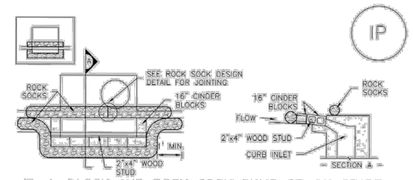
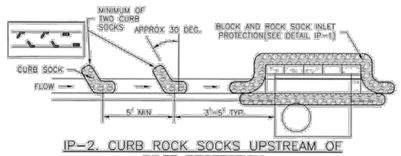
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



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

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

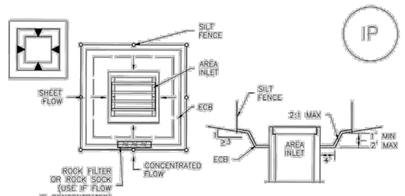
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER 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

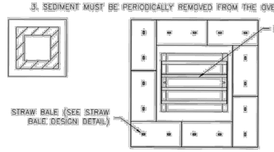
1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM 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 ((P.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.

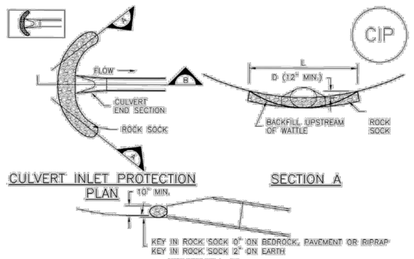
NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

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	2	3/32
2	21	3	1/16
3	28	5	3/32
4	33	6	1/8
5	38	8	2/32
6	43	9	2 5/32
7	47	11	2 5/32
8	51	12	2 5/32
9	55	13	3/16
10	58	15	1 5/16
11	61	16	2 1/32
12	64	18	1/4
13	67	19	1 3/16
14	70	21	1 3/8
15	73	22	1 7/16

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

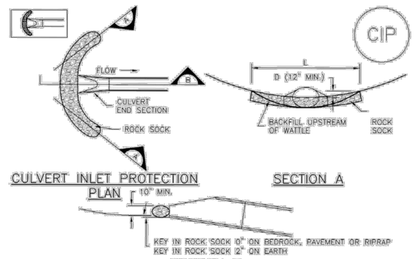
1. SEE PLAN VIEW FOR:
   –LOCATION OF CULVERT INLET PROTECTION.
2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

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

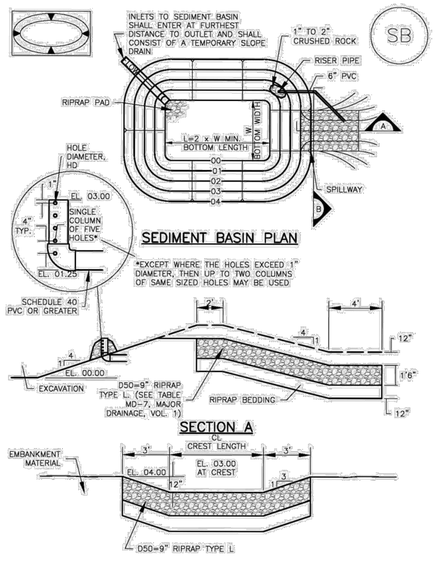
1. SEE PLAN VIEW FOR:
   –LOCATION OF CULVERT INLET PROTECTION.
2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

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.
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.



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 DEVCO, INC.

OUTLOOK AT NINE MILE
EROSION CONTROL PLAN DETAIL 2

ISSUE DATE: 04/27/2017 PROJECT #: 160602

DATE	REVISION COMMENTS

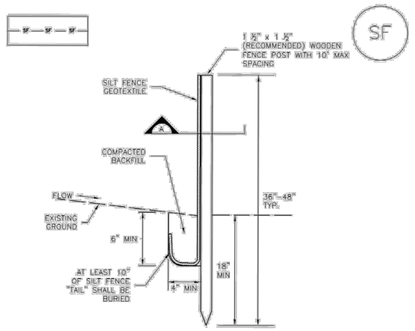
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 12

12 OF 57

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN DETAIL.DWG LAYOUT: EROSION CONTROL PLAN DETAIL 2
3 XREFs: p-base, p-legal, p-util[U]
PLOTTED: TUE 06/26/17 12:18:12P BY: TIM SAYLER

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

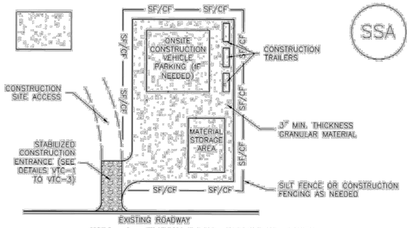


SILT FENCE



SECTION A

SF-1. SILT FENCE



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.

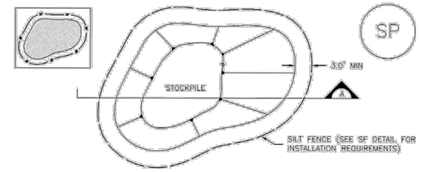
STABILIZED STAGING AREA MAINTENANCE NOTES:

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.

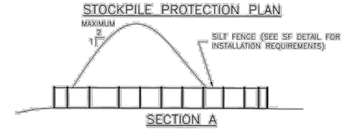
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

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 PROTECTION PLAN



SECTION A

SP-1. STOCKPILE PROTECTION

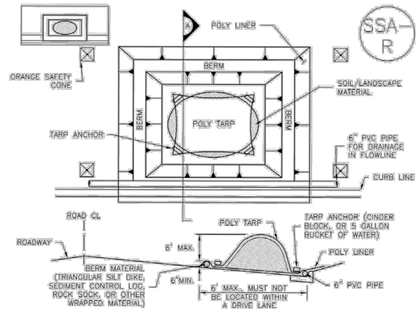
STOCKPILE PROTECTION INSTALLATION NOTES:

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.



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.

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 1" 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.

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)

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.

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.

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 3

ISSUE DATE: 04/27/2017 PROJECT #: 160602

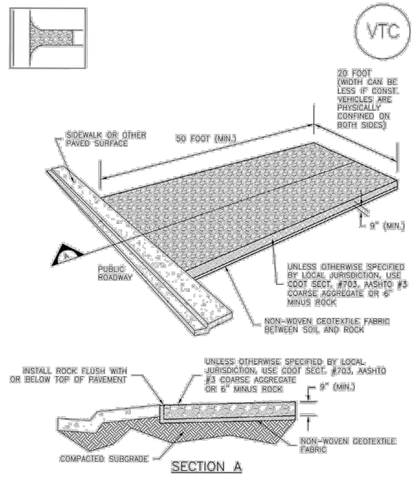
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

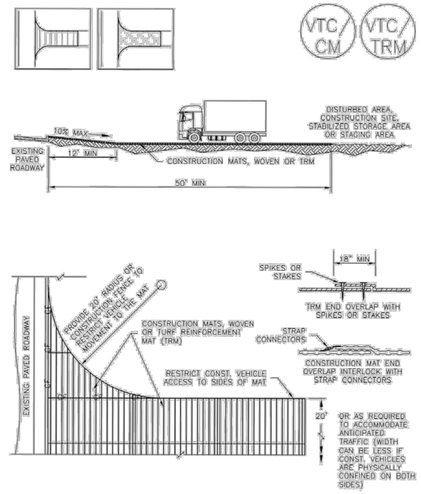
SHEET NO. 13
13 OF 57

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN DETAIL.DWG LAYOUT: EROSION CONTROL PLAN DETAIL 3
3 XREFs: p-base, p-legal, p-util[U]
PLOTTED: TUE 09/26/17 12:18:22P BY: TIM SAYLER

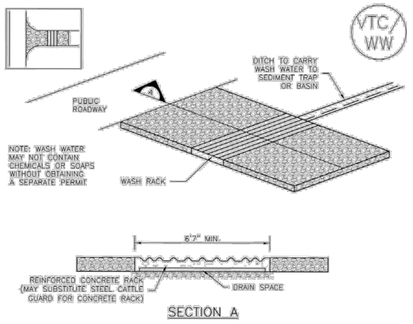
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



VTC–1. AGGREGATE VEHICLE TRACKING CONTROL



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



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)

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 DEVCO, INC.

OUTLOOK AT NINE MILE
EROSION CONTROL PLAN DETAIL 4

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 14

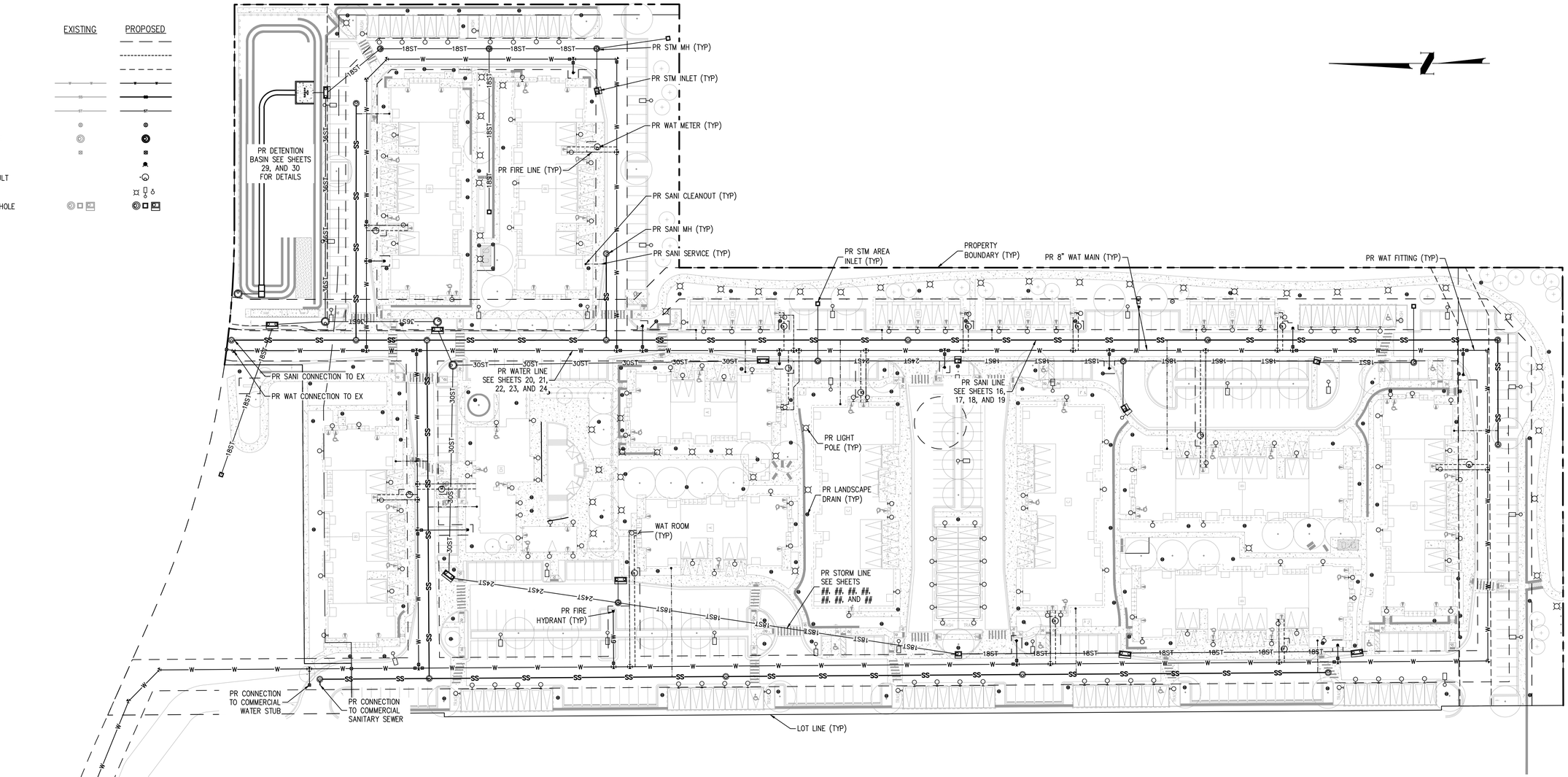
14 OF 57

FILEPATH: P:\160602\ENGINEERING\EROSION\CD - EROSION CONTROL PLAN DETAIL.DWG LAYOUT: EROSION CONTROL PLAN DETAIL 4
3 XREFs: p-base, p-legal, p-util[U]
PLOTTED: TUE 06/26/17 12:18:28P BY: TIM SAYLER

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

LEGEND

	EXISTING	PROPOSED
SETBACK		
ACCESS EASEMENT		
UTILITY EASEMENT		
WATER LINE		
SANITARY LINE		
STORM LINE		
LANDSCAPE DRAIN		
SANITARY MANHOLE		
GATE VALVE		
FIRE HYDRANT		
WATER METER/ VAULT		
STREET LIGHTS		
STORM INLETS/MANHOLE		



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 DEVCO, INC.

OUTLOOK AT NINE MILE
OVERALL UTILITY PLAN

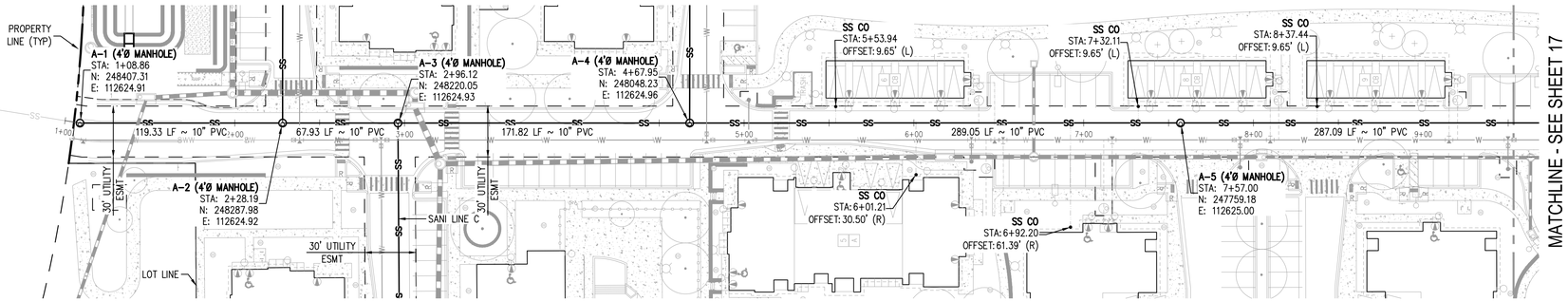
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

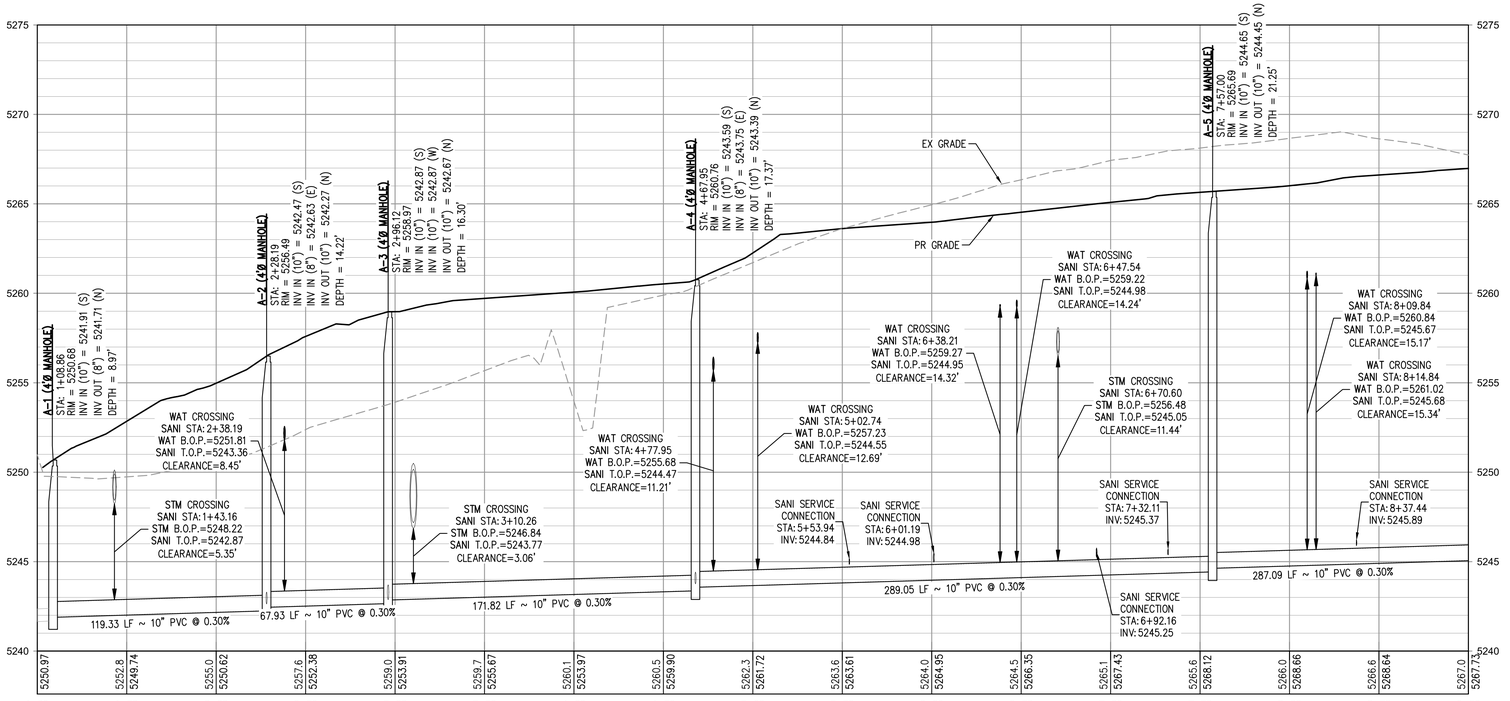
SHEET NO.
15
15 OF 57

FILEPATH: P:\160602\ENGINEERING\UTILITIES\CD - OVERALL UTILITY PLAN.DWG LAYOUT: OVERALL UTILITY PLAN
4 XREFs: cd - xamp_p-base, p-bgd, p-util
PLOTTED: TUE 09/26/17 12:16:45P BY: TIM SAYLER

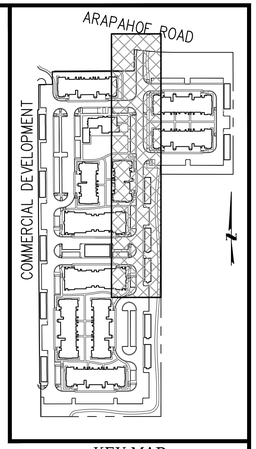
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



SANITARY LINE A PLAN
STA: 1+00 TO 8+50
SCALE: 1" = 40'



SANITARY LINE A PROFILE
STA: 1+00 TO 8+50
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'



KEY MAP
SCALE: 1" = 250'

NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES.
2. STATIONING IS ALONG CENTER LINE OF PIPE UNLESS OTHERWISE NOTED.
3. NOTHINGS/EASTINGS SHOWN FOR MANHOLE PLACEMENT REFERS TO CENTER OF BARREL.
4. PIPE LENGTH IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. ALL PROPOSED MANHOLES, SANITARY MAINS, AND SERVICES SHALL BE IN ACCORDANCE WITH CITY OF ERIE STANDARD DETAILS SS3A & SS3B.
6. CONTRACTOR SHALL COORDINATE THE POOL SANITARY CONNECTIONS WITH THE POOL SHOP DRAWINGS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

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
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
SANITARY SEWER PLAN & PROFILE LINE A
(STA: 1+00 TO STA: 8+50)

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

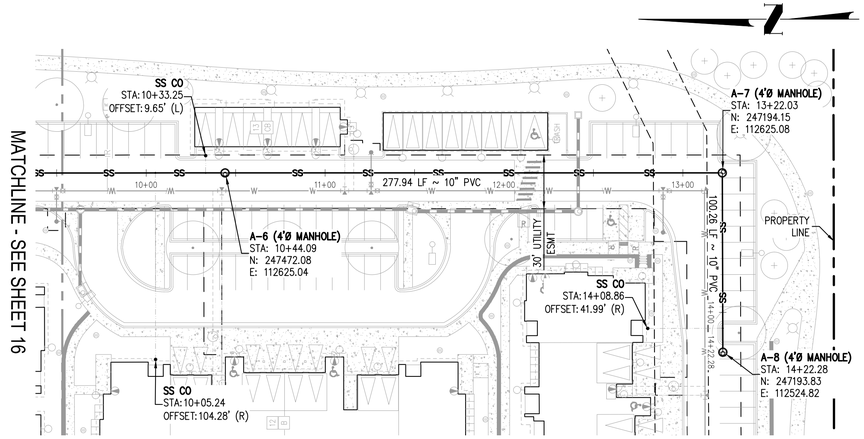
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

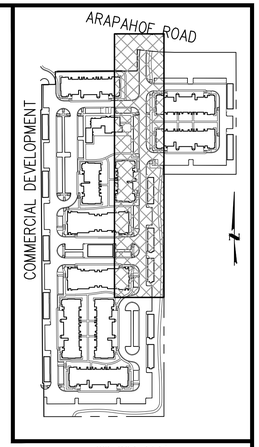
SHEET NO.
16
16 OF 57

FILEPATH: P:\160602\ENGINEERING\UTILITIES\SANITARY\CD - SANITARY SEWER PLAN & PROFILE.DWG LAYOUT: SANITARY SEWER PLAN & PROFILE LINE A
5 XREFs: keymap, pSaxe, pHegd, pwtl, simp-cd
PLOTTED: TUE 09/26/17 12:19:54P BY: TIM SAYLER

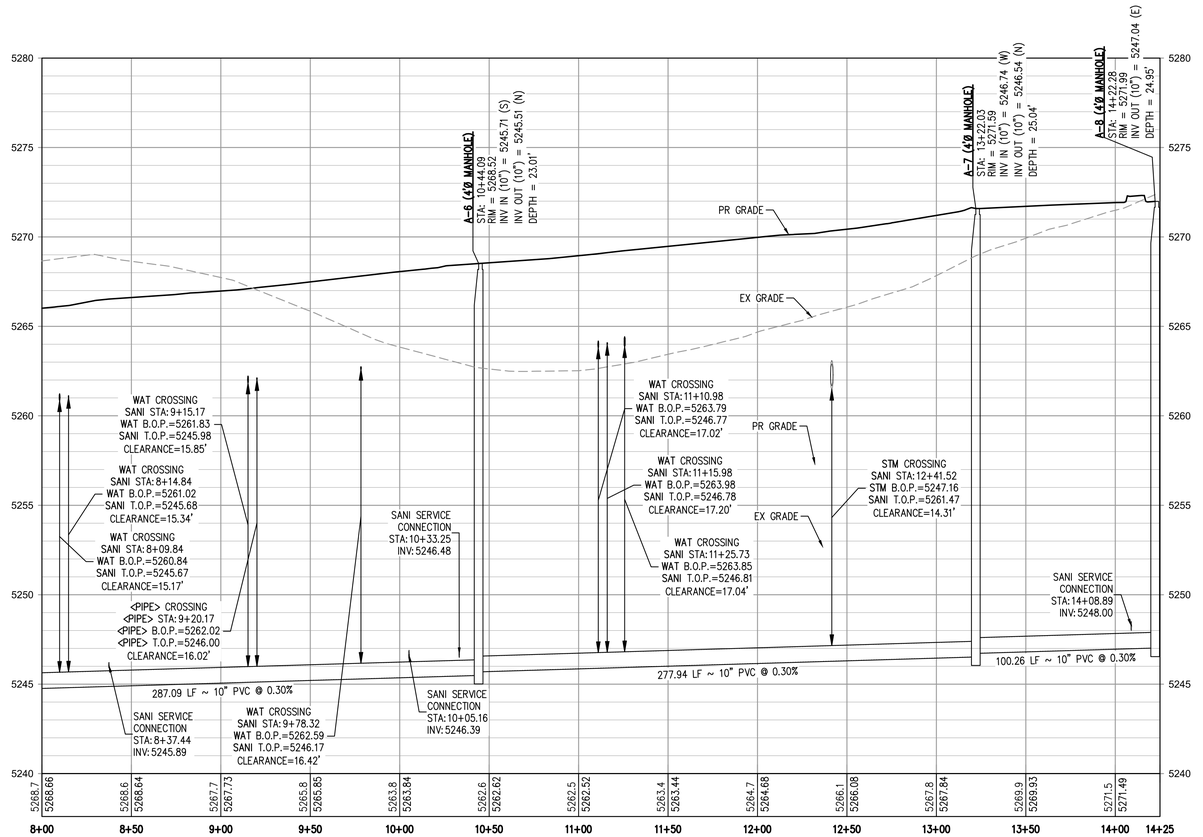
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



SANITARY LINE A PLAN
STA: 8+50 TO 14+50
SCALE: 15.26, 19.81, 0.00



KEY MAP
SCALE: 1" = 250'



SANITARY LINE A PROFILE
STA: 8+50 TO 14+25
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES.
2. STATIONING IS ALONG CENTER LINE OF PIPE UNLESS OTHERWISE NOTED.
3. NOTHINGS/EASTINGS SHOWN FOR MANHOLE PLACEMENT REFERS TO CENTER OF BARREL.
4. PIPE LENGTH IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. ALL PROPOSED MANHOLES, SANITARY MAINS, AND SERVICES SHALL BE IN ACCORDANCE WITH CITY OF ERIE STANDARD DETAILS SS3A & SS3B.
6. CONTRACTOR SHALL COORDINATE THE POOL SANITARY CONNECTIONS WITH THE POOL SHOP DRAWINGS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

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
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
SANITARY SEWER PLAN & PROFILE LINE A
(STA: 8+50 TO STA: 14+25)

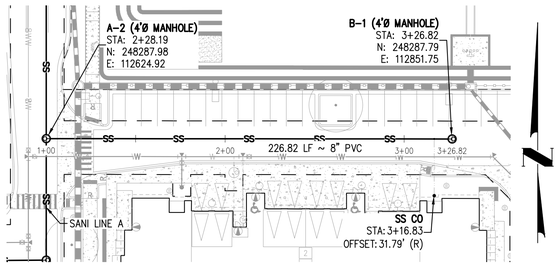
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
17
17 OF 57

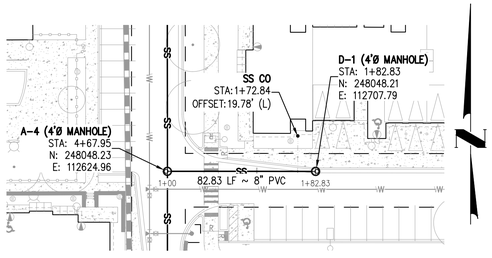
FILEPATH: P:\160602\ENGINEERING\UTILITIES\SANITARY\CD - SANITARY SEWER PLAN & PROFILE.DWG LAYOUT: SANITARY SEWER PLAN & PROFILE LINE A2
5 XREFs: keymap, p-base, p-bgd, p-util, sstp-cd
PLOTTED: TUE 08/26/17 12:19:56P BY: TIM SAWLER

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



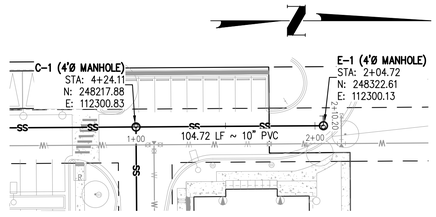
SANITARY LINE B PLAN

SCALE: 1" = 40'



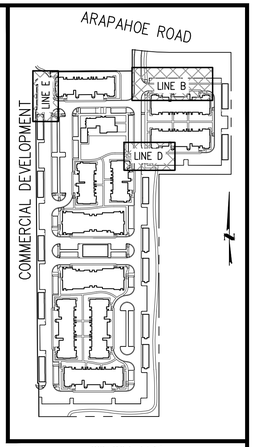
SANITARY LINE D PLAN

SCALE: 1" = 40'



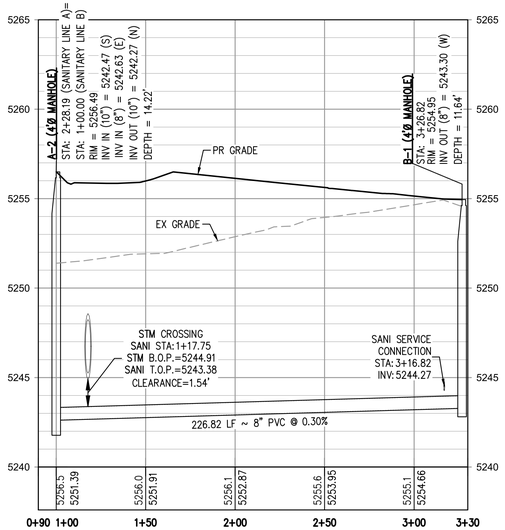
SANITARY LINE E PLAN

SCALE: 1" = 40'



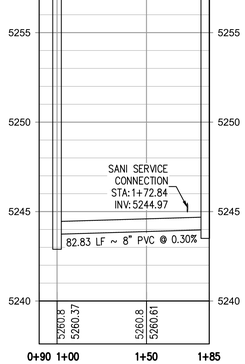
KEY MAP

SCALE: 1" = 250'



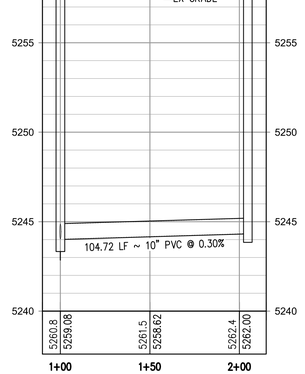
SANITARY LINE B PROFILE

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



SANITARY LINE D PROFILE

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



SANITARY LINE E PROFILE

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

NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES.
2. STATIONING IS ALONG CENTER LINE OF PIPE UNLESS OTHERWISE NOTED.
3. NOTHINGS/EASTINGS SHOWN FOR MANHOLE PLACEMENT REFERS TO CENTER OF BARREL.
4. PIPE LENGTH IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. ALL PROPOSED MANHOLES, SANITARY MAINS, AND SERVICES SHALL BE IN ACCORDANCE WITH CITY OF ERIE STANDARD DETAILS SS3A & SS3B.
6. CONTRACTOR SHALL COORDINATE THE POOL SANITARY CONNECTIONS WITH THE POOL SHOP DRAWINGS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.

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
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
SANITARY SEWER PLAN & PROFILE LINES B, D & E

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

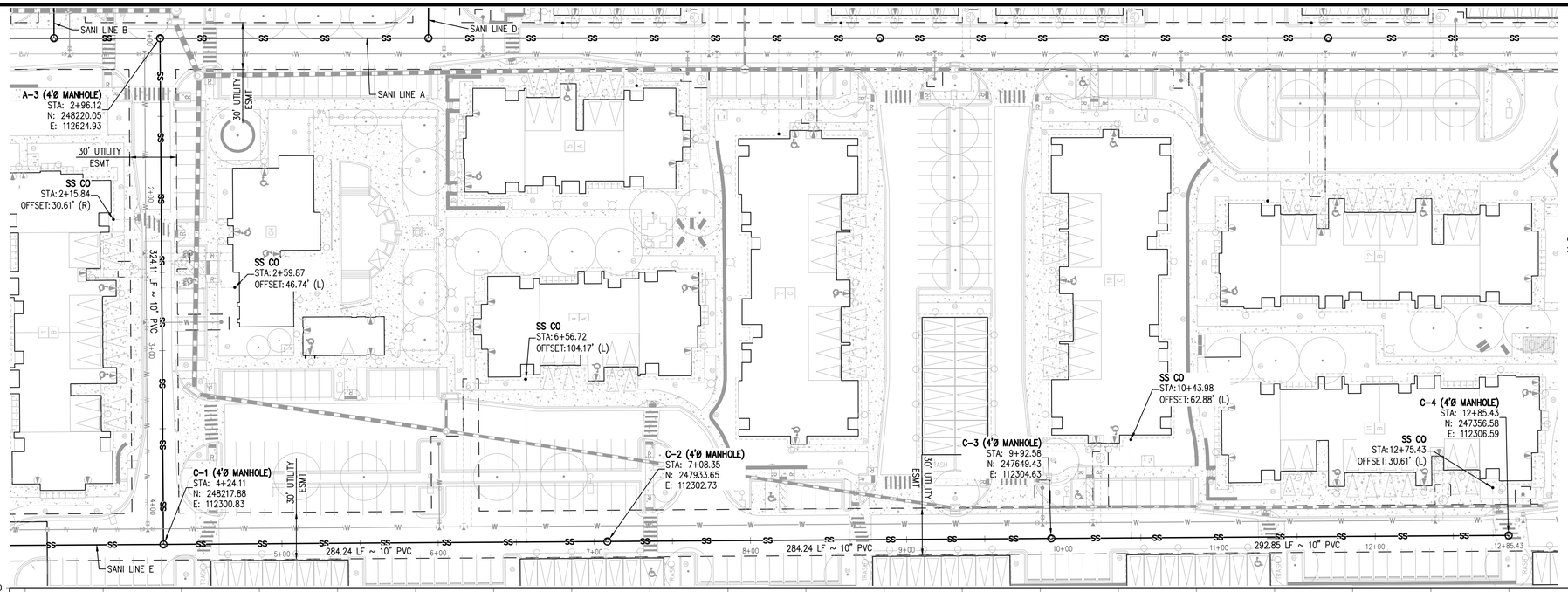
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 18

18 OF 57

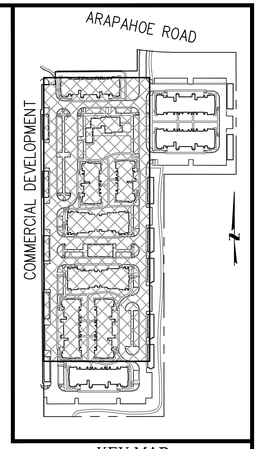
FILEPATH: P:\160602\ENGINEERING\UTILITIES\SANITARY\CD - SANITARY SEWER PLAN & PROFILE.DWG LAYOUT: SANITARY SEWER PLAN & PROFILE LINES B, D & E
5 XREFs: keymap, p-base, p-legal, p-util, simp-cd
PLOTTED: TUE 09/26/17 12:26:04P BY: TIM SAVLER

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



SANITARY LINE C PLAN

SCALE:1" = 40'

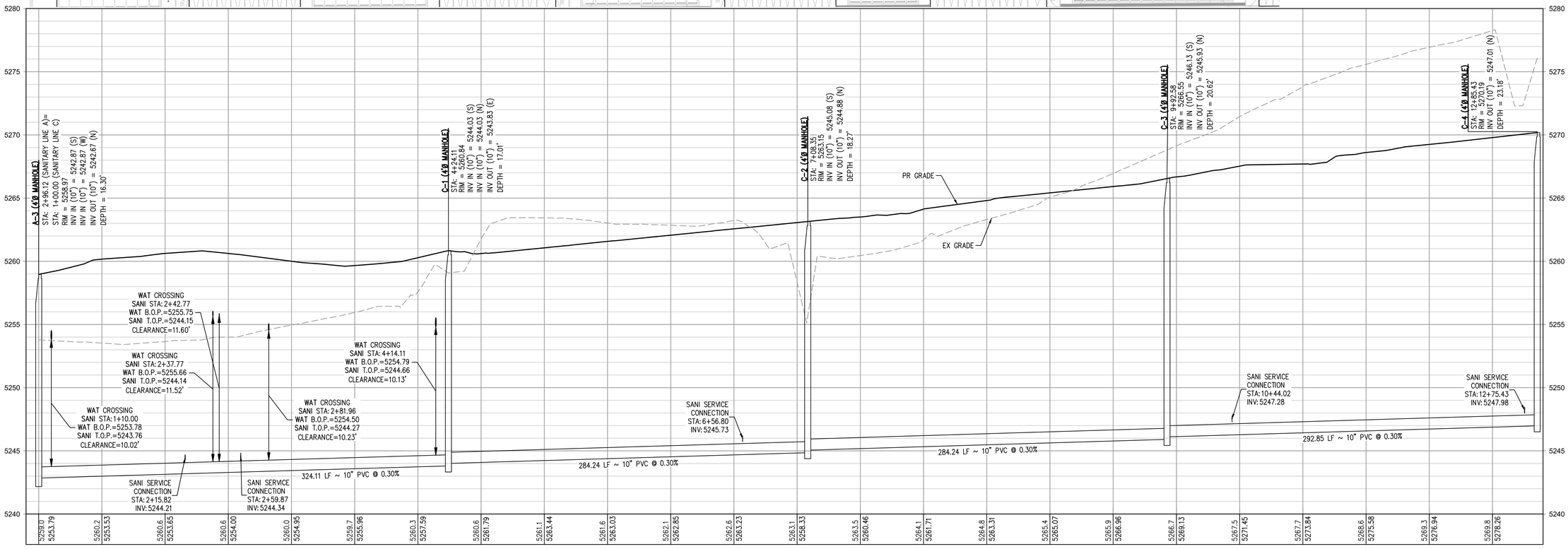


KEY MAP

SCALE: 1" = 250'

NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR VERIFYING HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES.
2. STATIONING IS ALONG CENTER LINE OF PIPE UNLESS OTHERWISE NOTED.
3. NOTHINGS/EASTINGS SHOWN FOR MANHOLE PLACEMENT REFERS TO CENTER OF BARREL.
4. PIPE LENGTH IS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. ALL PROPOSED MANHOLES, SANITARY MAINS, AND SERVICES SHALL BE IN ACCORDANCE WITH CITY OF ERIE STANDARD DETAILS SS3A & SS3B.
6. CONTRACTOR SHALL COORDINATE THE POOL SANITARY CONNECTIONS WITH THE POOL SHOP DRAWINGS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.



SANITARY LINE C 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

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
SANITARY SEWER PLAN & PROFILE LINE C

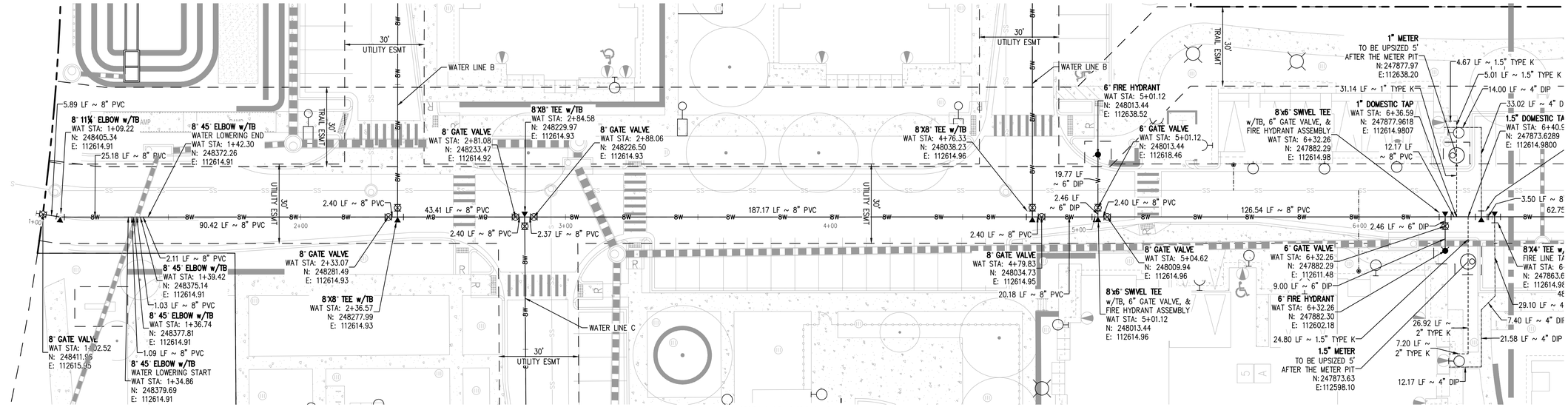
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

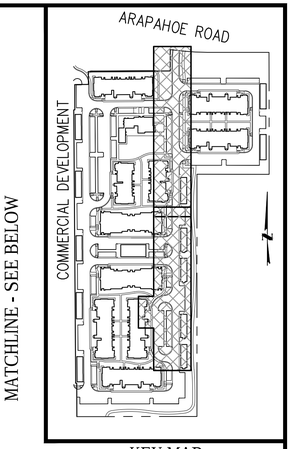
SHEET NO.
19
19 OF 57

FILEPATH: P:\160602\ENGINEERING\UTILITIES\SANITARY\CD - SANITARY SEWER PLAN & PROFILE.DWG LAYOUT: SANITARY SEWER PLAN & PROFILE LINE C
S:\RES\-layout, p-base, p-grid, p-util, simp-cd
PLOTTED: TUE 09/26/17 12:20:07P BY: TIM SAYLER

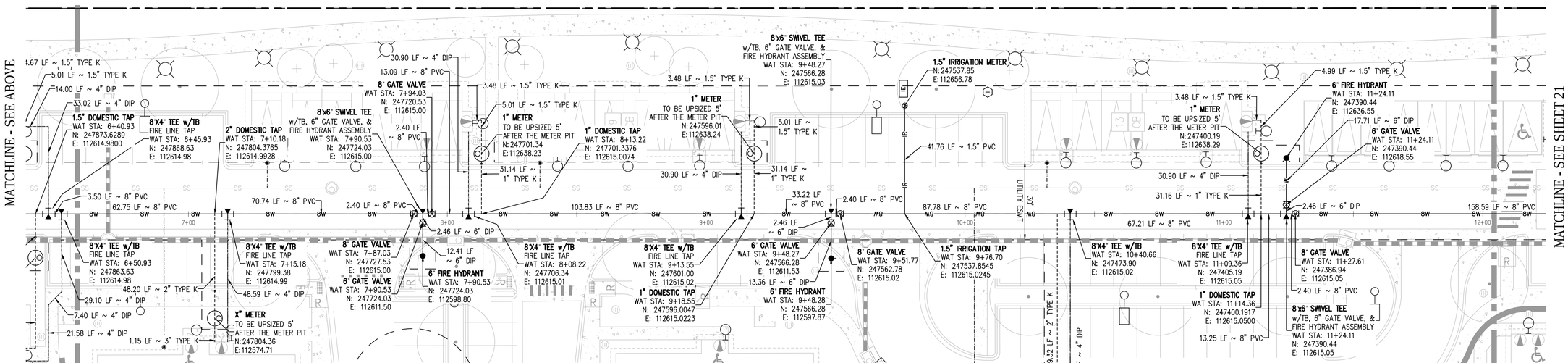
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



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



KEY MAP
SCALE: 1" = 250'



WATER LINE A
STA: 6+50 TO 12+00
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: 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
HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

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

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

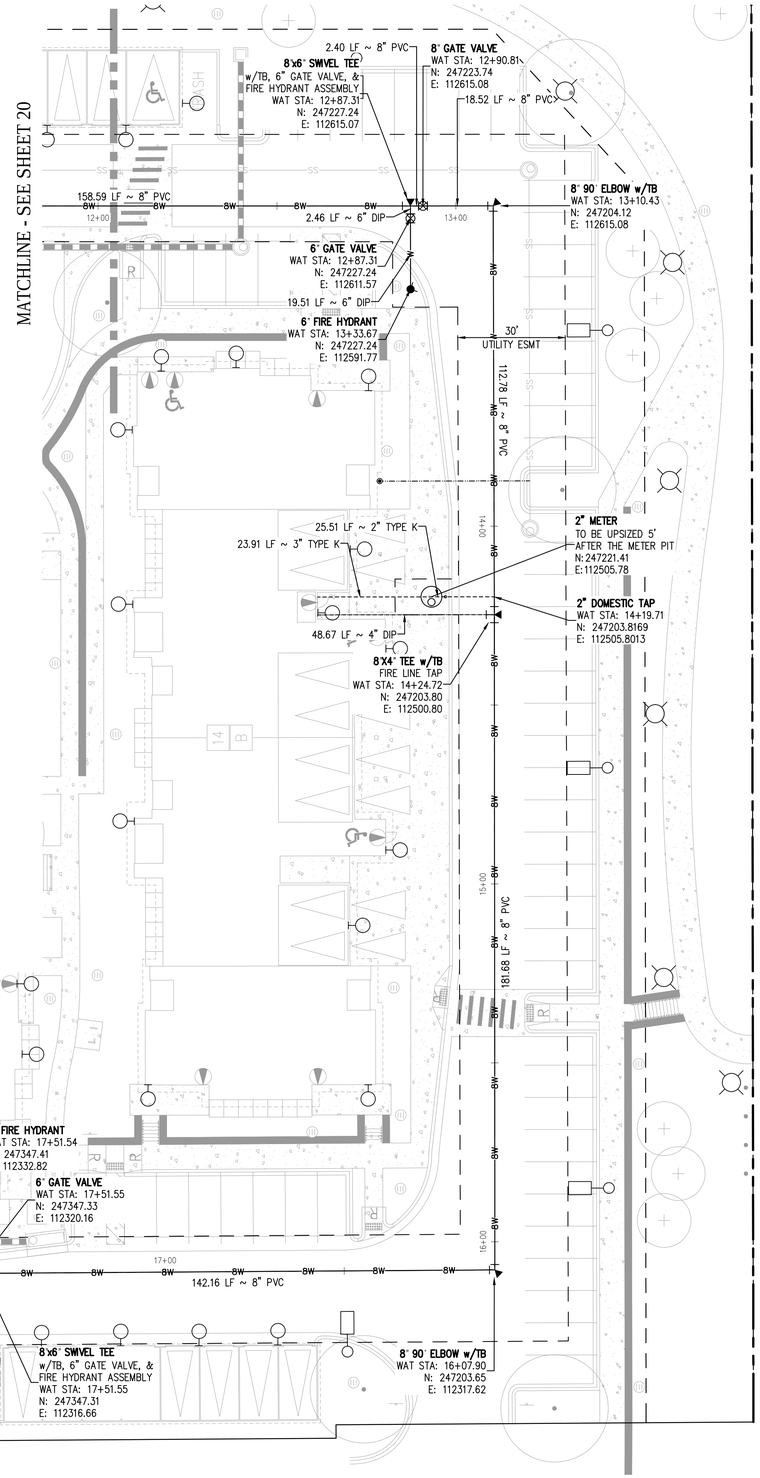
DATE	REVISION COMMENTS

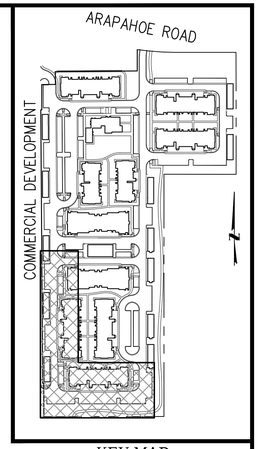
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
20
20 OF 57

FILEPATH: P:\160602\ENGINEERING\UTILITIES\WATER\CD - WATER PLAN.DWG LAYOUT: WATER PLAN 1
4 XREFs: keymap, p-base, p-legal, p-util
PLOTTED: TUE 06/26/17 12:20:29P BY: TIM SAYLER

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





KEY MAP
SCALE: 1" = 250'

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: 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
HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
WATER PLAN
LINE A
STA:12+00 TO 20+50

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

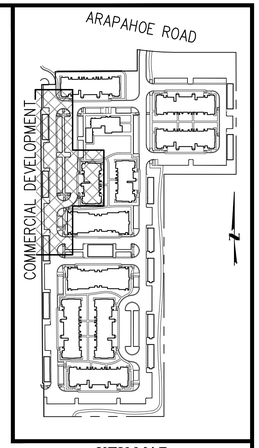
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 21

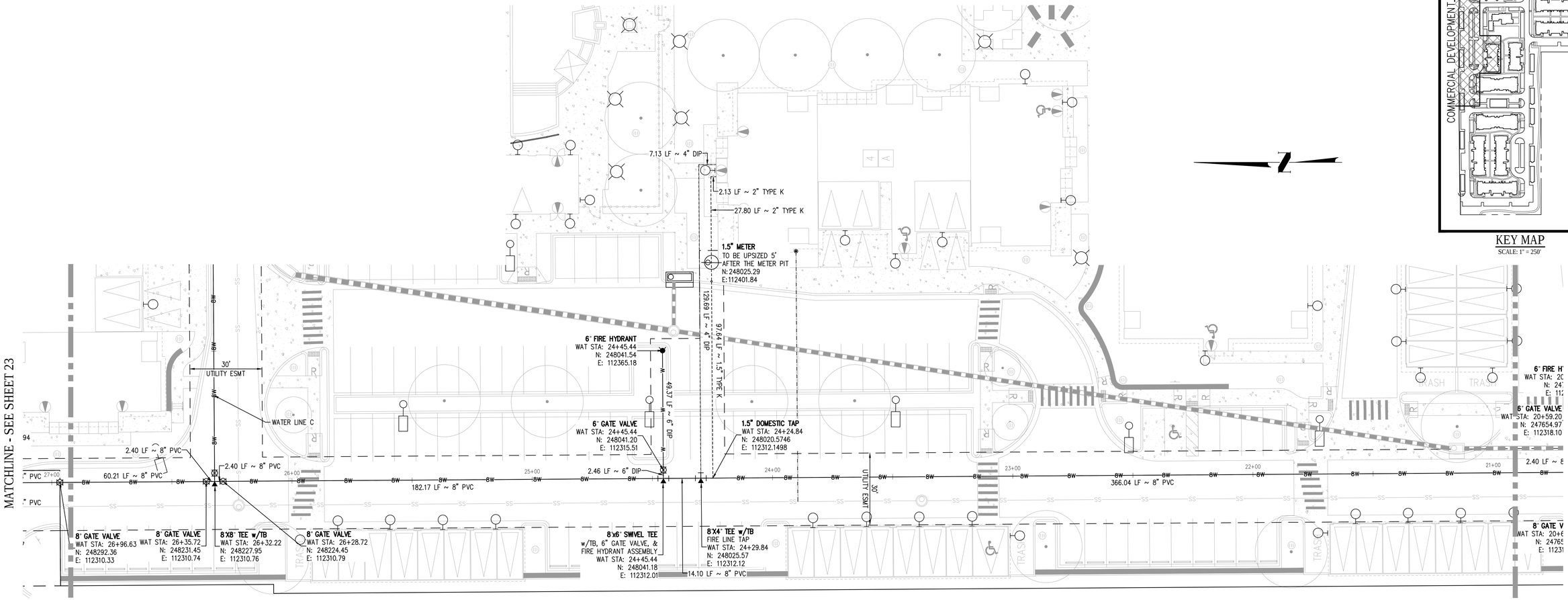
21 OF 57

FILEPATH: P:\160602\ENGINEERING\UTILITIES\WATER\CD - WATER PLAN.DWG LAYOUT: WATER PLAN 2
4 XREFs: keymap, p-base, p-legal, p-util
PLOTTED: TUE 09/26/17 12:26:26P BY: TIM SAYLER

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



KEY MAP
SCALE: 1" = 250'



WATER LINE A
STA: 20+50 TO 26+50
SCALE:1" = 20'

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: 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
HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
WATER PLAN
LINE A
STA:20+50 TO 26+50

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

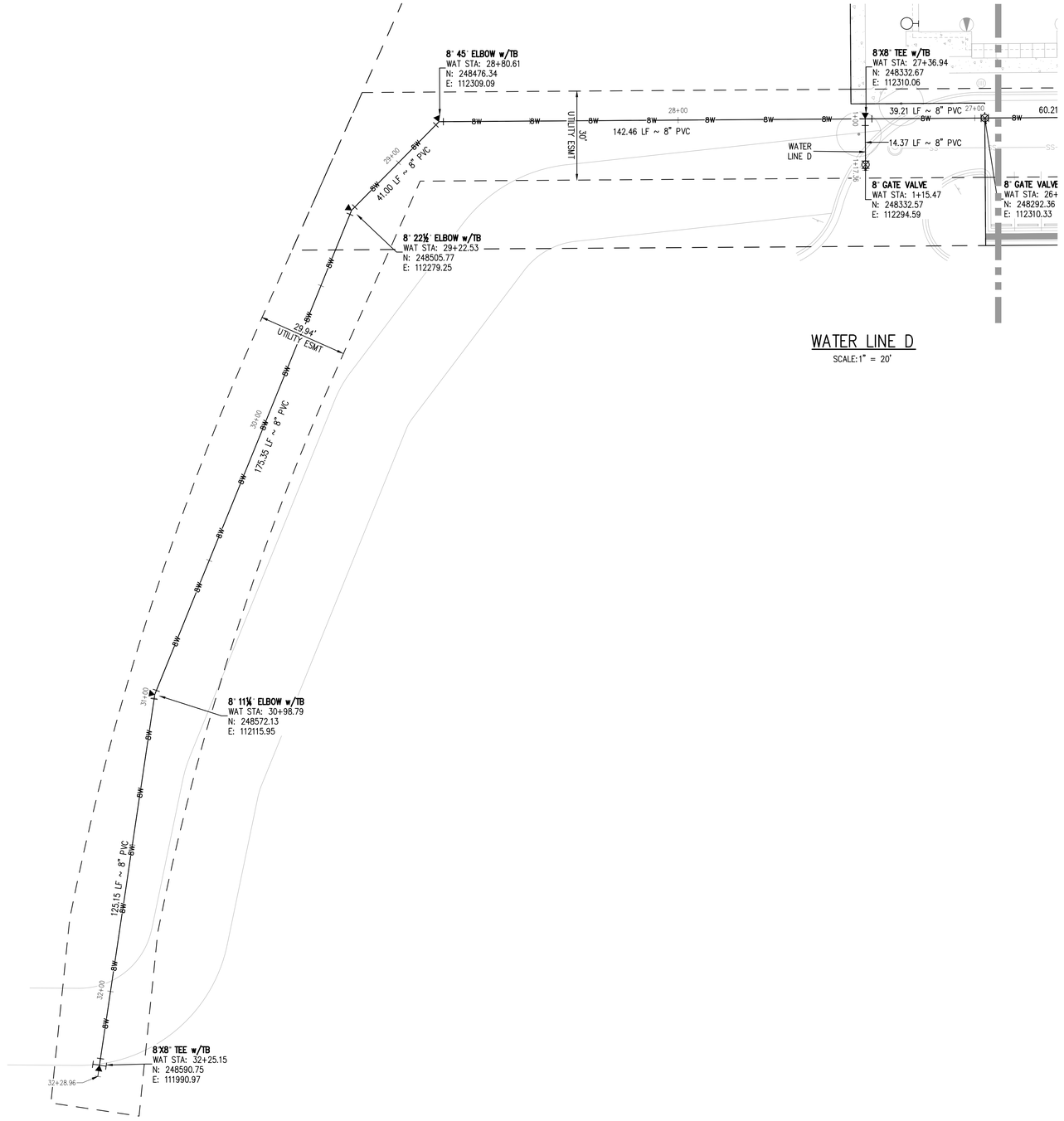
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
22
22 OF 57

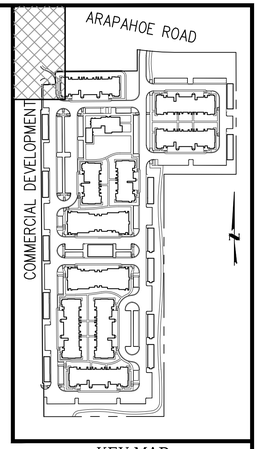
FILEPATH: P:\160602\ENGINEERING\UTILITIES\WATER\CD - WATER PLAN.DWG LAYOUT: WATER PLAN 3
4 XREFs: levmap, p-base, p-legal, p-util
PLOTTED: TUE 09/26/17 12:20:40P BY: TIM SAVLER

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



WATER LINE D
SCALE: 1" = 20'

WATER LINE A
STA: 26+50 TO 32+00
SCALE: 1" = 20'



KEY MAP
SCALE: 1" = 250'

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: DESIGNER
CHECKED BY: REVIEWER
DRAWN BY: DRAFTER

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
WATER PLAN
LINES A & D
STA:26+50 TO 32+00 (LINE A)

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

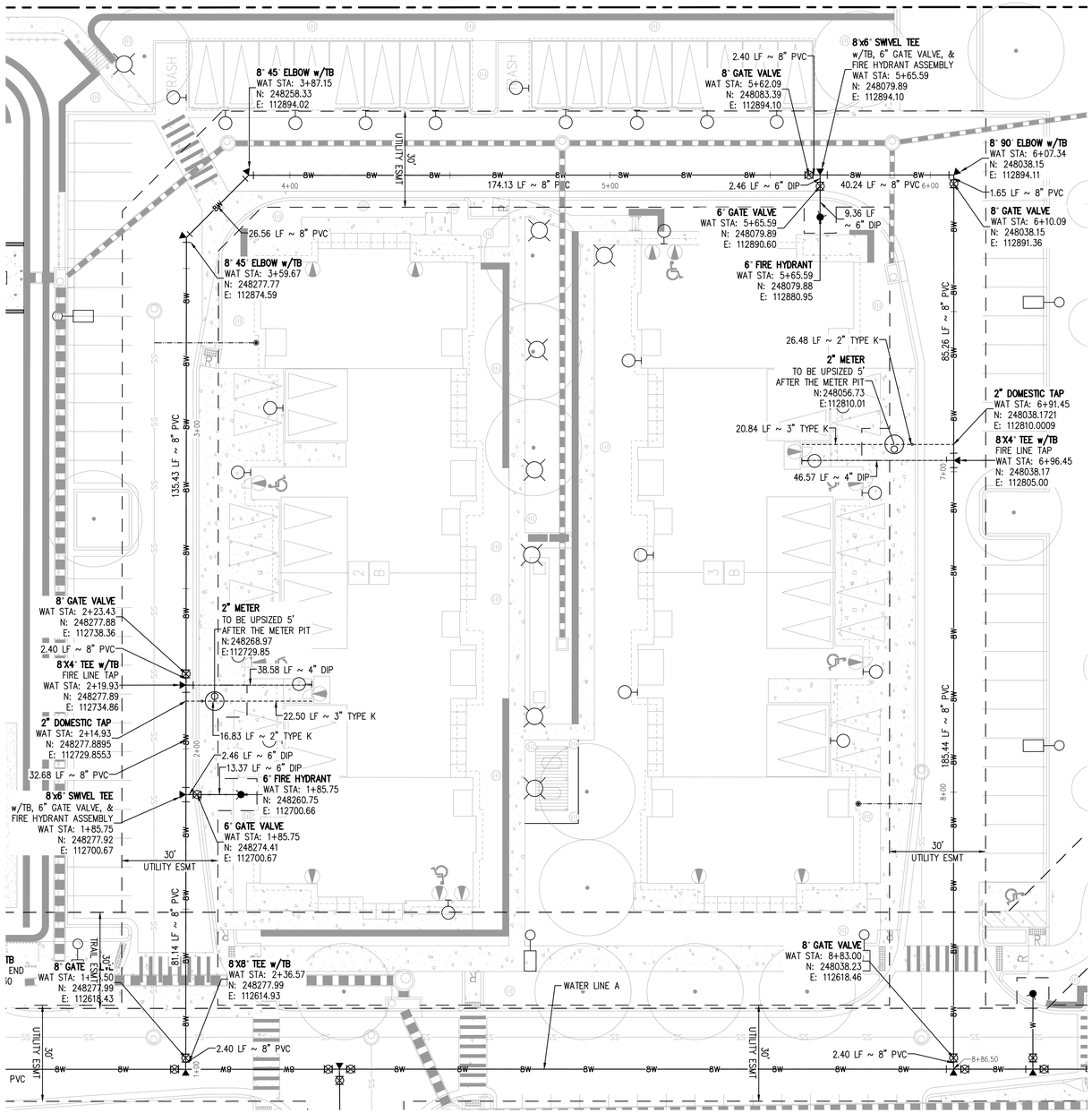
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
23
23 OF 57

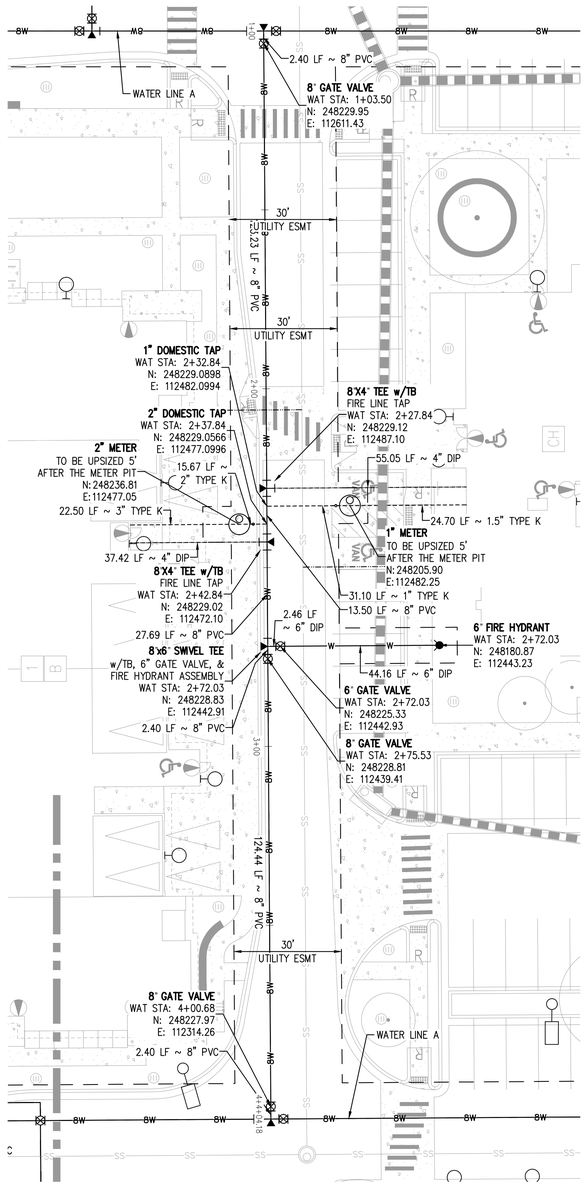
FILEPATH: P:\160602\ENGINEERING\UTILITIES\WATER\CD - WATER PLAN.DWG LAYOUT: WATER PLAN 4
4 XREFs: keymap, p-base, p-legal, p-util
PLOTTED: TUE 06/26/17 12:20:46P BY: TIM SAYLER

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



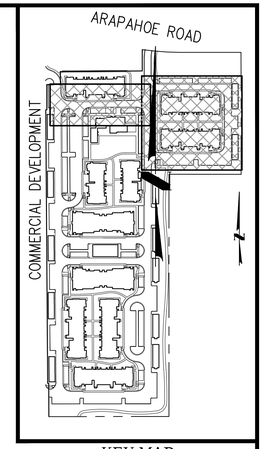
WATER LINE B

SCALE: 1" = 20'



WATER LINE C

SCALE: 1" = 20'



KEY MAP

SCALE: 1" = 250'

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: 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
HarrisKocherSmith.com

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
WATER PLAN
LINES B & C

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

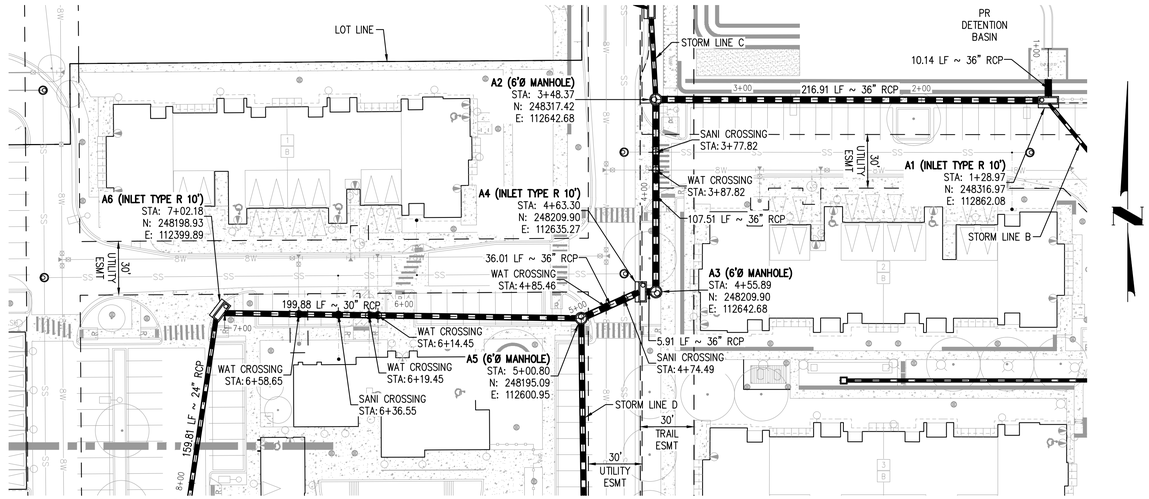
SHEET NO.

