ANY OTHER VISUAL OBSTACLE DURING THE CONTRACT PERIOD AND AT MATURITY OF PLANTS PER LOCAL JURISDICTIONAL REQUIREMENTS.
18. NO PLANT MATERIAL OTHER THAN GROUND COVER IS ALLOWED TO BE PLANTED ADJACENT TO FIRE HYDRANTS AS STIPULATED BY JURISDICTIONAL REQUIREMENTS.
19. COORDINATE SITE ACCESS, STAGING, STORAGE AND CLEANOUT AREAS WITH OWNER'S REPRESENTATIVE.
20. CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY SAFETY FENCING AND BARRIERS AROUND ALL IMPROVEMENTS SUCH AS WALLS, PLAY STRUCTURES, EXCAVATIONS, ETC. ASSOCIATED WITH THEIR WORK UNTIL SUCH FACILITIES ARE COMPLETELY INSTALLED PER THE PLANS, SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF THEIR MATERIAL STOCK PILES AND WORK FROM VANDALISM, EROSION OR UNINTENDED DISTURBANCE DURING THE CONSTRUCTION PERIOD AND UNTIL FINAL ACCEPTANCE IS ISSUED.
22. THE CONTRACTOR SHALL KNOW, UNDERSTAND AND ABIDE BY ANY STORM WATER POLLUTION PREVENTION PLAN (SWPPP) ASSOCIATED WITH THE SITE. IF A STORM WATER POLLUTION PREVENTION PLAN IS NOT PROVIDED BY THE OWNER'S REPRESENTATIVE, REQUEST A COPY BEFORE PERFORMANCE OF ANY SITE WORK.
23. MAINTAIN ANY STORM WATER MANAGEMENT FACILITIES THAT EXIST ON SITE FOR FULL FUNCTIONALITY. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ANY NEW STORM WATER MANAGEMENT FACILITIES THAT ARE IDENTIFIED IN THE SCOPE OF WORK TO FULL FUNCTIONALITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER FOR FAILURE TO MAINTAIN STORM WATER MANAGEMENT FACILITIES DURING THE CONTRACT PERIOD.
24. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND ALL OTHER POLLUTANTS FROM EXITING THE SITE OR ENTERING THE STORM SEWER SYSTEM DURING ALL DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THESE REQUIREMENTS DURING THEIR CONTRACTED COURSE OF WORK.
25. THE CONTRACTOR SHALL BE RESPONSIBLE TO PREVENT ANY IMPACTS TO ADJACENT WATERWAYS, WETLANDS, OR OTHER ENVIRONMENTALLY SENSITIVE AREAS RESULTING FROM WORK DONE AS PART OF THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THESE STANDARDS DURING THEIR CONTRACTED COURSE OF WORK.
26. THE CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL INSURE THAT ALL LOADS OF CONSTRUCTION MATERIAL IMPORTED TO OR EXPORTED FROM THE PROJECT SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF MATERIAL DURING TRANSPORT. TRANSPORTATION METHODS ON PUBLIC RIGHT-OF WAYS SHALL CONFORM TO JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY FINES OR PENALTIES ASSESSED TO THE OWNER RELATING TO THESE REQUIREMENTS.
27. THE CLEANING OF EQUIPMENT IS PROHIBITED AT THE JOB SITE UNLESS AUTHORIZED BY THE OWNER'S REPRESENTATIVE IN A DESIGNATED AREA. THE DISCHARGE OF WATER, WASTE CONCRETE, POLLUTANTS, OR OTHER MATERIALS SHALL ONLY OCCUR IN AREAS DESIGNED FOR SUCH USE AND APPROVED BY THE OWNER'S REPRESENTATIVE.
28. THE CLEANING OF CONCRETE EQUIPMENT IS PROHIBITED AT THE JOB SITE EXCEPT IN DESIGNATED CONCRETE WASHOUT AREAS. THE DISCHARGE OF WATER CONTAINING WASTE CONCRETE IN THE STORM SEWER IS PROHIBITED.
29. THE USE OF REBAR, STEEL STAKES, OR STEEL FENCE POSTS TO STAKE DOWN STRAW OR HAY BALES OR TO SUPPORT SILT FENCING USED AS AN EROSION CONTROL MEASURE IS PROHIBITED.
30. LOCAL, STATE AND FEDERAL JURISDICTIONAL REQUIREMENTS, RESTRICTIONS OR PROCEDURES SHALL SUPERSEDE THESE PLANS, NOTES AND SPECIFICATIONS WHEN MORE STRINGENT. NOTIFY THE OWNER'S REPRESENTATIVE IF CONFLICTS OCCUR.

GENERAL LANDSCAPE NOTES

1. THE CONTRACTOR SHALL FOLLOW THE LANDSCAPE PLANS AND SPECIFICATIONS AS CLOSELY AS POSSIBLE. ANY SUBSTITUTION OR ALTERATION SHALL NOT BE ALLOWED WITHOUT APPROVAL OF THE OWNER'S REPRESENTATIVE. OVERALL PLANT QUANTITY AND QUALITY SHALL BE CONSISTENT WITH THE PLANS.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL PLANT QUANTITIES. GRAPHIC QUANTITIES TAKES PRECEDENCE OVER WRITTEN QUANTITIES.
3. THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO INSPECT AND TAG ALL PLANT MATERIAL PRIOR TO SHIPPING TO THE SITE. IN ALL CASES, THE OWNER'S REPRESENTATIVE MAY REJECT PLANT MATERIAL AT THE SITE IF MATERIAL IS DAMAGED, DISEASED, OR DECLINING IN HEALTH AT THE TIME OF ONSITE INSPECTIONS OR IF THE PLANT MATERIAL DOES NOT MEET THE MINIMUM SPECIFIED STANDARD IDENTIFIED ON THE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE FOR INSPECTION AND APPROVAL OF ALL MATERIALS AND PRODUCTS PRIOR TO INSTALLATION.
4. THE OWNER'S REPRESENTATIVE MAY ELECT TO UPSIZE PLANT MATERIAL AT THEIR DISCRETION BASED ON SELECTION, AVAILABILITY, OR TO ENHANCE SPECIFIC AREAS OF THE PROJECT. THE CONTRACTOR SHALL VERIFY PLANT MATERIAL SIZES WITH OWNER'S REPRESENTATIVE PRIOR TO PURCHASING, SHIPPING OR STOCKING OF PLANT MATERIALS. SUBMIT CHANGE ORDER REQUEST TO OWNER'S REPRESENTATIVE FOR APPROVAL IF ADDITIONAL COST IS REQUESTED BY THE CONTRACTOR PRIOR TO INSTALLATION. RE-STOCKING CHARGES WILL NOT BE APPROVED IF THE CONTRACTOR FAILS TO SUBMIT A REQUEST FOR MATERIAL CHANGES.
5. THE CONTRACTOR SHALL WARRANTY ALL CONTRACTED WORK AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER SUBSTANTIAL COMPLETION HAS BEEN ISSUED BY THE OWNER'S REPRESENTATIVE FOR THE ENTIRE PROJECT UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS OR SPECIFICATIONS.
6. REFER TO IRRIGATION PLANS FOR LIMITS AND TYPES OF IRRIGATION DESIGNED FOR THE LANDSCAPE. IN NO CASE SHALL IRRIGATION BE EMITTED WITHIN THE MINIMUM DISTANCE FROM BUILDING OR WALL FOUNDATIONS AS STIPULATED IN THE GEOTECHNICAL REPORT. ALL IRRIGATION DISTRIBUTION LINES, HEADS AND EMITTERS SHALL BE KEPT OUTSIDE THE MINIMUM DISTANCE AWAY FROM ALL BUILDING AND WALL FOUNDATIONS AS STIPULATED IN THE GEOTECHNICAL REPORT.
7. LANDSCAPE MATERIAL LOCATIONS SHALL HAVE PRECEDENCE OVER IRRIGATION MAINLINE AND LATERAL LOCATIONS. COORDINATE INSTALLATION OF IRRIGATION EQUIPMENT SO THAT IT DOES NOT INTERFERE WITH THE PLANTING OF TREES OR OTHER LANDSCAPE MATERIAL.
8. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING POSITIVE DRAINAGE EXISTS IN ALL LANDSCAPE AREAS. SURFACE DRAINAGE ON LANDSCAPE AREAS SHALL NOT FLOW TOWARD STRUCTURES AND FOUNDATIONS. MAINTAIN SLOPE AWAY FROM FOUNDATIONS PER THE GEOTECHNICAL REPORT RECOMMENDATIONS. ALL LANDSCAPE AREAS BETWEEN WALKS AND CURBS SHALL DRAIN FREELY TO THE CURB UNLESS OTHERWISE IDENTIFIED ON THE GRADING PLAN. IN NO CASE SHALL THE GRADE, TURF THATCH, OR OTHER LANDSCAPE MATERIALS DAM WATER AGAINST WALKS. MINIMUM SLOPES ON LANDSCAPE AREAS SHALL BE 2%; MAXIMUM SLOPE SHALL BE 25% UNLESS SPECIFICALLY IDENTIFIED ON THE PLANS OR APPROVED BY THE OWNER'S REPRESENTATIVE.
9. PRIOR TO INSTALLATION OF PLANT MATERIALS, AREAS THAT HAVE BEEN COMPACTED OR DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE THOROUGHLY LOOSENED TO A DEPTH OF 8ö - 12ö AND AMENDED PER SPECIFICATIONS.
10. ALL LANDSCAPED AREAS ARE TO RECEIVE ORGANIC SOIL PREPARATION AT 3 cu.yrds/1,000sf OR AS NOTED IN THE TECHNICAL SPECIFICATIONS.
11. TREES SHALL NOT BE LOCATED IN DRAINAGE SWALES, DRAINAGE AREAS, OR UTILITY EASEMENTS. CONTACT OWNER'S REPRESENTATIVE FOR RELOCATION OF PLANTS IN QUESTIONABLE AREAS PRIOR TO INSTALLATION.
12. THE CENTER OF EVERGREEN TREES SHALL NOT BE PLACED CLOSER THAN 8' AND THE CENTER OF ORNAMENTAL TREES CLOSER THAN 6' FROM A SIDEWALK, STREET OR DRIVE LANE. EVERGREEN TREES SHALL NOT BE LOCATED ANY CLOSER THAN 15' FROM IRRIGATION ROTOR HEADS. NOTIFY OWNER'S REPRESENTATIVE IF TREE LOCATIONS CONFLICT WITH THESE STANDARDS FOR FURTHER DIRECTION.
13. ALL EVERGREEN TREES SHALL BE FULLY BRANCHED TO THE GROUND AND SHALL NOT EXHIBIT SIGNS OF ACCELERATED GROWTH AS DETERMINED BY THE OWNER'S REPRESENTATIVE.
14. ALL TREES ARE TO BE STAKED AND GUYED PER DETAILS FOR A PERIOD OF 1 YEAR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING STAKES AT THE END OF 1 YEAR FROM ACCEPTANCE OF LANDSCAPE INSTALLATION BY THE OWNER'S REPRESENTATIVE. OBTAIN APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO REMOVAL.
15. ALL TREES INSTALLED ABOVE RETAINING WALLS UTILIZING GEO-GRID MUST BE HAND DUG TO PROTECT GEO-GRID. IF GEO-GRID MUST BE CUT TO INSTALL TREES, APPROVAL MUST BE GIVEN BY OWNER'S REPRESENTATIVE PRIOR TO DOING WORK.
16. ALL TREES IN SEED OR TURF AREAS SHALL RECEIVE MULCH RINGS. OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE FOR ANY TREES THAT WILL NOT BE MULCHED FOR EXCESSIVE MOISTURE REASONS.
17. SHRUB, GROUNDCOVER AND PERENNIAL BEDS ARE TO BE CONTAINED BY 6" x 14 GAUGE GREEN, ROLL TOP, INTERLOCKING TYPE EDGER, RYERSON OR EQUAL. EDGER IS NOT REQUIRED WHEN ADJACENT TO CURBS, WALLS, WALKS OR SOLID FENCES WITHIN 3ö OF PRE-MULCHED FINAL GRADE. EDGER SHALL NOT BE REQUIRED TO SEPARATE MULCH TYPES UNLESS SPECIFIED ON THE PLANS.
18. ALL SHRUB BEDS ARE TO BE MULCHED WITH MIN. 3" DEPTH, LOCAL RIVER ROCK LANDSCAPE MULCH OVER SPECIFIED GEOTEXTILE WEED CONTROL FABRIC. ALL GROUND COVER AND PERENNIAL FLOWER BEDS SHALL BE MULCHED WITH 4 " DEPTH GORILLA HAIR CEDAR LANDSCAPE MULCH. NO WEED CONTROL FABRIC IS REQUIRED IN GROUNDCOVER OR PERENNIAL AREAS.
19. CONTRACTOR SHALL OVER SEED ALL MAINTENANCE OR SERVICE ACCESS BENCHES AND ROADS WITH SPECIFIED SEED MIX UNLESS OTHERWISE NOTED ON THE PLANS.
20. ALL SEEDED SLOPES EXCEEDING 25% IN GRADE (4:1) SHALL RECEIVE EROSION CONTROL BLANKETS. PRIOR TO INSTALLATION, NOTIFY OWNER'S REPRESENTATIVE FOR APPROVAL OF LOCATION AND ANY ADDITIONAL COST IF A CHANGE ORDER IS NECESSARY.
21. WHEN COMPLETE, ALL GRADES SHALL BE WITHIN +/- 1/8ö OF FINISHED GRADES AS SHOWN ON THE PLANS.
22. WHEN PLANTER URNS ARE SHOWN ON PLANS, CONTRACTOR SHALL INCLUDE THE FOLLOWING: PLANTER MIX, ANNUAL FLOWER PLANTING PROGRAM (INCLUDES 2 PLANTINGS FOR THE 1ST YEAR (SPRING AND FALL) AND WINTER HAND-WATERING AS NEEDED. UNLESS OTHERWISE SPECIFIED, CONTRACTOR TO PROVIDE ANNUAL PLANTING SELECTION FOR REVIEW BY OWNER. IRRIGATION FOR PLANTERS TO BE ON SEPARATE ZONE(S). CONTRACTOR TO COORDINATE PLACEMENT OF NECESSARY SLEEVING PRIOR TO PLACEMENT OF PAVEMENT.
23. THE CONTRACTOR IS EXPECTED TO KNOW AND UNDERSTAND THE TOWN OF ERIE'S SPECIFICATIONS FOR LANDSCAPE AND IRRIGATION. IN CASES OF DISCREPANCIES THE HIGHER OF THE TWO STANDARDS SHALL HAVE PRECEDENCE.
24. THE DEVELOPER, HIS SUCCESSORS AND ASSIGNS SHALL BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE AND REPLACEMENT OF ALL IMPROVEMENTS SHOWN OR INDICATED ON THE APPROVED LANDSCAPE PLAN ON FILE IN THE PLANNING DEPARTMENT.
25. ALL HOA/DISTRICT MAINTAINED LANDSCAPING TO BE INSPECTED BY A COLORADO LANDSCAPE ARCHITECT IN GOOD STANDING AND PAID FOR BY THE DEVELOPER. ALL TOWN OF ERIE LANDSCAPE ACCEPTANCE PROCEDURES SHALL BE FOLLOWED, UNLESS OTHERWISE NOTED IN THE PLANS (SEE NOTES)
26. ALL STREET TREE SPECIES AND THEIR LOCATIONS SHALL BE APPROVED BY PARKS AND RECREATION DIRECTOR OR DESIGNEE FOR TREES PLANTED ADJACENT TO RESIDENTIAL HOMES, WHETHER THEY BE INSTALLED BY THE DEVELOPER/CONTRACTOR OR INDIVIDUAL HOMEOWNER. ASH TREES SHALL NOT BE PLANTED UNDER ANY CIRCUMSTANCES.

TOWN OF ERIE NOTES

1. IF TRANSFORMERS, GROUND MOUNTED HVAC EQUIPMENT, UTILITY PEDESTALS, ETC. ARE NOT SHOWN ON THE SITE IMPROVEMENT PLAN, ADDITIONAL LANDSCAPING/SCREENING MAY BE REQUIRED BASED UPON FIELD CONDITIONS DISCOVERED VIA THE SITE INSPECTION BY STAFF, MADE PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY, OR FINAL INSPECTION AS APPLICABLE.

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PROJECT NUMBER: 160602

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-03ND-D3DS-MP-PLAN.DWG Layout: 6 LANDSCAPE NOTES
Plotted: WED 09/27/17 11:37:23A By: Matthew Ruth

LANDSCAPE NOTES

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 6 OF 44

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14.38 ACRES

SITE PLAN - SP-000832-2016

LANDSCAPE PLANT LIST

QTY.	SYM.	BOTANICAL NAME	COMMON NAME	SIZE & COND. (UNLESS OTHERWISE NOTED)
DECIDUOUS TREES				
20	ACE	ACER SACCHARUM 'BAILSTA'	FALL FIESTA SUGAR MAPLE	2.5" CAL. B&B
2	CAL	CATALPA SPECIOSA	WESTERN CATALPA	2.5" CAL. B&B
8	GIN	GINKGO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD GINKGO	2.5" CAL. B&B
7	GRT	KOELREUTERIA PANICULATA	GOLDENRAIN TREE	2.5" CAL. B&B
3	KCT	GYMNOCLADUS DIOICUS	KENTUCKY COFFEETREE	2.5" CAL. B&B
6	OAK	QUERCUS X MACDANIELII 'CLEMONS'	HERITAGE OAK	2.5" CAL. B&B
13	RLI	TILIA CORDATA 'GLENLEVEN'	GLENLEVEN LINDEN	2.5" CAL. B&B
12	SHU	QUERCUS SHUMMARDI	SHUMMARD OAK	2.5" CAL. B&B
6	SCH	SOPHORA JAPONICA 'REGENT'	JAPANESE PAGODA TREE	2.5" CAL. B&B
EVERGREEN TREES				
15	AUS	PINUS NIGRA	AUSTRIAN PINE	6' HT. MIN.
10	BOP	PINUS LEUCODERMIS	BOSNIAN PINE 'MINT TRUFFLE'	6' HT. MIN.
13	BSP	PICEA PUNGENS 'BAKERI'	BAKERI SPRUCE	6' HT. MIN.
16	FSP	PICEA PUNGENS 'FASTIGIATA'	FASTIGATE BLUE SPRUCE	6' HT. MIN.
12	PON	PINUS PONDEROSA	PONDEROSA PINE	6' HT. MIN.
17	PVP	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID'	VANDERWOLF PINE	6' HT. MIN.
ORNAMENTAL TREES				
37	ABS	AMELANCHIER X GRANDIFLORA	AUTUMN BRILLIANCE SERVICEBERRY	6' HT. CLUMP
4	CCH	CRATAEGUS LAEVIGATA 'CRIMSON CLOUD'	CRIMSON CLOUD HAWTHORN	2.0" CAL. B&B
11	CSM	ACER PLATANOIDES 'CRIMSON SENTRY'	CRIMSON SENTRY MAPLE	2.0" CAL. B&B
18	GMT	ACER GINNALA	GINNALA MAPLE	6' HT. CLUMP
DECIDUOUS SHRUBS (3' SPREAD)				
11	ART	CORNUS SERICEA 'ARCTIC FIRE'	ARCTIC FIRE DOGWOOD	#5 CONT.
23	DCM	DAPHNE X BURKWOODI 'CAROL MACKIE'	CAROL MACKIE DAPHNE	#5 CONT.
21	GFS	SPIREA JAPONICA 'GOLDFLAME'	GOLDFLAME SPIREA	#5 CONT.
13	HKO	DIERVILLA X KODIAK ORANGE	KODIAK ORANGE HONEYSUCKLE	#5 CONT.
23	KEL	CORNUS SERICEA 'KELSEYI'	KELSEY DOGWOOD	#5 CONT.
37	LMS	SPIREA X BUMALDA 'LIMEMOUND'	LIMEMOUND SPIREA	#5 CONT.
17	ORB	BERBERIS THUNBERGII 'ORANGE ROCKET'	ROCKET ORANGE BARBERRY	#5 CONT.
52	WMM	WEIGELA FLORIDA 'VERWIG'	MY MONET WEIGELA	#5 CONT.
DECIDUOUS SHRUBS (5' SPREAD)				
27	FLA	PRUNUS GLANDULOSA	FLOWERING ALMOND	#5 CONT.
47	FQP	CHAENOMELES JAPONICA 'CAMEO	PINK FLOWERING QUINCE	#5 CONT.
78	GLS	RHUS AROMATICA 'GROW-LOW'	GRO-LOW FRAGRANT SUMAC	#5 CONT.
85	IVO	CORNUS ALBA 'BAIL HALO'	IVORY HALO DOGWOOD	#5 CONT.
90	MKL	SYRINGA PATULA 'MISS KIM'	MISS KIM LILAC	#5 CONT.
31	PBS	PRUNUS BESSEYI 'PAWNEE BUTTES'	PAWNEE BUTTES SANDCHERRY	#5 CONT.
38	URC	ARONIA ARBUTIFOLIA 'ERECTA'	UPRIGHT RED CHOKEBERRY	#5 CONT.
43	WRP	WEIGELA FLORIDA 'RED PRINCE'	RED PRINCE WEIGELA	#5 CONT.
DECIDUOUS SHRUBS (7' SPREAD)				
30	DFV	VIBURNUM PLICATUM TOMENTOSUM 'SUMMER SNOWFLAKE'	DOUBLEFILE VIBURNUM	#5 CONT.
29	MOC	PHILADELPHUS LEWISII 'CHEYENNE'	CHEYENNE MOCKORANGE	#5 CONT.
26	NCG	PHYSOCARPUS OPULIFOLIUS 'CENTER GLOW"	CENTER GLOW NINEBARK	#5 CONT.
41	PLS	PRUNUS X CISTENA	CISTENA PLUM	#5 CONT.
34	VBM	VIBURNUM DENTATUM 'CHRISTOM'	BLUE MUFFIN VIBURNUM	#5 CONT.
EVERGREEN SHRUBS/UPRIGHT JUNIPERS				
137	BCH	JUNIPERUS HORIZONTALIS 'BLUE CHIP'	BLUE CHIP JUNIPER	#5 CONT.
27	BOX	BUXUS 'GREEN VELVET'	GREEN VELVET BOXWOOD	#5 CONT.
99	GMJ	JUNIPERUS PROCUMBENS 'GREEN MOUND'	GREEN MOUND JUNIPER	#5 CONT.
41	MOO	JUNIPERUS SCOPULORUM 'MOONGLOW"	MOONGLOW JUNIPER	6' HT. MIN.
10	MSL	PINUS MUGO 'SLOWMOUND'	SLOWMOUND MUGO PINE	#5 CONT.
54	SYL	PINUS SYLVESTRIS 'ALBYN PROSTRATA'	SPREADING SCOTS PINE	#5 CONT.
ORNAMENTAL GRASSES				
129	BAG	BOUTELOUA GRACILIS 'BLONDE AMBITION'	BLONDE AMBITION GRASS	#1 CONT.
12	BFE	FESTUCA GLAUCA 'ELIJAH BLUE'	BLUE FESCUE	#1 CONT.
354	FRG	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	#1 CONT.
199	GHM	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL SWITCHGRASS	#1 CONT.
228	HFG	PENNISETUM ALOPECUROIDES 'HAMELN'	HARDY FOUNTAIN GRASS	#1 CONT.
75	PMG	MISCANTHUS SINENSIS 'PURPURASCENS'	PURPLE MAIDEN GRASS	#1 CONT.
78	RSG	PANICUM VIRGATUM 'SHENANDOAH'	RED SWITCHGRASS	#1 CONT.
PERENNIALS				
	AGA	AGASTACHE RUPESTRIS	SUNSET HYSSOP	#1 CONT.
	AQU	AQUILEGIA CHRYSANTHA 'DENVER GOLD'	YELLOW COLUMBINE	#1 CONT.
	CPM	ECHINACEA PURPUREA 'MAGNUS'	MAGNUS CONEFLOWER	#1 CONT.
	GAI	G. ARISTATA	GAILLARDIA/ BLANKET FLOWER	#1 CONT.
	HOS	HOSTA SIEBOLDIANA 'ELGANS'	BLUE GIANT PLANTAIN HOSTA	#1 CONT.
	HYS	AGASTACHE AURANTIACA 'P012S'	CORONADO HYSSOP	#1 CONT.
	LAV	LAVANDULA ANGUSTIFOLIA 'MUNSTEAD'	ENGLISH LAVENDER	#1 CONT.
	PEN	PENSTEMON BARBATUS 'PRAIRIE DUSK'	ROSE-PURPLE PENSTEMON	#1 CONT.
	RGD	R. FULGIDA 'GOLDSTRUM'	RUDBECKIA/BLACK EYED SUSAN	#1 CONT.
	SMN	S. SYLVESTRIS X 'MAINACHT'	MAY NIGHT SALVIA	#1 CONT.
	VAL	CENTRANTHUS RUBER 'ALBUS'	WHITE VALERIAN	#1 CONT.
	VFA	ARTEMISIA LUDOVICIANA 'VALERIE FINNIS'	VALERIE FINNIS SAGE	#1 CONT.

NOTE: IN THE EVENT OF A DISCREPENCY BETWEEN THE PLAN GRAPHIC AND THE LANDSCAPE LEGEND, THE PLANT MATERIAL QUANTITY AS DETERMINED BY THE PLAN GRAPHIC SHALL TAKE PRECEDENCE.

WETLAND SEED MIX

"WET DETENTION POND MIX" BY PAWNEE BUTTES SEED, INC, OR APPROVED EQUAL

COMMON NAME	SCIENTIFIC NAME	% OF TOTAL	PLS PER ACRE
AMERICAN SLOUGHGRASS	BECKMANNIA SYZIGACHNE	12%	2.40
AQUATIC SEDGE	CAREX AQUATILIS	1%	0.20
NEBRASKA SEDGE	CAREX NEBRASCENSIS	3%	0.60
WOOLLY SEDGE	CAREX LANUGINOSA	1%	0.20
CREEPING SPIKERUSH	ELEOCHARIS PALUSTRIS	10%	2.00
CANADA WILDRYE	ELYMUS CANADENSIS	15%	3.00
BALTIC RUSH	JUNCUS BALTICUS	1%	0.20
TORREY'S RUSH	JUNCUS TORREYI	1%	0.20
SWITCHGRASS	PANICUM VIRGATUM	12%	2.40
HARDSTEM BULRUSH	SCIRPUS ACUTUS	10%	2.00
PALE BULRUSH	SCIRPUS PALLIDUS	1%	0.20
ALKALI BULRUSH	SCIRPUS PALUDOSUS	10%	2.00
THREE SQUARE BULRUSH	SCIRPUS PUNGENS	4%	0.80
SOFT STEM BULRUSH	SCIRPUS VALIDUS	10%	2.00
GIANT BUR-REED	SPARGANIUM EURYSCARPUM	4%	0.80
PRAIRIE CORDGRASS	SPARTINA PECTINATA	5%	1.00
TOTAL		100%	20 LBS / ACRE

TURF GRASS BLEND: SOD

"90/10 FESCUE/ BLUEGRASS BLEND" BY BITTERSWEET TURF FARMS, INC, OR APPROVED EQUAL

COMMON NAME	% OF TOTAL
EXCALIBER FESCUE	30%
REBEL JR. FESCUE	30%
CREW CUT FESCUE	30%
FREEDOM BLUEGRASS	5%
RAM I BLUEGRASS	5%
TOTAL	100%

DRYLAND SEED MIX

COMMON NAME	SCIENTIFIC NAME	% OF TOTAL	PLS PER ACRE
WESTERN WHEATGRASS	AGROPYRON SMITHII	28%	6.2 LBS.
BIG BLUESTEM	ANDROPOGON GRARDII	28%	6.2 LBS.
SIDE OATS GRAMA	BOUTELOUA CURTIPENDULA	10%	2.2 LBS.
BLUE GRAMA	BOUTELOUA GRACILIS	6%	1.2 LBS.
SWITCHGRASS	PANICUM VIRGATUM	10%	2.2 LBS.
INDIANGRASS	SORGHASTRUM NUTANS	10%	2.2 LBS.
LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUS	8%	1.8 LBS.
TOTAL		100%	22.0 LBS.

REQUIRED PLANT MATERIAL CHART

LANDSCAPE AREA	AREAS/CALCULATIONS	REQUIRED TREES	PROVIDED TREES	REQUIRED SHRUBS	PROVIDED SHRUBS†
STREET ROW: 1 TREE FOR EVERY 40 LINEAR FEET	293 LINEAR FT	8	8	NA	NA
PARKING AREA: 1 TREE AND 15 SHRUBS PER 15 PARKING SPACES	357 PARKING SPACES	24	24	357	389†
INTERIOR AREA: 1 TREE /1000 SQ FT. 1 SHRUB/ 150 SQ FT.	136,967.7 SQ FT	137	138	914	1,133†
TREE MITIGATION: REPLACE EXISTING HEALTHY TREES WITH 1 $\frac{1}{2}$ CALIPER OF EXISTING TREES	TWO 30" CALIPER COTTONWOODS‡	45 (2" CALIPER TREES) 90" CALIPER‡	59 (2" CALIPER TREES) 1 (4" CALIPER TREE) 122" CALIPER		
TOTAL		214	230	1,266	1,522†

NOTES:
1. SHRUB EQUIVALENT, 3 ORNAMENTAL GRASSES = 1 SHRUB
2. BASED ON THE MARCH 20, 2015 "NATIVE AND TREE VEGETATION SURVEY" BY MIKE MCGILL, TWO LARGE PLAINS COTTONWOODS WERE IDENTIFIED AS SUITABLE FOR PRESERVATION. THE REMAINING VEGETATION ON THE SITE WAS NOTED AS A MIIX OF NATIVE AND NON-NATIVE, UNDESIRABLE, AND IN POOR CONDITION. NO TREE CALIPER WAS SPECIFIED IN THE SURVEY. 30" CALIPER FOR THE TWO COTTONWOODS IS ASSUMED.

LANDSCAPING SHALL BE PLANTED AND MAINTAINED IN A NEAT, CLEAN AND HEALTHY CONDITION BY THE OWNER. THIS SHALL INCLUDE PROPER PRUNING, MOWING AND AERATION OF LAWNS, REPLACEMENT OF MULCH, WEEDING, REMOVAL OF LITTER AND THE REGULAR WATERING OF ALL PLANTINGS. IRRIGATION SHALL BE MAINTAINED TO MAXIMIZE WATER CONSERVATION. SHOULD ANY PLANT MATERIAL DIE, THE OWNER, SUCCESSOR, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE REPLACEMENT OF PLANT(S) WITHIN ONE PLANTING SEASON. REPLACEMENT OF PLANT MATERIALS SHALL OCCUR AT THE FOLLOWING RATE.

TYPE	PLANT REPLACEMENT WITHIN	
	1 YEAR	2+ YEARS
TREE - DECIDUOUS	INCREASE CALIPER BY 1"	INCREASE CALIPER BY 1.5"
TREE - CONIFEROUS	INCREASE HEIGHT BY 1.5'	INCREASE HEIGHT BY 2'
SHRUB	REPLACE WITH PLANTS OF AT LEAST $\frac{1}{3}$ MATURE SIZE	REPLACE WITH PLANTS OF AT LEAST $\frac{1}{3}$ MATURE SIZE

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Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLANS\TE PLAN\03ND-LNDS-MP-PLAN.DWG Layout: 7 SCHEDULE & CHARTS

LANDSCAPE SCHEDULE AND DETAILS

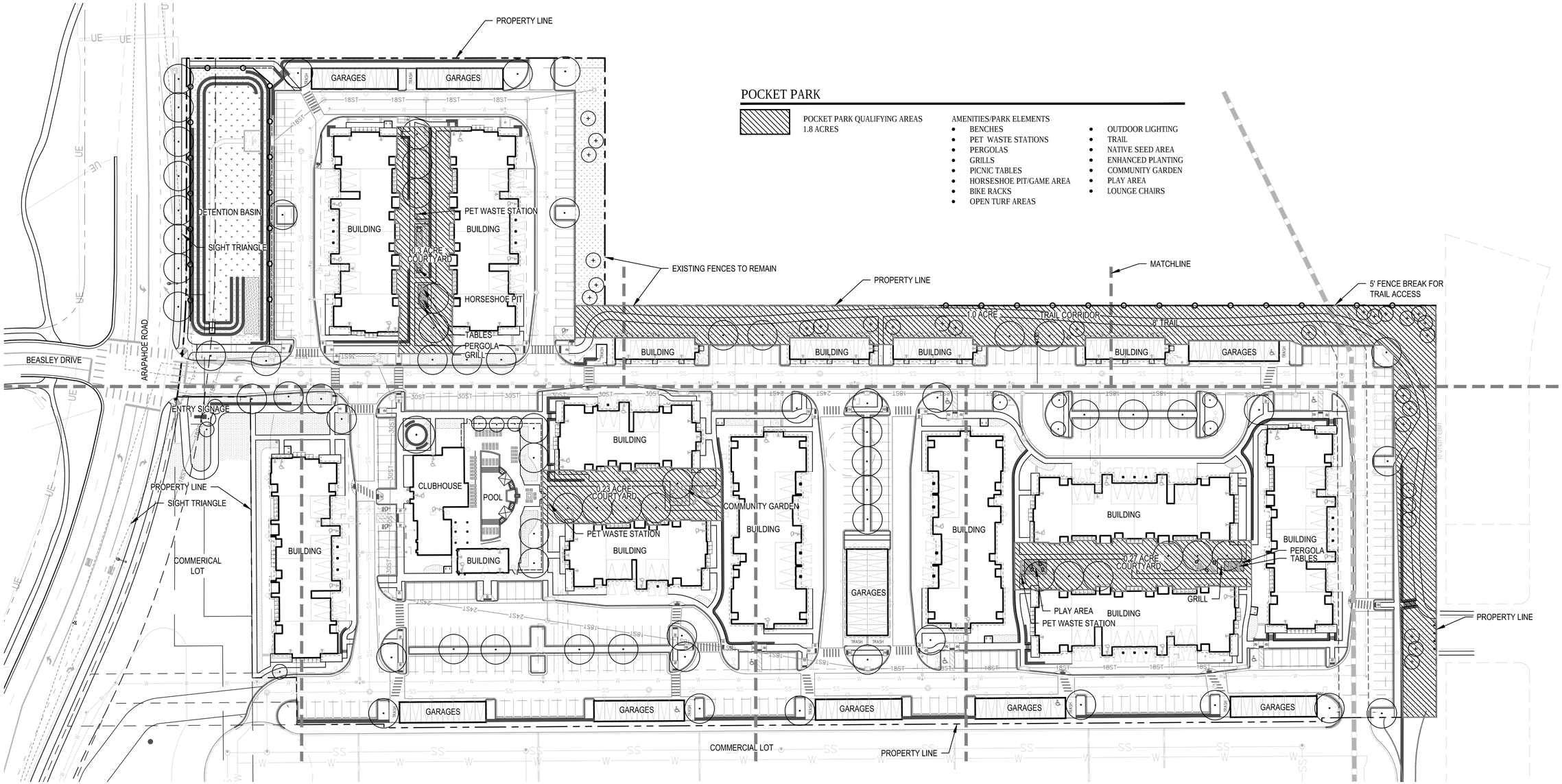
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016



POCKET PARK

POCKET PARK QUALIFYING AREAS
1.8 ACRES

AMENITIES/PARK ELEMENTS

- BENCHES
- PET WASTE STATIONS
- PERGOLAS
- GRILLS
- PICNIC TABLES
- HORSESHOE PIT/GAME AREA
- BIKE RACKS
- OPEN TURF AREAS
- OUTDOOR LIGHTING
- TRAIL
- NATIVE SEED AREA
- ENHANCED PLANTING
- COMMUNITY GARDEN
- PLAY AREA
- LOUNGE CHAIRS

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NORTH

SCALE 1" = 50'

OVERALL LANDSCAPE PLAN

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 8 OF 44

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-03\NDLND5-MF-PLAN.DWG Layout: 8 OVERALL
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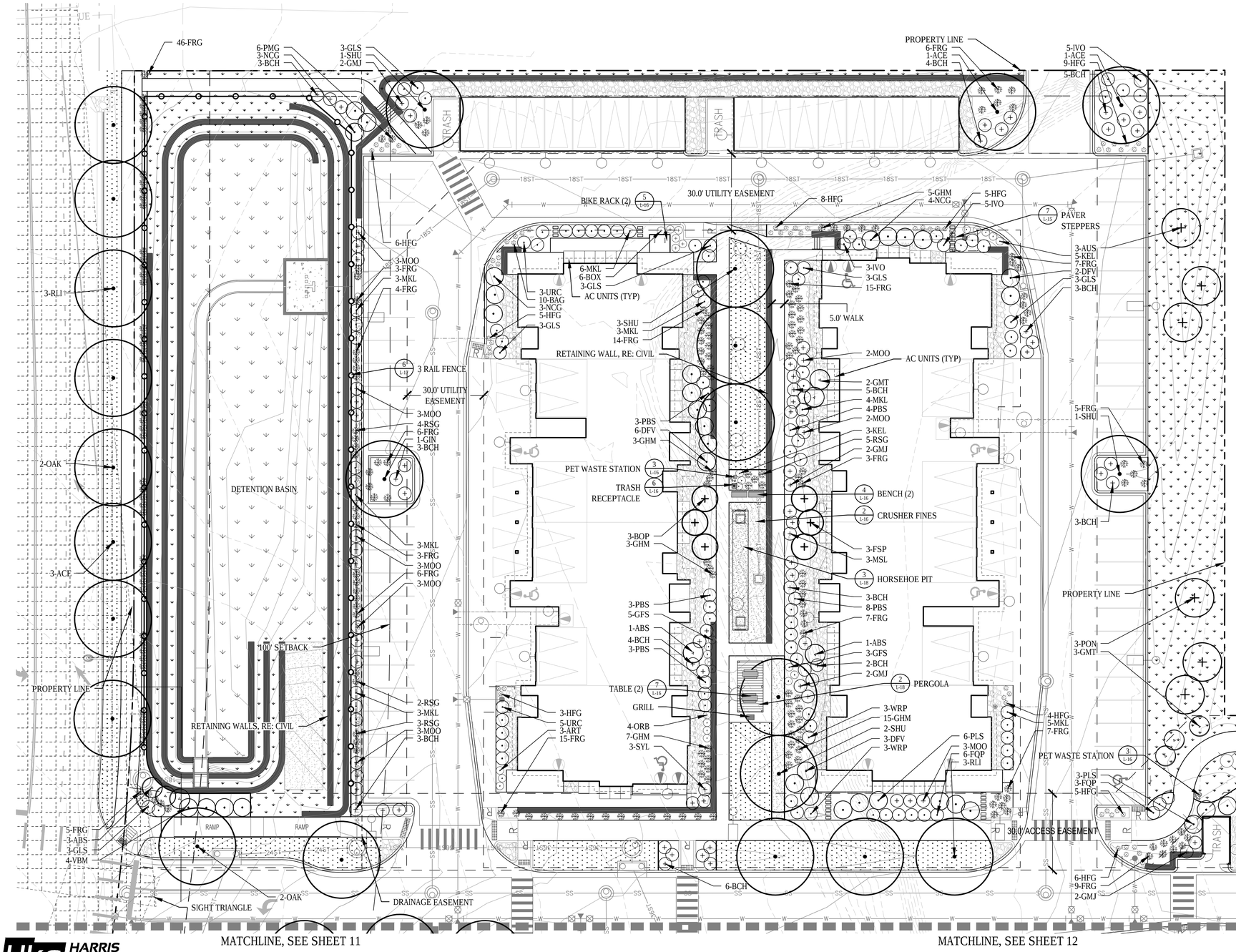
14.38 ACRES

SITE PLAN - SP-000832-2016



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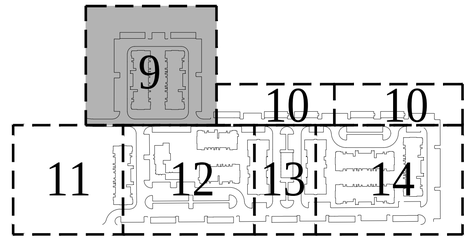

LEGEND

- CANOPY TREE
- EVERGREEN TREE
- ORNAMENTAL TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASSES
- PERENNIALS
- STEEL EDGER
- POOL FENCE
- 3 RAIL FENCE
- MATCHLINE
- WETLAND SEED
- SOD
- NATIVE SEED
- 4"-6" RIVER COBBLE
- CRUSHER FINES
- FIBAR PLAY SURFACE
- BENCH
- TABLE
- LOUNGE CHAIR
- BIKE RACK
- PET WASTE STATION
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811 NORTH

0 10 20 40
SCALE 1" = 20'

LANDSCAPE PLAN

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 9 OF 44

NINE MILE FILING NO.1, LOT 1

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\03ND\LNDSAP-PLAN.DWG Layout: 9 LS PLAN
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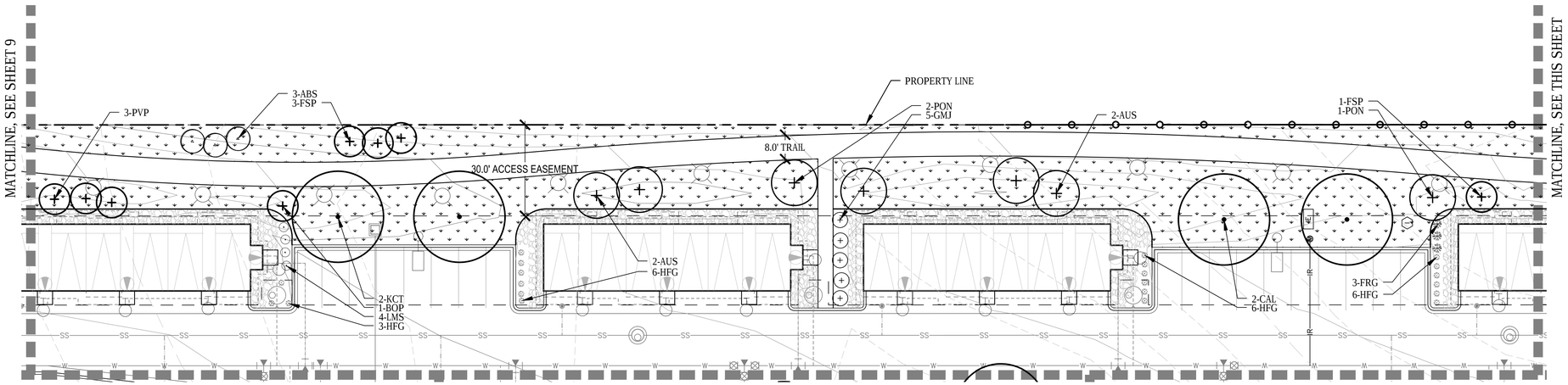
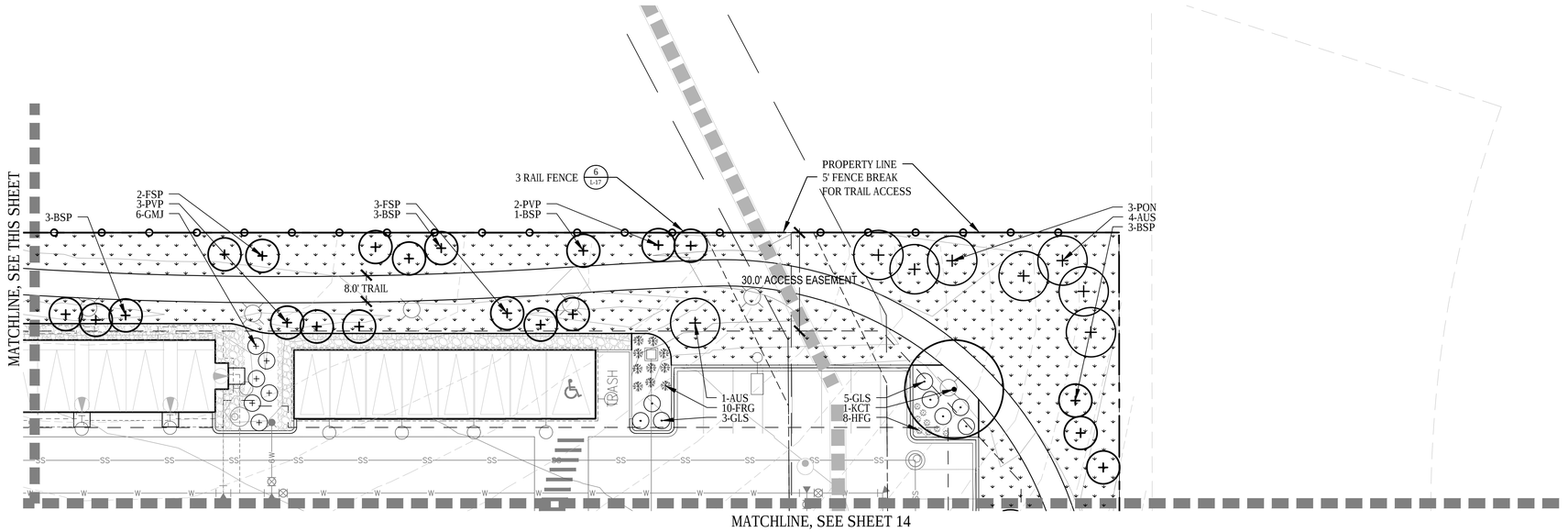
14.38 ACRES

SITE PLAN - SP-000832-2016





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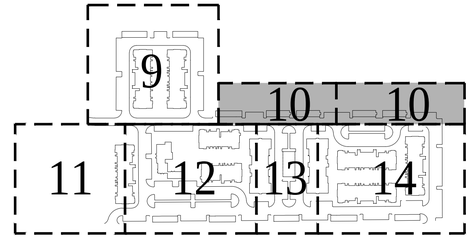

LEGEND

- CANOPY TREE
- EVERGREEN TREE
- ORNAMENTAL TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASSES
- PERENNIALS
- STEEL EDGER
- POOL FENCE
- 3 RAIL FENCE
- MATCHLINE
- WETLAND SEED
- SOD
- NATIVE SEED
- 4"-6" RIVER COBBLE
- CRUSHER FINES
- FIBAR PLAY SURFACE
- BENCH
- TABLE
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- BIKE RACK
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811

NORTH

0 10 20 40

SCALE 1" = 20'

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

LANDSCAPE PLAN

SHEET 10 OF 44

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-03ND-DOS-MF-PLAN.DWG Layout: 10 LS PLAN
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NINE MILE FILING NO.1, LOT 1

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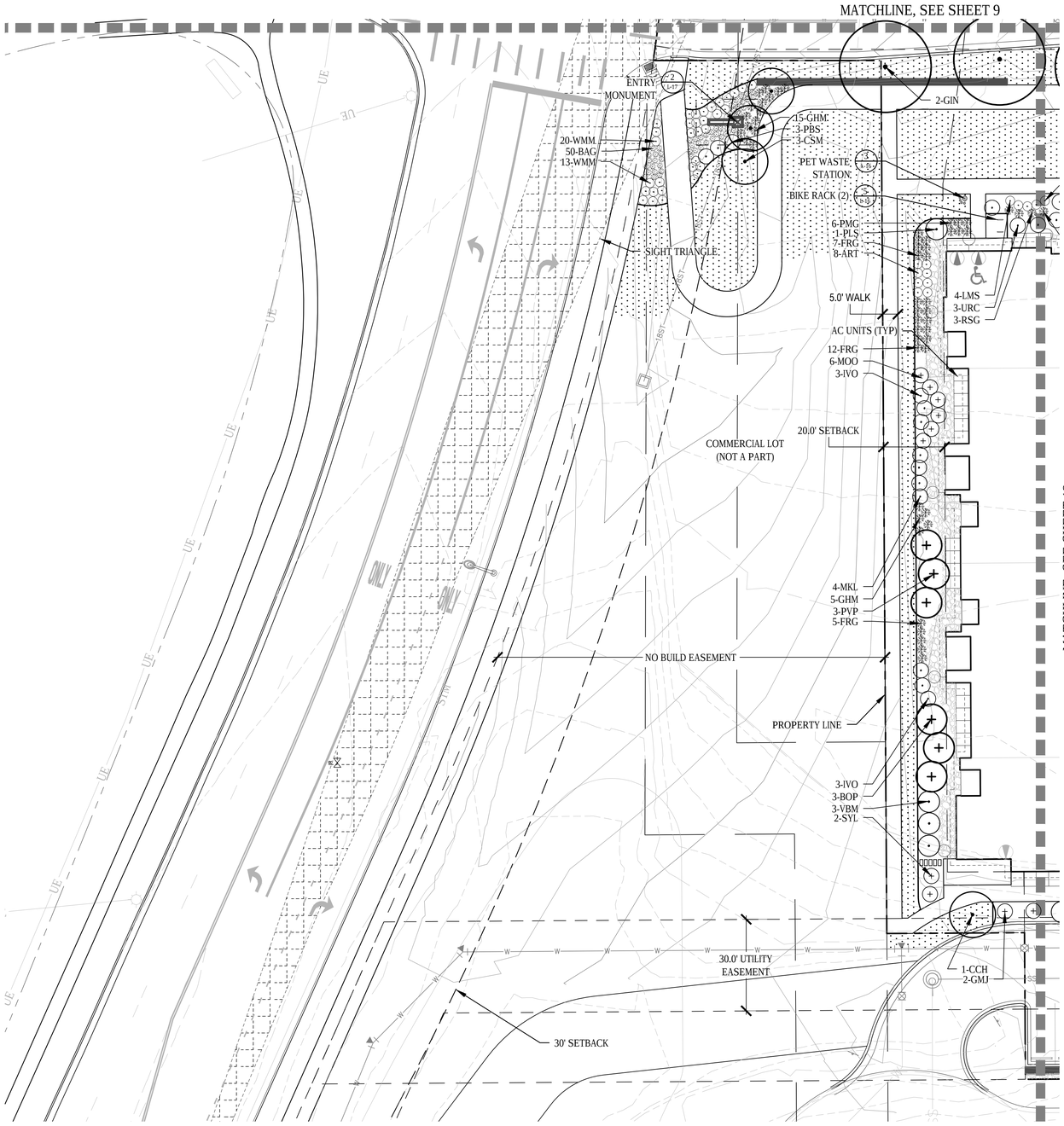
14.38 ACRES

SITE PLAN - SP-000832-2016



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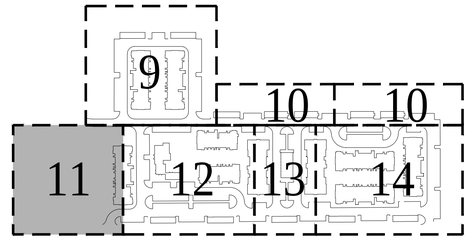

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NORTH

0 10 20 40
SCALE 1" = 20'

LANDSCAPE PLAN

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-02\NDLNDS-MP-PLAN.DWG Layout: 11 LS PLAN
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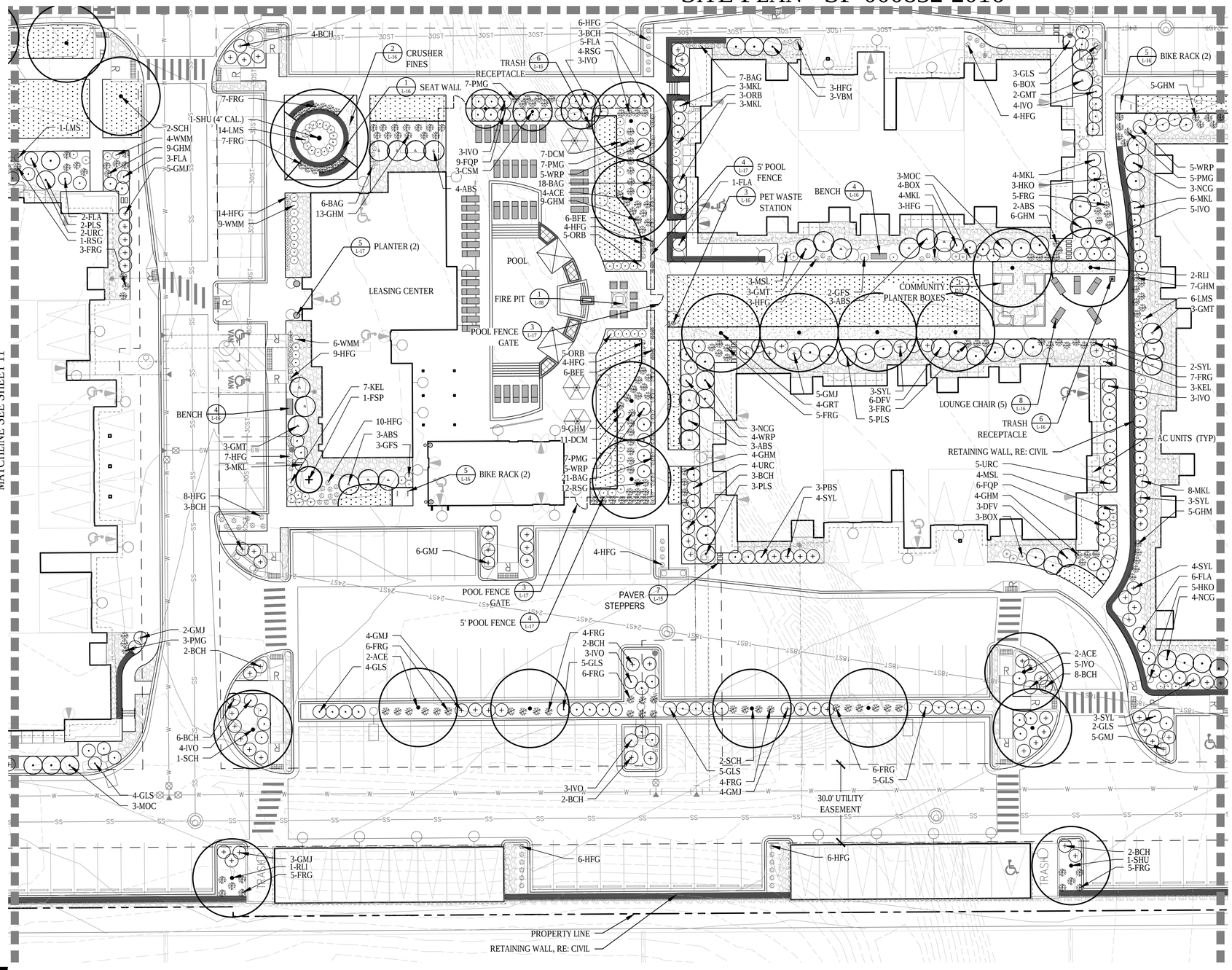
14.38 ACRES

SITE PLAN - SP-000832-2016



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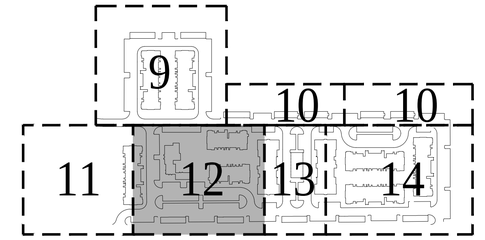

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811

NORTH

0 10 20 40
SCALE 1" = 20'

LANDSCAPE PLAN

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 12 OF 44

Filepath: P:\EVERGREEN\ NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-02\NDLNDSMP-PLAN.DWG Layout: 12 LS PLAN
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14.38 ACRES

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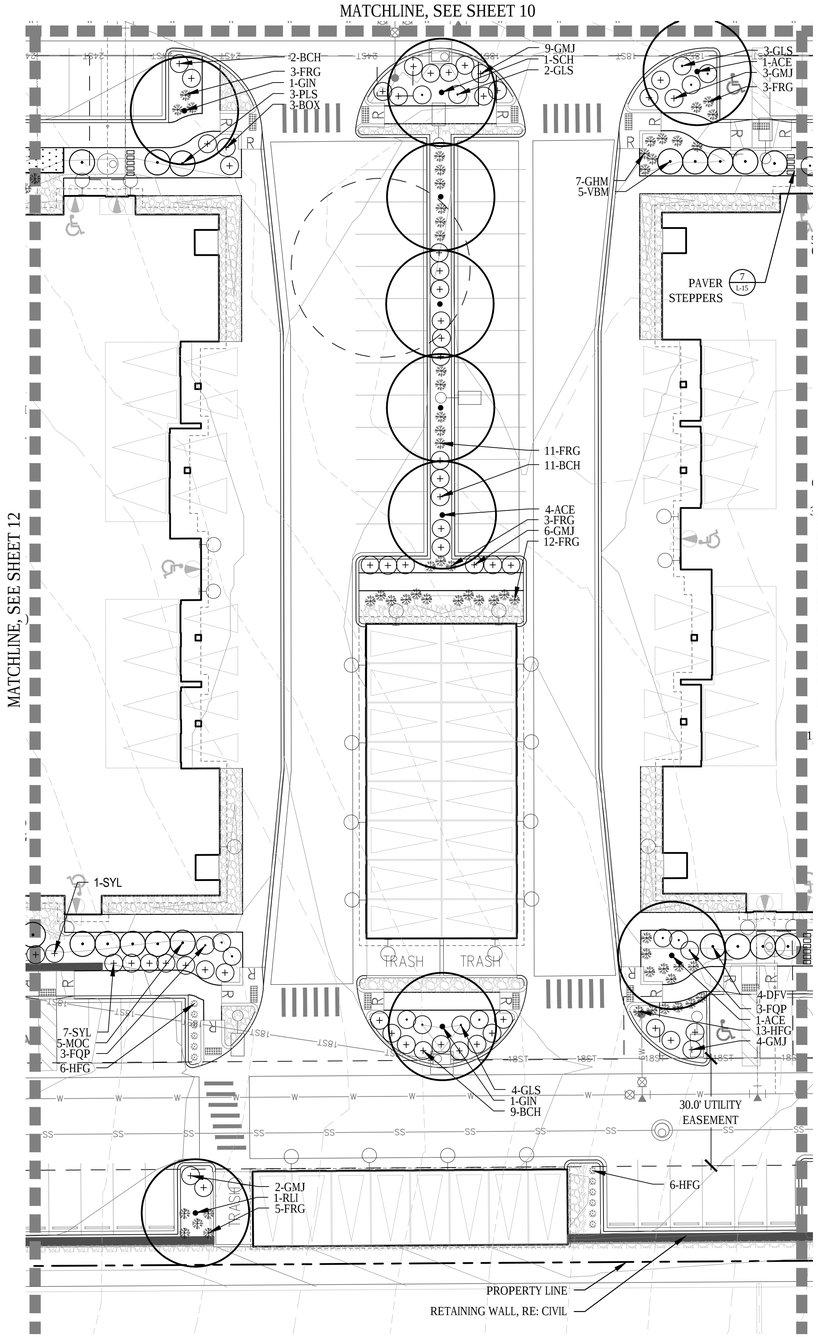

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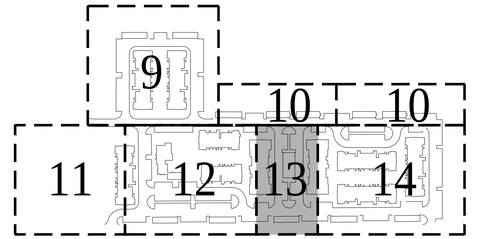
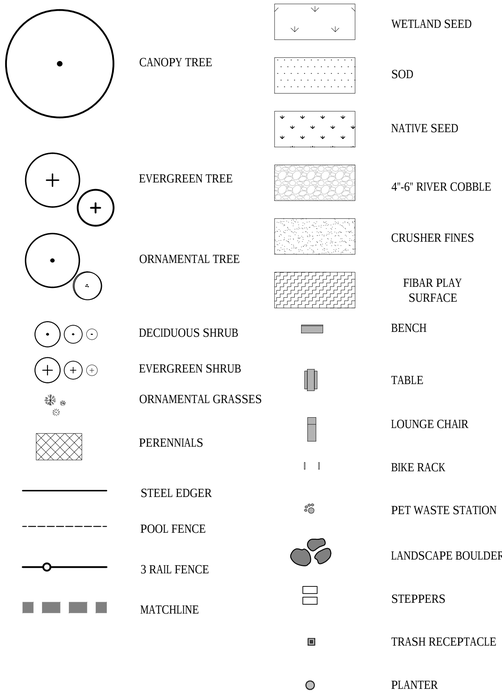


LEGEND



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PROJECT NUMBER: 160602

811

NORTH

0 10 20 40
SCALE 1" = 20'

LANDSCAPE PLAN

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 13 OF 44

Filepath: P:\EVERGREEN NINE MILE\BASWGS\SUBMITTALS\SITE PLAN\SITE PLAN-03\SD-LNDSMF-PLAN.DWG Layout: 13 LS PLAN
Plotted: WED 09/27/17 11:38:01A By: Matthew Roth

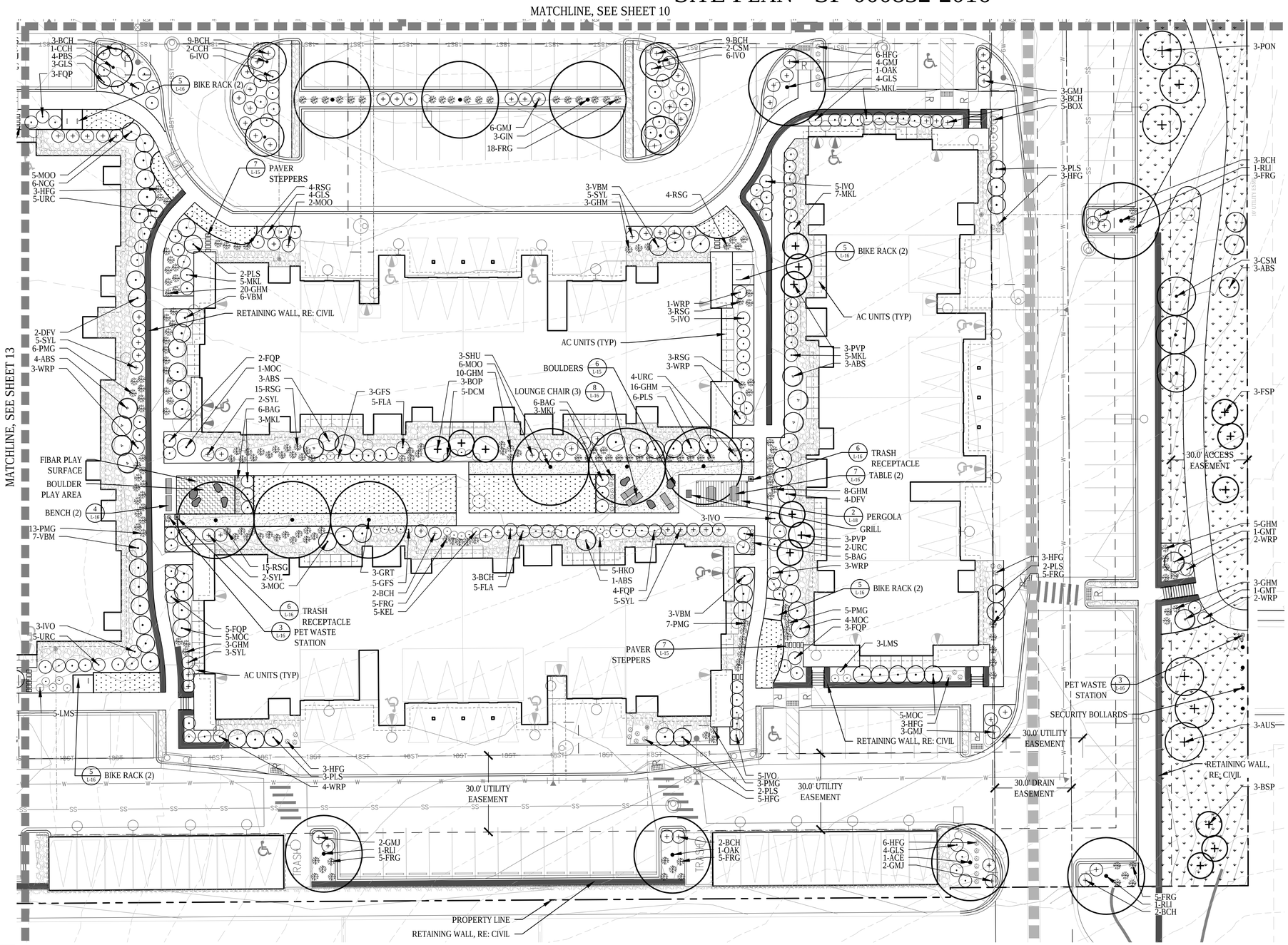
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

NINE MILE FILING NO.1, LOT 1

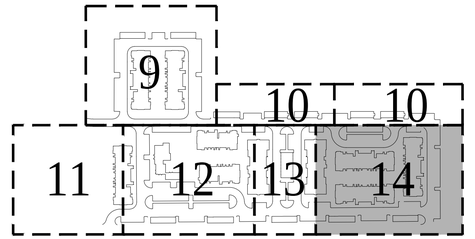
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016



KEY MAP



LEGEND

- CANOPY TREE
- EVERGREEN TREE
- ORNAMENTAL TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASSES
- PERENNIALS
- STEEL EDGER
- POOL FENCE
- 3 RAIL FENCE
- MATCHLINE
- WETLAND SEED
- SOD
- NATIVE SEED
- 4"-6" RIVER COBBLE
- CRUSHER FINES
- FIBAR PLAY SURFACE
- BENCH
- TABLE
- LOUNGE CHAIR
- BIKE RACK
- PET WASTE STATION
- LANDSCAPE BOULDERS
- STEPPERS
- TRASH RECEPTACLE
- PLANTER

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PROJECT NUMBER: 160602

811

NORTH

0 10 20 40

SCALE 1" = 20'

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

LANDSCAPE PLAN

SHEET 14 OF 44

NINE MILE FILING NO.1, LOT 1

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-03\ND\ND\DS-MP-PLAN.DWG Layout: 14 LS PLAN
Plotted: WED 09/27/17 11:38:07A By: Matthew Roth

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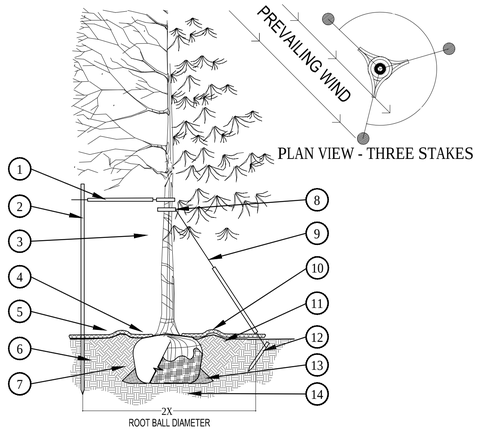
NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016



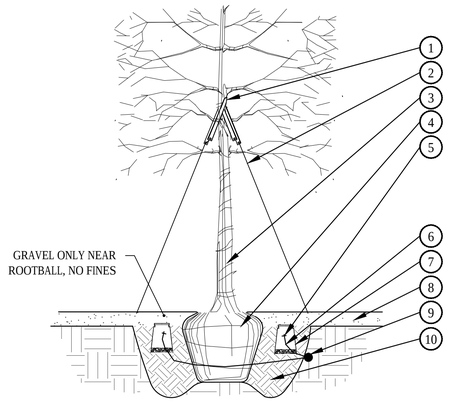
PRUNING NOTES:
1. ALL PRUNING SHALL COMPLY WITH ANSI A300 STANDARDS.
2. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS AND BROKEN BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED. HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.

STAKING NOTES:
1. STAKE TREES PER FOLLOWING SCHEDULE, THEN REMOVE AT END OF FIRST GROWING SEASON.
   - 1.1 1-½" CALIPER SIZE - MIN. 1 STAKE ON SIDE OF PREVAILING WIND (GENERALLY N.W. SIDE)
   - 1.2 1-½" - 3" CALIPER SIZE - MIN. 2 STAKES - ONE ON N.W. SIDE, ONE ON S.W. SIDE (OR PREVAILING WIND SIDE AND 180â FROM THAT SIDE)
   - 1.3 3" CALIPER SIZE AND LARGER - 3 STAKES PER DIAGRAM
2. WIRE OR CABLE SHALL BE MIN. 12 GAUGE, TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. NYLON STRAPS SHALL BE LONG ENOUGH TO ACCOMMODATE 1-½" OF GROWTH AND BUFFER ALL BRANCHES FROM WIRE.

1. PLACE MIN. 1" PVC PIPE AROUND EACH WIRE. EXPOSED WIRE SHALL BE MAX. 2" EACH SIDE
2. 6 FT. UNTREATED WOOD POST (MIN. 1.5" DIAMETER). ALL SHALL BE DRIVEN OUTSIDE ROOTBALL AND IN UNDISTURBED SOIL.
3. TREE WRAP TO BE INSTALLED ONLY FROM OCTOBER 1 THROUGH APRIL 30. (DECIDUOUS ONLY)
4. PLANT TREE SO THAT FIRST ORDER MAJOR ROOT IS 1"-2" ABOVE FINAL GRADE.
5. 3" DEEP MULCH RING PLACED A MINIMUM OF 4 FT. IN DIAMETER. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK (FINISHED GRADE REFERENCES TOP OF MULCH).
6. 1:1 SLOPE ON SIDES OF PLANTING HOLE.
7. REMOVE ALL TWINE, ROPE, BURLAP AND WIRE FROM ENTIRE ROOT BALL AND TRUNK
8. GROMMETED NYLON STRAPS
9. GALVANIZED WIRE, MIN. 12 GAUGE CABLE - TWIST WIRE ONLY TO KEEP FROM SLIPPING.
10. 4-6" HIGH WATER SAUCER IN NON-TURF AREAS.
11. BACKFILL WITH BLEND OF EXISTING SOIL AND A MAXIMUM 20% (BY VOLUME) ORGANIC MATERIAL. WATER THOROUGHLY WHEN BACKFILLING
12. 2 FT. STEEL T-POST. ALL SHALL BE DRIVEN BELOW GRADE AND OUTSIDE ROOTBALL IN UNDISTURBED SOIL.
13. PLACE SOIL AROUND ROOT BALL FIRMLY, DO NOT COMPACT OR TAMP. SETTLE SOIL WITH WATER TO FILL ALL AIR POCKETS.
14. PLACE ROOT BALL ON UNDISTURBED SOIL TO PREVENT SETTLEMENT.

1 TREE PLANTING DETAIL

SCALE: 3/16" = 1'-0"

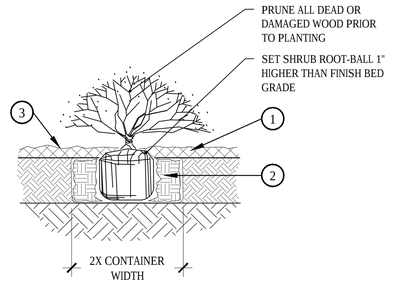


1. USE NYLON TREE STRAPS AT END OF WIRE.
2. 12 GAUGE GALVANIZED WIRE USE TWO PER TREE
3. 4" TREE TAPE (DECIDUOUS TREES ONLY). WRAP ENTIRE TRUNK TO SECOND BRANCH SECURED AT 2" INTERVALS WITH GRAFTING CORD OR STAPLES.
4. REMOVE WIRE BASKET AFTER TREE IS IN THE PIT. REMOVE TWINE, & PULL BURLAP FROM TREE TRUNK.
5. DRIP EMITTER
6. DRIP EMITTER MICRO TUBING
7. EMITTER BOX (6" RD.)
8. SPECIFIED CRUSHER FINES
9. POLY DRIP TUBING
10. 1/3 BACKFILL MIX AND 2/3 PIT SOIL.

NOTE: SET TOP OF ROOT BALL 2"-3" ABOVE GRADE. ANY BROKEN OR CRUMBLING ROOTBALL WILL BE REJECTED.

2 TREE IN CRUSHER FINES

SCALE: 1/2" = 1'-0"

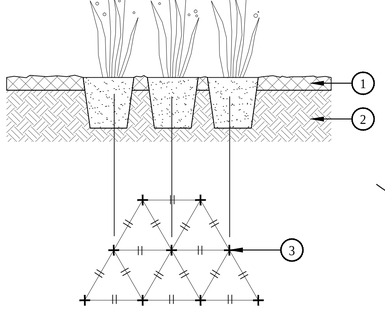


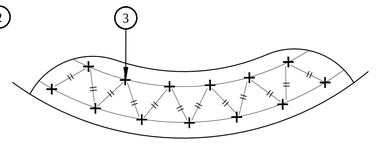
1. SPECIFIED MULCH
2. AMENDED SOIL IN PLANTING BED PER SPECIFICATIONS. TILL SOIL TO A DEPTH OF EIGHT INCHES.
3. FINISH GRADE (TOP OF MULCH)

NOTE:
1. BROKEN OR CRUMBLING ROOT-BALLS WILL BE REJECTED
2. CARE SHOULD BE TAKEN NOT TO DAMAGE THE SHRUB OR ROOT-BALL WHEN REMOVING IT FROM ITS CONTAINER
3. ALL JUNIPERS SHOULD BE PLANTED SO THE TOP OF THE ROOT-BALL OCCURS ABOVE THE FINISH GRADE OF THE MULCH LAYER
4. DIG PLANT PIT TWICE AS WIDE AND HIGH AS THE CONTAINER

3 SHRUB PLANTING

SCALE: 1-1/2" = 1'-0"





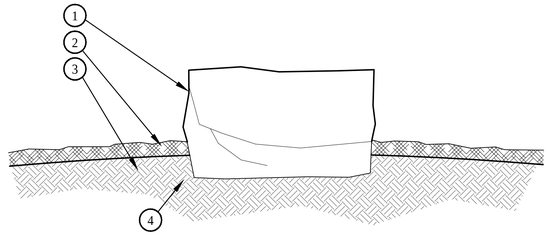
WHEN PLANTED ON A CURVE ORIENT ROWS TO FOLLOW THE LONG AXIS OF AREAS WHERE PLANTS ARE MASSED.