24

24 OF 57

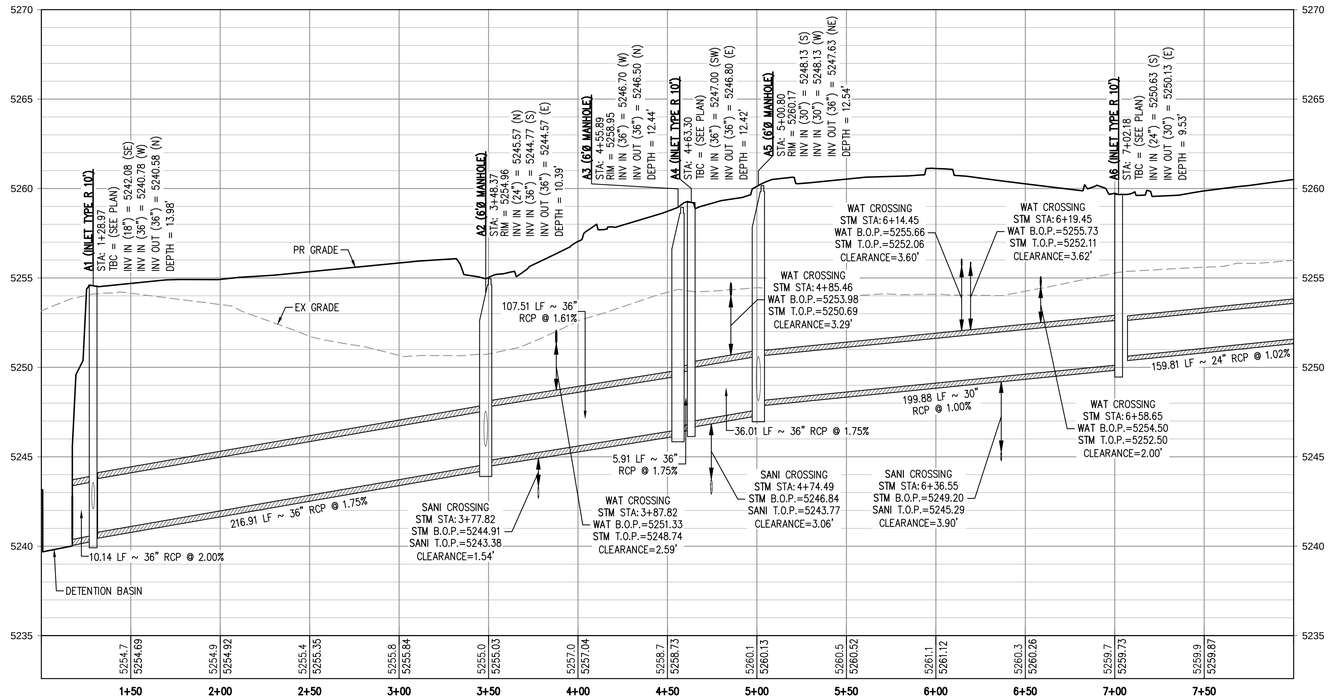
FILEPATH: P:\160602\ENGINEERING\UTILITIES\WATER\CD - WATER PLAN.DWG LAYOUT: WATER PLAN 5
4 XREFs: keymap, p-base, p-topo, p-util
PLOTTED: TUE 09/26/17 12:26:52P BY: TIM SAVIER

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



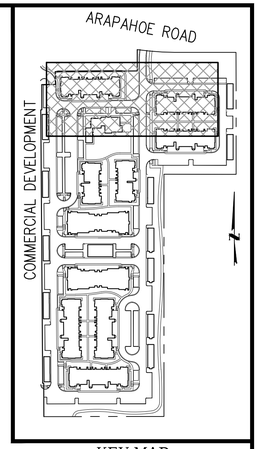
STORM LINE A PLAN

STA: 1+00 TO 8+00
SCALE: 1" = 40'



STORM LINE A PROFILE

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



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.
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
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

Evergreen
Development | Services | Investments

OUTLOOK AT NINE MILE
STORM SEWER P&P LINE A 1

ISSUE DATE: XX_XX_XX	PROJECT #: 160602
DATE	REVISION COMMENTS

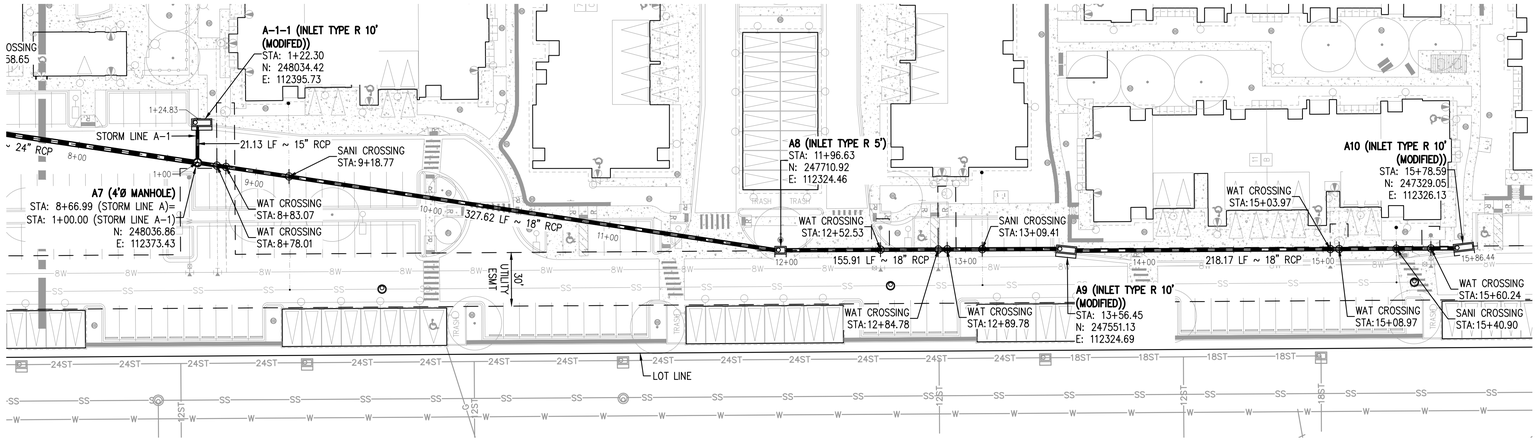
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 25

25 OF 57

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE A 1
7 XREFs: cd - stamp, cd_evergreen logo, e-tail, keymap, p-base, p-legal, p-tail
PLOTTED: TUE 09/26/17 12:21:52P BY: TIM SAYLER

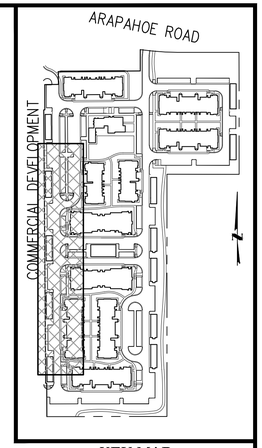
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



STORM LINE A & A-1

STA: 8+00 TO 16+00

SCALE: 1" = 40'

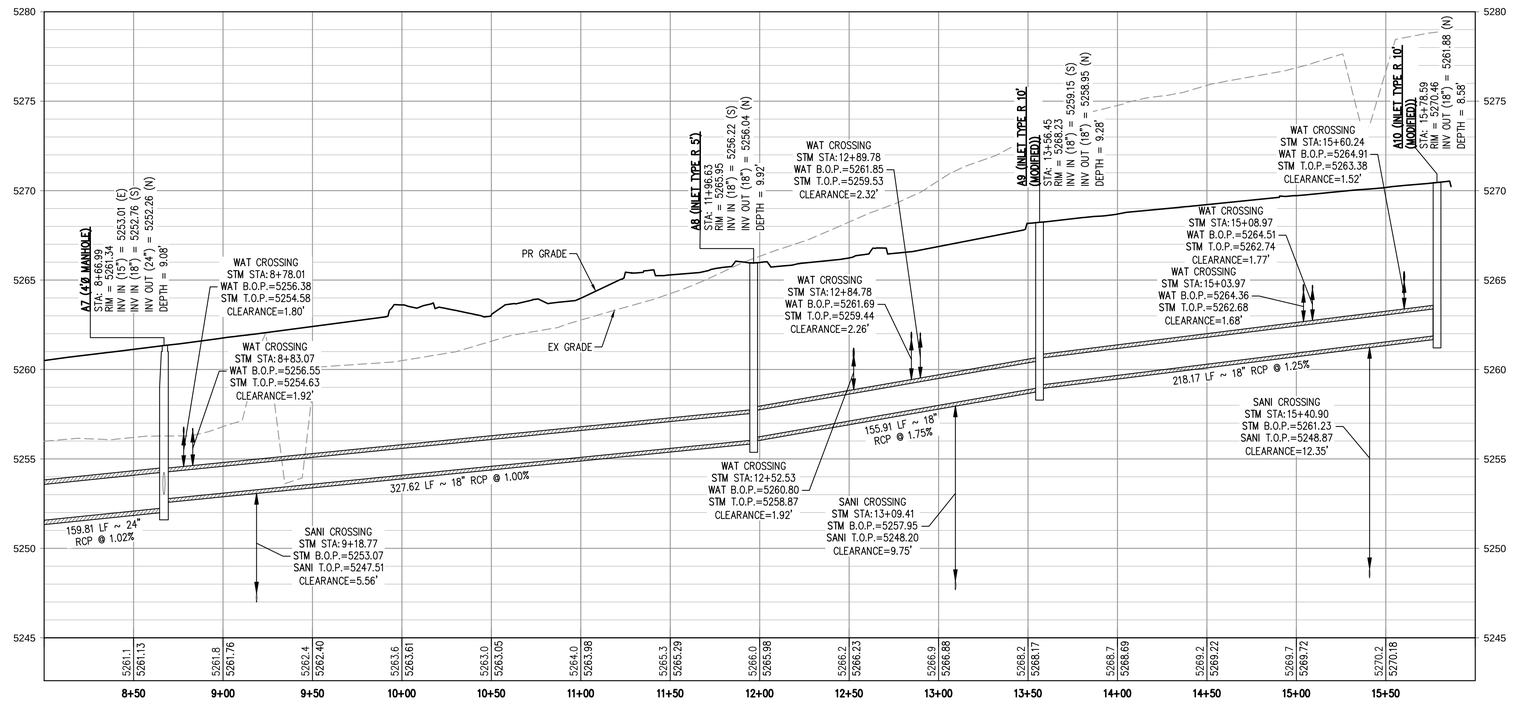


KEY MAP

SCALE: 1" = 250'

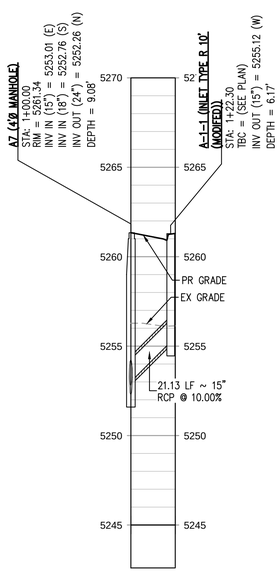
NOTES:

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.
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.



STORM LINE A PROFILE

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



STORM LINE A-1 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

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
STORM SEWER P&P LINE A 2

ISSUE DATE: XX_XX_XX | PROJECT #: 160602

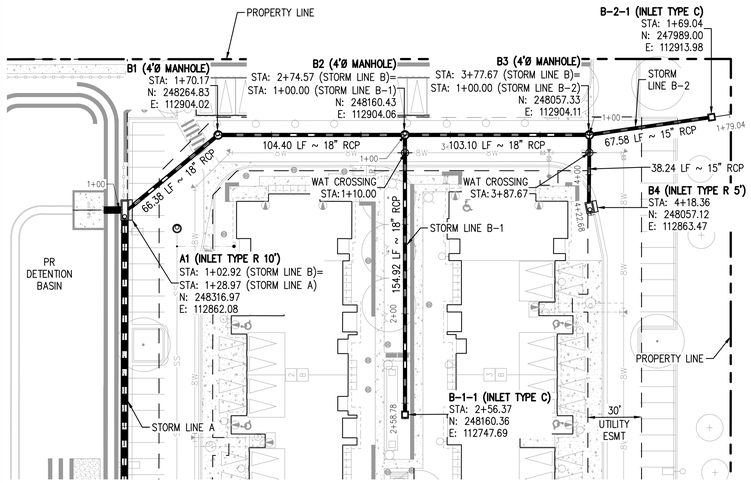
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 26

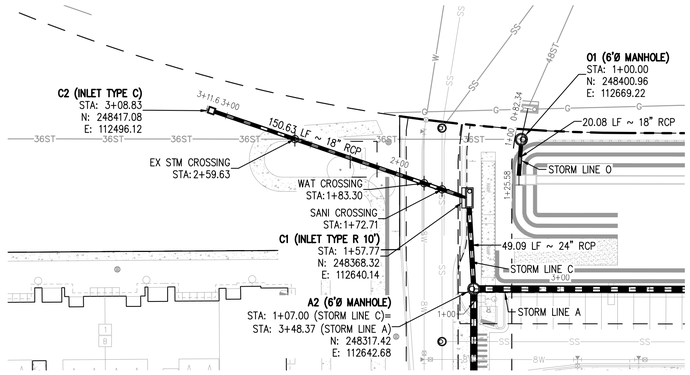
FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE A 2
7 XREFs: cd - stamp, cd_evergreen logo, c-util, keymap, p-base, p-legal, p-util
PLOTTED: TUE 09/26/17 12:21:50P BY: TIM SAYLER

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



STORM LINES B, B-1 & B-2 PLAN

SCALE: 1" = 40'

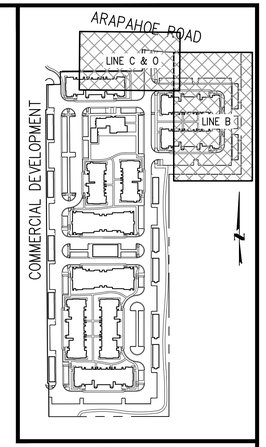


STORM LINES C & O PLAN

SCALE: 1" = 40'

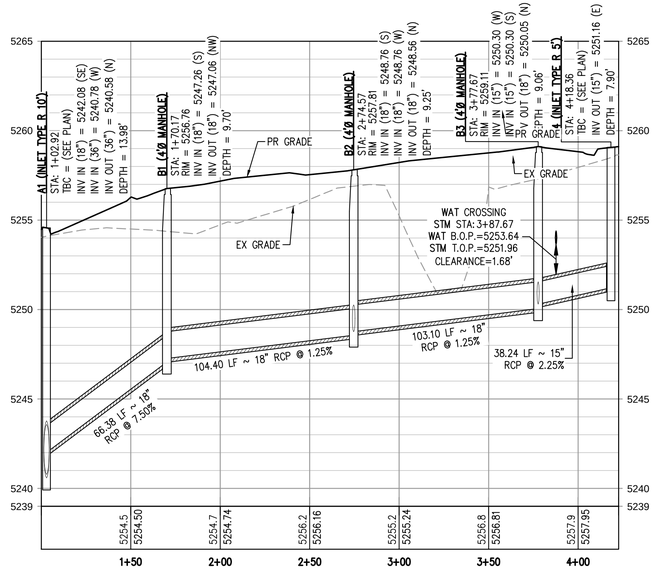
NOTES:

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.



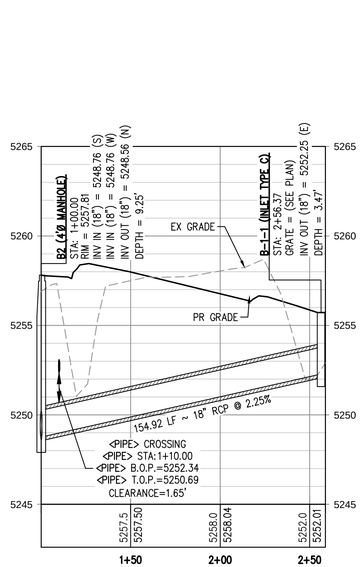
KEY MAP

SCALE: 1" = 250'



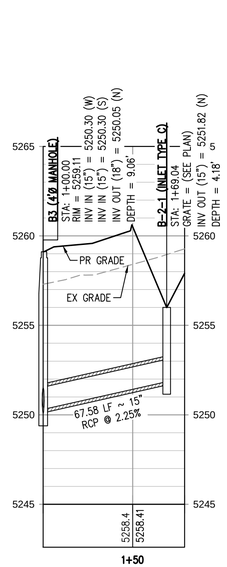
STORM LINE B PROFILE

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



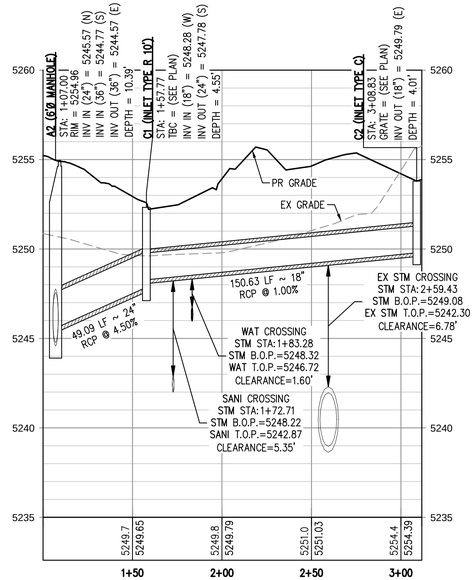
STORM LINE B-1 PROFILE

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



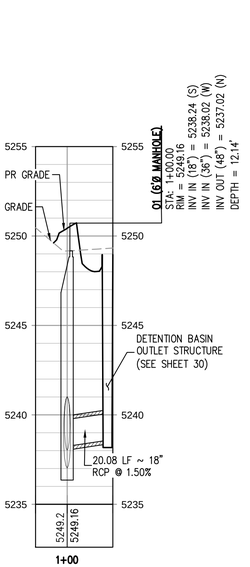
STORM LINE B-2 PROFILE

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



STORM LINE C PROFILE

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



STORM LINE O 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

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
STORM SEWER P&P LINES B, C & O

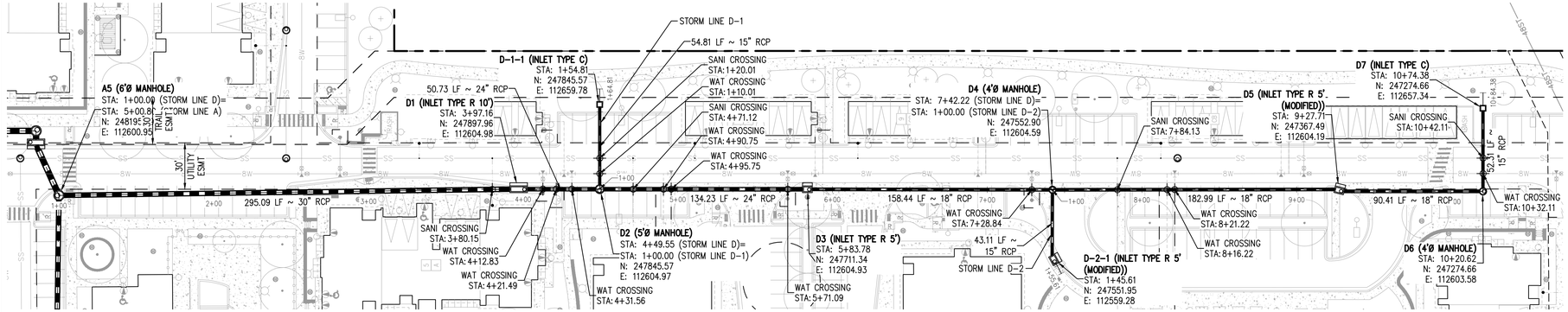
ISSUE DATE: XX_XX_XX	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
27
27 OF 57

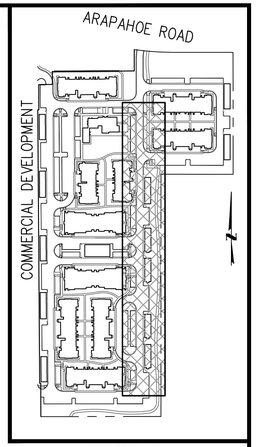
FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE B C O
7 XREFs: cd - stamp, cd_evergreen logo, e-tail, keymap, p-base, p-legal, p-util
PLOTTED: TUE 08/26/17 12:22:36P BY: TIM SAYLER

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



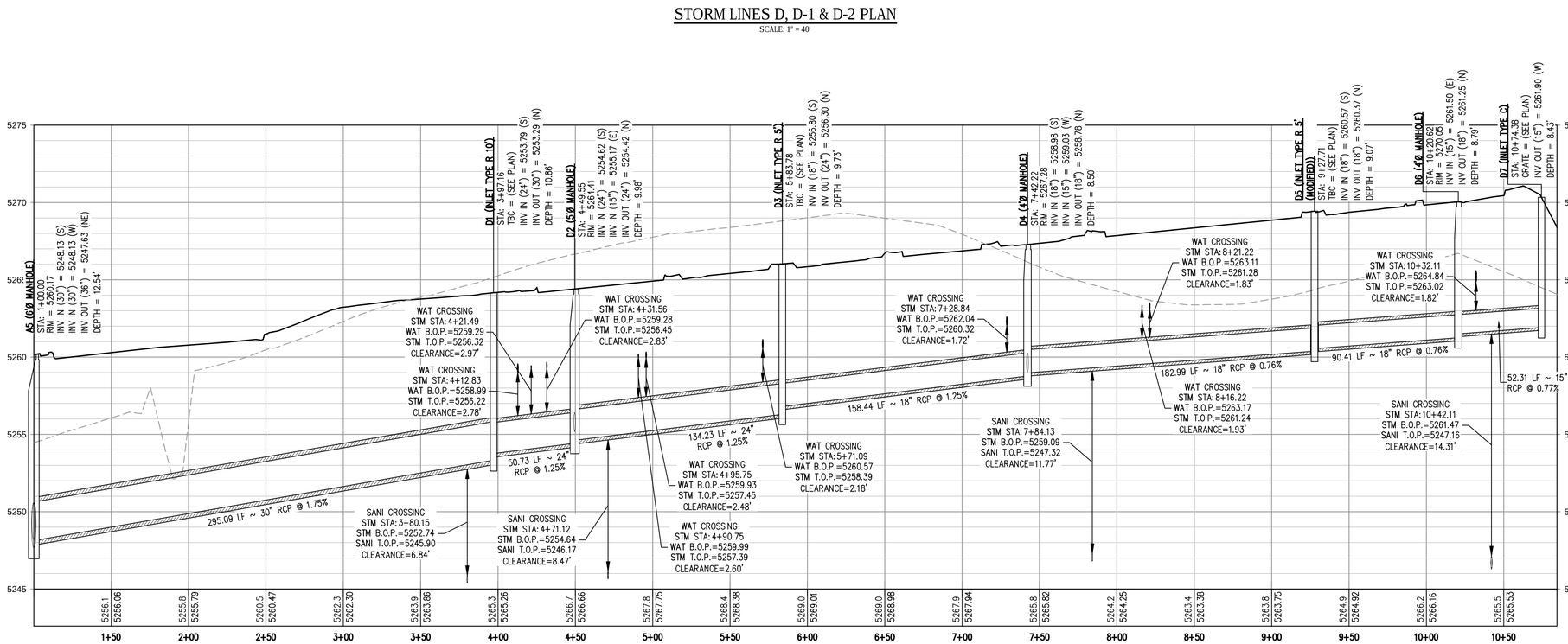
STORM LINES D, D-1 & D-2 PLAN

SCALE: 1" = 40'



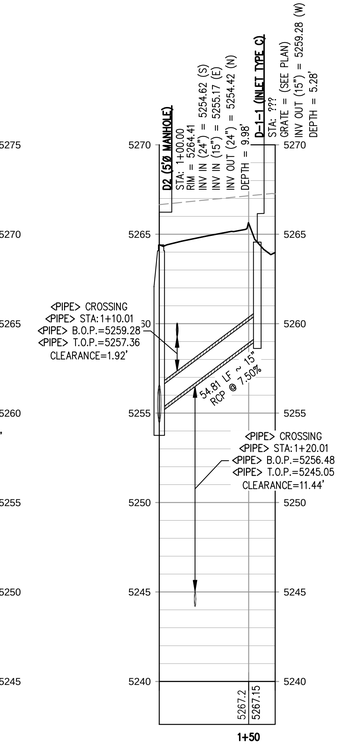
KEY MAP

SCALE: 1" = 250'



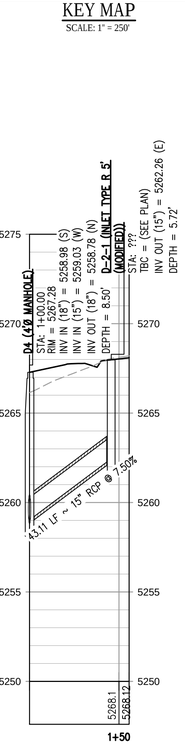
STORM LINE D PROFILE

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



STORM LINE D-1 PROFILE

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



STORM LINE D-2 PROFILE

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

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
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

Evergreen
Development | Services | Investments

OUTLOOK AT NINE MILE
STORM SEWER P&P LINE D

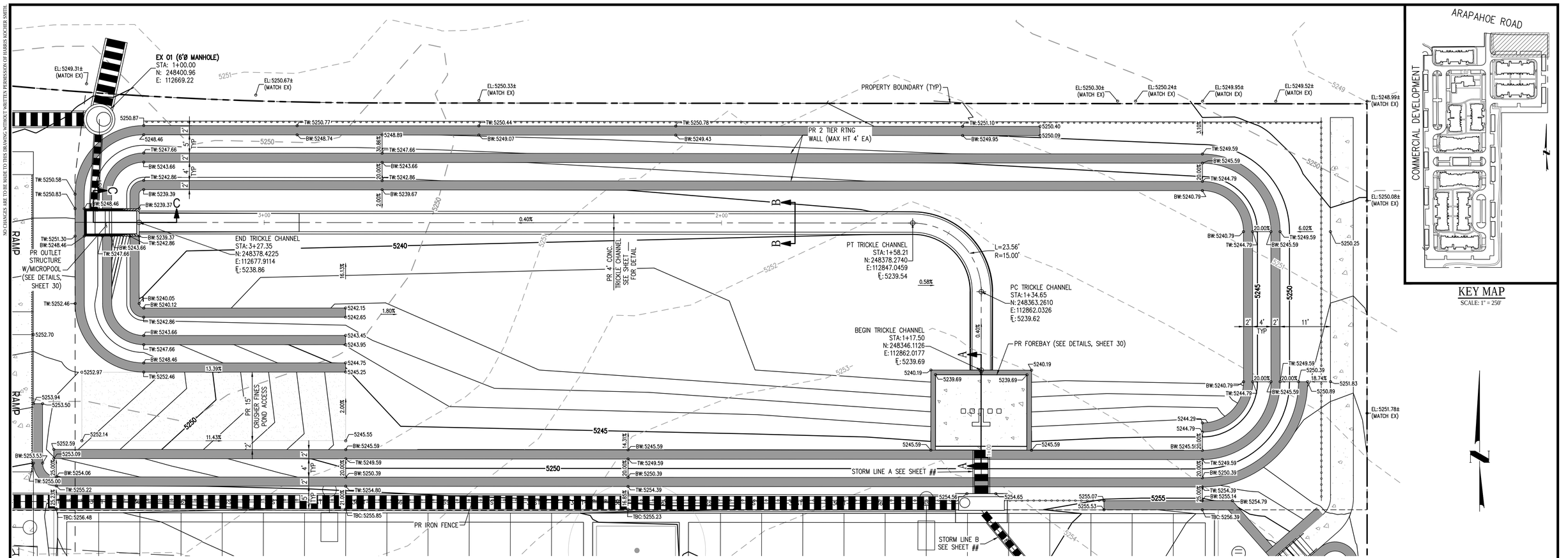
ISSUE DATE: XX_XX_XX	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 28
28 OF 57

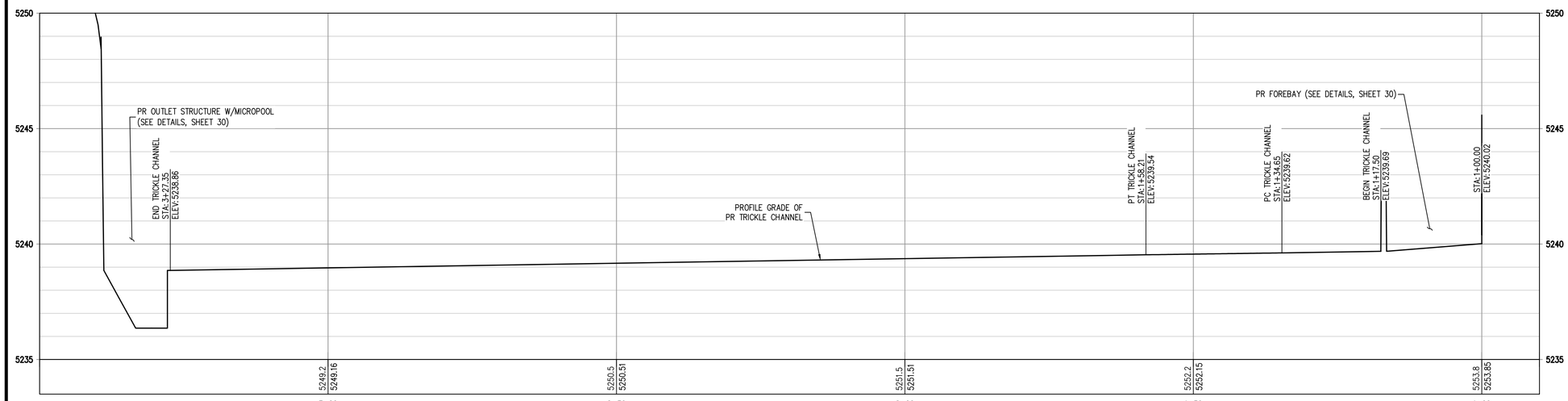
FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE D
7 XREFs: cd - stamp, cd_evergreen logo, e-sel, keymap, p-base, p-legal, p-util
PLOTTED: TUE 09/26/17 12:22:14P BY: TIM SAWYER

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



KEY MAP
SCALE: 1" = 250'

PLAN
SCALE: 1" = 10'



ST-TRICKLE PROFILE
HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 2'

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" = 10'

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

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
DETENTION POND PLAN

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

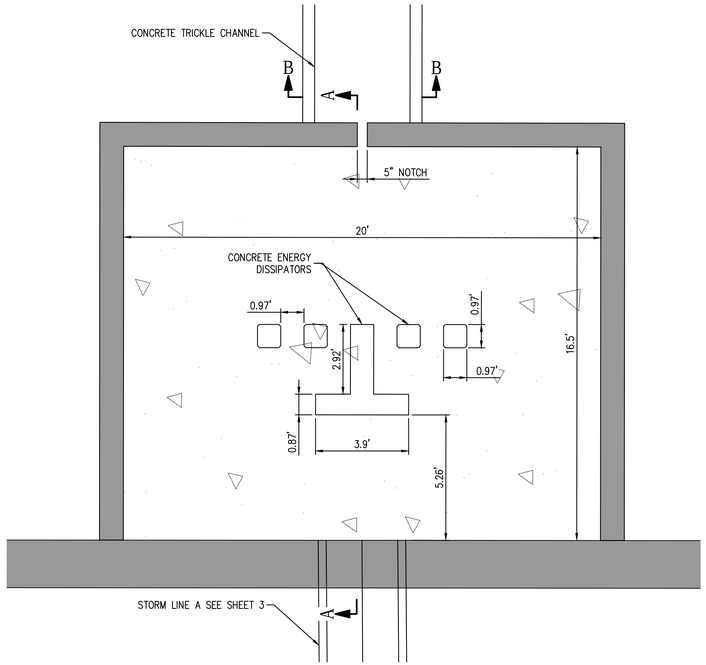
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
29
30 OF 57

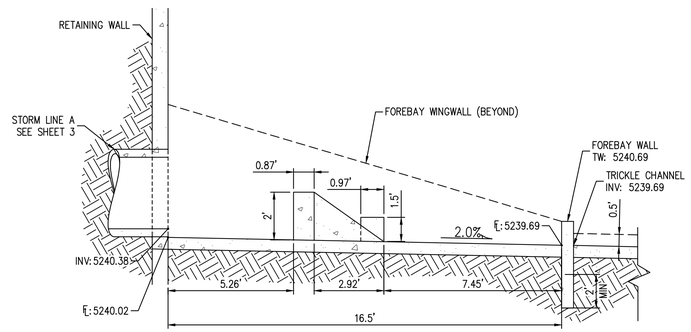
FILEPATH: P:\160602\ENGINEERING\DRAINAGE\CD - DETENTION POND PLAN.DWG LAYOUT: LAYOUT1
XREFs: cd - stamp, keymap, p-base, p-legal, p-util
PLOTTED: TUE 09/26/17 12:23:06P BY: TIM SAYLER

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



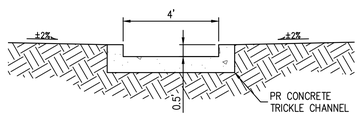
FOREBAY PLAN

SCALE: 1" = 3'



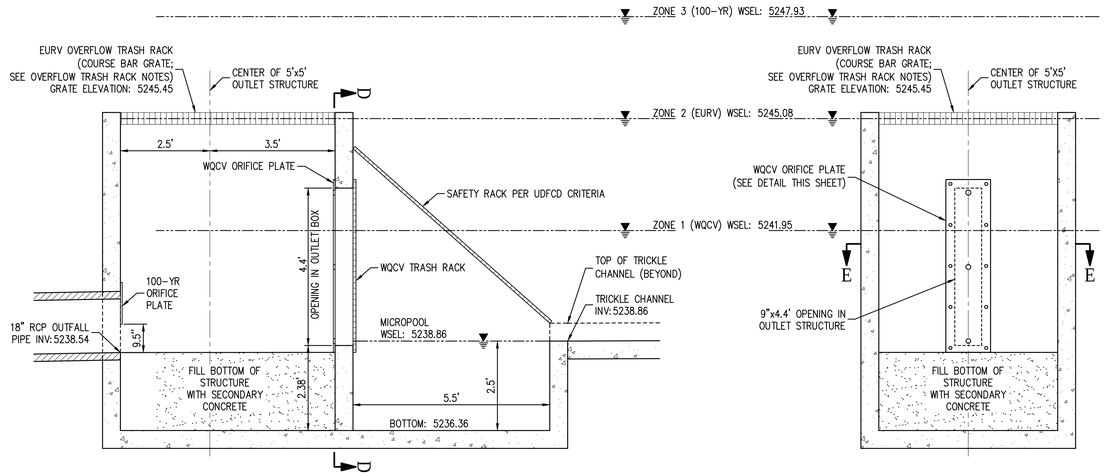
SECTION A–A
FOREBAY PROFILE DETAIL

SCALE: N.T.S.



SECTION B–B
TRICKLE CHANNEL DETAIL

SCALE: N.T.S.



SECTION C–C
WATER QUALITY OUTLET STRUCTURE PROFILE

SCALE: N.T.S.

SECTION D–D

SCALE: N.T.S.

OUTLET STRUCTURE NOTES:

GENERAL NOTES:

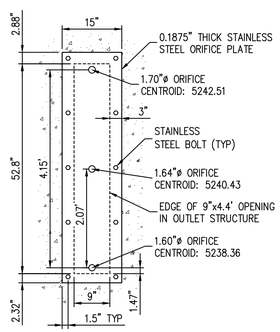
1. ALL PENETRATIONS AND JOINTING SHALL BE WATER–TIGHT, WITH LINK–SEAL OR APPPROVED EQUIVALENT.
2. THE EXTENDED DETENTION BASIN FOREBAY SHALL BE BUILT IN ACCORDANCE WITH CURRENT UDFCD CRITERIA AND DETAILS.
3. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR ALL TRASH RACKS AND ORIFICE PLATES PRIOR TO CONSTRUCTION.
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.

WELL SCREEN 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.

OVERFLOW TRASH RACK NOTES:

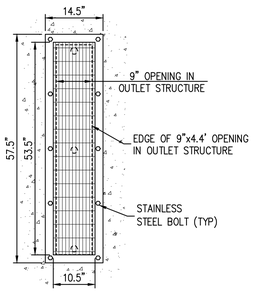
1. TRASH RACK SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
2. TRASH RACK SHALL BE STAINLESS ALUMINUM OR STEEL, SHALL BE HOT DIP GALVANIZED, AND MAY BE HOT POWDER COATED AFTER GALVANIZING.



WQCV ORIFICE PLATE DETAIL

N.T.S.

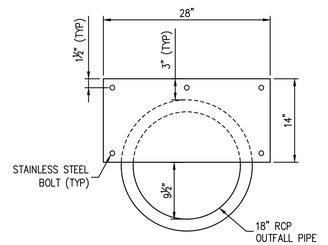
10½"x53½" WELL SCREEN TRASH RACK: U.S. FILTER STAINLESS STEEL WELL SCREEN (OR EQUAL). #93 VEE WIRE OPENING SLOT DIMENSION 0.139" SUPPORT RODS TE 0.074"x0.50" CARBON STEEL FRAME 1"x1½" ANGLE ATTACH BY INTERMITTENT WELDS ALL AROUND



WQCV TRASH RACK DETAIL

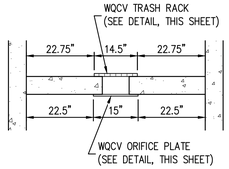
N.T.S.

REFER TO UDFCD ORIFICE PLATE AND TRASH RACK NOTES (VOL 3, FIG OS–4)FOR ADDITIONAL INFORMATION



100–YR RESTRICTOR PLATE DETAIL

N.T.S.



SECTION E–E

SCALE: N.T.S.

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: DESIGNER
CHECKED BY: REVIEWER
DRAWN BY: DRAFTER

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
POND PLAN DETAIL 1

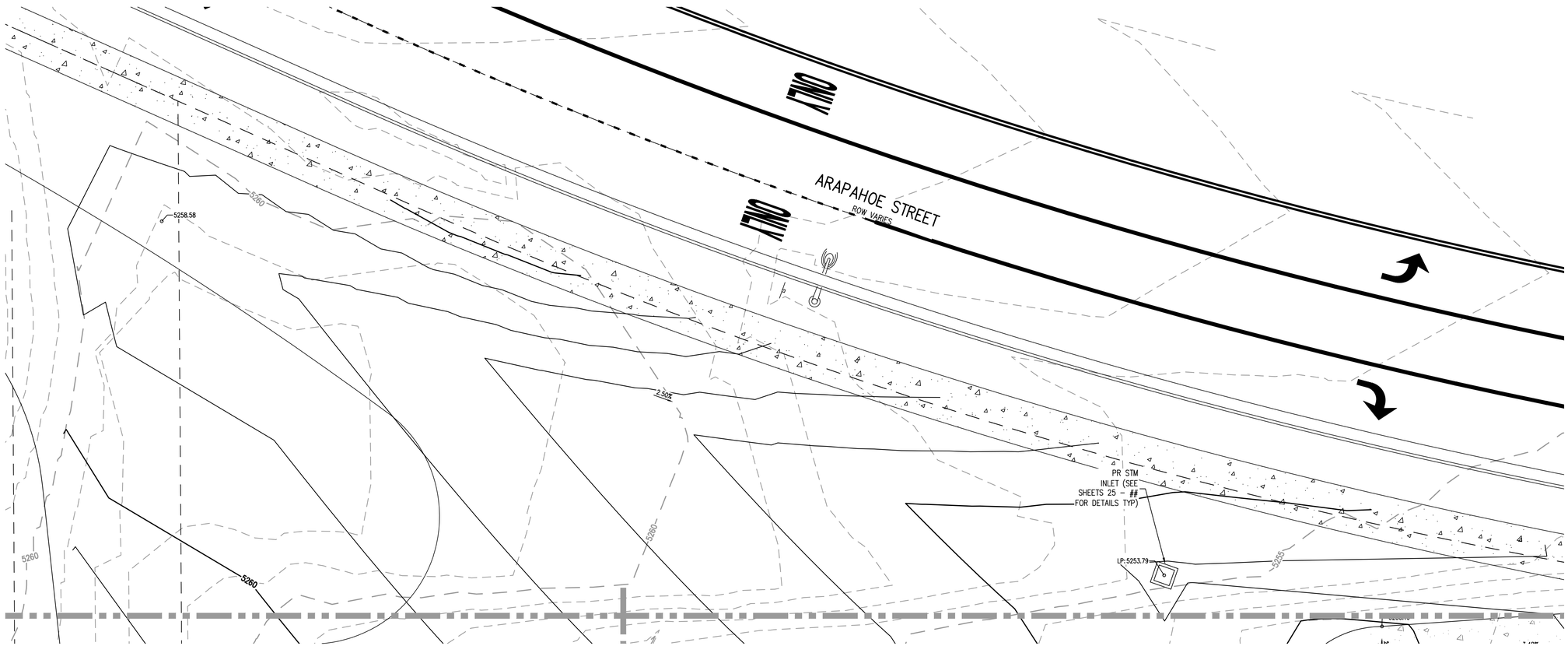
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
30
31 OF 57

FILEPATH: P:\160602\ENGINEERING\DRAINAGE\CD - DETENTION POND DETAILS.DWG LAYOUT: LAYOUT1
2 XREFS: p-base, p-util
PLOTTED: TUE 09/26/17 12:23:17P BY: TIM SAYLER

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



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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 1

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
31
32 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - GRADING PLAN - A.DWG LAYOUT: LAYOUT1
3 XREFs: cd - sump, keymap, p-base
PLOTTED: TUE 08/26/17 12:24:05P BY: TIM SAYLER

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

MATCHLINE - SEE SHEET 33

MATCHLINE - SEE SHEET 36

FF=5262.05

FF=5262.33

TRASH

26' TEMPORARY FIRE DRIVE (SEE SHEET 49 FOR DETAILED GRADING)

PR STM INLET (SEE SHEETS 25 - ## FOR DETAILS TYP)

3.5' ± 3" RISERS

ARAPAHOE ROAD

COMMERCIAL DEVELOPMENT

KEY MAP
SCALE: 1" = 250'

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - GRADING PLAN - A.DWG LAYOUT: DETAILED GRADING 1
3 XREFs: cd - sump, keymap, p-base
PLOTTED: TUE 06/26/17 12:24:12P BY: TIM SAYLER

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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 2

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
32
33 OF 57

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

MATCHLINE - SEE SHEET 34

MATCHLINE - SEE SHEET 37

MATCHLINE - SEE SHEET 32

FF=5262.05

FF=5261.41

PR WAT FH
(SEE SHEETS 20 – 24
FOR DETAILS TYP TYP)

ARAPAHOE ROAD

COMMERCIAL DEVELOPMENT

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.

SCALE: 1" = 10'

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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 3

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
33
34 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - GRADING PLAN - A.DWG LAYOUT: DETAILED GRADING 2
3 XREFS: cd - stamp, keymap, p-base
PLOTTED: TUE 09/26/17 12:24:17P BY: TIM SAVIER

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

MATCHLINE - SEE SHEET 35

DETENTION POND
SEE SHEETS
29 – 30
FOR DETAILS

RAMP

RAMP

FF=5257.45

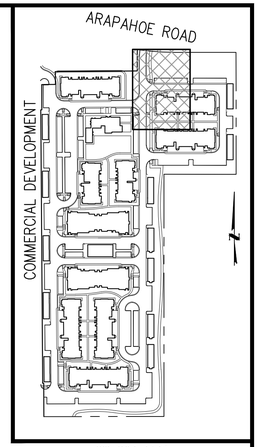
PR WAT FH
(SEE SHEETS 20 – 24
FOR DETAILS TYP TYP)

PR STM MH
(SEE SHEETS 25 – ##
FOR DETAILS TYP)

PR STM
INLET (SEE
SHEETS 25 – ##
FOR DETAILS TYP)

MATCHLINE - SEE SHEET 38

MATCHLINE - SEE SHEET 33



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.

SCALE: 1" = 10'

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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 4

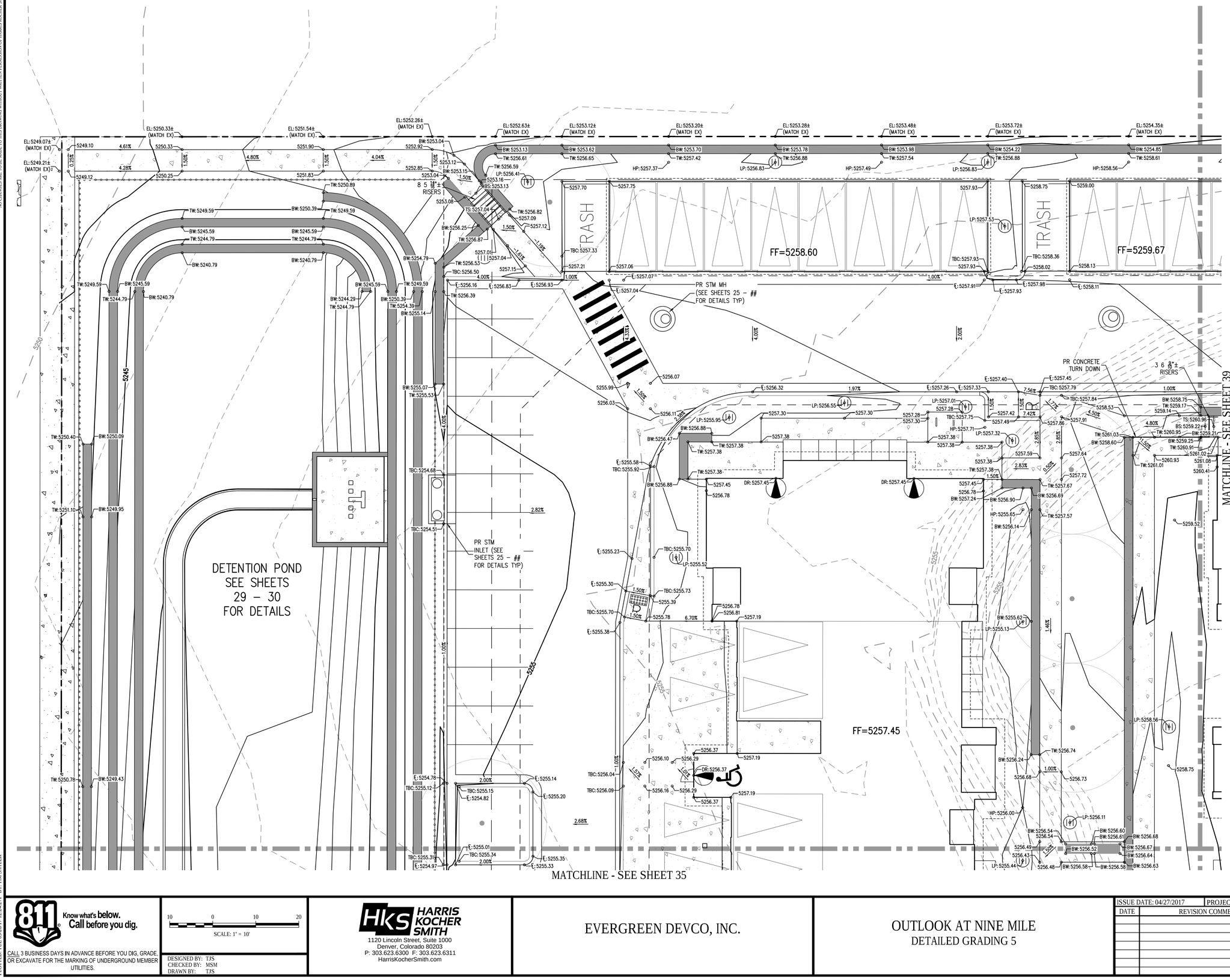
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

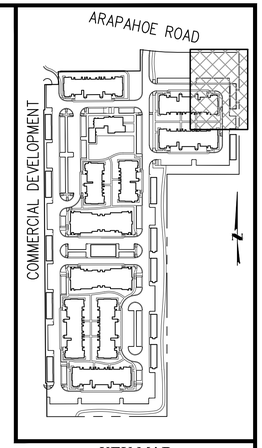
PRELIMINARY
NOT FOR
CONSTRUCTION

SHEET NO.
34
35 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - GRADING PLAN - A.DWG LAYOUT: DETAILED GRADING 3
3 XREFs: cs - sump, keymap, p-base
PLOTTED: TUE 09/26/17 12:24:23P BY: TIM SAYLER

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





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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 5

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

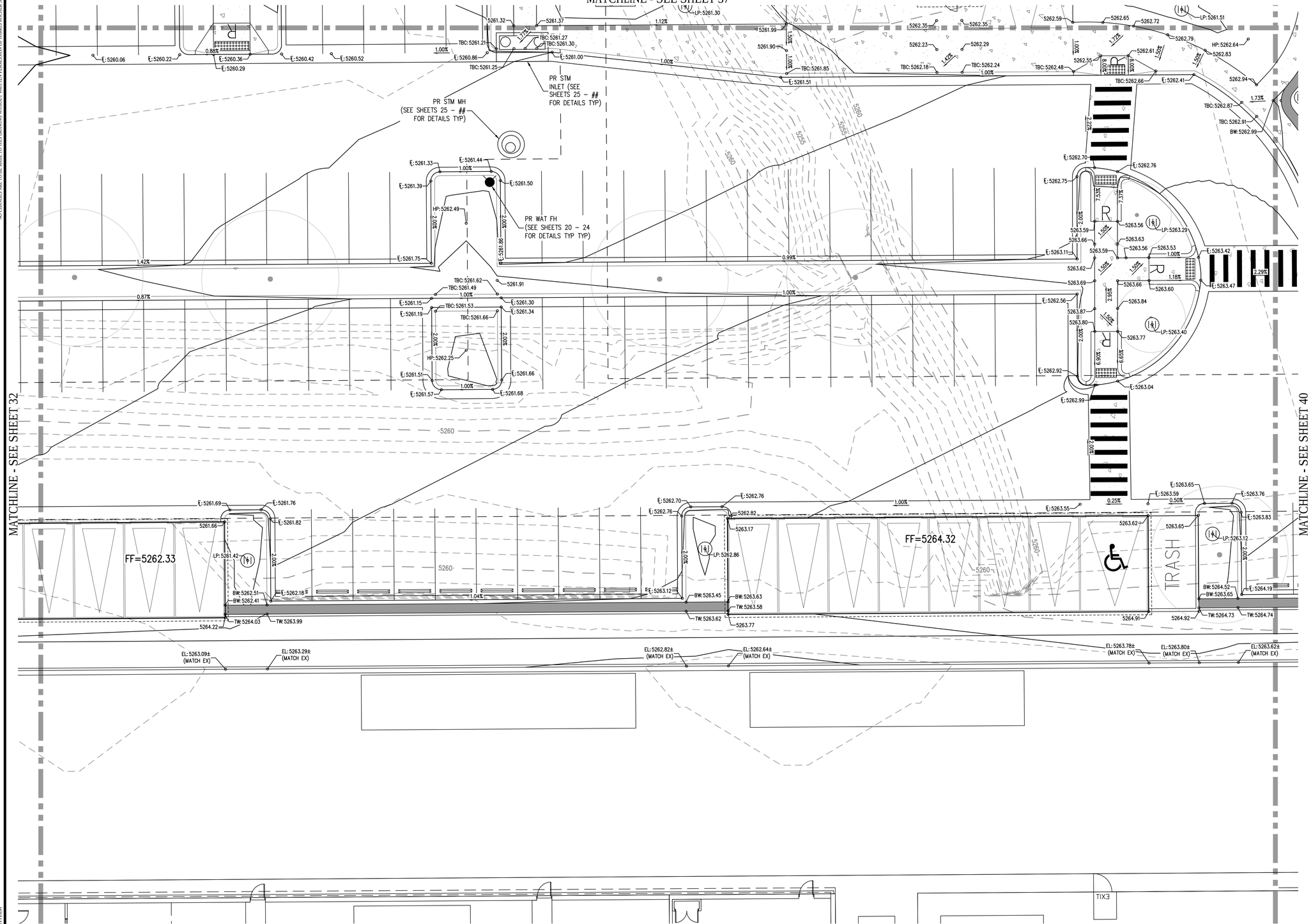
PRELIMINARY
NOT FOR
CONSTRUCTION

SHEET NO.
35
36 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - GRADING PLAN - A.DWG LAYOUT: DETAILED GRADING 4
3 XREFS: cd - xsamp, keymap, p-base
PLOTTED: TUE 09/26/17 12:24:27P BY: TIM SAYLER

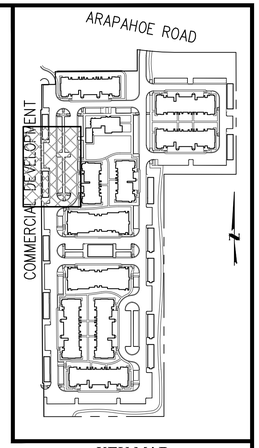
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE - SEE SHEET 37



MATCHLINE - SEE SHEET 32

MATCHLINE - SEE SHEET 40



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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 6

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
36
37 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - GRADING PLAN - A.DWG LAYOUT: DETAILED GRADING 5
3 XREFS: cd - stamp_keymap_p-base
PLOTTED: TUE 09/26/17 12:24:23P BY: TIM SAYLER

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

MATCHLINE - SEE SHEET 38

MATCHLINE - SEE SHEET 33

MATCHLINE - SEE SHEET 41

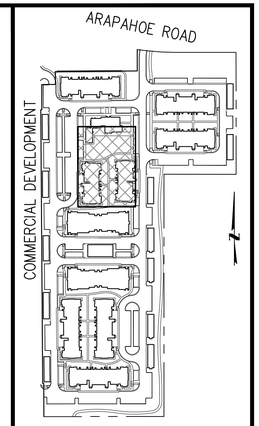
MATCHLINE - SEE SHEET 36

FF=5264.31

FF=5262.93

FF=5261.41

PR STM INLET (SEE SHEETS 25 – ## FOR DETAILS TYP)



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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 7

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
37
38 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - GRADING PLAN - BLDNG LAYOUT\ DETAILED GRADING 6
3 XREFs: cd - stamp, keymap, p-base
PLOTTED: TUE 09/26/17 12:25:19P BY: TIM SAYLER

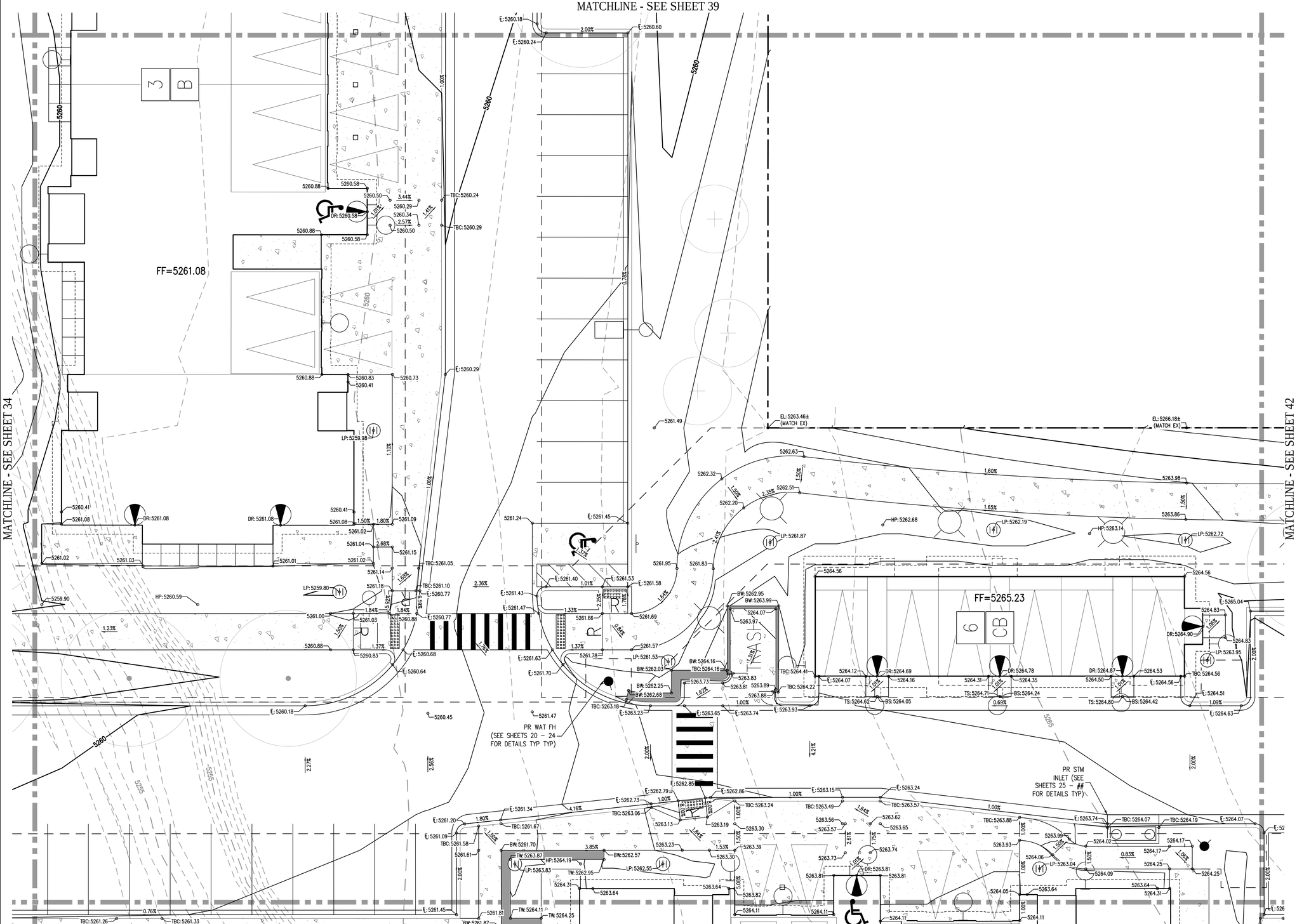
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE - SEE SHEET 39

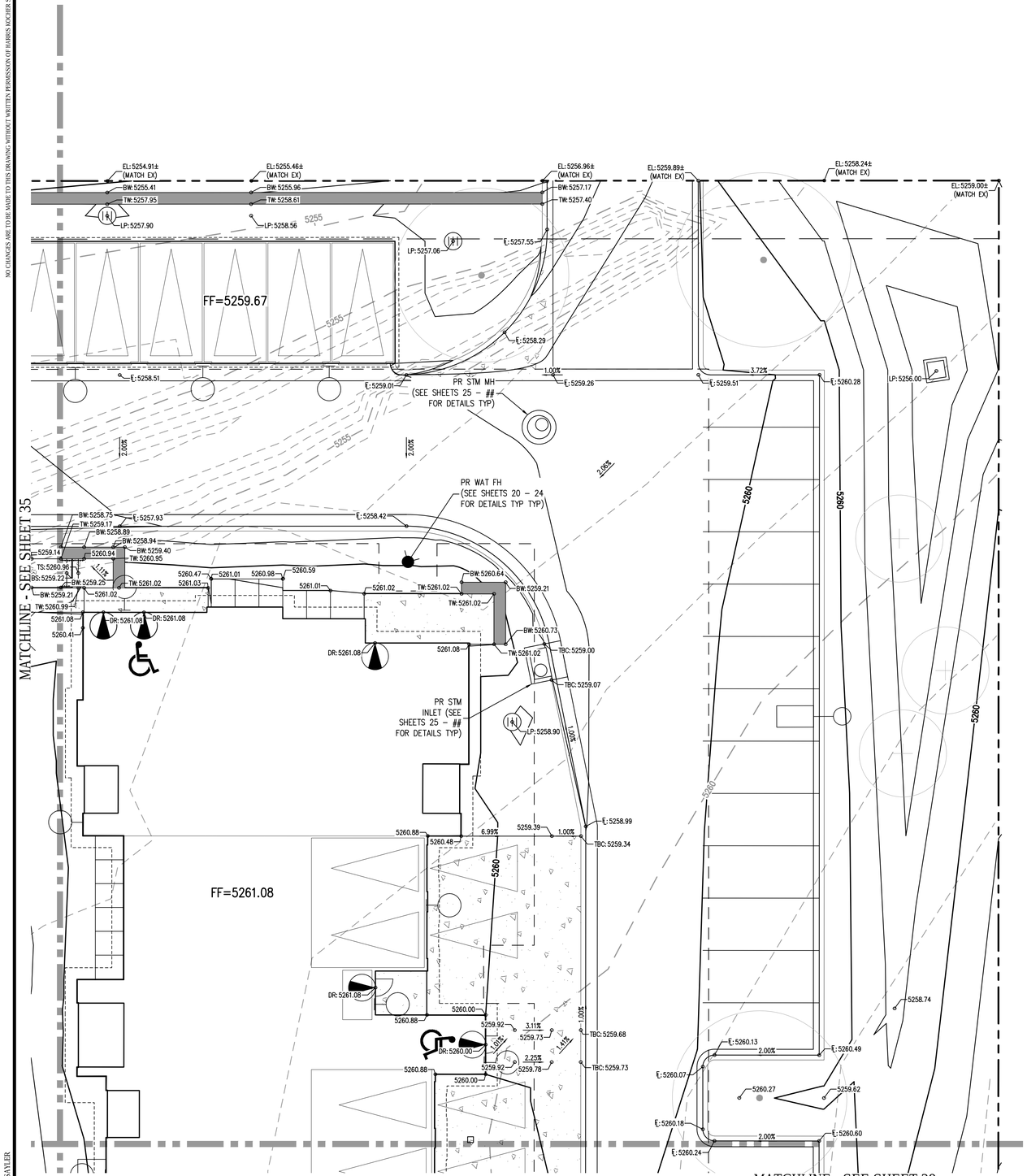
MATCHLINE - SEE SHEET 34

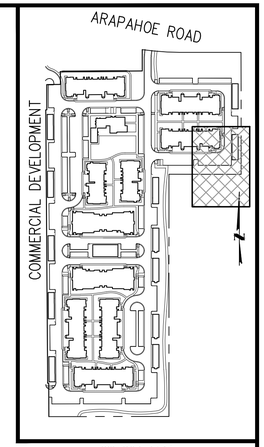
MATCHLINE - SEE SHEET 42

MATCHLINE - SEE SHEET 37


FF=5261.08
FF=5265.23
PR WAT FH
(SEE SHEETS 20 – 24
FOR DETAILS TYP TYP)
PR STM
INLET (SEE
SHEETS 25 – ##
FOR DETAILS TYP)
EL: 5263.46± (MATCH EX)
EL: 5266.18± (MATCH EX)
TBC: 5260.24
TBC: 5260.29
DR: 5260.58
DR: 5261.08
DR: 5264.90
LP: 5259.98
LP: 5259.80
LP: 5261.87
LP: 5262.19
LP: 5262.72
LP: 5263.95
HP: 5260.59
HP: 5262.68
HP: 5263.14
BW: 5262.95
BW: 5263.99
BW: 5264.16
TBC: 5264.16
BW: 5262.03
BW: 5262.25
BW: 5262.68
TBC: 5263.18
BW: 5261.70
BW: 5261.87
TW: 5263.87
HP: 5264.19
TW: 5262.95
LP: 5263.83
LP: 5262.55
TW: 5264.11
TW: 5264.25
TBC: 5264.41
TBC: 5264.22
TS: 5264.62
BS: 5264.05
TS: 5264.71
BS: 5264.24
TS: 5264.80
BS: 5264.42
TBC: 5264.56
TBC: 5264.07
TBC: 5264.19
TBC: 5263.24
TBC: 5263.49
TBC: 5263.57
TBC: 5263.88
TBC: 5263.06
TBC: 5261.67
TBC: 5261.58
TBC: 5261.26
TBC: 5261.33
TBC: 5261.10
TBC: 5261.05
TBC: 5260.77
TBC: 5260.24
TBC: 5260.29
E: 5260.18
E: 5260.24
E: 5260.60
E: 5260.29
E: 5260.77
E: 5260.68
E: 5260.64
E: 5261.45
E: 5261.40
E: 5261.53
E: 5261.58
E: 5261.43
E: 5261.47
E: 5261.63
E: 5261.70
E: 5263.23
E: 5263.65
E: 5263.74
E: 5263.93
E: 5262.79
E: 5262.86
E: 5263.15
E: 5262.73
E: 5261.34
E: 5261.20
E: 5261.09
E: 5264.74
E: 5264.07
E: 5264.16
E: 5264.31
E: 5264.35
E: 5264.50
E: 5264.56
E: 5264.51
E: 5264.63
E: 5265.04
5260.88
5260.58
5260.50
5260.29
5260.34
5260.83
5260.41
5260.73
5261.08
5261.41
5261.09
5261.02
5261.04
5261.15
5261.01
5261.14
5261.18
5261.00
5261.03
5260.68
5260.64
5260.45
5261.47
5261.24
5261.95
5261.83
5261.66
5261.69
5261.57
5261.78
5261.49
5262.63
5262.32
5262.51
5262.20
5263.98
5263.86
5264.56
5264.83
5264.12
5264.69
5264.78
5264.87
5264.53
5263.83
5263.73
5263.81
5263.89
5263.88
5263.74
5263.19
5263.13
5263.30
5263.39
5263.64
5263.82
5263.62
5263.65
5263.56
5263.57
5263.74
5263.73
5263.81
5263.99
5263.93
5264.06
5264.02
5264.17
5264.09
5264.25
5264.05
5264.31
5264.11
5264.63
5260
5255
5265
1.23%
1.84%
1.37%
2.36%
1.33%
1.64%
2.25%
1.78%
0.85%
1.37%
1.10%
1.00%
1.01%
2.27%
2.56%
4.16%
1.80%
1.50%
3.85%
2.60%
5.05%
4.21%
2.00%
0.78%
0.76%
1.60%
1.65%
2.35%
2.41%
1.50%
1.53%
2.61%
1.75%
0.69%
1.09%
0.83%
1.68%
1.04%
2.68%
1.92%
1.84%
1.68%
3.44%
2.57%
1.61%
2.68%
1.80%
1.50%
1.00%
1.64%
1.53%
1.50%
1.00%
1.00%
1.00

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





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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 9

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

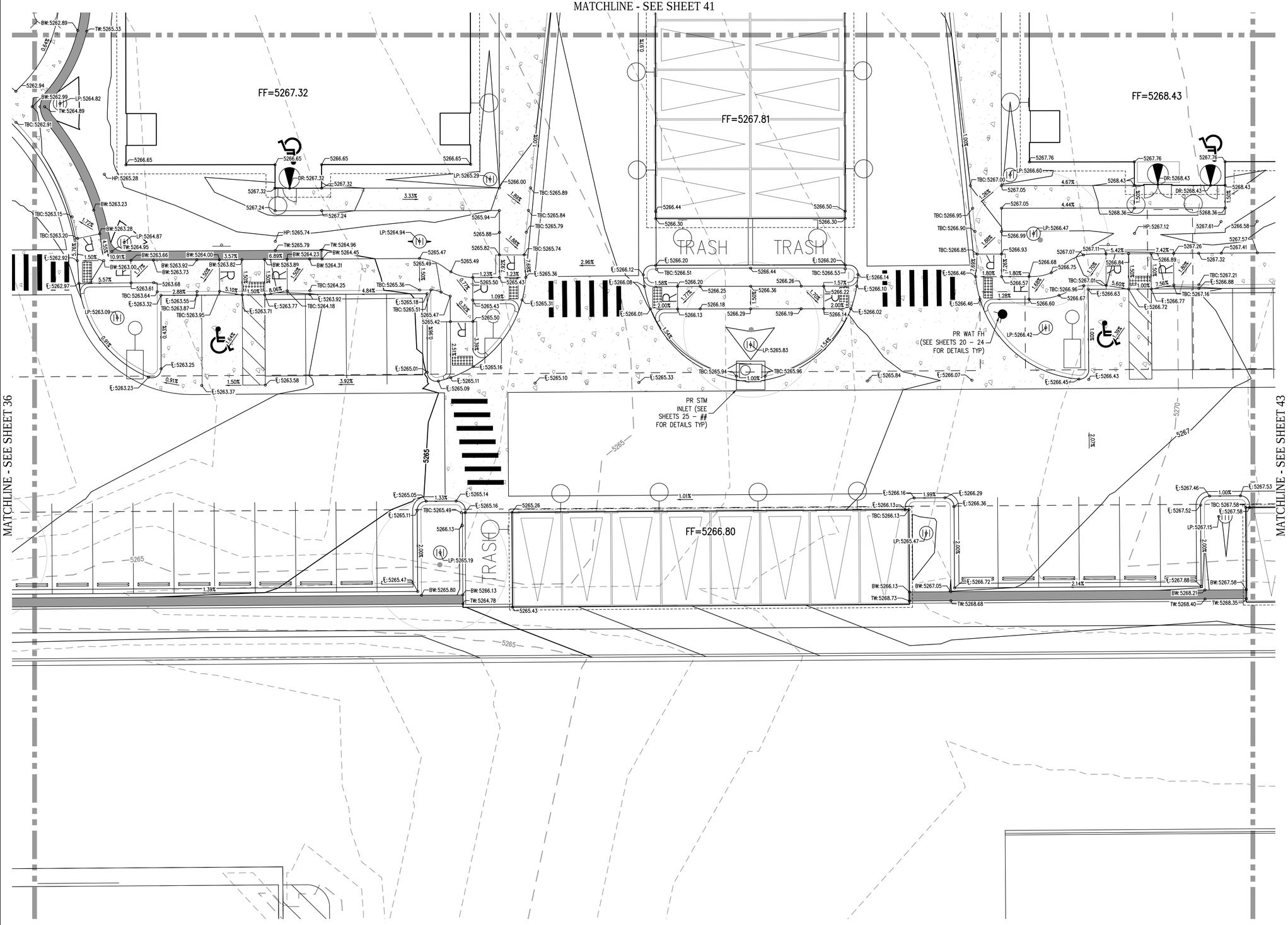
PRELIMINARY NOT FOR CONSTRUCTION

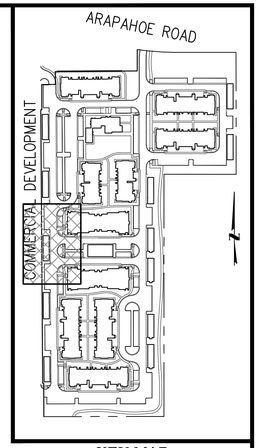
SHEET NO.
39
40 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - GRADING PLAN - B.DWG LAYOUT: DETAILED GRADING 8
3 XREFs: cd - stamp_keymap_p-base
PLOTTED: TUE 09/26/17 12:25:27PP BY: TIM SAYLER

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

MATCHLINE - SEE SHEET 41





KEY MAP
SCALE: 1" = 250'

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - GRADING PLAN - B.DWG LAYOUT: DETAILED GRADING 9
3 XREFS: cd - stamp, keymap, p-base
PLOTTED: TUE 09/26/17 12:25:32P BY: TIM SAYLER

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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 10

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
40
41 OF 57

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

MATCHLINE - SEE SHEET 42

MATCHLINE - SEE SHEET 37

MATCHLINE - SEE SHEET 44

MATCHLINE - SEE SHEET 40

FF=5267.32

FF=5267.81

FF=5268.43

ARAPAHOE ROAD

COMMERCIAL DEVELOPMENT

KEY MAP

SCALE: 1" = 250'

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" = 10'

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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 11

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

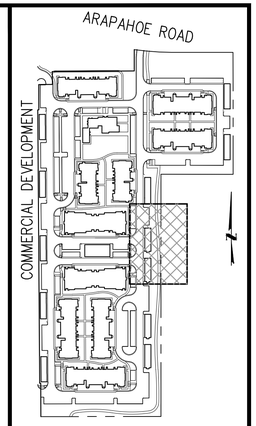
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

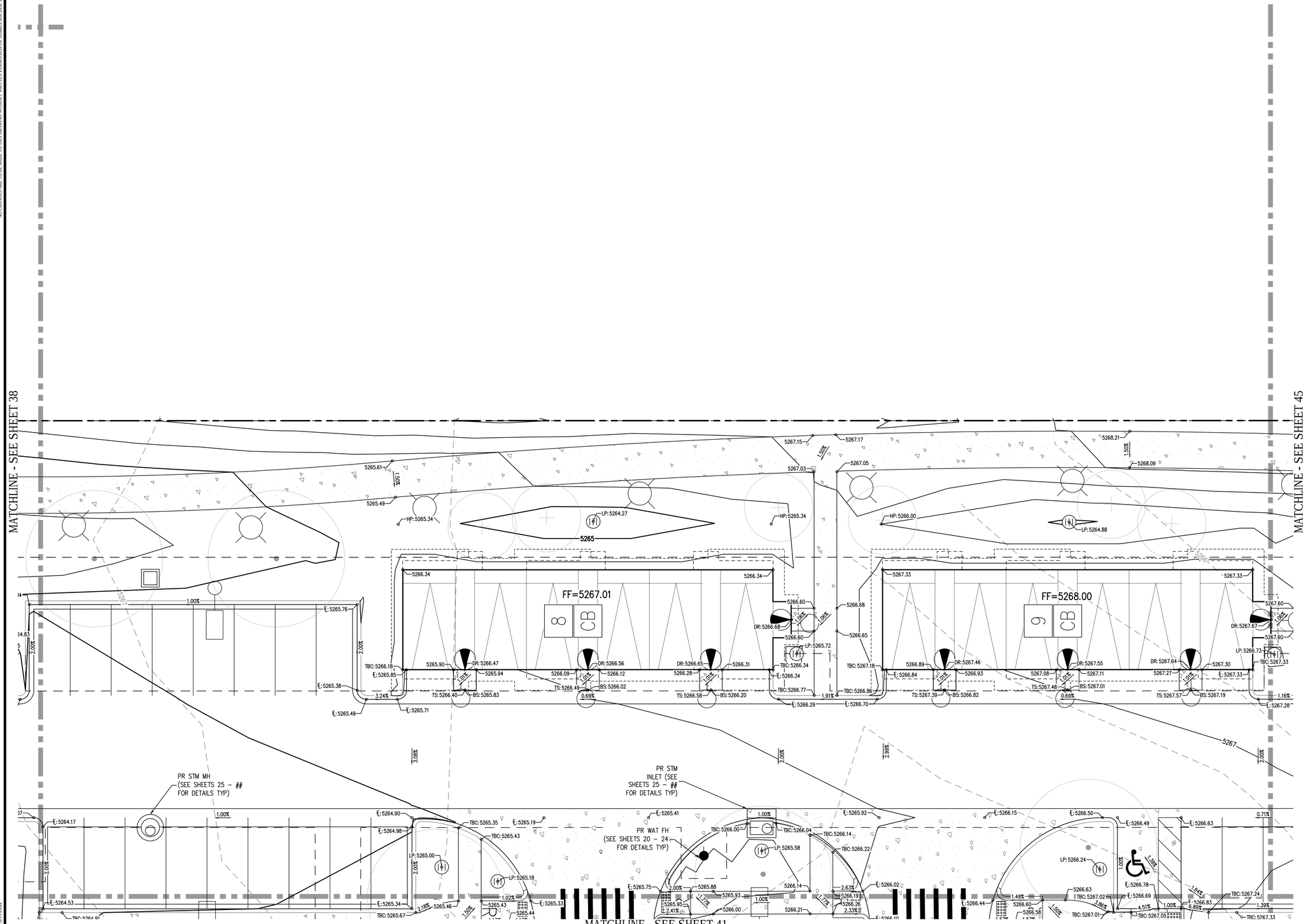
SHEET NO. 41

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - GRADING PLAN - BLDWG LAYOUT: DETAILED GRADING 10
3 XREFs: cd - stamp, keymap, p-base
PLOTTED: TUE 09/26/17 12:25:57P BY: TIM SAYLER

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



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: 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 GRADING 12

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
42
43 OF 57

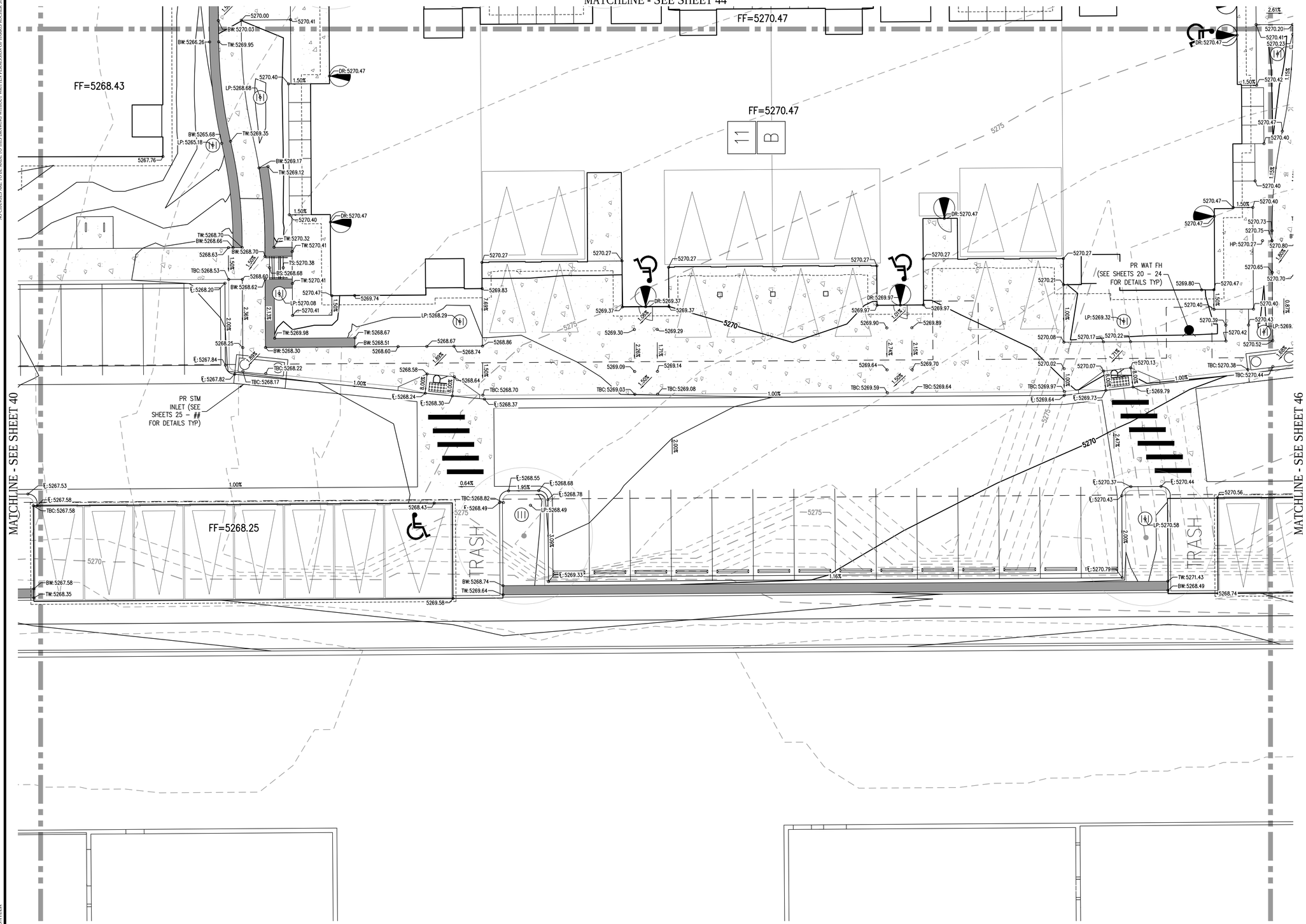
FILEPATH: P:\160602\ENGINEERING\GRADING\GD - GRADING PLAN - B.DWG LAYOUT: DETAILED GRADING 11
3 XREFs - cd - stamp, keymap, p-base
PLOTTED: TUE 09/26/17 12:25:42P BY: TIM SAYLER

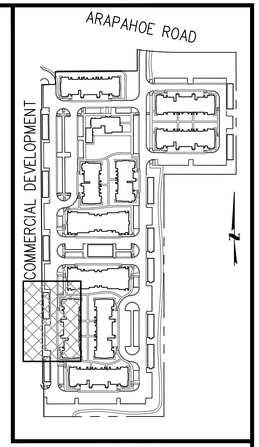
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE - SEE SHEET 44

MATCHLINE - SEE SHEET 40

MATCHLINE - SEE SHEET 46





KEY MAP
SCALE: 1" = 250'

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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 13

ISSUE DATE: 04/27/2017 PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
43
44 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - GRADING PLAN - C.DWG LAYOUT: DETAILED GRADING 12
3 XREFs: cd - stamp, keymap, p-base
PLOTTED: TUE 09/26/17 12:26:27P BY: TIM SAYLER

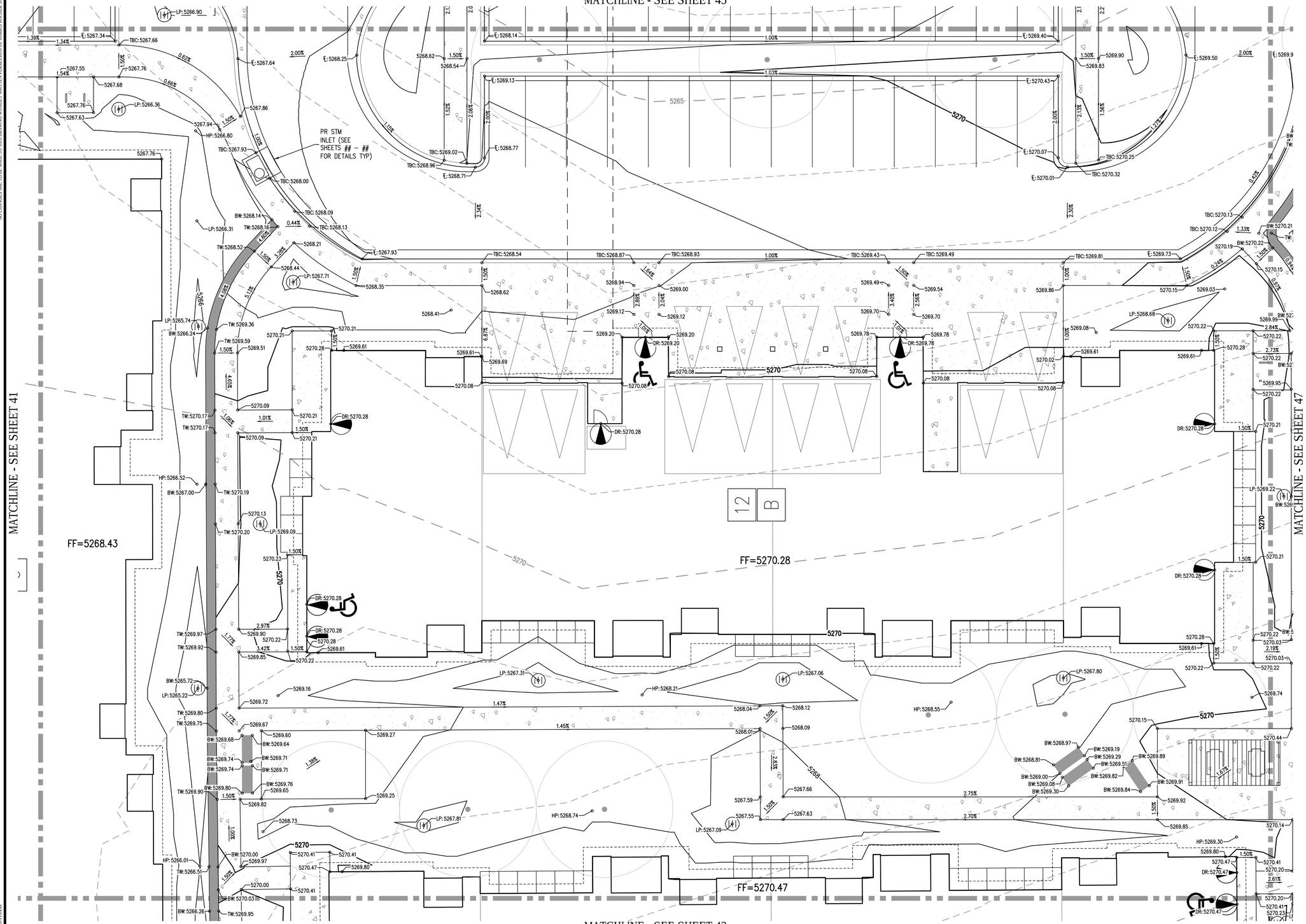
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

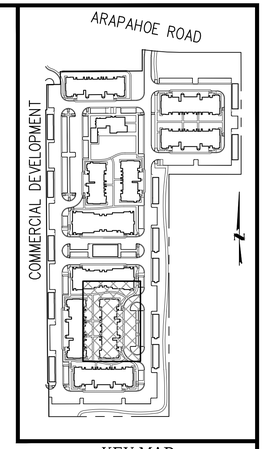
MATCHLINE - SEE SHEET 45

MATCHLINE - SEE SHEET 41

MATCHLINE - SEE SHEET 47

MATCHLINE - SEE SHEET 43





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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 14

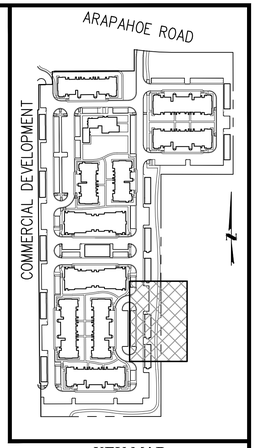
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
44
45 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - GRADING PLAN - C.DWG LAYOUT: DETAILED GRADING 13
3 XREFs: cd - sump, keymap, p-base
PLOTTED: TUE 08/26/17 12:26:32P BY: TIM SAYLER

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



KEY MAP
SCALE: 1" = 250'

MATCHLINE - SEE SHEET 42

MATCHLINE - SEE SHEET 48

MATCHLINE - SEE SHEET 44

FF=5269.96

FF=5270.27

PR STM MH (SEE SHEETS 25 – ## FOR DETAILS TYP)

PR WAT FH (SEE SHEETS 20 – 24 FOR DETAILS TYP)

PR STM INLET (SEE SHEETS 25 – ## FOR DETAILS TYP)

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" = 10'

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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 15

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
45
46 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - GRADING PLAN - CDWG LAYOUT: DETAILED GRADING 14
3 XREFs: cd - sump, keymap, p-base
PLOTTED: TUE 06/26/17 12:26:37P BY: TIM SAYLER

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

MATCHLINE - SEE SHEET 47

MATCHLINE - SEE SHEET 43

FF=5273.33

FF=5272.10

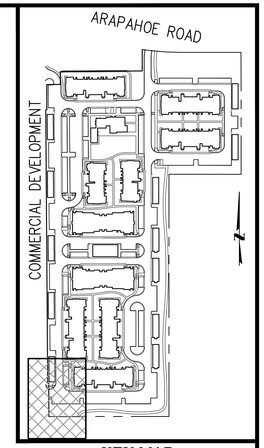
PR EXPOSED FOUNDATION (TYP)

PR STM INLET (SEE SHEETS 25 – ## FOR DETAILS TYP)

EL: 5281.32± (MATCH EX)

EL: 5281.30± (MATCH EX)

E: 5271.00± (MATCH EX)



KEY MAP
SCALE: 1" = 250'

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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 16

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
46
47 OF 57

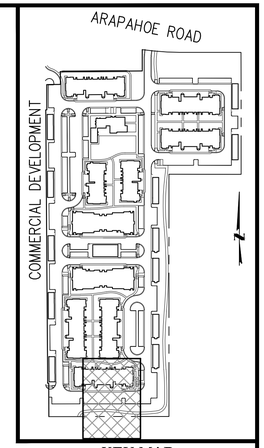
FILEPATH: P:\160602\ENGINEERING\GRADING\GD - GRADING PLAN - C.DWG LAYOUT: DETAILED GRADING 15
3 XREFs: cd - stamp_keymap, p-base
PLOTTED: TUE 09/26/17 12:26:42P BY: TIM SAYLER

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

MATCHLINE - SEE SHEET 48

MATCHLINE - SEE SHEET 44

MATCHLINE - SEE SHEET 46



KEY MAP
SCALE: 1" = 250'

FF=5273.33

PR EXPOSED FOUNDATION (TYP)

14 B

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" = 10'

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 GRADING 17

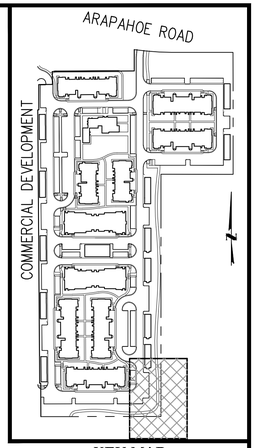
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

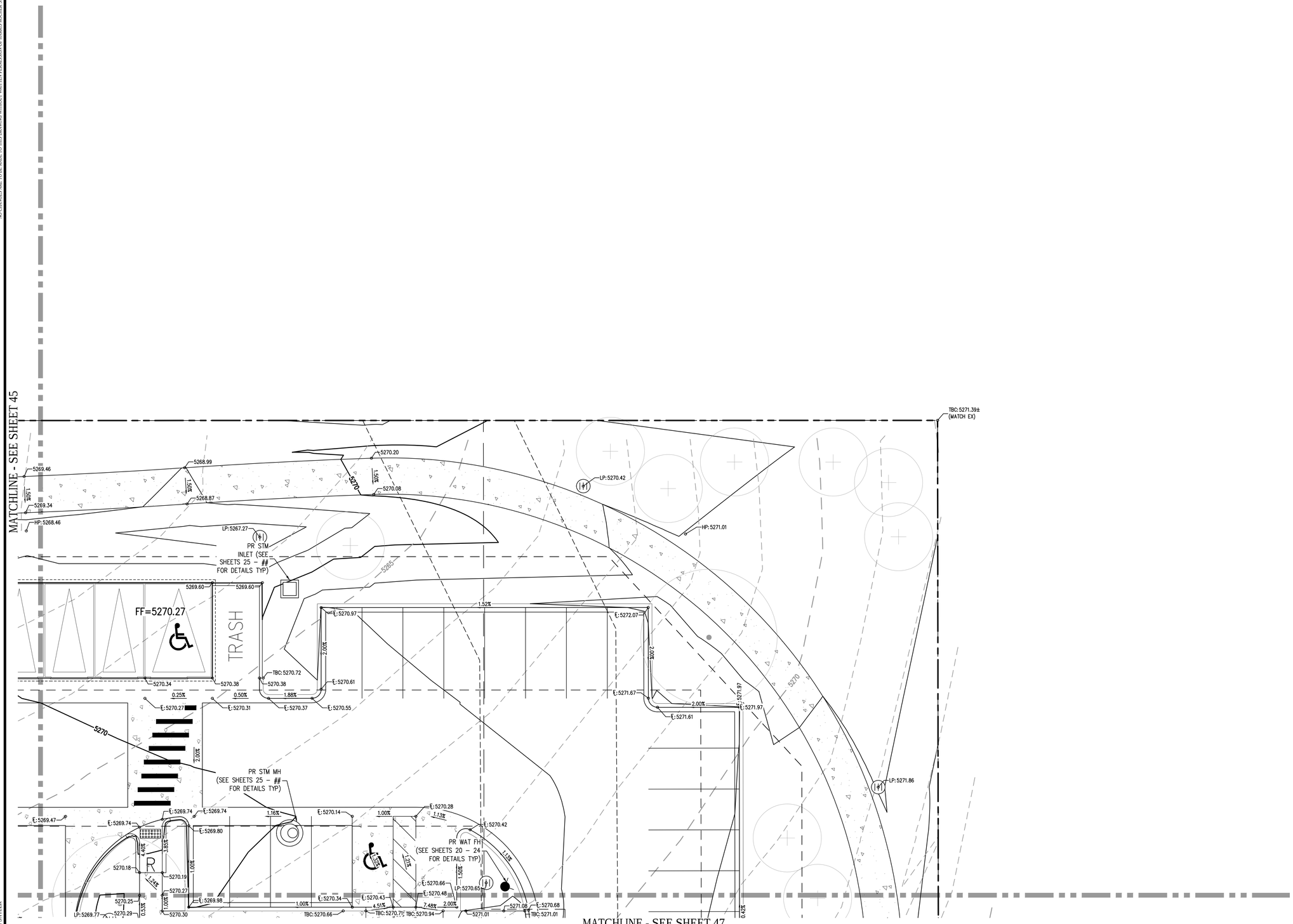
SHEET NO. 47
48 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - GRADING PLAN - C.DWG LAYOUT: DETAILED GRADING 16
3 XREFs: cd - stamp, keymap, p-base
PLOTTED: TUE 09/26/17 12:26:47P BY: TIM SAYLER

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



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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING 18

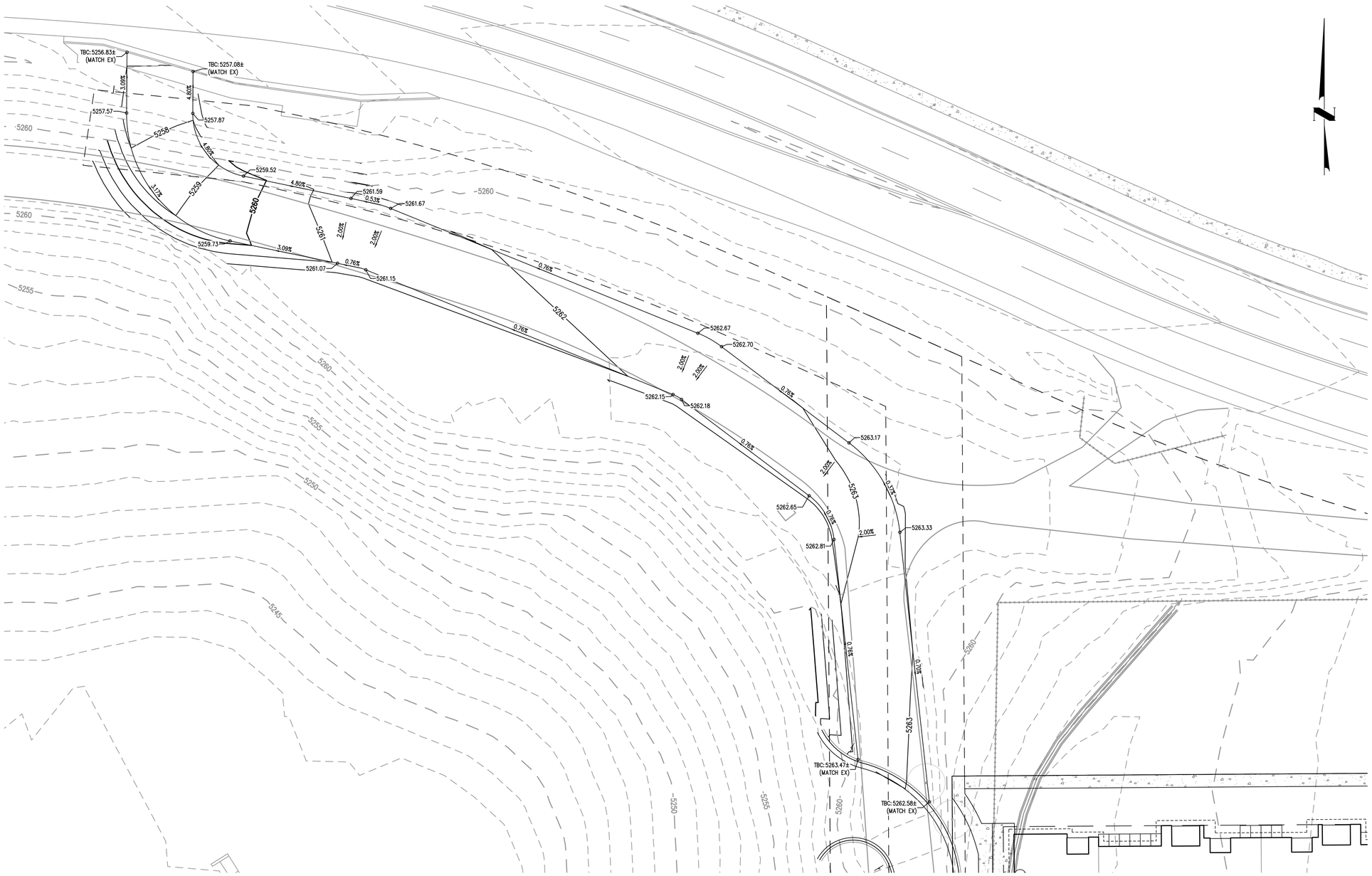
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

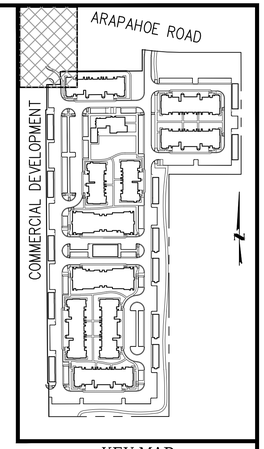
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
48
49 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\CD - GRADING PLAN - C.DWG LAYOUT: DETAILED GRADING 17
3 XREFS: cd - stamp, keymap, p-base
PLOTTED: TUE 09/26/17 12:26:52P BY: TIM SAYLER

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





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.

20 0 20 40
SCALE: 1" = 20'

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 DEVCO, INC.

OUTLOOK AT NINE MILE
DETAILED GRADING - TEMPORARY DRIVE

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

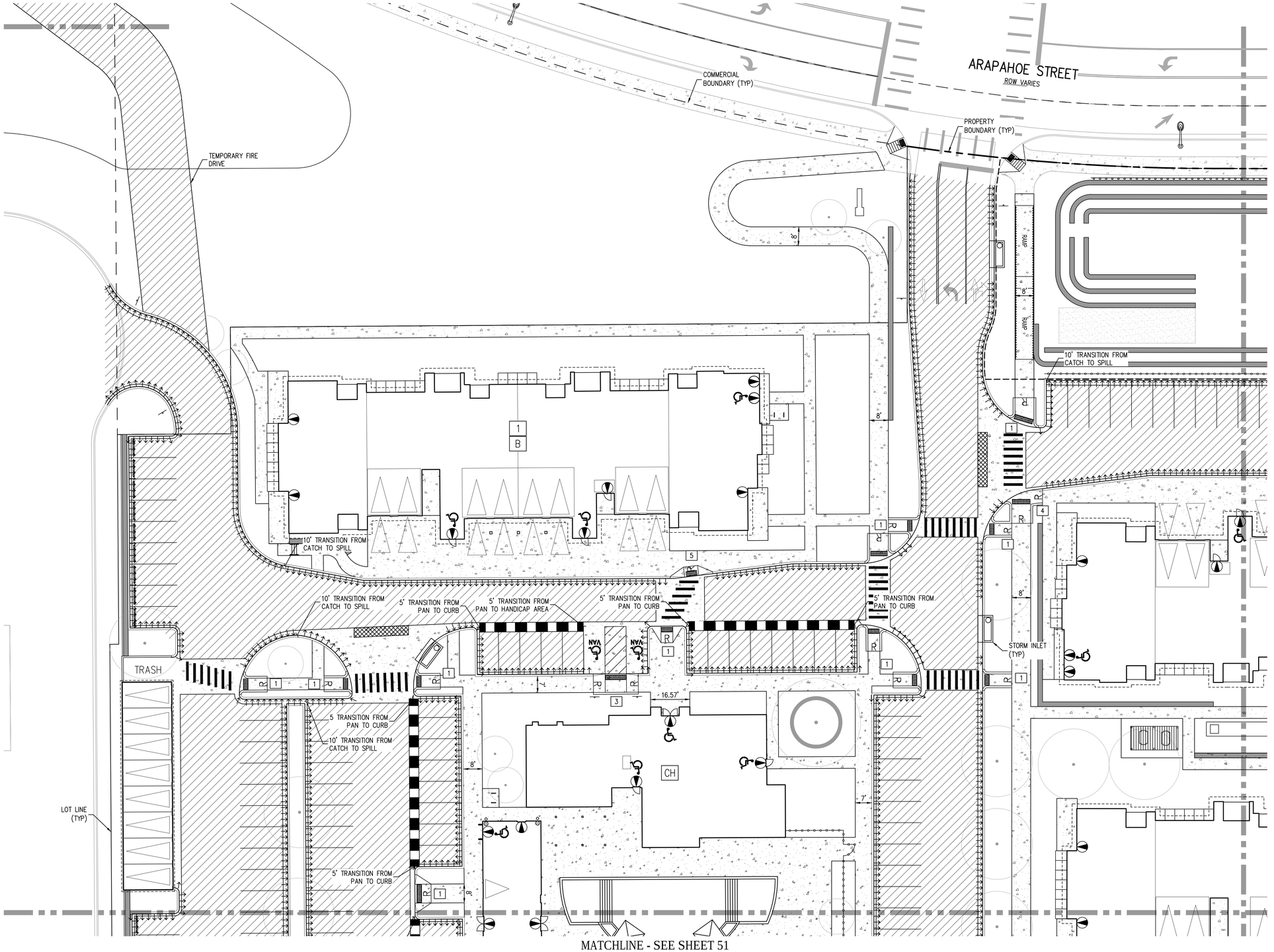
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
49
50 OF 57

FILEPATH: P:\160602\ENGINEERING\GRADING\GD - GRADING PLAN - TEMPORARY DRIVE.DWG LAYOUT: DETAILED GRADING - TEMPORARY DRIVE
NO XREFs
PLOTTED: TUE 09/26/17 12:27:32P BY: TIM SAVLER

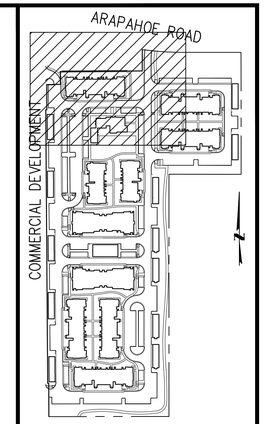
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE - SEE SHEET 54



MATCHLINE - SEE SHEET 51

MATCHLINE - SEE SHEET 54



KEY MAP
SCALE: 1" = 250'

LEGEND:

- 6" PORTLAND CEMENT CONCRETE PAVEMENT
- 3" ASPHALT CONCRETE WITH 9" BASE
- PROPOSED 4" MOUNTABLE CURB & GUTTER (2' CATCH)
- PROPOSED 4" MOUNTABLE CURB & GUTTER (1' SPILL)
- PROPOSED CROSS PAN
- PROPOSED 4' VALLEY PAN
- 1 DIRECTIONAL RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 2 CORNER RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 3 MID-BLOCK RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 4 CORNER RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 5 DRIVE CUT-ATTACHED WALK (SEE SEE TOWN OF ERIE DETAIL SW4B; SEE NOTE 4)

NOTES:

1. ALL CONCRETE SIDEWALKS ARE 5.0' WIDE UNLESS OTHERWISE DIMENSIONED. DETACHED SIDEWALKS SHALL BE A MINIMUM OF FOUR (4) INCHES THICK AND ATTACHED SIDEWALKS SHALL BE CONSTRUCTED AS SHOWN ON THE APPROVAL PLANS. AREAS OF SIDEWALK CROSSED BY DRIVEWAYS OR IN PARKS, OPEN SPACES OR GREENBELTS SHALL BE CONSTRUCTED WITH A MINIMUM OF SIX (6) INCH THICK CONCRETE.
2. ALL DRIVE AISLES ARE 26' FLOWLINE TO FLOWLINE UNLESS OTHERWISE DIMENSIONED.
3. ALL STANDARD AND HANDICAP PARKING STALLS ARE 20'X9'.
4. NO GUTTER PAN ACROSS HANDICAP PARKING.
5. ALL STREET SECTIONS ARE PRELIMINARY. FINAL PAVEMENT DESIGN TO BE UPDATED AFTER UTILITIES ARE IN AND PRIOR TO CURB AND GUTTER.
6. ALL PAVEMENTS SHALL HAVE A 12" SUBGRADE PER GEOTECH REPORT.
7. REFER TO GEOTECH REPORT FOR PAVEMENT SECTION RECOMMENDATIONS.

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

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
PAVING PLAN 1

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

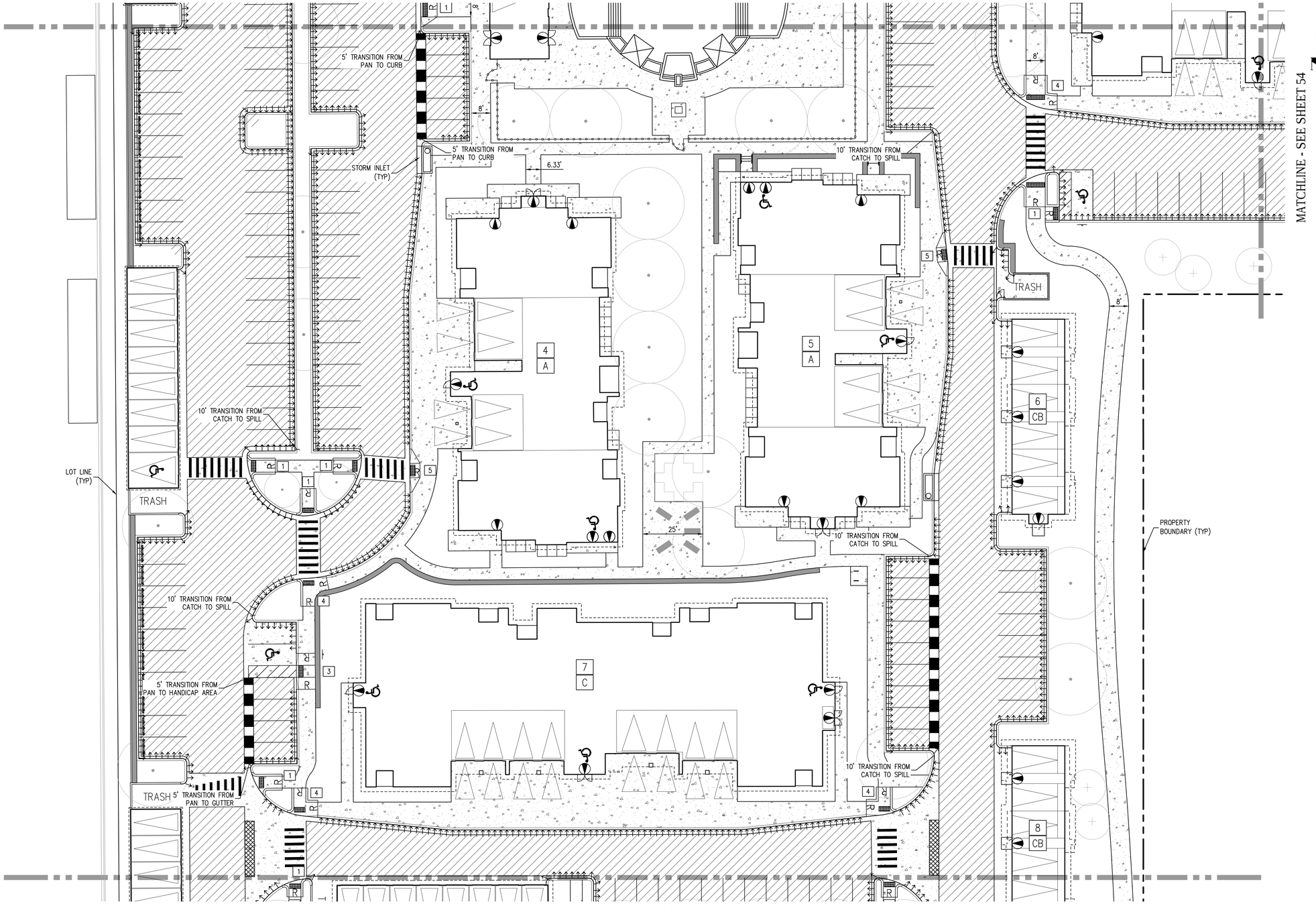
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
50
51 OF 57

FILEPATH: P:\160602\ENGINEERING\ROADWAY\CD - PAVING PLAN.DWG LAYOUT: PAVING PLAN 1
5 XREFs: cd - stamp, keymap, p-base, p-base_offsite_byot, p-legal
PLOTTED: TUE 09/26/17 12:27:46P BY: TIM SAYLER

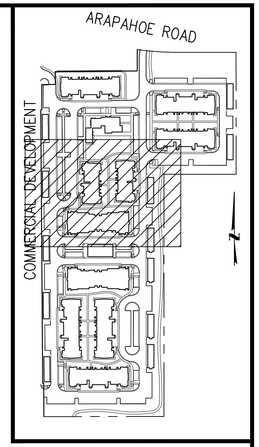
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

MATCHLINE - SEE SHEET 50



MATCHLINE - SEE SHEET 54

MATCHLINE - SEE SHEET 52



KEY MAP
SCALE: 1" = 250'

LEGEND:

- 6" PORTLAND CEMENT CONCRETE PAVEMENT
- 3" ASPHALT CONCRETE WITH 9" BASE
- PROPOSED 4" MOUNTABLE CURB & GUTTER (2' CATCH)
- PROPOSED 4" MOUNTABLE CURB & GUTTER (1' SPILL)
- PROPOSED CROSS PAN
- PROPOSED 4' VALLEY PAN
- 1 DIRECTIONAL RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 2 CORNER RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 3 MID-BLOCK RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 4 CORNER RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 5 DRIVE CUT-ATTACHED WALK (SEE SEE TOWN OF ERIE DETAIL SW4B; SEE NOTE 4)

NOTES:

1. ALL CONCRETE SIDEWALKS ARE 5.0' WIDE UNLESS OTHERWISE DIMENSIONED. DETACHED SIDEWALKS SHALL BE A MINIMUM OF FOUR (4) INCHES THICK AND ATTACHED SIDEWALKS SHALL BE CONSTRUCTED AS SHOWN ON THE APPROVAL PLANS. AREAS OF SIDEWALK CROSSED BY DRIVEWAYS OR IN PARKS, OPEN SPACES OR GREENBELTS SHALL BE CONSTRUCTED WITH A MINIMUM OF SIX (6) INCH THICK CONCRETE.
2. ALL DRIVE AISLES ARE 26' FLOWLINE TO FLOWLINE UNLESS OTHERWISE DIMENSIONED.
3. ALL STANDARD AND HANDICAP PARKING STALLS ARE 20'X9'.
4. NO GUTTER PAN ACROSS HANDICAP PARKING.
5. ALL STREET SECTIONS ARE PRELIMINARY. FINAL PAVEMENT DESIGN TO BE UPDATED AFTER UTILITIES ARE IN AND PRIOR TO CURB AND GUTTER.
6. ALL PAVEMENTS SHALL HAVE A 12" SUBGRADE PER GEOTECH REPORT.
7. REFER TO GEOTECH REPORT FOR PAVEMENT SECTION RECOMMENDATIONS.

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

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
PAVING PLAN 2

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

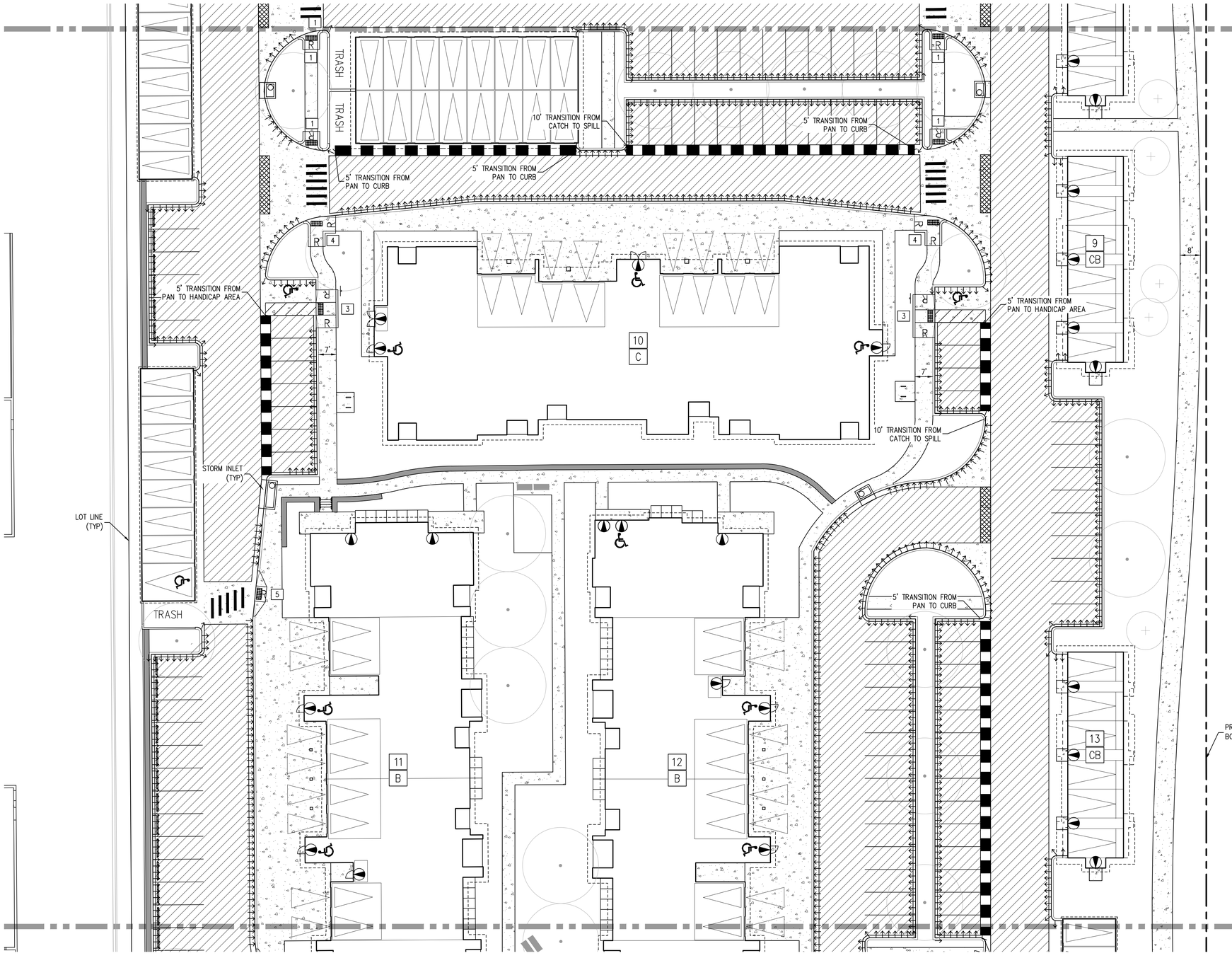
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
51
52 OF 57

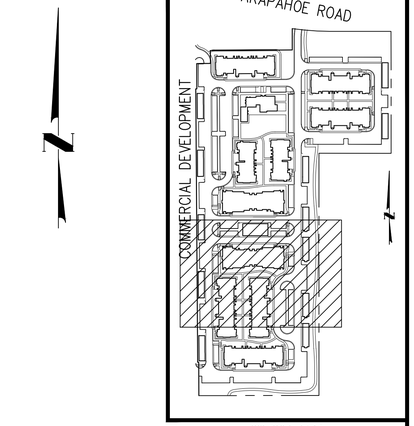
FILEPATH: P:\160602\ENGINEERING\BROADWAY\CD_PAVING PLAN.DWG LAYOUT: PAVING PLAN 2
5 XREFs: cd - sump, keymap, p-base, p-base_offsite, byou, p-legal
PLOTTED: TUE 08/26/17 12:27:51P BY: TIM SAYLER

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

MATCHLINE - SEE SHEET 51



MATCHLINE - SEE SHEET 53



KEY MAP
SCALE: 1" = 250'

LEGEND:

- 6" PORTLAND CEMENT CONCRETE PAVEMENT
- 3" ASPHALT CONCRETE WITH 9" BASE
- PROPOSED 4" MOUNTABLE CURB & GUTTER (2' CATCH)
- PROPOSED 4" MOUNTABLE CURB & GUTTER (1' SPILL)
- PROPOSED CROSS PAN
- PROPOSED 4' VALLEY PAN
- 1 DIRECTIONAL RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 2 CORNER RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 3 MID-BLOCK RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 4 CORNER RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 5 DRIVE CUT-ATTACHED WALK (SEE SEE TOWN OF ERIE DETAIL SW4B; SEE NOTE 4)

NOTES:

1. ALL CONCRETE SIDEWALKS ARE 5.0' WIDE UNLESS OTHERWISE DIMENSIONED. DETACHED SIDEWALKS SHALL BE A MINIMUM OF FOUR (4) INCHES THICK AND ATTACHED SIDEWALKS SHALL BE CONSTRUCTED AS SHOWN ON THE APPROVAL PLANS. AREAS OF SIDEWALK CROSSED BY DRIVEWAYS OR IN PARKS, OPEN SPACES OR GREENBELTS SHALL BE CONSTRUCTED WITH A MINIMUM OF SIX (6) INCH THICK CONCRETE.
2. ALL DRIVE AISLES ARE 26' FLOWLINE TO FLOWLINE UNLESS OTHERWISE DIMENSIONED.
3. ALL STANDARD AND HANDICAP PARKING STALLS ARE 20'X9'.
4. NO GUTTER PAN ACROSS HANDICAP PARKING.
5. ALL STREET SECTIONS ARE PRELIMINARY. FINAL PAVEMENT DESIGN TO BE UPDATED AFTER UTILITIES ARE IN AND PRIOR TO CURB AND GUTTER.
6. ALL PAVEMENTS SHALL HAVE A 12" SUBGRADE PER GEOTECH REPORT.
7. REFER TO GEOTECH REPORT FOR PAVEMENT SECTION RECOMMENDATIONS.

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

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
PAVING PLAN 3

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

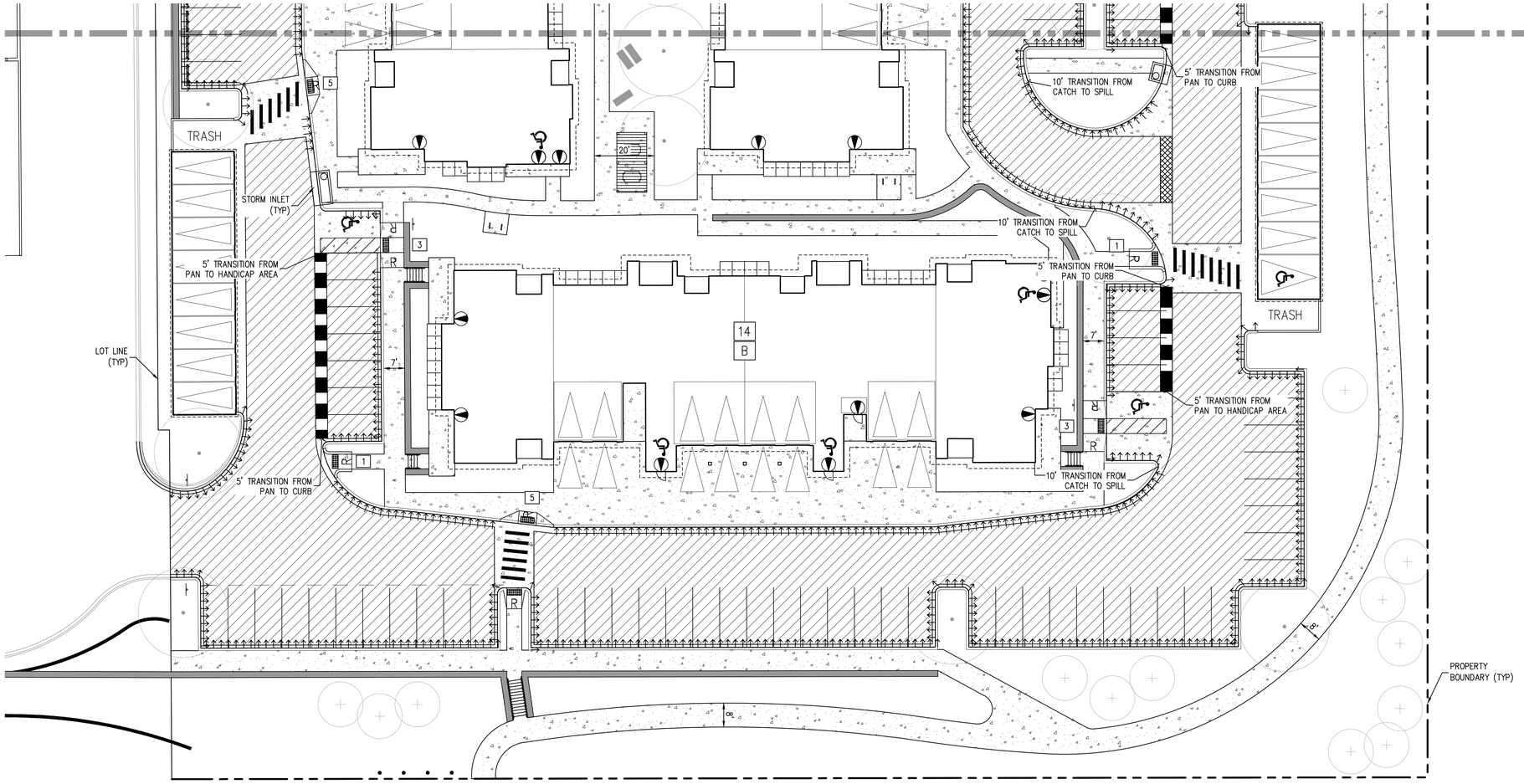
PRELIMINARY NOT FOR CONSTRUCTION

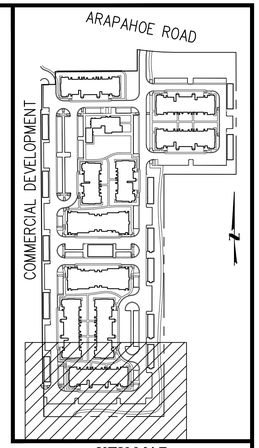
SHEET NO.
52
53 OF 57

FILEPATH: P:\160602\ENGINEERING\BROADWAY\CD_PAVING PLAN.DWG LAYOUT: PAVING PLAN 3
5 XREFS: c4 - sump, keymap, p-base, p-base_offsite, byou, p-egal
PLOTTED: TUE 09/26/17 12:27:56P BY: TIM SAYLER

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

MATCHLINE - SEE SHEET 52





KEY MAP
SCALE: 1" = 250'

LEGEND:

- 6" PORTLAND CEMENT CONCRETE PAVEMENT
- 3" ASPHALT CONCRETE WITH 9" BASE
- PROPOSED 4" MOUNTABLE CURB & GUTTER (2' CATCH)
- PROPOSED 4" MOUNTABLE CURB & GUTTER (1' SPILL)
- PROPOSED CROSS PAN
- PROPOSED 4' VALLEY PAN
- 1 DIRECTIONAL RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 2 CORNER RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 3 MID-BLOCK RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 4 CORNER RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 5 DRIVE CUT-ATTACHED WALK (SEE SEE TOWN OF ERIE DETAIL SW4B; SEE NOTE 4)

NOTES:

1. ALL CONCRETE SIDEWALKS ARE 5.0' WIDE UNLESS OTHERWISE DIMENSIONED. DETACHED SIDEWALKS SHALL BE A MINIMUM OF FOUR (4) INCHES THICK AND ATTACHED SIDEWALKS SHALL BE CONSTRUCTED AS SHOWN ON THE APPROVAL PLANS. AREAS OF SIDEWALK CROSSED BY DRIVEWAYS OR IN PARKS, OPEN SPACES OR GREENBELTS SHALL BE CONSTRUCTED WITH A MINIMUM OF SIX (6) INCH THICK CONCRETE.
2. ALL DRIVE AISLES ARE 26' FLOWLINE TO FLOWLINE UNLESS OTHERWISE DIMENSIONED.
3. ALL STANDARD AND HANDICAP PARKING STALLS ARE 20'X9'.
4. NO GUTTER PAN ACROSS HANDICAP PARKING.
5. ALL STREET SECTIONS ARE PRELIMINARY. FINAL PAVEMENT DESIGN TO BE UPDATED AFTER UTILITIES ARE IN AND PRIOR TO CURB AND GUTTER.
6. ALL PAVEMENTS SHALL HAVE A 12" SUBGRADE PER GEOTECH REPORT.
7. REFER TO GEOTECH REPORT FOR PAVEMENT SECTION RECOMMENDATIONS.