4 PERENNIAL PLANT LAYOUT

SCALE: 1" = 1'-0"

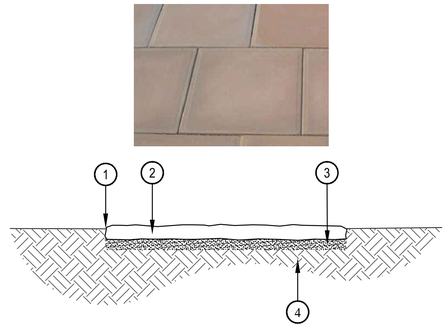
1. SILOAM STONE. CONTRACTOR SHALL SUBMIT PHOTOS FOR APPROVAL.
2. SPECIFIED MULCH, COBBLE OR CRUSHER FINES, RE: PLAN
3. AMENDED TOPSOIL
4. PARTIALLY BURY BOULDER FOR NATURAL APPEARANCE

REQUIRED BOULDERS:
(7) : 18-24" TALL x 18-24" WIDE x 2.5'-4' LONG



6 BOULDER

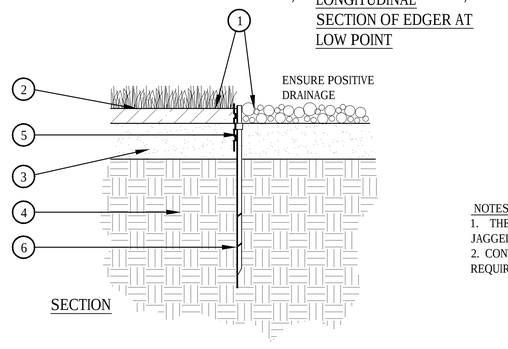
SCALE: 3/4" = 1'-0"



7 PAVER STEPPER

SCALE: 1" = 1'-0"

1. SPECIFIED MULCH
2. AMENDED PLANTING BED TILLED TO A DEPTH OF 6"
3. CENTER OF PLANT



1. FINISHED GRADE - TOP OF SOD THATCH LAYER AND TOP OF MULCH OR CRUSHER FINES SHALL BE FLUSH WITH TOP OF EDGER
2. TURF THATCH
3. AMENDED SOIL PER SPECIFICATIONS
4. SUBGRADE
5. STEEL EDGER - DRILL (16) 1/2" DIA. HOLES 1" O.C. MIN. AT ALL LOW POINTS OR POORLY DRAINING AREAS IN ORDER TO ENSURE ADEQUATE DRAINAGE
6. EDGER STAKE

NOTES:
1. THERE SHALL BE NO EXPOSED SHARP / JAGGED EDGES.
2. CONTRACTOR SHALL INSTALL STAKES AS REQUIRED BY THE MANUFACTURER.

5 STEEL EDGER

SCALE: 1" = 1'-0"

1. SET EDGE OF STONE 2 1/2" ABOVE GRADE IN BED AREAS
2. SANDSTONE COLORED CONCRETE PAVER - 1' x 2' x 3" THICK
3. 2" DEEP BED OF SAND
4. COMPACTED SUBGRADE
5. MANUFACTURER: STONEBILT CONCEPTS
6. CONTACT: STONEBILT CONCEPTS P: 1.303.867.6700

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PROJECT NUMBER: 160602

LANDSCAPE DETAILS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 15 OF 44

Filepath: P:\EVERGREEN NINE MILE\BRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-03\ND-D3DSMF-PLAN.DWG Layout: 15 DETAILS
Plotted: WED 09/27/17 11:38:09A By: Matthew Roth

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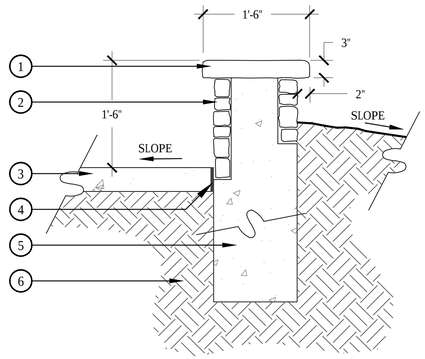
NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

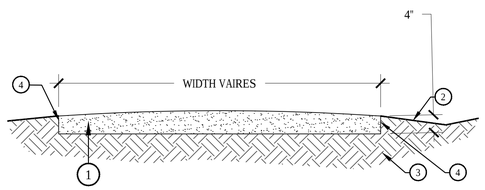


1. CONCRETE CAP
2. VENEER, TO MATCH ARCHITECTURE
3. STANDARD 4" CONCRETE WALK
4. EXPANSION JOINT
5. CONCRETE FOOTER (BY OTHERS)
6. COMPACTED SUBGRADE

1 STONE SEATWALL

SCALE: 1" = 1'-0"

1. MANUFACTURER: VICTOR STANLEY
2. MODEL: EVA BENCH, WITH ARM REST
3. FINISH: BLACK POWDERCOAT SUPPORTS, IPE WOOD
4. SURFACE MOUNT
5. CONTACT: VICTOR STANLEY
   P: 1.800.368.2573
   E: INFO@VICTORSTANLEY.COM



COMPACTION NOTES:

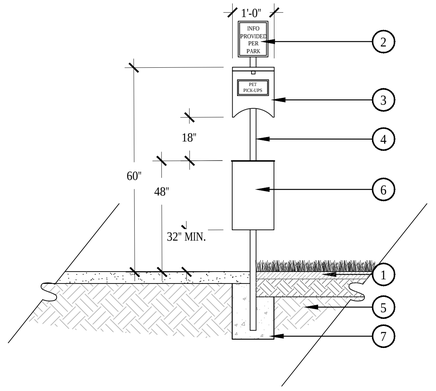
1. COMPACT WET FOR BEST RESULTS.
2. USE A SMALL (4') RIDING ROLLER TO COMPACT
3. CROWN TRAIL IN FLAT AREAS (AS SHOWN).
4. CROSS-SLOPE TRAIL AT 1-2% WITH GRADE WHERE TOPOGRAPHY DICTATES.

1. COMPACTED CRUSHER FINES
2. SLOPE ADJACENT GRADE AWAY
3. COMPACTED SUBGRADE
4. 4" STEEL EDGER

2 CRUSHER FINES DETAIL

SCALE: 3/4" = 1'-0"

1. MANUFACTURER: VICTOR STANLEY
2. MODEL: BRHS-101, 2 BIKE CAPACITY
3. FINISH: BLACK POWDERCOAT
4. MOUNT PER MANUFACTURER'S INSTRUCTIONS
5. CONTACT: VICTOR STANLEY
   P: 1.800.368.2573
   E: INFO@VICTORSTANLEY.COM



1. SURFACING VARIES, RE: PLAN SHEETS
2. REFLECTIVE ALUMINUM SIGN
3. TRASH BAG DISPENSER
4. SQUARE TUBING
5. COMPACTED SUBGRADE
6. PET WASTE RECEPTACLE
7. SECURE POST IN FOOTING PER MANUFACTURER'S RECOMMENDATIONS

NOTES:
1.REFER TO PLAN FOR PET STATION LOCATION AND SURFACING MATERIAL

MANUFACTURER: LIVIN THE DOG LIFE
MODEL: PET WASTE STATION
COLOR: NATURAL

OR APPROVED EQUAL

3 PET WASTE STATION

SCALE: 1/2" = 1'-0"

1. MANUFACTURER: VICTOR STANLEY
2. MODEL: S-42
3. FINISH: BLACK POWDERCOAT
4. SURFACE MOUNT
5. CONTACT: VICTOR STANLEY
   P: 1.800.368.2573
   E: INFO@VICTORSTANLEY.COM

4 BENCH

SCALE: N.T.S.

5 BIKE RACK

SCALE: N.T.S.

1. MANUFACTURER: VICTOR STANLEY
2. MODEL: CAMILLE TABLE, REVERIE COLLECTION, 6'
3. FINISH: BLACK POWDERCOAT SUPPORTS, IPE WOOD
4. SURFACE MOUNT
5. CONTACT: VICTOR STANLEY
   P: 1.800.368.2573
   E: INFO@VICTORSTANLEY.COM

6 TRASH RECEPTACLE

SCALE: N.T.S.

1. MANUFACTURER: LANDSCAPE FORMS
2. MODEL: 35 COLLECTION ð CHILL
3. MATERIAL: ROTATIONALLY MOLDED POLYETHYLENE IN A HABANERO RED COLOR
4. ANCHOR SURFACE MOUNT
5. CONTACT: LANDSCAPE FORMS
   P: 1.800.430.6209
   E: comments@landscapeforms.com

7 TABLE

SCALE: N.T.S.

8 LOUNGE CHAIR

SCALE: N.T.S.

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PROJECT NUMBER: 160602

LANDSCAPE DETAILS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 16 OF 44

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-03\ND-LND\SP-MF-PLAN.DWG Layout: 16 DETAILS
Plotted: WED/29/2717 11:38:14A By: Matthew Roth

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NINE MILE FILING NO.1, LOT 1

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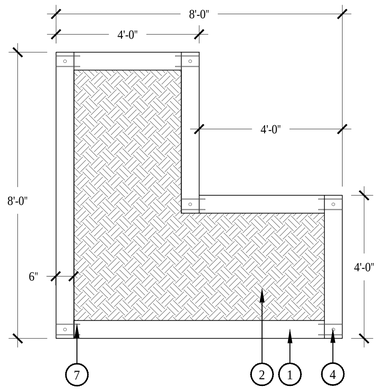
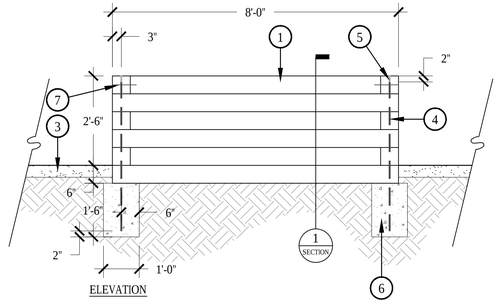
14.38 ACRES

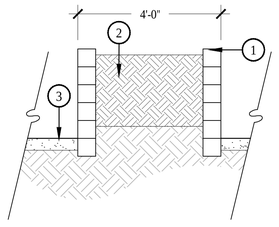
SITE PLAN - SP-000832-2016



PLAN



ELEVATION

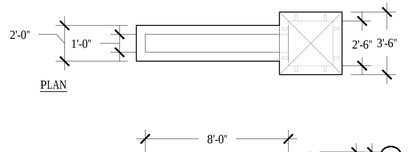


SECTION

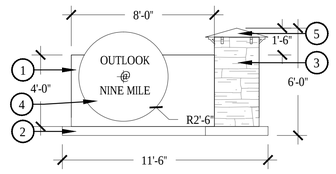
1. 6" X 6" CEDAR POST, NON-TREATED
2. PLANTING SOIL
3. 4" CRUSHER FINES SURFACE
4. #7 REBAR, 2" BELOW TOP OF PLANTER
5. WOOD CAULK
6. 12" DIAMETER CONCRETE SONOTUBE, 18" DEPTH
7. SCREW TOP POST TO SIDES

1 COMMUNITY PLANTER BOXES

SCALE: 1/2" = 1'-0"



PLAN

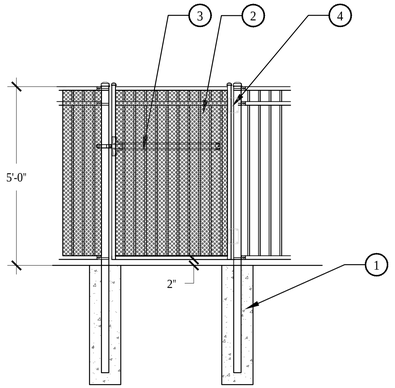


ELEVATION

1. STONE WALL FACE, DOUBLE SIDED SIGN, STONE TO MATCH ARCHITECTURE
2. STONE OR CONCRETE BASE
3. STONE TO MATCH ARCHITECTURE
4. METAL LOGO PANEL
5. METAL CAP, COLOR TO MATCH ARCHITECTURE

2 ENTRY MONUMENT

SCALE: 1/4" = 1'-0"

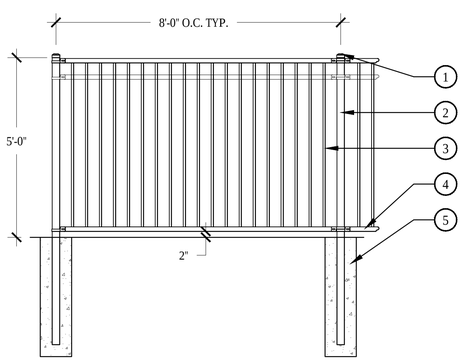


1. CONCRETE FOOTING PER MANUFACTURER, SLOPE CONCRETE AWAY FROM POST FOR POSITIVE DRAINAGE
2. PERFORATED METAL PANEL POWDER COATED TO MATCH FENCE
3. PANIC BAR ON POOL GATES, DETEX V40xERxWx711xFC WITH 81-800 POWER SUPPLY, REF. DCE-18133 LINE ITEM 1. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
4. SELF-CLOSING HINGES

NOTES:
1. ENSURE GATES MEET ALL APPLICABLE CODES
2. KEY FOB HARDWARE AT POOL GATES

3 POOL FENCE GATE

SCALE: 1/2" = 1'-0"



1. 2½" POST CAP
2. 2½" SQ. POST
3. ¾" PICKET, 3" O.C.
4. 1½" X 1½" TOP AND BOTTOM RAILS
5. CONCRETE FOOTING PER MANUFACTURER, SLOPE CONCRETE AWAY FROM POST FOR POSITIVE DRAINAGE
6. FINISH: POWERCOATED BLACK

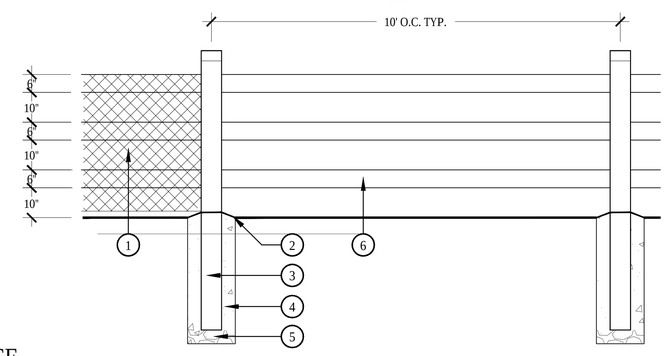
4 POOL FENCE

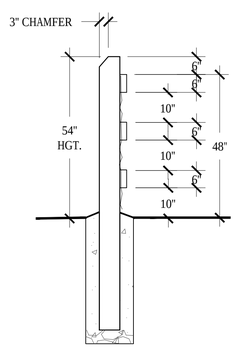
SCALE: 1/2" = 1'-0"

1. MANUFACTURER: QCP-CORP
2. MODEL: WEDGE SQUARE (QS-WE2430P)
3. FINISH: FRENCH GREY
4. CONTACT: QCP-CORP
   P: 1.866.703.3434
   E: SALES@QCP-CORP.COM

5 PLANTER

SCALE: N.T.S.





1. OPTIONAL 2"x2" WOVEN WIRE MESH (SANDWICH FENCE BETWEEN POST AND RAIL)
2. SLOPE AWAY FROM POST AND TROWEL SMOOTH
3. 6"x6" ROUGH SAWN CEDAR POST
4. CONCRETE FOOTING
5. 4" DEPTH, ¾" GRAVEL BASE
6. 2"x6" ROUGH SAWN CEDAR RAILS ATTACHED WITH A MINIMUM TWO WOOD SCREWS PER RAIL PER POST

6 3 RAIL FENCE

SCALE: 1/2" = 1'-0"

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PROJECT NUMBER: 160602

LANDSCAPE DETAILS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 17 OF 44

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-03\ND-LNDS-MP-PLAN.DWG Layout: 17 DETAILS
Plotted: WED/09/27/17 11:38:10A By: Matthew Roth

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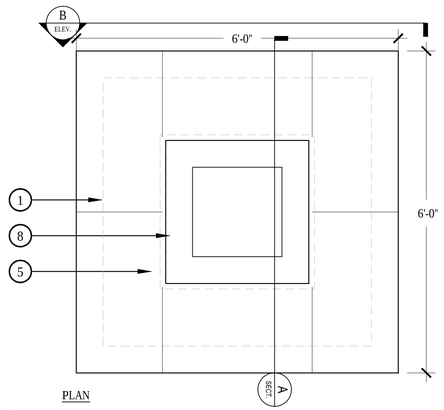
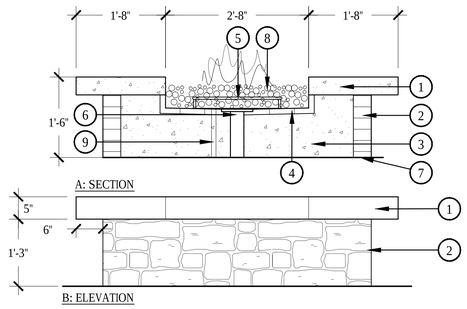
NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016





NOTES:
1. CONTRACTOR SHALL ENSURE FLAME HEIGHT OF APPROXIMATELY 12" ABOVE TOP OF COBBLE
2. COORDINATE MECHANICAL AND PLUMBING REQUIREMENTS WITH M.E.P. ENGINEER
3. FOOTING DESIGN BY STRUCTURAL ENGINEER
4. PROVIDE TIMER SWITCH WITH AUTOMATIC SHUT-OFF

1. PRECAST COLORED CONCRETE CAP
2. STONE VENEER TO MATCH ARCHITECTURE
3. REINFORCED CONCRETE, RE: STRUCTURAL PLANS
4. FIRE PIT SHALL BE LINED WITH FIRE BRICK
5. (2) SQUARE PAN WITH REMOTE READY IGNITION FIRE PIT KIT - 18" BY WOODLAND DIRECT OR APPROVED EQUAL, 90,000 BTUs
6. PROVIDE HARD PIPE GAS SUPPLY, IGNITION, AND CONTROL MECHANISMS
7. CONCRETE POOL DECK PAVING
8. SPECIFIED ROCK MULCH
9. PROVIDE DRAIN CONNECTION TO LANDSCAPE DRAIN SYSTEM; ALL PARTS NEAR BURNER ASSEMBLY SHALL BE CONSTRUCTED OF HEAT RESISTANT MATERIAL

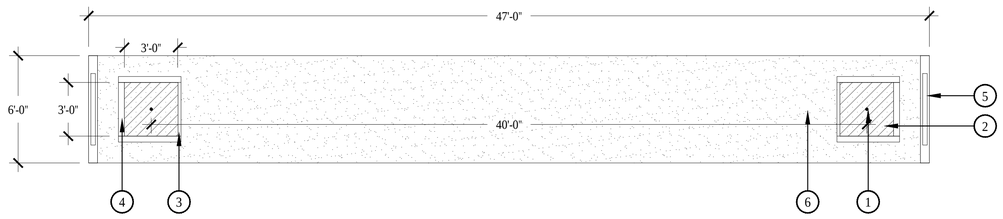
1 FIRE PIT

SCALE: 3/4" = 1'-0"

1. MANUFACTURER: NEW ENGLAND ARBORS
2. MODEL: ROOSEVELT 10' X 20' CEDAR PERGOLA
3. FINISH: SMOOTH VINYL FINISH
4. MOUNT PER MANUFACTURER'S INSTRUCTIONS
5. CONTACT: NEW ENGLAND ARBORS
   P: 1.800.282.9346
   E: info@newenglandarbors.com

2 PERGOLA

SCALE: N.T.S.



1. 1/2" REBAR
2. SAND PIT
3. 2 X 6 WOOD DIVIDER, MECHANICALLY ANCHORED
4. 4 X 4 TREATED LUMBER, MECHANICALLY ANCHORED
5. WOOD BACKSTOP
6. GRAY CRUSHER FINES

3 HORSESHOE PITS

SCALE: 1/4" = 1'-0"

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PROJECT NUMBER: 160602

LANDSCAPE DETAILS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 18 OF 44

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-03\ND-LNDS-MP-PLAN.DWG Layout: 18 DETAILS
Plotted: WED 09/27/17 11:30:24A By: Matthew Roth

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NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016

LEGEND:

- PROPERTY BOUNDARY
- LOT LINE BOUNDARY
- RIGHT-OF-WAY
- BUILDING SETBACK
- PROPOSED TRAIL EASEMENT
- PROPOSED DRAINAGE EASEMENT
- EXISTING FIRE HYDRANT & WATER VALVE
- EXISTING TRANSFORMER & STREET LIGHT
- EXISTING STORM MANHOLE & INLETS
- EXISTING SANITARY MANHOLE
- EXISTING GAS LINE
- EXISTING TELECOM LINE
- EXISTING ELECTRIC LINE
- REMOVED UTILITIES
- PROPOSED STM SEWER W/ MH & INLET
- PROPOSED SS W/ MH
- PROPOSED SAN SERIVE LINE W/ CO
- PROPOSED WAT LINE W/ VALVE & TEE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED FIRE SERVICE LINE
- PROPOSED DOMESTIC SERVICE LINE W/ METER

NOTE:
CONTRACTOR SHALL BURY ANY OVERHEAD UTILITY LINES.

OUTLOOK NINE MILE COMMERCIAL PROPERTY

OWNER: TOWN OF ERIE
LEGAL: TRACT C ARAPAHOE RIDGE FLG 4 AMENDED
ZONING: NOT COUNTY ZONED

OWNER: TOWN OF ERIE
LEGAL: OUTLOT C ARAPAHOE RIDGE FLG 2 AMENDMENT 1
ZONING: NOT COUNTY ZONED

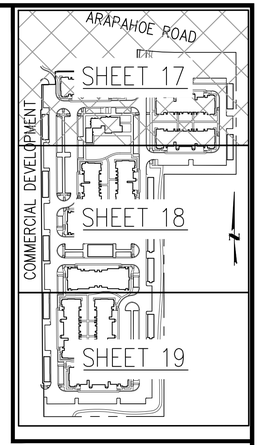
ARAPAHOE STREET (ROW VARIES)

PR WAT BEND (TYP)
EX GAS LINE (TO BE REMOVED)
PR 36" STM LINE (BY OTHERS)
PR LANDSCAPE DRAIN (TYP)
PR 10" SANI LINE (TYP)
PR 8" WAT LINE (TYP)
PR STM MH (TYP)
PR 30' TRAIL ESMT
PR STM OUTLET STRUCTURE
PR PROPERTY LINE (TYP)
EX ROW LINE
PR DRAINAGE ESMT (TYP)
PR DETENTION BASIN
PR 36" STM LINE (TYP)
PR LOT LINE (TYP)
PR CONNECTION TO ADJACENT SITE
PR DRAINAGE ESMT (TYP)
PR WAT VALVE (TYP)
PR WAT TEE (TYP)
PR FIRE LINE TEE (TYP)
PR DOMESTIC TAP (TYP)
PR 5' TYPE R CURB INLET (TYP)
PR 18"STM LINE (TYP)
PR SANI SERVICE CLEANOUT (TYP)
PR SANI SERVICE LINE
PR SANI SERVICE TAP (TYP)
PR WAT METER (TYP)
PR FIRE HYDRANT (TYP)
PR SANI MH (TYP)
10' TYPE R CURB INLET (TYP)
PR 30' UTILITY ESMT
10' WAT - SANI
10' SANI - WAT
10' WAT - STM
VARIES (10' MIN) STM - WAT
PR 30' TRAIL ESMT
PR 30" STM LINE (TYP)
PR POOL
TRASH

OWNER: PATRICK & DEBRA GONZALES
LEGAL: 10 AC TR 4114 34-1N-69 PER DEED 1434442
RECEPTION NO. 1434442
ZONING: RR - RURAL RESIDENTIAL

MATCHLINE - SEE SHEET 20

KEY MAP
SCALE: 1" = 250'



SCALE: 1" = 30'

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PROJECT NUMBER: 160602

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 19 OF 44

OVERALL UTILITY PLAN

NINE MILE FILING NO.1, LOT 1

Drawing Path: P:\160602\ENGINEERING\UTILITIES\SP - OVERALL UTILITY PLAN.DWG Layout: OVERALL UTILITY PLAN
Last Saved: 9/26/2017 11:08:16A By: Tim Saylor
Plotted: TUE 09/26/17 11:08:16A By: Tim Saylor

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NINE MILE FILING NO.1, LOT 1

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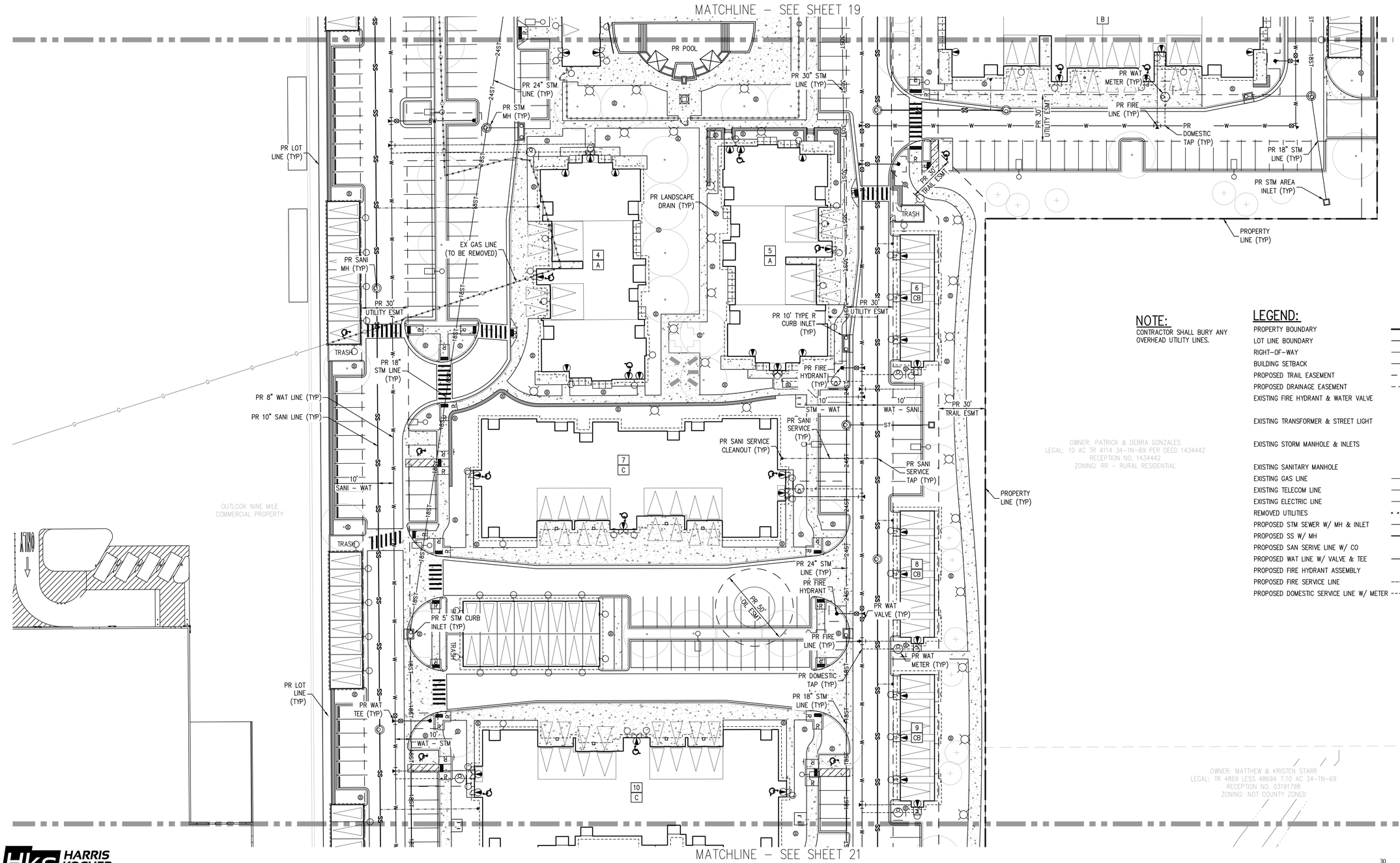
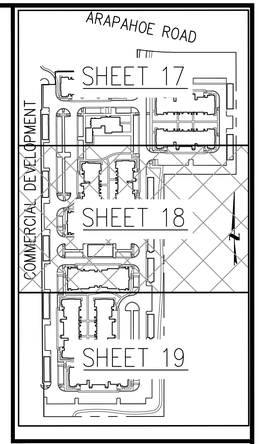
15 ACRES

SITE PLAN - SP-000832-2016





KEY MAP
SCALE: 1" = 250'

NOTE:
CONTRACTOR SHALL BURY ANY OVERHEAD UTILITY LINES.

LEGEND:

- PROPERTY BOUNDARY
- LOT LINE BOUNDARY
- RIGHT-OF-WAY
- BUILDING SETBACK
- PROPOSED TRAIL EASEMENT
- PROPOSED DRAINAGE EASEMENT
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- PROPOSED WAT LINE W/ VALVE & TEE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED FIRE SERVICE LINE
- PROPOSED DOMESTIC SERVICE LINE W/ METER

OWNER: PATRICK & DEBRA GONZALES
LEGAL: 10 AC TR 4114 34-1N-69 PER DEED 1434442
RECEPTION NO. 1434442
ZONING: RR – RURAL RESIDENTIAL

OWNER: MATTHEW & KRISTEN STARR
LEGAL: TR 4869 LESS 4869A 7.10 AC 34-1N-69
RECEPTION NO. 03191798
ZONING: NOT COUNTY ZONED

30 0 30 60
SCALE: 1" = 30'

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PROJECT NUMBER: 160602

OVERALL UTILITY PLAN

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 20 OF 44

Figure: P:\160602\ENGINEERING\UTILITIES\SP - OVERALL UTILITY PLAN.DWG Layout: 18 OVERALL UTILITY PLAN
Modified: TUE 09/26/17 11:08:18A By: Tim Saylor
Plotted: TUE 09/26/17 11:08:18A By: Tim Saylor

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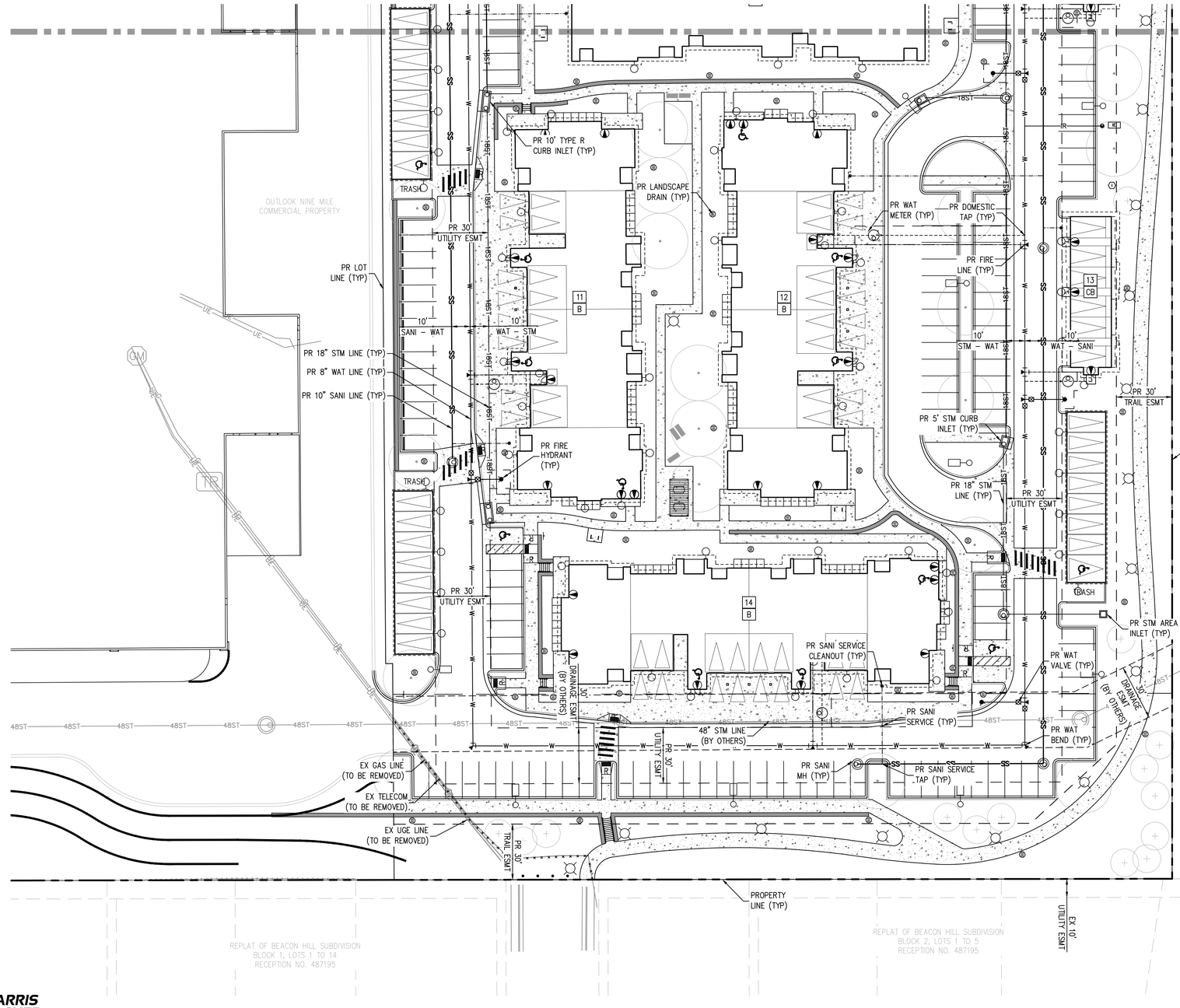
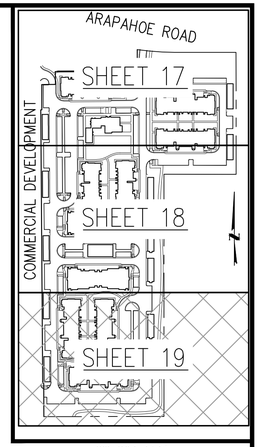
15 ACRES

SITE PLAN - SP-000832-2016

MATCHLINE – SEE SHEET 20





KEY MAP

SCALE: 1" = 250'

LEGEND:

- PROPERTY BOUNDARY
- LOT LINE BOUNDARY
- RIGHT-OF-WAY
- BUILDING SETBACK
- PROPOSED TRAIL EASEMENT
- PROPOSED DRAINAGE EASEMENT
- EXISTING FIRE HYDRANT & WATER VALVE
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- PROPOSED STM SEWER W/ MH & INLET
- PROPOSED SS W/ MH
- PROPOSED SAN SERIVE LINE W/ CO
- PROPOSED WAT LINE W/ VALVE & TEE
- PROPOSED FIRE HYDRANT ASSEMBLY
- PROPOSED FIRE SERVICE LINE
- PROPOSED DOMESTIC SERVICE LINE W/ METER

NOTE:
CONTRACTOR SHALL BURY ANY OVERHEAD UTILITY LINES.