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

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
PAVING PLAN 4

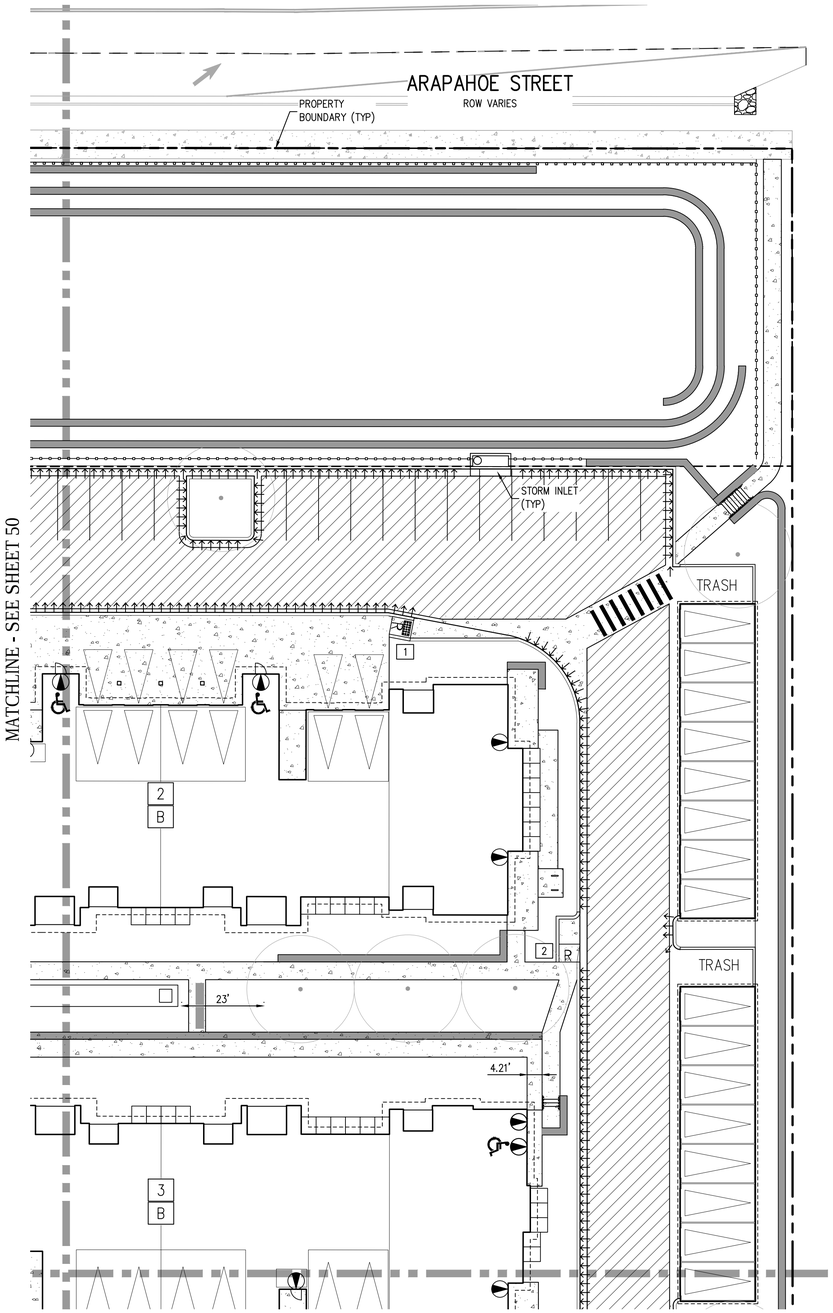
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

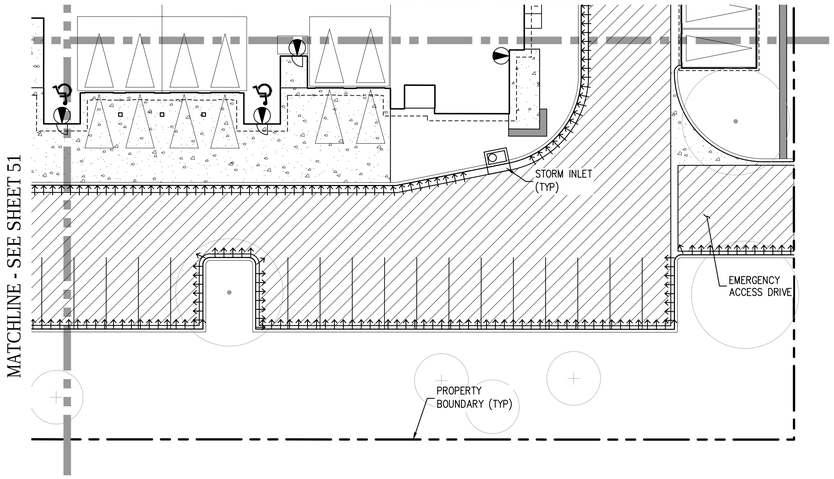
SHEET NO.
53
54 OF 57

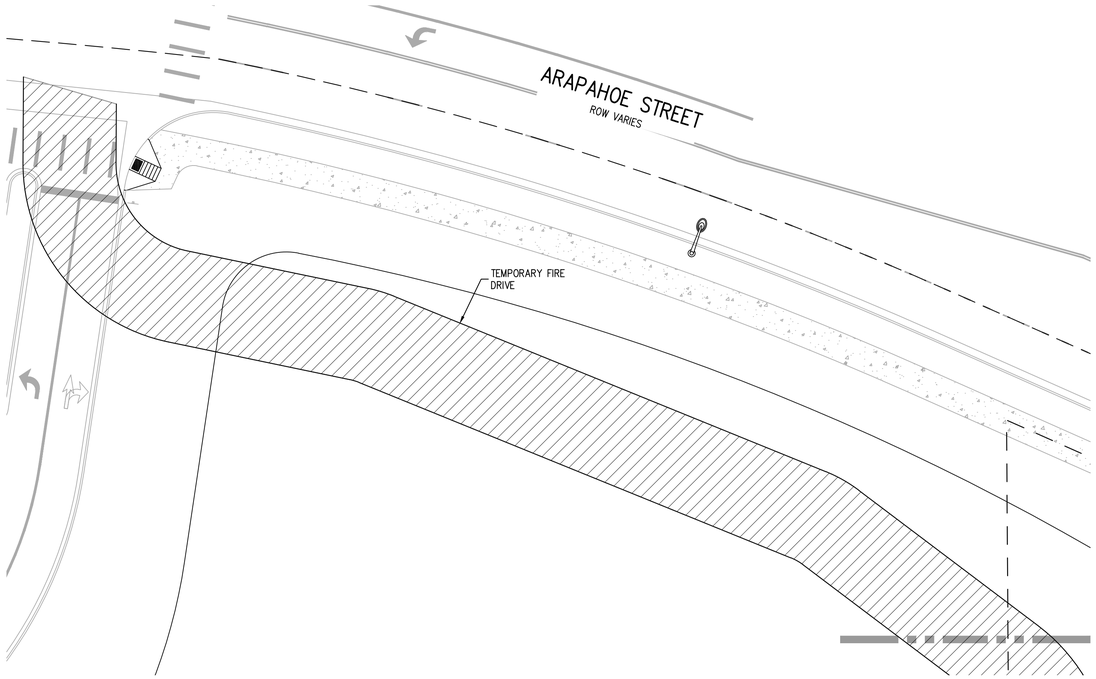
FILEPATH: P:\160602\ENGINEERING\BROADWAY\CD - PAVING PLAN.DWG LAYOUT: PAVING PLAN 4
5 XREFs: cd - sump, keymap, p-base, p-base_offsite, byw, p-eggi
PLOTTED: TUE 06/26/17 12:28:03 P BY: TIM SAYLER

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

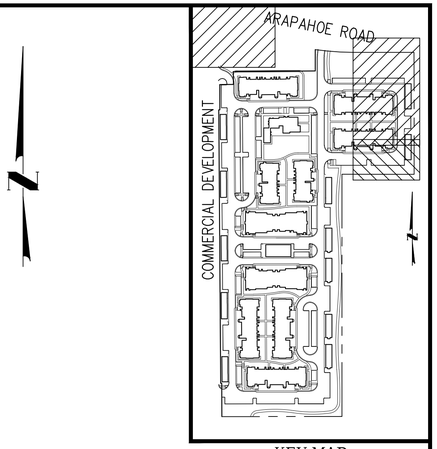


MATCHLINE - SEE SHEET 54





MATCHLINE - SEE SHEET 50



KEY MAP
SCALE: 1" = 250'

LEGEND:

- 6" PORTLAND CEMENT CONCRETE PAVEMENT
- 3" ASPHALT CONCRETE WITH 9" BASE
- PROPOSED 4" MOUNTABLE CURB & GUTTER (2' CATCH)
- PROPOSED 4" MOUNTABLE CURB & GUTTER (1' SPILL)
- PROPOSED CROSS PAN
- PROPOSED 4' VALLEY PAN
- 1 DIRECTIONAL RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 2 CORNER RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 3 MID-BLOCK RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 4 CORNER RAMP (SEE DETAIL ON PAGE 55; SEE NOTE 4)
- 5 DRIVE CUT-ATTACHED WALK (SEE SEE TOWN OF ERIE DETAIL SW4B; SEE NOTE 4)

NOTES:

1. ALL CONCRETE SIDEWALKS ARE 5.0' WIDE UNLESS OTHERWISE DIMENSIONED. DETACHED SIDEWALKS SHALL BE A MINIMUM OF FOUR (4) INCHES THICK AND ATTACHED SIDEWALKS SHALL BE CONSTRUCTED AS SHOWN ON THE APPROVAL PLANS. AREAS OF SIDEWALK CROSSED BY DRIVEWAYS OR IN PARKS, OPEN SPACES OR GREENBELTS SHALL BE CONSTRUCTED WITH A MINIMUM OF SIX (6) INCH THICK CONCRETE.
2. ALL DRIVE AISLES ARE 26' FLOWLINE TO FLOWLINE UNLESS OTHERWISE DIMENSIONED.
3. ALL STANDARD AND HANDICAP PARKING STALLS ARE 20'X9'.
4. NO GUTTER PAN ACROSS HANDICAP PARKING.
5. ALL STREET SECTIONS ARE PRELIMINARY. FINAL PAVEMENT DESIGN TO BE UPDATED AFTER UTILITIES ARE IN AND PRIOR TO CURB AND GUTTER.
6. ALL PAVEMENTS SHALL HAVE A 12" SUBGRADE PER GEOTECH REPORT.
7. REFER TO GEOTECH REPORT FOR PAVEMENT SECTION RECOMMENDATIONS.

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

EVERGREEN DEVCO, INC.

OUTLOOK AT NINE MILE
PAVING PLAN 5

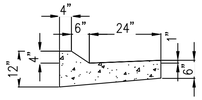
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

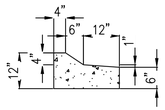
SHEET NO.
54
55 OF 57

FILEPATH: P:\160602\ENGINEERING\BROADWAY\CD - PAVING PLAN.DWG LAYOUT: PAVING PLAN 5
5 XREFs: cd - sump, keymap, p-base, p-base_offsite, bwp, p-eggi
PLOTTED: TUE 06/26/17 12:28:07P BY: TIM SAYLER

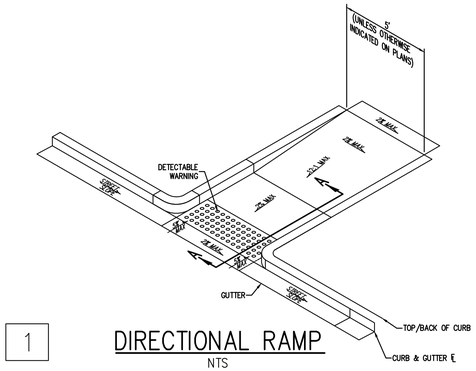
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



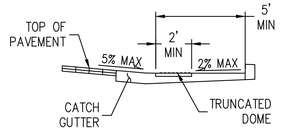
MOUNTABLE CATCH CURB & GUTTER
NTS



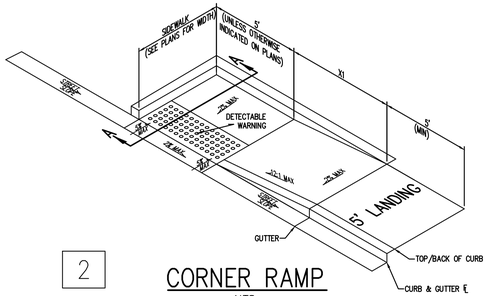
MOUNTABLE SPILL CURB & GUTTER
NTS



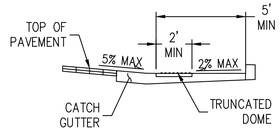
1 DIRECTIONAL RAMP
NTS



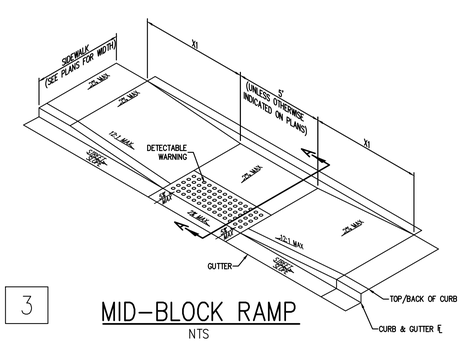
SECTION A–A
NTS



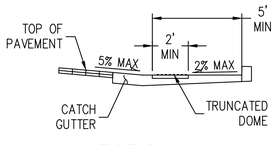
2 CORNER RAMP
NTS



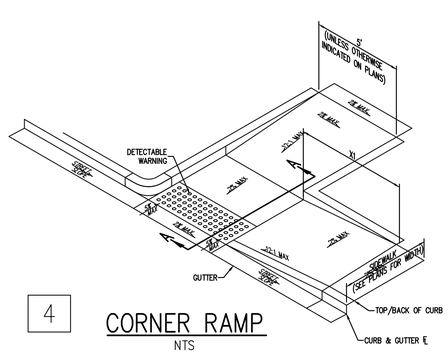
SECTION A–A
NTS



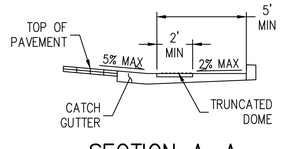
3 MID–BLOCK RAMP
NTS



SECTION A–A
NTS



4 CORNER RAMP
NTS



SECTION A–A
NTS

CITY OF ERIE GENERAL PAVING NOTES:

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:
   - 5.1. A SOILS REPORT AND PAVEMENT DESIGN IS ACCEPTED BY THE TOWN OF ERIE ENGINEERING STAFF.
   - 5.2. ALL STREETS ARE COMPACTED IN ACCORDANCE WITH THE SOILS REPORT AND THE TOWN OF ERIE SPECIFICATIONS.
   - 5.3. ALL COMPACTION TEST REPORTS HAVE BEEN SUBMITTED TO THE TOWN ENGINEERING STAFF PRIOR TO PROOF ROLLS.
   - 5.4. 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. GENERAL NOTES ROADWAY STANDARDS AND SPECIFICATIONS 1/2017 PAGE 2 OF 2.
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.

STANDARD DRAWING INDEX:

STANDARD DETAILS INCORPORATED BY REFERENCE WITHIN THESE DRAWINGS SHALL CONSIST OF THE FOLLOWING, BUT NOT LIMITED TO, CITY OF ERIE STANDARD DETAILS INDICATED AND ALL SUBSEQUENT DETAILS WHICH MAY BE REFERENCED THEREIN.

TOWN OF ERIE DETAIL SW1 : CURB AND GUTTER JOINT DETAIL
TOWN OF ERIE DETAIL SW3 : CONCRETE CROSS PAN
[5] TOWN OF ERIE DETAIL SW4B : DRIVE CUT–ATTACHED WALK

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
PAVING PLAN NOTES AND DETAILS

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

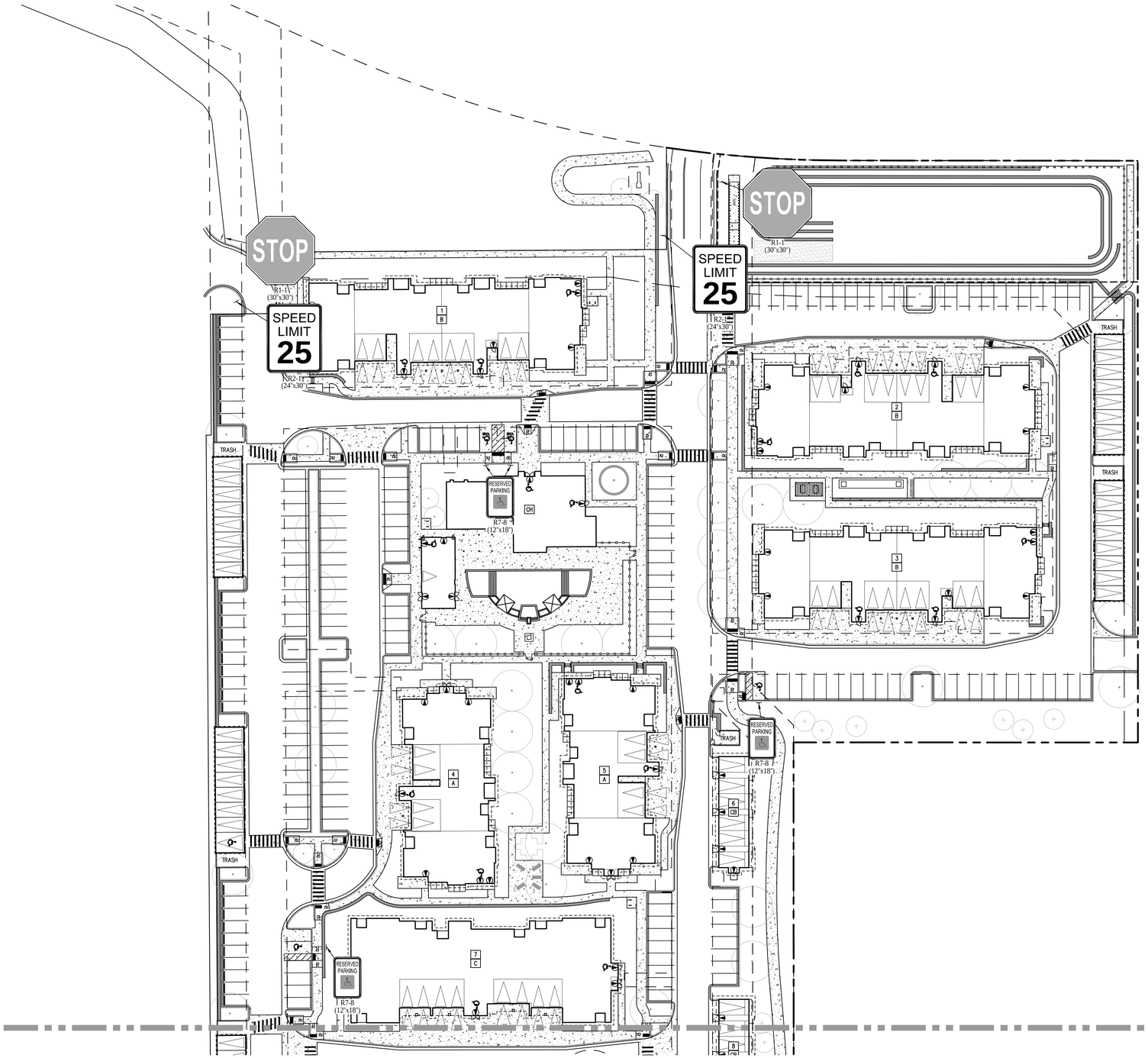
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
55
56 OF 57

FILEPATH: P:\160602\ENGINEERING\ROADWAY\CD - PAVING PLAN.DWG LAYOUT: PAVING PLAN 6
5 XREFs: cd - stamp, keymap, p-base, p-base_offsite_byot, p-legal
PLOTTED: TUE 09/26/17 12:28:11P BY: TIM SAYLER

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



MATCHLINE - SEE SHEET 57

N

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: 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 DEVCO, INC.

OUTLOOK AT NINE MILE
SIGNING & STRIPING PLAN 1

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

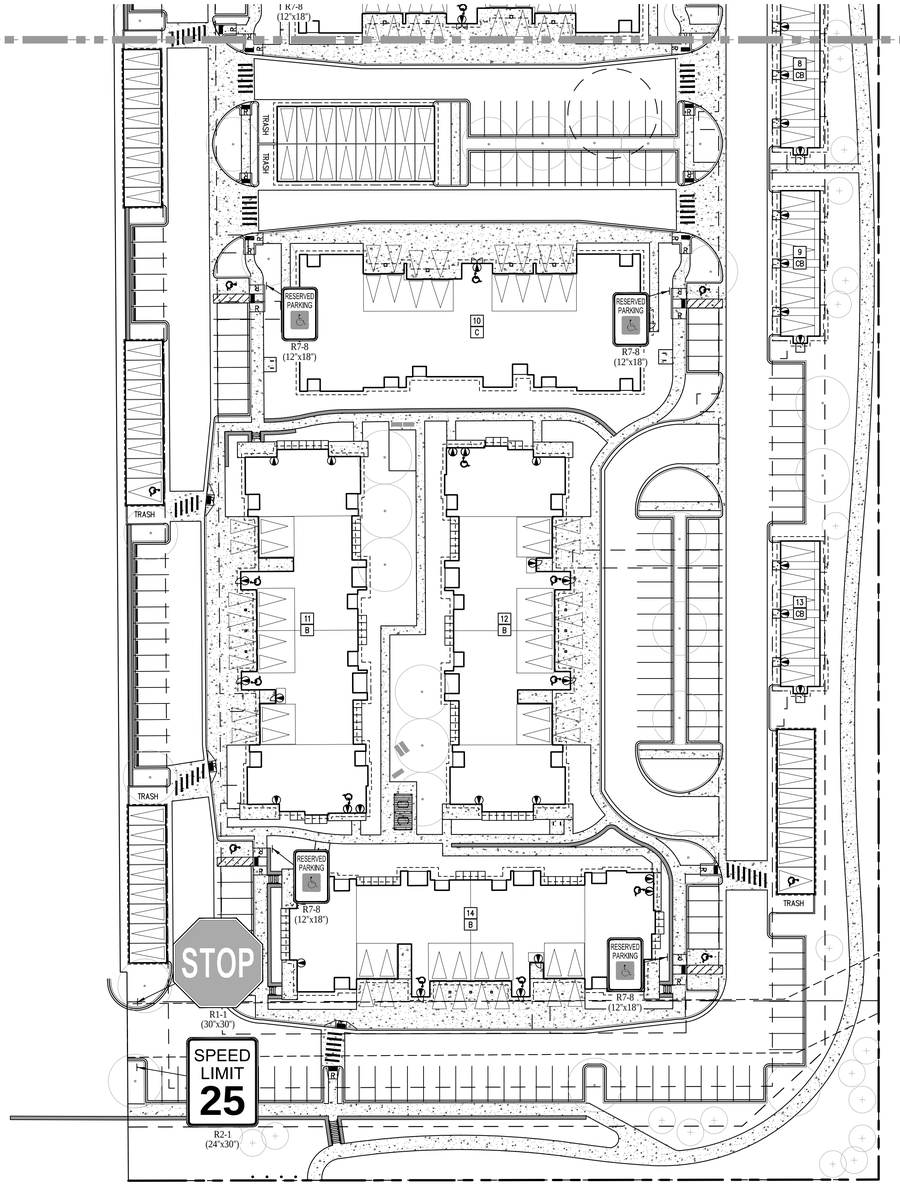
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
56
57 OF 57

FILEPATH: P:\160602\ENGINEERING\ROADWAY\CD - SIGNING & STRIPING PLAN.DWG LAYOUT: SIGNING & STRIPING PLAN 1
3 XREFs: p-base, p-legal, p-utl
PLOTTED: TUE 06/26/17 12:57:17P BY: TIM SAYLER

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

MATCHLINE - SEE SHEET 56



FILEPATH: P:\160602\ENGINEERING\ROADWAY\CD - SIGNING & STRIPING PLAN.DWG LAYOUT: SIGNING & STRIPING PLAN 2
3 XREFs: p-base, p-legal, p-util
PLOTTED: TUE 09/26/17 12:37:20P BY: TIM SAVIER

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: 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.

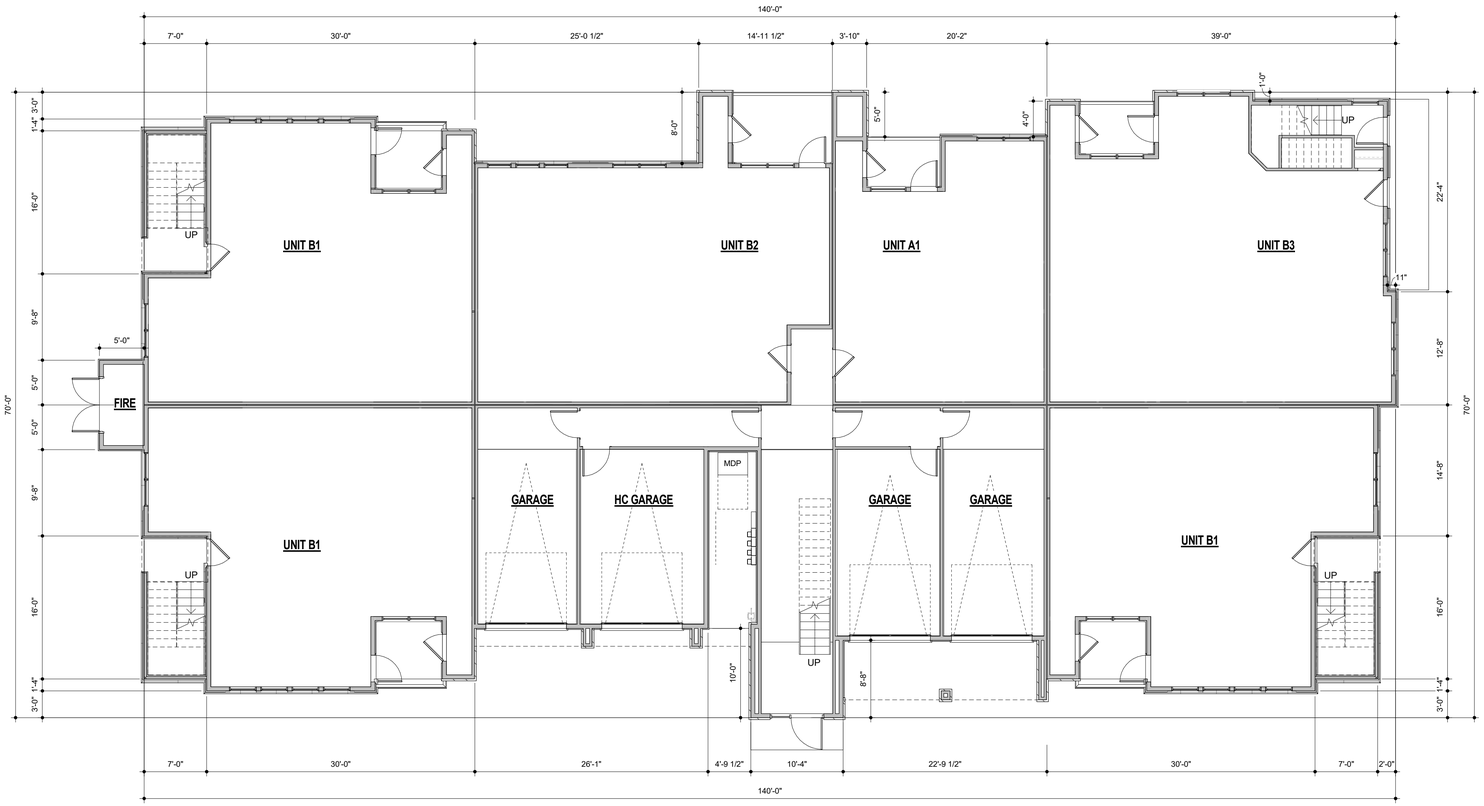
OUTLOOK AT NINE MILE
SIGNING & STRIPING PLAN 2

ISSUE DATE: 04/27/2017 | PROJECT #: 160602

DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
57
58 OF 57



1 LEVEL 1 - BUILDING TYPE A (18-PLEX)
1/8" = 1'-0"

NOTE: FLOOR PLANS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE DURING DESIGN PROCESS

9/27/2017 9:39:16 AM C:\Revit\Local Files\216002_Outlook Nine Mile Apt Annotation_KARLBECOVER_banS.rvt

NINE MILE FILING NO.1, LOT 1

SITE PLAN - SP-000832-2016 REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

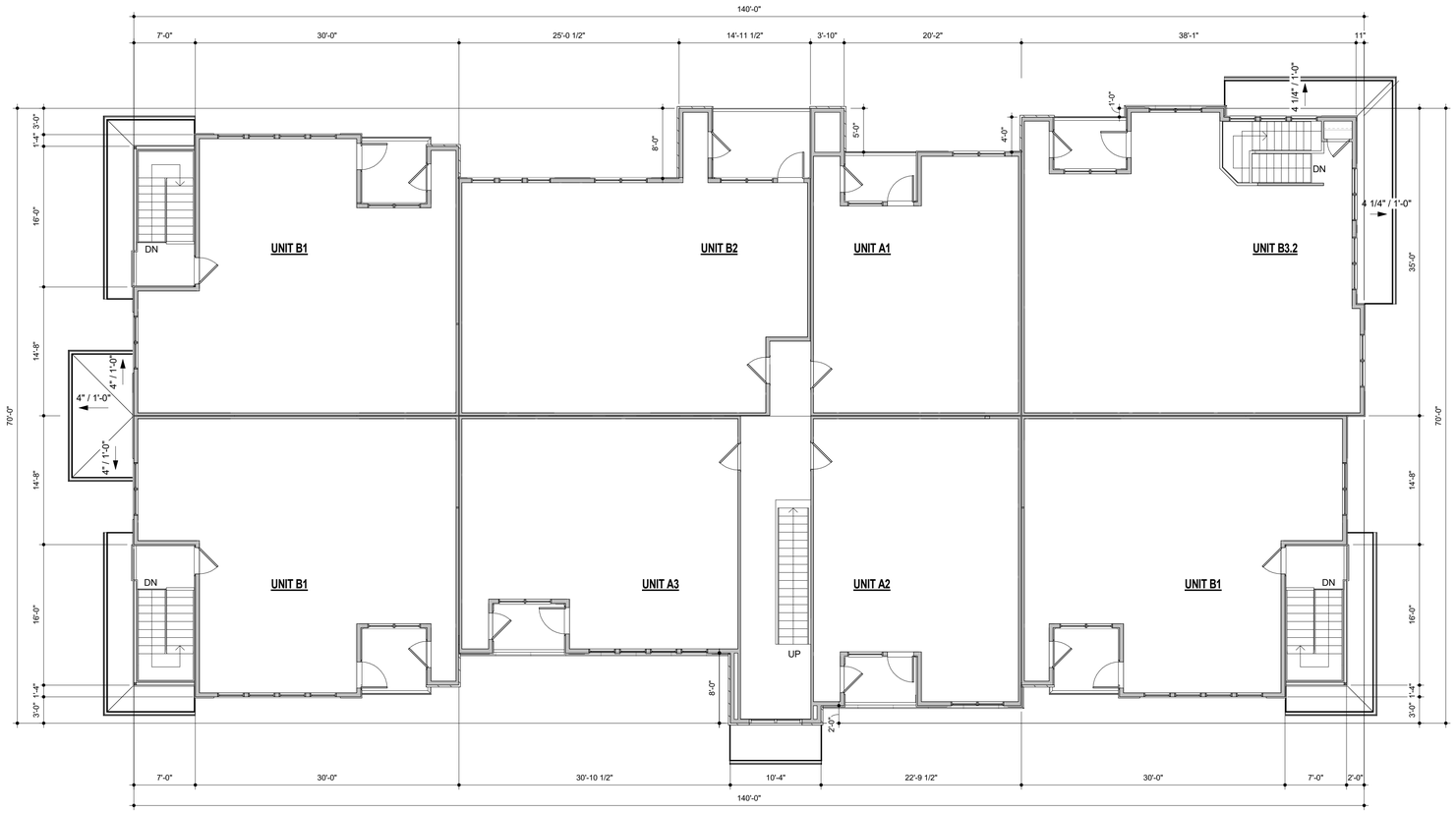
216002

COMPOSITE PLANS - BUILDING TYPE A

EXHIBIT - 1.0

KEPHART
community ■ planning ■ architecture

COPYRIGHT © 2017



1 LEVEL 2 - BUILDING TYPE A (18-PLEX)
1/8" = 1'-0"

NOTE: FLOOR PLANS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE DURING DESIGN PROCESS

9/27/2017 9:39:18 AM C:\Revit\Local Files\216002_Outlook Nine Mile Apt Annotation_KKR.RECOVER_Kell5.rvt

NINE MILE FILING NO.1, LOT 1

SITE PLAN - SP-000832-2016 REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

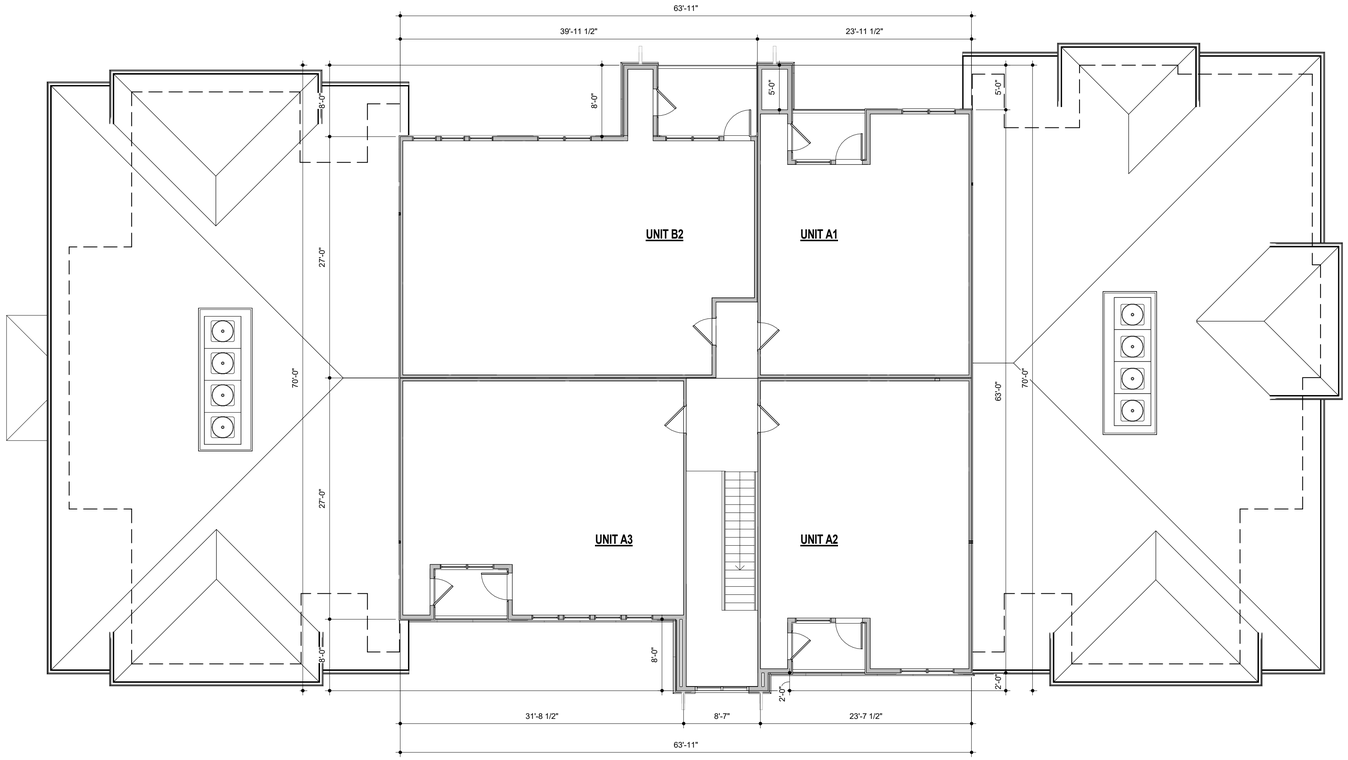
216002

COMPOSITE PLANS - BUILDING TYPE A

EXHIBIT - 1.1

KEPHART
community ■ planning ■ architecture

COPYRIGHT © 2017



1 LEVEL 3 - BUILDING TYPE A (18-PLEX)
1/8" = 1'-0"

NOTE: FLOOR PLANS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE DURING DESIGN PROCESS

9/27/2017 9:39:19 AM C:\Revit.scott\Test\216002_Outlook Nine Mile Apt Annotation_KARLIEBCOVER_KeriS.rvt

NINE MILE FILING NO.1, LOT 1

SITE PLAN - SP-000832-2016 REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

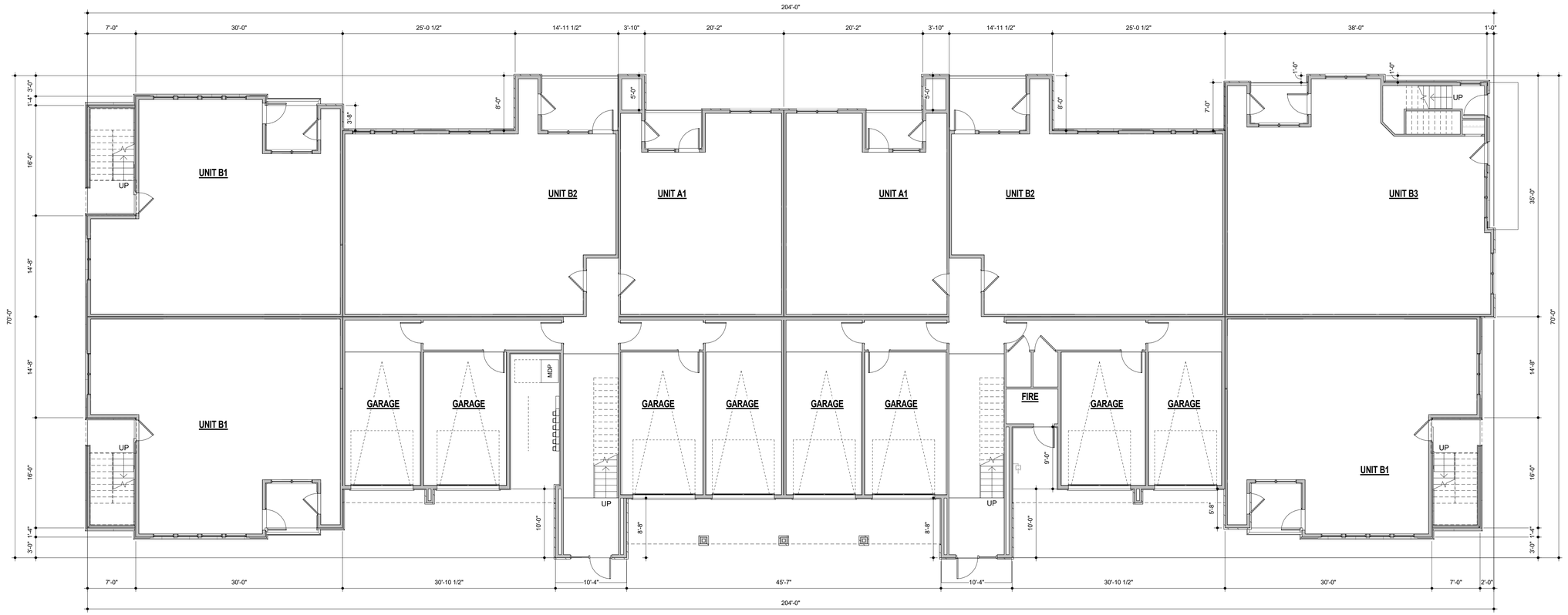
216002

COMPOSITE PLANS - BUILDING TYPE A

EXHIBIT - 1.2

KEPHART
community ■ planning ■ architecture

COPYRIGHT © 2017



1 LEVEL 1 - BUILDING TYPE B (28-PLEX)
1/8" = 1'-0"

NOTE: FLOOR PLANS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE DURING DESIGN PROCESS

9/27/2017 9:39:21 AM C:\Revit Local Files\216002_Outlook Nine Mile Apt Annotation_KKR.RECOVER_Kell5.rvt

NINE MILE FILING NO.1, LOT 1

SITE PLAN - SP-000832-2016 REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

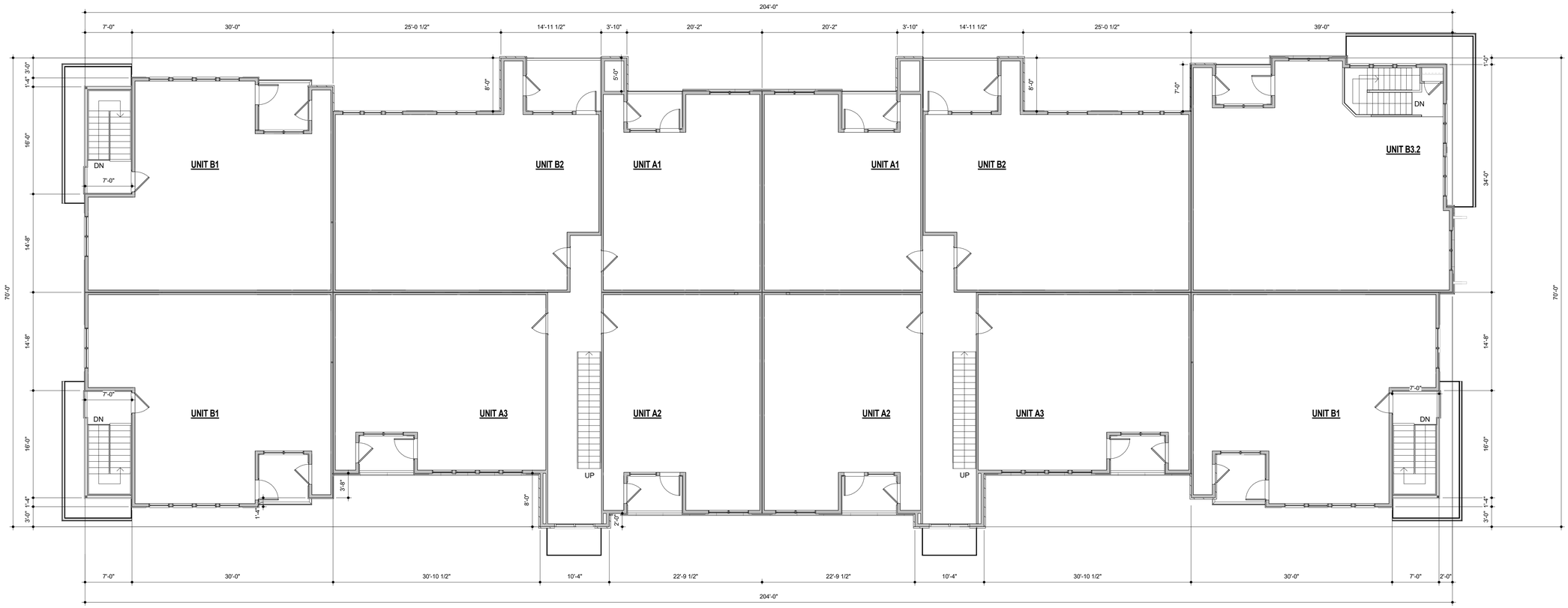
216002

COMPOSITE PLANS - BUILDING TYPE B

EXHIBIT - 2.0

KEPHART
community ■ planning ■ architecture

COPYRIGHT © 2017



1 LEVEL 2 - BUILDING TYPE B (28-PLEX)
1/8" = 1'-0"

NOTE: FLOOR PLANS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE DURING DESIGN PROCESS

9/27/2017 9:39:22 AM C:\Revit Local Files\216002_Outlook Nine Mile Apt Annotation_KKR.RECOVER_Kell5.rvt

NINE MILE FILING NO.1, LOT 1

SITE PLAN - SP-000832-2016 REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

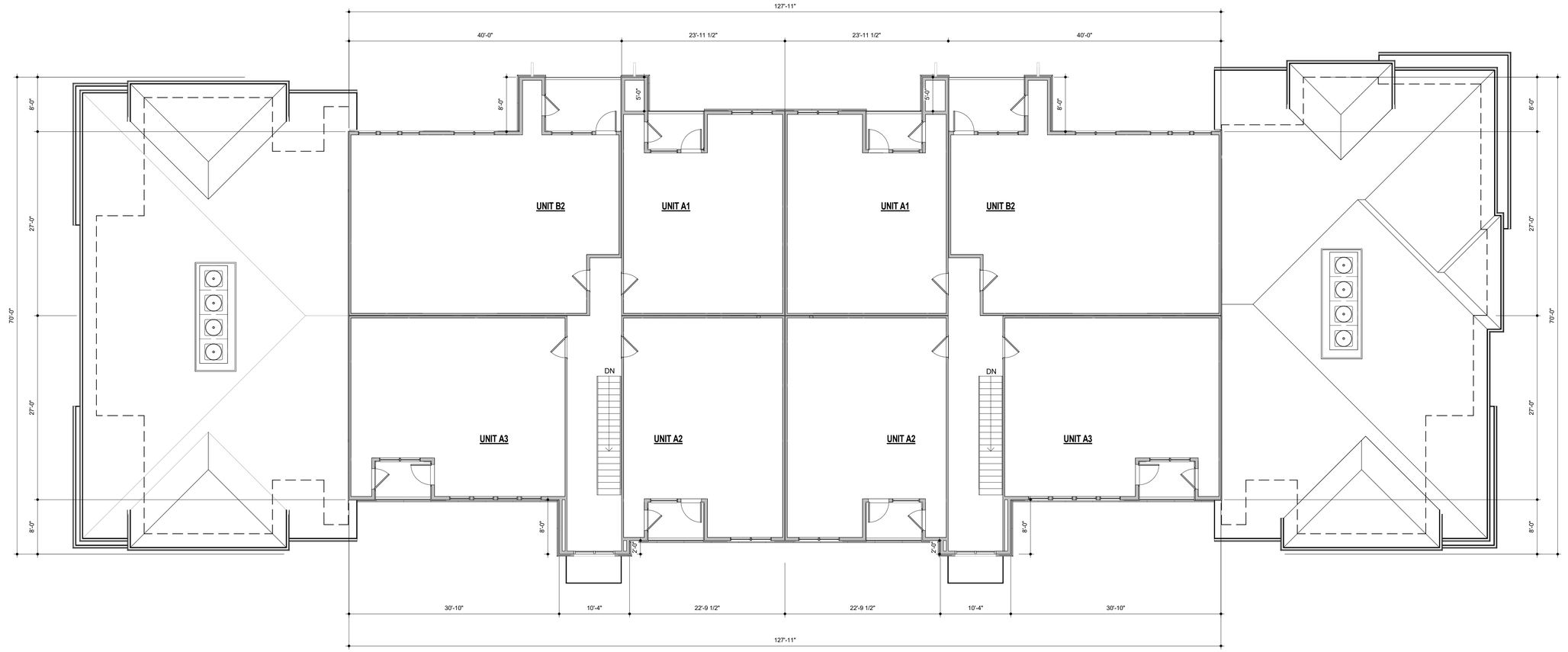
216002

COMPOSITE PLANS - BUILDING TYPE B

EXHIBIT - 2.1

KEPHART
community ■ planning ■ architecture

COPYRIGHT © 2017



1 LEVEL 3 - BUILDING TYPE B (28-PLEX)
1/8" = 1'-0"

NOTE: FLOOR PLANS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE DURING DESIGN PROCESS

9/27/2017 9:39:24 AM C:\Revit\Local\Files\216002_Outlook Nine Mile Apt Annotation_KARLRBECOVER_KeriS.rvt

NINE MILE FILING NO.1, LOT 1

SITE PLAN - SP-000832-2016 REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

216002

COMPOSITE PLANS - BUILDING TYPE B

EXHIBIT - 2.2

KEPHART
community ■ planning ■ architecture

COPYRIGHT © 2017



1 LEVEL 1 - BUILDING TYPE C (44-PLEX)
1/8" = 1'-0"

NOTE: FLOOR PLANS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE DURING DESIGN PROCESS

9/27/2017 9:39:29 AM C:\Revit\Local\Files\216002_Outlook Nine Mile Apt Annotation_KARLIEBCOVER_KarlS.rvt

NINE MILE FILING NO.1, LOT 1

SITE PLAN - SP-000832-2016 REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

216002

COMPOSITE PLANS - BUILDING TYPE C

EXHIBIT - 3.0

KEPHART
community ■ planning ■ architecture

COPYRIGHT © 2017



1 LEVELS 2 THRU 4 - BUILDING TYPE C (44-PLEX)
1/8" = 1'-0"

NOTE: FLOOR PLANS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE DURING DESIGN PROCESS

9/27/2017 9:39:29 AM C:\Revit\Local\Files\216002_Outlook Nine Mile Apt Annotation_KARLIEBECKER_Karli5.rvt

NINE MILE FILING NO.1, LOT 1

SITE PLAN - SP-000832-2016 REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

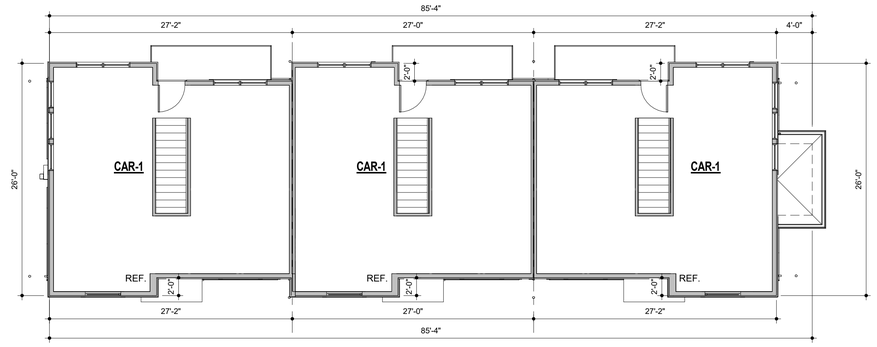
216002

COMPOSITE PLANS - BUILDING TYPE C

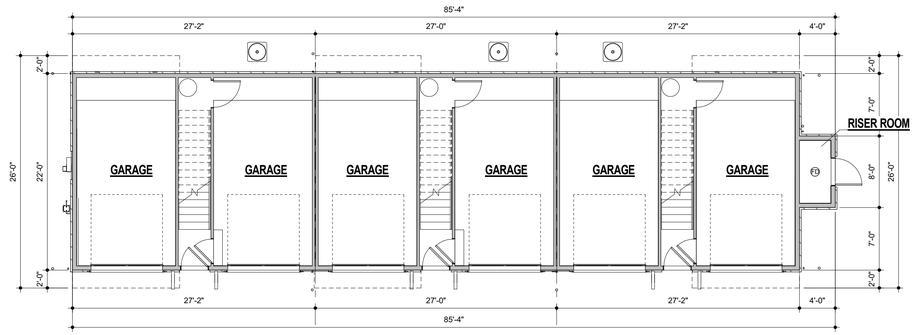
EXHIBIT - 3.1

KEPHART
community ■ planning ■ architecture

COPYRIGHT © 2017



2 LEVEL 2 - CARRIAGE BUILDING (3-PLEX)
1/8" = 1'-0"



1 LEVEL 1 - CARRIAGE BUILDING (3-PLEX)
1/8" = 1'-0"

NOTE: FLOOR PLANS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE DURING DESIGN PROCESS

9/27/2017 9:39:29 AM C:\Revit Local Files\216002_Outlook Nine Mile Apt Annotation_KKR.RECOVER_Kell5.rvt

NINE MILE FILING NO.1, LOT 1

SITE PLAN - SP-000832-2016 REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

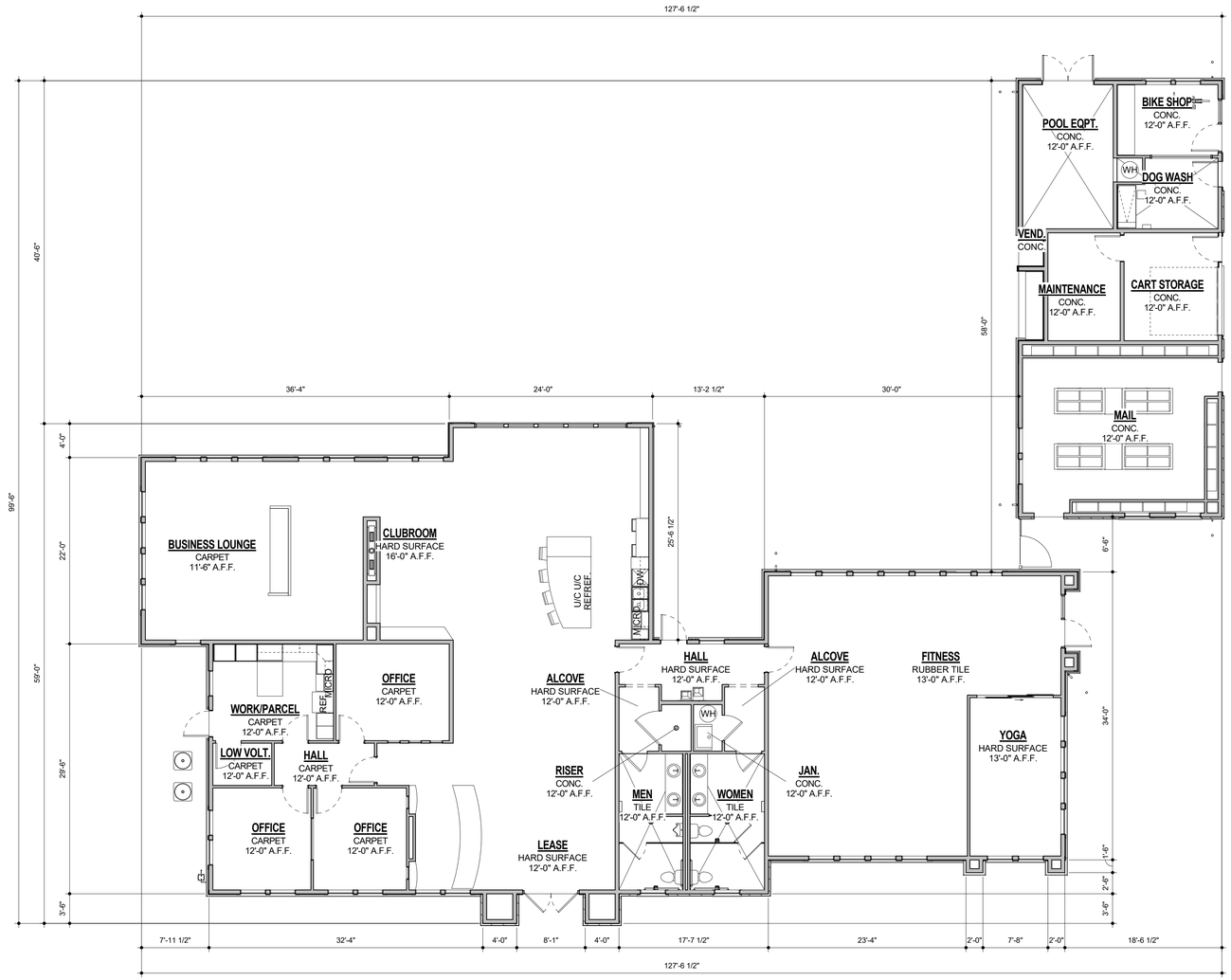
216002

COMPOSITE PLANS - CARRIAGE BUILDING

EXHIBIT - 4.0

KEPHART
community ■ planning ■ architecture

COPYRIGHT © 2017



1 CLUBHOUSE MAIN FLOOR PLAN
1/8" = 1'-0"

NOTE: FLOOR PLANS SHOWN ARE CONCEPTUAL AND SUBJECT TO CHANGE DURING DESIGN PROCESS

9/27/2017 9:38:08 AM C:\Revit\Lowell\Rev21600_Outlook Nine Mile Clubhouse_KphS.rvt

NINE MILE FILING NO.1, LOT 1

SITE PLAN - SP-000832-2016 REVISION DATE: 09-27-2017 ISSUE DATE: 04-27-2017

216002
COMPOSITE PLANS
EXHIBIT - 5.0

KEPHART
community ■ planning ■ architecture

COPYRIGHT © 2017

Phase II Drainage Report

Nine Mile Corner

Erie, Colorado

Prepared for
Evergreen Devco, Inc.
1873 South Bellaire Street
Denver, Colorado 80222

Prepared by:
Galloway & Company, Inc.
6162 S. Willow Drive, Suite 320
Greenwood Village, Colorado 80111
Phone: 303.770.8884
Fax: 303.770.363
Attention: Brandon S. McCrary, P.E.

Date:
Original Preparation: December 9th, 2016
Revised: May 19th, 2017
Revised: September 27, 2017

Table of Contents

I. Project Location and Description 2
A. Location 2
B. Description of Property 2
II. Drainage Basins 4
A. Major Basin Description 4
B. Subbasin Description 7
III. Drainage Design Criteria 7
A. Development Constraints and Criteria 7
B. Hydrologic Criteria 7
C. Hydraulic Criteria 8
D. Variance from Criteria 9
IV. Drainage Facility Design 9
A. General Concept 9
B. Specific Details 10
V. Conclusions 11
VI. References 12

Appendix A
Background Data
Vicinity Map
FEMA Firmette
Soil Data
ALTA/NSPS Land Title Survey
Appendix B
Hydrologic Calculations
Rational Method
CUHP
Appendix C
Hydraulic Calculations
EPA SWMM
Full Spectrum Detention
Bentley FlowMaster
Appendix D
Supporting Documentation
Love & Associates, Inc.la
RESPEC Consulting & Services
Olsson Associates
Back Pocket
Drainage Plan – DR01

Introduction

This Phase II drainage report is being prepared for the development of a ±47.2 acre site located at Nine Mile Corner in Erie, Colorado. Evergreen Development (Evergreen) has proposed to develop ±32.5 acres, within the larger development, as a commercial site. The remaining site area, ±14.7 acres, will be developed separately as multi-family (i.e., high-density residential). The objective of this report is to identify the master drainage basins which the development is a part of and address the general conformance of the proposed drainage design with previous drainage studies.

Separate tracts along the north and east portions of the site are set aside for water quality and detention pond(s) for the commercial and multi-family sites. The development will be served by four major access points: two-(2) along North 107th Street (U.S Highway 287) and two-(2) along Arapahoe Road.

I. Project Location and Description

A. Location

Nine Mile Corner (site) is located at the southeast corner of North 107th Street (U.S. Highway 287) and Arapahoe Road in Erie, Colorado. The site is located in 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 Erie, County of Boulder, State of Colorado. The site is bounded to the north by Arapahoe Road; to the south by an existing single-family residential development; to the east by a mix of vacant land and a single-family residence (compound) and to the west by North 107th Street (U.S. 287). Refer to Appendix A for the Vicinity Map.

The prominent existing on-site drainage features are:

- Prince Lake Number I (Lake), which is located in the northwest corner of the project site. It contained water as recently as October 2013 (according to Google Earth). Since then, the Lake was drained and partially back filled.
- South Boulder Canyon Ditch (Ditch), which enters the west side of the site through an existing box culvert (underneath N. 107th Street), and then crosses the site along a northeasterly alignment. The ditch generally flows from west-to-northeast.

The surrounding developments are Beacon Hill subdivision to the south, Arapahoe Ridge to the north, and vacant land to the west and east.

B. Description of Property

The total project area is ±47.2 acres. The commercial area comprises ±32.5 acres and the proposed multi-family area comprises ±14.7 acres. Vegetative cover within Prince Lake Number I consists of native vegetation; the coverage is generally poor. The

existing grades along the side slopes are as steep as 4:1 and direct water toward an existing concrete drainage structure in the northeast region of the Lake.

The existing vegetation along the Ditch is robust and consists of native grasses, shrubs and mature trees. The vegetative cover to south of the South Boulder Canyon Ditch is generally fair and consists of native grasses. The existing grades are steep and generally between 10:1 and 20:1. The excess runoff in this region drains south-to-north and toward the Ditch.

The existing property consists of mix of land uses including: vacant land, Prince Lake Number I (Lake) and its associated infrastructure (i.e., gravel loop road, access drive and concrete drainage structures – which will be removed or abandoned in place), South Boulder Canyon Ditch (Ditch) and two single-family residences with associated out-buildings. The irrigation ditch alignment flows from west-to-northeast and divides the project site.

Parcel A is located south of the Ditch and is mostly undeveloped except for a single-family residence, associated out-buildings and gravel access drive. The northern portion of Parcel B (multi-family project area) and Parcel C1 (Prince Lake Number I) are generally located north of the Ditch. The south portion of Parcel B is located south of the Ditch. Refer to Appendix A for an ALTA survey of the project site.

There is an existing 10' utility easement along the south property line of Parcel B. There is a utility easement of unknown width for a petroleum pipeline that starts midway down on the west property line continuing east and following the southern and eastern boundary of Prince Lake 1. This line will be relocated as part of this project, but its exact alignment has yet to be determined.

The existing site will require approximately twenty feet of fill to achieve the proposed design grades. Roughly thirty feet of cut is necessary along the south property line to achieve the design grade.

The proposed storm drain system will convey stormwater (*refer to sheet DR01 for the proposed alignment*), from the following infrastructure, to a grass-lined channel along the west side of 111th Street.

- An existing 24" RCP along the west edge of the site. This pipe currently drains water from the Town of Erie owned settling pond at the southwest corner of North 107th Street and Arapahoe Road, to the Lake.

- Outflow from the commercial site water quality and detention ponds.

- Outflow from the multi-family site water quality and detention ponds.

The existing South Boulder Canyon Ditch, which is an existing irrigation ditch, will be abandoned just east of 107th Avenue and piped across the south boundary of the project site in a 48" RCP within a proposed easement. The proposed pipe will connect to an off-

site section of the ditch located near the southeast corner of the project (refer to sheet DR01 for an approximate alignment).

Separate tracts, which are along the north and east portions of the site, have been set aside for water quality and detention pond(s). The commercial and multi-family sites drain to separate facilities that release into the aforementioned storm drain system. Harris Kocher Smith (HKS) is designing the water quality and detention facility for the multi-family site.

The project site tenant mix has not been determined. Other site improvements common to this type of development include installing site specific wet and dry utilities, improved parking areas (i.e., asphalt and/or concrete) and landscaping. The development will be served by four major access points: two (2) along North 107th Street (U.S Highway 287) and two (2) along Arapahoe Road.

The project site was investigated for wetlands and cultural resources. Outlook at Nine Mile: Wetland Delineation and Cultural Resource Report, November 2016, prepared by IRIS Mitigation and Design. According to the report, no wetlands or historic properties were found on the site.

According to the USDA NRCS Web Soil Survey, a mix of 'Ascalon sandy loam, 3 to 5 percent slopes' and 'Ascalon sandy loam 5 to 9 percent slopes' covers the existing project site. This soil is associated with Hydrologic Soil Group (HSG) 'B'. HSG 'B' soils have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission. Refer to Appendix A for additional soils information and excerpts from the *Preliminary Geotechnical Investigation Nine Mile Corner - Commercial Area Southeast of Highway 287 and Arapahoe Road Erie, Colorado* (prepared by: CTL Thompson Incorporated. | dated: February 24th, 2017).

II. Drainage Basins

A. Major Basin Description

The project site is not impacted by a FEMA designated floodplain (refer to Appendix B for a FEMA Firmette).

Previous Studies
The project site is included in several previous studies.

- RESPEC Consulting & Services prepared a report (OSP) entitled *Town of Erie Outfall Systems Plan* (West of Coal Creek) in January 2014. The main objectives of the study were to:
    - Identify the existing drainage problems in the watershed.
    - Develop practical solutions that can be implemented through engineering analysis and coordination with the project sponsors and public.

- Love & Associates, Inc. prepared a report (Love) entitled *Erie Outfall Systems Planning Preliminary Design Erie and Adjacent Boulder and Weld County Areas* in May 2001. This study provided preliminary design of conveyance facilities to transport the 100-year storm event when proposed future development occurs within the study area. This report was updated in December 2007, but the updated area was all to the east of Coal Creek so it did not affect the project area.

- Improvements to the existing grass-lined channel along the west side of 111th Street (Reach 6 of the Prince Tributary in OSP and Reach BP20) were proposed in by Olsson Associates (Olsson). In February 2006, they prepared a memorandum summarizing their evaluation of the existing conditions and presenting the preliminary design of Reach BP20 improvements. The preliminary design for the conveyance of 275 cfs along the west side of 111th Street upstream is based on results presented in Love & Associates, Inc. work (May 2001).

Overview

In general, the project site overlaps SWMM subbasins 201 and 203 (OSP). These basins combine with SWMM subbasins 200, 202 and 204 at SWMM design point 303. This design point is located at the intersection of 111th Street and Arapahoe Road and serves as the design flow at the upstream (south) end of the channel along the west side of 111th Street. Refer to Appendix C and Figure B-13 for the SWMM schematic covering this area.

Off-Site Flows

The project site is impacted by off-site flow from SWMM subbasin 200 (200) and the southwest region of SWMM subbasin 201 (201). 200 is located along the west side of N. 107th Street. According to the OSP report, this largely undeveloped basin is ±98 acres and generally drains to the northeast. Per the SWMM schematic, runoff from the Nine Mile Corner project combines with runoff from 200 at design point 300. The existing excess runoff in 200 likely flows into the South Boulder Canyon Ditch; however, per section *812.02 Design Principals*, "Irrigation ditches cannot be used as an outfall point for the initial storm drainage system because of physical limitations." The Nine Mile Corner project is required to convey the outflow from the future on-site detention pond in SWMM subbasin 200 to the channel along the west side of 111th Street (i.e., SWMM conveyance element 303).

We estimate future detention pond will release ±83.3 cfs (98 acres * 0.85 cfs/acre). However, conveying the outflow through the Nine Mile Corner project site presents technical and financial challenges. Instead of conveying ±83.3 cfs through the project site, we propose using the existing settling basin at the southwest corner of North 107th Street and Arapahoe Road to attenuate outflow from the future detention pond and release it at the capacity available in the existing 24" RCP underneath North 107th

Street. The Town of Erie owns the land containing the settling pond, which is located in the northeast corner of SWMM subbasin 200. It appears the water routed into the settling pond flowed through an existing outlet structure and into Prince Lake No. 1.

Appendix C includes a conceptual level SWMM model of the area west of N. 107th Street. The model investigates and demonstrates the feasibility of using the settling pond to further attenuate outflow from the future detention pond in 200 down to the capacity of the existing 24" RCP underneath N. 107th Street.

We generated the inflow hydrograph to the future detention pond, from the future development in SWMM basin 200, with CUHP. Specifically, we used the input values shown in Table B-1 CUHP Input (OSP). Since we do not have a site plan for the future development, we increased the percent imperviousness from 37.3% to 55%. This is a weighted value. We assumed 75 acres will be commercial development with 70% impervious cover and the remaining 12 acres stay undeveloped with 10% impervious cover.

This future conditions hydrograph was set as inflow to the future pond. An orifice plate was used to set the release, into the settling pond, equal to ±83.3 cfs (98 acres * 0.85 cfs/acre). The outflow from the settling pond was limited by the inlet hydraulics (i.e., inlet control) of the existing 24" RCP. In summary, the settling pond attenuates the outflow from the future detention pond if additional volume is provided by increasing the maximum water surface elevation from 5259 to 5261.13 (5256 to 5258.13 – Town of Erie datum). This additional two feet of depth will be contained within the existing settling pond with no 100-year overtopping, and with no changes or grading made to the pond.

Other off-site flows we considered in this design come from the southwest portion of SWMM subbasin 201 (*shown as basin 1 on sheet DR01*). Specifically, this portion of 201 is situated south of the site's south property line. This area, ±12.1 acres, is partially developed with single-family residential. It generally drains from southeast-to-northwest and into the U.S. 287 roadside swale (*basin 2*). This existing roadside swale flows north and appears to currently drain into the South Boulder Canyon Ditch.

The existing South Boulder Canyon Ditch, which is an existing irrigation ditch, will be abandoned just east of 107th Avenue and piped across the south boundary of the project site in a 48" RCP within a proposed easement. The proposed pipe will connect to an off-site section of the ditch located near the southeast corner of the project (refer to sheet DR01 for an approximate alignment).

Because the existing South Boulder Canyon Ditch will be re-aligned and conveyed in a pipe, the runoff from the aforementioned off-site area can no longer flow into it. Instead, this water will flow further north and drain into the existing south-to-north flowing storm drain system in Arapahoe Road and drain to an existing detention pond northeast of Arapahoe Ridge (just west of the intersection of N. 111th Street and Dickens Street). Basins 1, 2 and 3 were delineated to estimate the rate of runoff draining to existing/proposed infrastructure in Arapahoe Road. The total tributary area to DP 3 is ±16.1 acres. The Q_5 and Q_{100} flows at DP 3 are ±10.9 cfs and ±33.5 cfs, respectively.

The storm drain system design included in the construction documents includes flows from the settling pond and the commercial and multi-family water quality and detention facilities to the roadside swale along N. 111th Street. It does not include the existing flows from the southwest portion of 201 (i.e., basins 1, 2 and 3). We'll address these flows more completely in a future submittal (i.e., Phase III Drainage Report) with input from the Town of Erie.

B. Subbasin Description

Per section 814.01, on-site detention is required for all new development. For detention basins receiving runoff from tributary areas less than 160 acres, the Full Spectrum Detention method must be used. The allowable release rate is per Table 800-4.

The historic drainage pattern for the site is from southwest to northeast at which point the runoff joins an existing drainageway flowing north along 111th Street.

Developed on-site runoff will flow from south to north and into a pair of on-site water quality and detention ponds. The ponds will be interconnected and outflow to the same storm drain system connecting the existing 24" RCP on the east side of N. 107th Street and the existing grass-lined swale along the west side of 111th Street.

Drainage Design Criteria

A. Development Constraints and Criteria

This Phase II drainage report was prepared using the criteria from the Town of Erie's "Standards and Specifications for Design and Construction of Public Improvements," *Section 800 Storm Drainage Facilities* (Standards), as well as Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual (Criteria).

The proposed Nine Mile Corner on-site detention facilities will conform to sections 814.01 General and 814.08 Release Rates.

The aggregate release from the off-site area (i.e., SWMM subbasin 200) and the on-site commercial and multi-family areas will be commensurate with the peak discharges described by Olsson for the design of Reach BP20.

B. Hydrologic Criteria

Our future work will include delineating on-site basins, calculating a runoff coefficient, estimating the Time of Concentration (T_c) and estimating minor and major storm event runoff with the Rational Method. The runoff estimates will be used to size inlets, curb cuts, swales and conveyance infrastructure.

The Rational Method is based on the Rational Formula:

$$Q = CiA$$

in which:

Q = the maximum rate of runoff, cfs
C = a runoff coefficient that is the ratio between the runoff volume from an area and the average rate of rainfall depth over a given duration for that area
i = average intensity of rainfall in inches per hour for a duration equal to the time of concentration
A = area, acres

The runoff coefficient will be determined for each basin given the catchment's soil type and proposed developed imperviousness.

The design rainfall Intensity-Duration-Frequency (IDF) data is provided in section 813.06 Rainfall Intensities (Standards).

Stormwater quality will be provided by designing the detention facility using the Full Spectrum Detention method developed by the Urban Drainage and Flood Control District. The Full Spectrum Detention method is designed to best replicate pre-development peak flows for a broad range of storm intensities and durations.

C. Hydraulic Criteria

This Phase II drainage report does not include detailed analysis of the on-site and off-site storm drainage infrastructure (e.g., storm drain pipes, inlets, detention pond outlet structures, water quality features). The preliminary and final drainage reports will progressively include a detailed analysis of both the on-site and off-site storm drain infrastructure using EPA SWMM Release 5.1.010, Bentley StormCAD and FlowMaster and various Urban Drainage and Flood Control District (UDFCD) spreadsheets (e.g., UD-Detention v3.07 | Full Spectrum detention).

A preliminary storm system layout for the off-site settling pond outlet, the two on-site detention ponds and their outlets, the associated piping to connect all of them to the existing drainage swale along the west side of 111th Street, and the relocated South Boulder Canyon Ditch in its 48" RCP are shown on the Drainage Plan DR01.

Reach BP 20 | 111th Street Future Channel

The existing grass-lined channel along 111th Street may not provide capacity for conveying flows from Nine Mile Corner, ±70 cfs, and existing runoff from other basins in the area. The existing channel conveys approximately 44 cfs and 94 cfs at 1.5 feet and 2.0 feet of depth, respectively. Additional study will be required to determine if the Nine Mile Corner project triggers construction of the improvements proposed by Olsson (refer to Appendix D). Once final detention pond designs for the Commercial and Multi-Family

(HKS) areas are complete, we will make a recommendation in the Phase III drainage report as to the need for the channel upgrade. Olsson designed a channel capable of conveying 350 cfs, which is the 10-year release at SWMM design point 305 (Love). This approximates a unit release rate of ±0.85 cfs/ac for the 408 acre tributary area.

D. Variance from Criteria

We are not seeking variances from the Standards or Criteria at this time.

III. Drainage Facility Design

A. General Concept

On-Site Flows and Concept

The proposed commercial and multi-family development will be graded to drain to area and curb inlets that are connected to an on-site storm drain system. The commercial and multi-family areas will drain to separate water quality and detention ponds. These facilities will drain into the aforementioned storm drain outfall that discharges into the swale along the west side of 111th Street. Preliminary Full Spectrum Detention sizing calculations for each site (i.e., commercial and multi-family) are presented in Appendix C. Sheet DR01 illustrates proposed locations for the facilities.

Off-Site Flows

The project site is impacted by off-site flow from SWMM subbasin 200 (200) and the southwest region of SWMM subbasin 201 (201). 200 is located along the west side of N. 107th Street. According to the OSP report, this largely undeveloped basin is ±98 acres and generally drains to the northeast. Per the SWMM schematic, runoff from the Nine Mile Corner project combines with runoff from 200 at design point 300. The existing excess runoff in 200 likely flows into the South Boulder Canyon Ditch; however, per section *812.02 Design Principals*, "Irrigation ditches cannot be used as an outfall point for the initial storm drainage system because of physical limitations." The Nine Mile Corner project is required to convey the outflow from the future on-site detention pond in SWMM subbasin 200 to the channel along the west side of 111th Street (i.e., SWMM conveyance element 303).

We estimate future detention pond will release ±83.3 cfs (98 acres * 0.85 cfs/acre). We propose using the existing settling basin at the southwest corner of North 107th Street and Arapahoe Road to attenuate outflow from the future detention pond and release it at the capacity available in the existing 24" RCP underneath North 107th Street. The Town of Erie owns the land containing the settling pond, which is located in the northeast corner of SWMM subbasin 200. The Town of Erie has given permission to use this settling pond for detention storage. There is a Town identified wetland in the bottom of the settling pond. There is no plan to disturb this area for its purpose in this project. The detention calculations for this option are presented in Appendix C of this report.

B. Specific Details

Major Basin Description

As discussed above, the problem of capacity to convey the ~83 cfs from the drainage area to the west of the site was solved by using the existing settling basin in the southwest corner of the intersection of HWY 287 and Arapahoe to attenuate the peak to allow it to be conveyed in the existing 24" RCP under Hwy 287. This flow will combine with the outflows of the two proposed full spectrum detention ponds for the commercial and multi-family sections of this development, and is routed north under Arapahoe Road and east to where it will discharge into the swale along the west side of 111th Street.

The existing South Boulder Canyon Ditch, which is an existing irrigation ditch, will be abandoned just east of 107th Avenue and piped across the south boundary of the project site in a 48" RCP within a proposed easement. The proposed pipe will connect to an off-site section of the ditch located near the southeast corner of the project (refer to sheet DR01 for an approximate alignment).

As part of this project Arapahoe Road will have curb and gutter installed from Hwy-287 east to 111th Street. There is an existing grate inlet at the low point of the shoulder of the eastbound lanes. When the street improvements are made, this will be converted into a curb inlet which will use the existing pipe under Arapahoe Road.

Pond Design

The on-site ponds associated with the commercial development were sized using UD-Detention, Version 3.07 (March 2016, UDFCD).

The detention facility and all associated storm pipe will be within a dedicated storm drainage easement.

The tributary area draining to the on-site ponds the future commercial development (±36.3 acres) as well as North 107th Street (U.S. 287) and Arapahoe Road right-of-way frontage (i.e., half-street). The overall percent imperviousness for the future commercial development was set at 75%.

Off-site pond will only need a small amount of grading to fill a gap in the berm on the northwest corner to allow the volume required without allowing any overtopping to flow into the intersection of HWY 287 and Arapahoe Road. This grading will not disturb the area of the settling pond identified as a wetland.

Refer to Appendix C for the Full Spectrum Detention method calculations. The pond will utilize a standard concrete outlet structure with orifice plates to regulate the release. There will be maintenance access constructed into each pond to facilitate routine maintenance procedures.

IV. Conclusions

This Phase II drainage report is in compliance with applicable regional standards including the Town of Erie's "Standards and Specifications for Design and Construction of Public Improvements, Section 800" and the Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual. This conceptual design provides for on-site release of a maximum of 0.85 cfs per acre. It also provides stormwater quality management and 100-year protection to the downstream drainage system.

V. References

1. Urban Storm Drainage Criteria Manual (Volumes 1, 2 and 3), Urban Drainage and Flood Control District, January 2016.

2. Standards and Specifications, Section 800 Storm Drainage Facilities, Town of Erie, January 2016.

3. *Preliminary Engineering Investigation Nine Mile Corner - Commercial Area Southeast of Highway 287 and Arapahoe Road Erie, Colorado*, CTL Thompson Incorporated., February 24th, 2017.

4. Town of Erie Outfall Systems Plan (West of Coal Creek), RESPEC Consulting & Services, January 2014.

5. Erie Outfall Systems Planning Preliminary Design Town of Erie and Weld County, Love & Associates, Inc., December 2007.

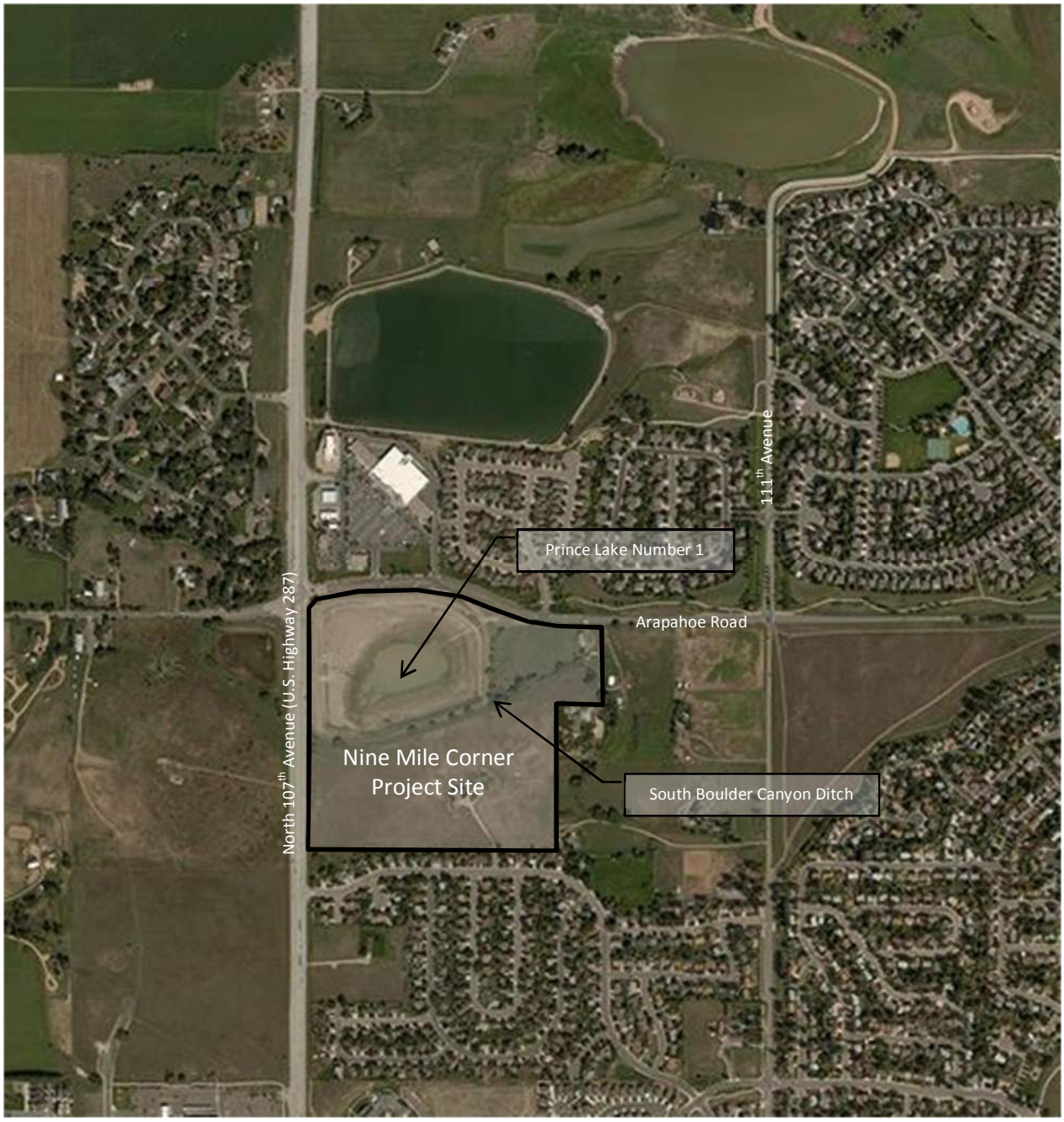
6. Erie Outfall Systems Planning Preliminary Design Erie and Adjacent Boulder and Weld County Areas, Love & Associates, Inc., May 2001.

7. Erie Reach BP20 Preliminary Design, Olsson Associates, February 2006.

8. Outlook at Nine Mile: Wetland Delineation and Cultural Resource Report, IRIS Mitigation and Design, November 2016.

Appendix A
Background Data

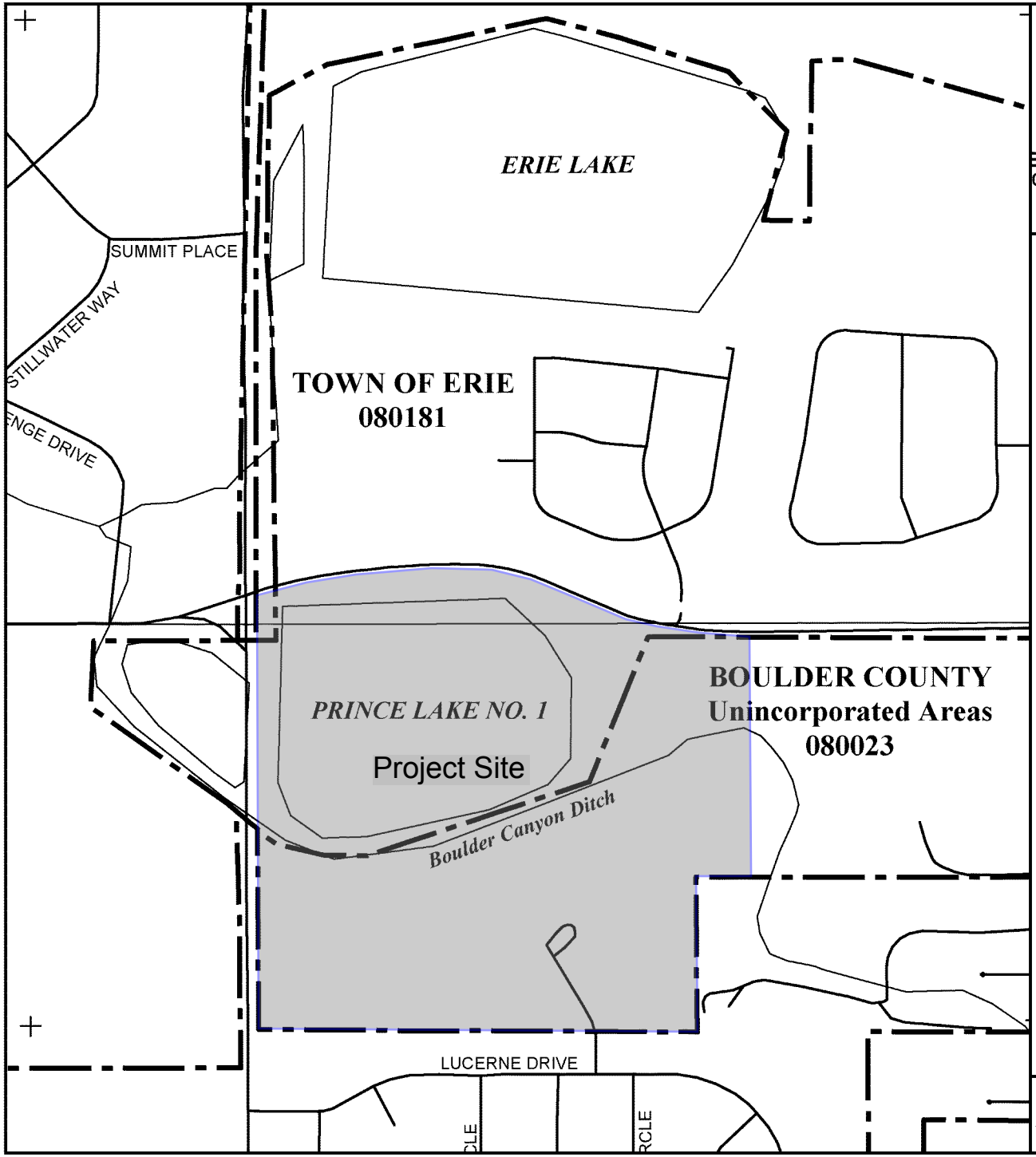
Vicinity Map



Vicinity Map | Erie - Nine Mile Corner

Not to Scale

FEMA Firmette



MAP SCALE 1" = 500'

250 0 500 1000 FEET

0 0 150 300 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

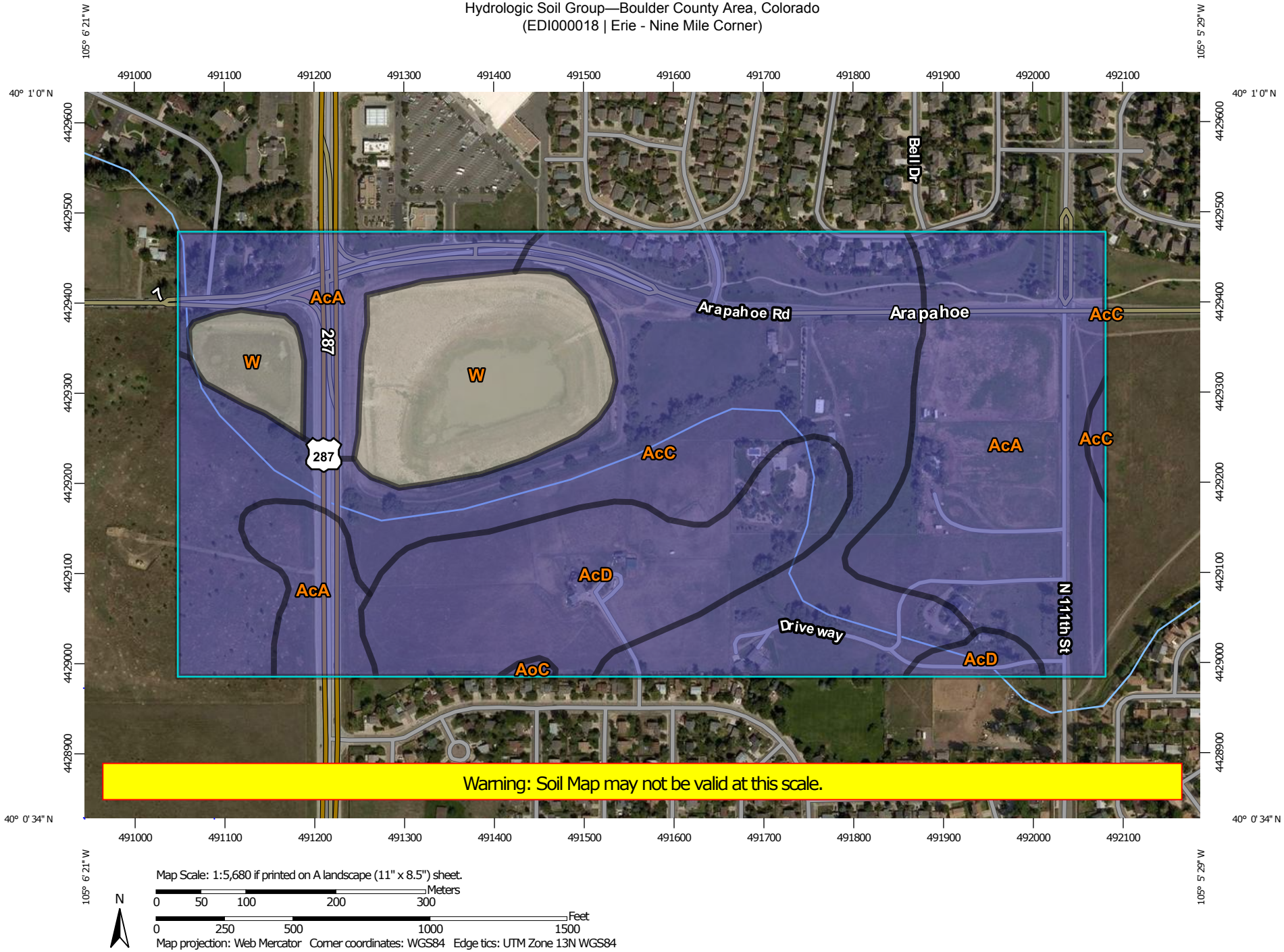
MAP REVISED
DECEMBER 18, 2012

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

Soil Data
(NRCS Web Soil Survey)

Hydrologic Soil Group—Boulder County Area, Colorado
(EDI000018 | Erie - Nine Mile Corner)



Map Scale: 1:5,680 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

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 Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

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.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Boulder County Area, Colorado (CO643)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
AcA	Ascalon sandy loam, 0 to 3 percent slopes	B	39.4	31.2%
AcC	Ascalon sandy loam, 3 to 5 percent slopes	B	50.3	39.7%
AcD	Ascalon sandy loam, 5 to 9 percent slopes	B	19.8	15.6%
AoC	Ascalon-Otero complex, 3 to 5 percent slopes	B	0.2	0.2%
W	Water		16.8	13.3%
Totals for Area of Interest			**126.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Higher

Preliminary Geotechnical Investigation

CTL | THOMPSON INCORPORATED

DRAFT

PRELIMINARY GEOTECHNICAL INVESTIGATION
NINE MILE CORNER – COMMERCIAL AREA
SOUTHEAST OF HIGHWAY 287 AND
ARAPAHOE ROAD
ERIE, COLORADO

Prepared For:

EVERGREEN DEVELOPMENT
1873 South Bellaire Street, #1106
Denver, Colorado 80222

Attention: Angie Grendahl
Ron Wolford

Project No. DN48,647-125

February 24, 2017

1971 West 12th Avenue | Denver, Colorado 80204 | Phone: 303-825-0777 | Fax: 303-825-4252

SCOPE

This report presents the results of our Preliminary Geotechnical Investigation for the commercial area at Nine Mile Corner, southeast of Highway 287 and Arapahoe Road in Erie, Colorado (Fig. 1). We are concurrently performing a Geotechnical Investigation for apartments planned on the east side of the parcel. The purpose of our investigation was to evaluate the subsurface conditions to assist in planning of site development and commercial construction. The report includes descriptions of soil and bedrock strata and groundwater levels encountered in our exploratory borings, and discussions of site development and construction as influenced by geotechnical considerations. The scope was described in our Proposal (DN 16-0532R) dated December 6, 2016. Evaluation of the property for the possible presence of potentially hazardous materials (Environmental Site Assessment) was not included in our scope.

This report is based on subsurface conditions disclosed by exploratory drilling and sampling, results of field and laboratory tests, engineering analysis of field and laboratory data, and our experience. It contains descriptions of the soil and bedrock conditions and groundwater levels found in our exploratory borings, recommendations for site development, and preliminary discussion of potential foundations, floor systems, pavements, and surface drainage. The discussions of foundation and floor system alternatives are intended for planning purposes only. Additional, building-specific investigations will be necessary to design structures and improvements. A brief summary of our conclusions and recommendations follows, with more detailed discussion in the report.

SUMMARY OF FINDINGS AND CONCLUSIONS

1. The primary geotechnical concerns are expansive soil and bedrock, potentially shallow groundwater and deep fill. We believe these concerns can be mitigated with proper investigation, planning, engineering, design and construction. We believe there are no geotechnical constraints at this site that preclude development.

2. Strata found in our borings consisted of nil to 11.5 feet of fill over natural clay, sand, and/or interlayered clay/sand underlain in most borings by weathered to comparatively unweathered claystone and interbedded claystone/sandstone bedrock. Bedrock was not encountered in four borings. Testing indicates the fill is predominately low swelling and the natural clay is low to high swelling. The claystone is low to very high swelling, and we judge the sand is non-expansive.

3. Groundwater was encountered during drilling in fourteen borings at depths of about 3.5 to 28 feet below existing grades. When the holes were checked after drilling, water levels were measured in twenty-one borings at depths of 1.5 to 37.5 feet. Groundwater will likely impact sub-excavation, the retaining walls at the south site limits, and possibly utility installation. Temporary construction dewatering may be necessary. Groundwater may fluctuate seasonally and rise in response to precipitation and landscape irrigation.

4. Expansive soils and bedrock are present. We estimated potential heave of about 1.7 to 8.1 inches at the ground surface based on a depth of wetting of 20 feet below proposed grades. The majority of site borings had heave estimates of 2 inches or less. We anticipate shallow foundations can be used for the north anchor building and building pads along the west and northwest corners of the site. The southern portion of the north anchor pad should be sub-excavated to match existing grades on the northern portion. This will create a relatively uniform fill depth across the building pad and reduce the risk of differential movement. Existing fill should be removed below the northwest building pads.

   Highly expansive claystone and natural clay are present below the south anchor building and southwest building pad. Sub-excavation of the south anchor building and southwest building pad appears merited to potentially allow use of footing-type foundations and enhance performance of slab-on-grade floors.

5. We judge there is relatively low risk of excessive floor movements caused by expansive soils for the north anchor and building pads along the west and northwest corners of the site. Sub-excavation of the south anchor and southwest building pad should reduce potential floor movements.

6. Pavement subgrade soils are likely to be derived of clay and claystone, which are considered poor subgrade material. Imported materials will also support pavements. We anticipate a full depth asphalt section of 5 to 6 inches for parking lots and parking access drives, and 6 to 7 inches for fire/truck lanes and loading dock areas. In areas of highly expansive claystone and/or natural clay (south anchor and southwest building pad parking areas), sub-excavation to depths of 3 to 5 feet can be selected to enhance pavement performance. A design-level subgrade investigation should be done prior to paving.

7. Control of surface and subsurface drainage will be critical to the performance of foundations, slabs-on-grade and pavements. Overall surface drainage should be designed to provide rapid run-off of surface water away from structures and off pavements and flatwork. Water should not be allowed to pond near the crests of slopes, near structures or on pavements and flatwork.

SITE CONDITIONS

The commercial area is planned on the western side of the proposed Nine Mile Corner Development (Fig. 1 and Photo 1). The site is bordered by Arapahoe Road on the north, Highway 287 to the west, and existing single-family residences to the south and east. The ground surface is covered with grass, weeds, bushes and trees. The site generally slopes from south to north, with overall relief of about 50 feet. The northwest portion of the site was previously occupied by Prince Lake No. 1, which was used as a water storage reservoir. Based on Google Earth aerial photos, the reservoir appears to have been constructed in 2003 and remained in use until about 2015 when it was drained and partially filled. An existing ditch traverses the middle portion of the property from west-to-east.

PROPOSED CONSTRUCTION

Plans provided show construction will include two anchor buildings, oriented north-south across the center of the site, and six smaller building pads along the western edge of the parcel. Surface parking and access drives will occupy the area between the anchors and western building pads. Based on site topography and provided grading plans, up to about 21 feet of fill and 33 feet of cut will be necessary to reach final construction grades (Fig. 5). The majority of fill will be located north of the existing ditch, with the deepest fills occurring in the previous reservoir area. A stepped, mechanically stabilized earth retaining wall will be constructed along the south property line, with cuts of 10 to 33 feet occurring north of the wall. Two detention ponds are planned along the north side of the site and the existing ditch will be piped across the site.

ALTA/NSPS Land Title Survey

ALTA/NSPS LAND TITLE SURVEY

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.

TITLE COMMITMENT/REPORT INFORMATION

THIS MAP DOES NOT REPRESENT A TITLE SEARCH BY GALLOWAY & COMPANY, INC. TO DETERMINE OWNERSHIP OR THIS TRACT, VERIFY THE SECRIPTION SHOWN, VERIFY THE COMPATIBILITY OF THIS DESCRIPTION WITH THAT OF ADJACENT TRACTS OR VERIFY EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHT OF WAY OR TITLE THEREOF, GALLOWAY & COMPANY INC. RELIED UPON THE INFORMATION OR TITLE COMMITMENT/REPORT PROVIDED AT THE TIME OF SURVEY BY THE CLIENT.
TITLE INFORMATION IS BASED ON TITLE COMMITMENT/REPORT BY LAND TITLE GUARANTEE COMPANY, FILE NO.: ABZ70471321, WITH AN EFFECTIVE DATE OF OCTOBER 12, 2015 AT 5:00 P.M.

ONLY THOSE ITEMS LISTED IN THE SCHEDULE B-2 EXCEPTIONS ARE ADDRESS

1. ANY FACTS, RIGHTS, INTERESTS, OR CLAIMS THEREOF, NOT SHOWN BY THE PUBLIC RECORDS BUT THAT COULD BE ASCERTAINED BY AN INSPECTION OF THE LAND OR THAT MAY BE ASSERTED BY PERSONS IN POSSESSION OF THE LAND.
2. EASEMENTS, LIENS OR ENCUMBRANCE, OR CLAIMS THEREOF, NOT SHOWN BY THE PUBLIC RECORDS.
3. ANY ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCE AFFECTING THE TITLE THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND AND NOT SHOWN BY THE PUBLIC RECORDS.
4. ANY LIEN, OR RIGHT TO A LIEN, FOR SERVICES, LABOR OR MATERIAL HERETOFORE OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS.
5. DEFECTS, LIENS, ENCUMBRANCES, ADVERSE CLAIMS OR OTHER MATTERS, IF ANY, CREATED, FIRST APPEARING IN THE PUBLIC RECORDS OR ATTACHING SUBSEQUENT TO THE EFFECTIVE DATE HEREOF BUT PRIOR TO THE DATE OF THE PROPOSED INSURED ACQUIRES OF RECORD FOR VALUE THE ESTATE OR INTEREST OR MORTGAGE THEREON COVERED BY THIS COMMITMENT.
6. (A) TAXES OR ASSESSMENTS THAT ARE NOT SHOWN AS EXISTING LIENS BY THE RECORDS OF ANY TAXING AUTHORITY THAT LEVIES TAXES OR ASSESSMENTS ON REAL PROPERTY OR BY THE PUBLICS RECORDS; (B) PROCEEDINGS BY A PUBLIC AGENCY THAT MAY RESULT IN TAXES OR ASSESSMENTS, OR NOTICES OF SUCH PROCEEDINGS, WHETHER OR NOT SHOWN BY THE RECORDS OF SUCH AGENCY OR BY THE PUBLIC RECORDS.
7. (A) UNPATENTED MINING CLAIMS; (B) RESERVATIONS OR EXCEPTIONS IN PATENTS OR IN ACTS AUTHORIZING THE ISSUANCE THEREOF; (C) WATER RIGHTS, CLAIMS OR TITLE TO WATER.

   EXISTING LEASES AND TENANCIES, IF ANY.

8. ALL COAL THAT MAY BE UNDERNEATH THE SURFACE OF THE LAND HEREIN DESCRIBED, ALSO SUCH RIGHT OF WAY AND OTHER GROUNDS AS MAY BE NECESSARY FOR THE PROPER WORKING OF ANY COAL MINES THAT MAY BE DEVELOPED UPON SAID PREMISES AND FOR THE TRANSPORTATION OF THE COAL FROM THE SAME. AS RESERVED UNTO THE UNION PACIFIC RAILWAY COMPANY IN THE DEED RECORDED JUNE 11, 1891 IN BOOK 138 AT PAGE 469, AND ANY AND ALL ASSIGNMENTS THEREOF ON INTERESTS THEREIN.

   (AFFECTS PARCEL C (III)) (AFFECTS AND IS BLANKET IN NATURE)

9. A RIGHT OF WAY FOR DITCHES IN, ON AND OVER SAID PREMISES AND THE RIGHTS TO ENTER UPON SAID PREMISES FOR THE PURPOSE OF REPAIRING AND MAINTAINING SUCH DITCHES, AS RESERVED IN DEED RECORDED MARCH 23, 1893 IN BOOK 158 AT PAGE 300.

   (AFFECTS PARCELS C (III) (PARCEL CIII IS NOT A PART OF THIS SURVEY)

10. ALL COAL THAT MAY BE UNDERNEATH THE SURFACE OF THE LAND, AND THE EXCLUSIVE RIGHT TO PROSPECT, SINK SHAFT OR SHAFTS AND MINE FOR THE SAME; ALSO RESERVING SUCH RIGHT OF WAY AND OTHER GROUNDS AS MAY BE NECESSARY FOR THE PROPER WORKING OF ANY COAL MINE THAT MAY BE DEVELOPED UPON SAID PREMISES AND FOR THE TRANSPORTATION OF COAL FROM THE SAME, AS RESERVED UNTO THE COLORADO MORTGAGE AND INVESTMENT CO., LTD., A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF GREAT BRITAIN AND IRELAND; ANDREW WHITTON; JAMES GUTHRIE; AND ALEXANDER GOURLAY IN THE DEED RECORDED OCTOBER 18, 1901 IN BOOK 249 AT PAGE 209, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN. \

    NOTE: MINERAL DEED RECORDED FEBRUARY 27, 1907 IN BOOK 296 AT PAGE 299.

    NOTE: MINERAL DEED RECORDED SEPTEMBER 11,1929 IN BOOK 566 AT PAGE 360.

    (AFFECTS PARCELS A AND B) (AFFECTS AND IS BLANKET IN NATURE)

11. ALL COAL OR OTHER MINERALS THAT MAY BE UNDERNEATH THE SURFACE OF THE LAND; AND THE EXCLUSIVE RIGHT TO PROSPECT, SING SHAFT OR SHAFTS, AND MINE FOR THE SAME, AS RESERVED UNTO THE COLORADO MORTGAGE & INVESTMENT COMPANY, LIMITED, A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF GREAT BRITAIN AND IRELAND; ANDREW WHITTON; JAMES GUTHRIE; AND ALEXANDER GOURLAY IN THE DEED RECORDED JANUARY 15, 1904 IN BOOK 251 AT PAGE 460, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

    (AFFECTS PARCELS B AND C (III)) (AFFECTS AND IS BLANKET IN NATURE)

12. AN UNDIVIDED ONE-HALF INTEREST IN THE COAL AND OTHER MINERALS LYING UNDERNEATH THE SURFACE OF THE LAND AS CONVEYED TO GEORGE MURRAY, EDWARD E. HOLMES AND ALFRED N. GOSSETT BY THE DEED RECORDED FEBRUARY 27, 1907 IN BOOK 296 AT PAGE 299.

    (AFFECTS PARCELS A, B AND C (II)) (AFFECTS AND IS BLANKET IN NATURE)

13. ALL COAL AND OTHER MINERALS UNDERNEATH THE SURFACE OF THE LAND, AND THE EXCLUSIVE RIGHT TO PROSPECT, SINK OR SHAFTS, AND MINE FOR THE SAME; ALSO RESERVING SUCH RIGHT OF WAY AND OTHER GROUNDS AS MAY BE NECESSARY FOR THE PROPER WORKING OF ANY COAL OR OTHER MINE OR MINES THAT MAY BE DEVELOPED UPON SAID PREMISES AND FOR THE TRANSPORTATION OF THE PRODUCTS THEREFROM, AND FOR SUCH SURFACE AREA SO REQUIRED, AS RESERVED UNTO THE COLORADO MORTGAGE AND INVESTMENT COMPANY, LIMITED, AND CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF GREAT BRITAIN AND IRELAND; ANDREW WHITTON; JAMES GUTHRIE; AND ALEXANDER GOURLAY IN THE DEED RECORDED JANUARY 15, 1910 IN BOOK 340 AT PAGE 259, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

    (AFFECTS A, B AND C (II)) (AFFECTS AND IS BLANKET IN NATURE)

14. AN UNDIVIDED 2 1/2% INTEREST IN A ND TO ALL THE OIL AND GAS IN AND UNDER AND THAT MAY BE PRODUCED FROM THE LAND, AS CONVEYED TO ROY R. CARPENTER BY THE DEED RECORDED JULY 22, 1924 IN BOOK 511 AT PAGE 168, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

15. THE RIGHT TO MAINTAIN, REPLACE AND USE WATER PIPE LINE; AND THE RIGHT TO DRAW WATER FROM SAID RESERVOIR BY MEANS OF SAID PIPE LINE FOR DOMESTIC USE, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS TO REPAIR AND MAINTAIN THE SAME, AS RESERVED UNTO GEORGE L. SCHOFIELD, A. MAUDE SCHOFIELD, FLOYD EUGENE HARRIS, NEVADIA HARRIS, BENNETT W. MUIR AND FRIEDA E. MUIR IN THE DEED RECORDED NOVEMBER 2, 1956 IN BOOK 1028 AT PAGE 471.

    (AFFECTS PARCELS A, AND C (II)) (AFFECTS. NOT PLOTTABLE. EASEMENT IS BASED ON ACTUAL WATER LINE LOCATION WHICH IS UNKNOWN TO THE SURVEYOR AT THIS TIME)

16. ANY RIGHTS OR INTERESTS OF THIRD PARTIES WHICH EXIST OR ARE CLAIMED TO EXIST IN AND OVER THE PRESENT AND PAST BED, BANKS OR WATERS OF SOUTH BOULDER CANYON DITCH, SAID DITCH BEING REFERRED TO IN THE LEGAL DESCRIPTION CONTAINED IN DEED RECORDED APRIL 29, 1968 UNDER RECEPTION NO. 877395 AND DEED RECORDED MAY 21, 1969 UNDER RECEPTION NO. 913694.

    (AFFECTS PARCELS A, AND C (II)) (AFFECTS AND IS BLANKET IN NATURE)

17. ANY CHANGES IN AREA DUE TO THE RELOCATION OR MOVEMENT OF SOUTH BOULDER CANYON DITCH, SAID DITCH BEING DESCRIBED IN THE LEGAL DESCRIPTION CONTAINED IN DEED RECORDED APRIL 29, 1968 UNDER RECEPTION NO. 877395 AND DEED RECORDED MAY 21, 1969 UNDER RECEPTION NO. 913694.

    (AFFECTS PARCEL A AND C (II)) (MAY AFFECT AND IS SHOWN ON SURVEY)

18. AN EASEMENT FOR ROADWAY AND FOR THE MAINTENANCE AND REPAIR OF RESERVOIR, AS RESERVED UNTO THE TOWN OF ERIE IN THE DEED RECORDED APRIL 29, 1968 UNDER RECEPTION NO. 877396.

    (AFFECTS PARCEL B) (AFFECTS AND IS PLOTTED HEREON)

19. EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF COLORADO, FOR NATURAL GAS FACILITIES, AND INCIDENTAL PURPOSES, BY INSTRUMENT RECORDED AUGUST 04, 1981, UNDER RECEPTION NO. 457820.

    (AFFECTS PARCEL A) (AFFECTS AND IS PLOTTED HEREON)

20. OIL AND GAS LEASE BETWEEN TOWN OF ERIE, LESSOR, AND MARTIN EXPLORATION MANAGEMENT CORP., LESSEE, RECORDED MARCH 31, 1983 UNDER RECEPTION NO. 541012, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985 UNDER RECEPTION NO. 702639.
    REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068
    AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    NOTE: NOTICE OF OIL AND GAS INTERESTS AND SURFACE USE IN CONNECTION WITH THE ABOVE LEASE RECORDED JANUARY 23, 2001 UNDER RECEPTION NO. 2112332.

    (AFFECTS PARCELS B, C(I) AND C(II)) (AFFECTS. NO VISIBLE WELL ON SITE)

21. OIL AND GAS LEASE BETWEEN RODGER D. BEERY AND CAMILLA R. BEERY, LESSORS, AND MARTIN EXPLORATION MANAGEMENT CORP., LESSEE, RECORDED APRIL 11, 1983 UNDER RECEPTION NO. 542944, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985, UNDER RECEPTION NO. 702639.
    REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND
    RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    (AFFECTS PARCEL A) (AFFECTS. NO VISIBLE WELL ON SITE)

22. RIGHT OF WAY EASEMENT FOR PIPELINE, AND INCIDENTAL PURPOSES, AS GRANTED TO CDM PIPELINE COMPANY, INC., A COLORADO CORPORATION IN INSTRUMENT RECORDED JULY 16, 1984 UNDER RECEPTION NO. 634026, AND CORRECTION AND AMENDMENT OF PIPELINE RIGHT-OF-WAY GRANT RECORDED OCTOBER 15, 1984 UNDER RECEPTION NO. 652036.

    PIPELINE SURVEY MAP RECORDED SEPTEMBER 28, 1984 UNDER RECEPTION NO. 649253.

    (AFFECTS PARCEL A) (AFFECTS AND IS PLOTTED HEREON)

23. (ITEM INTENTIONALLY DELETED)

24. ANY TAX, LIEN, FEE, OR ASSESSMENT BY REASON OF INCLUSION OF SUBJECT PROPERTY IN THE LONGMONT FIRE PROTECTION DISTRICT, AS EVIDENCED BY INSTRUMENT RECORDED APRIL 29, 1985, UNDER RECEPTION NO. 685397 AND MODIFIED ORDER OF INCLUSION RECOREDED SEPTEMBER 3, 1985 UNDER RECEPTION NO. 710155.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

25. OIL AND GAS LEASE BETWEEN GEORGE W. KUHL, VIVIAN M. KUHL, RODGER D. KUHL AND JANE M. KUHL, LESSORS, AND O.D. PRESLEY, LESSEE, RECORDED MAY 06, 1985 UNDER RECEPTION NO. 686620, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985 UNDER RECEPTION NO. 702639.
    REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068
    AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    (AFFECTS PARCEL B) (AFFECTS AND IS BLANKET IN NATURE)

26. OIL AND GAS LEASE BETWEEN ROY N. AUSTIN, LESSOR, AND O.D. PRESLEY, LESSEE, RECORDED MAY 06, 1985 UNDER RECEPTION NO. 686626, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN

    NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985 UNDER RECEPTION NO. 702639.
    REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND
    RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

27. OIL AND GAS LEASE BETWEEN JANE KUEHNER, MARY F. DEHAAN, MICHAEL R. SHELTON, MARK L. SHELTON, BRUCE D. CARPENTER, JEAN K. CARPENTER, GLENN C. CARPENTER AND SARAH A. CARPENTER, LESSORS, AND O.D. PRESLEY, LESSEE, RECORDED AUGUST 06, 1985 UNDER RECEPTION NO. 703693, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: REVISED AFFIDAVIT OF PRIDUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND
    RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    NOTE: RATIFICATION OF OIL AND GAS LEASE RECORDED JUNE 12, 1986 UNDER RECEPTION NOS. 766084, 766085, AND 766086.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

28. OIL AND GAS LEASE BETWEEN CLAUDE JONES AND ALINE JONES, LESSORS, AND O.D. PRESLEY, LESSEE, RECORDED AUGUST 06, 1985 UNDER RECEPTION NO. 703694, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND
    RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

29. OIL AND GAS LEASE BETWEEN EVAN DUVAL, JR. AND O.D. PRESLEY, LESSORS, AND RICHARDSON OIL COMPANY, LESSEE, RECORDED AUGUST 06, 1985 UNDER RECEPTION NO. 703697, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND
    RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    (PARCELS A, B AND C(I AND II)) (DOCUMENT NOT IN TITLE)

30. OIL AND GAS LEASE BETWEEN WINNIFRED H. EWALT, LESSOR, AND O.D. PRESLEY, LESSEE, TECORDED OCTOBER 08, 1985 UNDER RECEPTION NO. 717948, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND
    RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    NOTE: RATIFICATION OF OIL AND GAS LEASE RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766083.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

31. OIL AND GAS LEASE BETWEEN JAY P. WALKER, LESSOR, AND O.D. PRESLEY, LESSEE, RECORDED JULY 09, 1986 UNDER RECEPTION NO. 772253, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

32. MINERAL DEED RECORDED MARCH 5, 1992 UNDER RECEPTION NO. 1165768.

    (AFFECTS SE 1/4 OF SECTION 27 AND THE N 1/2 OF THE NE 1/4 OF SECTION 34) (AFFECTS AND IS BLANKET IN NATURE)

33. OIL AND GAS LEASE BETWEEN PAUL K. LASNIK, LESSOR, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 17, 1992 UNDER RECEPTION NO. 1168168, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

34. OIL AND GAS LEASE BETWEEN HELEN M. MASTRIONA AND FRANK M. MASTRIONA, LESSORS, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 24, 1922 UNDER RECEPTION NO. 1169721, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

35. OIL AND GAS LEASE BETWEEN DOROTHY J. BLACKBURN AND JOSEPH BLACKBURN, LESSORS, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 24, 1992 UNDER RECEPTION NO. 1169722, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

36. OIL AND GAS LEASE BETWEEN DOLORES T. FORBIS AND DERL D. FORBIS, LESSORS, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 30, 1992 UNDER RECEPTION NO. 1171195, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS BLANKET IN NATURE)

37. OIL AND GAS LEASE BETWEEN MARTIN EXPLORATION MANAGEMENT COMPANY, LESSOR, AND BASIN EXPLORATION INCORPORATED, LESSEE, RECORDED NOVEMBER 08,1993 UNDER RECEPTION NO. 1358710, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: NOTICE OF OIL AND GAS INTERESTS AND SURFACE USE IN CONNECTION WITH THE ABOVE LEASE RECORDED JANUARY 23, 2001 UNDER RECEPTION NO. 2112332.

    (AFFECTS ALL PARCELS) (AFFECTS AND IS PLOTTED HEREON)

38. RESOLUTION #94-25, PERTAINING TO ANNEXATION, RECORDED NOVEMBER 9, 1994 UNDER RECEPTION NO. 1477392 AND MAP IN CONNECTION THEREWITH RECORDED NOVEMBER 9, 1994 UNDER RECEPTION NO. 1477393.

    (AFFECTS PARCEL C (I, II, III) AND A PORTION OF PARCEL B) (AFFECTS AND IS BLANKET IN NATURE)

39. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN NELSON AGREEMENT REGARDING USE OF PUBLIC STREET RECORDED JULY 24, 1998 UNDER RECEPTION NO. 1827415.

    (AFFECTS PARCEL A) (AFFECTS. NOT A PLOTTABLE DESCRIPTION)

40. REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED MAY 17, 2002 UNDER RECEPTION NO. 2288464.

    (AFFECTS PARCEL C(III)) (PARCEL CIII NOT A PART OF THIS SURVEY)

41. REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED OCTOBER 23, 2007 UNDER RECEPTION NO. 2890878.

    (AFFECTS PARCEL C(III)) (PARCEL CIII NOT A PART OF THIS SURVEY)

42. REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED DECEMBER 21, 2007 UNDER RECEPTION NO. 2900941.

    (AFFECTS PARCEL C(III)) (PARCEL CIII NOT A PART OF THIS SURVEY)

43. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN LONG-TER LEASE PURCHASE OPTION AGREEMENT DATED JANUARY 10, 2012 BY AND BETWEEN THE TOWN OF ERIE URBAN RENEWAL AUTHORITY AND BRIAN NELSON AND SHAWNA NELSON, AS MEMERIALIZED BY RECORD NOTICE RECORDED WITH WARRANTY DEED JANUARY 17, 2012 UNDER RECEPTION NO. 3196450.

    NOTE: BY WARRANTY DEED RECORDED JANUARY 16, 2013 UNDER RECEPTION NO. 3282584, BRIAN NELSON AND SHAWNA NELSON CONVEYED OPTION TO PURCHASE, AS SET FORTH IN SAID AGREEMENT, TO TOWN OF ERIE URBAN RENEWAL AUTHORITY.

    (AFFECTS PARCEL A) (AFFECTS AND IS BLANKET IN NATURE)

44. OIL AND GAS LEASE BETWEEN NOBLE ENERGY, INC., A DELAWARE CORPORATION AND EXTRACTION OIL & GAS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, RECORDED MARCH 11, 2015 UNDER RECEPTION NO. 3432573 AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS PARCEL C (III)) (PARCEL CIII NOT A PART OF THIS SURVEY)

45. RESOLUTION #05-2015, PERTAINING TO ANNEXATION, RECORDED APRIL 21, 2015 UNDER RECEPTION NO. 3440934 AND MAP IN CONNECTION THEREWITH RECORDED APRIL 21, 2015 UNDER RECEPTION NO. 3440932. (AFFECTS AND IS BLANKET IN NATURE)

46. RESOLUTION #06-2015, PERTAINING TO ZONING, RECORDING APRIL 21, 2015 UNDER RECEPTION NO. 3440935 AND MAP IN CONNECTION THEREWITH RECORDED APRIL 21, 2015 UNDER RECEPTION NO. 3440933.

    (ITEMS 45-46 AFFECT PARCEL A AND A PORTION OF PARCEL B)
    (AFFECTS AND IS BLANKET IN NATURE)



VICINITY MAP

LEGAL DESCRIPTION (PER TITLE COMMITMENT)

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 00ô04'00" EAST; THENCE SOUTH 89ô48'30" EAST ALONG THE SOUTH LINE OF SAID NORTH HALF NORTHEAST QUARTER, A DISTANCE OF 1434.83 FEET; THENCE NORTH 00ô14'20" 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 89ô41'50" 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 00ô58'00" 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 71ô36'00" WEST 508.65 FEET;
THENCE SOUTH 73ô40'00" WEST, 241.52 FEET;
THENCE NORTH 89ô40'00" WEST, 140.82 FEET;
THENCE NORTH 77ô42'00" WEST, 114.23 FEET;
THENCE NORTH 62ô24'00" 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 00ô04'00" 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 ¼ 20 FEET WEST OF THE NORTHEAST CORNER OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4; THENCE NORTH 89ô41'50" WEST ALONG SAID NORTH LINE, 230.64 FEET;
THENCE SOUTH 00ô58' WEST, 469.96 FEET; THENCE SOUTH 89ô41'50" EAST, 618.52; THENCE NORTH 00ô14'20" EAST, 469.93 FEET TO THE NORTH LINE OF SAID NORTHEAST 1/4; THENCE NORTH 89ô41'50" 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 0ô09' WEST 642.7 FEET; THENCE SOUTH 69ô 45' EAST 211.4 FEET; THENCE NORTH 85ô EAST 195 FEET; THENCE NORTH 71ô53' EAST 718 FEET; THENCE NORTH 24ô20' 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.

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 0ô09' WEST, 642.7 FEET; THENCE SOUTH 69ô45' 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 69ô45' EAST, 208.81 FEET; THENCE NORTH 85ô0' EAST, 195.00 FEET; THENCE NORTH 71ô53' EAST, 718.00 FEET; THENCE SOUTH 0ô58' 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 71ô36' WEST, 508.65 FEET; SOUTH 73ô40' WEST, 241.52 FEET; NORTH 89ô40' WEST, 140.82 FEET; NORTH 77ô42' WEST, 114.23 FEET; NORTH 62ô24' WEST, 118.52 FEET TO A POINT ON THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 34; THENCE NORTH 0ô04' 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.

GENERAL NOTES

1) ACCESS TO THE PROPERTY IS OBTAINED DIRECTLY VIA ARAPAHOE ROAD AND HWY 287.

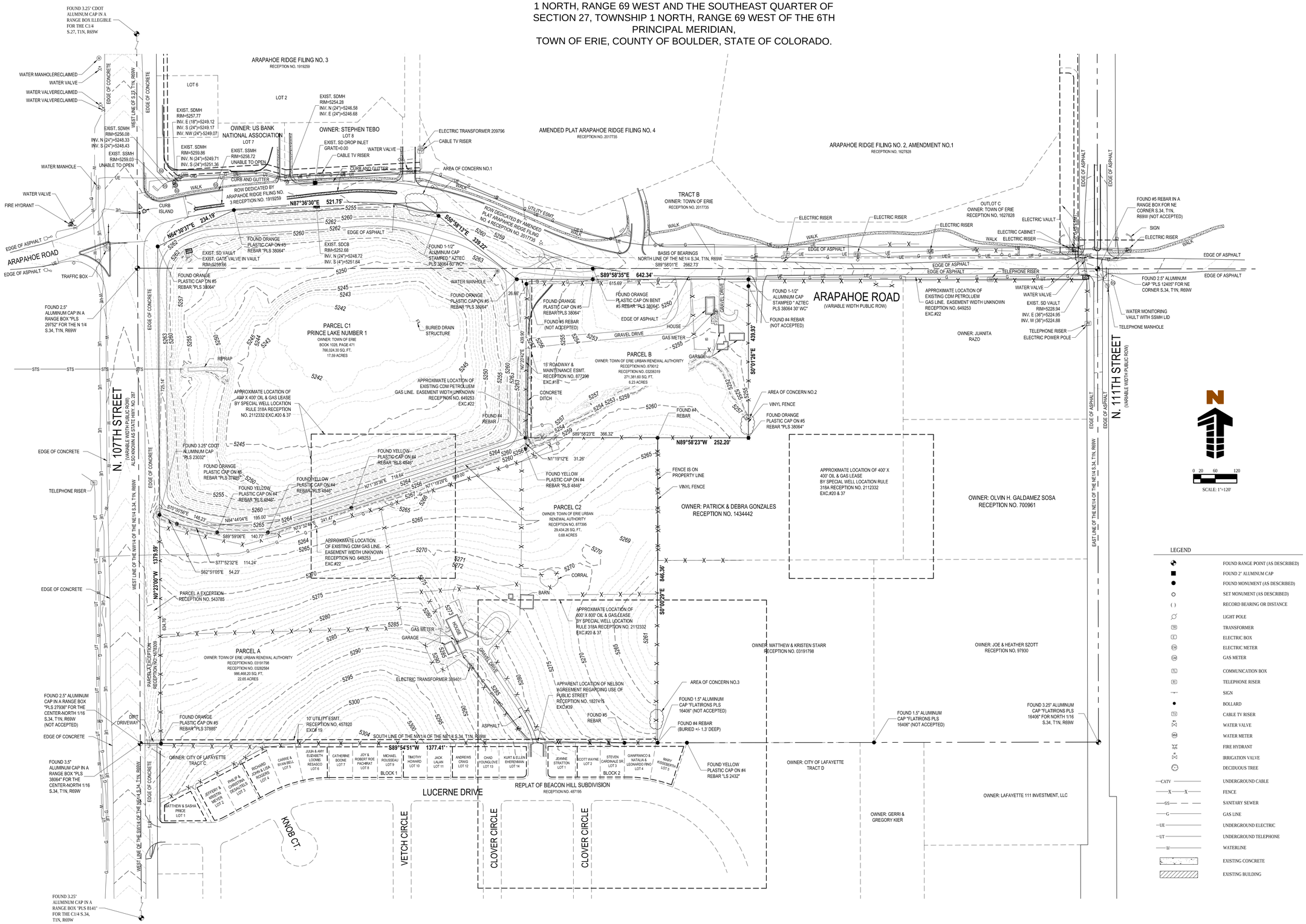
2) FIELD WORK WAS COMPLETED ON: MAY 1, 2016.

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 "PLS27952" IN A RANGE BOX FOR THE N 1/4 CORNER AND MONUMENTED ON THE EAST BY A 2.5" ALUMINUM CAP STAMPED "PLS12405" FOR THE NE CORNER AND IS ASSUMED TO BEAR S 89ô50'01" E.

4) UTILITY NOTE: THE LOCATION OF UTILITIES SHOWN HEREON WAS ESTABLISHED FROM SURFACE EVIDENCE, EXISTING UTILITY MARKERS AND UTILITY LOCATES FROM A UTILITY CONTRACTOR. THE EXACT LOCATION OF BURIED UTILITIES IS UNCERTAIN. PRIOR TO ANY EXCAVATION THE CONTRACTOR SHOULD CONTACT THE UTILITY NOTIFICATION CENT

ALTA/NSPS LAND TITLE SURVEY

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.