30 0 30 60

SCALE: 1" = 30'

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HarrisKocherSmith.com

PROJECT NUMBER: 160602

Drawing Path: F:\160602\ENGINEERING\UTILITIES\SP - OVERALL UTILITY PLAN.DWG Layout: 19 OVERALL UTILITY PLAN
Last Edited By: Tim Saylor
Plotted: TUE 09/26/17 11:08:22A By: Tim Saylor

OVERALL UTILITY PLAN

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 21 OF 44

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NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

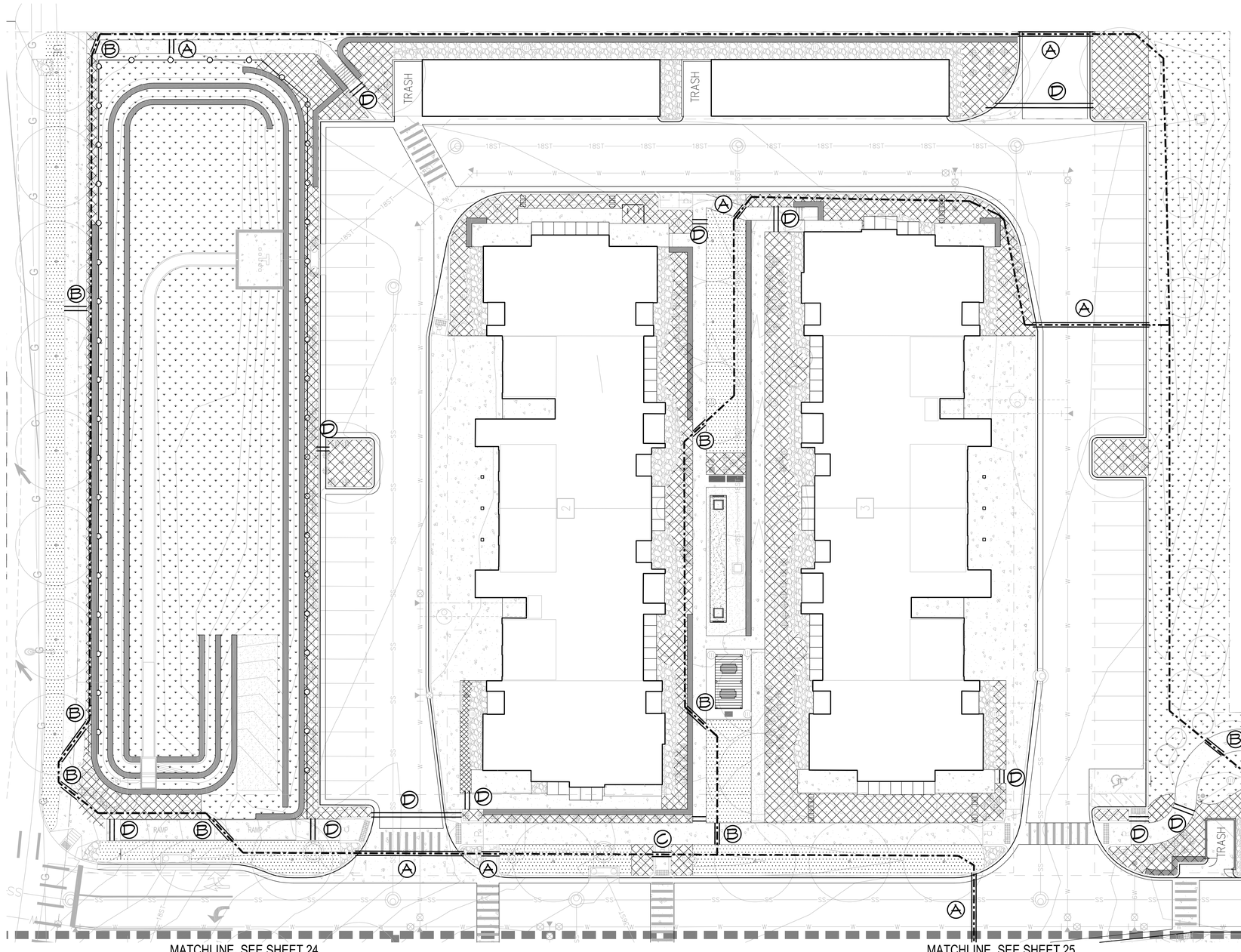
SITE PLAN - SP-000832-2016

IRRIGATION SCHEDULE	
SYMBOL	DESCRIPTION
Ⓐ	ELECTRIC CONTROLLER - 120 VAC
	PVC MAINLINE - CL200
	PVC SLEEVING - CL200
P	BOOSTER PUMP
M	WATER METER - PER WATER DEPARTMENT

SLEEVE LEGEND	
SYMBOL	SLEEVE (COUNT) SIZE
Ⓐ	(1)4" & (1)2"
Ⓑ	(1)4" & (2)2"
Ⓒ	(1)4" & (3)2"
Ⓓ	(1)2"
Ⓔ	(2)2"
Ⓕ	(1)4"
PIPE MATERIAL	CL. 160 PVC
INSTALLATION DEPTH	24"

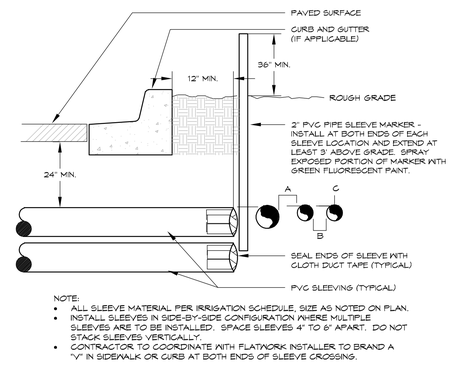
IRRIGATION DESIGN STRATEGY				
HATCH	DESCRIPTION	AREAS < 6'	AREAS 6'-25'	AREAS > 25'
	TURF GRASS	INLINE SUBSURFACE DRIP	6" POPUP SPRAY	6" ROTOR
	NATIVE GRASS	N/A	12" POPUP SPRAY	12" ROTOR
	TREES & SHRUBS	POINT SOURCE DRIP	POINT SOURCE DRIP	POINT SOURCE DRIP
	PERENNIALS & GROUND COVERS	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP

*SELECTION OF POINT SOURCE DRIP OR INLINE SUBSURFACE DRIP MAY BE DETERMINED BY PLANT DENSITY, GROWTH HABIT OR LOCATION RATHER THAN AREA DIMENSIONS.



IRRIGATION DEVELOPMENT DESIGN NOTES

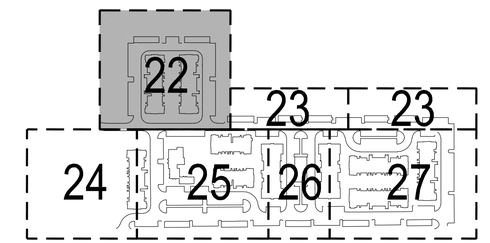
1. THE IRRIGATION SYSTEM SHALL BE DESIGNED TO PROVIDE PEAK SEASON IRRIGATION WITHIN AN SIX NIGHT, SIX HOUR PER NIGHT WATERING PERIOD IRRIGATION SHALL OCCUR BETWEEN THE HOURS OF 10:00 PM AND 6:00 AM.
2. THE MAINLINE SYSTEM WILL BE DESIGNED SUCH THAT VELOCITIES WITHIN THE MAINLINE PIPING DO NOT EXCEED FIVE FEET PER SECOND.
3. THE MAXIMUM FLOW RATE REQUIRED FOR THE SITE IS 41 GPM. THE STATIC PRESSURE AVAILABLE AT THE SITE IS APPROXIMATELY 63 PSI. REQUIRED PRESSURE FOR THE IRRIGATION SYSTEM IS 98 PSI. A BOOSTER PUMP WILL BE REQUIRED.
4. THE IRRIGATION INFORMATION SHOWN ON THESE PLANS IS CONCEPTUAL.
5. AREAS WITH A 3:1 SLOPE OR GREATER CAN NOT AND WILL NOT BE PERMANENTLY IRRIGATED.
6. ALL IRRIGATION SYSTEMS MUST BE EQUIPPED WITH A BACKFLOW PREVENTION ASSEMBLY.
7. IRRIGATION SYSTEM SHALL BE FULLY AUTOMATIC AND INCLUDE A WEATHER SENSING DEVICE.
8. THE SIZE OF THE IRRIGATION LINE MUST BE THE SAME FROM THE TAP AT THE WATER MAIN THROUGH THE METER AND THE BACKFLOW PREVENTER, TO A DISTANCE OF 10 PIPE DIAMETERS PAST THE WINTERIZATION TEE.



NOTE:
- ALL SLEEVE MATERIAL PER IRRIGATION SCHEDULE, SIZE AS NOTED ON PLAN.
- INSTALL SLEEVES IN SIDE-BY-SIDE CONFIGURATION WHERE MULTIPLE SLEEVES ARE TO BE INSTALLED. SPACE SLEEVES 4" TO 6" APART. DO NOT STACK SLEEVES VERTICALLY.
- CONTRACTOR TO COORDINATE WITH FLATWORK INSTALLER TO BRAND A "V" IN SIDEWALK OR CURB AT BOTH ENDS OF SLEEVE CROSSING.

IRRIGATION SLEEVING — A

KEY MAP



HydroSystems-KDI, Inc.
Irrigation Consulting
860 Tabor Street, Suite 200
Lakewood, Colorado 80401
303-980-5327
303-980-5384 (fax)

811

NORTH

0 10 20 40
SCALE 1" = 20'

IRRIGATION PLAN
SHEET 22 OF 44

PROJECT NUMBER: 160602

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

Filepath: T:\8160\4160.00\SDS\0195-NINE MILE MULTIFAMILY\0195-NMMF-RR-DD.DWG Layout: 22
Plotted: WED 09/27/17 9:07:54 AM By: Amber Diehl

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH.

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HarrisKocherSmith.com

NINE MILE FILING NO.1, LOT 1

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14.38 ACRES

SITE PLAN - SP-000832-2016

IRRIGATION DESIGN STRATEGY				
HATCH	DESCRIPTION	AREAS < 6'	AREAS 6'-25'	AREAS > 25'
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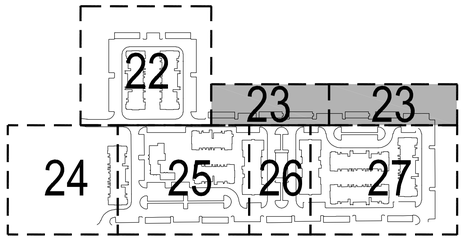
	TREES & SHRUBS	POINT SOURCE DRIP	POINT SOURCE DRIP	POINT SOURCE DRIP
	PERENNIALS & GROUND COVERS	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP

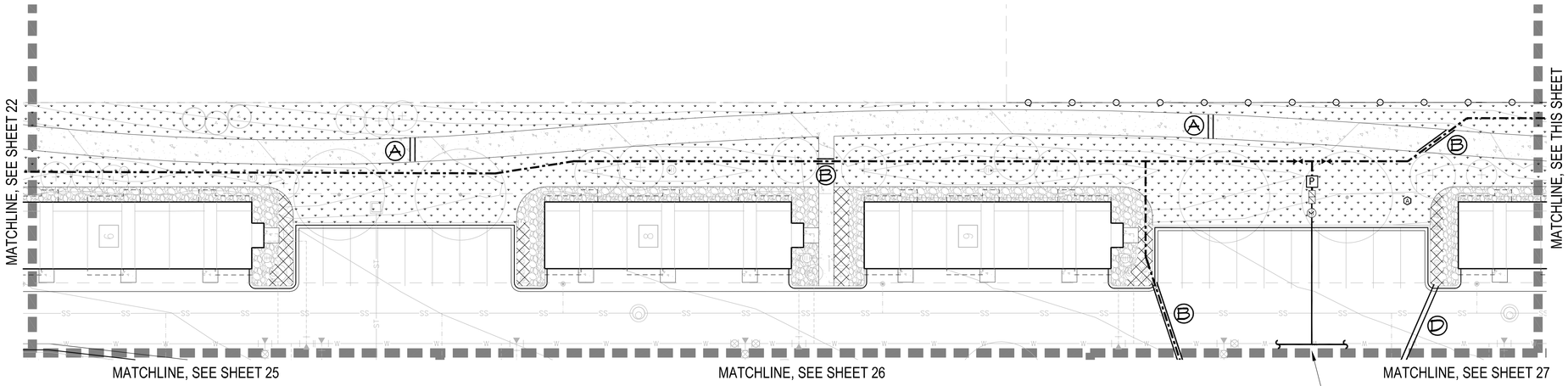
*SELECTION OF POINT SOURCE DRIP OR INLINE SUBSURFACE DRIP MAY BE DETERMINED BY PLANT DENSITY, GROWTH HABIT OR LOCATION RATHER THAN AREA DIMENSIONS.

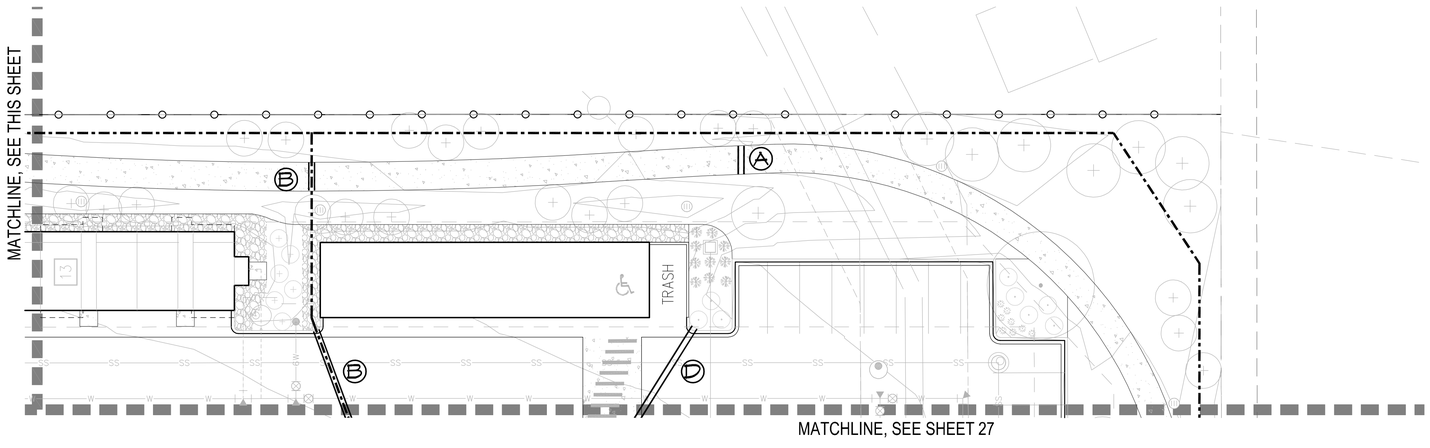
IRRIGATION SCHEDULE	
SYMBOL	DESCRIPTION
Ⓐ	ELECTRIC CONTROLLER - 120 VAC
	PVC MAINLINE - CL200
	PVC SLEEVING - CL200
P	BOOSTER PUMP
Ⓜ	WATER METER - PER WATER DEPARTMENT

SLEEVE LEGEND	
SYMBOL	SLEEVE (COUNT) SIZE
Ⓐ	(1)4" & (1)2"
Ⓑ	(1)4" & (2)2"
Ⓒ	(1)4" & (3)2"
Ⓓ	(1)2"
Ⓔ	(2)2"
Ⓕ	(1)4"
PIPE MATERIAL	CL. 160 PVC
INSTALLATION DEPTH	24"

KEY MAP







Nine Mile Multi-Family		
TAP # 1	98	PRESSURE REQUIRED
	63	PRESSURE AVAILABLE
TAP/METER SIZE 1.5"	41	GPM MAXIMUM FLOW

HydroSystems-KDI, Inc. Irrigation Consulting
860 Tabor Street, Suite 200
Lakewood, Colorado 80401
303-980-5327
303-980-5384 (fax)

811

NORTH

0 10 20 40
SCALE 1" = 20'

PROJECT NUMBER: 160602

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

IRRIGATION PLAN
SHEET 23 OF 44

Filepath: T:\6160-8169 JOBS\8165-NINE MILE MULTIFAMILY\8165-NMMF-RIR-DD.DWG Layout: 23
Plotted: WED 09/27/17 10:09:49a By: Amber Clark

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HARRIS KOCHER SMITH
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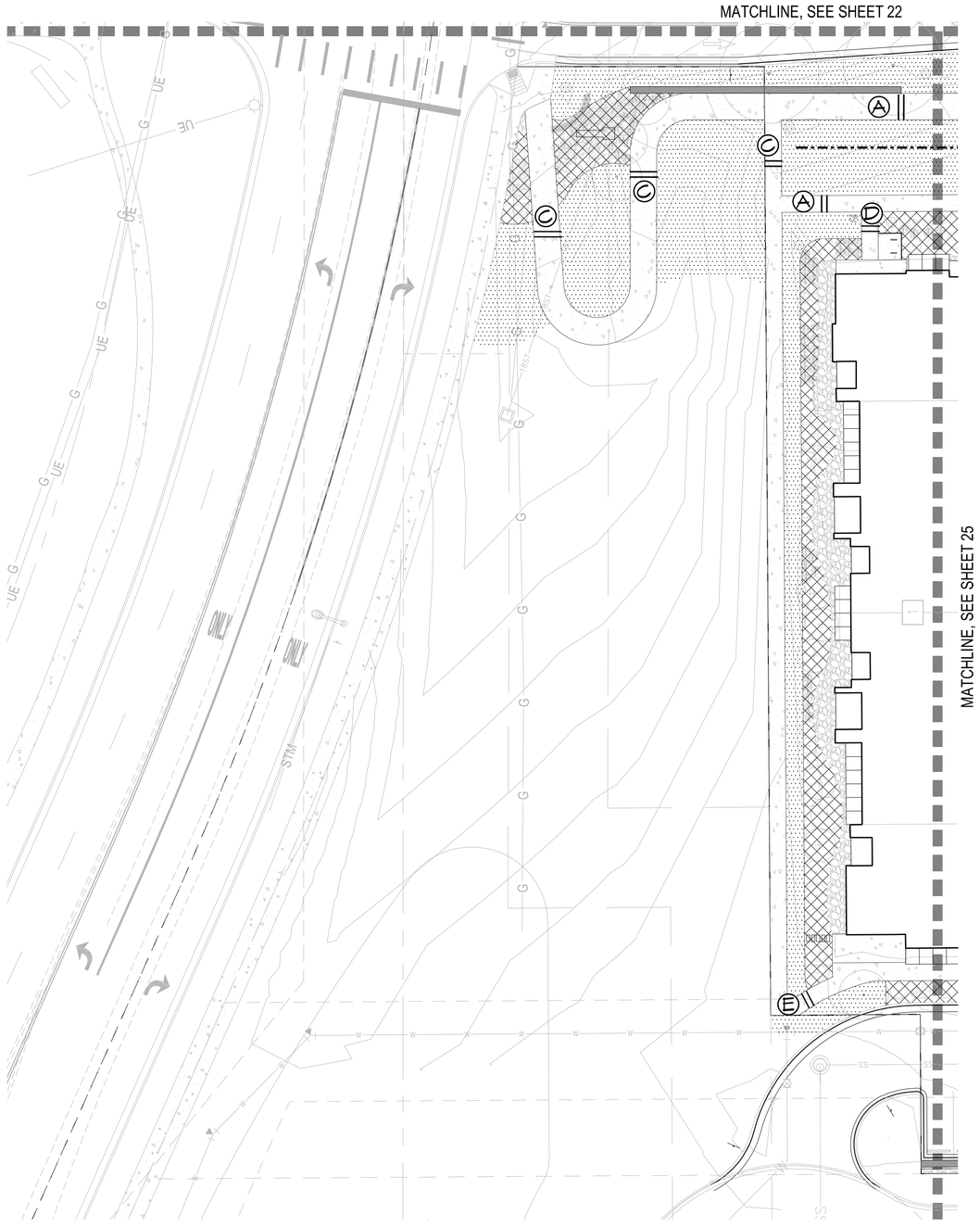
HarrisKocherSmith.com

NINE MILE FILING NO.1, LOT 1

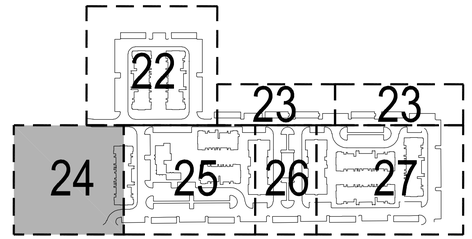
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016



KEY MAP



IRRIGATION SCHEDULE	
SYMBOL	DESCRIPTION
A	ELECTRIC CONTROLLER - 120 VAC
	PVC MAINLINE - CL200
	PVC SLEEVING - CL200
P	BOOSTER PUMP
M	WATER METER - PER WATER DEPARTMENT

IRRIGATION DESIGN STRATEGY				
HATCH	DESCRIPTION	AREAS < 6'	AREAS 6'-25'	AREAS > 25'
	TURF GRASS	INLINE SUBSURFACE DRIP	6" POPUP SPRAY	6" ROTOR
	NATIVE GRASS	N/A	12" POPUP SPRAY	12" ROTOR
	TREES & SHRUBS	POINT SOURCE DRIP	POINT SOURCE DRIP	POINT SOURCE DRIP
	PERENNIALS & GROUND COVERS	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP

*SELECTION OF POINT SOURCE DRIP OR INLINE SUBSURFACE DRIP MAY BE DETERMINED BY PLANT DENSITY, GROWTH HABIT OR LOCATION RATHER THAN AREA DIMENSIONS.

SLEEVE LEGEND	
SYMBOL	SLEEVE (COUNT) SIZE
A	(1)4" & (1)2"
B	(1)4" & (2)2"
C	(1)4" & (3)2"
D	(1)2"
E	(2)2"
F	(1)4"
PIPE MATERIAL	CL. 160 PVC
INSTALLATION DEPTH	24"

HydroSystems-KDI, Inc.
Irrigation Consulting
860 Tabor Street, Suite 200
Lakewood, Colorado 80401
303-980-5327
303-980-5384 (fax)

811

NORTH

0 10 20 40
SCALE 1" = 20'

IRRIGATION PLAN
SHEET 24 OF 44

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

PROJECT NUMBER: 160602

Filepath: T:\6100-6199\JOBS\6195-NINE MILE MULTIFAMILY\6195-MMF-IRR-CD.DWG Layout: 24
Plotted: 10/27/2017 10:05:52 By: Amber Clark

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NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

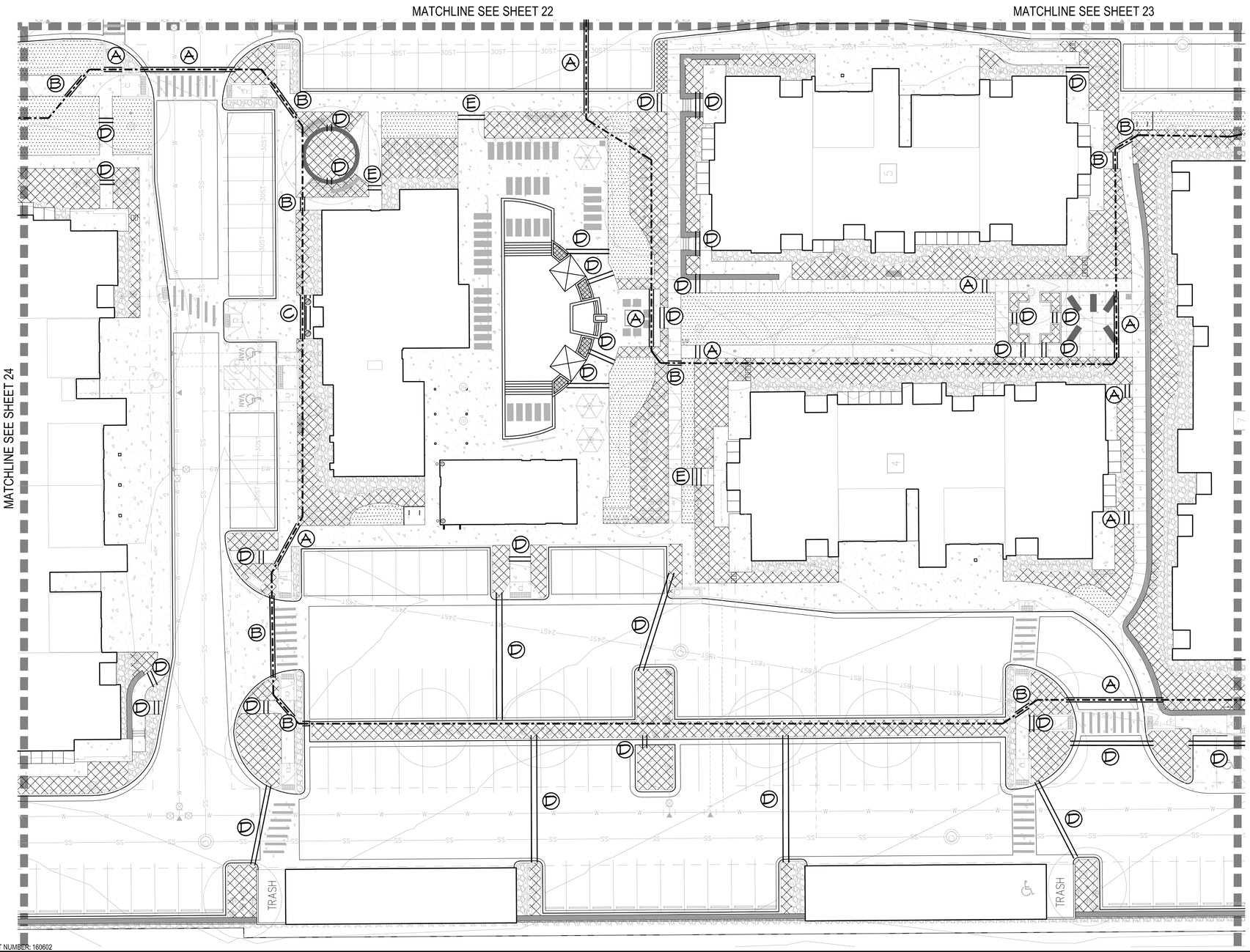
14.38 ACRES

SITE PLAN - SP-000832-2016

IRRIGATION SCHEDULE	
SYMBOL	DESCRIPTION
Ⓐ	ELECTRIC CONTROLLER - 120 VAC
——·—·——	PVC MAINLINE - CL200
═══	PVC SLEEVING - CL200
Ⓟ	BOOSTER PUMP
Ⓜ	WATER METER - PER WATER DEPARTMENT

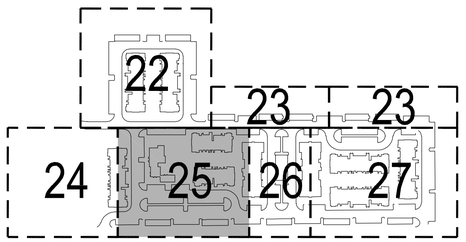
IRRIGATION DESIGN STRATEGY				
HATCH	DESCRIPTION	AREAS < 6'	AREAS 6'-25'	AREAS > 25'
	TURF GRASS	INLINE SUBSURFACE DRIP	6" POPUP SPRAY	6" ROTOR
	NATIVE GRASS	N/A	12" POPUP SPRAY	12" ROTOR
	TREES & SHRUBS	POINT SOURCE DRIP	POINT SOURCE DRIP	POINT SOURCE DRIP
	PERENNIALS & GROUND COVERS	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP

*SELECTION OF POINT SOURCE DRIP OR INLINE SUBSURFACE DRIP MAY BE DETERMINED BY PLANT DENSITY, GROWTH HABIT OR LOCATION RATHER THAN AREA DIMENSIONS.



SLEEVE LEGEND	
SYMBOL	SLEEVE (COUNT) SIZE
Ⓐ	(1)4" & (1)2"
Ⓑ	(1)4" & (2)2"
Ⓒ	(1)4" & (3)2"
Ⓓ	(1)2"
Ⓔ	(2)2"
Ⓕ	(1)4"
PIPE MATERIAL	CL. 160 PVC
INSTALLATION DEPTH	24"

KEY MAP



HydroSystems-KDI, Inc.
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Lakewood, Colorado 80401
303-980-5327
303-980-5384 (fax)

811

NORTH

0 10 20 40
SCALE 1" = 20'

IRRIGATION PLAN

PROJECT NUMBER: 160602

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 25 OF 44

Filepath: T:\6100-6199\JOBS\6195-NINE MILE MULTIFAMILY\6195-MMF-IRR-SD.DWG Layout: 25
Plotted: WED 09/27/17 10:09:57A By: Kevin Clark

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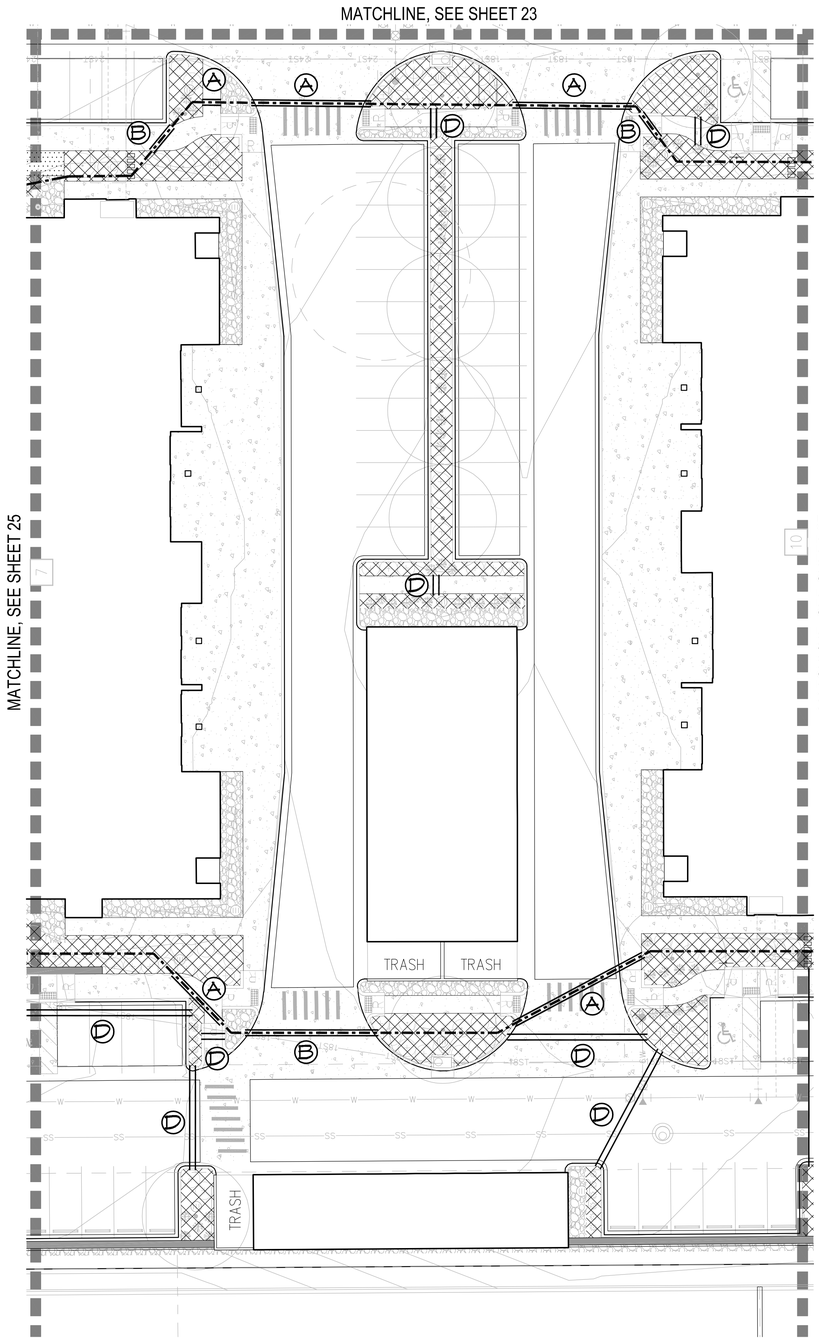
HarrisKocherSmith.com

NINE MILE FILING NO.1, LOT 1

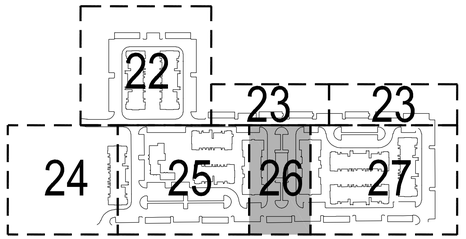
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016



KEY MAP



IRRIGATION SCHEDULE	
SYMBOL	DESCRIPTION
A	ELECTRIC CONTROLLER - 120 VAC
	PVC MAINLINE - CL200
	PVC SLEEVING - CL200
P	BOOSTER PUMP
M	WATER METER - PER WATER DEPARTMENT

IRRIGATION DESIGN STRATEGY				
HATCH	DESCRIPTION	AREAS < 6'	AREAS 6'-25'	AREAS > 25'
	TURF GRASS	INLINE SUBSURFACE DRIP	6" POPUP SPRAY	6" ROTOR
	NATIVE GRASS	N/A	12" POPUP SPRAY	12" ROTOR
	TREES & SHRUBS	POINT SOURCE DRIP	POINT SOURCE DRIP	POINT SOURCE DRIP
	PERENNIALS & GROUND COVERS	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP

*SELECTION OF POINT SOURCE DRIP OR INLINE SUBSURFACE DRIP MAY BE DETERMINED BY PLANT DENSITY, GROWTH HABIT OR LOCATION RATHER THAN AREA DIMENSIONS.

SLEEVE LEGEND	
SYMBOL	SLEEVE (COUNT) SIZE
A	(1)4" & (1)2"
B	(1)4" & (2)2"
C	(1)4" & (3)2"
D	(1)2"
E	(2)2"
F	(1)4"
PIPE MATERIAL	CL. 160 PVC
INSTALLATION DEPTH	24"

HydroSystems-KDI, Inc. Irrigation Consulting
860 Tabor Street, Suite 200
Lakewood, Colorado 80401
303-980-5327
303-980-5384 (fax)

811

NORTH

0 10 20 40
SCALE 1" = 20'

IRRIGATION PLAN

PROJECT NUMBER: 160602

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 26 OF 44

Filepath: T:\6160-61\90 JOBS\6195-NINE MILE MULTIFAMILY\6195-NMMF-IRR-00.DWG Layout: 26
Plotted: WED 09/27/17 10:09:09 By: Amber Clark

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HarrisKocherSmith.com

NINE MILE FILING NO.1, LOT 1

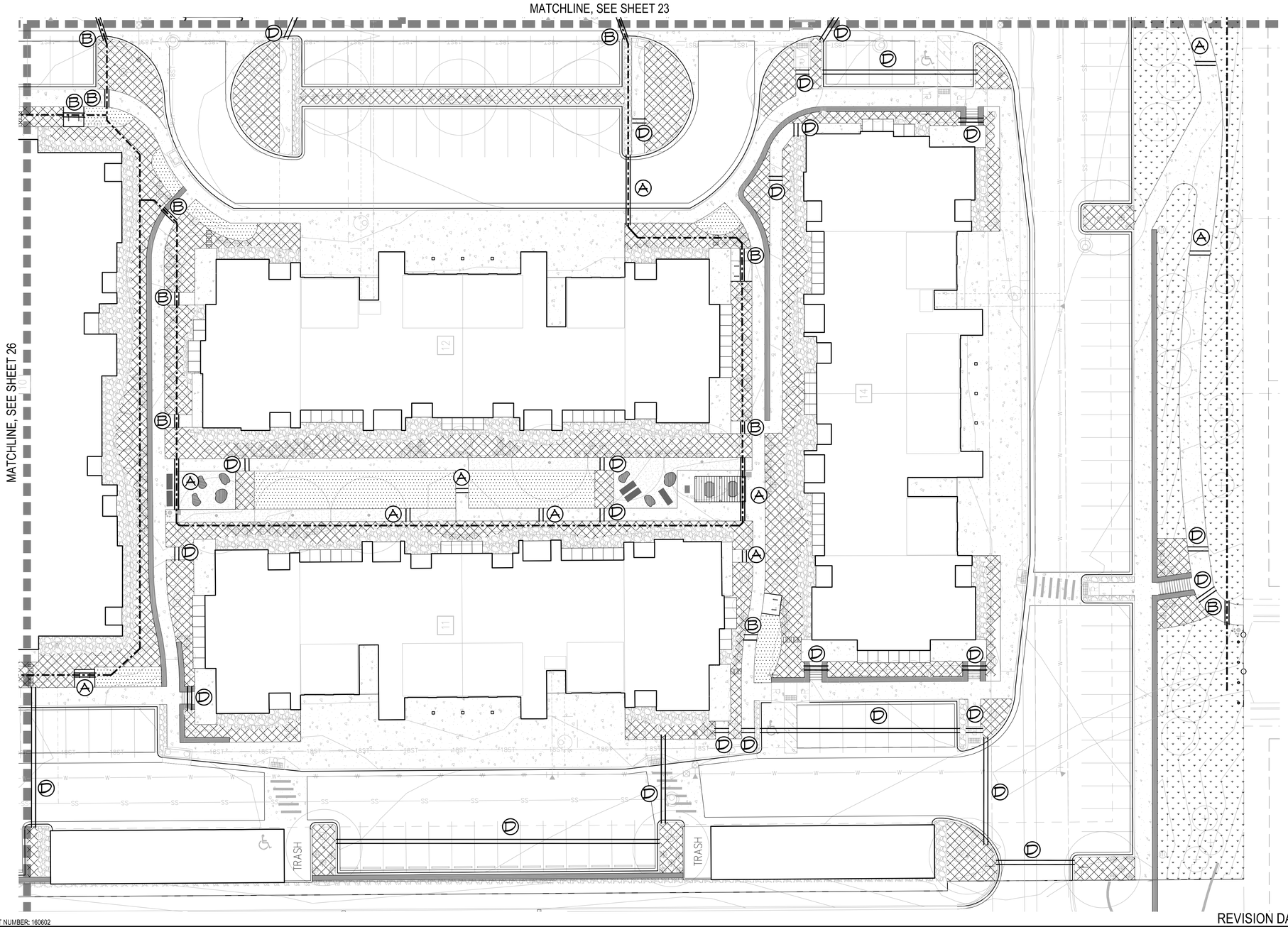
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

IRRIGATION DESIGN STRATEGY				
HATCH	DESCRIPTION	AREAS < 6'	AREAS 6'-25'	AREAS > 25'
	TURF GRASS	INLINE SUBSURFACE DRIP	6" POPUP SPRAY	6" ROTOR
	NATIVE GRASS	N/A	12" POPUP SPRAY	12" ROTOR
	TREES & SHRUBS	POINT SOURCE DRIP	POINT SOURCE DRIP	POINT SOURCE DRIP
	PERENNIALS & GROUND COVERS	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP	INLINE SUBSURFACE DRIP

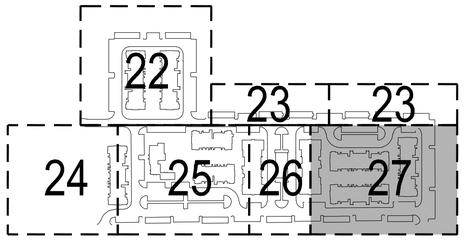
*SELECTION OF POINT SOURCE DRIP OR INLINE SUBSURFACE DRIP MAY BE DETERMINED BY PLANT DENSITY, GROWTH HABIT OR LOCATION RATHER THAN AREA DIMENSIONS.