LEGEND

- FOUND RANGE POINT (AS DESCRIBED)
- FOUND 2" ALUMINUM CAP
- FOUND MONUMENT (AS DESCRIBED)
- SET MONUMENT (AS DESCRIBED)
- ( ) RECORD BEARING OR DISTANCE
- LIGHT POLE
- TRANSFORMER
- ELECTRIC BOX
- ELECTRIC METER
- GAS METER
- COMMUNICATION BOX
- TELEPHONE RISER
- SIGN
- BOLLARD
- CABLE TV RISER
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- IRRIGATION VALVE
- DECIDUOUS TREE
- CATV — UNDERGROUND CABLE
- X — X — FENCE
- SS — SANITARY SEWER
- G — GAS LINE
- UE — UNDERGROUND ELECTRIC
- UT — UNDERGROUND TELEPHONE
- W — WATERLINE
- EXISTING CONCRETE
- EXISTING BUILDING

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2015. Galloway & Company, Inc. All Rights Reserved

#	Date	Issue / Description	Init.

ALTA/NSPS LAND TITLE SURVEY
EVERGREEN DEVCO INC

TOWN OF ERIE PARCELS
TOWN OF ERIE, COUNTY OF BOULDER, COLORADO

THESE MAPS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

Project No:	EDI000018
Drawn By:	TJK
Checked By:	BJD
Date:	MAY 12, 2016

ALTA/NSPS LAND TITLE SURVEY

SHEET
2 OF 2

Appendix B
Hydrologic Calculations

Rational Method

Galloway & Company, Inc.
3760 E. 15th Street, Suite 202
Loveland, CO 80538
Ph: (970) 800-3300

Job Name: Nine Mile Corner
Job Number: EDI18.01
Date: 5/18/17
By: H. Feissner

Enter Value User Input Cell

Nine Mile Corner

Composite Runoff Coefficient Calculations

Location: Erie
Minor Design Storm: 5
Major Design Storm: 100
Soil Type: B

CA = KA + (1.31i3 - 1.44i2 + 1.135i - 0.12)
CCD = KCD + (0.858i3 - 0.786i2 + 0.774i + 0.04)
CB = (CA + CCD)/2

Basin Design Data									I (%)	Runoff Coefficients			
Basin Name	I (%) =	100%	90%	100%	30%	5%							
	Design Point	$A_{Asphalt}$ (sf)	$A_{Sidewalks}$ (sf)	$A_{Roof\ Area}$ (sf)	$A_{SFHomes}$ (sf)	A_{Lscape} (sf)	A_{Total} (sf)	A_{Total} (ac)	Imp (%)	C_2	C_5	C_{10}	C_{100}
1	1	115,964	0	0	165,086	245,511	526,561	12.09	34%	0.20	0.27	0.33	0.48
2	2	71,433	10,004	0	0	43,433	124,869	2.87	66%	0.42	0.46	0.50	0.60
3	3	39,223	3,179	0	0	6,352	48,754	1.12	87%	0.66	0.68	0.71	0.77
1 to 3	3	226,620	13,183	0	165,086	295,296	700,184	16.07	43%	0.25	0.31	0.37	0.50
TOTAL SITE		**226,620**	**13,183**	**0**	**165,086**	**295,296**	**700,184**	**16.07**	**43.2%**	**0.25**	**0.31**	**0.37**	**0.50**

Galloway & Company, Inc.
3760 E. 15th Street, Suite 202
Loveland, CO 80538
Ph: (970) 800-3300

Job Name: Nine Mile Corner
Job Number: EDI18.01
Date: 5/18/17
By: H. Feissner

Enter Value — User Input Cell

Nine Mile Corner

Time of Concentration Calculations

Location: Erie
Minor Design Storm: 5
Major Design Storm: 100
Soil Type: B

2.00%

Value — "Hard Coded" Value

2.00% min. x-slope on streets
2.50% min. overland slope on lots

Defaults to t_c Urbanized Check — t_c

Sub-Basin Data				Initial Overland Time (t_i)			Travel Time (t_t) t_t=Length/(Velocity x 60)						t_c Comp	t_c Urbanized Check			t_c Final
Basin Name	Design Point	A_{Total} (ac)	C_5	Upper most Length (ft)	Slope (%)	t_i (min)	Length (ft)	Slope (%)	Type of Land Surface	C_v	Velocity (fps)	t_t (min)	Time of Conc $t_i + t_t = t_c$	t_c Urbanized Check	Total Length (ft)	(L/180)+10 (min)	Min t_c
1	1	12.09	0.27	129	*2.00%*	13.8	713	*1.00%*	Paved areas & shallow paved swales	20	2.0	5.9	19.7	OFF	842	14.7	19.7
2	2	2.87	0.46	64	5.09%	5.5	1323	1.36%	Grassed Waterway	15	1.7	12.6	18.1	OFF	1387	17.7	18.1
3	3	1.12	0.68	135	2.57%	6.5	441	1.26%	Paved areas & shallow paved swales	20	2.2	3.3	9.7	ON	576	13.2	9.7
1 to 3	3	16.07	0.31	Uses T_c from basin 1		*19.7*	1836	1.32%	Paved Areas & Shallow Paved Swales	20	2.3	13.3	33.0	OFF	N/A	N/A	33.0

Galloway & Company, Inc.
3760 E. 15th Street, Suite 202
Loveland, CO 80538
Ph: (970) 800-3300

Job Name: Nine Mile Corner
Job Number: EDI18.01
Date: 5/18/17
By: H. Feissner

Nine Mile Corner

Developed Storm Runoff Calculations

Design Storm : **5 Year**

Point Hour Rainfall (P_1) : **1.40**

	Direct Runoff							Total Runoff				Inlets			Pipe					Pipe/Swale Travel Time				
Basin Name	Design Point	Area (ac)	Runoff Coeff	t_c (min)	C*A (ac)	I (in/hr)	Q (cfs)	Total tc (min)	ΣC*A (ac)	I (in/hr)	Q (cfs)	Description / Struture / Inlet Type	Q intercepted	Q carryover	Pipe Size (in) or equivalent	Pipe Material	Slope (%)	Pipe Flow (cfs)	Approx.Max Pipe Capacity (cfs)	Length (ft)	Velocity (fps)	Travel Time (min)	Total Time (min)	Notes
1	1	12.09	0.27	19.7	3.22	2.83	9.11					…												
2	2	2.87	0.46	18.1	1.31	2.97	3.91					…												
3	3	1.12	0.68	9.7	0.76	3.92	3.00																	
1 to 3	3	16.07	0.31	33.0	5.04	2.17	10.91																	

Galloway & Company, Inc.
3760 E. 15th Street, Suite 202
Loveland, CO 80538
Ph: (970) 800-3300

Job Name: Nine Mile Corner
Job Number: EDI18.01
Date: 5/18/2017
By: H. Feissner

Nine Mile Corner

Developed Storm Runoff Calculations

Design Storm : **100 Year**

Point Hour Rainfall (P_1) : **2.70**

	Direct Runoff							Total Runoff				Inlets			Pipe					Pipe/Swale Travel Time				
Basin Name	Design Point	Area (ac)	Runoff Coeff	t_c (min)	C*A (ac)	I (in/hr)	Q (cfs)	Total tc (min)	ΣC*A (ac)	I (in/hr)	Q (cfs)	Description / Struture / Inlet Type	Q intercepted	Q carryover (Qco)	Pipe Size (in) or equivalent	Pipe Material	Slope (%)	Pipe Flow (cfs)	Approx.Max Pipe Capacity (cfs)	Length (ft)	Velocity (fps)	Travel Time (min)	Total Time (min)	Notes
1	1	12.09	0.48	19.7	5.79	5.40	31.24					...												
2	2	2.87	0.60	18.1	1.71	5.64	9.64					...												
3	3	1.12	0.77	9.7	0.87	7.33	6.34																	
1 to 3	3	16.07	0.50	33.0	8.10	4.14	33.53																	

CUHP

CUHP SUBCATCHMENTS

Columns with this color heading are for required user-input
Columns with this color heading are for optional override values
Columns with this color heading are for program-calculated values

								Maximum Depression Storage (Watershed inches)		Horton's Infiltration Parameters			DCIA
Subcatchment Name	EPA SWMM Target Node	Raingage	Area (mi^2)	Length to Centroid (mi)	Length (mi)	Slope (ft/ft)	Percent Imperviousness	Pervious	Impervious	Initial Rate (in/hr)	Decay Coefficient (1/seconds)	Final Rate (in/hr)	Level 0, 1, or 2
200	200	100-Year, 1-Hour	0.151	0.239	0.481	0.026	55	0.38	0.1	4.5	0.0018	0.6	0

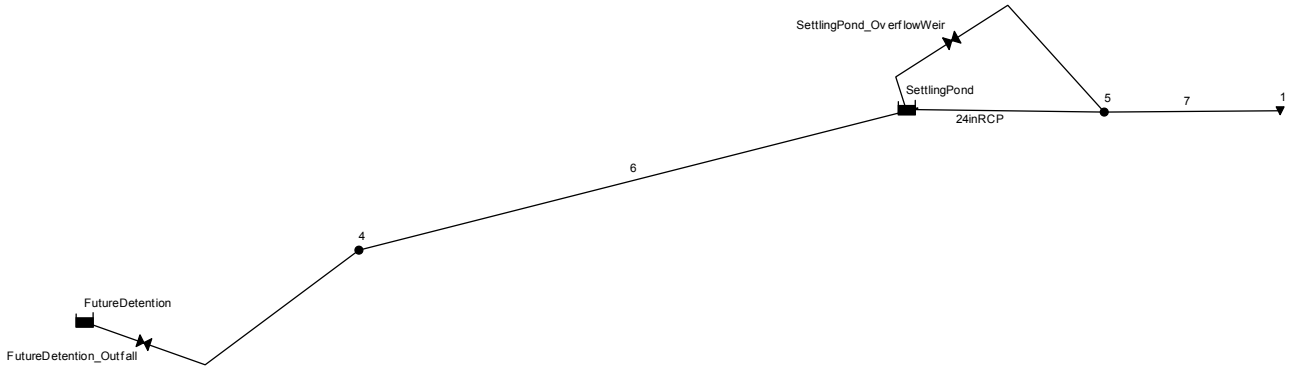
Printouts for Storm Hydrographs

flow in cfs

time in minutes	200
5	0.00
10	0.93
15	16.88
20	44.13
25	103.42
30	266.46
35	331.32
40	307.07
45	269.08
50	230.42
55	190.90
60	164.73
65	145.62
70	114.34
75	85.13
80	59.97
85	43.77
90	33.85
95	27.73
100	23.50
105	20.71
110	18.78
115	17.71
120	17.37
125	13.02
130	8.89
135	6.12
140	4.11
145	2.67
150	1.76
155	1.03
160	0.50
165	0.15
170	0.00

Appendix C
Hydraulic Calculations

EPA SWMM


SettlingPond_OverflowWeir
SettlingPond
24inRCP
5
7
1
6
4
FutureDetention
FutureDetention_Outfall

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.010)

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****
Flow Units ..... CFS
Process Models:
  Rainfall/Runoff ..... NO
  RDII ..... NO
  Snowmelt ..... NO
  Groundwater ..... NO
  Flow Routing ..... YES
  Ponding Allowed ..... NO
  Water Quality ..... NO
Flow Routing Method ..... DYNWAVE
Starting Date SEP-21-2016 00:00:00
Ending Date SEP-21-2016 12:00:00
Antecedent Dry Days 0.0
Report Time Step 00:05:00
Routing Time Step ..... 10.00 sec
Variable Time Step ..... YES
Maximum Trials 8
Number of Threads 1
Head Tolerance ..... 0.005000 ft

**********	Volume	Volume
Flow Routing Continuity	acre-feet	10^6 gal
**********	---	---
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.000	0.000

Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	17.690	5.764
External Outflow	16.088	5.242
Flooding Loss	0.000	0.000
Evaporation Loss	0.000	0.000
Exfiltration Loss	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	1.603	0.522
Continuity Error (%)	-0.004	

****
Time-Step Critical Elements
****
Link 6 (50.28%)

****
Highest Flow Instability Indexes
****
Link FutureDetention_Outfall (17)

****
Routing Time Step Summary
****

Minimum Time Step	:	0.48 sec
Average Time Step	:	8.16 sec
Maximum Time Step	:	10.00 sec
Percent in Steady State	:	0.00
Average Iterations per Step	:	2.00
Percent Not Converging	:	0.00

****
Node Depth Summary
****

Node	Type	Average Depth Feet	Maximum Depth Feet	Maximum HGL Feet	Time of Max Occurrence days hr:min	Reported Max Depth Feet
4	JUNCTION	1.01	2.79	5263.29	0 01:15	2.79
5	JUNCTION	0.88	1.20	5247.10	0 03:39	1.20
1	OUTFALL	0.87	1.20	5243.10	0 03:39	1.20
SettlingPond	STORAGE	2.69	4.53	5258.13	0 03:39	4.53
FutureDetention	STORAGE	1.57	4.47	5264.97	0 01:15	4.47

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CFS	Maximum Total Inflow CFS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 gal	Total Inflow Volume 10^6 gal	Flow Balance Error Percent
4	JUNCTION	0.00	84.86	0 01:15	0	5.76	0.001
5	JUNCTION	0.00	28.23	0 03:39	0	5.24	0.025
1	OUTFALL	0.00	28.23	0 03:39	0	5.24	0.000
SettlingPond	STORAGE	0.00	84.86	0 01:15	0	5.76	0.056
FutureDetention	STORAGE	331.30	331.30	0 00:35	5.77	5.76	0.000

****
Node Surcharge Summary
****

Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Feet	Min. Depth Below Rim Feet
FutureDetention	STORAGE	0.92	0.469	0.531

****
Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 ft3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 ft3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CFS
SettlingPond	245.020	37	0	0	442.200	67	0 03:39	28.23
FutureDetention	122.129	21	0	0	476.990	83	0 01:15	84.86

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CFS	Max Flow CFS	Total Volume 10^6 gal
1	98.79	17.10	28.23	5.242
System	98.79	17.10	28.23	5.242

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CFS	Time of Max Occurrence days hr:min	Maximum |Veloc| ft/sec	Max/ Full Flow	Max/ Full Depth
6	CONDUIT	84.86	0 01:15	9.06	0.84	0.70
7	CONDUIT	28.23	0 03:39	8.88	0.20	0.30
24inRCP	CONDUIT	28.23	0 03:39	9.74	0.89	0.87
FutureDetention_Outfall	ORIFICE	84.86	0 01:15			1.00
SettlingPond_OverflowWeir	WEIR	0.00	0 00:00			0.00

****
Flow Classification Summary
****

Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
6	1.00	0.04	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.00
7	1.00	0.01	0.00	0.00	0.01	0.99	0.00	0.00	0.38	0.00
24inRCP	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.98

****
Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Upstream	Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
24inRCP	0.01	7.10	0.01	0.01	0.01

Analysis begun on: Thu Oct 06 15:56:39 2016
Analysis ended on: Thu Oct 06 15:56:39 2016
Total elapsed time: < 1 sec

Bentley StormCAD V8i

Nine Mile Corner
Bentley StormCAD v8.1 Output

100-Year Storm Event

Date: 4/27/2017

Start Node (In)	Stop Node (Out)	Length (ft)	Diameter (ft)	Flow (cfs)	Velocity (ft/s)	Invert (Start) (ft)	Elevation Ground (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Stop) (ft)	Slope (Calculated) (ft/ft)	System CA (acres)	System Intensity (in/h)	System Rational Flow (cfs)
Storm Drain A													
O-1	Structure - 210	Proposed Open Channel											
Structure - 209	Structure - 210	494.60	48	99.1	15.3	5234.04	5246.71	5225.38	5233.09	0.017	6.89	3.91	*N/A*
Structure - 208	Structure - 209	161.54	48	99.3	7.9	5235.37	5252.11	5234.24	5246.71	0.007	6.89	3.94	*N/A*
Structure - 207	Structure - 208	276.94	42	86.7	9.0	5237.81	5255.51	5235.87	5252.11	0.007	6.89	3.98	*N/A*
Structure - 206	Structure - 207	312.28	42	87.1	9.1	5240.20	5260.00	5238.01	5255.51	0.007	6.89	4.03	*N/A*
Structure - 205	Structure - 206	68.66	36	56.2	8.0	5241.17	5260.67	5240.70	5260.00	0.007	6.89	4.04	*N/A*
Structure - 204	Structure - 205	372.87	36	56.7	8.0	5243.99	5259.12	5241.37	5260.67	0.007	6.89	4.10	*N/A*
Structure - 203	Structure - 204	371.92	36	57.1	8.1	5246.79	5258.24	5244.19	5259.12	0.007	6.89	4.16	*N/A*
Structure - 202	Structure - 203	157.49	36	57.3	8.1	5248.09	5260.33	5246.99	5258.24	0.007	6.89	4.19	*N/A*
Structure - 201	Structure - 202	193.10	30	28.2	5.7	5250.50	5262.22	5249.15	5260.33	0.007	0.00	9.40	*N/A*

		HGL and EGL Results[1,2]							
Column Number→		1	2	3	4	5	6	7	8
Start Node (In)	Stop Node (Out)	Pipe Hydraulic Grade Line (In) (ft)	Pipe Hydraulic Grade Line (Out) (ft)	Pipe Energy Grade Line (In) (ft)	Pipe Energy Grade Line (Out) (ft)	Downstream Structure Hydraulic Grade Line (In) (ft)	Downstream Structure Hydraulic Grade Line (Out) (ft)	Downstream Structure Energy Grade Line (In) (ft)	Downstream Structure Energy Grade Line (Out) (ft)
Storm Drain A									
O-1	Structure - 210	Proposed Open Channel							
Structure - 209	Structure - 210	5237.05	5230.80	5238.53	5231.76	5230.41	5227.79	5230.61	5227.98
Structure - 208	Structure - 209	5240.46	5239.69	5241.43	5240.66	5238.80	5237.05	5240.27	5238.53
Structure - 207	Structure - 208	5243.32	5241.26	5244.58	5242.52	5241.05	5240.46	5242.02	5241.43
Structure - 206	Structure - 207	5246.41	5244.07	5247.68	5245.35	5243.57	5243.32	5244.84	5244.58
Structure - 205	Structure - 206	5248.33	5247.84	5249.32	5248.83	5247.16	5246.41	5248.43	5247.68
Structure - 204	Structure - 205	5252.07	5249.38	5253.07	5250.38	5248.99	5248.33	5249.98	5249.32
Structure - 203	Structure - 204	5255.38	5252.66	5256.40	5253.67	5252.27	5252.07	5253.27	5253.07
Structure - 202	Structure - 203	5257.63	5256.46	5258.65	5257.48	5256.06	5255.38	5257.08	5256.40
Structure - 201	Structure - 202	5259.60	5258.69	5260.11	5259.20	5257.98	5257.63	5259.00	5258.65

Notes:
1. Headloss Method: HEC-22 Energy (Third Edition)
2. Results show entrance and structure losses (e.g., **entrance loss** at SDMH A2 = column 2 - column 5, **structure loss** = column 5 - column 6, **total loss** = entrance loss + structure loss)

Full Spectrum Detention

Detention Pond
Stage-Storage Calculations

Project: Nine Mile Corner
Project Location: Erie, Colorado
Calculations By: H. Feissner
Pond Description: Commercial Area

Date: 9/20/2017

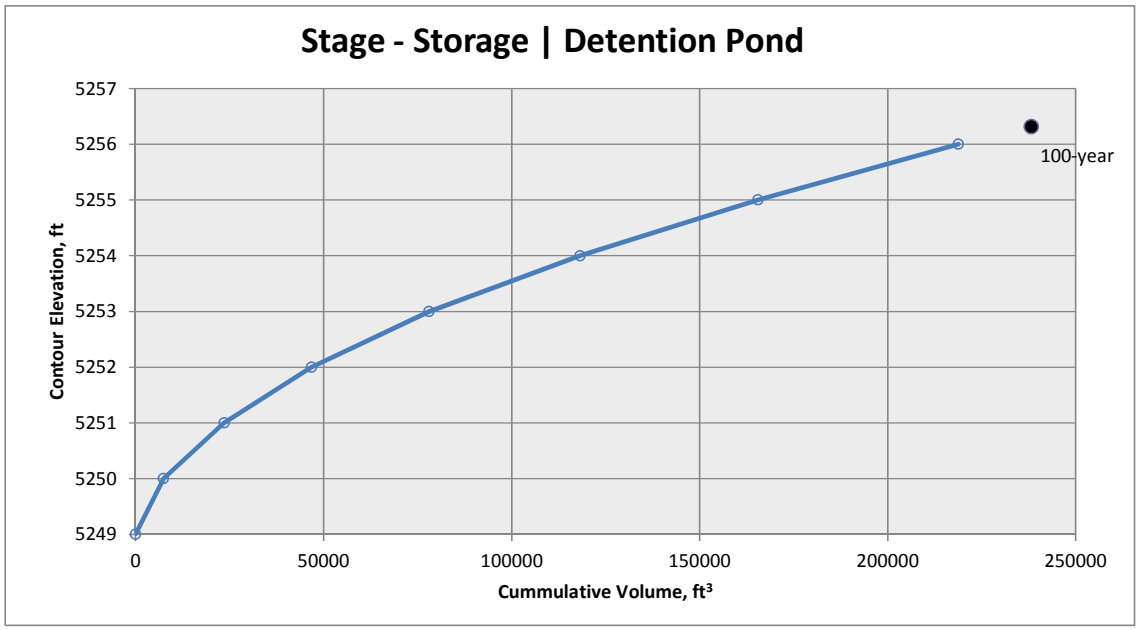
User Input Cell: Blue Text

Design Storm Required Volume, ft^3	Required Volume, ac-ft	Water Surface Elevation, ft
Design Point: Outfall		
Design Storm: **WQCV**		
Required Volume: 35414 ft^3	0.813	5251.51
Design Storm: **EURV**		
Required Volume: 122229 ft^3	2.806	5254.08
Design Storm: **100-year**		
Required Volume: 238229.6 ft^3	5.469	5256.32

Average End Area Method: $V = \frac{1}{2} H (A_1 + A_2)$

Conic Volume Method: $V = \frac{1}{3} H \left(A_1 + A_2 + \sqrt{A_1 \times A_2} \right)$

Contour Elevation	Contour Area	Depth	Incremental Volume	Cummulative Volume	Incremental Volume	Cummulative Volume	Cummulative Volume
ft	ft^2	ft	ft^3	ft^3	ft^3	ft^3	ac-ft
5249.00	3141	0.0	0	0	0	0	
5250.00	12778	1.0	7959	7959	7418	7418	0.2
5251.00	19785	1.0	16282	24241	16154	23572	0.5
5252.00	26831	1.0	23308	47549	23219	46791	1.1
5253.00	35984	1.0	31407	78957	31296	78087	1.8
5254.00	44463	1.0	40223	119180	40149	118235	2.7
5255.00	50205	1.0	47334	166514	47305	165540	3.8
5256.00	56348	1.0	53277	219790	53247	218787	5.0
5257.00	65974	1.0	61161	280951	61098	279885	6.4

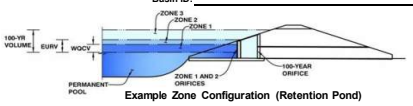


DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)

Project: _____

Basin ID: _____



Example Zone Configuration (Retention Pond)

Required Volume Calculation

Selected BMP Type =	EDB	
Watershed Area =	36.30	acres
Watershed Length =	1,435	ft
Watershed Slope =	0.010	ft/ft
Watershed Imperviousness =	75.00%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	100.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent
Desired WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	Erie	
Water Quality Capture Volume (WQCV) =	0.906	acre-feet
Excess Urban Runoff Volume (EURV) =	3.006	acre-feet
2-yr Runoff Volume (P1 = 0.81 in.) =	1.722	acre-feet
5-yr Runoff Volume (P1 = 1.11 in.) =	2.468	acre-feet
10-yr Runoff Volume (P1 = 1.39 in.) =	3.318	acre-feet
25-yr Runoff Volume (P1 = 1.84 in.) =	4.759	acre-feet
50-yr Runoff Volume (P1 = 2.24 in.) =	5.895	acre-feet
100-yr Runoff Volume (P1 = 2.68 in.) =	7.345	acre-feet
500-yr Runoff Volume (P1 = 3.89 in.) =	11.155	acre-feet
Approximate 2-yr Detention Volume =	1.614	acre-feet
Approximate 5-yr Detention Volume =	2.320	acre-feet
Approximate 10-yr Detention Volume =	3.116	acre-feet
Approximate 25-yr Detention Volume =	3.871	acre-feet
Approximate 50-yr Detention Volume =	4.354	acre-feet
Approximate 100-yr Detention Volume =	4.940	acre-feet

Optional User Override 1-hr Precipitation

	inches
	inches
	inches
	inches
	inches
	inches

Stage-Storage Calculation

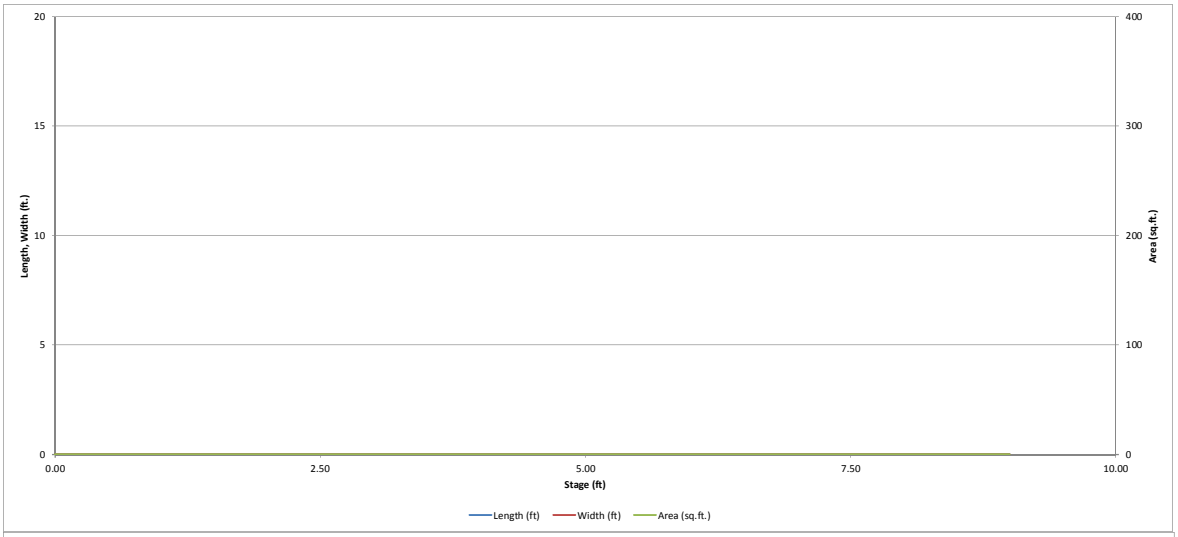
Zone 1 Volume (WQCV) =	0.906	acre-feet
Zone 2 Volume (EURV - Zone 1) =	2.100	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	1.934	acre-feet
Total Detention Basin Volume =	4.940	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet

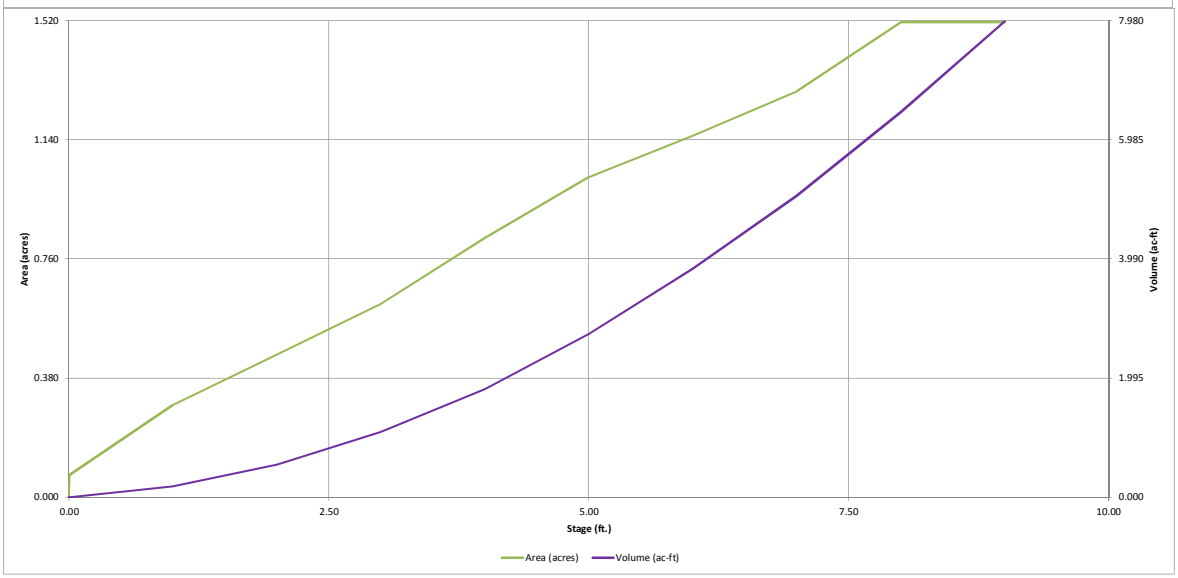
Depth Increment = ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	0	0.000		
	--	0.01	--	--	--	3,141	0.072	10	0.000
	--	1.00	--	--	--	12,778	0.293	7,763	0.178
	--	2.00	--	--	--	19,785	0.454	23,974	0.550
	--	3.00	--	--	--	26,831	0.616	47,480	1.090
	--	4.00	--	--	--	35,984	0.826	78,887	1.811
	--	5.00	--	--	--	44,463	1.021	119,111	2.734
	--	6.00	--	--	--	50,205	1.153	166,445	3.821
	--	7.00	--	--	--	56,348	1.294	219,721	5.044
	--	8.00	--	--	--	65,974	1.515	280,882	6.448
	--	9.00	--	--	--	65,974	1.515	346,856	7.963

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

UD-Detention, Version 3.07 (February 2017)



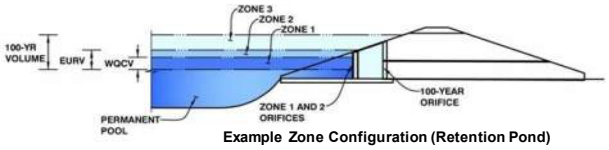


Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)

Project:

Basin ID:



Example Zone Configuration (Retention Pond)

	Stage (ft)	Zone Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	2.69	0.906	Orifice Plate
Zone 2 (EURV)	5.27	2.100	Orifice Plate
Zone 3 (100-year)	6.92	1.934	Weir&Pipe (Circular)
		4.940	Total

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)
Underdrain Orifice Diameter =	N/A	inches

Calculated Parameters for Underdrain

Underdrain Orifice Area =	N/A	ft^2
Underdrain Orifice Centroid =	N/A	feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate =	5.27	ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing =	22.00	inches
Orifice Plate: Orifice Area per Row =	6.32	sq. inches (use rectangular openings)

Calculated Parameters for Plate

WQ Orifice Area per Row =	4.389E-02	ft^2
Elliptical Half-Width =	N/A	feet
Elliptical Slot Centroid =	N/A	feet
Elliptical Slot Area =	N/A	ft^2

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	1.80	3.60					
Orifice Area (sq. inches)	6.32	6.32	6.32					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

	Not Selected	Not Selected	
Invert of Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter =	N/A	N/A	inches

Calculated Parameters for Vertical Orifice

	Not Selected	Not Selected	
Vertical Orifice Area =	N/A	N/A	ft^2
Vertical Orifice Centroid =	N/A	N/A	feet

User Input: Overflow Weir (Dropbox) and Grate (Flat or Sloped)

	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	5.27	N/A	ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length =	8.00	N/A	feet
Overflow Weir Slope =	4.00	N/A	H:V (enter zero for flat grate)
Horiz. Length of Weir Sides =	6.00	N/A	feet
Overflow Grate Open Area % =	70%	N/A	%, grate open area/total area
Debris Clogging % =	50%	N/A	%

Calculated Parameters for Overflow Weir

	Zone 3 Weir	Not Selected	
Height of Grate Upper Edge, H_t =	6.77	N/A	feet
Over Flow Weir Slope Length =	6.18	N/A	feet
Grate Open Area / 100-yr Orifice Area =	8.65	N/A	should be ≥ 4
Overflow Grate Open Area w/o Debris =	34.63	N/A	ft^2
Overflow Grate Open Area w/ Debris =	17.32	N/A	ft^2

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 3 Circular	Not Selected	
Depth to Invert of Outlet Pipe =	0.00	N/A	ft (distance below basin bottom at Stage = 0 ft)
Circular Orifice Diameter =	27.10	N/A	inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

	Zone 3 Circular	Not Selected	
Outlet Orifice Area =	4.01	N/A	ft^2
Outlet Orifice Centroid =	1.13	N/A	feet
Half-Central Angle of Restrictor Plate on Pipe =	N/A	N/A	radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	7.35	ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length =	40.00	feet
Spillway End Slopes =	4.00	H:V
Freeboard above Max Water Surface =	0.50	feet

Calculated Parameters for Spillway

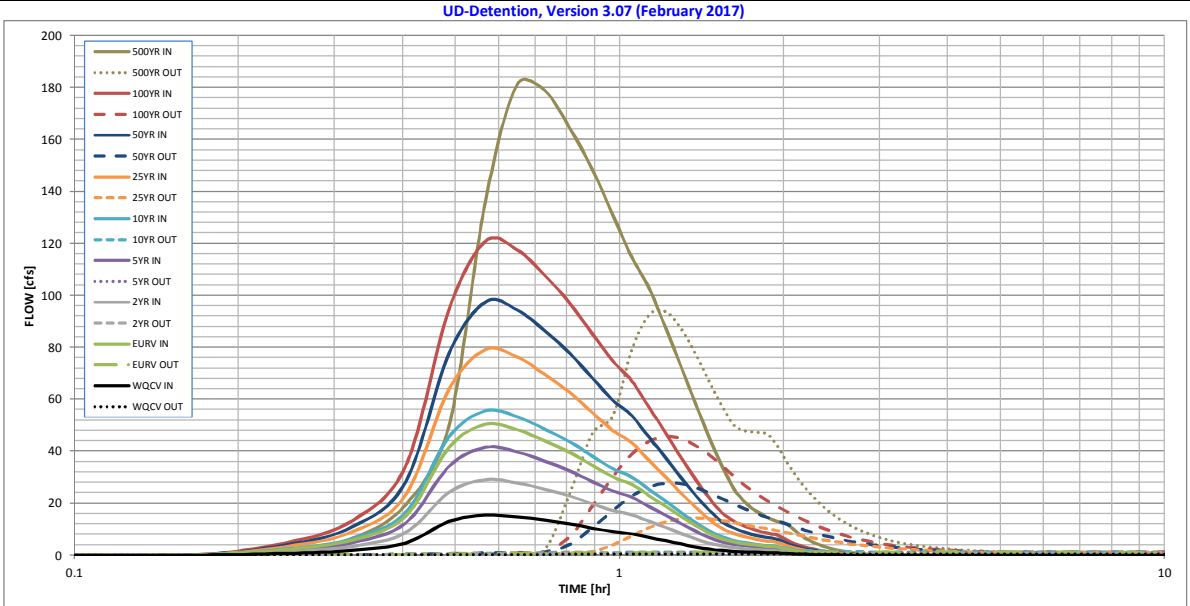
Spillway Design Flow Depth=	0.95	feet
Stage at Top of Freeboard =	8.80	feet
Basin Area at Top of Freeboard =	1.51	acres

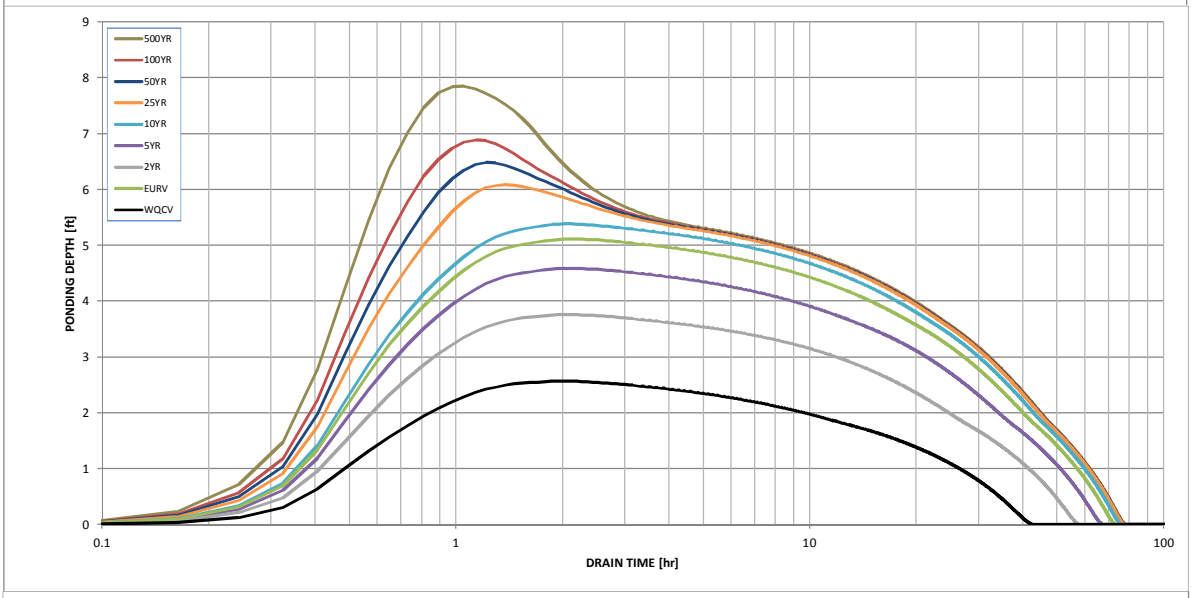
Routed Hydrograph Results

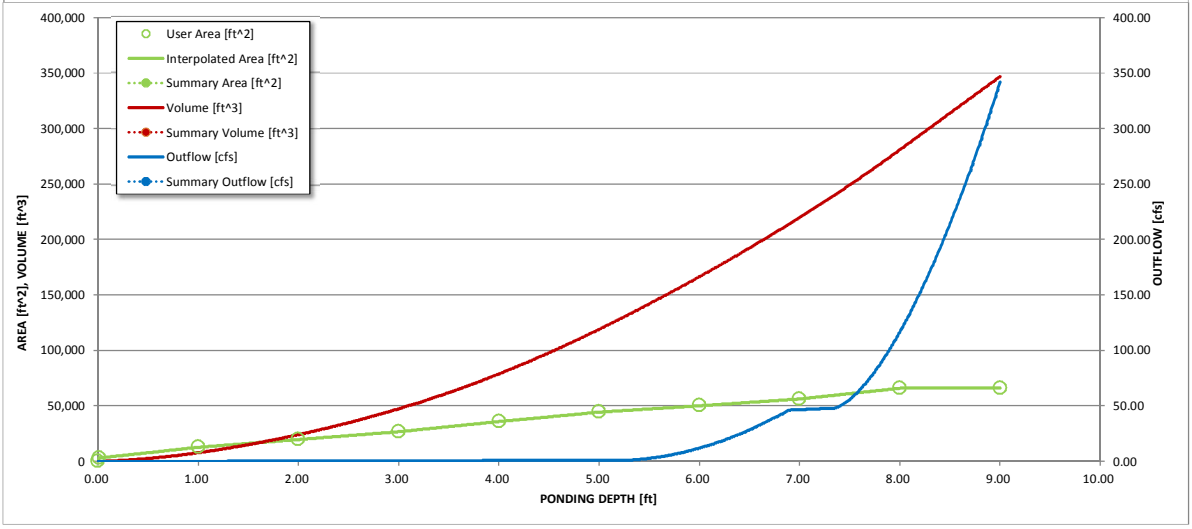
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	0.53	1.07	0.81	1.11	1.39	1.84	2.24	2.68	3.89
Calculated Runoff Volume (acre-ft) =	0.906	3.006	1.722	2.468	3.318	4.759	5.895	7.345	11.155
OPTIONAL Override Runoff Volume (acre-ft) =									
Inflow Hydrograph Volume (acre-ft) =	0.906	3.007	1.722	2.468	3.318	4.760	5.894	7.344	11.155
Predevelopment Unit Peak Flow, q (cfs/acre) =	0.00	0.00	0.01	0.02	0.17	0.63	0.95	1.36	2.35
Predevelopment Peak Q (cfs) =	0.0	0.0	0.3	0.6	6.1	23.0	34.5	49.5	85.1
Peak Inflow Q (cfs) =	15.4	50.4	29.1	41.5	55.5	79.1	97.5	120.8	181.2
Peak Outflow Q (cfs) =	0.5	1.1	0.8	1.0	1.7	14.4	27.7	45.8	93.7
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	1.7	0.3	0.6	0.8	0.9	1.1
Structure Controlling Flow =	Plate	Plate	Plate	Plate	Overflow Grate 1	Overflow Grate 1	Overflow Grate 1	Outlet Plate 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	N/A	0.0	0.4	0.8	1.3	1.4
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	38	63	50	58	65	64	62	60	54
Time to Drain 99% of Inflow Volume (hours) =	**40**	68	54	63	70	71	70	69	66
Maximum Ponding Depth (ft) =	2.56	5.11	3.76	4.58	5.38	6.09	6.48	6.89	7.85
Area at Maximum Ponding Depth (acres) =	0.54	1.03	0.77	0.94	1.07	1.16	1.22	1.28	1.48
Maximum Volume Stored (acre-ft) =	0.835	2.837	1.611	2.323	3.121	3.914	4.391	4.890	6.209

Detention Basin Outlet Structure Design

UD-Detention, Version 3.07 (February 2017)







Detention Basin Outlet Structure Design

Outflow Hydrograph Workbook Filename:

Storm Inflow Hydrographs **UD-Detention, Version 3.07 (February 2017)**

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

Time Interval	SOURCE	WORKBOOK	WORKBOOK	WORKBOOK	WORKBOOK	WORKBOOK	WORKBOOK	WORKBOOK	WORKBOOK	WORKBOOK
	TIME	WQCV [cfs]	EURV [cfs]	2 Year [cfs]	5 Year [cfs]	10 Year [cfs]	25 Year [cfs]	50 Year [cfs]	100 Year [cfs]	500 Year [cfs]
4.86 min	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:04:52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydrograph	0:09:43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Constant	0:14:35	0.68	2.13	1.26	1.77	2.34	3.24	3.90	4.69	6.51
1.029	0:19:26	1.83	5.87	3.42	4.85	6.46	9.07	11.03	13.45	19.40
	0:24:18	4.71	15.08	8.79	12.46	16.58	23.28	28.32	34.54	49.86
	0:29:10	12.93	41.38	24.14	34.20	45.47	63.80	77.59	94.53	136.18
	0:34:01	15.43	50.40	29.08	41.48	55.52	79.13	97.50	120.79	181.18
	0:38:53	14.74	48.35	27.83	39.75	53.29	76.30	94.41	117.61	178.82
	0:43:44	13.42	44.00	25.33	36.18	48.50	69.56	86.23	107.65	164.45
	0:48:36	12.00	39.58	22.73	32.52	43.65	62.68	77.74	97.08	148.44
	0:53:28	10.38	34.54	19.74	28.32	38.12	54.89	68.17	85.28	130.83
	0:58:19	9.04	30.09	17.15	24.65	33.24	47.95	59.61	74.62	114.60
	1:03:11	8.19	27.22	15.55	22.32	30.05	43.24	53.66	67.05	102.56
	1:08:02	6.78	22.75	12.95	18.63	25.13	36.29	45.16	56.62	87.22
	1:12:54	5.56	18.82	10.67	15.39	20.80	30.10	37.49	47.05	72.60
	1:17:46	4.30	14.84	8.35	12.10	16.43	23.90	29.87	37.61	58.42
	1:22:37	3.22	11.40	6.34	9.26	12.64	18.49	23.18	29.27	45.68
	1:27:29	2.33	8.46	4.65	6.85	9.40	13.85	17.42	22.07	34.65
	1:32:20	1.80	6.38	3.54	5.18	7.08	10.36	12.99	16.40	25.56
	1:37:12	1.48	5.16	2.89	4.20	5.71	8.31	10.39	13.07	20.23
	1:42:04	1.25	4.34	2.44	3.54	4.81	6.99	8.73	10.97	16.94
	1:46:55	1.10	3.79	2.13	3.09	4.19	6.08	7.58	9.50	14.63
	1:51:47	0.99	3.39	1.91	2.77	3.75	5.43	6.76	8.48	13.02
	1:56:38	0.91	3.11	1.76	2.54	3.44	4.97	6.19	7.75	11.88
	2:01:30	0.67	2.30	1.30	1.88	2.55	3.72	4.66	5.88	9.17
	2:06:22	0.49	1.67	0.94	1.37	1.85	2.69	3.36	4.24	6.61
	2:11:13	0.36	1.23	0.70	1.01	1.37	1.99	2.49	3.14	4.91
	2:16:05	0.27	0.92	0.51	0.75	1.02	1.48	1.85	2.34	3.64
	2:20:56	0.19	0.67	0.37	0.54	0.74	1.09	1.36	1.72	2.70
	2:25:48	0.13	0.48	0.26	0.39	0.53	0.78	0.98	1.24	1.95
	2:30:40	0.10	0.35	0.19	0.28	0.39	0.57	0.71	0.90	1.41
	2:35:31	0.06	0.24	0.13	0.19	0.27	0.40	0.50	0.64	1.01
	2:40:23	0.04	0.15	0.08	0.12	0.17	0.26	0.33	0.42	0.67
	2:45:14	0.02	0.09	0.04	0.07	0.10	0.15	0.19	0.25	0.40
	2:50:06	0.01	0.04	0.02	0.03	0.04	0.07	0.09	0.12	0.20
	2:54:58	0.00	0.01	0.00	0.01	0.01	0.02	0.03	0.04	0.07
	2:59:49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:04:41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:09:32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:14:24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:19:16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:24:07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:28:59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:33:50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:38:42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:43:34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:48:25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:53:17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:58:08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:03:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:07:52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:12:43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:17:35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:22:26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:27:18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:32:10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:37:01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:41:53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:46:44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:51:36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:56:28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:01:19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:06:11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:11:02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:15:54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:20:46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:25:37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:30:29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:35:20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:40:12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:45:04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:49:55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Bentley FlowMaster

Existing Channel | West of 111th Street

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.035	
Channel Slope	0.02000	ft/ft
Normal Depth	1.50	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)

Results

Discharge	43.71	ft^3/s
Flow Area	9.00	ft^2
Wetted Perimeter	12.37	ft
Hydraulic Radius	0.73	ft
Top Width	12.00	ft
Critical Depth	1.49	ft
Critical Slope	0.02049	ft/ft
Velocity	4.86	ft/s
Velocity Head	0.37	ft
Specific Energy	1.87	ft
Froude Number	0.99	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.50	ft
Critical Depth	1.49	ft
Channel Slope	0.02000	ft/ft
Critical Slope	0.02049	ft/ft

Existing Channel | West of 111th Street

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.035	
Channel Slope	0.02000	ft/ft
Normal Depth	2.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)

Results

Discharge	94.14	ft^3/s
Flow Area	16.00	ft^2
Wetted Perimeter	16.49	ft
Hydraulic Radius	0.97	ft
Top Width	16.00	ft
Critical Depth	2.03	ft
Critical Slope	0.01850	ft/ft
Velocity	5.88	ft/s
Velocity Head	0.54	ft
Specific Energy	2.54	ft
Froude Number	1.04	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.00	ft
Critical Depth	2.03	ft
Channel Slope	0.02000	ft/ft
Critical Slope	0.01850	ft/ft

Appendix D
Supporting Documentation

Love & Associates, Inc
Erie Outfall Systems Planning
Preliminary Design Erie and Adjacent Boulder and Weld County Areas
May 2001

BULLHEAD GULCH/PRINCE TRIBUTARY

BULLHEAD GULCH OFFSITE
SEE FIGURE: 3

COAL CREEK TRIBUTARIES

COAL CREEK OFFSITE
SEE FIGURE: 3

SCALE: 1"=1500'

MATCHLINE SEE FIGURE 2b

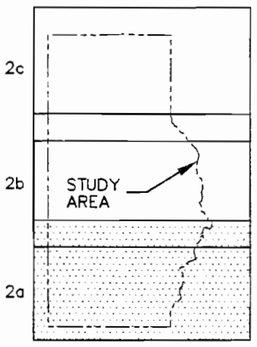
NORTH 107TH STREET
NORTH 111TH STREET
NORTH 119TH STREET
NORTHEAST LINE ROAD
WELD COUNTY
BOULDER CO.
COAL CREEK
ARAPAHOE RD.
BASELINE ROAD

STUDY AREA BOUNDARY

LEGEND

- CATCHMENT I.D. — 800 / 80.5 CATCHMENT ACRE
- WATERSHED DIVIDE
- CATCHMENT BOUNDARY
- MINOR CATCHMENT BOUNDARY
- OUTFALL FLOW PATH
- STUDY AREA BOUNDARY
- DETENTION AREA — 2000
- UDSWM CHANNEL/PIPE ELEMENT — 2000
- OFFSITE CATCHMENT — 800 / SWMM CATCHMENT SOURCE
- DESIGN POINT/NODE — 902

SHEET INDEX



DATE: MAY 22, 2000
C:\PROJECTS\9922A\BASIN3.DWG

Love & Associates, Inc. water resource consultants 841 Front Street Louisville, Colorado 80027-1849 Phone: 303-673-9795 Fax: 303-673-9796	DESIGNED: RJP DRAWN: DM CHECKED: DJL DATE: 5-00	TOWN OF ERIE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT	ERIE AND ADJACENT AREAS OUTFALL SYSTEMS PLANNING	CATCHMENT DELINEATION AND SWMM ELEMENTS IN THE STUDY AREA	Figure 2a Page II - 3

Table 9. Design Point Flood Peaks, Future Percent Imperviousness (cont'd)

Coal Creek Tributaries Future Percent Imperviousness (con.)

525	27	91	130	172	324	398	132	43
526	5	21	34	69	197	355	183	45
528	4	12	19	24	45	57	36	15
529	27	97	147	194	364	442	314	46
530	20	78	155	240	580	717	464	47
531	27	97	181	276	674	843	561	46
532	34	116	198	300	731	924	625	46
534	31	106	156	202	355	423	95	78
536	39	134	199	258	456	543	126	78
538	75	254	378	499	1033	1295	778	53
917	72	225	345	480	1041	1310	857	53
918	13	42	63	84	165	206	120	30
539	20	64	97	128	239	290	120	49
919	32	103	154	204	376	454	177	56
920	6	20	32	41	73	85	34	29
540	15	47	70	93	180	223	88	42
541	26	90	142	197	408	494	270	43
921	32	108	170	237	490	598	338	41
922	1	2	3	4	10	15	30	2
923	1	3	4	5	10	15	48	2
924	1	3	5	7	13	18	59	2

Bullhead Gulch/Prince Tributary Future Percent Imperviousness

UDSWM Design Point	Peak Discharge (cfs) Flood Event						Cumulative Area (ac)	Cumulative Percent Impervious
	0.4-in	2-yr	5-yr	10-yr	50-yr	100-yr		
300	17	63	96	131	277	356	152	27
302	6	23	32	43	91	115	43	30
303	37	139	207	283	585	745	334	27
305	47	167	254	347	728	921	408	30
306	19	68	180	303	754	976	533	24
308	38	101	216	344	1038	1389	815	28
310	16	59	88	115	219	265	77	47
311	54	156	267	424	1203	1613	957	31
312	84	281	438	604	1465	1971	1290	33
313	90	300	464	636	1547	2080	1401	33
315	112	381	591	810	1774	2379	1615	34
320	1	2	11	30	118	165	122	2
321	1	5	15	40	166	237	222	2
322	110	486	1146	1747	3211	3967	281	3
323	108	474	1117	1706	3170	3925	368	6
317	201	690	1526	2341	4740	5998	1983	29
318	208	704	1556	2387	4837	6123	2136	29
319	206	699	1539	2365	4813	6097	2200	28
940	189	670	1470	2259	4631	5878	2300	27

Table 9. Design Point Flood Peaks, Future Percent Imperviousness (cont'd)

Boulder Creek Tributaries Future Percent Imperviousness

UDSWM Design Pnt.	Peak Discharge (cfs) 0.4-in	2-yr	5-yr	10-yr	50-yr	100-yr	Cumulative Area (ac)	Cumulative % Impervious
950	1	2	9	24	88	123	94	2
700	0	1	3	7	30	45	51	2
951	0	2	10	23	80	113	103	2
952	2	8	15	31	104	143	104	6
701	0	1	3	7	29	40	26	2
953	2	10	19	41	151	210	142	6
954	0	1	5	12	39	54	46	2
702	0	2	4	9	34	48	25	5
703	2	6	18	39	134	189	155	5
955	1	4	18	41	131	182	231	4
956	4	15	28	51	156	208	95	13
704	5	19	33	52	133	172	66	20
957	6	22	39	64	171	224	95	17
705	15	46	66	87	165	203	67	47
706	49	149	218	290	558	691	249	43
707	34	117	174	234	462	574	198	41
708	75	238	360	492	1019	1276	572	39
709	55	168	272	396	913	1178	719	35
710	52	162	267	394	913	1191	795	32
958	51	161	270	401	931	1216	840	30
959	1	4	11	21	57	76	52	9
750	0	13	318	581	1178	1455	1638	2
712	1	13	305	569	1196	1494	1774	2
713	3	16	332	629	1364	1717	2044	2
714	6	23	337	630	1375	1736	2121	3
960	5	20	332	622	1364	1726	2168	3
715	10	35	50	64	120	147	50	37
716	21	66	97	128	248	307	139	36
717	19	62	99	142	313	394	219	29
961	15	49	86	130	295	379	248	26
718	5	20	36	59	167	222	104	14
719	5	20	37	64	188	250	145	11
962	4	14	40	79	246	327	250	7
963	0	1	5	11	39	56	80	2
720	1	3	17	36	116	157	80	4
721	4	15	31	65	212	289	168	7
964	2	9	35	73	222	302	220	6
965	0	2	12	27	93	133	122	2
966	1	3	5	7	14	21	58	2
967	0	1	1	2	7	11	16	2
722	0	2	18	39	124	171	130	2
968	0	3	24	51	159	220	176	2
969	0	1	6	13	35	48	42	2
999	0	1	8	18	54	77	73	2

RESPEC Consulting & Services
Town of Erie Outfall Systems Plan (West of Coal Creek)
January 2014

Prince Tributary

Prince Tributary is a right bank tributary of Boulder Creek, Outfall 940. Bullhead Gulch is an offsite watershed that enters the west side of the study area. The interaction between Prince Tributary and Bullhead Gulch varies with the amount of flow carried by each drainageway. It is possible for flows in Prince Tributary to enter Bullhead Gulch and continue on down to outfall at Boulder Creek. It is also possible for flows in Prince Tributary to bypass the junction with Bullhead Gulch and be conveyed to an irrigation pond on the right bank of Boulder Creek just upstream of the confluence of Bullhead Gulch and Boulder Creek. For the purposes of this plan, Prince Tributary is considered to flow to the irrigation pond. There is currently no formal outfall from the irrigation pond to Boulder Creek.

Prince Tributary originates just to the east of Prince Lake #2, at the outlet of the detention pond located in the Arapahoe Ridge Filing 1 development. A portion of the City of Lafayette contributes to the Prince Tributary drainage.

From the Arapahoe Ridge development, Prince Tributary flows north through the planned Flatiron Meadows development, located south of Erie Parkway and east of N. 111th Street within the Town of Erie. Prince Tributary leaves the Town of Erie and enters unincorporated Boulder County and the Brownsville subdivision. Several properties within the Prince Tributary watershed are located within unincorporated Boulder County and are zoned as open space. A FEMA 100-year floodplain is designated for Prince Tributary. Prince Tributary was divided into six unique reaches for analysis.

Reach 1 – Boulder Creek to Jasper Road

Reach 1 is located in unincorporated Boulder County and is zoned entirely as open space. The Boulder and Weld County Ditch traverses west to east through the reach. A defined channel for Prince Tributary does not exist north of the Boulder and Weld County Ditch. This reach of Prince Tributary has a FEMA designated 100-year floodplain.

Reach 2 – Jasper Road to the Union Pacific Railroad

Reach 2 is also located in unincorporated Boulder County. A linear low flow channel exists from the Union Pacific Railroad downstream to Jasper Road. Downstream of Jasper Road, low flows from Prince Tributary are inadvertently intercepted by the Boulder and Weld County Ditch. This reach of Prince Tributary has a FEMA designated 100-year floodplain.



Jasper Road Crossing



Channel Downstream of Jasper Road

Reach 3 – Union Pacific Railroad to 320' upstream of Flatiron Drive

Reach 3 is located in unincorporated Boulder County and is comprised entirely of the Brownsville subdivision. The upstream limit of Reach 3 is the boundary between Boulder County and the Town of Erie. A defined low flow channel exists for Prince Tributary through this entire reach.



Channel Upstream of Flatiron Drive



Channel Upstream of Dobbins Run

Box culverts convey the drainage through two road crossings, Flatiron Drive and Dobbins Run



Dobbins Run Crossing



Flatiron Drive Crossing

The Lower Boulder Ditch traverses west to east through the reach. A 36" steel culvert conveys Prince Tributary beneath the Lower Boulder Ditch. This reach of Prince Tributary has a FEMA designated 100-year floodplain. Several residential structures are located within the 100-year floodplain.

Reach 4 – 320' upstream of Flatiron Drive to Erie Parkway



Low Flow Channel

Reach 4 is located in the Town of Erie. A defined low flow channel exists for Prince Tributary through the entire reach. Parcels located along the drainageway are zoned Rural Residential. A few large lot residential properties are currently located along the reach. An area of zoned open space is located just to the west of Prince Tributary. This reach of Prince Tributary has a FEMA designated 100-year floodplain.

Reach 5 –Erie Parkway to Walker Street (Arapahoe Ridge Subdivision)

Reach 5 is located in the Town of Erie. The reach is entirely undeveloped and is the future location of the Flatiron Meadows development. At the time of this report, initial overlot grading had begun in the northeast portion of the Flatiron Meadows development. Based on aerial photography, it appears a defined low flow channel exists for Prince Tributary through the reach. This reach of Prince Tributary has a FEMA designated 100-year floodplain.



Undeveloped Drainageway



New Development

Reach 6 –Walker Street (Arapahoe Ridge Subdivision) to Arapahoe Road (City of Lafayette boundary)

Reach 6 is located in the Town of Erie and extends to the boundary with the City of Lafayette at Arapahoe Road. The outfall alignment is located between Filings 1 and 2 of the Arapahoe Ridge subdivision.

A preliminary channel design was developed for this reach to convey stormwater flows north from Arapahoe Road along N. 111th Street to a point at the southwest corner of Prince Lake No. 2, which is located in unincorporated Boulder County. Prince Lake No. 2 is owned by Boulder County and is used for irrigation water supply.



Prince Lake No.2

3.0 HYDROLOGIC ANALYSIS

3.1 OVERVIEW

A detailed hydrologic analysis was performed for the study area to determine peak discharges for the 2-, 5-, 10-, 25-, 50- and 100-year storm frequencies for existing and future development conditions. The latest version of the CUHP computer program, CUHP 2005, Version 1.3.3, was used to estimate storm runoff hydrographs for the individual subbasins. EPA SWMM, Version 5.0.022, was used to route the hydrographs through the watershed. The UDFCD computer program CUHP/SWMM Converter, Version 1.3.2.36493, was used to convert previous versions of UDSWM to the current versions. This baseline hydrologic analysis updates the hydrologic analysis from the 2001 OSP.

3.2 UDSWM CONVERSION

RESPEC, in conjunction with the project sponsors, recommended that the effort used to develop the 2001 OSP hydrology be utilized, after review and QA/QC check. In order to utilize the 2001 OSP analysis, it was first necessary to convert the model files to the current versions of CUHP and SWMM. This was done with CUHP/SWMM Converter, Version 1.3.2.36493. RESPEC performed a thorough check of the converted input files to verify validity of the data.

The 2001 OSP hydrologic analysis utilized UDSWM to develop subbasin hydrographs and route them through the watershed to their outfall locations. CUHP was not used to develop the subbasin hydrographs in the 2001 OSP. CUHP was used to calibrate the UDSWM model based on five subbasins within the study area. Therefore, a new CUHP model was developed to generate the subbasin hydrographs based on the UDSWM model input. New CUHP input variables, not required by UDSWM, were also developed, including subbasin length and distance to subbasin centroid. All other UDSWM input was left unchanged for the conversion process.

EPA SWMM requires invert elevations for each node. UDSWM only requires a starting elevation and channel slopes from one node the next. In order to convert UDSWM to EPA SWMM, a starting outfall elevation must be assigned during the conversion process. The remaining upstream node elevations are assigned automatically by the converter program based on this outfall elevation and the conduit slopes of the UDSWM model (EPA SWMM terminology includes pipes and open channels as conduits). However, this method can result in erroneous node elevations, especially in the upper portions of the watershed. It was found that the 2001 OSP node elevations, once converted to EPA SWMM, were generally higher than actual elevations. Therefore, node elevations were revised for each node in the EPA SWMM model based on the 2-foot topographic mapping.

Once the 2001 OSP models were converted, differences were observed in the results. A detailed review was conducted to determine the source of differences between the 2001 OSP results produced using the older software versions and the results from the converted models. The 2001 OSP did not include a separate CUHP model; therefore it was not possible to compare the results for each individual subbasin. Peak flows were compared at all design points along the outfalls.

The updated CUHP/SWMM results were mixed, with some design points having lower peak flows than the 2001 OSP, and some higher. A complete summary of the conversion results is included in Table 3-2 at the end of this section.

It was found that several irregularly shaped, single basin outfalls, produced results significantly different than the 2001 OSP. These subbasins were compared to other subbasins with similar imperviousness by plotting the subbasin peak runoff versus subbasin area. However, no pattern emerged from this comparison. The discrepancies were attributed to the effects of model calculation changes between the software versions, UDSWM and CUHP.

3.3 CALIBRATION

Some of the improvements recommended in the 2001 OSP have been implemented throughout the study area, including regional detention ponds and channel improvements. These improvements were designed based upon the 2001 hydrologic analysis. Therefore, to avoid discrepancies in the study area hydrology due solely to revisions in software, an effort was made to calibrate the updated hydrologic models. Following the calibration process, the hydrologic model would be updated with physical changes in the watershed, including additional regional detention ponds built since the 2001 OSP, revised land use assumptions, and corresponding subbasin impervious values to create the baseline hydrologic analysis.

The calibration process was aimed at adjusting the revised 100-year peak discharges to within 10% of the effective peak discharges from the 2001 OSP. This was done by adjusting the Cp coefficient in CUHP. Through discussions with the project sponsors, it was determined that only three subbasins required calibration, Subbasins 212, 440, and 487. Calibration of these subbasins was required to reduce 100-year peak flows at design points 310, 511, and 539, respectively.

Peak flows at design points that were significantly less than the 2001 results were analyzed for errors, but were not calibrated up to meet the 2001 peak flows. Several smaller outfalls with peak flow differences greater than $\pm$10% were left uncalibrated based on several factors including: the subbasins are located entirely in planned open space, single subbasin outfalls with no proposed improvements, and peak flow discrepancies due to an irregular basin shape.

The calibrated hydrologic model was then updated with additional regional detention ponds built since the 2001 OSP, revised land use assumptions, and corresponding subbasin impervious values to create the baseline hydrologic analysis. This is summarized in the flowing sections.

Table 4-1
Existing Drainage Facilities

Street Name	Location	Street Classification	Structure	Outfall	Existing Capacity Culvert Only (cfs)	Existing Capacity Culvert Only (return period)	Existing Capacity with Allowable Overtopping (cfs)	Existing Capacity with Allowable Overtopping (return period)
Coal Creek Outfalls								
Flagg Drive	Just south of Baseline Road	Collector	43" x 68" HERCP	Drainageway 2 South	151	-	308	-
Baseline Road	Just east of County Line Road	Arterial	24" CMP	Drainageway 2 South	23	-	23	-
Briggs Street	700' north of Erie Parkway	Collector	6' x 10' RCBC	Briggs Street	615	100 yr	772	100 yr
County Line Road	Just north of Baseline Road	Arterial	30" CMP	Drainageway 2 South	34	< 2 yr	34	< 2 yr
County Line Road	740' north of Baseline Road	Arterial	18" RCP	Drainageway 2 North	16	-	16	-
County Line Road	620' north of Arapahoe Road	Arterial	18" RCP	Erie Farms 1	16	< 2 yr	16	< 2 yr
County Line Road	440' south of Austin Avenue	Arterial	35" x 107" RCBC[1]	Erie Commons 1	200	-	200	-
County Line Road	3,500' north of Erie Parkway	Arterial	3' x 10' RCBC x2	Briggs Street	516	100 yr	516	100 yr
N. 119th Street	Just north of Baseline Road	Arterial	18" CMP	Drainageway 2 South	11	-	11	-
N. 119th Street	250' north of Baseline Road	Arterial	24" RCP	Drainageway 2 South	29	< 2 yr	29	< 2 yr
N. 119th Street	1,650' north of Baseline Road	Arterial	24" RCP	Drainageway 2 North	29	10 yr	29	10 yr
N. 119th Street	2,240' south of Arapahoe Road	Arterial	24" RCP	Drainageway 1	29	2 yr	29	2 yr
N. 119th Street	Just north of Arapahoe Road	Arterial	19" x 30" HERCP	Erie Farms 1	26	10 yr	26	10 yr
N. 119th Street	1,700' north of Arapahoe Road	Arterial	18" RCP	Erie Farms 1	16	2 yr	16	2 yr
N. 119th Street	3,950' north of Arapahoe Road	Arterial	24" RCP	Erie Commons 2	33	-	33	-
N. 111th Street	1,030' north of Baseline Road	Collector	29" x 42" CMP Arch x4	Drainageway 2 South	194	< 2 yr	352	2 yr
Meller Street	480' south of Telleen Avenue	Collector	48" RCP	Briggs Street	166	-	324	-
U.S. Highway 287	900' north of Baseline Road	Freeway	36" RCP[1]	Drainageway 2 South	116	< 2 yr	116	< 2 yr
Prince Tributary Outfall								
Erie Parkway	470' east of N. 111th Street	Arterial	42" x 66" CMP Arch	Prince Tributary	132	< 2 yr	132	< 2 yr
Flatiron Drive	1,340' east of N. 109th Street	Local	41" x 82" RCBC	Prince Tributary	242	2 yr	677	5 yr
Lower Boulder Ditch	1,300' east of N. 109th Street	Ditch Crossing	36" Steel Culvert	Prince Tributary	51	-	N/A	-
Dobbins Run	930' east of N. 109th Street	Local	25" x 72" RCBC	Prince Tributary	92	-	527	-
Union Pacific Railroad	680' east of N. 109th Street	Railroad Crossing	24" x 150" RCBC	Prince Tributary	277	< 2 yr	277	< 2 yr
Jasper Road	1,000' east of N. 109th Street	Arterial	20" x 80" Opening	Prince Tributary	72	< 2 yr	72	< 2 yr
U.S. Highway 287	640' south of Arapahoe Road	Freeway	4' x 6' RCBC	Prince Tributary	281	-	281	-
Isabelle Road	Just east of U.S. Highway 287	Arterial	24" RCP[1]	Prince Tributary	33	2 yr	33	2 yr
Boulder Creek Outfalls								
Kenosha Road	1,020' east of N. 119th Street	Arterial	4' x 6' RCBC[1]	Baily Kenosha Ponds	194	10 yr	194	10 yr
Jasper Road	Just east of U.S. Highway 287	Arterial	24" CMP[1]	N. 109th Street	23	10 yr	23	10 yr
U.S. Highway 287	1,450' north of Lookout Road	Freeway	5' x 11' RCBC x2[1]	Crystal Views	1174	50 yr	1174	50 yr

[1] Approximate Size

Table 5-1
Alternative Pre-Screening Matrix

Coal Creek Outfalls		Drainageway 2 South		Drainageway 2 North	Drainageway 1		Arapahoe Road		Erie Farms 1		Erie Farms 2	Gold Run
Alternative Category	**Description**	*Reach 1*	*Reach 2*	*Reach 1*	*Reach 1*	*Reach 2*	*Reach 1*	*Reach 2*	*Reach 1*	*Reach 2*	*Reach 1*	*Reach 1*
1. 100-Year Storm Conveyance Without Regional Detention	Channel, storm sewer, and/or road crossing improvements to convey 100-year storm event	✓	✓	✓	✓		✓		✓			✓
2. Regional Detention with 100-Year Storm Conveyance	Regional detention facilities in combination with stormwater improvements to convey 100-year storm event	✓	✓		✓		✓		✓			✓
3. Optimization of Stormwater Facilities, Convey Minor Storm	Improvements to existing stormwater facilities to convey the largest storm event possible	✓	✓	✓								
4. Channel Stability	Improvements to address channel instability issues including channel bank erosion and sediment deposition											
5. Water Quality - Excess Urban Runoff Volume (EURV)	Provide the Excess Urban Runoff Volume (EURV) only		✓		✓		✓		✓			✓
6. Non-Structural Measures	Acquisition of flood-prone properties, flood proofing existing structures											
7. No Improvements Recommended	Maintenance Only					✓		✓		✓	✓	

Coal Creek Outfalls		Erie Commons 1	Erie Commons 2	Briggs Street					Old Town	Erie Village	Kenosha Farms
Alternative Category	**Description**	*Reach 1*	*Reach 1*	*Reach 1*	*Reach 2*	*Reach 3*	*Reach 4*	*Reach 5*	*Reach 1*	*Reach 1*	*Reach 1*
1. 100-Year Storm Conveyance Without Regional Detention	Channel, storm sewer, and/or road crossing improvements to convey 100-year storm event					✓			✓		
2. Regional Detention with 100-Year Storm Conveyance	Regional detention facilities in combination with stormwater improvements to convey 100-year storm event	✓	✓	✓							
3. Optimization of Stormwater Facilities, Convey Minor Storm	Improvements to existing stormwater facilities to convey the largest storm event possible								✓		
4. Channel Stability	Improvements to address channel instability issues including channel bank erosion and sediment deposition										
5. Water Quality - Excess Urban Runoff Volume (EURV)	Provide the Excess Urban Runoff Volume (EURV) only										
6. Non-Structural Measures	Acquisition of flood-prone properties, flood proofing existing structures								✓		
7. No Improvements Recommended	Maintenance Only				✓		✓	✓		✓	✓

Prince Tributary		Prince Tributary					
Alternative Category	**Description**	*Reach 1*	*Reach 2*	*Reach 3*	*Reach 4*	*Reach 5*	*Reach 6*
1. 100-Year Storm Conveyance Without Regional Detention	Channel, storm sewer, and/or road crossing improvements to convey 100-year storm event			✓	✓	✓	✓
2. Regional Detention with 100-Year Storm Conveyance	Regional detention facilities in combination with stormwater improvements to convey 100-year storm event			✓	✓	✓	
3. Optimization of Stormwater Facilities, Convey Minor Storm	Improvements to existing stormwater facilities to convey the largest storm event possible	✓	✓	✓			✓
4. Channel Stability	Improvements to address channel instability issues including channel bank erosion and sediment deposition						
5. Water Quality - Excess Urban Runoff Volume (EURV)	Provide the Excess Urban Runoff Volume (EURV) only						
6. Non-Structural Measures	Acquisition of flood-prone properties, flood proofing existing structures			✓			
7. No Improvements Recommended	Maintenance Only	✓	✓				

Reach 6 –Walker Street (Arapahoe Ridge Subdivision) to Arapahoe Road (City of Lafayette boundary)

A preliminary channel design was completed in 2006 for this reach of Prince Tributary. The preliminary design consists of three primary elements: conveyance of 350 cfs along the west side of N. 111th Street upstream of detention pond 1025 (located in Arapahoe Ridge Filing 2), conveyance of 525 cfs through the Schofield Farm property and into Prince Lake #2, and conveyance of a 0.4-inch storm along the east side of N. 111th Street downstream of detention pond 1025. The design flow rates are approximately equal to the 10-year event. Peak discharges from the updated hydrologic analysis are relatively the same for this reach of Prince Tributary as in the 2001 OSP. The channel improvements are scheduled to be constructed in 2014.