SLEEVE LEGEND	
SYMBOL	SLEEVE (COUNT) SIZE
A	(1)4" & (1)2"
B	(1)4" & (2)2"
C	(1)4" & (3)2"
D	(1)2"
E	(2)2"
F	(1)4"
PIPE MATERIAL	CL. 160 PVC
INSTALLATION DEPTH	24"

IRRIGATION SCHEDULE	
SYMBOL	DESCRIPTION
A	ELECTRIC CONTROLLER - 120 VAC
	PVC MAINLINE - CL200
	PVC SLEEVING - CL200
P	BOOSTER PUMP
M	WATER METER - PER WATER DEPARTMENT

KEY MAP



HydroSystems-KDI, Inc.
Irrigation Consulting
860 Tabor Street, Suite 200
Lakewood, Colorado 80401
303-980-5327
303-980-5384 (fax)

811

NORTH

0 10 20 40
SCALE 1" = 20'

IRRIGATION PLAN

PROJECT NUMBER: 160602

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 27 OF 44

Filepath: T:\5100-5199\JOBS\5195-NINE MILE MULTIFAMILY\5195-MMF-IRR-CD.DWG Layout: 27
Plotted: 09/27/2017 09:17:04 AM By: Amber Clark

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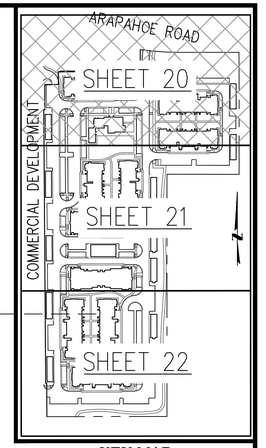
NINE MILE FILING NO.1, LOT 1

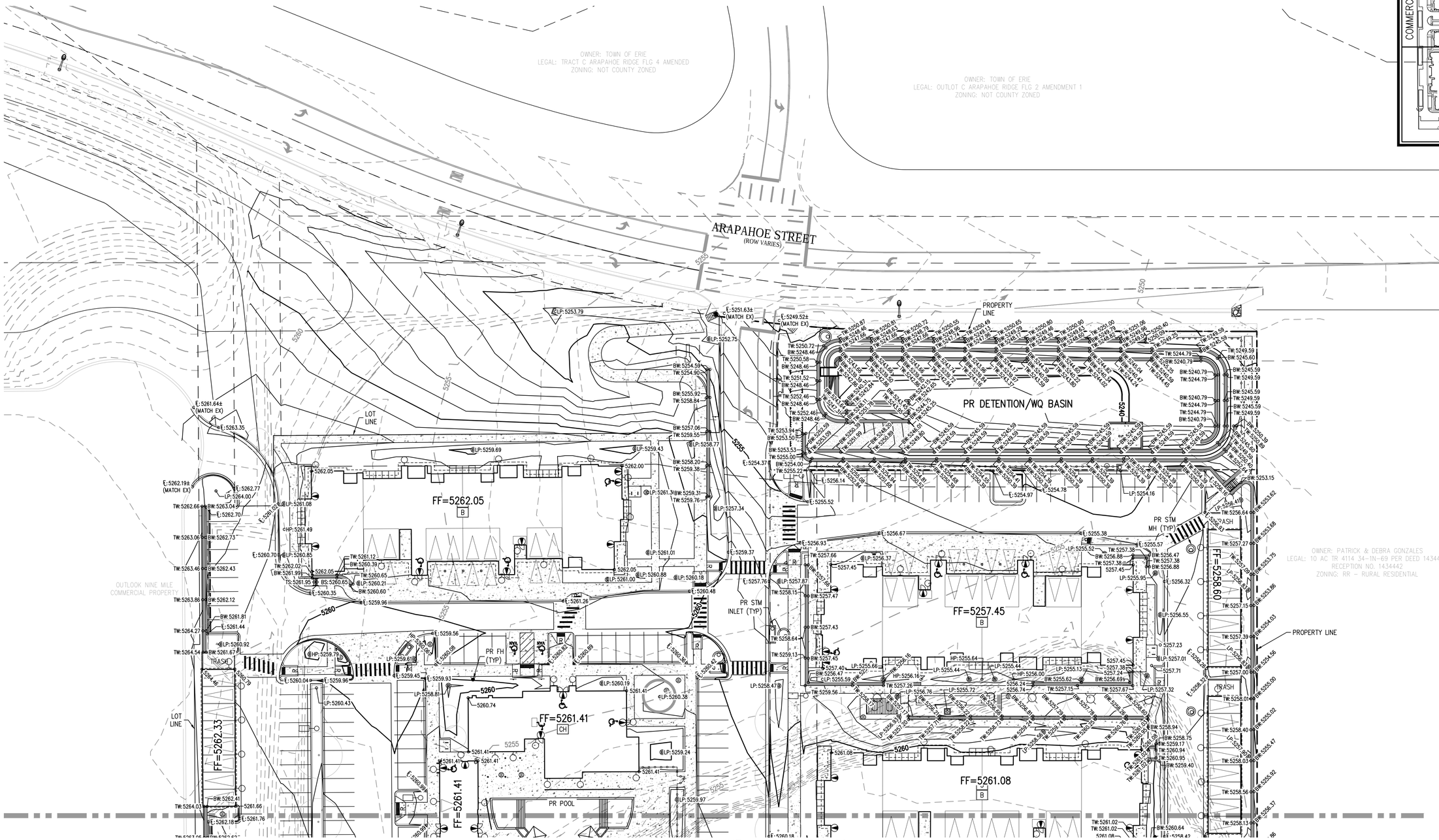
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016



KEY MAP
SCALE: 1" = 250'



30 0 30 60
SCALE: 1" = 30'

HKS HARRIS KOCHER SMITH
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PROJECT NUMBER: 160602

GRADING PLAN

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 28 OF 44

Drawing: P:\160602\ENGINEERING\GRADING\SP - GRADING.DWG Layout: GRADING PLAN
Saved: 9/26/2017 11:09:07A By: Tim Saylor
Plotted: TUE 09/26/17 11:09:07A By: Tim Saylor

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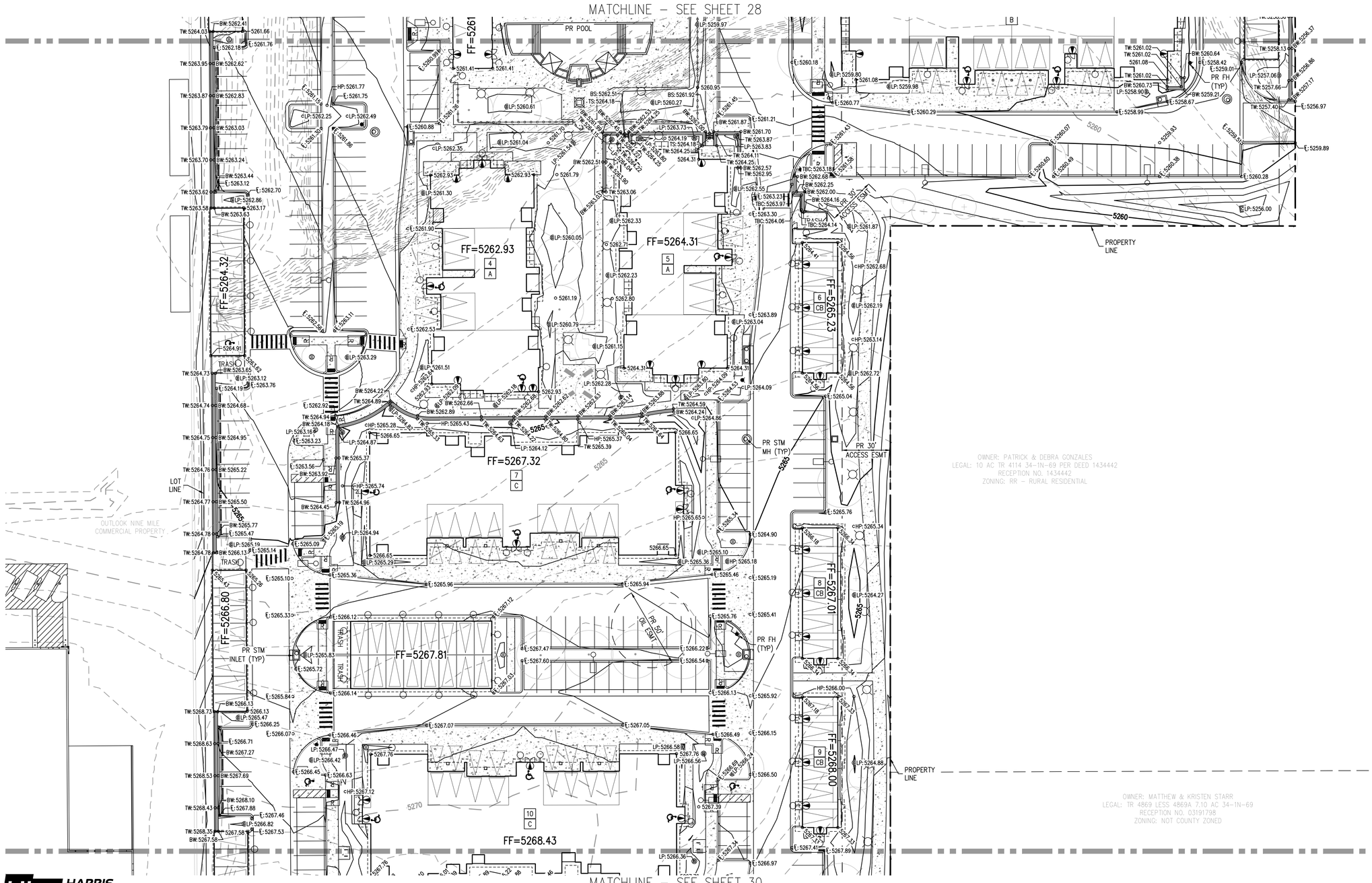
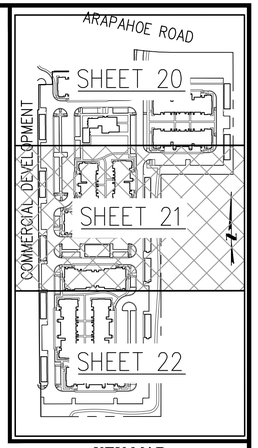
NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016





KEY MAP

SCALE: 1" = 250'

SCALE: 1" = 30'

HARRIS KOCHER SMITH
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HarrisKocherSmith.com

PROJECT NUMBER: 160602

Drawn By: P:\160602\ENGINEERING\GRADING\SP - GRADING.DWG Layout: 21 GRADING PLAN
Date: 9/26/2017 11:09:13A By: Tim Saylor
Plotted: TUE 09/26/17 11:09:13A By: Tim Saylor

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

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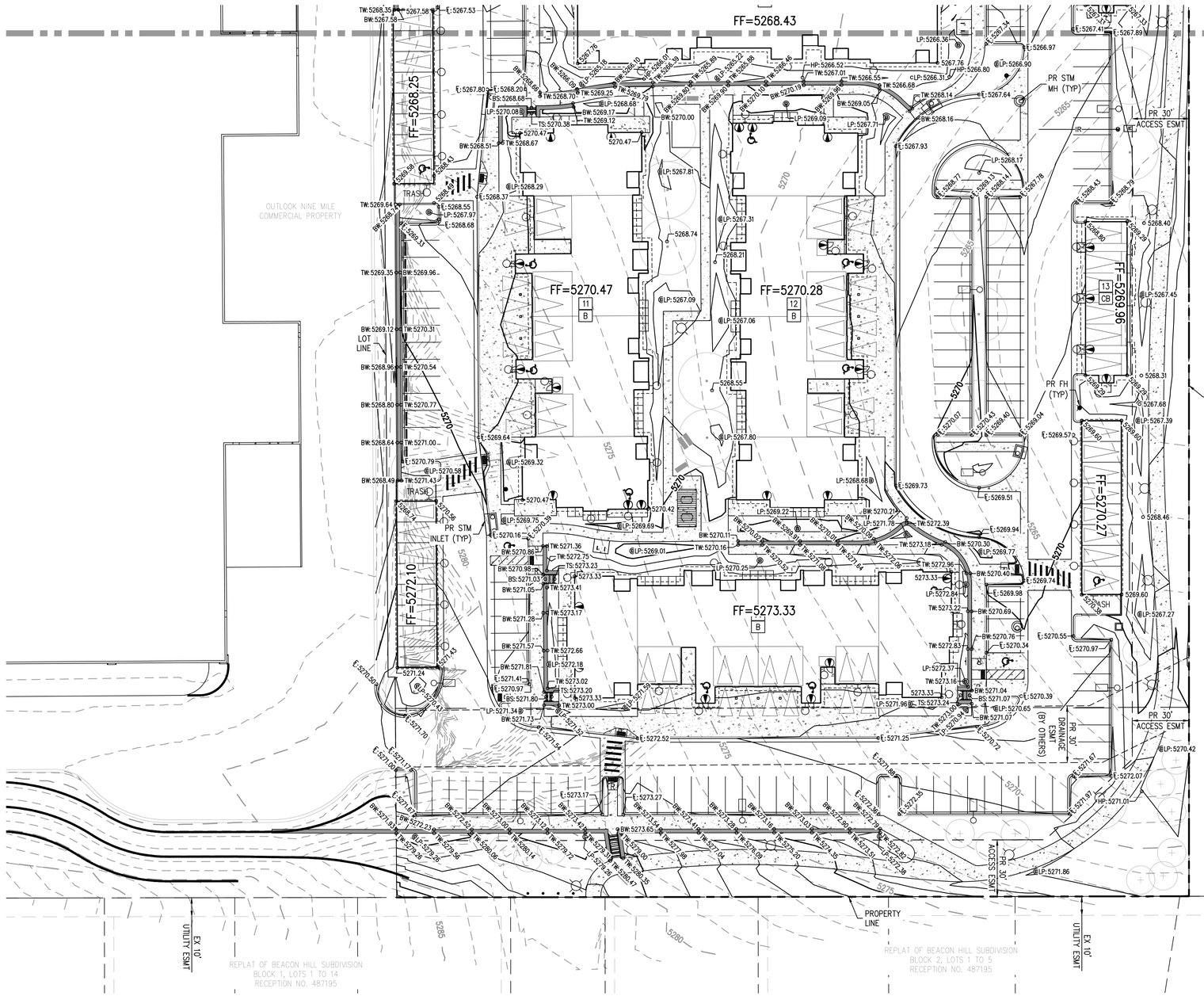
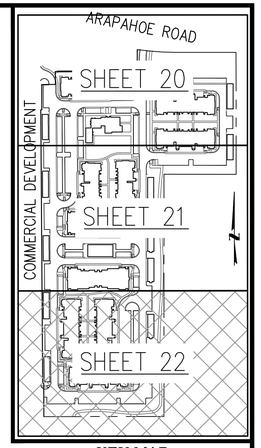
NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016





KEY MAP
SCALE: 1" = 250'

30 0 30 60
SCALE: 1" = 30'

HARRIS KOCHER SMITH
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HarrisKocherSmith.com

PROJECT NUMBER: 160602

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

GRADING PLAN

NINE MILE FILING NO.1, LOT 1

Figsafe: P:\160602\ENGINEERING\GRADING\SP - GRADING.DWG Layout: 22 GRADING PLAN
Nov 08, 2017 - 10:19:01
Plotted: TUE 09/26/17 11:09:18A By: Tim Saylor

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NINE MILE FILING NO.1, LOT 1

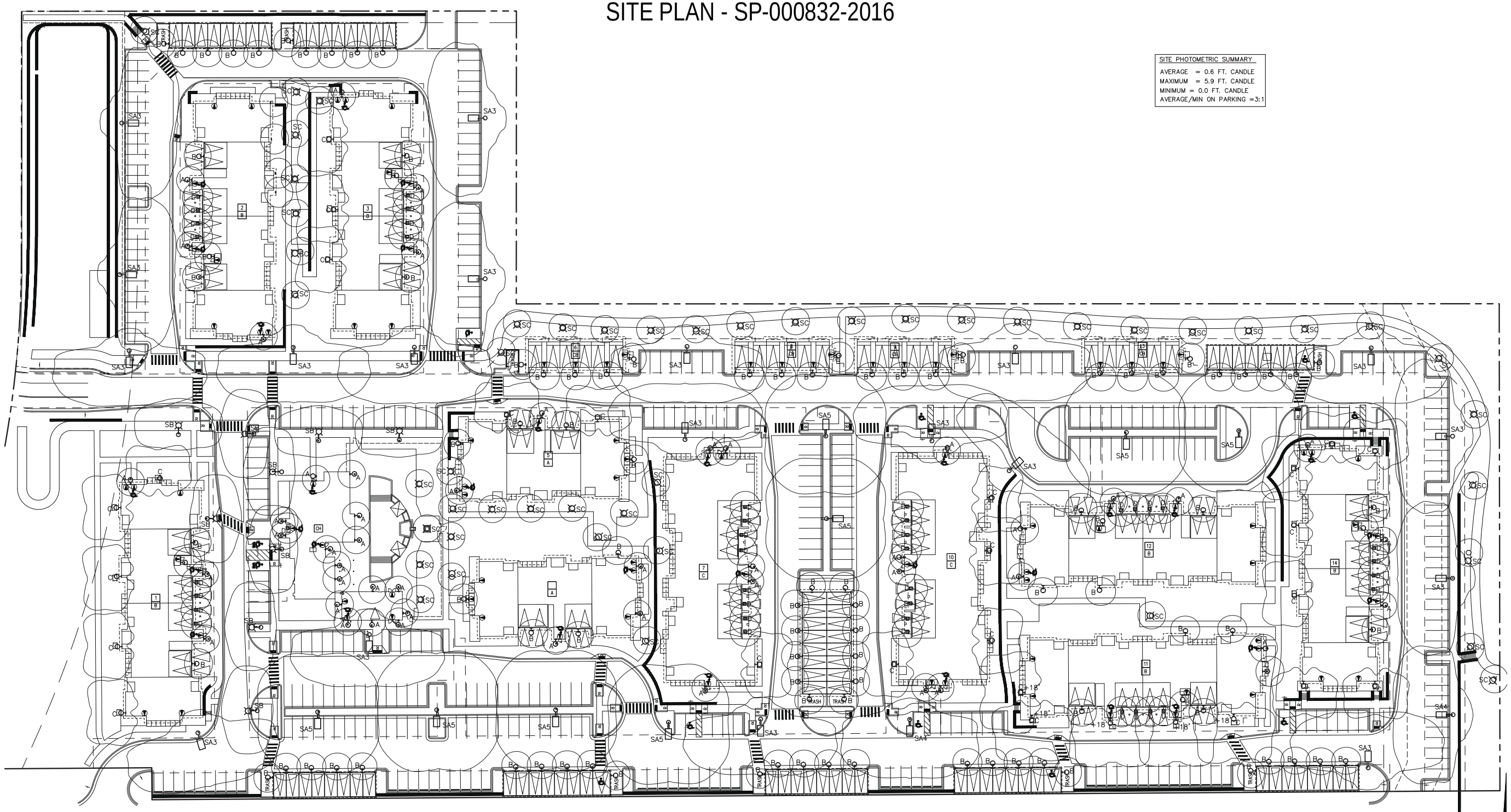
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

SITE PHOTOMETRIC SUMMARY

AVERAGE = 0.6 FT. CANDLE
MAXIMUM = 5.9 FT. CANDLE
MINIMUM = 0.0 FT. CANDLE
AVERAGE/MIN ON PARKING =3:1



SCALE: 1" = 40'

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1120 Lincoln Street, Suite 1000
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PROJECT NUMBER: JOB_NO

SITE PHOTOMETRIC PLAN

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 31 OF 44

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NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

LIGHTING FIXTURE SCHEDULE

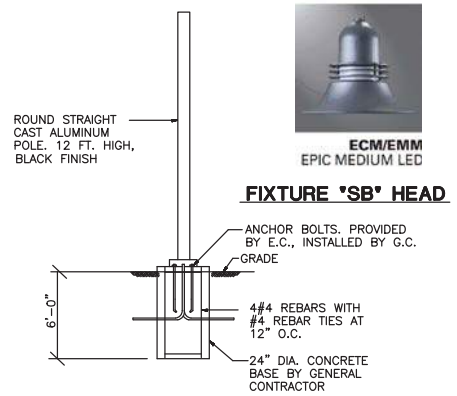
ITEM	MANUFACTURER	CAT. NO.	LAMPS	DESCRIPTION
SA3	LITHONIA	DSX1-40C-530-40K T3M-MVOLT-SPA-HSS -DBLBXD	52 WATT 4000K LED 6,485 LUMENS	SINGLE HEAD FULL CUT OFF POLE LIGHT ON SQUARE POLE, MOUNTED AT 20 FT ABOVE GRADE, TYPE III OPTICS, HOUSE SIDE SHIELD
SA4	LITHONIA	DSX1-40C-530-40K T4M-MVOLT-SPA-HSS -DBLBXD	52 WATT 4000K LED 6,485 LUMENS	SINGLE HEAD FULL CUT OFF POLE LIGHT ON SQUARE POLE, MOUNTED AT 20 FT ABOVE GRADE, TYPE IV OPTICS, HOUSE SIDE SHIELD
SA5	LITHONIA	DSX1-40C-530-40K T5M-MVOLT-SPA-DBLBXD	52 WATT 4000K LED 6,900 LUMENS	SINGLE HEAD FULL CUT OFF POLE LIGHT ON SQUARE POLE, MOUNTED AT 20 FT ABOVE GRADE, TYPE V OPTICS
SB	INVUE LIGHTING	EMM-E02LED-E1-T3-SR-SW-DP-DIM-MS/X-LXX ARM: VA6110-XX	52W, 4000K LED 5,873 LUMENS	SINGLE HEAD LED DIMMABLE PEDESTRIAN LIGHT ON 12 FT ROUND POLE. TYPE III OPTICS STEP DIMMED WITH TIMER
SC	ARCHITECTURAL AREA LIGHTING	UCB-VSL-STR-12LED NW-AGN-SLC X-LXX	33W, 4000K LED 700 LUMENS	42" ROUND BOLLARD LIGHT WITH HOOD. FULL CUT OFF
A	KICHLER LIGHTING	9044NI	(1) 20W SP CFL 1200 LUMENS	EXTERIOR WALL LIGHT AT RESIDENTIAL ENTRANCES, AT 8' ABOVE GRADE FULLY SHIELDED LAMP. LIGHT FINISH TO DETERMINED BY ARCHITECT OR OWNER
B	LUMARK	XTOR1A-LED-N-HA	3500K LED 719 LUMENS	EXTERIOR WET LOCATION RATED WALL LIGHT ON GARAGE WALLS, AT +7.5' ABOVE GRADE. FULLY SHIELDED, FULL CUTOFF – GARAGES AND BALCONIES
C	LSI LIGHTING	XCHWM3-LED-FT-28-350-NW-UE-BRZ-PCL	4000K LED 2787 LUMENS	FULL CUTOFF EXTERIOR WALL LIGHT, TYPE FORWARD THROW OPTICS, AT +12' ABOVE GRADE
D	HALO	SLD606840WH	12W, 4000K LED 800 LUMENS	6" DIA. SLIM SURFACE WET LOCATION LED DOWN LIGHT, FLAT LENS

FIXTURE "A"

FIXTURE "C"

ECM/EMM
EPIC MEDIUM LED

FIXTURE "SB" HEAD



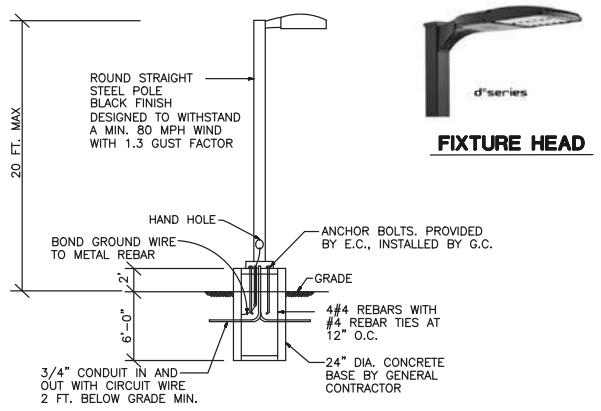
FIXTURES TYPE "SB" INSTALLATION DETAIL

NO SCALE

FIXTURE "B"

UCB

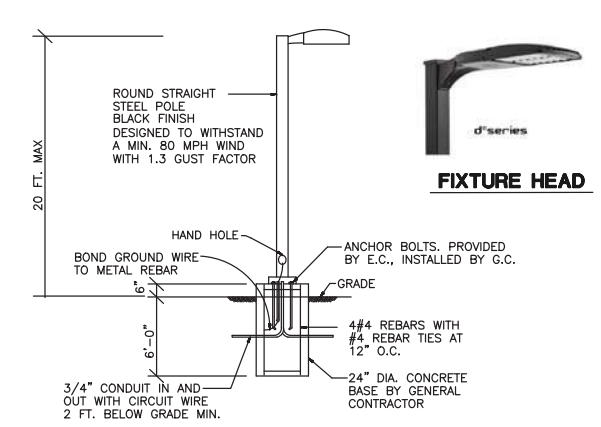
FIXTURE "SC"



FIXTURE HEAD

FIXTURES TYPE SA5 INSTALLATION DETAIL ON PARKING SURFACE

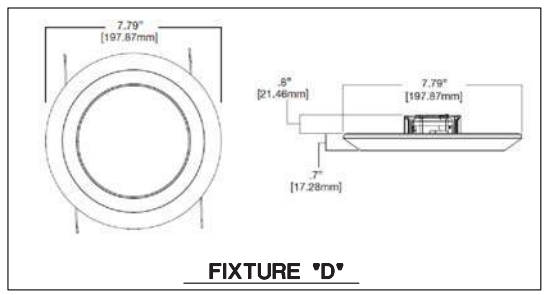
NO SCALE



FIXTURE HEAD

POLE MOUNTED FIXTURES INSTALLATION DETAIL "SA3", "SA4" AND "SA5" INSTALLED IN LANDSCAPED AREAS

NO SCALE



FIXTURE "D"

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

PROJECT NUMBER: JOB NO

STMP-DRAWING
STMP-SHEETS
STMP-SHEETS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

SITE LIGHT FIXTURES

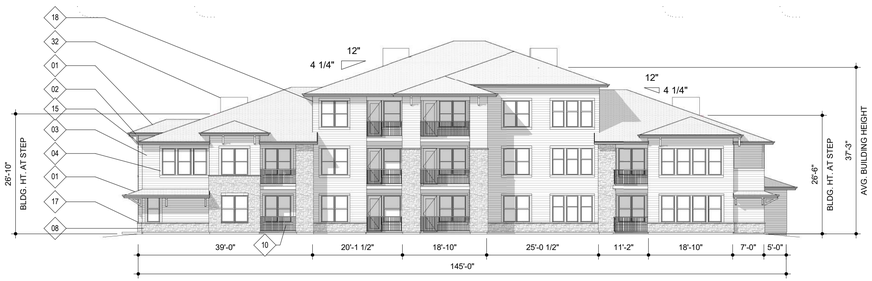
NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

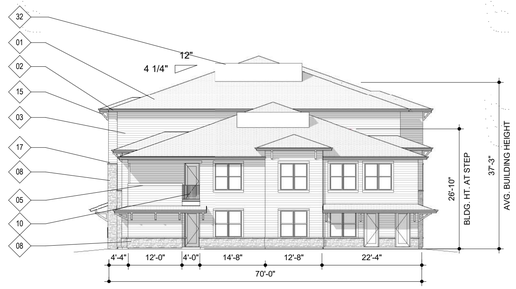
14.38 ACRES

SITE PLAN - SP-000832-2016

KEYNOTES	
#	DESCRIPTION
01	ARCHITECTURAL COMPOSITE SHINGLE ROOF
02	5/4" X 8" PAINTED FASCIA
03	6" CEMENTITIOUS LAP SIDING
04	5/4" X 6" PAINTED CEMENTITIOUS ACCENT TRIM
05	CEMENTITIOUS PANEL SIDING
06	VINYL WINDOW
07	METAL REVEAL
08	STONE VENEER
09	OVERHEAD GARAGE DOOR
10	42" HIGH GUARD RAIL
11	FULL-LITE UNIT BALCONY DOOR
12	BUILDING ENTRY DOOR, MAINTAIN ACCESSIBLE ROUTE TO THIS LOCATION
14	BUILDING NUMBER SIGNAGE LOCATION
15	DECORATIVE ROOF BRACKET
17	STONE SILL/CAP
18	LOW-PROFILE METAL CORNER TRIM
22	STOREFRONT
28	ELECTRIC METER
29	GAS METER
30	MDP
32	ROOFTOP MECHANICAL SCREENING; HEIGHT TO MATCH CURB-MOUNTED EQUIPMENT PER ERIE UDC; CEMENTITIOUS PANEL; PAINT TO MATCH ROOF COLOR



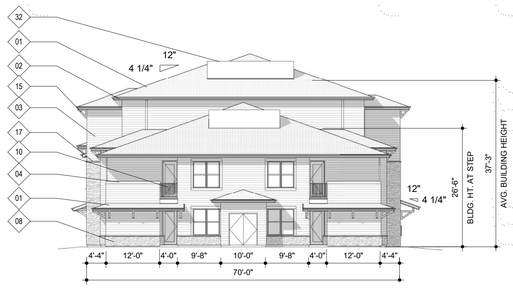
4 BLDG A - REAR ELEVATION
1/16" = 1'-0"



2 BLDG A - RIGHT ELEVATION
1/16" = 1'-0"

COLOR SCHEME - BUILDING TYPE A

COLOR #1:	BENJAMIN MOORE 1616 STORMY SKY
COLOR #2:	BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3:	WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"
TRIM/PANEL:	BENJAMIN MOORE HC-81 MANCHESTER TAN
WINDOWS:	ATRIUM WINDOWS; VINYL; ALMOND
METAL RAILING:	DARK BRONZE
ASPHALT ROOF:	TAMKO HERITAGE "RUSTIC BROWN"
STONE:	SUNSET STONE TELLURIDE DRY STACK LEDGE



3 BLDG A - LEFT ELEVATION
1/16" = 1'-0"

1 BLDG A - FRONT ELEVATION
1/16" = 1'-0"

THE BUILDING ELEVATIONS SHOWN AND APPROVED HEREON ARE INTENDED TO DEMONSTRATE HOW ALL HVAC AND OHER MECHANICAL EQUIPMENT SHALL BE SCREENED ACCORDING TO THE TOWN OF ERIE, UNIFIED DEVELOPMENT CODE REQUIREMENTS. IT IS THE APPLICANTS RESPONSIBILITY TO ENSURE THAT THIS APPROVED SCREENING OCCURS IN THE FIELD AS DEMONSTRATED BY THESE PLANS, REGARDLESS OF CURB REQUIREMENTS, MECHANICAL PLAN CHANGES, OR OTHER CIRCUMSTANCES. FAILURE TO PROVIDE APPROVED SCREENING MAY RESULT IN DELAY OF FINAL INSPECTIONS AND/OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

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KA#21602

BLDG A - ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 33 OF 44

NINE MILE FILING NO.1, LOT 1

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.
14.38 ACRES

SITE PLAN - SP-000832-2016

4 BLDG A - REAR ELEVATION
1/16" = 1'-0"

2 BLDG A - RIGHT ELEVATION
1/16" = 1'-0"

3 BLDG A - LEFT ELEVATION
1/16" = 1'-0"

1 BLDG A - FRONT ELEVATION
1/16" = 1'-0"

5 BLDG A - FRONT-LEFT CORNER
NTS

6 BLDG A - FRONT-RIGHT CORNER
NTS

7 BLDG A - REAR-LEFT CORNER
NTS

8 BLDG A - REAR-RIGHT CORNER
NTS

KEYNOTES	
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01	ARCHITECTURAL COMPOSITE SHINGLE ROOF
02	5/4" X 8" PAINTED FASCIA
03	6" CEMENTITIOUS LAP SIDING
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08	STONE VENEER
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15	DECORATIVE ROOF BRACKET
17	STONE SILL/CAP
18	LOW-PROFILE METAL CORNER TRIM
22	STOREFRONT
28	ELECTRIC METER
29	GAS METER
30	MDP
32	ROOFTOP MECHANICAL SCREENING; HEIGHT TO MATCH CURB-MOUNTED EQUIPMENT PER ERIE UDC; CEMENTITIOUS PANEL; PAINT TO MATCH ROOF COLOR

COLOR SCHEME - BUILDING TYPE A

COLOR #1: BENJAMIN MOORE 1616 STORMY SKY
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"
TRIM/PANEL: BENJAMIN MOORE HC-81 MANCHESTER TAN
WINDOWS: ATRIUM WINDOWS; VINYL; ALMOND
METAL RAILING: DARK BRONZE

ASPHALT ROOF: TAMKO HERITAGE "RUSTIC BROWN"
STONE: SUNSET STONE TELLURIDE DRY STACK LEDGE

THE BUILDING ELEVATIONS SHOWN AND APPROVED HEREON ARE INTENDED TO DEMONSTRATE HOW ALL HVAC AND OHER MECHANICAL EQUIPMENT SHALL BE SCREENED ACCORDING TO THE TOWN OF ERIE, UNIFIED DEVELOPMENT CODE REQUIREMENTS. IT IS THE APPLICANTS RESPONSIBILITY TO ENSURE THAT THIS APPROVED SCREENING OCCURS IN THE FIELD AS DEMONSTRATED BY THESE PLANS, REGARDLESS OF CURB REQUIREMENTS, MECHANICAL PLAN CHANGES, OR OTHER CIRCUMSTANCES. FAILURE TO PROVIDE APPROVED SCREENING MAY RESULT IN DELAY OF FINAL INSPECTIONS AND/OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

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KA216002

BLDG A - ELEVATIONS

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

KEYNOTES	
#	DESCRIPTION
01	ARCHITECTURAL COMPOSITE SHINGLE ROOF
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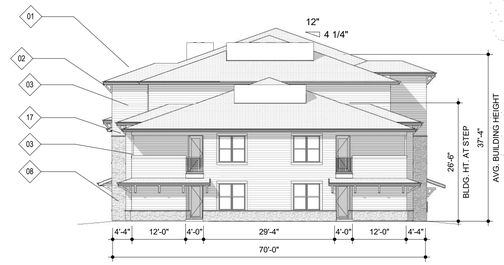
4 BLDG B - REAR ELEVATION
1/16" = 1'-0"

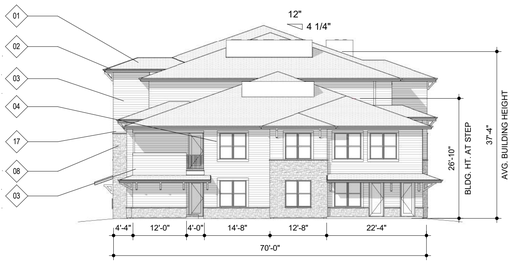


2 BLDG B - LEFT ELEVATION
1/16" = 1'-0"

COLOR SCHEME - BUILDING TYPE B

COLOR #1: BENJAMIN MOORE 1532 MAJESTIC SAGE
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"
TRIM/PANEL: BENJAMIN MOORE HC-81 MANCHESTER TAN
WINDOWS: ATRIUM WINDOWS; VINYL; ALMOND
METAL RAILING: DARK BRONZE

ASPHALT ROOF: TAMKO HERITAGE "RUSTIC BROWN"
STONE: SUNSET STONE TELLURIDE DRY STACK LEDGE



3 BLDG B - RIGHT ELEVATION
1/16" = 1'-0"

1 BLDG B - FRONT ELEVATION
1/16" = 1'-0"

THE BUILDING ELEVATIONS SHOWN AND APPROVED HEREON ARE INTENDED TO DEMONSTRATE HOW ALL HVAC AND OHER MECHANICAL EQUIPMENT SHALL BE SCREENED ACCORDING TO THE TOWN OF ERIE, UNIFIED DEVELOPMENT CODE REQUIREMENTS. IT IS THE APPLICANTS RESPONSIBILITY TO ENSURE THAT THIS APPROVED SCREENING OCCURS IN THE FIELD AS DEMONSTRATED BY THESE PLANS, REGARDLESS OF CURB REQUIREMENTS, MECHANICAL PLAN CHANGES, OR OTHER CIRCUMSTANCES. FAILURE TO PROVIDE APPROVED SCREENING MAY RESULT IN DELAY OF FINAL INSPECTIONS AND/OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

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BLDG B - ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 35 OF 44

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

4 BLDG B - REAR ELEVATION
1/16" = 1'-0"

2 BLDG B - LEFT ELEVATION
1/16" = 1'-0"

3 BLDG B - RIGHT ELEVATION
1/16" = 1'-0"

1 BLDG B - FRONT ELEVATION
1/16" = 1'-0"

5 BLDG B - FRONT-RIGHT CORNER
NTS

7 BLDG B - REAR-RIGHT CORNER
NTS

8 BLDG B - REAR-LEFT CORNER
NTS

6 BLDG B - FRONT-LEFT CORNER
NTS

KEYNOTES	
#	DESCRIPTION
01	ARCHITECTURAL COMPOSITE SHINGLE ROOF
02	5/4" X 8" PAINTED FASCIA
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15	DECORATIVE ROOF BRACKET
17	STONE SILL/CAP
18	LOW-PROFILE METAL CORNER TRIM
22	STOREFRONT
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29	GAS METER
30	MDP
32	ROOFTOP MECHANICAL SCREENING; HEIGHT TO MATCH CURB-MOUNTED EQUIPMENT PER ERIE UDC; CEMENTITIOUS PANEL; PAINT TO MATCH ROOF COLOR

COLOR SCHEME - BUILDING TYPE B

COLOR #1: BENJAMIN MOORE 1532 MAJESTIC SAGE
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"
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KA#216002

BLDG B - ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 36 OF 44

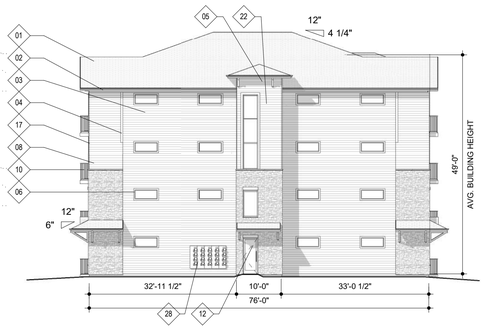
NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

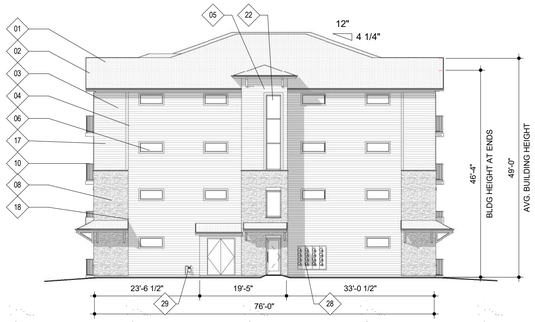
14.38 ACRES

SITE PLAN - SP-000832-2016

4 BLDG C - REAR ELEVATION
1/16" = 1'-0"



2 BLDG C - LEFT ELEVATION
1/16" = 1'-0"



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COLOR SCHEME - BUILDING TYPE C

COLOR #1:	BENJAMIN MOORE 1616 STORMY SKY
COLOR #2:	BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3:	WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"
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BLDG C - ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 37 OF 44

NINE MILE FILING NO.1, LOT 1

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14.38 ACRES

SITE PLAN - SP-000832-2016

4 BLDG C - REAR ELEVATION
1/16" = 1'-0"

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30	MDP
32	ROOFTOP MECHANICAL SCREENING; HEIGHT TO MATCH CURB-MOUNTED EQUIPMENT PER ERIE UDC; CEMENTITIOUS PANEL; PAINT TO MATCH ROOF COLOR

COLOR SCHEME - BUILDING TYPE C

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5 BLDG C - FRONT-LEFT CORNER
NTS

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NTS

7 BLDG C - REAR-LEFT CORNER
NTS

8 BLDG C - REAR-RIGHT CORNER
NTS

THE BUILDING ELEVATIONS SHOWN AND APPROVED HEREON ARE INTENDED TO DEMONSTRATE HOW ALL HVAC AND OHER MECHANICAL EQUIPMENT SHALL BE SCREENED ACCORDING TO THE TOWN OF ERIE, UNIFIED DEVELOPMENT CODE REQUIREMENTS. IT IS THE APPLICANTS RESPONSIBILITY TO ENSURE THAT THIS APPROVED SCREENING OCCURS IN THE FIELD AS DEMONSTRATED BY THESE PLANS, REGARDLESS OF CURB REQUIREMENTS, MECHANICAL PLAN CHANGES, OR OTHER CIRCUMSTANCES. FAILURE TO PROVIDE APPROVED SCREENING MAY RESULT IN DELAY OF FINAL INSPECTIONS AND/OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

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KA#21602

BLDG C - ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 38 OF 44

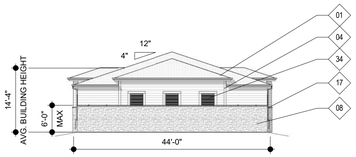
NINE MILE FILING NO.1, LOT 1

NINE MILE FILING NO.1, LOT 1

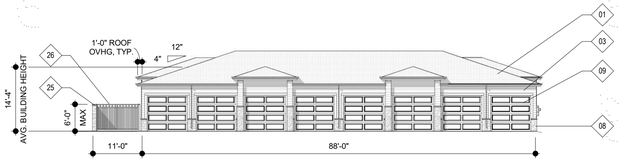
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

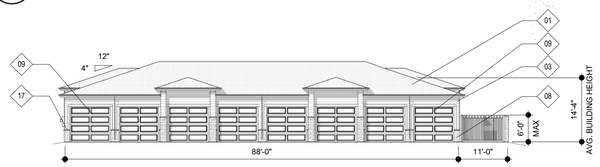
SITE PLAN - SP-000832-2016



16 LEFT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



10 FRONT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



15 REAR ELEVATION - GARAGE TYPE C
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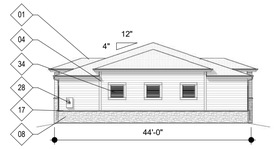
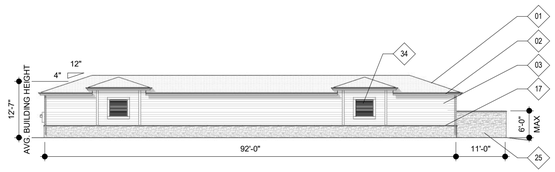
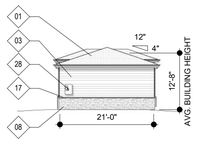


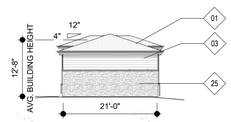
9 RIGHT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



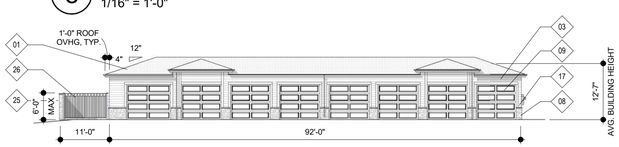
14 REAR ELEVATION - GARAGE TYPE B
1/16" = 1'-0"



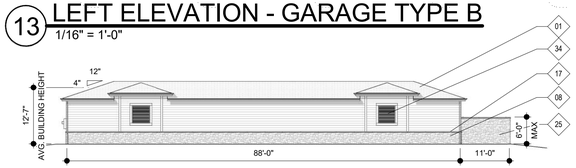
8 RIGHT ELEVATION - GARAGE TYPE B
1/16" = 1'-0"



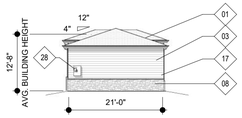
13 LEFT ELEVATION - GARAGE TYPE B
1/16" = 1'-0"



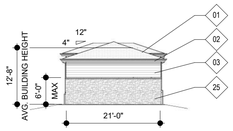
7 FRONT ELEVATION - GARAGE TYPE B
1/16" = 1'-0"



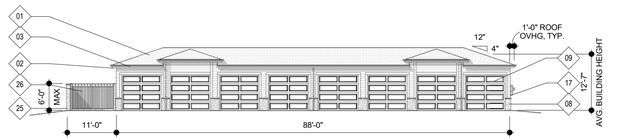
12 REAR ELEVATION - GARAGE TYPE A
1/16" = 1'-0"



6 RIGHT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"



11 LEFT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"



5 FRONT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"

KEYNOTES	
#	DESCRIPTION
01	ARCHITECTURAL COMPOSITE SHINGLE ROOF
02	5/4" X 8" PAINTED FASCIA
03	6" CEMENTITIOUS LAP SIDING
04	5/4" X 6" PAINTED CEMENTITIOUS ACCENT TRIM
08	STONE VENEER
09	OVERHEAD GARAGE DOOR
17	STONE SILL/CAP
25	STONE VENEER OVER CONCRETE MASONRY UNITS
26	METAL TRASH ENCLOSURE GATE; OPAQUE TO 6' PER ERIE UDC
28	ELECTRIC METER
34	FAUX LOUVER PACKOUT

COLOR SCHEME - GARAGE TYPE A

COLOR #1: BENJAMIN MOORE 1616 STORMY SKY
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"

COLOR SCHEME - GARAGE TYPE B

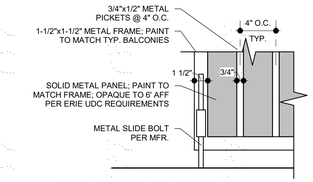
COLOR #1: BENJAMIN MOORE 1532 MAJESTIC SAGE
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"

COLOR SCHEME - GARAGE TYPE C

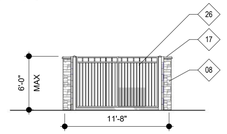
COLOR #1: BENJAMIN MOORE 1532 MAJESTIC SAGE
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"

TRIM/DOOR: BENJAMIN MOORE HC-81 MANCHESTER TAN
ASPHALT ROOF: TAMKO HERITAGE "RUSTIC BROWN"
STONE: SUNSET STONE TELLURIDE DRY STACK LEDGE

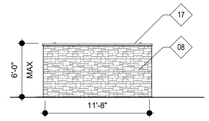
THE BUILDING ELEVATIONS SHOWN AND APPROVED HEREON ARE INTENDED TO DEMONSTRATE HOW ALL HVAC AND OHER MECHANICAL EQUIPMENT SHALL BE SCREENED ACCORDING TO THE TOWN OF ERIE, UNIFIED DEVELOPMENT CODE REQUIREMENTS. IT IS THE APPLICANTS RESPONSIBILITY TO ENSURE THAT THIS APPROVED SCREENING OCCURS IN THE FIELD AS DEMONSTRATED BY THESE PLANS, REGARDLESS OF CURB REQUIREMENTS, MECHANICAL PLAN CHANGES, OR OTHER CIRCUMSTANCES. FAILURE TO PROVIDE APPROVED SCREENING MAY RESULT IN DELAY OF FINAL INSPECTIONS AND/OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.



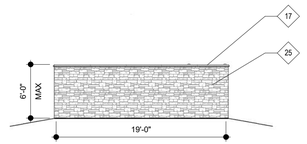
17 TRASH GATE DETAIL
1 1/2" = 1'-0"



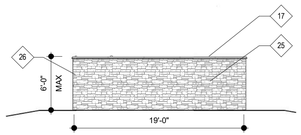
4 TRASH FRONT ELEVATION
1/8" = 1'-0"



2 TRASH REAR ELEVATION
1/8" = 1'-0"



3 TRASH LEFT ELEVATION
1/8" = 1'-0"



1 TRASH RIGHT ELEVATION
1/8" = 1'-0"

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ACCESSORY ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 39 OF 44

NINE MILE FILING NO.1, LOT 1

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

16 LEFT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"

10 FRONT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"

15 REAR ELEVATION - GARAGE TYPE C
1/16" = 1'-0"

9 RIGHT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"

14 REAR ELEVATION - GARAGE TYPE B
1/16" = 1'-0"

8 RIGHT ELEVATION - GARAGE TYPE B
1/16" = 1'-0"

13 LEFT ELEVATION - GARAGE TYPE B
1/16" = 1'-0"

7 FRONT ELEVATION - GARAGE TYPE B
1/16" = 1'-0"

12 REAR ELEVATION - GARAGE TYPE A
1/16" = 1'-0"

6 RIGHT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"

4 TRASH FRONT ELEVATION
1/16" = 1'-0"

2 TRASH REAR ELEVATION
1/16" = 1'-0"

11 LEFT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"

5 FRONT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"

3 TRASH LEFT ELEVATION
1/16" = 1'-0"

1 TRASH RIGHT ELEVATION
1/16" = 1'-0"

COLOR SCHEME - GARAGE TYPE A

COLOR #1: BENJAMIN MOORE 1616 STORMY SKY
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"

COLOR SCHEME - GARAGE TYPE B

COLOR #1: BENJAMIN MOORE 1532 MAJESTIC SAGE
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"

COLOR SCHEME - GARAGE TYPE C

COLOR #1: BENJAMIN MOORE 1532 MAJESTIC SAGE
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"

TRIM/DOOR: BENJAMIN MOORE HC-81 MANCHESTER TAN
ASPHALT ROOF: TAMKO HERITAGE "RUSTIC BROWN"
STONE: SUNSET STONE TELLURIDE DRY STACK LEDGE

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ACCESSORY ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 40 OF 44

NINE MILE FILING NO.1, LOT 1

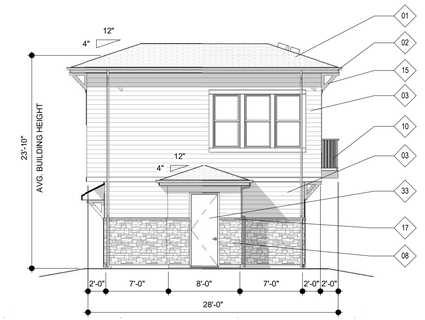
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

KEYNOTES	
#	DESCRIPTION
01	ARCHITECTURAL COMPOSITE SHINGLE ROOF
02	5/4" X 8" PAINTED FASCIA
03	6" CEMENTITIOUS LAP SIDING
04	5/4" X 6" PAINTED CEMENTITIOUS ACCENT TRIM
08	STONE VENEER
09	OVERHEAD GARAGE DOOR
10	42" HIGH GUARD RAIL
15	DECORATIVE ROOF BRACKET
17	STONE SILL/CAP
28	ELECTRIC METER
29	GAS METER
31	GROUND-MOUNTED A/C CONDENSING UNIT; SCREEN PER TOWN OF ERIE UNIFIED DEVELOPMENT CODE
33	RISER ROOM DOOR
34	FAUX LOUVER PACKOUT

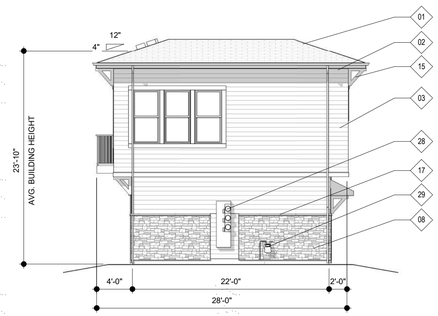
4 CARRIAGE FRONT ELEVATION
1/8" = 1'-0"



2 CARRIAGE RIGHT ELEVATION
1/8" = 1'-0"

COLOR SCHEME - CARRIAGE BUILDINGS

COLOR #1:	BENJAMIN MOORE 1616 STORMY SKY
COLOR #2:	BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3:	WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"
TRIM/PANEL:	BENJAMIN MOORE HC-81 MANCHESTER TAN
WINDOWS:	ATRIUM WINDOWS; VINYL; ALMOND
METAL RAILING:	DARK BRONZE
ASPHALT ROOF:	TAMKO HERITAGE "RUSTIC BROWN"
STONE:	SUNSET STONE TELLURIDE DRY STACK LEDGE



3 CARRIAGE LEFT ELEVATION
1/8" = 1'-0"

1 CARRIAGE REAR ELEVATION
1/8" = 1'-0"

THE BUILDING ELEVATIONS SHOWN AND APPROVED HEREON ARE INTENDED TO DEMONSTRATE HOW ALL HVAC AND OHER MECHANICAL EQUIPMENT SHALL BE SCREENED ACCORDING TO THE TOWN OF ERIE, UNIFIED DEVELOPMENT CODE REQUIREMENTS. IT IS THE APPLICANTS RESPONSIBILITY TO ENSURE THAT THIS APPROVED SCREENING OCCURS IN THE FIELD AS DEMONSTRATED BY THESE PLANS, REGARDLESS OF CURB REQUIREMENTS, MECHANICAL PLAN CHANGES, OR OTHER CIRCUMSTANCES. FAILURE TO PROVIDE APPROVED SCREENING MAY RESULT IN DELAY OF FINAL INSPECTIONS AND/OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

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KA#15002

CARRIAGE ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 41 OF 44

NINE MILE FILING NO.1, LOT 1

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

4 CARRIAGE FRONT ELEVATION
1/8" = 1'-0"

2 CARRIAGE RIGHT ELEVATION
1/8" = 1'-0"

3 CARRIAGE LEFT ELEVATION
1/8" = 1'-0"

1 CARRIAGE REAR ELEVATION
1/8" = 1'-0"

8 CARRIAGE - FRONT-LEFT VIEW

7 CARRIAGE - FRONT-RIGHT VIEW

6 CARRIAGE - REAR-RIGHT VIEW
NTS

5 CARRIAGE - REAR-LEFT VIEW

THE BUILDING ELEVATIONS SHOWN AND APPROVED HEREON ARE INTENDED TO DEMONSTRATE HOW ALL HVAC AND OHER MECHANICAL EQUIPMENT SHALL BE SCREENED ACCORDING TO THE TOWN OF ERIE, UNIFIED DEVELOPMENT CODE REQUIREMENTS. IT IS THE APPLICANTS RESPONSIBILITY TO ENSURE THAT THIS APPROVED SCREENING OCCURS IN THE FIELD AS DEMONSTRATED BY THESE PLANS, REGARDLESS OF CURB REQUIREMENTS, MECHANICAL PLAN CHANGES, OR OTHER CIRCUMSTANCES. FAILURE TO PROVIDE APPROVED SCREENING MAY RESULT IN DELAY OF FINAL INSPECTIONS AND/OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

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CARRIAGE ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 42 OF 44

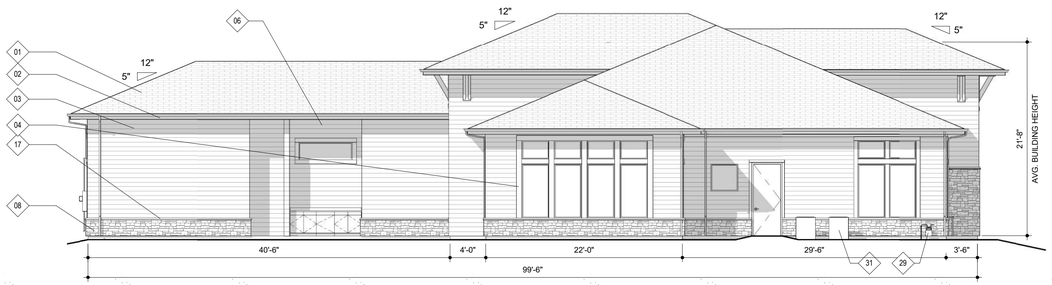
NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

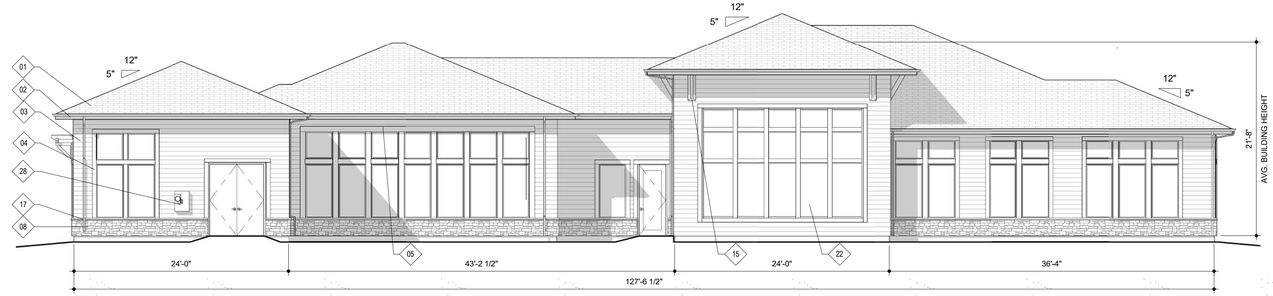
14.38 ACRES

SITE PLAN - SP-000832-2016

KEYNOTES	
#	DESCRIPTION
01	ARCHITECTURAL COMPOSITE SHINGLE ROOF
02	5/4" X 8" PAINTED FASCIA
03	6" CEMENTITIOUS LAP SIDING
04	5/4" X 6" PAINTED CEMENTITIOUS ACCENT TRIM
05	CEMENTITIOUS PANEL SIDING
06	VINYL WINDOW
08	STONE VENEER
09	OVERHEAD GARAGE DOOR
12	BUILDING ENTRY DOOR, MAINTAIN ACCESSIBLE ROUTE TO THIS LOCATION
15	DECORATIVE ROOF BRACKET
17	STONE SILL/CAP
22	STOREFRONT
28	ELECTRIC METER
29	GAS METER
31	GROUND-MOUNTED A/C CONDENSING UNIT; SCREEN PER TOWN OF ERIE UNIFIED DEVELOPMENT CODE

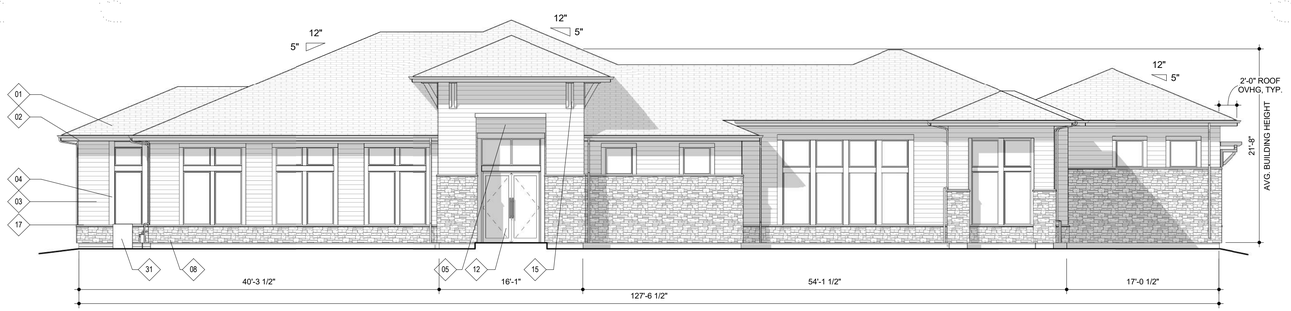


4 CLUBHOUSE - LEFT ELEVATION
1/8" = 1'-0"



2 CLUBHOUSE - REAR ELEVATION
1/8" = 1'-0"

3 CLUBHOUSE - RIGHT ELEVATION
1/8" = 1'-0"



1 CLUBHOUSE - FRONT ELEVATION
1/8" = 1'-0"

COLOR SCHEME - CLUBHOUSE

COLOR #1:	BENJAMIN MOORE 1616 STORMY SKY
COLOR #2:	BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3:	WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"
TRIM/PANEL:	BENJAMIN MOORE HC-81 MANCHESTER TAN
WINDOWS:	ATRIUM WINDOWS; VINYL; ALMOND
METAL RAILING:	DARK BRONZE
ASPHALT ROOF:	TAMKO HERITAGE "RUSTIC BROWN"
STONE:	SUNSET STONE TELLURIDE DRY STACK LEDGE

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KA#16002

CLUBHOUSE ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 43 OF 44

NINE MILE FILING NO.1, LOT 1

NINE MILE FILING NO.1, LOT 1

A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

14.38 ACRES

SITE PLAN - SP-000832-2016

4 CLUBHOUSE - LEFT ELEVATION
1/8" = 1'-0"

2 CLUBHOUSE - REAR ELEVATION
1/8" = 1'-0"

3 CLUBHOUSE - RIGHT ELEVATION
1/8" = 1'-0"

1 CLUBHOUSE - FRONT ELEVATION
1/8" = 1'-0"

8 CLUBHOUSE - FRONT-LEFT CORNER
NTS

7 CLUBHOUSE - FRONT-RIGHT CORNER
NTS

6 CLUBHOUSE - REAR-RIGHT CORNER
NTS

5 CLUBHOUSE - REAR-LEFT CORNER
NTS

COLOR SCHEME - CLUBHOUSE

COLOR #1:	BENJAMIN MOORE 1616 STORMY SKY
COLOR #2:	BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3:	WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"
TRIM/PANEL:	BENJAMIN MOORE HC-81 MANCHESTER TAN
WINDOWS:	ATRIUM WINDOWS; VINYL; ALMOND
METAL RAILING:	DARK BRONZE
ASPHALT ROOF:	TAMKO HERITAGE "RUSTIC BROWN"
STONE:	SUNSET STONE TELLURIDE DRY STACK LEDGE

THE BUILDING ELEVATIONS SHOWN AND APPROVED HEREON ARE INTENDED TO DEMONSTRATE HOW ALL HVAC AND OTHER MECHANICAL EQUIPMENT SHALL BE SCREENED ACCORDING TO THE TOWN OF ERIE, UNIFIED DEVELOPMENT CODE REQUIREMENTS. IT IS THE APPLICANTS RESPONSIBILITY TO ENSURE THAT THIS APPROVED SCREENING OCCURS IN THE FIELD AS DEMONSTRATED BY THESE PLANS, REGARDLESS OF CURB REQUIREMENTS, MECHANICAL PLAN CHANGES, OR OTHER CIRCUMSTANCES. FAILURE TO PROVIDE APPROVED SCREENING MAY RESULT IN DELAY OF FINAL INSPECTIONS AND/OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

KEPHART
community ■ planning ■ architecture
2555 WALNUT STREET
DENVER, COLORADO 80205
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KA216002

CLUBHOUSE ELEVATIONS

REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017 SHEET 44 OF 44

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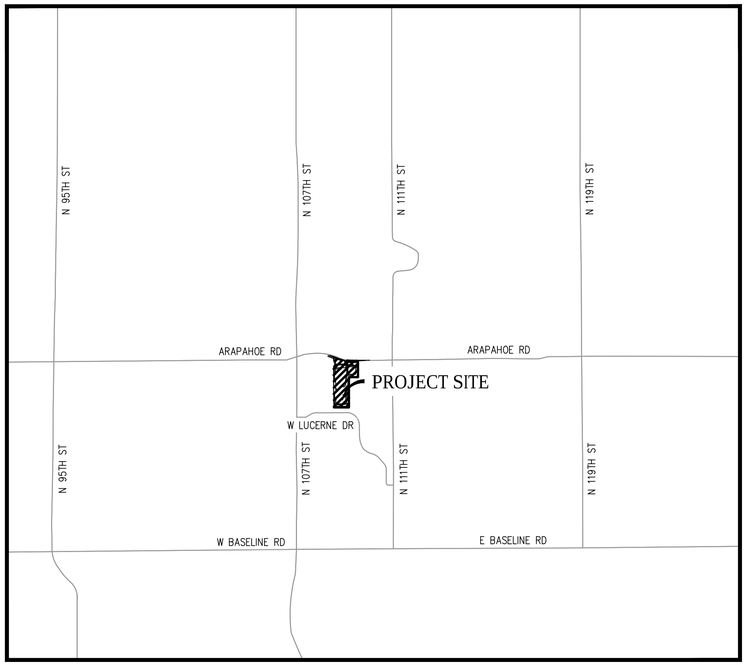
OUTLOOK AT NINE MILE

A PORTION OF THE NORTHEASE QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTH EAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

CONSTRUCTION PLANS



VICINITY MAP
SCALE: 1" = 2000'

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ABBREVIATIONS

BOP	BOTTOM OF PIPE
BS	BOTTOM OF STEP
BW	BOTTOM OF WALL (FG)
CONC	CONCRETE
DIA	DIAMETER
DR	DOOR
DS	DOWNSPOUT
E	EAST, EASTING
EL	ELEVATION
ESMT	EASEMENT
EX	EXISTING
FES	FLARED END SECTION
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
GV	GATE VALVE
HC	HANDICAP
HGL	HYDRAULIC GRADE LINE
HP	HIGH POINT
INV	INVERT
LP	LOW POINT
LSD	LANDSCAPE DRAIN
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
N	NORTH, NORTHING
PR	PROPOSED
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT OF WAY
SS	SANITARY SEWER
STA	STATION
STM	STORM
TB	THRUST BLOCK
TBC	TOP/BACK OF CURB
TOP	TOP OF PIPE
TS	TOP OF STEP
TW	TOP OF WALL (FG)
TYP	TYPICAL
WAT	WATER

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DEVELOPER:
EVERGREEN DEVCO, INC.
P.O. Box 271066
Littleton, Colorado 80127
Ph: 602-808-8600
Fax: 602-567-7147

ARCHITECT:
KEPHART ARCHITECTS
2555 Walnut Street
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ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

CIVIL ENGINEER:
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Filepath: P:\160602\ENGINEERING\CIVIL\ - COVER SHEET.DWG Layout: COVER SHEET
User: tsayler Last saved by: tsayler
Plotted: TUE 05/16/17 12:12:41P By: Tim Sayler

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GENERAL NOTES – CONSTRUCTION

1. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST "STANDARDS AND SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS" BY THE TOWN OF ERIE. COPIES OF THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS MAY BE OBTAINED FROM THE TOWN OF ERIE WEB SITE. CONTRACTOR SHALL HAVE A SET ON SITE AT ALL TIMES.

2. THE OWNER SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE TOWN OF ERIE ENGINEERING STAFF PRIOR TO THE START OF CONSTRUCTION. THOSE IN ATTENDANCE SHALL INCLUDE THE OWNER, HIS ENGINEER, THE TOWN OF ERIE ENGINEERING STAFF, REPRESENTATIVES OF THE CONTRACTORS AND OTHER AFFECTED AGENCIES. PLANS SIGNED AND ACCEPTED BY THE TOWN OF ERIE WILL BE DISTRIBUTED AT THE PRECONSTRUCTION MEETING. CONTRACTOR SHALL HAVE (1) COPY OF THE SIGNED PLANS ON SITE AT ALL TIMES.

3. THE TOWN OF ERIE, THROUGH ACCEPTANCE OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR THE COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT. THE OWNER AND DESIGN ENGINEER UNDERSTAND THAT THE RESPONSIBILITY FOR THE ENGINEERING ADEQUACY OF THE FACILITIES DEPICTED IN THIS DOCUMENT LIES SOLELY WITH THE REGISTERED PROFESSIONAL ENGINEER WHOSE STAMP AND SIGNATURE ARE AFFIXED TO THIS DOCUMENT. REPORT ALL DISCREPANCIES TO THE DESIGN ENGINEER IMMEDIATELY.

4. PRIOR TO BEGINNING THE WORK, THE CONTRACTOR SHALL OBTAIN ANY/ALL WRITTEN AGREEMENTS FOR INGRESS AND EGRESS TO THE WORK SITE FROM ADJACENT PRIVATE PROPERTY OWNERS. A COPY OF ALL AGREEMENTS SHALL BE PROVIDED TO THE TOWN. ACCESS TO ANY ADJACENT PRIVATE PROPERTY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

5. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE TOWN OF ERIE ENGINEERING STAFF. THE TOWN RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO TOWN STANDARDS AND SPECIFICATIONS. INSPECTIONS AND ONSITE VISITS ARE NOT TO BE CONSTRUED AS A GUARANTEE BY THE TOWN ENGINEERING STAFF OF THE CONTRACTORS' CONTRACTUAL COMMITMENT. REQUESTS FOR INSPECTION BY THE TOWN OF ERIE SHALL BE MADE BY THE CONTRACTOR A MINIMUM OF TWENTY- FOUR (24) HOURS IN ADVANCE.

6. CONSTRUCTION WATER IS AVAILABLE TO THE CONTRACTOR AS ESTABLISHED IN THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE TOWN OF ERIE REGARDING CURRENT REGULATIONS, FEES AND REQUIRED AGREEMENTS RELATED TO THE PROVISION OF CONSTRUCTION WATER.

7. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH THE AFFECTED UTILITY COMPANIES AND SHALL NOTIFY THE UTILITY NOTIFICATION CENTER, PHONE NUMBER 811, THREE (3) BUSINESS DAYS PRIOR TO THE START OF CONSTRUCTION.

8. UTILITIES IN THE AREA OF CONSTRUCTION ARE APPROXIMATE ONLY. THEY HAVE BEEN LOCATED FROM FIELD INVESTIGATION AND THE BEST AVAILABLE UTILITY RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, PROTECTION AND REPAIR OF ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL CONTACT ALL RESPECTIVE UTILITIES AND HAVE ALL UTILITIES FIELD-LOCATED PRIOR TO CONSTRUCTION. IF ANY UNKNOWN SUBSURFACE STRUCTURES ARE ENCOUNTERED DURING CONSTRUCTION, IT SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE TOWN OF ERIE ENGINEERING STAFF AND DESIGN ENGINEER PRIOR TO PROCEEDING.

9. THE CONTRACTOR SHALL NOTIFY TOWN OF ERIE ENGINEERING STAFF OF ANY PROBLEM IMPACTING WATER AND WASTE WATER FACILITIES THAT WOULD POTENTIALLY REQUIRE A VARIANCE FROM THE APPROVED PLANS AND SPECIFICATIONS. ANY VARIANCE FROM THE APPROVED DOCUMENTS SHALL BE AT THE SOLE DISCRETION OF THE TOWN OF ERIE ENGINEERING STAFF.

10. CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE SPECIFICATIONS AND PERMITS NECESSARY TO PERFORM THE PROPOSED WORK.

11. AS-BUILT DRAWINGS AS REQUIRED IN THE SPECIFICATIONS, ARE TO BE SUBMITTED BY THE OWNER/DEVELOPER PRIOR TO SUBSTANTIAL COMPLETION/CONSTRUCTION ACCEPTANCE OF THE CONSTRUCTION.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ANY EXISTING SIGNS, STRUCTURES, FENCES, ETC., ENCOUNTERED ON THE JOB AND RESTORING THEM TO THEIR ORIGINAL CONDITION.