1. 100-Year Storm Conveyance without Regional Detention

   Conveyance of the 100-year event along N. 111th Street is not feasible due to limited space.

3. Optimization of Stormwater Facilities and Conveyance of the Minor Storm Event

   The preliminary channel design completed in 2006 for this reach of Prince Tributary was designed for approximately the 10-year event.

Prince Tributary - Reach 6 - Alternative 3

DESCRIPTION			QUANTITY	UNIT	UNIT COST	TOTAL COST
Concrete Box Culverts						
Box Culvert Pipe						
Individual Box Span (ft)	Box Height (ft)	No. of Barrels	Length (ft)			
8	4	1	120	L.F.	$736.17	$88,340.40
8	4	1	35	L.F.	$736.17	$25,765.95
8	4	1	20	L.F.	$736.17	$14,723.40
Headwall and Toewalls						
Individual Box Span (ft)	No. of Barrels	Total Span (ft)				
8	1	10.00	2	EA	$796.75	$1,593.50
8	1	10.00	2	EA	$796.75	$1,593.50
8	1	10.00	2	EA	$796.75	$1,593.50
Wingwalls (includes wingwalls on either side of channel and concrete apron)						
Individual Box Span (ft)	Box Rise (ft)	No. of Barrels				
8	4	1	2	EA	$7,420.37	$14,840.74
8	4	1	2	EA	$7,420.37	$14,840.74
8	4	1	2	EA	$7,420.37	$14,840.74
Hydraulic Structures						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
3	9	3	4	EA	$46,445.30	$185,781.20
3	4	5	2	EA	$61,763.36	$123,526.72
4	4	5	1	EA	$66,142.56	$66,142.56
Channel Improvements						
Excavation, Low Range			7180	C.Y.	$12.00	$86,160.00
Soil Riprap, Type VL			4350	C.Y.	$56.00	$243,600.00

Master Plan Capital Improvement Cost Summary			
Capital Improvement Costs			
Pipe Culverts and Storm Drains			$0.00
Concrete Box Culverts			$178,132.00
Hydraulic Structures			$375,450.00
Channel Improvements			$329,760.00
Detention/Water Quality Facilities			$0.00
Removals			$0.00
Landscaping and Maintenance Improvements			$0.00
Special Items (User Defined)			$0.00
Subtotal Capital Improvement Costs			**$883,342.00**
Additional Capital Improvement Costs			
Dewatering		L.S.	$0.00
Mobilization	5%		$44,167.00
Traffic Control	$10,000.00	L.S.	$10,000.00
Utility Coordination/Relocation	$20,000.00	L.S.	$20,000.00
Stormwater Management/Erosion Control	5%		$44,167.00
Subtotal Additional Capital Improvement Costs			**$118,334.00**
Land Acquisition Costs			
ROW/Easements			$0.00
Subtotal Land Acquisition Costs			**$0.00**
Other Costs (percentage of Capital Improvement Costs)			
Engineering	15%		$150,251.00
Legal/Administrative	5%		$50,084.00
Contract Admin/Construction Management	10%		$100,168.00
Contingency	25%		$250,419.00
Subtotal Other Costs			**$550,922.00**
Total Capital Improvement Costs			**$1,552,598.00**

Reach 6 –Walker Street (Arapahoe Ridge Subdivision) to Arapahoe Road (City of Lafayette boundary)

A preliminary channel design was completed in 2006 for this reach of Prince Tributary. The preliminary design consists of three primary elements: conveyance of 350 cfs along the west side of N. 111th Street upstream of detention pond 1025 (located in Arapahoe Ridge Filing 2), conveyance of 525 cfs through the Schofield Farm property and into Prince Lake #2, and conveyance of a 0.4-inch storm along the east side of N. 111th Street downstream of detention pond 1025. The design flow rates are approximately equal to the 10-year event. Peak discharges from the updated hydrologic analysis are relatively the same for this reach of Prince Tributary as in the 2001 OSP. The channel improvements are scheduled to be constructed in 2014.

The preliminary design completed in 2006 for this reach was reviewed as part of this study and found to meet the intent of the outfall systems plan and updated hydrologic analysis. The recommended plan for this reach is the preliminary design completed in 2006.

3. Optimization of Stormwater Facilities and Conveyance of the Minor Storm Event

The recommended plan is the preliminary design completed in 2006 and was designed for approximately the 10-year event.

Prince Tributary – Reach 6 – Recommended Plan

DESCRIPTION			QUANTITY	UNIT	UNIT COST	TOTAL COST
Concrete Box Culverts						
Box Culvert Pipe						
Individual Box Span (ft)	Box Height (ft)	No. of Barrels	Length (ft)			
8	4	1	120	L.F.	$736.17	$88,340.40
8	4	1	35	L.F.	$736.17	$25,765.95
8	4	1	20	L.F.	$736.17	$14,723.40
Headwall and Toewalls						
Individual Box Span (ft)	No. of Barrels	Total Span (ft)				
8	1	10.00	2	EA	$796.75	$1,593.50
8	1	10.00	2	EA	$796.75	$1,593.50
8	1	10.00	2	EA	$796.75	$1,593.50
Wingwalls (includes wingwalls on either side of channel and concrete apron)						
Individual Box Span (ft)	Box Rise (ft)	No. of Barrels				
8	4	1	2	EA	$7,420.37	$14,840.74
8	4	1	2	EA	$7,420.37	$14,840.74
8	4	1	2	EA	$7,420.37	$14,840.74
Hydraulic Structures						
Sloping Drop Structures						
Height (ft)	Bottom Width (ft)	Yn (ft)				
3	9	3	4	EA	$46,445.30	$185,781.20
3	4	5	2	EA	$61,763.36	$123,526.72
4	4	5	1	EA	$66,142.56	$66,142.56
Channel Improvements						
Excavation, Low Range			7180	C.Y.	$12.00	$86,160.00
Soil Riprap, Type VL			4350	C.Y.	$56.00	$243,600.00

Master Plan Capital Improvement Cost Summary			
Capital Improvement Costs			
Pipe Culverts and Storm Drains			$0.00
Concrete Box Culverts			$178,132.00
Hydraulic Structures			$375,450.00
Channel Improvements			$329,760.00
Detention/Water Quality Facilities			$0.00
Removals			$0.00
Landscaping and Maintenance Improvements			$0.00
Special Items (User Defined)			$0.00
Subtotal Capital Improvement Costs			**$883,342.00**
Additional Capital Improvement Costs			
Dewatering		L.S.	$0.00
Mobilization	5%		$44,167.00
Traffic Control	$10,000.00	L.S.	$10,000.00
Utility Coordination/Relocation	$20,000.00	L.S.	$20,000.00
Stormwater Management/Erosion Control	5%		$44,167.00
Subtotal Additional Capital Improvement Costs			**$118,334.00**
Land Acquisition Costs			
ROW/Easements			$0.00
Subtotal Land Acquisition Costs			**$0.00**
Other Costs (percentage of Capital Improvement Costs)			
Engineering	15%		$150,251.00
Legal/Administrative	5%		$50,084.00
Contract Admin/Construction Management	10%		$100,168.00
Contingency	25%		$250,419.00
Subtotal Other Costs			**$550,922.00**
Total Capital Improvement Costs			**$1,552,598.00**

Master Plan Operation and Maintenance Cost Summary					
Description		Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs		175	L.F.	$1.50	$788.00
Manhole and Inlet Maintenance (e.g. sediment & debris removal, structural repairs, etc.)			EA		$0.00
Hydraulic Structure Maintenance (e.g. debris removal, erosion, structural repairs, etc.)			EA		$0.00
Channel Maintenance (e.g. sediment & debris removal, erosion, tree & weed removal, etc.)		2730	L.F.	$1.50	$12,285.00
Detention/WQ Maintenance (e.g. sediment & debris removal, mucking out, tree & weed removal,		0	ACRE	$1,500.00	$0.00
Mowing (e.g. channels, ponds, etc.)			ACRE		$0.00
Trail Maintenance (e.g. structural repairs, crusher fines, etc.)			L.F.		$0.00
	<-----User Defined Items				$0.00
	<-----User Defined Items				$0.00
	<-----User Defined Items				$0.00
Total Annual Operation and Maintenance Cost					**$13,073.00**
Effective Interest Rate					3.50%
Total Operation and Maintenance Costs Over 50 Years					**$306,635.00**

Prince Tributary – Reach 5 – Conceptual Design Plan

DESCRIPTION			QUANTITY	UNIT	UNIT COST	TOTAL COST
Concrete Box Culverts						
Box Culvert Pipe						
Individual Box Span (ft)	Box Height (ft)	No. of Barrels	Length (ft)			
5	8	2	185	L.F.	$1,420.32	$262,759.00
Headwall and Toewalls						
Individual Box Span (ft)	No. of Barrels	Total Span (ft)				
5	2	13.00	1	EA	$900.09	$900.00
Wingwalls (includes wingwalls on either side of channel and concrete apron)						
Individual Box Span (ft)	Box Rise (ft)	No. of Barrels				
5	8	2	1	EA	$16,355.30	$16,355.30
Detention/Water Quality Facilities						
Detention (Complete-in-Place)						
Detention Facility 1 (Complete-in-Place)			38	AC-FT	$46,400.00	$1,763,200.00
Special Items (User Defined)						
Prince Lake #2 - Excavation, High Range	<----User Defined Items		2545	C.Y	$32.00	$81,440.00
Prince Lake #2 - Soil Riprap, Type M	<----User Defined Items		44	C.Y	$71.00	$3,124.00

Master Plan Capital Improvement Cost Summary			
Capital Improvement Costs			
Pipe Culverts and Storm Drains			$0.00
Concrete Box Culverts			$280,014.00
Hydraulic Structures			$0.00
Channel Improvements			$0.00
Detention/Water Quality Facilities			$1,763,200.00
Removals			$0.00
Landscaping and Maintenance Improvements			$0.00
Special Items (User Defined)			$84,564.00
Subtotal Capital Improvement Costs			**$2,127,778.00**
Additional Capital Improvement Costs			
Dewatering		L.S.	$0.00
Mobilization	5%		$106,389.00
Traffic Control	$10,000.00	L.S.	$10,000.00
Utility Coordination/Relocation	$10,000.00	L.S.	$10,000.00
Stormwater Management/Erosion Control	5%		$106,389.00
Subtotal Additional Capital Improvement Costs			**$232,778.00**
Land Acquisition Costs			
ROW/Easements			$0.00
Subtotal Land Acquisition Costs			**$0.00**
Other Costs (percentage of Capital Improvement Costs)			
Engineering	15%		$354,083.00
Legal/Administrative	5%		$118,028.00
Contract Admin/Construction Management	10%		$236,056.00
Contingency	25%		$590,139.00
Subtotal Other Costs			**$1,298,306.00**
Total Capital Improvement Costs			**$3,658,862.00**

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs	185	L.F.	$1.00	$555.00
Detention/WQ Maintenance (e.g. sediment & debris removal, mucking out, tree & weed removal,	15.64	ACRE	$1,530.00	$71,788.00
Total Annual Operation and Maintenance Cost				**$72,343.00**
Effective Interest Rate				3.50%
Total Operation and Maintenance Costs Over 50 Years				**$1,696,850.00**

PRINCE TRIBUTARY – REACH 6

Walker Street (Arapahoe Ridge Subdivision) to Arapahoe Road (City of Lafayette boundary)

Reach Description

Reach 6 is located in the Town of Erie and extends to the boundary with the City of Lafayette at Arapahoe Road. The outfall alignment is located between Filings 1 and 2 of the Arapahoe Ridge subdivision. A preliminary channel design was developed for this reach to convey stormwater flows north from Arapahoe Road along N. 111th Street to a point at the southwest corner of Prince Lake No. 2, which is located in unincorporated Boulder County. Prince Lake No. 2 is owned by Boulder County and is used for irrigation water supply.

Problem Identification

- Insufficient channel capacity

Conceptual Design Plan Improvements

Optimization of Stormwater Facilities and Conveyance of the Minor Storm Event

The Conceptual Design Plan for this reach is a preliminary design completed in 2006. The preliminary design consists of three primary elements: conveyance of 350 cfs along the west side of N. 111th Street upstream of detention pond 1025 (located in Arapahoe Ridge Filing 2), conveyance of 525 cfs through the Schofield Farm property and into Prince Lake #2, and conveyance of a 0.4-inch storm along the east side of N. 111th Street downstream of detention pond 1025. The design flow rates are approximately equal to the 10-year event. Peak discharges from the updated hydrologic analysis are relatively the same for this reach of Prince Tributary as in the 2001 OSP. The preliminary design was reviewed as part of this study and found to meet the intent of the outfall systems plan and updated hydrologic analysis. The channel improvements are scheduled to be constructed in 2014. A cost estimate was prepared and included with the 2006 preliminary channel design. The design consultant's opinion of probable cost for the proposed channel improvements is $1,737,941. This cost estimate has been included in the Conceptual Design Plan Cost Estimate Summary Table ES-3 and Table 7-1. An operation and maintenance cost estimate is provided below.

Master Plan Operation and Maintenance Cost Summary				
Description	Quantity	Unit	Unit Cost	Total Annual Cost
Culvert Maintenance (e.g. sediment & debris removal, erosion at entrance/exit, structural repairs	169	L.F.	$1.00	$507.00
Channel Maintenance (e.g. sediment & debris removal, erosion, tree & weed removal, etc.)	2885	L.F.	$2.00	$17,310.00
Total Annual Operation and Maintenance Cost				**$17,817.00**
Effective Interest Rate				3.50%
Total Operation and Maintenance Costs Over 50 Years				**$417,909.00**

CLICK HERE TO VIEW REACH 6 MAP NO PROFILE AVAILABLE

Table B-2
Peak Flow Summary

Prince Tributary			Peak Discharge (cfs) - Existing Development						Peak Discharge (cfs) - Future Development					
SWMM Node	Location Description	Drainage Area (acres)	2-Year	5-Year	10-Year	25-Year	50-year	100-Year	2-Year	5-Year	10-Year	25-Year	50-year	100-Year
300		152	7	38	59	126	170	218	39	98	129	220	283	346
302		43	27	54	67	99	124	145	27	54	68	100	125	145
303	Arapahoe Road	334	79	192	246	399	509	618	92	228	298	504	623	744
305		408	73	180	233	388	499	613	89	223	292	490	601	740
1025		408	73	194	260	446	559	676	89	247	328	548	662	804
306		533	74	223	307	541	679	838	91	274	373	620	782	961
308		780	118	301	392	690	861	1,096	145	361	466	779	980	1,245
310		77	14	52	70	123	158	194	14	52	70	123	159	194
311		920	119	342	445	798	1,005	1,279	154	402	527	893	1,130	1,437
312	Erie Parkway	1,256	119	389	524	926	1,201	1,557	186	511	634	1,075	1,396	1,792
313		1,303	124	420	558	982	1,280	1,662	197	531	672	1,137	1,481	1,903
315	Flatiron Drive	1,539	146	469	620	1,078	1,419	1,849	219	574	725	1,239	1,631	2,106
320		122	1	28	43	94	126	158	1	28	43	94	126	158
321	Erie Parkway	222	2	50	74	168	227	290	2	50	74	168	227	290
322		281	83	346	630	1,138	1,455	1,925	490	1,184	1,779	2,676	3,274	4,036
323		368	83	348	637	1,157	1,486	1,961	482	1,177	1,780	2,696	3,302	4,079
317	Lower Boulder Ditch	1,907	180	675	1,160	2,102	2,801	3,672	687	1,746	2,494	3,918	4,909	6,145
318	UPRR	2,081	183	692	1,182	2,146	2,868	3,763	690	1,764	2,524	3,979	5,001	6,271
319	Boulder & Weld Co Ditch	2,145	182	686	1,179	2,149	2,877	3,780	684	1,758	2,525	3,985	5,015	6,295
940		2,245	182	668	1,171	2,149	2,885	3,792	661	1,744	2,511	3,976	5,010	6,296

Table B-3
Runoff Volume Summary

Prince Tributary			Runoff Volume (acre-ft) - Existing Development						Runoff Volume (acre-ft) - Future Development					
SWMM Node	Location Description	Drainage Area (acres)	2-Year	5-Year	10-Year	25-Year	50-year	100-Year	2-Year	5-Year	10-Year	25-Year	50-year	100-Year
300		152	1.0	4.4	6.6	12.4	16.7	21.3	3.7	8.1	10.6	16.2	20.6	25.0
302		43	1.5	2.9	3.6	5.1	6.3	7.5	1.5	2.9	3.6	5.1	6.3	7.5
303	Arapahoe Road	334	5.6	14.2	19.5	31.6	41.0	50.7	8.3	17.9	23.5	35.4	45.0	54.6
305		408	5.7	14.4	19.7	31.8	41.2	51.0	8.5	18.2	23.7	35.7	45.2	54.8
1025		408	6.3	17.2	23.7	38.4	49.8	61.7	9.1	20.9	27.7	42.2	53.9	65.5
306		533	6.6	19.8	28.0	47.6	62.6	78.4	9.4	23.5	32.0	51.6	66.8	82.3
308		780	10.1	29.3	41.8	70.8	93.0	116.0	13.9	35.0	47.7	76.6	98.9	121.7
310		77	0.7	2.5	3.7	6.4	8.5	10.7	0.8	2.6	3.7	6.5	8.5	10.8
311		920	11.1	33.6	48.2	82.3	108.2	135.3	16.4	41.2	56.2	89.9	116.1	142.8
312	Erie Parkway	1,256	11.7	40.5	60.3	108.2	143.5	181.0	22.7	56.7	78.0	124.6	160.6	197.4
313		1,303	13.3	45.1	67.3	120.0	158.7	199.8	24.3	61.8	84.9	136.3	175.8	216.1
315	Flatiron Drive	1,539	16.3	53.2	78.5	137.5	181.9	228.2	27.4	70.0	96.1	153.9	199.0	244.5
320		122	0.1	2.2	3.9	8.4	11.6	15.3	0.1	2.2	3.9	8.4	11.6	15.3
321	Erie Parkway	222	0.2	4.1	7.1	15.5	21.3	28.0	0.2	4.1	7.1	15.5	21.3	28.0
322		281	19.2	68.6	112.4	202.9	234.3	302.7	70.8	157.5	227.7	341.9	412.4	502.1
323		368	19.7	71.4	116.8	210.5	244.6	315.8	72.2	161.4	233.1	350.9	423.8	516.3
317	Lower Boulder Ditch	1,907	36.9	125.9	196.8	350.0	428.7	546.5	100.7	233.3	331.4	507.8	626.1	764.4
318	UPRR	2,081	38.2	131.3	204.9	364.6	448.0	571.0	102.4	239.0	339.7	522.5	645.6	789.0
319	Boulder & Weld Co Ditch	2,145	38.3	133.4	207.9	370.1	455.4	580.3	103.6	242.0	343.8	529.2	654.2	799.7
940	Boulder Creek	2,245	38.6	137.8	214.2	380.3	468.7	596.8	104.9	247.0	350.7	539.7	667.8	816.6

LEGEND

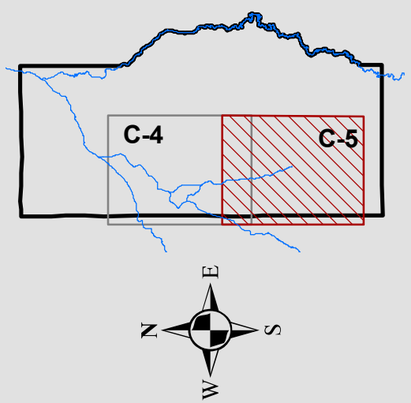
- Study Area Boundary
- Erie Planning Area Boundary
- Town of Erie
- City of Lafayette
- 100-Year Floodplain (FIS)
- Existing Detention Ponds
- Outfall Alignment
  (Outfall Name)

Note: 100-Year floodplain information from Boulder County Flood Insurance Study (FIS), FEMA, December 18, 2012

DRAINAGE PROBLEM AREAS

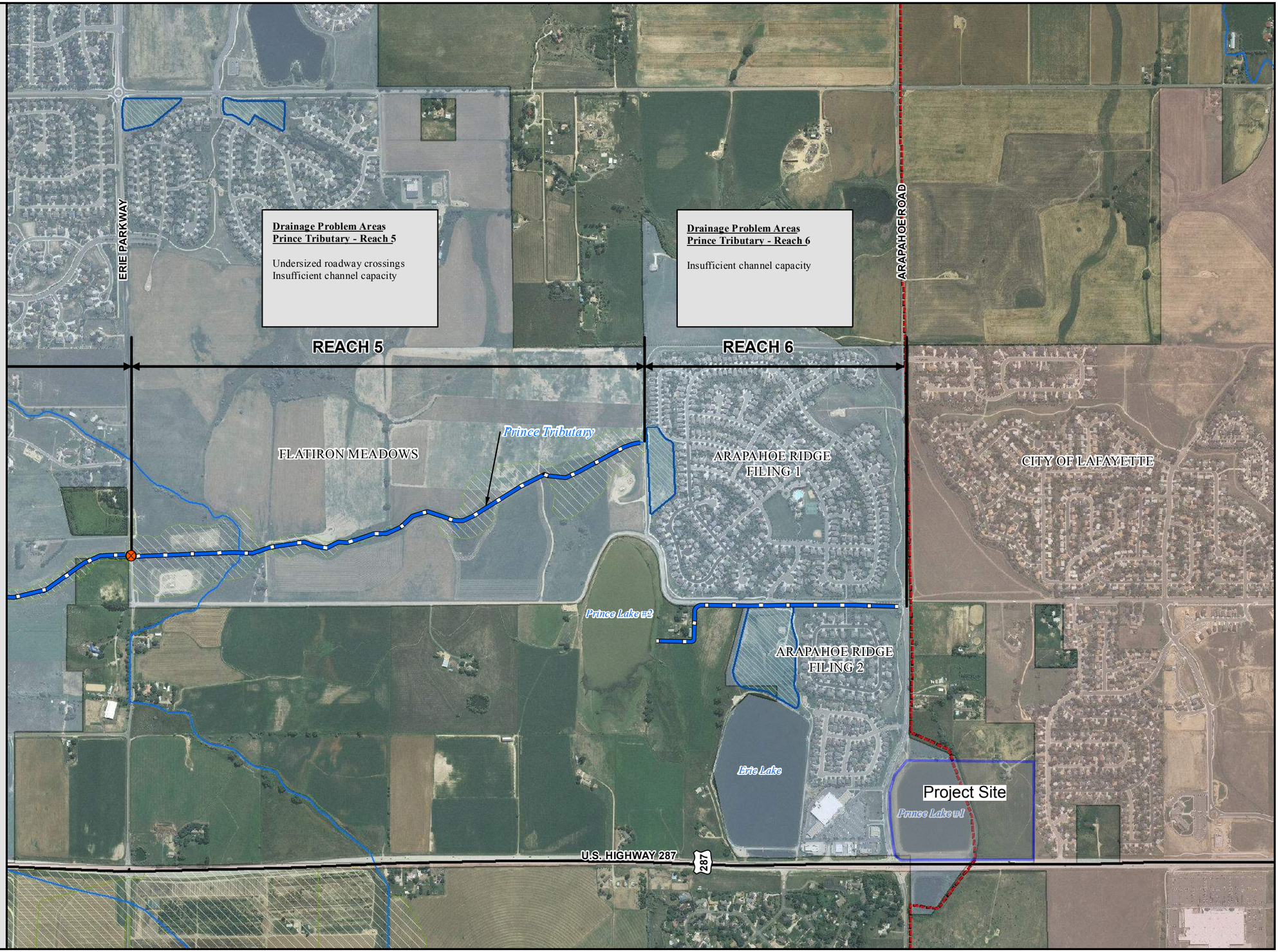
- Undersized/No Road Crossing
- Insufficient Channel Capacity
- Channel Degradation/Erosion
- Structures in 100yr Floodplain

KEY MAP



0 500 1,000 2,000 Feet

1 " = 1,000 FT



M:\2234\GIS\2234 ALTERNATIVES.MXD - 3/1/13 - NRT

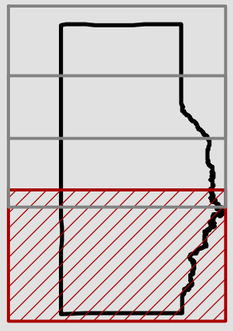
WRC ENGINEERING, INC.	WRC ENGINEERING, INC. 950 SOUTH CHERRY STREET, SUITE 404 DENVER, COLORADO 80246 PHONE: 303-757-8513 FAX: 303-758-3208	TOWN OF ERIE - CITY OF LAFAYETTE - BOULDER COUNTY URBAN DRAINAGE AND FLOOD CONTROL DISTRICT	TOWN OF ERIE OUTFALL SYSTEMS PLAN (WEST OF COAL CREEK)	DRAINAGE PROBLEM AREAS PRINCE TRIBUTARY	FIGURE C-5

LEGEND

- Study Area Boundary
- Town of Erie
- City of Lafayette
- Subbasin Boundary
- Major Watershed Boundary
- Regional Detention Ponds

XXX — Subbain ID
XX | X X — % Impervious (Existing Land Use) / % Impervious (Future Land Use)
Area (Acres)

KEY MAP



N
W E
S

0 750 1,500 3,000 Feet

1 " = 1,500 FT

M:\2234\GIS\2234.MXD - 12/12/12 - NRT

WRC ENGINEERING, INC.
950 SOUTH CHERRY STREET, SUITE 404
DENVER, COLORADO 80246
PHONE: 303-757-8513
FAX: 303-758-3208

TOWN OF ERIE
URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

TOWN OF ERIE OUTFALL SYSTEMS PLAN
(WEST OF COAL CREEK)

SUBBASIN MAP

FIGURE
B-2

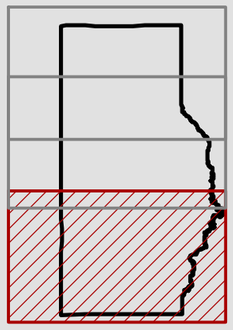
LEGEND

- Study Area Boundary
- Town of Erie
- City of Lafayette
- Subbasin Boundary
- Major Watershed Boundary
- Regional Detention Ponds

SWMM Elements

- Subbasin (xxx)
- Design Point (xxx)
- Conveyance Element (xxx)
- Detention Facility (xxx)
- Outfall (xxx)

KEY MAP



N
W E
S

0 750 1,500 3,000 Feet

1 " = 1,500 FT

M:\2234\GIS\2234.MXD - 12/12/12 - NRT

WRC ENGINEERING, INC.
950 SOUTH CHERRY STREET, SUITE 404
DENVER, COLORADO 80246
PHONE: 303-757-8513
FAX: 303-758-3208

TOWN OF ERIE
URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

TOWN OF ERIE OUTFALL SYSTEMS PLAN (WEST OF COAL CREEK)

SWMM ROUTING MAP

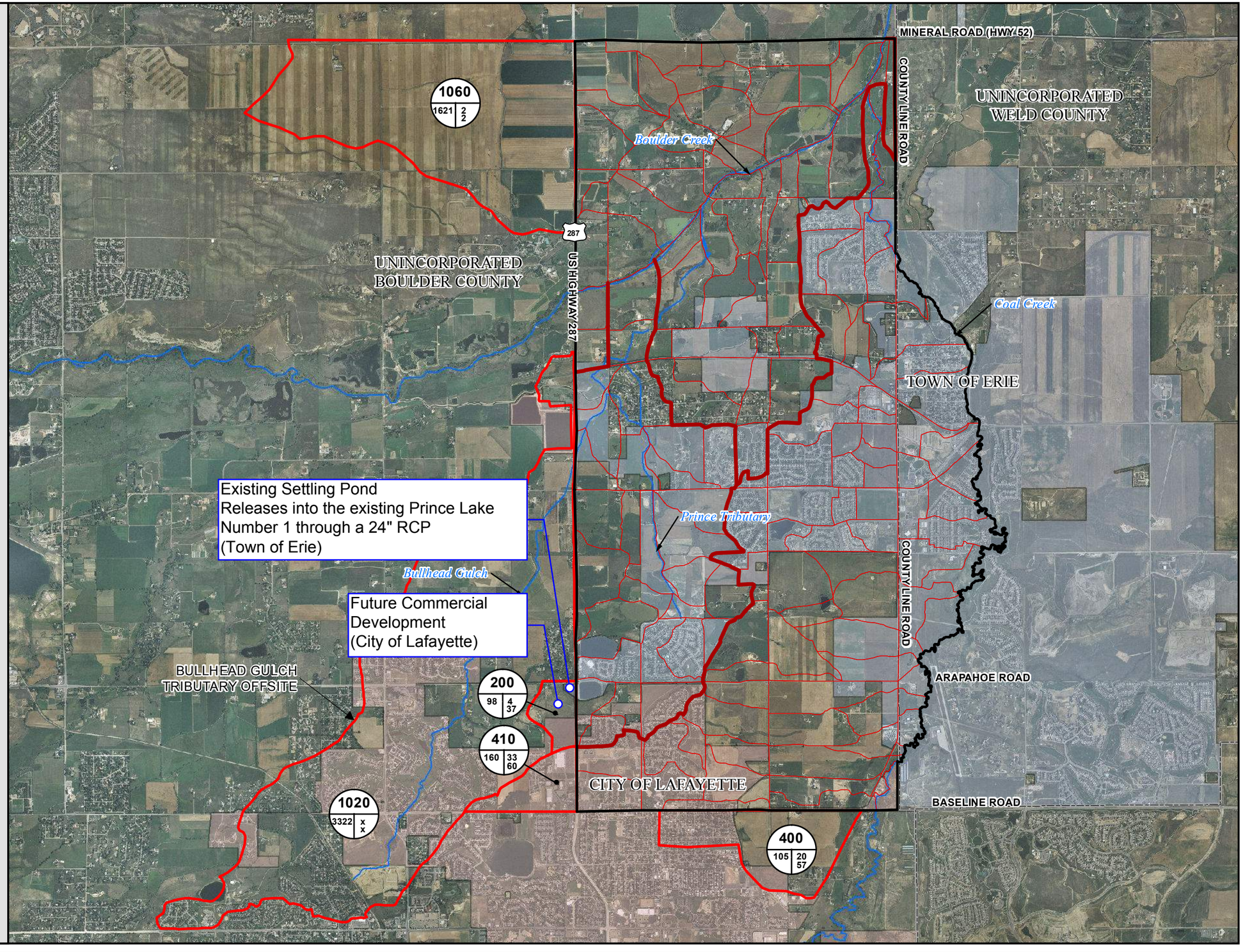
FIGURE B-6

LEGEND

- Study Area Boundary
- Town of Erie
- City of Lafayette
- Offsite Subbasin Boundary
- Subbasin Boundary
- Major Watershed Boundary

XXX — Subbain ID
XX | X — % Impervious (Existing Land Use) / % Impervious (Future Land Use)
Area (Acres)

Note: Hydrographs for offsite subbasins taken from 2001 Outfall Systems Plan study for input to updated baseline hydrologic analysis



N
W E
S

0 2,000 4,000 8,000 Feet

1 " = 4,000 FT

M:\2234\GIS\2234_OFFSITE_MAP B-5.MXD - 12/12/12 - NRT

WRC ENGINEERING, INC.
950 SOUTH CHERRY STREET, SUITE 404
DENVER, COLORADO 80246
PHONE: 303-757-8513
FAX: 303-758-3208

TOWN OF ERIE
URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

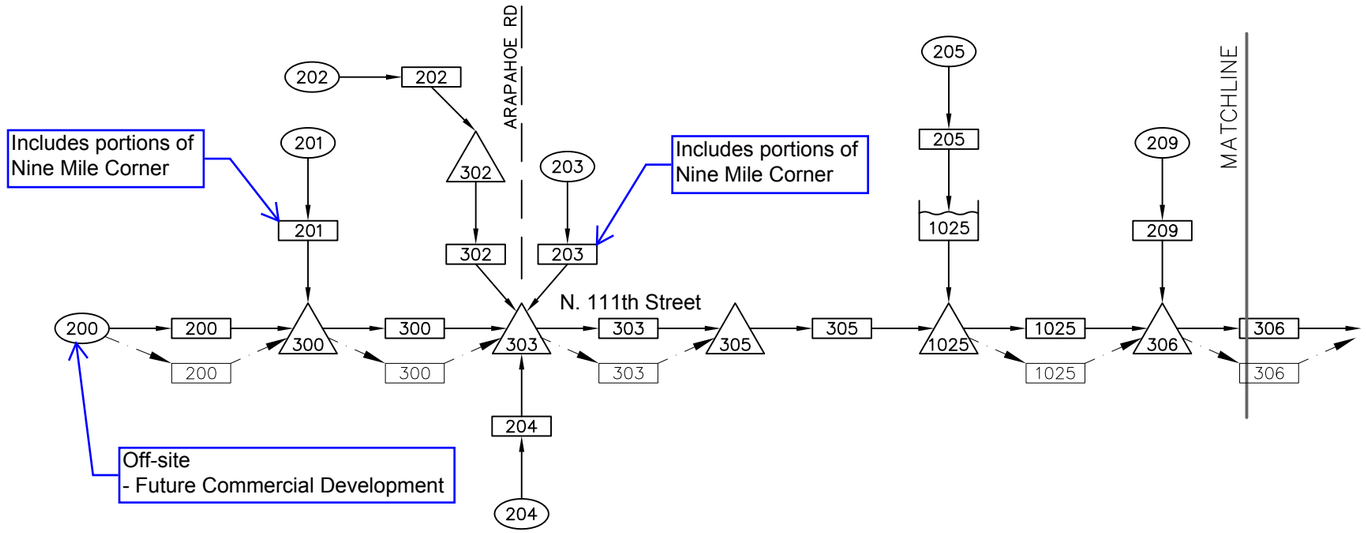
TOWN OF ERIE OUTFALL SYSTEMS PLAN (WEST OF COAL CREEK)

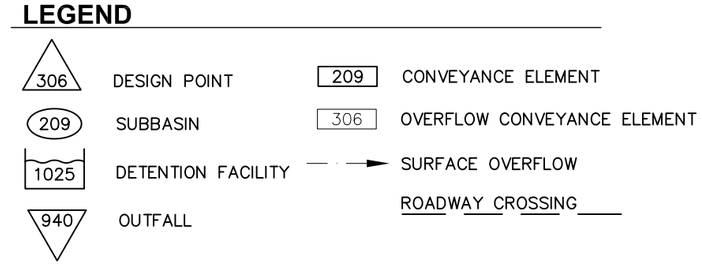
OFFSITE SUBBASIN MAP

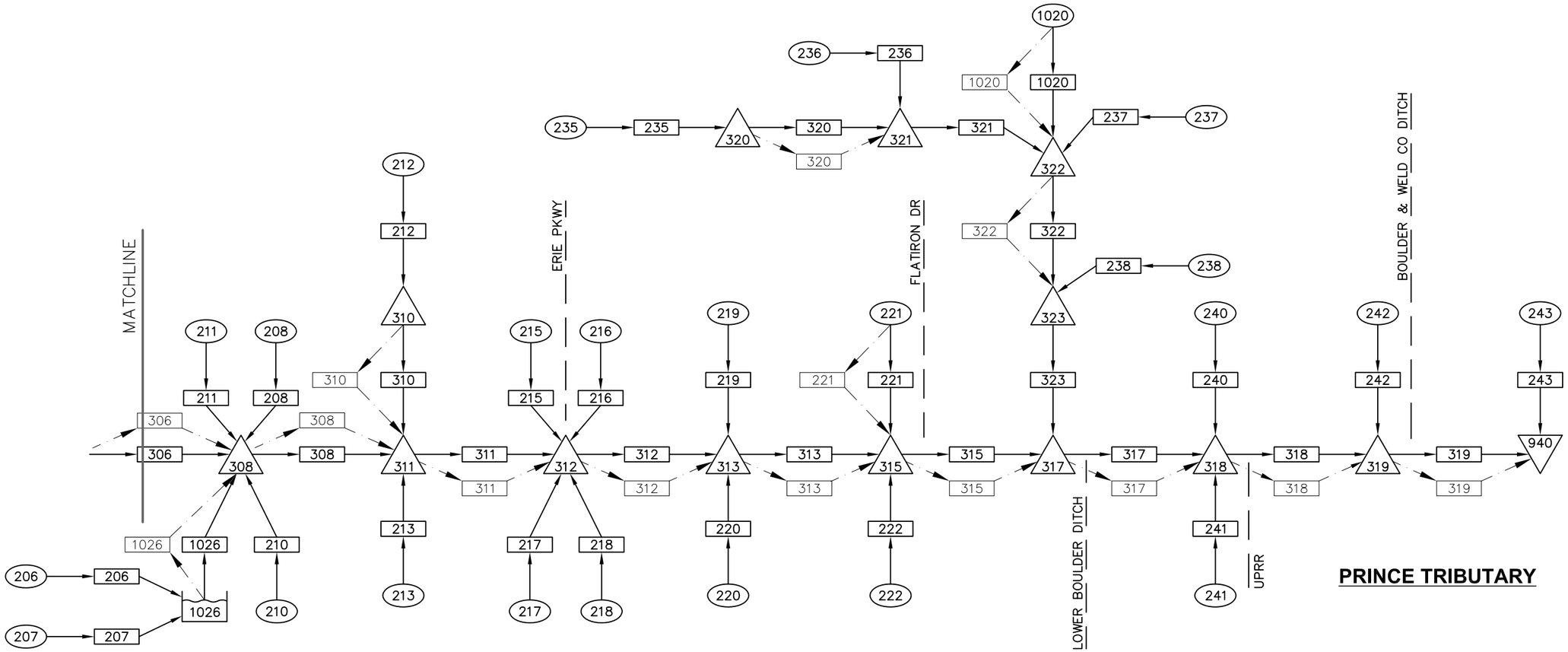
FIGURE B-5

Table B-1
CUHP Input

Subbasin	Area (mi^2)	Distance to Centroid (mi)	Length (mi)	Slope (ft/ft)	Percent Imperviousness		Depression Storage		Horton's Infiltration Parameters		
					Existing Land Use	Future Land Use	Pervious	Impervious	Initial Rate (in/hr)	Decay Coefficient (1/sec)	Final Rate (in/hr)
200	0.151	0.239	0.481	0.026	4.0	37.3	0.38	0.10	4.50	0.0018	0.60
201	0.089	0.244	0.690	0.015	19.5	19.5	0.38	0.10	4.50	0.0018	0.60
202	0.067	0.186	0.502	0.017	47.9	48.1	0.38	0.10	4.50	0.0018	0.60
203	0.084	0.212	0.487	0.029	34.0	34.0	0.38	0.10	4.50	0.0018	0.60
204	0.133	0.177	0.439	0.019	31.2	31.2	0.38	0.10	4.50	0.0018	0.60
205	0.115	0.276	0.621	0.016	39.5	39.5	0.38	0.10	4.50	0.0018	0.60
206	0.112	0.437	0.709	0.013	30.4	30.4	0.38	0.10	4.50	0.0018	0.60
207	0.125	0.325	0.554	0.017	33.7	33.7	0.38	0.10	4.50	0.0018	0.60
208	0.045	0.139	0.379	0.014	4.6	8.9	0.38	0.10	4.50	0.0018	0.60
209	0.195	0.290	0.684	0.019	4.1	4.3	0.38	0.10	4.50	0.0018	0.60
210	0.041	0.162	0.402	0.020	3.3	32.4	0.38	0.10	4.47	0.0018	0.60
211	0.063	0.229	0.441	0.011	2.0	19.8	0.38	0.10	4.50	0.0018	0.60
212	0.120	0.184	0.398	0.022	16.4	16.7	0.38	0.10	4.39	0.0018	0.59
213	0.098	0.237	0.485	0.019	7.4	35.5	0.38	0.10	4.30	0.0018	0.59
215	0.127	0.489	0.862	0.015	2.1	27.6	0.38	0.10	4.50	0.0018	0.60
216	0.078	0.298	0.582	0.020	2.1	2.4	0.38	0.10	4.50	0.0018	0.60
217	0.191	0.466	0.924	0.020	2.5	32.9	0.38	0.10	4.34	0.0018	0.59
218	0.128	0.396	0.639	0.028	2.7	32.8	0.38	0.10	3.78	0.0018	0.55
219	0.110	0.343	0.579	0.013	18.1	18.1	0.38	0.10	4.50	0.0018	0.60
220	0.074	0.310	0.715	0.027	25.7	25.7	0.38	0.10	4.33	0.0018	0.59
221	0.117	0.188	0.494	0.020	28.1	28.1	0.38	0.10	3.66	0.0018	0.54
222	0.143	0.336	0.659	0.024	25.0	25.0	0.38	0.10	4.21	0.0018	0.58
235	0.191	0.378	0.877	0.027	2.0	2.0	0.38	0.10	4.50	0.0018	0.60
236	0.156	0.289	0.636	0.024	2.1	2.1	0.38	0.10	4.48	0.0018	0.60
237	0.092	0.358	0.767	0.017	5.4	5.4	0.38	0.10	4.30	0.0018	0.59
238	0.137	0.427	0.817	0.018	10.2	10.2	0.38	0.10	4.44	0.0018	0.60
240	0.077	0.330	0.582	0.009	3.4	3.4	0.38	0.10	4.50	0.0018	0.60
241	0.196	0.352	0.630	0.015	17.4	17.5	0.38	0.10	4.50	0.0018	0.60
242	0.100	0.174	0.443	0.007	2.9	16.1	0.38	0.10	4.26	0.0018	0.58
243	0.156	0.362	0.552	0.007	4.1	4.3	0.38	0.10	3.00	0.0018	0.50
401	0.041	0.243	0.391	0.017	4.2	4.2	0.38	0.10	3.05	0.0018	0.51
410	0.249	0.492	1.123	0.008	33.0	60.0	0.38	0.10	4.14	0.0018	0.58
411	0.140	0.308	0.586	0.022	55.4	64.0	0.38	0.10	3.55	0.0018	0.54
412	0.136	0.337	0.610	0.023	29.7	63.2	0.38	0.10	4.00	0.0018	0.57
413	0.046	0.298	0.580	0.022	14.7	14.7	0.38	0.10	4.50	0.0018	0.60
414	0.131	0.419	0.673	0.022	39.2	39.2	0.38	0.10	4.50	0.0018	0.60
415	0.125	0.286	0.585	0.023	26.0	26.0	0.38	0.10	4.10	0.0018	0.57
416	0.140	0.283	0.662	0.018	4.1	24.1	0.38	0.10	4.48	0.0018	0.60
417	0.063	0.424	0.842	0.021	38.8	63.9	0.38	0.10	4.19	0.0018	0.58
418	0.091	0.391	0.904	0.014	28.1	28.1	0.38	0.10	4.03	0.0018	0.57
423	0.020	0.235	0.434	0.011	32.9	32.9	0.38	0.10	3.74	0.0018	0.55







PRINCE TRIBUTARY

WRC ENGINEERING, INC.
950 SOUTH CHERRY STREET
SUITE 404
DENVER, COLORADO 80246
PHONE NO: (303) 757-8513
FAX NO: (303) 758-3208

DESIGNED NRT
DRAWN JHN
CHECKED NRT
DATE 1/29/13
AS-BUILT

NO.	BY	DATE	REVISION DESCRIPTION
.	.	.	.

TOWN OF ERIE
URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

TOWN OF ERIE
OUTFALL SYSTEMS PLAN
(WEST OF COAL CREEK)

SWMM SCHEMATIC
PRINCE TRIBUTARY

PROJECT NUMBER
2234

FIGURE B-13

2234\DWG\SWMM SCHEMATIC.DWG, PRINCE TRIBUTARY - 1/29/13 - JHN

Olsson Associates
Erie Reach BP20 Preliminary Design
February 2006

OLSSON ASSOCIATES
ENGINEERS • PLANNERS • SCIENTISTS • SURVEYORS
143 Union Blvd. Suite 700 Lakewood, CO 80228 720-962-6072

MEMO

Date: February 14, 2006

To: Wendi Palmer, Town of Erie
Laura Kroeger, UDFCD

From: Deb Ohlinger

Re: Erie Reach BP20 Preliminary Design

Introduction

This memorandum summarizes an evaluation of the existing conditions and presents the preliminary design of Reach BP20 improvements. A progress meeting was held on December 15, 2005, during which design alternatives were discussed. After receiving direction from the project sponsors, OA proceeded with a preliminary design of the improvements. The preliminary design consists of three primary elements: conveyance of 350 cubic feet per second (cfs) along the west side of North 111th Street upstream of the Detention Basin 1025, conveyance of 525 cfs through the Schofield Farm property and into Prince Lake No. 2, and conveyance of a 0.4-inch storm along the east side of North 111th Street downstream of Detention Basin 1025.

Hydrology

Discharges for the 2-, 5-, 10-, 50-, and 100-year and 0.4-inch storm events were obtained from Table 9 of *Erie Outfall Systems Planning, Preliminary Design: Erie and Adjacent Boulder and Weld County Areas* (OSP), prepared by Love and Associates and dated May 2001. Table 1 shows the OSP peak discharges at three locations for the future (developed) condition. Also included are the cumulative watershed areas at the design points. Design point 303 is located at North 111th Street and Arapahoe Road; design point 305 is located downstream of detention basin 1025; and design point 306 is located near the discharge of Prince Lake No. 2.

Table 1. OSP Peak Discharges at Select Locations along Reach BP20

Design Points	0.4-inch cfs	2-year cfs	5-year cfs	10-year cfs	50-year cfs	100-year cfs	Cumulative Area Acres
303	37	139	207	283	585	745	334
305	47	167	254	347	728	921	408
306	19	68	180	303	754	976	533

Existing Conditions Evaluation

A topographic survey of the site was completed in October 2005. The existing conditions were then evaluated at six locations to determine the capacity of the existing road, ditches, and right-

of-way. Figures 1A and 1B show the existing survey with project stationing. The reach between Stations 25+00 and 41+50 was evaluated to determine the available capacity between the fences on both sides of North 111th Street, as compared to the 100-year storm. The 100-year discharge at these locations is 745 cfs. The water surface elevations were set at the fence line or high points within the right-of-way and are shown in the cross sections in Figure 2. The estimated capacities are presented in Table 2.

Table 2. Estimated Capacity at Select Locations

Location	Available Capacity, cfs	Depth of Flow at Crown, ft
Station 26+00	446	0.4
Station 30+00	170	0.1
Station 36+00	356	0.0
Station 38+00	664	0.9

On the east side of North 111th Street, the reach between Stations 10+00 and 25+00 was evaluated with comparison to the 0.4-inch storm presented in the OSP. The peak discharge for this storm along this reach would be 47 cfs. The flow area for this reach was considered to be between the edge of pavement and the right-of-way south and east of North 111th Street, as shown in the cross sections in Figure 2. Table 3 shows the estimated capacities.

Table 3. Estimated Capacity at Select Locations

Location	Available Capacity, cfs
Station 14+00	7
Station 19+00	48

Preliminary Channel Design

Channel along North 111th Street

At the December 2005 meeting, it was decided that OA would develop alternatives to convey 350 cfs south of Station 27+00 and 525 cfs north of Station 27+00 while maintaining a 12-foot wide travel lane clear of water. This flow rate is approximately equal to the 10-year discharge at OSP design point 305. The existing 42-inch diameter pipe on the east side of North 111th Street was evaluated to estimate its capacity, since it carries a portion of the target 350 cfs. The pipe has capacity to carry approximately 168 cfs, however, the flow that can enter the pipe is limited at the upstream end. The pipe entrance was evaluated to determine the quantity of water that could enter the culvert. It was estimated that 75 cfs could enter the culvert. Due to limited available headwater depth, there is no opportunity to improve the pipe inlet.

Channel geometries were estimated for the design discharge of 350 cfs, minus the 75 cfs that is carried in the existing 42-inch pipe. The design criteria were longitudinal slope of 0.6%, 3:1 channel side slopes, maximum depth of five feet, maximum velocity of 7 feet per second, and maximum Froude number of 0.8. Channels with depths of three and four feet were developed at Stations 26+00, 30+00, 36+00, and 38+00. To reduce conflicts with utilities, the three-foot-deep channel is recommended. Table 4 shows the channel geometries.

Table 4. Channel Geometry Stations 24+50 to 41+00

	Station 24+50 to 27+00	Station 27+00 to 41+00
Design discharge, cfs	350	275
Bottom width, ft	12	9
Top width (minimum), ft	30	27
Depth of flow, ft	3	3

The channel would require grade stabilization, and it should be noted that the channel would be deeper and wider downstream of the grade control structures. Approximately six grade control structures, ranging in height from 1 to 3 feet, would be needed. Figures 1A and 1B show the estimated extents of the proposed channel grading. Figure 2 shows the channel superimposed on the existing cross sections at Stations 26+00, 30+00, 36+00, and 38+00. Figure 2 also shows the existing utilities, for which the depths of some were estimated. 8-foot high by 4-foot wide box culverts would be needed at three road crossings. Discharge from the existing 42-inch pipe would outlet into the channel around Station 26+50. A diversion structure to divert up to 47 cfs to the east side of North 111th Street would be constructed near Station 24+70.

Adjustments to the water and gas utilities may be needed. Potholing is recommended to verify the depth and location of the utilities. Discussions with the utility owners will be needed to determine their requirements to relocate the utilities and whether relocation will be needed.

Channel through Schofield Farm Property

Two scenarios for conveying the design discharge through the Schofield Farm Property were investigated. One scenario was a large, swale-like channel that could potentially be farmed. During the December 2005 progress meeting, this scenario was discussed. It was determined that it could be difficult to maintain irrigation across the swale, that different crops and growth stages would impact the conveyance capacity, flow velocities and erosion potential of the swale, and that over time, the swale could be modified due to farming practices.

The second scenario, a trapezoidal channel located along the farmstead property line that would convey 525 cfs, and have a depth of five feet, was developed. The resulting channel has a bottom width of 4 feet, and side slopes of 3:1. The top width would range from approximately 40 to 80 feet. The proposed alignment is shown in Figure 1A. Access could be provided across the channel between the farmstead and the fields via a low-water crossing. Two or three 24-inch diameter pipes could be installed under the crossing to convey low flows.

Conveyance of 0.4-inch Storm Downstream of Schofield Farm

A portion of the reach intended to convey the 0.4-inch storm east and south of North 111th Street around Prince Lake No. 2 has enough capacity to do so, based on the existing conditions geometry at Station 19+00. Farther downstream, at Station 14+00, the capacity is approximately 7 cfs. In order to convey the 0.4-inch storm discharge of 47 cfs, a triangular channel approximately two feet deep, with 3 to 1 sideslopes and a top width of 12 feet would be required.

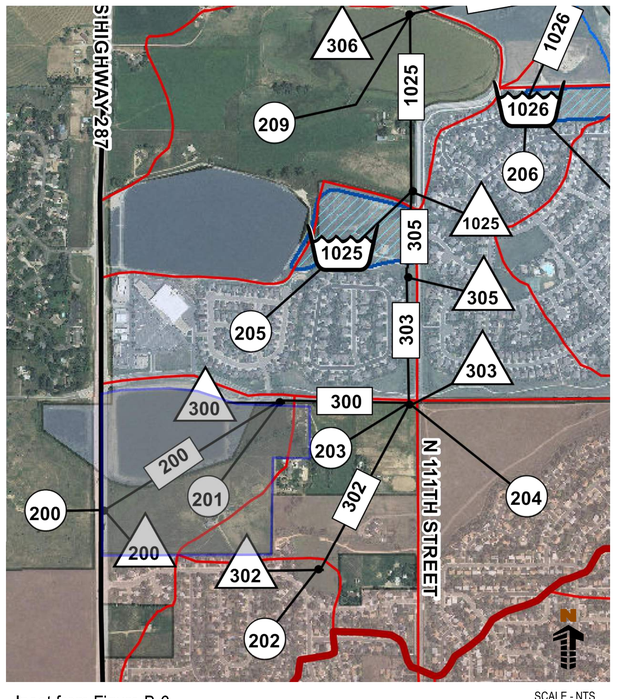
The channel improvements needed to convey the 0.4-inch storm could conflict with the Erie Lake Raw Water Line. A storm sewer alternative or adjustment of the raw water line design should be considered. For an estimated slope of 2.0%, a 30-inch diameter pipe would be required to convey the 0.4-inch storm. Adjustments to the raw water line may also be needed to

accommodate a storm sewer. OA recommends that the location of the raw water line be staked in the field so that the project sponsors can review the water line location with respect to the existing street and trail and proposed drainage improvements.

The *Preliminary Drainage Report for Meadow Sweet Farms, Erie Colorado,* dated May 13, 2005, shows Pond 1027 at the outlet of Prince Lake No 2, north and east of the curved portion of North 111th Street. It also shows a swale (designated D-D in the report) that collects local drainage and crosses under North 111th Street in a 12-foot by 4-foot box culvert. Discharge from the 0.4-inch storm could be conveyed to either proposed structure.



PRELIMINARY DRAINAGE PLAN
NINE MILE CORNER | ERIE, CO
SCALE - 1" = 150'



Inset from Figure B-6
Town of Erie Outfall Systems Plan (West ofCoal Creek)
RESPEC Consulting & Services, January 2014

SCALE - NTS

Galloway
Planning. Architecture. Engineering.
6162 S Willow Drive, Suite 320, Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com
©2016 Galloway & Company, Inc. All Rights Reserved

COPYRIGHT

THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

LEGEND:

- PROPOSED MAJOR CONTOUR — 4900
- PROPOSED MINOR CONTOUR — 35
- EXISTING MAJOR CONTOUR — 4900
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED STORM INLET
- PROPOSED RIGHT-OF-WAY
- FUTURE RIGHT-OF-WAY
- PROPOSED LOTLINE
- FUTURE LOTLINE
- EASEMENT LINE

DRAINAGE SYMBOLS:

200 (4 / 37 / 98 acres)
- SWMM SUBBASIN ID
- % IMPERVIOUS (EXISTING LAND USE)
- % IMPERVIOUS (FUTURE LAND USE)
- SWMM SUBBASIN AREA (ACRES)

- C9 — DESIGN POINT
- OSP SWMM SUBBASIN BOUNDARY
- PROJECT SPECIFIC SUBBASIN BOUNDARY
- OVERLAND FLOW DIRECTION (I.E., LANDSCAPING)
- DIRECT FLOW DIRECTION - FUTURE (I.E., PAVEMENT, CURB AND GUTTER)

NOTES:

1. DETENTION POND FOOTPRINT (PROPOSED CONDITION) — 100-YEAR

Project No:	
Drawn By:	HHF
Checked By:	HHF

05/17/2017

NINE MILE CORNER
ERIE, COLORADO
N. 107th Street and Arapahoe Road

DR01	1 of 1

H:\Evergreen Development\ECO - Erie ES000018 - Nine Mile Corner - 287&Arapahoe\CAD\TitleInformation\ES000018_Drainage Plan.jpg - Greg Hauser - 2015-04-16

PHASE III DRAINAGE REPORT

FOR

Outlook at Nine Mile
Erie, Colorado

April 27, 2017
Revised: September 27, 2017

Prepared for:

Evergreen
Development | Services | Investments

1873 S. Bellaire Street, Suite 1106
Denver, Colorado 80222
Phone: 303-757-0401

Prepared by:

HKS HARRIS KOCHER SMITH

Andrew Messer, P.E.
1120 Lincoln Street, Suite 1000
Denver, CO 80203
Ph.: 303-623-6300, Fax: 303-623-6311

Harris Kocher Smith Project No.: 160602

TABLE OF CONTENTS

ENGINEER'S CERTIFICATION ..... A
TOWN ACCEPTANCE ..... A
General Location & Description C
A. Location C
B. Description of Property C
Drainage Basins ..... D
C. Major Basin Description ..... D
D. Sub-basin Description ..... D
Drainage Design Criteria ..... E
E. Development Criteria Reference and Constraints ..... E
F. Hydrological Criteria ..... E
G. Hydraulic Criteria ..... F
Drainage Facility Design ..... F
H. General Concept ..... F
I. Specific Details ..... G
Summary & Conclusion ..... N
References ..... O
Appendices:
Appendix A: Vicinity Map, FEMA Firmette
Appendix B: Soils Information
Appendix C: Hydrologic Computations
Appendix D: Hydraulic Computations
Appendix E: Referenced Information
Appendix F: Final Drainage Plan

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.

Andrew T. Messer, P.E.
Registered Professional Engineer
State of Colorado License No. 50640
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

Applicant:	Jeff Wikstrom
Company Name:	Evergreen
Email:	JWikstrom@evgre.com
Mailing Address:	1873 S. Bellaire St., Ste 1106
	Denver, CO 80222
Telephone #:	(602) 808-8600

Plan Preparation Consultant:

Company Name:	Harris Kocher Smith
Professional Engineer:	Andrew Messer, P.E.
Email:	amesser@hkseng.com
Mailing Address:	1120 Lincoln Street, Suite 1000
	Denver, CO 80203
Telephone #	(303) 623-6300
Fax #	(303) 623-6311

General Location & Description

A. Location

The Outlook at Nine Mile development project (Site) 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 Site 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 Site is bounded by Arapahoe Road to the north, rural residential developments to the south and east, and E 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, to the west of the Site 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 Site will be developed as multi-family residential housing with approximately 250 units. The proposed development will also include attached and detached garages, surface parking, a clubhouse with pool, and 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 15.15 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 apparent.

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 6% 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.

A gas easement runs along the north portion of the west property line; it's exact location and width is unknown. A 15-ft roadway and maintenance easement also exists along the north portion of the west property line, possibly overlapping said gas line/easement. A portion of an oil and gas lease exists in the south portion of the Site.

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 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 preliminary exhibit and letter can be found in Appendix E, for reference.

A previously existing pond 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.

There is only one sub-basin that drains onto the Site from an off-site area. The sub-basin is to the southeast of the Site and consists of pervious area to the west of an existing rural single-family house. Drainage from this basin passes through the Site on the way to the Ditch.

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), 2017 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:

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

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=1.01 inches and for the 100-year storm, P_1=2.70 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 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.

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

$V_{100}=K_{100}*A + ½ WQCV$ where
$K_{100} = (1.78*I – 0.002*I^2-3.56)/900$
I = Developed basin imperviousness (%)
A = Tributary area
WQCV = Water Quality Capture Volume per USDCM

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. A copy of the Preliminary Drainage Plan (by others) including a schematic of the storm sewer outfall for the PD is included in Appendix E for reference.

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 extended detention basin (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).

All private storm sewer & detention will be privately owned and maintained. Inspection and maintenance will be the responsibility of the property owner and shall be done in accordance with Town of Erie standards.

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 20 cfs during the initial storm event and approximately 69 cfs during the major storm event.

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

Basin A1 (0.51 acres) consists of building, drive, sidewalk, 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 10' Type R on-grade curb inlet (inlet A10) within the private drive. The peak runoff rate from basin A1 is calculated to be 1.8 cfs during the initial storm event and 3.4cfs 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 1.8 cfs during the major storm event which will flow through curb & gutter to the inlet in downstream basin A3 (Design Point 1). In the event of a storm sewer clog, runoff will be conveyed through the private drive to Arapahoe Road right of way.

Basin L2 (0.40 acres) consists of building, sidewalk, 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 A2, described below. The peak runoff rate from basin L2 is calculated to be 0.5 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 1 in basin A2. If the landscape drains clog, runoff will overtop the sump area and flow along a sidewalk to the private drive and eventually to Design Point 1.

Basin A2 (0.50 acres) consists of building, drive, sidewalk, 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 A13) within the private drive (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 A2 is calculated to be 0.98 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, 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 A2, 3.5 cfs, will combine with bypassed flow from upstream basin A1 to total 4.57 cfs of surface flow routed to the inlet. The inlet will capture and convey 4.57 cfs from surface runoff and convey it to Design Point 2, along with 3.4 cfs conveyed via closed conduit from upstream basin A1 and L2 (a total of 7.69 cfs). If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately, to Arapahoe Road right of way.

Basin A3 (0.76 acres) consists of building, drive, sidewalk, 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 A12) 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 A3 is calculated to be 1.7 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 A3, 5.5 cfs, will berouted to the inlet. The inlet will capture 3.6 cfs from surface runoff and convey it to Design Point 3, along with 7.7 cfs conveyed via closed conduit from upstream basins (a total of 10.8 cfs). The inlet will bypass 1.9 cfs to Design Point 3. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately, to Arapahoe Road right of way.

Basin A4 (1.15 acres) consists of building, drive, sidewalk, 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 A-1-1) 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 A4 is calculated to be 2.4 cfs during the initial storm event, all of which will be captured by the inlet and conveyed via closed conduit to Design Point 5. 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 A4, 7.6 cfs, will combine with bypassed flow from upstream basin A3 to total 8.9 cfs of surface flow routed to the inlet. The inlet will capture and convey 7.2 cfs from surface runoff and convey it to Design Point 5, along with 10.8 cfs conveyed via closed conduit from upstream basins (a total of 17.9 cfs). The inlet will bypass 1.7 cfs to Design Point 5. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately, to Arapahoe Road right of way.

Basin L4 (0.37 acres) consists of building, sidewalk, 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 5 in basin A5, described below. The peak runoff rate from basin L4 is calculated to be 0.6 cfs during the initial storm event and 2.3 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 in Basin A5. If the landscape drains clog, runoff will overtop the sump area and flow along a sidewalk to the private drive and eventually to Design Point 5.

Basin A5 (1.52 acres) consists of building, drive, sidewalk, 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 A6) 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 A5 is calculated to be 3.1 cfs during the initial storm event, all of which will be captured by the inlet and conveyed via closed conduit to Design Point 14. 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 A5 is 10.11 cfs plus additional bypass flow from basin A4 for a total of 12.38 The inlet is in a sump and will ultimately capture and convey all surface runoff and convey it to Design Point 14. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately, to Arapahoe Road right of way.

Basin A6 (0.24 acres) consists of building, drive, sidewalk, and landscaping. The peak runoff rate from basin A6 is calculated to be 0.34 cfs during the initial storm event, all of which will be captured by inlet C1 and conveyed via closed conduit to Design Point 17. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be conveyed by curb & gutter to inlet C1. During the major storm event the peak runoff originating in basin A6, 1.35 cfs, will be captured and conveyed by closed conduit to Design Point 17. If the inlet clogs, runoff will be conveyed to Arapahoe Road right of way.

Basin 02 (.073 acres) consist of a rural-single family home and landscaping. The peak runoff rate from basin O2 is calculated to be 0.29 cfs for the minor storm and 2.74 cfs for the major storm. Peak runoff from basin O2 sheet flows to the north and joins runoff in basin B1 described below.

Basin B1 (0.20 acres) consists of sidewalk and landscaping. Runoff originating within this basin will either surface-drain through grass swales or be captured and conveyed by landscape drains to a sump-condition Type C inlet and then conveyed by closed conduit at Design Point 18. The peak runoff rate from basin B1 is calculated to be negligible during the initial storm event and 0.8 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 18. If the inlet clogs, runoff will overtop the sump area and flow into the private drive and eventually to Design Point 19, 22, or ultimately to the detention basin.