13. THE CONTRACTOR IS RESPONSIBLE FOR:

    A. NOTIFYING THE TOWN OF ERIE UTILITY CUSTOMERS OF POTENTIAL SERVICE OUTAGES, AND COORDINATE WITH THE TOWN OF ERIE FOR DETERMINATION OF MINIMUM TIME REQUIREMENT.

    B. NOTIFYING THE TOWN OF ERIE ENGINEERING STAFF IF WORK IS SUSPENDED FOR ANY PERIOD OF TIME AFTER INITIAL START-UP. THE CONTRACTOR SHALL NOTIFY THE TOWN OF ERIE FORTY-EIGHT (48) HOURS PRIOR TO RESTART.

    C. IN THE EVENT OF AN AFTER HOURS EMERGENCY, CALL 303-441-4444.

    D. NOTIFYING THE MOUNTAIN VIEW FIRE PROTECTION DISTRICT OF ALL STREET CLOSURES AND EXISTING FIRE HYDRANTS TAKEN OUT OF SERVICE A MINIMUM OF FORTY-EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION.

14. PRIOR TO INSTALLATION OF UTILITY MAINS, ROAD CONSTRUCTION MUST HAVE COMPLETED THE OVER LOT GRADING STAGE.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. A CONSTRUCTION DEWATERING PERMIT MUST BE OBTAINED FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE). GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS OR EROSION OF ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. THE USE OF ANY SANITARY SEWER TO DISPOSE OF TRENCH WATER WILL NOT BE PERMITTED. NO CONCRETE SHALL BE PLACED WHERE GROUNDWATER IS VISIBLE OR UNTIL THE GROUNDWATER TABLE HAS BEEN LOWERED BELOW THE PROPOSED IMPROVEMENTS. ANY UNSTABLE AREAS, AS A RESULT OF GROUNDWATER, ENCOUNTERED DURING THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE STABILIZED AS AGREED UPON BY THE CONTRACTOR, THE TOWN OF ERIE, AND THE DESIGN ENGINEER AT THE TIME OF THE OCCURRENCE.

16. IT SHALL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO RESOLVE CONSTRUCTION PROBLEMS WITH THE TOWN OF ERIE DUE TO CHANGED CONDITIONS ENCOUNTERED BY THE CONTRACTOR DURING THE PROGRESS OF ANY PORTION OF THE PROPOSED WORK. IF, IN THE OPINION OF THE TOWN OF ERIE, PROPOSED ALTERATIONS TO THE SIGNED CONSTRUCTION PLANS INVOLVES SIGNIFICANT CHANGES TO THE CHARACTER OF THE WORK, OR TO THE FUTURE CONTIGUOUS PUBLIC OR PRIVATE IMPROVEMENTS, THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR SUBMITTING REVISED PLANS TO THE TOWN OF ERIE FOR REVIEW, PRIOR TO ANY FURTHER CONSTRUCTION RELATED TO THAT PORTION OF THE WORK.

17. DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS. THE TOWN OF ERIE OR THE DESIGN ENGINEER EXERCISE NO CONTROLS OVER THE SAFETY OR ADEQUACY OF ANY EQUIPMENT, BUILDING COMPONENTS, SCAFFOLDING, FORMS OR OTHER WORK AIDS USED IN OR ABOUT THE PROJECT, OR IN THE SUPERINTENDING OF THE SAME. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER, THE DESIGN ENGINEER OR THE TOWN. THE TOWN OF ERIE ENGINEERING STAFF, OR ANY CONTRACTED ENGINEER, ARE NOT RESPONSIBLE FOR SAFETY IN, ON OR ABOUT THE PROJECT SITE, NOR FOR COMPLIANCE BY THE APPROPRIATE PARTY OF ANY REGULATIONS RELATING THERETO.

18. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE PROSECUTED TO COMPLETION WITHOUT DELAY SO AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.

19. REGULAR WORK HOURS ARE SEVEN (7) A.M. UNTIL SEVEN (7) P.M. OR DUSK (WHICHEVER OCCURS FIRST) OF THE SAME DAY, MONDAY THROUGH FRIDAY. THE CONTRACTOR WILL NOT PERMIT OVERTIME WORK OUTSIDE OF REGULAR WORKING HOURS OR THE PERFORMANCE OF WORK ON SATURDAY, SUNDAY OR ANY LEGAL HOLIDAY WITHOUT RECEIVING WRITTEN CONSENT FROM THE PUBLIC WORKS DIRECTOR. REQUESTS FOR WEEKEND WORK APPROVAL MUST BE SUBMITTED, IN WRITING TO THE TOWN OF ERIE NO LATER THAN WEDNESDAYS AT 3:30PM FOR SUBSEQUENT WEEKEND AND REQUESTS FOR HOLIDAY WORK APPROVAL MUST BE SUBMITTED, IN WRITING TO THE TOWN OF ERIE NO LATER THAN 7:00AM-2 BUSINESS DAYS PRIOR TO THE HOLIDAY. ALL EXPENSES INCURRED BY THE TOWN SHALL BE REIMBURSED AT A RATE TO BE DETERMINED BY DIRECTOR OF FINANCE.

20. THE CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FROM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR DEPOSITION OF DEBRIS RESULTING FROM ANY AND ALL WORK. THE OWNER/CONTRACTOR IS RESPONSIBLE FOR OBTAINING A STORMWATER DISCHARGE PERMIT FOR CONSTRUCTION ACTIVITIES FOR ANY PROJECT DISTURBING OVER ONE ACRE FROM BOTH THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND THE TOWN OF ERIE.

21. EACH TYPE OF CONSTRUCTION SHALL BE COMPLETED BY A CONTRACTOR THAT HAS DEMONSTRATED ACCEPTABLE QUALIFICATIONS TO THE TOWN AND IS A LICENSED CONTRACTOR IN THE TOWN OF ERIE.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL DURING CONSTRUCTION. ALL TRAFFIC CONTROLS SHALL CONFORM TO THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) LATEST EDITIONS. A PLAN SHALL BE SUBMITTED TO THE TOWN FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.

23. ALL BACKFILL SHALL CONFORM TO THE TRENCH DETAIL LOCATED IN THE TOWN OF ERIE STANDARDS & SPECIFICATIONS.

24. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ANY CONSTRUCTION DEBRIS OR MUD TRACKED ONTO EXISTING ROADWAYS.

25. THE CONTRACTOR SHALL REPAIR ANY EXCAVATION OR PAVEMENT FAILURES CAUSED BY HIS CONSTRUCTION.

26. THE CONTRACTOR SHALL RENEW OR REPLACE ANY EXISTING TRAFFIC STRIPING AND/OR PAVEMENT MARKINGS, WHICH HAVE BEEN EITHER REMOVED OR THE EFFECTIVENESS OF WHICH HAS BEEN REDUCED DURING HIS OPERATION. RENEWAL OF PAVEMENT STRIPING AND MARKING SHALL BE DONE IN CONFORMANCE WITH THE TOWN OF ERIE STANDARD SPECIFICATIONS.

27. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO TAKE EVERY MEASURE NECESSARY TO COMPLY WITH ANY STATE, COUNTY OR TOWN DUST CONTROL ORDINANCE.

28. CONSTRUCTION VEHICLES SHALL USE TRUCK ROUTES DESIGNATED BY THE TOWN.

29. THE OWNER/DEVELOPER WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF THE IMPROVEMENTS FOR A MINIMUM OF TWO (2) YEARS FROM THE DATE OF SUBSTANTIAL COMPLETION/ CONSTRUCTION ACCEPTANCE OF THE IMPROVEMENTS BY THE TOWN OF ERIE. ANY FAILURE DURING THIS PERIOD OF GUARANTEE SHALL BE REMEDIED BY THE OWNER/CONTRACTOR TO THE SATISFACTION OF THE TOWN OF ERIE AT NO EXPENSE TO THE TOWN.

30. THE SOILS ENGINEER SHALL PERFORM SUFFICIENT INSPECTIONS DURING GRADING AND CONSTRUCTION SO THAT AN OPINION CAN BE RENDERED AND VERIFIED IN WRITING AS TO COMPLIANCE WITH THE PLANS AND CODES WITHIN THE SOILS ENGINEER'S PURVIEW.

GENERAL NOTES – GRADING

1. ALL CONSTRUCTION ACTIVITIES THAT DISTURBS ONE OR MORE ACRES OF LAND, AS WELL AS ACTIVITIES THAT DISTURB LESS THAN ONE ACRE OF LAND, BUT IS PART OF A LARGER COMMON PLAN OF DEVELOPMENT, MUST COMPLY WITH BOTH LOCAL AND STATE REGULATIONS REGARDING STORMWATER DRAINAGE ON CONSTRUCTION SITES. OWNERS OR CONTRACTORS MUST OBTAIN A COLORADO STORMWATER DISCHARGE PERMIT FOR CONSTRUCTION ACTIVITIES FROM THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) AND EITHER A PUBLIC IMPROVEMENT PERMIT OR A GRADING AND STORMWATER QUALITY PERMIT FROM THE TOWN OF ERIE. CONTRACTOR SHALL:

    A. MAINTAIN A COPY OF THE STORM WATER MANAGEMENT PLAN ONSITE AT ALL TIMES. THE SWMP MUST BE MAINTAINED AND MADE AVAILABLE TO TOWN OF ERIE INSPECTORS UPON REQUEST.

    B. INSTALL AND MAINTAIN EROSION, SEDIMENT, AND MATERIALS MANAGEMENT CONTROL BMPS AS SPECIFIED IN THE SWMP.

    C. INSPECT ALL BEST MANAGEMENT PRACTICES (BMPS) AT LEAST EVERY FOURTEEN (14) DAYS AND WITHIN TWENTY FOUR (24) HOURS AFTER ANY PRECIPITATION OR SNOWMELT EVENT THAT CAUSES SURFACE RUNOFF.

    D. MAINTAIN INSPECTION AND MAINTENANCE RECORDS OF BMPS ONSITE WITH THE SWMP. COPIES OF THESE REPORTS SHALL BE PROVIDED TO THE TOWN OF ERIE ENGINEERING STAFF.

    E. BASED ON INSPECTIONS PERFORMED BY THE PERMIT HOLDER OR BY TOWN PERSONNEL, MODIFICATIONS TO THE SWMP WILL BE NECESSARY IF AT ANY TIME THE SPECIFIED BMPS DO NOT MEET THE OBJECTIVES OF THE PERMIT. ALL MODIFICATIONS SHALL BE COMPLETED AS SOON AS PRACTICABLE AFTER THE REFERENCED INSPECTION, AND SHALL BE RECORDED ON THE OWNER'S COPY OF THE SWMP.

    F. THE OPERATOR SHALL AMEND THE SWMP WHENEVER THERE IS A SIGNIFICANT CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON THE POTENTIAL FOR DISCHARGE OF POLLUTANTS TO THE RECEIVING WATERS, OR IF THE SWMP PROVES TO BE INEFFECTIVE IN ACHIEVING THE GENERAL OBJECTIVES OF CONTROLLING POLLUTANTS IN STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

    G. INSTALLATION AND MAINTENANCE OF BMPS SHALL BE SUPERVISED BY PERSONNEL CERTIFIED IN EROSION AND SEDIMENT CONTROL.

2. ALL SITE GRADING (EXCAVATION, EMBANKMENT, AND COMPACTION) SHALL CONFORM TO THE RECOMMENDATIONS OF THE LATEST SOILS INVESTIGATION FOR THIS PROPERTY AND SHALL FURTHER BE IN CONFORMANCE WITH THE TOWN OF ERIE "STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS", LATEST EDITION.

3. ALL GRADING AND FILLING OPERATIONS SHALL BE OBSERVED, INSPECTED AND TESTED BY A LICENSED SOILS ENGINEER. ALL TEST RESULTS SHALL BE SUBMITTED TO THE TOWN OF ERIE ENGINEERING STAFF.

4. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATION AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO AVOID ANY DAMAGE TO EXISTING FOLIAGE THAT LIES IN THE PROJECT AREA UNLESS DESIGNATED FOR REMOVAL AND SHALL BE LIABLE FOR SUCH DAMAGE AT HIS/HER EXPENSE.

5. TOPSOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICABLE ON THE SITE FOR USE ON AREAS TO BE RE-VEGETATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROTECTED FROM EROSIVE ELEMENTS.

6. TEMPORARY VEGETATION SHALL BE INSTALLED ON ALL DISTURBED AREAS WHERE PERMANENT SURFACE IMPROVEMENTS ARE NOT SCHEDULED FOR IMMEDIATE INSTALLATION. SEEDING WILL BE DONE ACROSS THE SLOPE FOLLOWING THE CONTOURS. VEGETATION SHALL CONFORM TO THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS. PROJECT SCHEDULING SHOULD TAKE ADVANTAGE OF SPRING OR FALL PLANTING SEASONS FOR NATURAL GERMINATION. SEEDED AREAS SHALL BE IRRIGATED IN ACCORDANCE WITH THE TOWN OF ERIE'S STANDARDS AND SPECIFICATIONS.

7. AT ALL TIMES, A WATER TRUCK SHALL BE ON-SITE AND THE PROPERTY SHALL BE MAINTAINED AND/OR WATERED TO PREVENT WIND-CAUSED EROSION. EARTHWORK OPERATIONS SHALL BE DISCONTINUED WHEN FUGITIVE DUST SIGNIFICANTLY IMPACTS ADJACENT PROPERTY. IF EARTHWORK IS COMPLETE OR DISCONTINUED AND DUST FROM THE SITE CONTINUES TO CREATE PROBLEMS, THE OWNER/DEVELOPER SHALL IMMEDIATELY INSTITUTE MITIGATIVE MEASURES AND SHALL CORRECT DAMAGE TO ADJACENT PROPERTY.

8. FILL SLOPES SHALL BE COMPACTED BY MEANS OF SHEEPSFOOT COMPACTOR OR OTHER SUITABLE EQUIPMENT. COMPACTING SHALL CONTINUE UNTIL SLOPES ARE STABLE AND THERE IS NOT AN APPRECIABLE AMOUNT OF LOOSE SOIL ON THE SLOPES.

9. TEMPORARY CUT/FILL SLOPES SHALL ABIDE BY THE SOILS REPORT. PERMANENT SLOPES SHALL BE AS SHOWN ON PLANS.

10. DEPTH OF MOISTURE-DENSITY CONTROL SHALL BE FULL DEPTH ON ALL EMBANKMENT AND SIX (6) INCHES ON THE BASE OF CUTS AND FILLS.

11. OUTLET SIDES OF ALL STORM PIPES SHALL BE GRADED TO DRAIN AND SHALL HAVE SUFFICIENT EROSION PROTECTION.

12. THE PERMITTEE OR HIS AGENT SHALL NOTIFY THE SITE GEOTECHNICAL ENGINEER WHEN THE GRADING OPERATION IS READY FOR EACH OF THE FOLLOWING INSPECTIONS:

    A. INITIAL INSPECTION WHEN THE PERMITTEE IS READY TO BEGIN WORK, BUT NOT LESS THAN TWO (2) DAYS BEFORE ANY GRADING OR GRUBBING IS STARTED.

    B. AFTER THE NATURAL GROUND OR BEDROCK IS EXPOSED AND PREPARED TO RECEIVE FILL, BUT BEFORE FILL IS PLACED.

    C. EXCAVATION INSPECTION AFTER THE EXCAVATION IS STARTED BUT BEFORE THE VERTICAL DEPTH OF THE EXCAVATION EXCEEDS TEN (10) FEET.

    D. FILL INSPECTION AFTER THE FILL PLACEMENT IS STARTED, BUT BEFORE THE FILL EXCEEDS TEN (10) FEET.

GENERAL NOTES – ROADWAY

1. ALL STATIONING IS BASED ON CENTERLINE OF ROADWAYS UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL PREPARE THE SUBGRADE BY SCARIFYING THE UPPER ONE (1) FOOT OF THE SUBGRADE IN CUT AREAS OR AREAS WITH LITTLE OR NO FILL, UNLESS SPECIFIED IN THE SOILS REPORT. THE WORK SHALL CONFORM TO THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

3. PAVEMENT SHALL NOT BE CONSTRUCTED UNTIL ALL UNDERGROUND UTILITIES HAVE BEEN INSTALLED, TESTED AND ACCEPTED BY THE TOWN OF ERIE ENGINEERING STAFF.

4. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO SUPERVISE AND CERTIFY THAT PROPER COMPACTION HAS BEEN OBTAINED BY SUBCONTRACTORS AND AGENCIES CONCERNING UTILITY LINE BACKFILL INCLUDING, BUT NOT LIMITED TO, SEWER, WATER, ELECTRICAL, GAS AND LANDSCAPE IRRIGATION LINES AND ACCEPTED BY THE TOWN OF ERIE ENGINEERING STAFF AND THE SOILS ENGINEER.

5. STREET PAVING SHALL NOT START UNTIL:

    A. A SOILS REPORT AND PAVEMENT DESIGN IS ACCEPTED BY THE TOWN OF ERIE ENGINEERING STAFF.

    B. ALL STREETS ARE COMPACTED IN ACCORDANCE WITH THE SOILS REPORT AND THE TOWN OF ERIE SPECIFICATIONS.

    C. ALL COMPACTION TEST REPORTS HAVE BEEN SUBMITTED TO THE TOWN ENGINEERING STAFF PRIOR TO PROOF ROLLS.

    D. PROOF ROLLS ARE PERFORMED USING A LOADED SINGLE AXLE 2000 GALLON WATER TRUCK AND MONITORED BY THE TOWN OF ERIE ENGINEERING STAFF.

6. THE OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL UTILITY MANHOLE COVERS AND ACCESS LIDS TO GRADE.

7. ALL CONCRETE SHALL BE A MINIMUM OF CLASS B, IN CONFORMANCE WITH CDOT STANDARDS.

8. ALL CONCRETE EDGES MUST BE ROUNDED TO A FOURTH (1/4) INCH RADIUS, EXCEPT WHERE SHOWN OTHERWISE ON DRAWINGS.

9. ONE HALF (1/2) INCH EXPANSION JOINTS SHALL BE INSTALLED AT ALL CURB RETURNS, CURB CUTS AND EXISTING STRUCTURES. CONTROL JOINTS SHALL BE INSTALLED PER THE TOWNS STANDARDS AND SPECIFICATIONS.

10. BEFORE PLACING OF ASPHALT THE SUBGRADE SHALL RECEIVE A GROUND STERILANT APPLIED AT A RATE IN ACCORDANCE TO MANUFACTURERS RECOMMENDATIONS.

11. TACK COAT SHALL BE USED PRIOR TO OVERLAY, (CSS-1H), 50:50 DILUTION, 0.10 GAL/SY. ALL EDGES ABUTTING NEW PAVEMENT SHALL BE TACKED.

12. WHEN IT IS REQUIRED TO MATCH EXISTING PAVEMENT, EXISTING PAVEMENT SHALL BE SAW CUT IN A MANNER TO AFFECT A SMOOTH, VERTICAL STRAIGHT CUT EDGE. T PATCH MILLING MUST BE DONE PER STANDARD DETAILS.

13. ALL SAWCUT EDGES OF EXISTING PAVEMENT SHALL BE CLEAN AND COATED WITH TACK COAT PRIOR TO PLACING NEW PAVEMENT ADJACENT TO THE EXISTING PAVEMENT.

14. ALL ASPHALT SHALL BE ONE FOURTH (1/4) INCH ABOVE CONCRETE EDGES, MANHOLE COVERS AND ACCESS LIDS.

15. SIGNAGE AND STRIPING SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, THE COLORADO DEPARTMENT OF TRANSPORTATION M&S STANDARDS, AND THE TOWN OF ERIE STANDARD DESIGN CRITERIA AND STANDARD CONSTRUCTION REQUIREMENTS.

16. THE PURCHASE AND INSTALLATION OF STREET NAME SIGNS SHALL BE THE RESPONSIBILITY OF THE OWNER/CONTRACTOR. THE OWNER/CONTRACTOR SHALL SECURE THE APPROVAL OF THE TOWN OF ERIE ENGINEERING STAFF FOR TYPE AND LOCATION OF THE STREET NAME SIGNS PRIOR TO INSTALLATION.

17. ALL NEW ROADWAY SECTIONS SHALL HAVE SUBGRADE PREPARATION AND INITIAL ASPHALT PAVEMENT PLACED WITH A 1% CROWN. FINAL OVERLAY IS TO BE PLACED WITH A 2% CROWN. SEE DETAIL ST7 IN THE 'STANDARD DETAILS-STREET' FOR MORE INFORMATION.

18. DETERMINATION OF CROWN FOR CUL DE SAC PAVING SHALL BE EVALUATED ON A CASE BY CASE BASIS.

19. THE PERMITTEE OR HIS AGENT SHALL NOTIFY THE SITE GEOTECHNICAL ENGINEER WHEN THE GRADING OPERATION IS READY FOR EACH OF THE FOLLOWING INSPECTIONS:

    A. INITIAL INSPECTION WHEN THE PERMITTEE IS READY TO BEGIN WORK, BUT NOT LESS THAN TWO (2) DAYS BEFORE ANY GRADING OR GRUBBING IS STARTED.

    B. AFTER THE NATURAL GROUND OR BEDROCK IS EXPOSED AND PREPARED TO RECEIVE FILL, BUT BEFORE FILL IS PLACED.

    C. EXCAVATION INSPECTION AFTER THE EXCAVATION IS STARTED BUT BEFORE THE VERTICAL DEPTH OF THE EXCAVATION EXCEEDS TEN (10) FEET.

    D. FILL INSPECTION AFTER THE FILL PLACEMENT IS STARTED, BUT BEFORE THE FILL EXCEEDS TEN (10) FEET.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

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EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
GENERAL NOTES 1

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

SHEET NO.
2
2 OF 57

FILEPATH: P:\160602\ENGINEERING\CD\CD - GENERAL NOTES.DWG LAYOUT: GENERAL NOTES 1
NO XREFS
PLOTTED: TUE 09/26/17 12:12:46P BY: TIM SAYLER

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GENERAL NOTES – SEWER

1. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING SEWERS TO BE CONNECTED TO PRIOR TO CONSTRUCTION STAKING.
2. CONNECTION TO EXISTING TOWN OF ERIE LINES WILL BE PERMITTED UPON SUBSTANTIAL COMPLETION/CONSTRUCTION ACCEPTANCE OF THE NEW SANITARY SEWER SYSTEM. EXISTING PIPE AT THE POINT OF CONNECTION SHALL NOT BE "BROKEN OUT" UNTIL THE NEW SYSTEM IS ACCEPTED. IF CONNECTING TO AN EXISTING MANHOLE, THE NEW LINE SHALL BE PLUGGED UNTIL THE NEW SYSTEM IS ACCEPTED.
3. MINIMUM VERTICAL SEPARATIONS BETWEEN ALL UTILITY PIPES SHALL BE EIGHTEEN (18) INCHES. IF VERTICAL SEPARATIONS ARE LESS THAN EIGHTEEN (18) INCHES, THE UTILITY PIPES SHALL BE REINFORCED AND PROTECTED AS REQUIRED BY CURRENT TOWN STANDARD SPECIFICATIONS.
4. WATER AND SANITARY SEWER LINES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET. WHEN A TEN (10) FOOT SEPARATION IS NOT PROVIDED OR WHEN SEWER LINES CROSS WATER LINES WITH LESS THAN ONE AND ONE–HALF (1½) FEET OF VERTICAL SEPARATION, SEWER LINE JOINTS SHALL BE CONCRETE ENCASED. FOR PERPENDICULAR CROSSINGS, ENCASED JOINTS SHALL EXTEND TEN (10) FEET, PERPENDICULAR TO THE WATER LINE IN BOTH DIRECTIONS.
5. ALL SANITARY SEWER SERVICES AND WATER SERVICES ARE TO BE TEN (10) FEET APART.
6. SERVICE LATERALS SHALL EXTEND FIVE (5) FEET BEYOND RIGHTS OF WAY OR UTILITY EASEMENTS, WHICHEVER IS GREATER. THE ENDS SHALL BE MARKED BY A GREEN PAINTED WOOD POST UNTIL CURB AND GUTTER IS IN PLACE. WHEN CURB AND GUTTER IS IN PLACE THE LATERALS SHALL BE MARKED ON THE CONCRETE CURB FACE WITH AN 'S' or "X".
7. THE LENGTH OF SANITARY SEWER LINE IS THE HORIZONTAL DISTANCE BETWEEN CENTER OF MANHOLE TO CENTER OF MANHOLE. THEREFORE, THE DISTANCES INDICATED ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND MANHOLE DIMENSIONS.
8. SERVICE LINE CONNECTIONS TO DEAD END MANHOLES THAT HAVE NO FURTHER POSSIBILITY OF EXTENSION SHALL BE ALLOWED AND SHALL HAVE A MINIMUM DROP OF 0.75 X MAIN DIAMETER. SERVICE LINE CONNECTIONS TO IN–LINE MANHOLES ARE NOT PERMITTED. MINIMUM SERVICE LINE SLOPE; 4 INCHES=2%; 6 INCHES= 1%; 8 INCHES=0.4%
9. ALL FOUR (4) THROUGH FIFTEEN (15) INCH SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) AND SHALL BE IN ACCORDANCE WITH ASTM D–3034–SDR35, "STANDARS SPECIFICATION FOR PVC SEWER PIPE AND FITTINGS". ANY SANITARY SEWER HAVING A DEPTH IN EXCESS OF FIFTEEN (15) FEET SHALL BE COORDINATED WITH THE PUBLIC WORKS DEPARTMENT.
10. BEDDING MATERIAL SHALL CONFORM TO TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
11. WARNING TAPE SHALL BE INSTALLED 12'MINIMUM AND 18'MAXIMUM ABOVE SEWER PIPE.
12. PRECAST CONCRETE MANHOLE SECTIONS SHALL BE IN ACCORDANCE WITH ASTM C–478. MANHOLE STEPS SHALL BE POLYPROPYLENE COVERED STEEL CONFORMING TO ASTM. D–4101 AND ASTMA–615. CAST IRON RING AND COVER SHALL CONFORM TO ASTM A–48.
13. MANHOLES SHALL BE A MINIMUM FOUR (4) FOOT DIAMETER AND CONSTRUCTED PER THE STANDARDS AND SPECIFICATIONS.
14. THE CONTRACTOR SHALL TAKE CARE TO PROPERLY SHAPE ALL MANHOLE INVERTS AND BENCHES IN ACCORDANCE WITH THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS, TO PROMOTE SMOOTH FLOW THROUGH THE MANHOLE. INVERTS OF LINES INTERSECTING AT 90 DEGREES AND AT HIGHLY DIVERGENT OR FLAT SLOPES ARE ESPECIALLY CRITICAL. MANHOLE INVERTS SHALL BE CONSTRUCTED WITH A SMOOTH TROWEL FINISH, AND BENCH FINISHED WITH A LIGHT BROOMED, NON–SKID, FINISH.
15. SEWER TEES AND/OR WYES SHALL BE STAKED BY A SURVEY CREW. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER "AS–CONSTRUCTED" LOCATION OF TEES AND WYES. ALL SERVICE LINES ARE FOUR (4) INCH UNLESS OTHERWISE NOTED.
16. THE CONTRACTOR, AT THE OWNER'S EXPENSE, WILL MAKE ALL SEWER SERVICE TAPS.
17. PRIOR TO BACKFILL THE TOWN OF ERIE ENGINEERING STAFF SHALL INSPECT ALL SANITARY SEWER MAINS AND SERVICE EXTENSIONS.
18. MANHOLE RIMS SHALL BE SET AT AN ELEVATION RELATIVE TO THE PAVEMENT, IN ACCORDANCE WITH THE TOWN OF ERIE STANDARDS. WHETHER THE MANHOLE IS AT PAVED OR UNPAVED GRADE, A MINIMUM OF ONE (1) AND A MAXIMUM OF FOUR (4) CONCRETE RINGS SHALL BE USED TO ADJUST THE RIM ELEVATION TO FINAL GRADE. THE MAXIMUM ACCEPTABLE VERTICAL ADJUSTMENT UTILIZING CONCRETE RINGS IS EIGHTEEN (18) INCHES.
19. SUBSTANTIAL COMPLETION/CONSTRUCTION ACCEPTANCE OF THE NEW SANITARY SEWER MAINS IS CONTINGENT UPON COMPLETION OF ITEMS LISTED IN THE TOWNS STANDARDS AND SPECIFICATIONS.

GENERAL NOTES – STORM DRAIN

1. EXCEPT WHERE NOTED, ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE, CLASS III AND SHALL CONFORM TO REQUIREMENTS OF ASTM C76. ALL RCP SHALL HAVE RUBBER GASKETED JOINTS AND SHALL CONFORM TO REQUIREMENTS OF ASTM C443, AND SHALL PROVIDE WATERTIGHT PERFORMANCE CHARACTERISTICS.
2. TONGUE AND GROOVE JOINTS SHALL NOT BE ALLOWED.
3. THE MINIMUM COVERAGE FOR ALL STORM DRAINAGE PIPES SHALL BE 1.5 FEET FOR CLASS III PIPE AND 1 FOOT FOR CLASS IV PIPE.
4. BEDDING MATERIAL SHALL CONFORM TO TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
5. ALL MANHOLES SHALL BE CONCRETE AND CONFORM TO CDOT STANDARD M–604–20.
6. THE MINIMUM MANHOLE DIAMETER SHALL BE AS SPECIFIED BELOW:

PIPE DIAMETER	MANHOLE SIZE
15" TO 18"	4' DIAMETER
21" TO 42"	5' DIAMETER
48" TO 54"	6' DIAMETER
60" AND LARGER	BOX BASE MANHOLE

7. ALL STREET INLETS SHALL BE CURB OPENING TYPE R, CONFORMING TO CDOT STANDARD M–604–12, EXCEPT WHERE OTHERWISE NOTED.
8. ALL INLET ACCESS COVERS SHALL HAVE THE WORDS 'NO DUMPING–DRAINS TO RIVERS' AND 'STORM SEWER' CAST INTO THE COVER PER TOWN OF ERIE STANDARD DETAIL.
9. ALL END SECTIONS SHALL CONFORM TO CDOT STANDARD M–603–10.
10. WHERE RIPRAP IS CALLED FOR ON THE PLANS FOR EROSION CONTROL, IT SHALL CONFORM TO THE URBAN STORM DRAINAGE CRITERIA MANUAL SPECIFICATIONS (LATEST REVISION).

GENERAL NOTES – WATER

1. AT ALL POINTS OF CONNECTION OF NEW WATER MAINS TO EXISTING MAINS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATING AND VERIFYING LOCATION OF THE EXISTING LINES PRIOR TO ANY CONSTRUCTION.
2. EXCEPT IN CASE OF AN EMERGENCY, VALVES ON THE TOWN OF ERIE WATER SYSTEM SHALL BE OPERATED BY OR UNDER THE DIRECTION OF THE APPROPRIATE TOWN OF ERIE PERSONNEL. THE CONTRACTOR SHALL GIVE THE TOWN OF ERIE ENGINEERING STAFF 48 HOURS NOTICE TO ARRANGE FOR OPERATING VALVES. BOTH THE CONTRACTOR AND THE APPROPRIATE TOWN OF ERIE PERSONNEL SHALL BE PRESENT WHEN THE VALVES ARE OPERATED.
3. WATER AND SANITARY SEWER LINES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET. WHEN A TEN (10) FOOT SEPARATION IS NOT PROVIDED OR WHEN SEWER LINES CROSS WATER LINES WITH LESS THAN ONE AND ONE–HALF (1½) FEET OF VERTICAL SEPARATION, SEWER LINE JOINTS SHALL BE CONCRETE ENCASED. FOR PERPENDICULAR CROSSINGS, ENCASED JOINTS SHALL EXTEND TEN (10) FEET, PERPENDICULAR TO THE WATER LINE IN BOTH DIRECTIONS.
4. ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR AND ONE–HALF (4½) FEET OF COVER AND BE LOCATED A MINIMUM OF TEN (10) FEET FROM THE SANITARY SEWER AND THREE (3) FEET FROM THE EDGE OF CONCRETE CURB AND GUTTER PAN.
5. CHANGES IN DIRECTION OF WATERLINE PIPE SHALL REQUIRE BENDS IN ALL INSTANCES. AXIAL DEFLECTION AT THE JOINTS SHALL NOT BE ALLOWED.
6. WHEN IT IS NECESSARY TO DEPRESS WATER LINES AT UTILITY CROSSINGS, A MINIMUM CLEARANCE OF ONE AND ONE–HALF (1–1/2) FEET SHALL BE MAINTAINED BETWEEN OUTSIDES OF PIPE.
7. DISTANCES FOR WATER LINES ARE THE HORIZONTAL DISTANCE BETWEEN THE CENTERS OF THE FITTINGS. THEREFORE, DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND FITTING DIMENSIONS.
8. ALL WATER LINE VALVES SHALL BE SET ADJACENT TO THE TEE, EXCEPT FOR POINTS THAT FALL IN THE FLOW LINE OF A CONCRETE CROSS PAN. IN WHICH CASE, THE VALVE SHALL BE LOCATED SO THAT SURFACE DRAINAGE DOES NOT INFILTRATE THE VALVE BOX. VALVE BOXES SHALL BE SET AT AN ELEVATION IN ACCORDANCE WITH TOWN PAVING REQUIREMENTS.
9. ALL WATER MAINS SHALL BE POLYVINYL CHLORIDE (PVC) PRESSURE PIPE UNLESS SPECIFIED OTHERWISE. NOMINAL PVC PIPE SIZES 6–INCH THROUGH 12–INCH SHALL CONFORM TO ALL REQUIREMENTS OF AWWA STANDARD C–900, PRESSURE CLASS 150 (DR18). NOMINAL PVC PIPE SIZES 16–INCH THROUGH 24–INCH SHALL CONFORM TO ALL REQUIREMENTS OF AWWA STANDARD C–905, PRESSURE CLASS 165 (DR25). ALL PVC PIPES SHALL HAVE OUTSIDE DIAMETERS EQUIVALENT TO CAST IRON PIPE.
10. FIRE HYDRANT ASSEMBLY INCLUDES THE FIRE HYDRANT, SIX (6) INCH VALVE, AND SIX (6) INCH PIPE. INSTALLATION SHALL BE IN ACCORDANCE WITH THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
11. ALL FITTINGS SHALL BE MADE FROM DUCTILE IRON, FURNISHED WITH MECHANICAL JOINT ENDS OR INTEGRAL RESTRAINED JOINTS, AND SHALL HAVE A PRESSURE RATING OF 350 PSI.
12. POLYETHYLENE WRAPPING SHALL BE INSTALLED AROUND ALL DUCTILE IRON PIPES, FITTINGS, VALVES, FIRE HYDRANT BARRELS AND ROD AND CLAMPS. THE POLYETHYLENE SHALL HAVE A MINIMUM THICKNESS OF EIGHT (8) MILS, IN ACCORDANCE WITH AWWA STANDARD C–105.
13. ALL WATER LINE PIPE SHALL BE PROVIDED WITH A MINIMUM GAGE SIZE OF 12 SINGLE STRAND INSULATED COPPER WIRE. SPLICES IN TRACER WIRE SHALL BE CAPPED IN WATER PROOF GEL CAP TYPE CONNECTORS SUITED FOR DIRECT BURY APPLICATION (3M TYPE DBY–6 LOW VOLTAGE OR EQUAL). WIRE SHALL BE ATTACHED TO TOP OF WATER LINE WITH 2–INCH WIDE PVC TAPE @ 5–FT INTERVALS ALONG PIPE TRACER WIRE SHALL EXTEND TO THE SURFACE AND BE COILED IN A LOCATE BOX AT THE BACKSIDE OF EITHER EACH FIRE HYDRANT OR VALVE. UNDER THE SUPERVISION OF TOWN OF ERIE ENGINEERING STAFF, TEST SHALL BE MADE BY THE CONTRACTOR @ THE COMPLETION OF CONSTRUCTION TO INSURE THAT THE TRACER WIRES CARRY A CONTINUOUS CURRENT BETWEEN ALL ACCESS POINTS.
14. WARNING TAPE SHALL BE INSTALLED 12'MINIMUM AND 18'MAXIMUM ABOVE WATER PIPE.
15. BEDDING MATERIAL SHALL CONFORM TO TOWN OF ERIE STANDARDS AND SPECIFICATIONS.
16. VALVES SHALL OPEN COUNTER CLOCKWISE. VALVES 12–INCH AND SMALLER SHALL BE RESILIENT SEAT GATE VALVES. LARGER VALVES SHALL BE BUTTERFLY VALVES.
17. VALVE BOXES SHALL BE RAISED TO ONE–FOURTH (1/4) INCH BELOW GRADE AFTER COMPLETION OF SURFACE PAVING OR FINAL GRADING. VALVE BOXES IN NON–PAVED AREAS SHALL HAVE A CONCRETE COLLAR AROUND THE VALVE LID IN ACCORDANCE WITH THE DETAIL.
18. ALL SERVICE LINE TAPS SHALL HAVE DOUBLE STRAP BRASS TAPPING SADDLES. (ROMAC 202B OR APPROVED EQUAL).
19. ALL RESIDENTIAL WATER TAPS SHALL BE THREE–QUARTER (3/4) INCH OR AS REQUIRED BY THE CURRENT BUILDING CODE.
20. ALL WATER SERVICE LATERALS SHALL EXTEND FIVE (5) FEET BEYOND RIGHT OF WAY OR UTILITY EASEMENTS, WHICHEVER IS GREATER. THE ENDS SHALL BE MARKED BY A BLUE PAINTED WOOD POST UNTIL CURB AND GUTTER IS IN PLACE. WHEN CURB AND GUTTER IS IN PLACE THE LATERALS SHALL BE MARKED ON THE CONCRETE CURB FACE WITH A 'V' or 'W'.
21. CONCRETE THRUST BLOCKS AND/OR "MEGA–LUG" MECHANICAL RESTRAINTS ARE REQUIRED AT ALL MECHANICAL FITTINGS. THRUST BLOCKS MAY NOT BE REQUIRED IF PIPE RESTRAINT IS PROVIDED IN ACCORDANCE WITH RESTRAINED PIPE DETAIL.
22. NO WORK SHALL BE BACKFILLED (INCLUDING BEDDING MATERIALABOVE THE SPRING LINE OF THE PIPE) UNTIL THE CONSTRUCTION HAS BEEN INSPECTED AND APPROVED FOR BACKFILLING BY THE TOWN OF ERIE ENGINEERING STAFF.
23. ONLY ONE CONNECTION TO THE EXISTING WATER DISTRIBUTION SYSTEM SHALL BE MADE UNTIL ALL HYDROSTATIC TESTING, CHLORINATION AND FLUSHING HAS BEEN COMPLETED.
24. DISINFECTION AND HYDROSTATIC TESTING SHALL BE DONE IN THE PRESENCE OF A TOWN OF ERIE ENGINEERING STAFF. CONTACT THE TOWN OF ERIE DEPARTMENT OF PUBLIC WORKS, FORTY–EIGHT (48) HOURS PRIOR TO DISINFECTING AND/OR TESTING.
25. DISINFECTION AND FLUSHING SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE COLORADO DEPARTMENT OF HEALTH AND THE PROCEDURE SET FORTH IN AWWA C651, "STANDARD FOR DISINFECTING WATER MAINS". THE CHLORINATION OF THE WATER LINE SHALL BE PERFORMED PRIOR TO THE HYDROSTATIC TESTING. ALL VALVES, FIRE HYDRANTS AND OTHER APPURTANCES SHALL BE OPERATED WHILE PIPELINE IS FILLED WITH THE CHLORINATING AGENT TO INSURE THAT HIGH CHLORINE CONTACT IS MADE WITH ALL INTERNAL SURFACES.
26. ALL WATER LINES SHALL BE HYDROSTATIC TESTED. PRESSURE AN LEAKAGE TESTS SHALL BE CONDUCTED ACCORDING TO THEMNAPPLICABLE SECTIONS OF AWWA C600/605 TO A MINIMUM PRESSURE OF ONE HUNDRED AND FIFTY (150) POUNDS PER SQUARE (PSI) INCH AT THE LOW POINT OF THE SECTION BEING TESTED FOR THE DURATION OF TWO (2) HOURS. THE MAXIMUM LENGTH OF LINE TO BE TESTED SHALL BE ONE THOUSAND (1,000) FEET. ALL JOINTS IN CONNECTIONS ARE TO BE WATERTIGHT WITHIN TOLERANCES ALLOWED BY THE SPECIFICATIONS IN AWWA C600/605. ANY LEAKAGE THAT IS DISCOVERED BY OBSERVATION OR TESTS SHALL BE LOCATED AND MADE WATERTIGHT BY THE CONTRACTOR. PRESSURE AND LEAKAGE TESTS SHALL NOT BE CONDUCTED UNTIL THE LINE HAS PASSED ALL REQUIRED DISINFECTION TESTS.
27. SUBSTANTIAL COMPLETION/CONSTRUCTION ACCEPTANCE OF THE NEW WATER LINES ARE CONTINGENT UPON RECEIVING COPIES OF:
    - A. WATER TRENCH COMPACTION TEST RESULTS
    - B. HYDRO STATIC TESTING OF 100% OF THE SYSTEM
    - C. HEALTH DEPARTMENT TESTS. (CHLORINE AND/OR CLEAR WATER AS REQUIRED)
28. ALL METER PITS AND CURB STOPS SHALL BE PROTECTED AT THE TIME OF INSTALLATION WITH A MINIMUM OF THREE (3) T–POSTS AND ORANGE SAFETY FENCE. THE T–POST AND SAFETY FENCE SHALL REMAIN IN PLACE AND IN GOOD CONDITION UNTIL THE LANDSCAPING IS INSTALLED.
29. ALL WATER VAULTS SHALL BE WATER TIGHT. CONTRACTOR SHALL SEAL VAULTS TO ENSURE SURFACE WATER DOES NOT INFILTRATE INTO THE VAULTS. VAULT LIDS SHALL BE PLACED TO ENSURE THAT SURFACE WATER DOES NOT FLOW INTO THE VAULTS.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: TJS
CHECKED BY: MSM
DRAWN BY: TJS

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EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
GENERAL NOTES 2

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

SHEET NO.
3
3 OF 57

FILEPATH: P:\160602\ENGINEERING\CD\CD - GENERAL NOTES.DWG LAYOUT: GENERAL NOTES 2
NO XREFS
PLOTTED: TUE 09/26/17 12:12:59P BY: TIM SAWLER

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ARAPAHOE STREET
ROW VARIES

SEE SHEET 5 FOR DETAILED SITE PLAN

SEE SHEET 6 FOR DETAILED SITE PLAN

SEE SHEET 7 FOR DETAILED SITE PLAN

TRASH

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

50 0 50 100
SCALE: 1" = 50'

DESIGNED BY: TJS
CHECKED BY: MSM
DRAWN BY: TJS

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EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
OVERALL SITE PLAN

ISSUE DATE: 04/27/2017 PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
4
4 OF 57

FILEPATH: P:\160602\ENGINEERING\CIVIL\D_OVERALL SITE PLAN.DWG LAYOUT: OVERALL SITE PLAN
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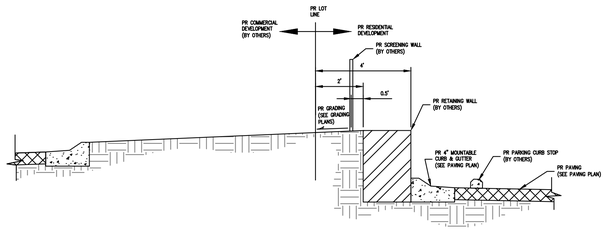
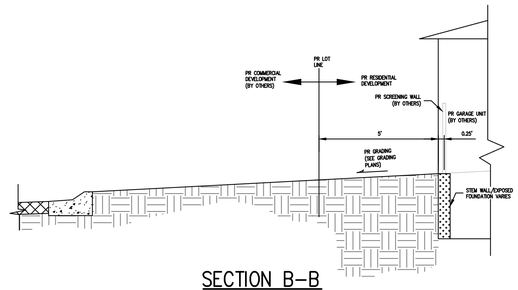
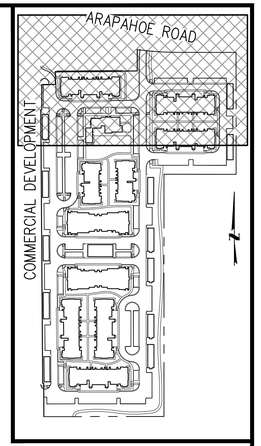


SECTION A–A
NTS



SECTION B–B
NTS



KEY MAP
SCALE: 1" = 250'

OWNER: TOWN OF ERIE
LEGAL: TRACT C ARAPAHOE RIDGE FLG 4 AMENDED
ZONING: NOT COUNTY ZONED

OWNER: TOWN OF ERIE
LEGAL: OUTLOT C ARAPAHOE RIDGE FLG 2 AMENDMENT 1
ZONING: NOT COUNTY ZONED

ARAPAHOE STREET
ROW VARIES

EX ROW (TYP)

PR COMMERCIAL PROPERTY BOUNDARY

PR PROPERTY LINE

26' TEMPORARY FIRE DRIVE

PR STOP SIGN

PR FENCE (TYP)

32' DRIVE CUT

15' SIGN ESMT

PR STOP SIGN

PR 30' ACCESS ESMT

PR DETENTION BASIN (SEE SHEETS 29, AND 30 FOR DETAILS)

PR 88.92' DRAINAGE ESMT

100' BLDG SETBACK FROM PROPERTY LINE

8' SW–TBC

8' TBC–SW

PR RETAINING WALL (TYP)

20' BLDG SETBACK FROM LOT LINE

PR SPEED LIMIT SIGN

PR 30' UTILITY ESMT

PR BICYCLE RACKS (TYP)

OUTLOOK NINE MILE COMMERCIAL PROPERTY

PR SPEED LIMIT SIGN

20' (TYP)

9' (TYP)

16.35' BLDG–TBC

5' WALK

20.17' E – E

10' BLDG SETBACK

TRASH

OWNER: PATRICK & DEBRA GONZALES
LEGAL: 10 AC TR 4114 34–1N–69 PER DEED 1434442 RECEPTION NO. 1434442
ZONING: RR – RURAL RESIDENTIAL

4' LOT LINE – TBC

PR SCREEN WALL (TYP)

PR TREE (TYP)

TRASH

PR 30' UTILITY ESMT

SW

5'

20.17' E – E

9' 9' 9'

20'

26' E – E

10.4' BLDG – E

PR SEAT WALL (TYP)

HANDICAP VAN PARKING

7' SW

PR HANDICAP PARKING SIGN

CH

PR LOT LINE

5' LOT LINE – BLDG

26' DRIVE

26' DRIVE

8' SW

5.85' BLDG–TBC

6' TBC–TBC

PR POOL

23' SW

50.36' BLDG–BLDG

PR SEAT WALL (TYP)

30' TRAIL ESMT

PR 30' UTILITY ESMT

8' TRAIL

PROPERTY LINE

TRASH

10.4' BLDG – E

MATCHLINE - SEE SHEET 6

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

30 0 30 60
SCALE: 1" = 30'

DESIGNED BY: TJS
CHECKED BY: MSM
DRAWN BY: TJS

HKS HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED SITE PLAN

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

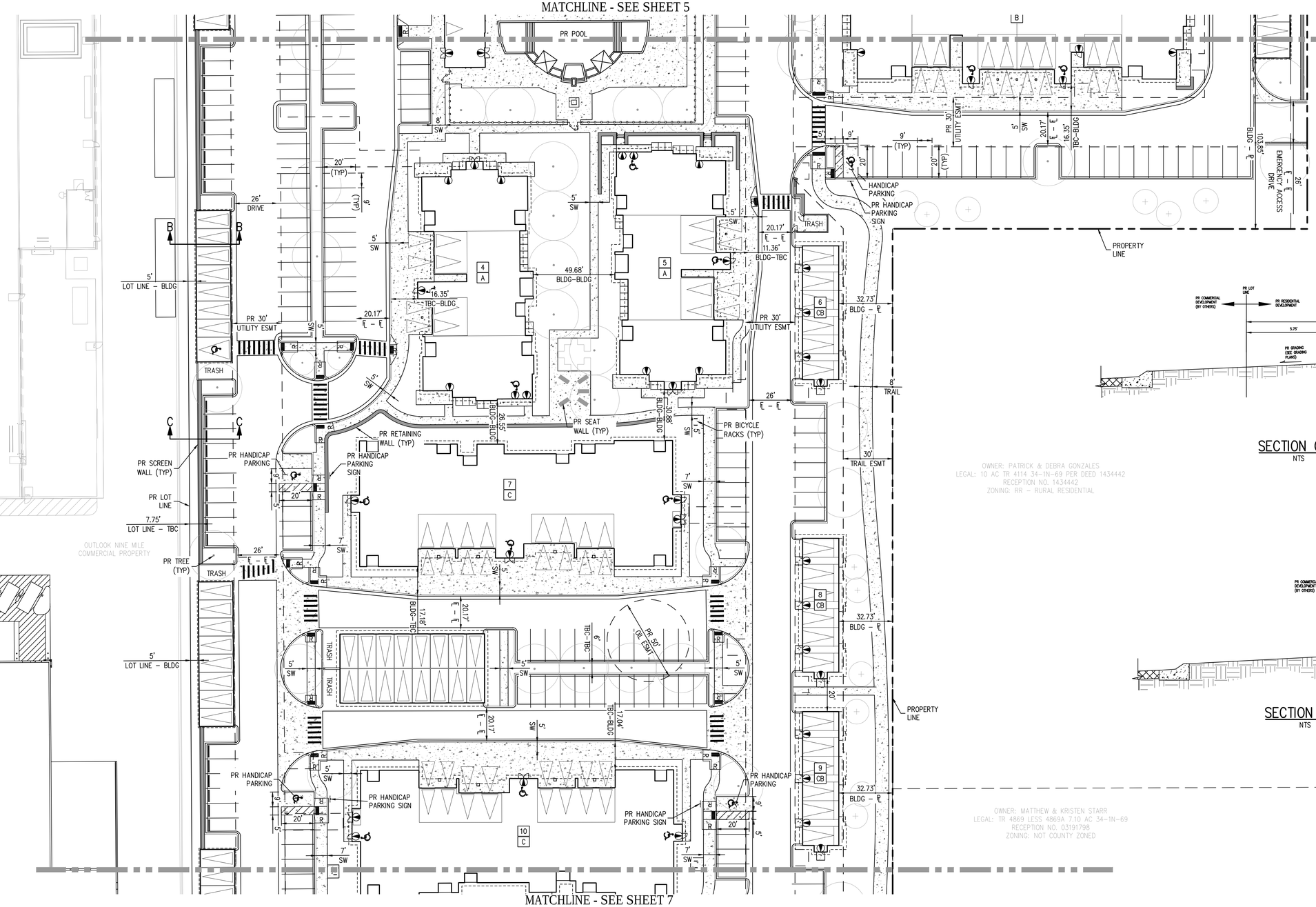
SHEET NO. 5

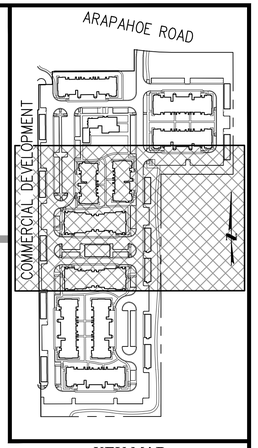
5 OF 57

FILEPATH: P:\160602\ENGINEERING\CD\CD - DETAILED SITE PLAN.DWG LAYOUT: DETAILED SITE PLAN 1
6 XREFs: e-legal_lyot, keymap, pphase, pphase_offsite_lyot, p-land, p-legal
PLOTTED: TUE 09/26/17 12:15:15P BY: TIM SAYLER

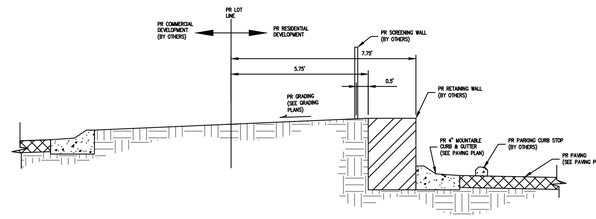
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE - SEE SHEET 5

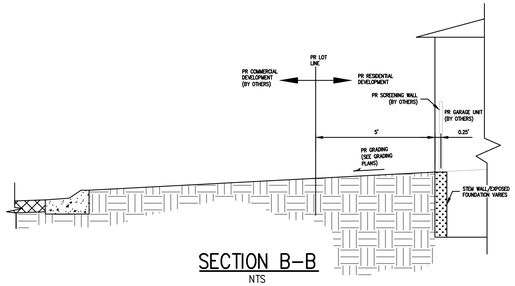




KEY MAP
SCALE: 1" = 250'



SECTION C–C
NTS



SECTION B–B
NTS

MATCHLINE - SEE SHEET 7

811 Know what's below. Call before you dig.
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30 0 30 60
SCALE: 1" = 30'

DESIGNED BY: TJS
CHECKED BY: MSM
DRAWN BY: TJS

HARRIS KOCHER SMITH
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Denver, Colorado 80203
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EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED SITE PLAN

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

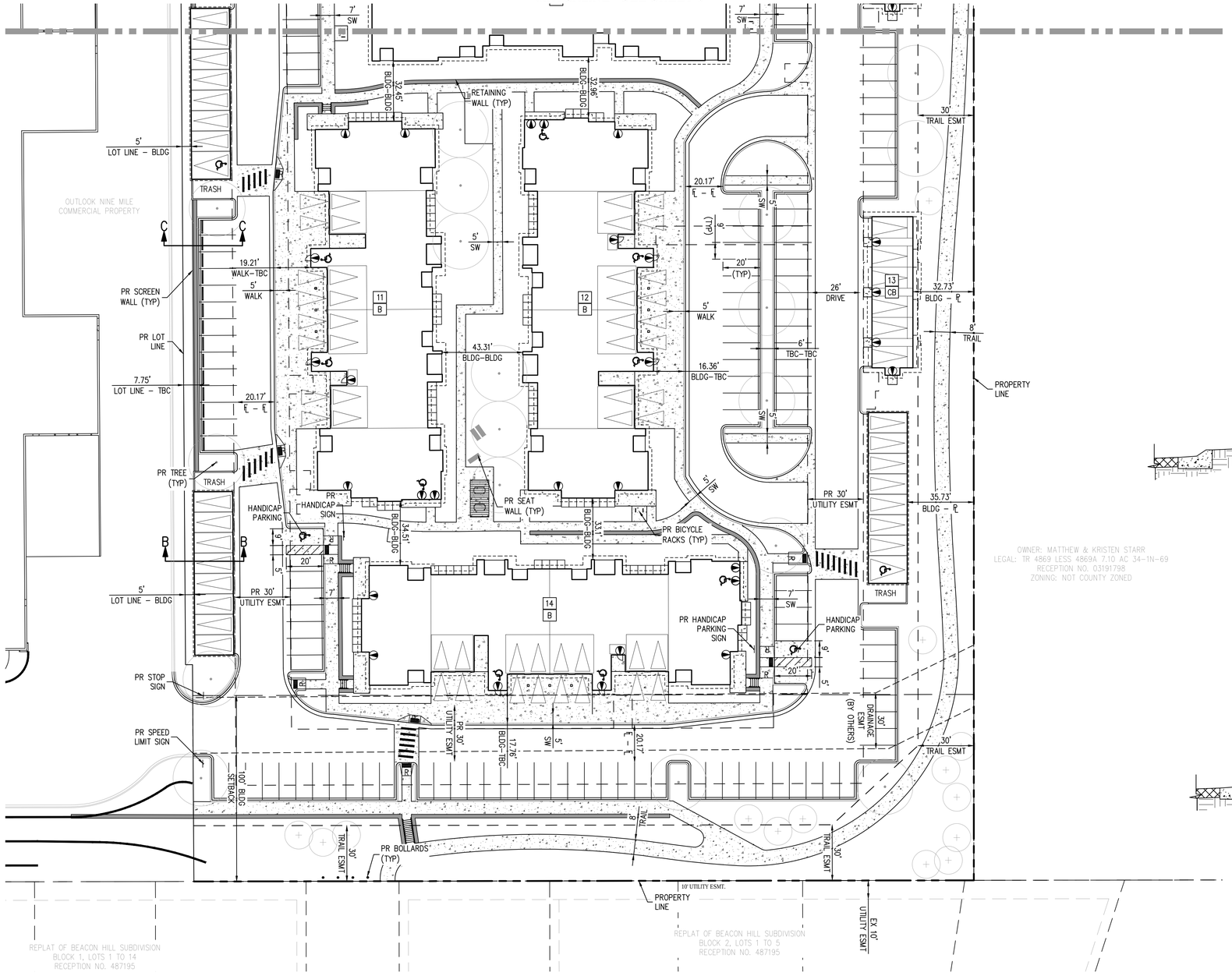
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
6
6 OF 57

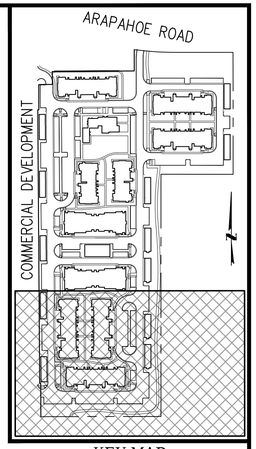
FILEPATH: P:\160602\ENGINEERING\CIVIL\CD - DETAILED SITE PLAN.DWG LAYOUT: DETAILED SITE PLAN 2
6 XREFs: e-xsgd_lyot, keymap, p-base, p-base_offsite_lyot, p-land, p-sgd
PLOTTED: TUE 09/26/17 12:32:21P BY: TIM SAYLER

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

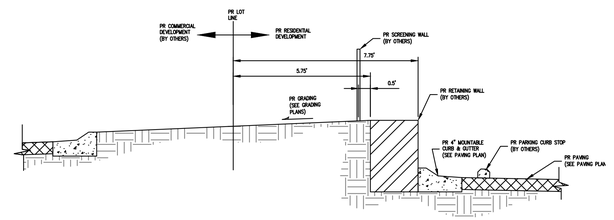
MATCHLINE - SEE SHEET 6



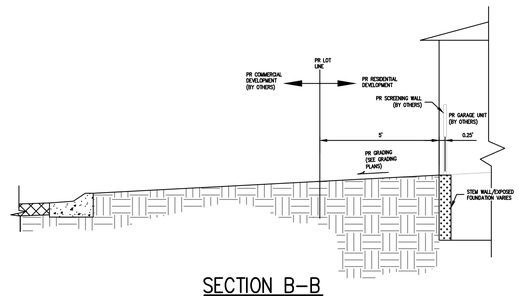
OWNER: MATTHEW & KRISTEN STARR
LEGAL: TR 4869 LESS 4869A 7.10 AC 34-1N-69
RECEPTION NO. 03191798
ZONING: NOT COUNTY ZONED



KEY MAP
SCALE: 1" = 250'



SECTION C–C
NTS



SECTION B–B
NTS

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

30 0 30 60
SCALE: 1" = 30'

DESIGNED BY: TJS
CHECKED BY: MSM
DRAWN BY: TJS

HKS HARRIS KOCHER SMITH
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Denver, Colorado 80203
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HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED SITE PLAN

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
7
7 OF 57

FILEPATH: P:\160602\ENGINEERING\CD\CD - DETAILED SITE PLAN.DWG LAYOUT: DETAILED SITE PLAN 3
6 XREFs: e-legal_byot, keymap, p-base, p-base_offsite_byot, p-land, p-legal
PLOTTED: TUE 09/26/17 12:13:26P BY: TIM SAVLER

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

NORTH SEDIMENT BASIN
PR PROPERTY LINE (TYP)
EX BLDG TO BE REMOVED
DS
SB
BOT=5247.49
TOP OF BERM EL:5251.24
SILT FENCE
CONSTRUCTION FENCE
PROPERTY LINE
SF
CF
LOC
TYPICAL SECTION
OWNER: TOWN OF ERIE
LEGAL: OUTLOT C ARAPAHOE RIDGE FLG 2 AMENDMENT 1
ZONING: NOT COUNTY ZONED
OWNER: PATRICK & DEBRA GONZALES
LEGAL: 10 AC TR 4114 34-1N-69 PER DEED 1434442
RECEPTION NO. 1434442
ZONING: RR - RURAL RESIDENTIAL
OWNER: MATTHEW & KRISTEN STARR
LEGAL: TR 4869 LESS 4869A 7.10 AC 34-1N-69
RECEPTION NO. 0391798
ZONING: NOT COUNTY ZONED
OWNER: CITY OF LAFAYETTE
LEGAL: TRACTS C & D & E BEACON HILL REPLAT
TRACTS
ZONING: NOT COUNTY ZONED
SOUTH SEDIMENT BASIN
TOP OF BERM EL:5263.90
BOT=5260.50
EX STM (BY OTHERS)
EX SANI (BY OTHERS)
EX UNDERGROUND ELECTRIC (BY OTHERS)
EX WATER (BY OTHERS)
ARAPAHOE STREET (ROW VARIES)
CWA
VTC
EX GAS (BY OTHERS)
SSA
EX CAPPED OIL WELL TO BE ABANDONED
EX FENCE TO BE REMOVED (TYP)
EX DITCH TO BE REMOVED PRIOR TO CONSTRUCTION
EX GAS LINE TO BE REMOVED
PROPERTY LINE (TYP)
PR LOT LINE (TYP)
EX SANI (BY OTHERS)
EX WATER (BY OTHERS)
EX STM (BY OTHERS)
EX BLDG TO BE REMOVED
PR LOT LINE (TYP)
PR PROPERTY LINE (TYP)
REPLAT OF BEACON HILL SUBDIVISION BLOCK 3, LOTS 1 TO 3 RECEPTION NO. 487195
OUTLOOK NINE MILE COMMERCIAL PROPERTY

SF	SILT FENCE	DS	DRAINAGE SWALE
CF	CONSTRUCTION FENCE	SB	SEDIMENT BASIN
VTC	VEHICLE TRACKING CONTROL	SSA	STABILIZED STAGING AREA
CWA	CONCRETE WASHOUT AREA	LOC	LIMITS OF CONSTRUCTION

811 Know what's below. Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

50 0 50 100
SCALE: 1" = 50'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

HARRIS KOCHER SMITH
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HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
EROSION CONTROL PLAN INITIAL

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 8

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN INITIAL.DWG LAYOUT: EROSION CONTROL PLAN INITIAL
6 XREFs: cd - stamp, e-base_byor, e-legal_byor[U], e-util, p-base[U], p-legal
PLOTTED: TUE 09/26/17 12:15:15P BY: TIM SAYLER

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

NORTH SEDIMENT BASIN

PR PROPERTY LINE (TYP)

EX BLDG TO BE REMOVED

SILT FENCE

CONSTRUCTION FENCE

PROPERTY LINE

TYPICAL SECTION

OWNER: MATTHEW & KRISTEN STARR
LEGAL: TR 4869 LESS 4869A 7.10 AC 34-1N-69
RECEPTION NO. 03197798
ZONING: NOT COUNTY ZONED

OWNER: PATRICK & DEBRA GONZALES
LEGAL: 10 AC TR 4114 34-1N-69 PER DEED 1434442
RECEPTION NO. 1434442
ZONING: RR - RURAL RESIDENTIAL

OWNER: CITY OF LAFAYETTE
LEGAL: PARCEL C P.B.E. BEACON HILL REPLAT
RECEPTION NO. 2007000
ZONING: NOT COUNTY ZONED

REPLAT OF BEACON HILL SUBDIVISION
BLOCK 2, LOTS 1 TO 5
RECEPTION NO. 487195

SOUTH SEDIMENT BASIN

ARAPAHOE STREET
(ROW VARIES)

EX CAPPED OIL WELL TO BE ABANDONED

EX FENCE TO BE REMOVED (TYP)

EX DITCH TO BE REMOVED PRIOR TO CONSTRUCTION

EX GAS LINE TO BE REMOVED

PR LOT LINE (TYP)

OUTLOOK NINE MILE
COMMERCIAL PROPERTY

EX BLDG TO BE REMOVED

PR PROPERTY LINE (TYP)

	SILT FENCE	SF		SEDIMENT BASIN	SB
	CONSTRUCTION FENCE	CF		STABILIZED STAGING AREA	SSA
	VEHICLE TRACKING CONTROL	VTC		INLET PROTECTION	IPAN
	CONCRETE WASHOUT AREA	CWA	5170	EXISTING CONTOURS	
	DRAINAGE SWALE	DS	5170	PROPOSED CONTOURS	

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CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

50 0 50 100
SCALE: 1" = 50'

DESIGNED BY: DAM
CHECKED BY: MSM
DRAWN BY: DAM

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
EROSION CONTROL PLAN INTERIM

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
9
9 OF 57

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN INTERIM.DWG LAYOUT: EROSION CONTROL PLAN INTERIM
8 XREFs: cd - erosion control plan initial, cd - sump, e-base_lyot, e-util, p-base, p-base_offsite_lyot, p-legal, p-util
PLOTTED: TUE 08/26/17 12:16:43P BY: TIM SAVLER

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NORTH SEDIMENT BASIN TO BE TRANSITIONED INTO SITE DETENTION BASIN

CONSTRUCTION FENCE TO BE REMOVED AT THE CONCLUSION OF CONSTRUCTION ACTIVITIES

SILT FENCE TO BE REMOVED AT THE CONCLUSION OF CONSTRUCTION ACTIVITIES

ALL INLET PROTECTION TO BE REMOVED AFTER ALL CONSTRUCTION CONCLUDES (TYP)

SOUTH SEDIMENT BASIN TO BE TRANSITIONED INTO A BUILDING

CONCRETE WASHOUT TO BE REMOVED ACCORDING TO CITY OF ERIE ENVIRONMENTAL DISPOSAL GUIDELINES

VEHICLE STABILIZED ENTRANCE TO BE REMOVED AND PAVED ENTRYWAY TO BE RECOVERED OR INSTALLED

ALL STABILIZED STAGING AREA TO BE REMOVED AFTER ALL CONSTRUCTION CONCLUDES AND LANDSCAPED PER LANDSCAPING PLANS

ARAPAHOE STREET (ROW VARIES)

5173 5170 EXISTING CONTOURS

5173 5170 PROPOSED CONTOURS

OWNER: PATRICK & DEBRA GONZALES
LEGAL: 10 AC TR 4114 34-1N-69 PER DEED 1434442
RECEPTION NO. 1434442
ZONING: RR – RURAL RESIDENTIAL

OWNER: MATTHEW & KRISTEN STARR
LEGAL: TR 4864 LESS 48694.710 AC 34-1N-69
RECEPTION NO. 03191798
ZONING: NOT COUNTY ZONED

OWNER: TOWN OF ERIE
LEGAL: OUTLOT C ARAPAHOE RIDGE FLG 2 AMENDMENT 1
ZONING: NOT COUNTY ZONED

REPLAT OF BEACON HILL SUBDIVISION BLOCK 2, LOTS 1 TO 3 RECEPTION NO. 487195

OUTLOOK NINE MILE COMMERCIAL PROPERTY

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50 0 50 100
SCALE: 1" = 50'

DESIGNED BY: RJH
CHECKED BY: MSM
DRAWN BY: RJH

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EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
EROSION CONTROL PLAN FINAL

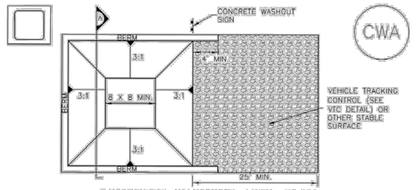
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

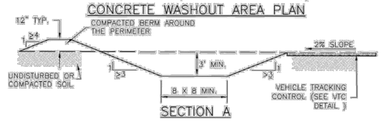
SHEET NO.
10
10 OF 57

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN FINAL.DWG LAYOUT: EROSION CONTROL PLAN FINAL
3 XREFS: p-base, p-legal, p-util[U]
PLOTTED: TUE 09/26/17 12:17:43P BY: TIM SAYLER

NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



CONCRETE WASHOUT AREA PLAN

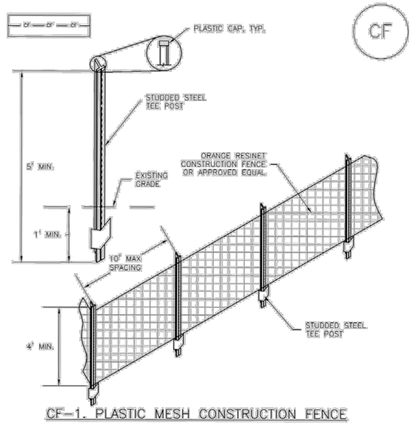


SECTION A

CWA–1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

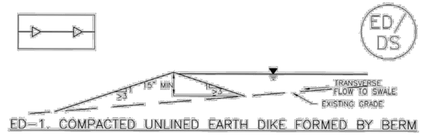
1. SEE PLAN VIEW FOR:
   –CWA INSTALLATION LOCATION.
2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE 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.



CF–1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

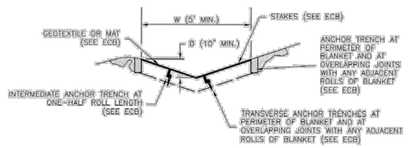
1. SEE PLAN VIEW FOR:
   –LOCATION OF CONSTRUCTION FENCE.
2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.
4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.
5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.



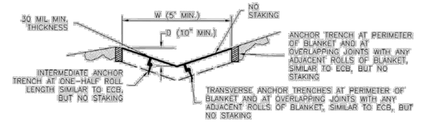
ED–1. COMPACTED UNLINED EARTH DIKE FORMED BY BERM

DS–1. COMPACTED UNLINED EXCAVATED SWALE

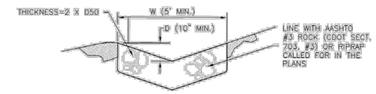
DS–2. COMPACTED UNLINED SWALE FORMED BY CUT AND FILL



DS–3. ECB LINED SWALE (CUT AND FILL OR BERM)



DS–4. SYNTHETIC LINED SWALE



DS–5. RIPRAP LINED SWALE

EARTH DIKE AND DRAINAGE SWALE INSTALLATION NOTES

1. SEE SITE PLAN FOR:
   – LOCATION OF DIVERSION SWALE
   – TYPE OF SWALE (UNLINED, COMPACTED AND/OR LINED).
   – LENGTH OF EACH SWALE.
   – DEPTH, D, AND WIDTH, W DIMENSIONS.
   – FOR ECB/TRM LINED DITCH, SEE ECB DETAIL.
   – FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, D50.
2. SEE DRAINAGE PLANS FOR DETAILS OF PERMANENT CONVEYANCE FACILITIES AND/OR DIVERSION SWALES EXCEEDING 2-YEAR FLOW RATE OR 10 CFS.
3. EARTH DIKES AND SWALES INDICATED ON SWMP PLAN SHALL BE INSTALLED PRIOR TO LAND-DISTURBING ACTIVITIES IN PROXIMITY.
4. EMBANKMENT IS TO BE COMPACTED TO 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D698.
5. SWALES ARE TO DRAIN TO A SEDIMENT CONTROL BMP.
6. FOR LINED DITCHES, INSTALLATION OF ECB/TRM SHALL CONFORM TO THE REQUIREMENTS OF THE ECB DETAIL.
7. WHEN CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION SWALE, INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12 INCHES.

CWA 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. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.
5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

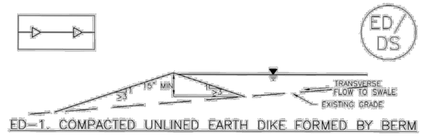
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

CONSTRUCTION FENCE 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. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

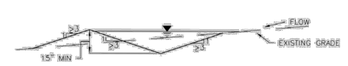
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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

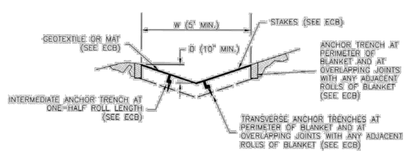


ED–1. COMPACTED UNLINED EARTH DIKE FORMED BY BERM

DS–1. COMPACTED UNLINED EXCAVATED SWALE



DS–2. COMPACTED UNLINED SWALE FORMED BY CUT AND FILL



DS–3. ECB LINED SWALE (CUT AND FILL OR BERM)

EARTH DIKE AND DRAINAGE SWALE 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. SWALES SHALL REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION; IF APPROVED BY LOCAL JURISDICTION, SWALES MAY BE LEFT IN PLACE.
5. WHEN A SWALE IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF COLORADO SPRINGS, 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.

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

CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: DAM
CHECKED BY: MSM
DRAWN BY: DAM

HARRIS KOCHER SMITH
1120 Lincoln Street, Suite 1000
Denver, Colorado 80203
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
EROSION CONTROL PLAN DETAIL 1

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 11

11 OF 57

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN DETAIL.DWG LAYOUT: EROSION CONTROL PLAN DETAIL 1
3 XREFs: p-base, p-legal, p-util[U]
PLOTTED: TUE 06/26/17 12:18AM BY: TIM SAYLER