Basin B2 (0.70 acres) consists of building, drive, sidewalk, 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 curb inlet (inlet B4) within the private drive. 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 B2 is calculated to be 1.1 cfs during the initial storm event, all of which will be captured by the inlet and conveyed via closed conduit to Design Point 20. During the major storm event, some runoff may overtop the landscaped areas into the roadway and be conveyed by curb & gutter to the sump-condition inlet. During the major storm event the peak runoff originating in basin B2, 3.5 cfs, will be partially captured and conveyed by closed conduit to Design Point 20. A bypass flow of 0.7 cfs will flow to Design Point 22. If the inlet clogs, runoff will flow into the private drive and eventually to Design Point 22, or ultimately, to the detention basin.

Basin B3 (0.56 acres) consists of building, sidewalk, 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 sump condition type C inlet. The peak runoff rate from basin B3 is calculated to be 0.9 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 22 in basin B4. If the landscape drains clog, runoff will overtop the sump area and flow along a sidewalk to the private drive and eventually to Design Point 22.

Basin B4 (0.95 acres) consists of building, drive, sidewalk, 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 curb inlet (inlet A1) within the private drive. 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 B4 is calculated to be 2.2 cfs during the initial storm event and 7.1 cfs during the major storm event, all of which will be captured by the inlet and conveyed via closed conduit to the detention pond. If the inlet clogs, runoff will over top the curb and gutter and flow into the detention pond.

Basin C1 (0.61 acres) consists of sidewalk and landscaping. Runoff originating within this basin will either surface-drain through grass swales or be captured and conveyed by landscape drains to a sump-condition Type C inlet and then conveyed by closed conduit at Design Point 6. The peak runoff rate from basin C1 is calculated to be 0.3 cfs during the initial storm event and 2.6 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 7 in basin C2. If the inlet clogs, runoff will overtop the sump area and flow into the private drive and eventually to Design Point 7, or ultimately, to Arapahoe Road right of way.

Basin C2 (0.42 acres) consists of building, drive, sidewalk, 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 D5) within the private drive. The peak runoff rate from basin C2 is calculated to be 1.0 cfs during the initial storm event and 4.2 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 C4 (Design Point 10, inlet D3). All captured runoff will be conveyed by closed conduit to Design Point 9. In the event of a storm sewer clog, runoff will be conveyed through the private drive to Arapahoe Road right of way.

Basin L1 (0.29 acres) consists of building, sidewalk, 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 11 in basin C3,

described below. The peak runoff rate from basin L1 is calculated to be 0.4 cfs during the initial storm event and 1.8 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 8 in basin C3. If the landscape drains clog, runoff will overtop the sump area and flow along a sidewalk to the private drive and eventually to Design Point 8.

Basin C3 (0.76 acres) consists of building, drive, sidewalk, 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 D-2-1) within the private drive (Design Point 8). 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 C3 is calculated to be 1.6 cfs during the initial storm event, all of which will be captured by the inlet and conveyed via closed conduit to Design Point 12. 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 C3, 5.4 cfs, will surface flow to the inlet, along with 1.8 cfs from basin L1 (a total of 6.8 cfs). The inlet will capture and convey 3.9 cfs from surface runoff and convey it to Design Point 10. The inlet will bypass 2.9 cfs to Design Point 10. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately, to Arapahoe Road right of way.

Basin C4 (0.93 acres) consists of building, drive, sidewalk, 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 D3) within the private drive (Design Point 10). 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 C4 is calculated to be 2.1 cfs during the initial storm event, all of which will be captured by the inlet and conveyed via closed conduit to Design Point 12. 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 C4, 6.8 cfs, will combine with bypassed flow from upstream basins C2 & C3 to total 8.8 cfs of surface flow routed to the inlet. The inlet will capture and convey 3.9 cfs from surface runoff and convey it to Design Point 12, along with 6.8 cfs conveyed via closed conduit from upstream basins (a total of 15.2 cfs). The inlet will bypass 4.9 cfs to Design Point 13. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately, to Arapahoe Road right of way.

Basin C5 (0.39 acres) consists of sidewalk and landscaping. Runoff originating within this basin will either surface-drain through grass swales or be captured and conveyed by landscape drains to a sump-condition Type C inlet and then conveyed by closed conduit to Design Point 12. The peak runoff rate from basin C5 is calculated to be 0.2 cfs during the initial storm event and 1.9 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 13 in basin C6. If the inlet clogs, runoff will overtop the sump area and flow into the private drive and eventually to Design Point 15, or ultimately, to Arapahoe Road right of way.

Basin C6 (0.66 acres) consists of building, drive, sidewalk, 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 C2) 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 C6 is calculated to be 1.5 cfs during the initial storm event, all of which will be captured by the inlet and conveyed via closed conduit to Design Point 14. 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 C6, 4.9 cfs, will combine with bypassed flow from upstream basin C4 to total 9.7 cfs of surface flow routed to the inlet. The inlet will capture and convey 7.6 cfs from surface runoff and convey it to Design Point 14, along with 16.5 cfs conveyed via closed conduit from Design Point 14 (a total of 23.4 cfs). The inlet will bypass 2.1 cfs to Design Point 14. If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately, to Arapahoe Road right of way.

Basin L3 (0.31 acres) consists of building, sidewalk, 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 13 in basin C6, described above. The peak runoff rate from basin L3 is calculated to be 0.6 cfs during the initial storm event and 2.1 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 15 in basin C6. If the landscape drains clog, runoff will overtop the sump area and flow along a sidewalk to the private drive and eventually to Design Point 15.

Basin C7 (1.12 acres) consists of building, drive, sidewalk, 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 A4) within the private drive (Design Point 15). 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 C7 is calculated to be 2.3 cfs during the initial storm event, all of which will be captured by the inlet and conveyed via closed conduit to Design Point 17. 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 C7, 7.7 cfs, will combine with bypassed flow from upstream basin C6, however basin C7 will peak before the routed flow from the upstream basin. The inlet will capture and convey 5.2 cfs from surface runoff and convey it to Design Point 17. The inlet will bypass 2.1 cfs to Design Point 16 (Inlet C1). If the inlet clogs, runoff will be conveyed through the private drive to the next inlet, or ultimately, to Arapahoe Road right of way.

Basin L5 (1.09 acres) consists of building, sidewalk, 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 19. The peak runoff rate from basin L5 is calculated to be 0.3 cfs during the initial storm event and

4.1 cfs during the major storm event. During the initial and major storm events, all runoff should ultimately be collected and conveyed to Design Point 19 in Basin C6. If the landscape drains clog, runoff will overtop the sump area and flow over a sidewalk to the private drive and eventually to Design Point 20.

Basin D1 (0.73 acres) consists of walk, landscaping, and EDB. All runoff originating in basin D1 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 negligible and 3.2 cfs, respectively.

Basin O1 (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 0.1 cfs and 0.4 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 downstream a inlet in the south west corner of 111th and Arapahoe Rd and join flows from the proposed storm conduit that outfall into the ditch on the west side of 111th outlined in the Phase II report for this PD.

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	5241.95	16.422	0.377	40-Hour drain time
EURV	5245.08	58,370	1.34	12-32-Hour drain time*
100-Year + ½ WQCV	5247.93	96,268	2.21	12.6

*Independent of the WQCV

The EDB provides a micropool within the 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 12.7 cfs (15.15 acres * 0.85 cfs/acre – 0.2 cfs undetained release) via restrictor plate bolted over the outlet pipe designed to release 12.7 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, 2017.

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

3. Urban Storm Drainage Criteria Manual, Vol. 1 and 2, Urban Drainage and Flood Control District, Revised March 2017.

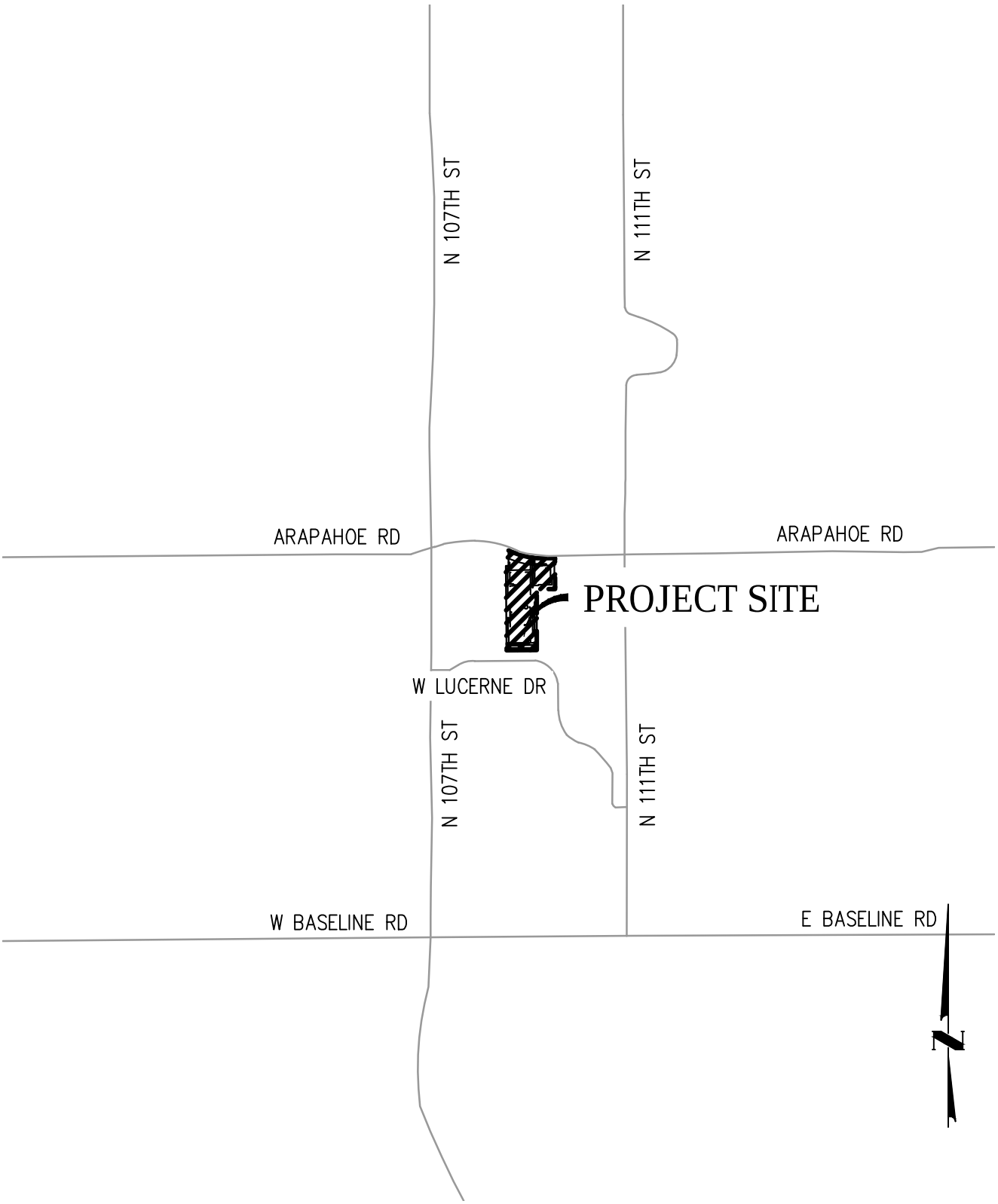
4. Urban Storm Drainage Criteria Manual, Vol. 3, Urban Drainage and Flood Control District, Revised November 2015.

5. United States Department of Agriculture, Natural Resources Conservation Service. Custom Soil Resource Report.

6. 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

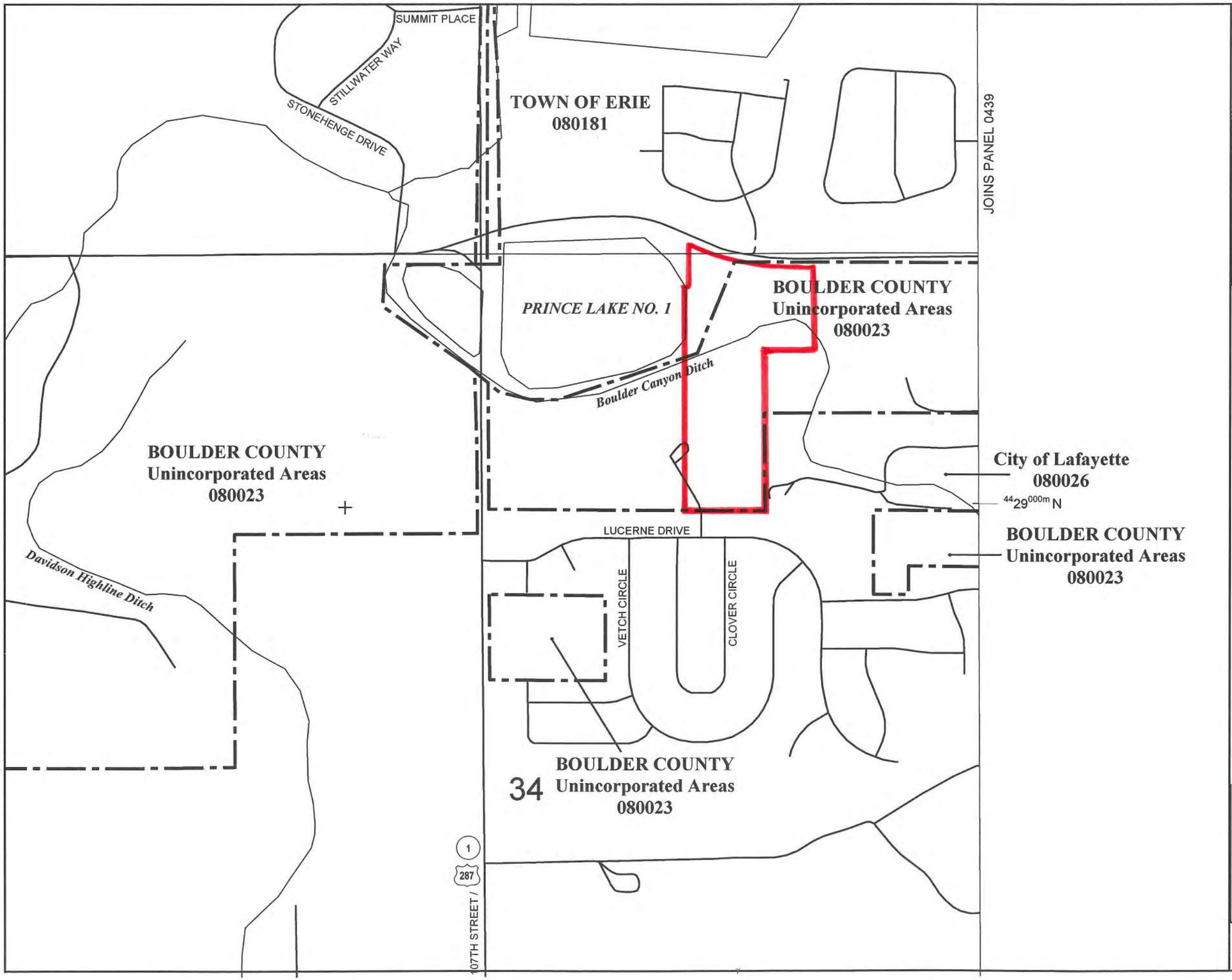
OUTLOOK AT NINE MILE
VICINITY MAP

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

for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface.....2
How Soil Surveys Are Made.....5
Soil Map.....7
Soil Map.....8
Legend.....9
Map Unit Legend.....10
Map Unit Descriptions.....10
Boulder County Area, Colorado.....12
AcC—Ascalon sandy loam, 3 to 5 percent slopes.....12
AcD—Ascalon sandy loam, 5 to 9 percent slopes.....13
W—Water.....15
References.....16

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.

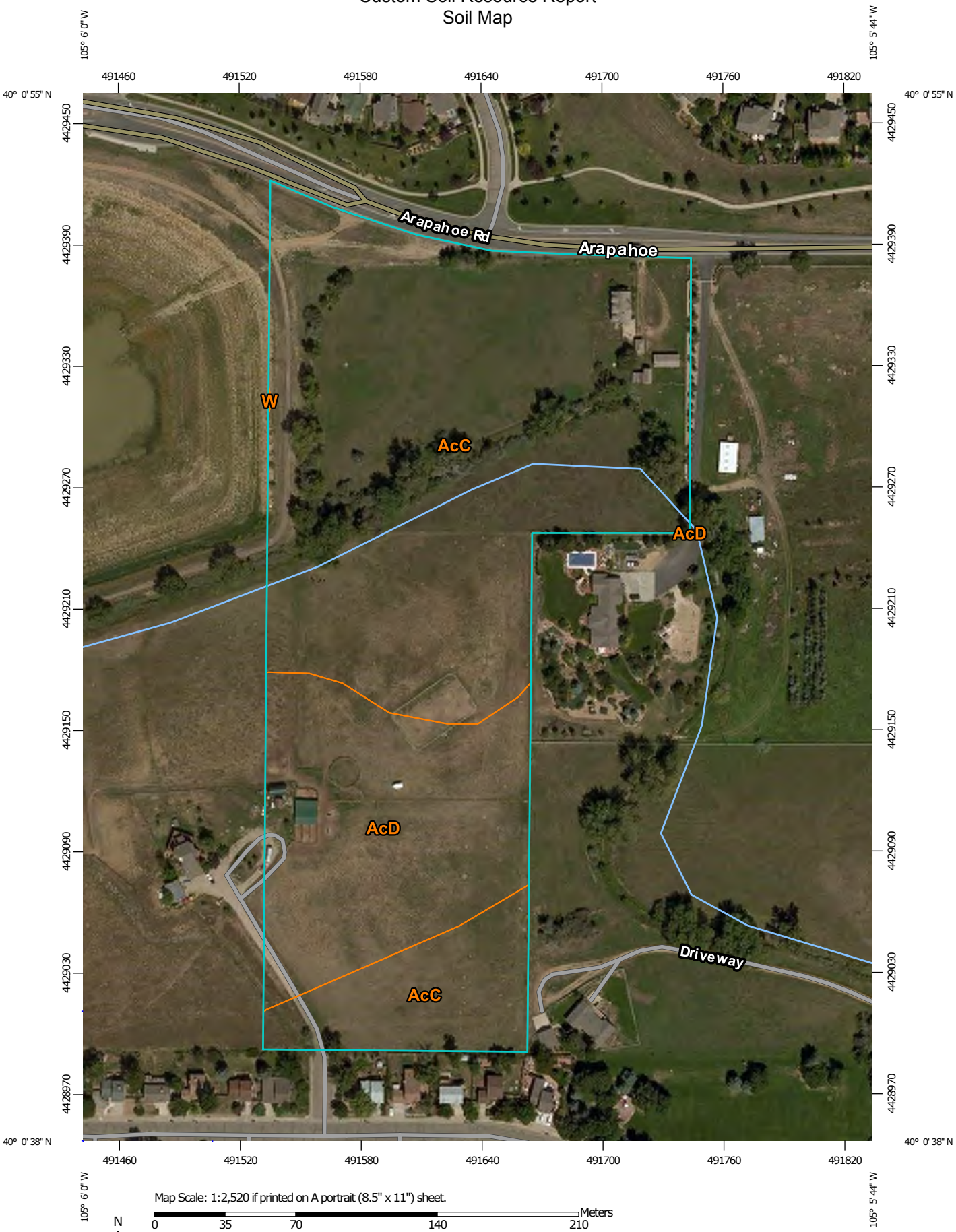
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree 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 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

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX C

Hydrologic Computations

Project Name:	Outlook at Nine Mile
	Composite C-Value Computations
	Post-Development
Project No:	160602
Date:	09/26/17
Revised:	
Design by:	T.E.H
Checked by:	

BASIN	TOTAL AREA (ACRES)	ROOFS (90%)	DRIVES & WALKS (90%)	LANDSCAPE AREA (5%)	PERCENT IMPERVIOUS	C_2=	C_5=	C_{10}=	C_{100}=
A1	0.51	0.07	0.32	0.13	68.25%	0.53	0.57	0.61	0.74
A2	0.50	0.15	0.29	0.06	79.87%	0.64	0.67	0.70	0.80
A3	0.76	0.28	0.38	0.10	79.13%	0.64	0.66	0.70	0.79
A4	1.15	0.37	0.62	0.16	78.37%	0.63	0.66	0.69	0.79
A5	1.52	0.25	1.03	0.24	76.58%	0.61	0.64	0.67	0.78
A6	0.24	0.00	0.15	0.09	58.78%	0.45	0.48	0.53	0.70
B1	0.20	0.00	0.00	0.20	5.00%	0.03	0.03	0.10	0.45
B2	0.47	0.14	0.28	0.04	82.26%	0.66	0.69	0.72	0.81
B3	0.56	0.28	0.08	0.20	60.03%	0.46	0.49	0.54	0.71
B4	0.95	0.28	0.60	0.08	83.09%	0.67	0.70	0.73	0.81
C1	0.61	0.00	0.14	0.48	23.76%	0.16	0.18	0.25	0.54
C2	0.70	0.15	0.32	0.24	61.42%	0.47	0.50	0.55	0.71
C3	0.76	0.30	0.33	0.13	75.79%	0.60	0.63	0.67	0.78
C4	0.93	0.22	0.60	0.11	79.72%	0.64	0.67	0.70	0.80
C5	0.39	0.00	0.10	0.29	26.54%	0.18	0.20	0.27	0.55
C6	0.66	0.18	0.42	0.06	82.45%	0.67	0.69	0.72	0.81
C7	1.08	0.22	0.69	0.18	76.20%	0.61	0.64	0.67	0.78
D1	0.74	0.00	0.05	0.69	10.86%	0.06	0.08	0.14	0.48
L1	0.29	0.14	0.03	0.12	54.05%	0.41	0.44	0.49	0.68
L2	0.40	0.15	0.05	0.20	47.65%	0.35	0.38	0.44	0.65
L3	0.31	0.17	0.06	0.08	69.16%	0.54	0.57	0.62	0.75
L4	0.37	0.10	0.11	0.16	54.00%	0.41	0.44	0.49	0.68
L5	1.20	0.15	0.07	0.98	20.78%	0.13	0.16	0.22	0.52
O1	0.05	0.00	0.05	0.00	90.00%	0.74	0.76	0.78	0.84
O2	0.73	0.09	0.07	0.57	23.41%	0.15	0.18	0.25	0.53
Total On-Site	15.30	3.60	6.71	4.99	62.30%	0.48	0.51	0.56	0.72
Total Detained	16.08	3.69	6.83	5.56	60.61%	0.47	0.50	0.55	0.71
Total	16.08	3.69	6.83	5.56	60.61%	0.47	0.50	0.55	0.71

TYPE B HYDRAULIC SOIL		
2 YR - C_B =	$0.835i^{1.169}$	< Table 6-4 USDCM
5 YR - C_B =	$0.857i^{1.088}$	< Table 6-4 USDCM
10 YR - C_B =	0.807i+0.057	< Table 6-4 USDCM
100 YR - C_B =	0.465i+.0426	< Table 6-4 USDCM

Project Name: Outlook at Nine Mile
Project No: 160602
Date: 43004

Revised:

STANDARD FORM SF-2
TIME OF CONCENTRATION

Designed By: T.E.H
Checked By:

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)	
A1	0.51	0.57	24	2.00	3.81	179	1.00	20.00	2.00	1.49	5.30	203	11.13	5.30	
A2	0.50	0.67	41	2.00	4.00	223	1.00	20.00	2.00	1.86	5.86	264	11.47	5.86	
A3	0.76	0.66	23	2.00	3.04	156	1.50	20.00	2.45	1.06	5.00	179	10.99	5.00	
A4	1.15	0.66	22	2.00	3.02	464	1.00	20.00	2.00	3.87	6.89	486	12.70	6.89	
A5	1.52	0.64	22	2.00	3.13	393	1.00	20.00	2.00	3.28	6.41	415	12.31	6.41	
A6	0.24	0.48	55	2.90	5.90	162	4.20	20.00	4.10	0.66	6.56	217	11.21	6.56	
B1	0.20	0.03												5.00	By Inpsection
B2	0.47	0.69	35	2.00	3.50	113	1.25	20.00	2.24	0.84	5.00	148	10.82	5.00	
B3	0.56	0.49	20	2.00	3.96	110	4.00	5.00	1.00	1.83	5.79	130	10.72	5.79	
B4	0.95	0.70	18	2.00	2.47	180	3.12	20.00	3.53	0.85	5.00	198	11.10	5.00	
C1	0.61	0.18	10	2.00	4.24	350	5.00	7.00	1.57	3.73	7.96	360	12.00	7.96	
C2	0.70	0.50	20	2.00	3.88	350	1.00	20.00	2.00	2.92	6.79	370	12.06	6.79	
C3	0.76	0.63	10	33.00	0.84	15	33.00	8.00	4.60	0.05	5.00	25	10.14	5.00	
C4	0.93	0.67	10	2.00	1.98	226	1.32	20.00	2.30	1.64	5.00	236	11.31	5.00	By Inspection
C5	0.39	0.20												5.00	By Inpsection
C6	0.66	0.69												5.00	By Inpsection
C7	1.08	0.64	15	2.00	2.61	300	1.61	20.00	2.54	1.97	5.00	315	11.75	5.00	
D1	0.74	0.08												5.00	By Inpsection
L1	0.29	0.44												5.00	By Inpsection
L2	0.40	0.38												5.00	By Inpsection
L3	0.31	0.57												5.00	By Inpsection
L4	0.37	0.44												5.00	By Inspection
L5	1.20	0.16	125	3.20	13.14	200	2.50	15.00	2.37	1.41	14.55	325	11.81	11.81	
O1	0.05	0.76												5.00	By Inspection
O2	0.73	0.18	100	2	13.44	100	3.00	15.00	2.60	0.64	14.08	200	11.11	11.11	

1-HR Rainfall

Return Interval (YR)	1-hour Rainfall
WQ	0.6
2	1.01
5	1.43
10	1.73
100	2.7

tc	WQ	2yr	5yr	10yr	100yr
5	2.035	3.426	4.850	5.868	9.158
6	1.934	3.256	4.610	5.578	8.705
7	1.844	3.105	4.396	5.318	8.300
8	1.763	2.968	4.203	5.084	7.935
9	1.690	2.845	4.028	4.873	7.605
10	1.623	2.732	3.869	4.680	7.305
11	1.562	2.630	3.723	4.504	7.030
12	1.506	2.535	3.590	4.343	6.777
13	1.454	2.448	3.466	4.193	6.545
14	1.407	2.368	3.352	4.056	6.329
15	1.362	2.293	3.246	3.927	6.130
16	1.321	2.223	3.148	3.808	5.943
17	1.282	2.158	3.056	3.697	5.770
18	1.246	2.097	2.970	3.593	5.607
19	1.212	2.040	2.889	3.495	5.455
20	1.180	1.987	2.813	3.403	5.311

Project Name: Outlook at Nine Mile
Project No: 160602
Date: 09/26/17
Revised:

STANDARD FORM SF-2
Post-Development
Rational Method Procedure

Designed By: T.E.H
Checked By:
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	T_C (min)	C x A (AC)	I (IN/HR)	DIRECT RUNOFF, Q (CFS)	T_C (MAX)	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)	QFULL (CFS)	LENGTH (FT)	VELOCITY (FPS)	T_t (min)	BYPASS RUNOFF, Q (CFS)	LENGTH (FT)	SLOPE (%)	VELOCITY (FPS)	T_t (min)	REMARKS
A1		0.51	0.57	5.30	0.29	3.37	0.98	5.30	0.29	3.37	0.98	1.00	0.98	2.5	0.98	0.00												
								5.30	0.29	3.37	0.98						0.98	1.25	18	15.27	218	8.6	0.42						**Inlet capture w/ sewer flow to DP1**
L2		0.40	0.38	5.00	0.15	3.43	0.52	5.00	0.15	3.43	0.52																		L2 surface flow to Inlet A9
A2		0.50	0.67	5.86	0.33	3.28	1.09	5.86	0.49	3.28	1.59																		A2 surface flow to Inlet A9
								5.86	0.64	3.28	2.09	1.75	2.09	2.09	2.09	0													Total Surface flow to DP1
	1							5.86	0.93	3.28	3.05						3.05	1.75	18	18.06	155	10.2	0.25						**Total piped to DP-2**
A3		0.76	0.66	5.00	0.50	3.43	1.72	5.00	0.50	3.43	1.72	1.00	1.72	1.65	1.65	0.07													A3 Flow to Inlet A8
								5.00	0.02	3.43	0.07													0.07	360	1.00	2.00	3.00	Bypass to Inlet A-1-1
	2							6.11	1.43	3.24	4.64						4.64	1.00	18	13.66	328	7.7	0.71						**Total piped to DP-4**
A4		1.15	0.66	6.89	0.76	3.12	2.36	6.89	0.76	3.12	2.36																		A4 surface flow to A1-1
								8.00	0.78	2.97	2.30	1.00	2.30	2.3	2.30	0.00													Total surface flow to Inlet A-1-1
	3							8.00	0.78	2.97	2.30						2.30	10.00	15	26.56	21	21.6	0.02						**Total piped to DP-4**
	4							8.02	2.21	2.97	6.55						6.55	1.00	24	29.41	160	9.4	0.28						**Total piped to DP-5**
L4		0.37	0.44	5.00	0.16	3.43	0.56	5.00	0.16	3.43	0.56																		L4 Surface flow to Inlet A6
A5		1.52	0.64	6.41	0.97	3.19	3.10	6.41	0.97	3.19	3.10	1.00	3.10	3.1	3.10	0.00													A5 surface flow to Inlet A6
	5							8.30	3.34	2.93	9.79						9.79	1.00	30	53.32	200	10.9	0.31						**Total piped to DP-14**
C1	6	0.61	0.16	7.96	0.10	2.97	0.28	7.96	0.10	2.97	0.28	2.00	0.28	0.28	0.28	0	0.28	0.75	18	11.83	142	6.7	0.35						**C1 captured and piped to DP-7**
C2		0.70	0.47	6.79	0.33	3.13	1.04	6.79	0.33	3.13	1.04	0.75	1.04	1.04	1.04	0													C2 surface flow to Inlet D5
	7							8.32	0.43	2.93	1.25						1.25	0.75	18	11.83	183	6.7	0.46						**Total piped to DP-9**
L1		0.29	0.41	5.00	0.12	3.43	0.40	5.00	0.12	3.43	0.40																		L1 surface flow to D-2-1
C3		0.76	0.60	5.00	0.46	3.43	1.57	5.00	0.46	3.43	1.57																		C3 surface flow to D-2-1
	8							5.00	0.58	3.43	1.98	1.00	1.98	1.94	1.94	0.04													Total Surface flow to D-2-1
								5.00	0.57	3.43	1.94						1.94	7.50	18	37.40	43	21.2	0.03						**Total piped to DP-9**
								5.00	0.01	3.43	0.04													0.04	200	1.00	2.0	1.67	Bypass to Inlet D3
	9							6.79	0.91	3.13	2.85						2.85	1.25	18	15.27	158	8.6	0.30						**Total piped to DP10**

C4		0.93	0.64	5.00	0.60	3.43	2.05	5.00	0.60	3.43	2.05																		C4 surface flow to Inlet D3
								8.32	1.04	2.93	3.04	1.00	3.04	1.86	1.86	1.18													Total surface flow to Inlet D3
								8.32	0.64	2.93	1.86																		Capture by Inlet D3
	10							8.32	1.54	2.93	4.52						4.52	1.25	18	15.27	134	8.6	0.26						**Total Piped to DP-12**
								8.32	0.40	2.93	1.18													1.18	178	1.00	2.0	1.48	Bypass to Inlet D1
C5	11	0.39	0.18	5.00	0.07	3.43	0.24	5.00	0.07	3.43	0.24	2.00	0.24	0.24	0.24	0	0.24	7.50	15	23.00	55	18.7	0.05						**Captured and piped to DP-12**
	12							8.58	1.61	2.90	4.67						4.67	1.25	24	32.88	51	10.5	0.08						**Total piped to DP-13**
L3		0.31	0.54	5.00	0.17	3.43	0.58																						L3 basin flow to Inlet D1
C6		0.66	0.67	5.00	0.44	3.43	1.50																						C5 basin flow to Inlet D1
								9.80	1.01	2.75	2.78	2.00	2.78	2.78	2.78	0													Total surface flow to Inlet D1
								9.80	1.01	2.75	2.78																		Captured flow Inlet D1
	13							9.80	2.62	2.75	7.23						7.23	1.75	30	70.54	295	14.4	0.34						**Total piped to DP-14**
	14							10.14	5.97	2.72	16.21						16.21	1.75	30	70.54	36	14.4	0.04						**Total piped to DP-15**
C7		1.08	0.61	5.00	0.66	3.43	2.25	5.00	0.66	3.43	2.25	1.00	2.25	2.25	2.25	0													C7 basin flow to Inlet A4
	15							10.18	6.62	2.71	17.96						17.96	1.50	30	65.31	114	13.3	0.14						**Captured and piped to DP-17**
L5		1.20	0.13	11.81	0.16	2.55	0.41	11.81	0.16	2.55	0.41	2.00	0.41	0.41	0.41	0.00	0.41	1.00	18	13.66	150	7.7	0.32						**Captured and piped to DP-16**
A6		0.24	0.45	6.56	0.11	3.17	0.34	6.56	0.11	3.17	0.34	2.00	0.34	0.34	0.34	0.00													A6 basin flow to Inlet C2
	16							12.13	0.27	2.52	0.68						0.68	4.50	18	28.97	49	16.4	0.05						**Captured and piped to DP-17**
	17							12.18	6.89	2.52	17.36						17.36	1.75	36	114.70	217	16.2	0.22						**Captured and piped to DP-22**
O2		0.73	0.15	11.11	0.11	2.62	0.29																						O2 basin flow to Inlet B-2-1
B1		0.20	0.03	5.00	0.00	3.43	0.02																						B1 basin flow to Inlet B-2-1
	18							11.11	0.12	2.62	0.31	2.00	0.31	0.31	0.31	0.00	0.31	2.25	15	12.60	68	10.3	0.11						**Captured and piped to DP-20**
B2		0.47	0.66	5.00	0.31	3.43	1.06	5.00	0.31	3.43	1.06	2.00	1.06	1.06	1.06	0.00													B2 basin flow to inlet B4
	19							5.00	0.31	3.43	1.06						1.06	2.25	15	12.60	39	10.3	0.06						**Captured and piped to DP-20**
	20							11.22	0.43	2.61	1.11						1.11	1.25	18	15.27	103	8.6	0.20						**Piped to DP-21**
B3		0.56	0.46	5.79	0.26	3.29	0.85	5.79	0.26	3.29	0.85	2.00	0.85	0.85	0.85	0.00	0.85	2.25	18	20.48	155	11.6	0.22						**Captured and piped to DP-21**
	21							11.42	0.68	2.59	1.77						1.77	1.25	18	15.27	104	8.6	0.20						**Piped to MH B1**
								11.62			1.77						1.77	7.50	18	37.40	67	21.2	0.05						**Piped to DP-22**
D1		0.74	0.06	5.00	0.05	3.43	0.16																						
B4		0.95	0.67	5.00	0.64	3.43	2.20					2.00	2.20	2.2	2.2	0													B4 basin flow to Inlet A1
								12.40	8.26	2.50	20.65						20.65	2.00	36	122.62	155	17.3	0.15						**TOTAL TO POND**
O1		0.05	0.74	5.00	0.03	3.43	0.12																						**TOTAL OFF-SITE**

Project Name: Outlook at Nine Mile
Project No: 160602
Date: 09/26/17
Revised:

STANDARD FORM SF-2
Post-Development
Rational Method Procedure

Designed By: T.E.H
Checked By: 0
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	T_C (min)	C x A (AC)	I (IN/HR)	DIRECT RUNOFF, Q (CFS)	T_C (MAX)	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)	QFULL (CFS)	LENGTH (FT)	VELOCITY (FPS)	T_t (min)	BYPASS RUNOFF, Q (CFS)	LENGTH (FT)	SLOPE (%)	VELOCITY (FPS)	T_t (min)	REMARKS
A1		0.51	0.74	5.30	0.38	9.02	3.44	5.30	0.38	9.02	3.44	1.00	3.44	3.41	3.41	0.03												Surface flow to Inlet A10
								5.30	0.38	9.02	3.41						3.41	1.25	18	15.27	218	8.6	0.42					**Total piped to DP-1**
								5.30	0.00	9.02	0.03													0.03	225	1.00	2.0	1.88	Bypass to Inlet A9
L2		0.24	0.65	5.00	0.16	9.16	1.43	5.00	0.16	9.16	1.43																		Surface Flow from Basin L2 to DP1
A2		0.50	0.80	5.86	0.40	8.77	3.46	5.86	0.40	8.77	3.46																		Surface flow from Basin A2 to DP1
								7.18	0.56	8.23	4.57	1.75	4.57	4.60	4.57	0.00													Total Surface Flow to DP1
								7.18	0.56	8.23	4.57																		Inlet capture with sewer flow to DP2
	1							7.18	0.93	8.23	7.69						7.69	1.75	18	18.06	155	10.2	0.25						**Total Piped to DP-2**
A3		0.76	0.79	5.00	0.60	9.16	5.50	5.00	0.60	9.16	5.50	1.00	5.50	3.57	3.57	1.92	3.57	1.00	18	13.66	328	7.7	0.71						Basin flow from A3 (Inlet A8)
								5.00	0.39	9.16	3.57																		Inlet Capture w/ sewer flow to DP3
								5.00	0.21	9.16	1.92													1.92	360	1.00	2.00	3.00	Bypass to Inlet A-1-1
	2							7.43	1.32	8.14	10.78						10.78	1.00	18	13.66	328	7.7	0.71						**Total Flow piped to DP-4**
A4		1.15	0.79	6.89	0.91	8.34	7.58	6.89	0.91	8.34	7.58																		Basin Flow from A4 to Inlet A-1-1
	3							8.00	1.12	7.94	8.87	1.00	8.87	7.19	7.19	1.69	7.19	10.00	15	26.56	21	21.6	0.02						Total Surface flow to A-1-1
								8.00	0.21	7.94	1.69													1.69	162	1.00	2.0	1.35	Bypass to Inlet A6
	4							8.14	2.28	7.89	17.96						17.96	1.00	24	29.41	160	9.4	0.28						**Total piped to DP-5**
L4		0.37	0.68	5.00	0.25	9.16	2.32	5.00	0.25	9.16	2.32																		
A5		1.52	0.78	6.41	1.19	8.53	10.11	6.41	1.19	8.53	10.11																		A5 Surface Flow to Inlet A6
								9.35	1.65	7.50	12.38	1.00	12.38	12.4	12.38	0.00													Total Surface Flow to Inlet A6
	5							9.35	3.93	7.50	29.45						29.45	1.00	30	53.32	200	10.9	0.31						**Total Flow piped to DP-14**
C1	6	0.61	0.54	7.96	0.33	7.95	2.62	7.96	0.33	7.95	2.62	2.00	2.62	2.62	2.62	0.00	2.62	0.75	18	11.83	142	6.7	0.35						**C1 captured and piped to DP7**
C2		0.70	0.71	6.79	0.50	8.38	4.20	6.79	0.50	8.38	4.20	2.25	4.20	3.11	3.11	1.09													C2 surface flow to Inlet D5
								6.79	0.37	8.38	3.11																		Captured flow from Inlet D5
	7							8.32	0.70	7.83	5.48						5.48	0.75	18	11.83	183	6.7	0.46						**Total Piped to DP-9**
								6.79	0.13	8.38	1.09													1.09	342	1.00	2.0	2.85	Bypass to Inlet D3
L1		0.29	0.68	5.00	0.20	9.16	1.80	5.00	0.20	9.16	1.80																		L1 surface Flow to D-2-1
C3		0.76	0.78	5.00	0.59	9.16	5.42	5.00	0.59	9.16	5.42																		C2 surface flow to D-2-1
	8							9.64	0.92	7.41	6.80	1.00	6.80	3.88	3.88	2.93													Total Surface flow to D-2-1
								9.64	0.52	7.41	3.88						3.88	7.50	18	37.40	43	21.2	0.03						**Total piped to DP-9**
								9.64	0.39	7.41	2.93													2.93	200	1.00	2.0	1.67	Bypass to Inlet D3
	9							9.68	1.62	7.40	11.98						11.98	1.25	18	15.27	158	8.6	0.30						**Total piped to DP-10**
C4		0.93	0.80	5.00	0.74	9.16	6.81	5.00	0.74	9.16	6.81																		C4 surface flow to Inlet D3
								11.31	1.27	6.95	8.82	1.00	8.82	3.91	3.91	4.91													Total surface flow to Inlet D3
								11.31	0.56	6.95	3.91																		Capture by Inlet D3
	10							11.31	2.18	6.95	15.16						15.16	1.25	18	15.27	134	8.6	0.26						**Total Piped to DP-12**
								11.31	0.71	6.95	4.91													4.91	178	1.00	2.0	1.48	Bypass to Inlet D1

C5	11	0.39	0.55	5.00	0.21	9.16	1.95	5.00	0.21	9.16	1.95	2.00	1.95	1.95	1.95	0	1.95	7.50	15	23.00	55	18.7	0.05						**Captured and piped to DP-12**
	12							11.57	2.39	6.88	16.49						16.49	1.25	24	32.88	51	10.5	0.08						**Total piped to DP-13**
L3		0.31	0.75	5.00	0.23	9.16	2.14																						L3 basin flow to Inlet D1
C6		0.66	0.81	5.00	0.53	9.16	4.87																						C6 basin flow to Inlet D1
								12.79	1.47	6.59	9.70	2.00	9.70	7.63	7.63	2.07													Total surface flow to Inlet D1
								12.79	1.16	6.59	7.63																		Captured flow Inlet D1
	13							12.79	3.55	6.59	23.42						23.42	1.75	30	70.54	295	14.4	0.34						**Total piped to DP-14**
								12.79	0.31	6.59	2.07													2.07	178	1.00	2.0	1.48	Bypass to Inlet A4
	14							13.14	7.48	6.51	48.73						48.73	1.75	36	114.70	36	16.2	0.04						**Total piped to DP-15**
C7		1.08	0.78	5.00	0.84	9.16	7.71	5.00	0.84	9.16	7.71																		C7 surface flow to Inlet A4
								14.28	1.16	6.27	7.25	2.00	7.25	5.18	5.18	2.07													Total surface flow to Inlet A4
								14.28	0.83	6.27	5.18																		Captured flow Inlet A4
	15							14.28	8.31	6.27	52.10						52.10	1.60	36	109.68	114	15.5	0.12						**Total piped to DP-17**
								14.28	0.33	6.27	2.07													2.07	178	1.00	2.0	1.48	Bypass to Inlet C1
L5		1.20	0.52	11.81	0.63	6.82	4.29	11.81	0.63	6.82	4.29	2.00	4.29	4.29	4.29	0.00	4.29	7.50	15	23.00	55	18.7	0.05						**Captured and piped to DP-16**
A6		0.24	0.70	6.56	0.17	8.47	1.43																						A6 surface flow to Inlet C1
								15.76	0.50	5.99	2.99	6.00	2.99	2.99	2.99	0.00													Total surface flow to Inlet C1
	16							15.76	1.13	5.99	6.75						6.75	4.50	18	28.97	49	16.4	0.05						**Captured and piped to Dp-17**
	17							15.81	9.43	5.98	56.40						56.40	1.75	36	114.70	217	16.2	0.22						**Piped to DP-22**
O2		0.73	0.53	11.11	0.39	7.00	2.74																						O2 basin flow to Inlet B-2-1
B1		0.20	0.45	5.00	0.09	9.16	0.80																						B1 basin flow to Inlet B-2-1
	18							11.11	0.48	7.00	3.35	2.00	3.35	3.35	3.35	0	3.35	2.25	15	12.60	68	10.3	0.11						**Captured and piped to DP-20**
B2		0.47	0.81	5.00	0.38	9.16	3.45	5.00	0.38	9.16	3.45	2.00	3.45	2.73	2.73	0.72													B2 basin flow to inlet B4
	19							5.00	0.30	9.16	2.73						2.73	2.25	15	12.60	39	10.3	0.06						**Captured and piped to DP-20**
								5.00	0.25	9.16	2.29													0.00	275	1.00	2.0	2.29	Bypass to Inlet A1
	20							11.22	0.78	6.97	5.42						5.42	1.25	18	15.27	103	8.6	0.20						**Piped to DP-21**
B3		0.56	0.71	5.79	0.40	8.80	3.48	5.79	0.40	8.80	3.48	2.00	3.48	3.48	3.48	0.00	3.48	2.25	18	20.48	155	11.6	0.22						**Captured and piped to DP-21**
	21							11.42	1.17	6.92	8.11						8.11	1.25	18	15.27	104	8.6	0.20						**Piped to MH B1**
								11.62			8.11						8.11	7.50	18	37.40	67	21.2	0.05						**Piped to DP-22**
D1		0.74	0.48	5.00	0.35	9.16	3.22																						
B4		0.95	0.81	5.00	0.78	9.16	7.10																						B4 basin flow to Inlet A1
								7.29	1.03	8.19	8.40	2.00	8.40	8.4	8.40	0													Surface flow to Inlet A1
	22							16.03	11.98	5.94	71.16						71.16	2.00	36	122.62	155	17.3	0.15						**TOTAL TO POND**
O1		0.05	0.84	5.00	0.04	9.16	0.37																						**TOTAL OFF-SITE**

Version 4.05 Released March 2017

INLET MANAGEMENT

Worksheet Protected

INLET NAME	A10	A9	A8	A-1-1	A6	D7
Site Type (Urban or Rural)	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET	STREET	STREET	AREA
Hydraulic Condition	On Grade	On Grade	On Grade	On Grade	In Sump	Swale
Inlet Type	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)	1.0	2.1	1.7	2.3	3.1	0.3
Major Q_{Known} (cfs)	3.4	4.9	5.5	8.9	10.5	2.6

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
Major Bypass Flow Received, Q_b (cfs)	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)	**1.0**	**2.1**	**1.7**	**2.3**	**3.1**	**0.3**
Major Total Design Peak Flow, Q (cfs)	**3.4**	**4.9**	**5.5**	**8.9**	**10.5**	**2.6**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.1	0.0	N/A	
Major Flow Bypassed Downstream, Q_b (cfs)	0.0	0.2	1.9	1.7	N/A	

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	D5	D-2-1	D3	D-1-1	D1	A4
Site Type (Urban or Rural)	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	STREET	STREET	AREA	STREET	STREET
Hydraulic Condition	On Grade	On Grade	On Grade	Swale	On Grade	On Grade
Inlet Type	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)	1.0	2.0	1.9	0.2	2.8	2.3
Major Q_{Known} (cfs)	4.2	6.8	8.8	2.0	9.7	5.3

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)	**1.0**	**2.0**	**1.9**	**0.2**	**2.8**	**2.3**
Major Total Design Peak Flow, Q (cfs)	**4.2**	**6.8**	**8.8**	**2.0**	**9.7**	**5.3**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.1		0.0	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	1.1	3.0	4.6		2.1	0.1

Minor Storm (Calculated) Analysis of Flow T

C	N/A	N/A	N/A	N/A	N/A	N/A
C_s	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_s	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	C1	C2	B-2-1	B4	B-1-1	A1
Site Type (Urban or Rural)	URBAN	URBAN	URBAN	URBAN	URBAN	URBAN
Inlet Application (Street or Area)	STREET	AREA	AREA	STREET	AREA	STREET
Hydraulic Condition	On Grade	Swale	Swale	On Grade	Swale	In Sump
Inlet Type	CDOT Type R Curb Opening	CDOT Type C	CDOT Type C	CDOT Type R Curb Opening	CDOT Type C	CDOT Type R Curb Opening

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{Known} (cfs)	0.7	0.3	0.3	1.1	0.9	2.2
Major Q_{Known} (cfs)	1.1	1.1	3.4	3.5	3.5	8.4

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)	**0.7**	**0.3**	**0.3**	**1.1**	**0.9**	**2.2**
Major Total Design Peak Flow, Q (cfs)	**1.1**	**1.1**	**3.4**	**3.5**	**3.5**	**8.4**
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.0	0.0	0.0	N/A
Major Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0	0.0	0.7	0.0	N/A

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

APPENDIX D

Hydraulic Computations

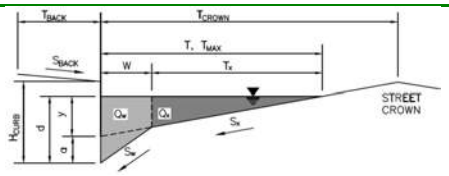
Version 4.05 Released March 2017

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: A1



Gutter Geometry (Enter data in the blue cells)

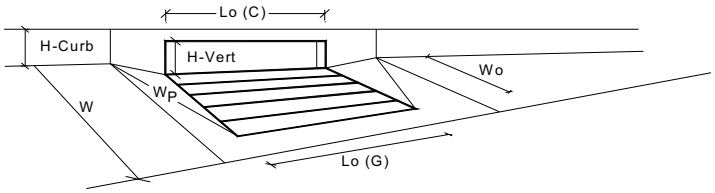
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =		ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =		
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	40.0	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 =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	25.0	40.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	6.0	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 =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	6.0	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) =	5.00	5.00	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	0.33	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.38	0.57	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.79	0.93	
Grated Inlet Performance Reduction Factor for Long Inlets	RF_{Grate} =	N/A	N/A	

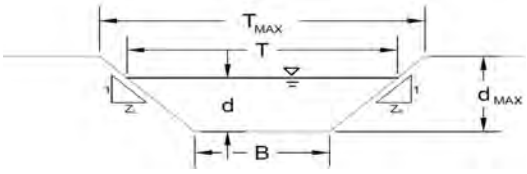
		MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**3.1**	**10.5**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	2.2	8.4	cfs

Version 4.05 Released March 2017

AREA INLET IN A SWALE

Outlook at Nine Mile

B-1-1



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 =	0.045	
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} =	5.4	15.8	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 =	0.9	3.5	cfs
Water Depth	d =	0.38	0.64	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

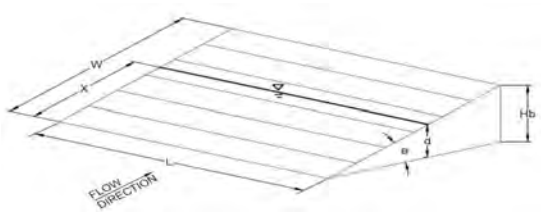
Outlook at Nine Mile

B-1-1

Inlet Design Information (Input)

Type of Inlet: CDOT Type C

Inlet Type = CDOT Type C



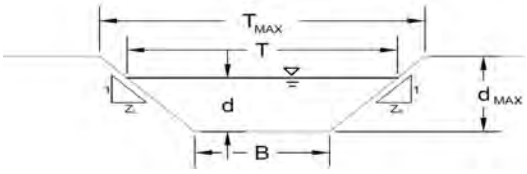
Angle of Inclined Grate (must be <= 30 degrees)	θ =	0.00	degrees
Width of Grate	W =	3.00	feet
Length of Grate	L =	3.00	feet
Open Area Ratio	A_{RATIO} =	0.70	
Height of Inclined Grate	H_B =	0.00	feet
Clogging Factor	C_f =	0.50	
Grate Discharge Coefficient	C_d =	0.96	
Orifice Coefficient	C_o =	0.64	
Weir Coefficient	C_w =	2.05	

		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	0.38	0.64	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**4.3**	**9.4**	**cfs**
	Bypassed Flow, Q_b =	**0.0**	**0.0**	**cfs**
	Capture Percentage = Q_a/Q_o = C%	**100**	**100**	**%**

AREA INLET IN A SWALE

Outlook at Nine Mile

C2



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	1.1	cfs
Water Depth	d =	0.26	0.40	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

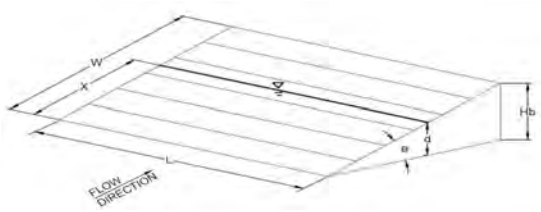
Outlook at Nine Mile

C2

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	

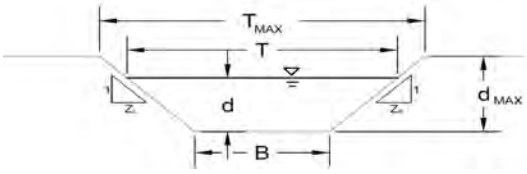
		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	0.26	0.40	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**2.4**	**4.7**	**cfs**
	Bypassed Flow, Q_b =	**0.0**	**0.0**	**cfs**
	Capture Percentage = Q_a/Q_o = C%	**100**	**100**	**%**

Version 4.05 Released March 2017

AREA INLET IN A SWALE

Outlook at Nine Mile

B-2-1



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	3.4	cfs
Water Depth	d =	0.25	0.60	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

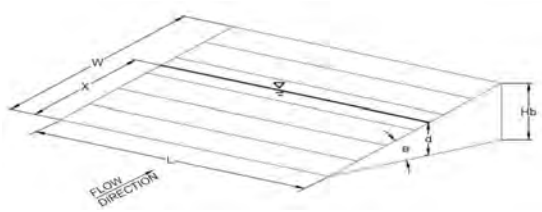
Outlook at Nine Mile

B-2-1

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 =	0.25	0.60	
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**	**2.3**	**8.6**	**cfs**
	Bypassed Flow, Q_b =	**0.0**	**0.0**	**cfs**
	Capture Percentage = Q_a/Q_o = C%	**100**	**100**	**%**

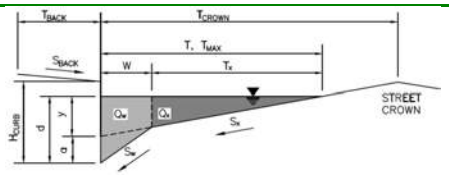
Version 4.05 Released March 2017

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: B4



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =		ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =		
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	30.0	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} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	20.0	25.0	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

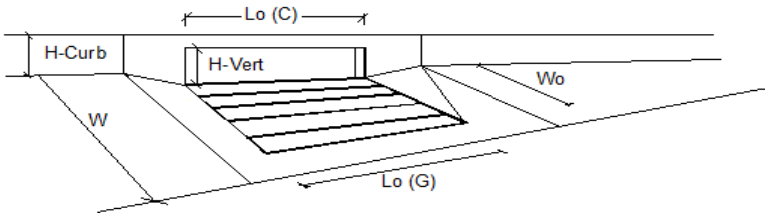
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**2.7**	**2.7**	**cfs**

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 =	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 =**	**1.06**	**2.73**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.00**	**0.72**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**79**	**%**

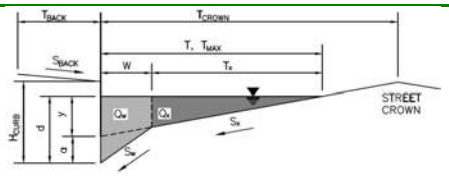
Version 4.05 Released March 2017

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: D1



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} =	25.0	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} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	20.0	25.0	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

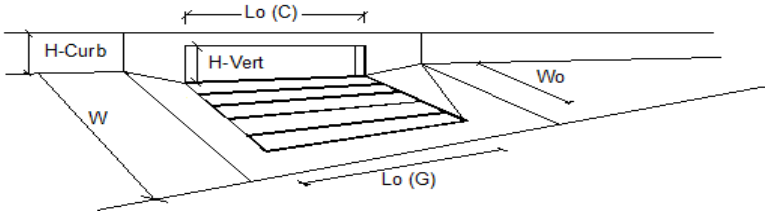
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**2.7**	**2.7**	**cfs**

WARNING: MINOR STORM max. allowable capacity is less 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 =	2	2	
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 MINOR & MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**2.78**	**7.63**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.00**	**2.07**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**79**	**%**

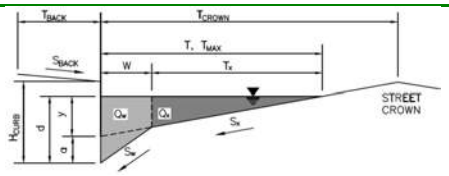
Version 4.05 Released March 2017

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: A4



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} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	25.0	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} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	20.0	25.0	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

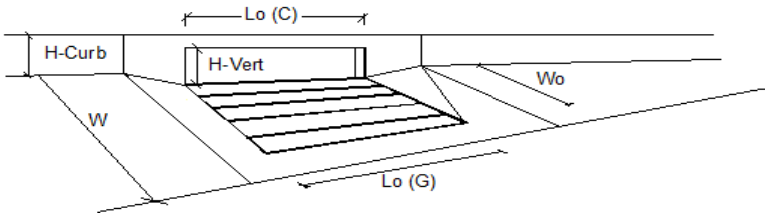
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**2.7**	**2.7**	**cfs**

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 =	2	2	
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 =**	**2.25**	**5.18**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.00**	**0.13**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**98**	**%**

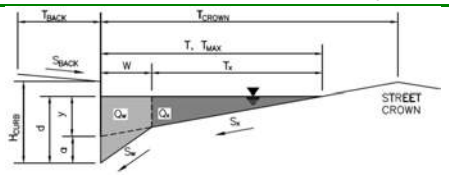
Version 4.05 Released March 2017

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: C1



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =		ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =		
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	32.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	2.600	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 =	0.060	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	20.0	25.0	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

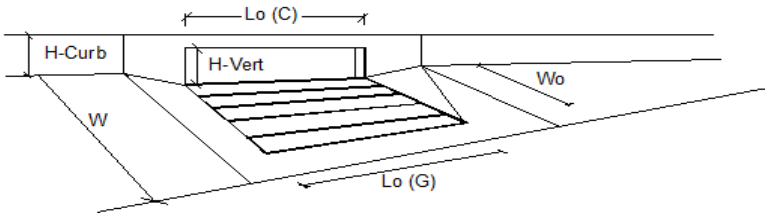
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**1.6**	**1.6**	**cfs**

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



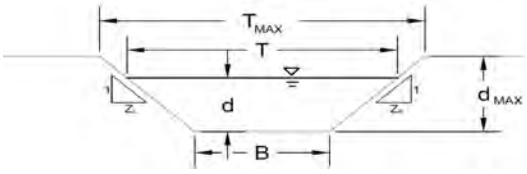
Design Information (Input)		MINOR	MAJOR	
Type of Inlet (CDOT Type R Curb Opening)	Type =	CDOT Type R Curb Opening		
Local Depression (additional to continuous gutter depression 'a')	a_{LOCAL} =	5.0	5.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	2	2	
Length of a Single Unit 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: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**0.69**	**1.14**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.00**	**0.00**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**100**	**%**

Version 4.05 Released March 2017

AREA INLET IN A SWALE

Outlook at Nine Mile

D-1-1



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} =	10.00	20.00	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 Depth Criterion	Q_{allow} =	13.0	82.6	cfs
MAJOR STORM Allowable Capacity is based on Depth Criterion	d_{allow} =	1.00	2.00	ft

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	0.2	2.0	cfs
Water Depth	d =	0.21	0.49	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

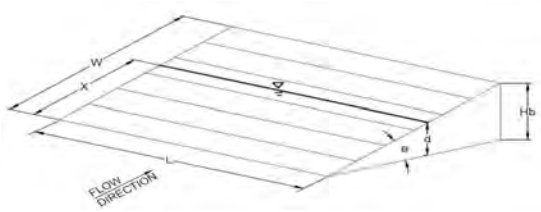
Outlook at Nine Mile

D-1-1

Inlet Design Information (Input)

Type of Inlet [ ] Inlet Type = [ ]

Angle of Inclined Grate (must be <= 30 degrees)	θ =		degrees
Width of Grate	W =		feet
Length of Grate	L =		feet
Open Area Ratio	A_{RATIO} =		
Height of Inclined Grate	H_B =		feet
Clogging Factor	C_f =		
Grate Discharge Coefficient	C_d =		
Orifice Coefficient	C_o =		
Weir Coefficient	C_w =		



		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =			
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**			**cfs**
	Bypassed Flow, Q_b =			**cfs**
	Capture Percentage = Q_a/Q_o = C%			**%**

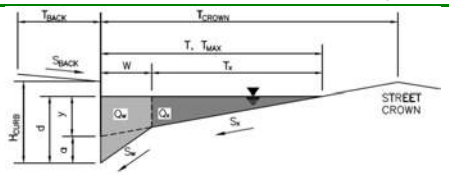
Version 4.05 Released March 2017

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: D5



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	4.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.023	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} =	25.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.022	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 =	1.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	20.0	25.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	6.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

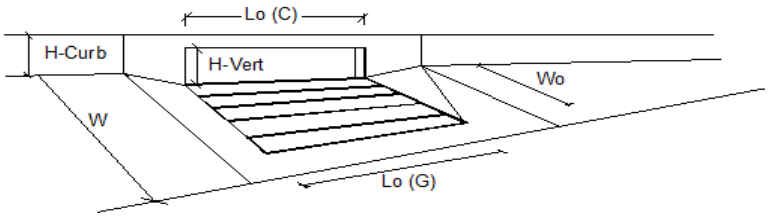
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**5.2**	**5.2**	**cfs**

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	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: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**1.0**	**3.1**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**1.1**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**74**	**%**

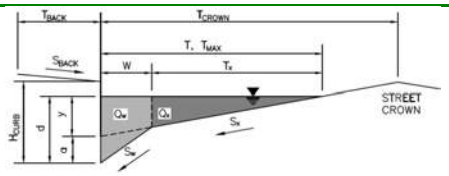
Version 4.05 Released March 2017

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: D-2-1



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} =	0.015	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} =	25.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.030	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} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	20.0	25.0	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

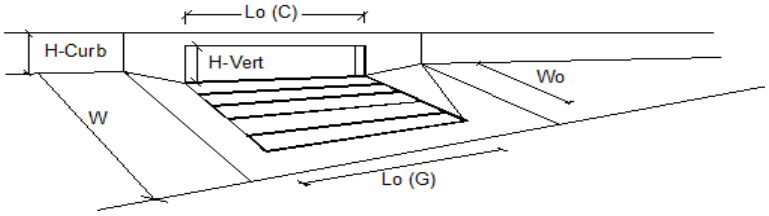
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**2.3**	**2.3**	**cfs**

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 =**	**1.94**	**3.8**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.04**	**3.0**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**98**	**57**	**%**

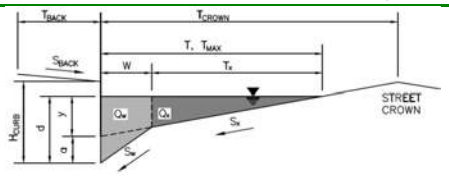
Version 4.05 Released March 2017

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: D3



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	20.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.025	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} =	25.0	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} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	20.0	25.0	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

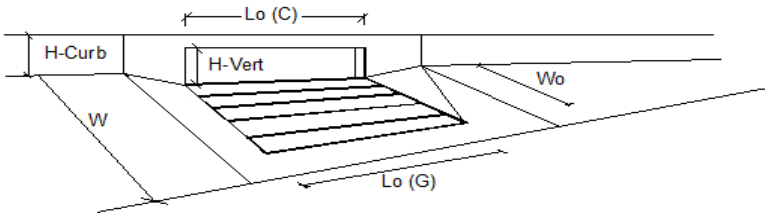
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**2.7**	**2.7**	**cfs**

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 =	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	

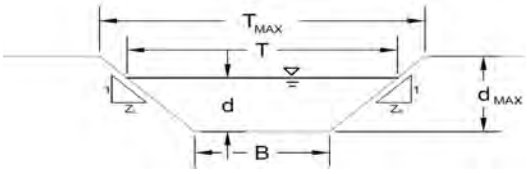
Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**1.86**	**4.19**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.06**	**4.63**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**97**	**47**	**%**

Version 4.05 Released March 2017

AREA INLET IN A SWALE

Outlook at Nine Mile

D7



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} =	15.00	15.00	feet
Max. Allowable Water Depth in Channel for Minor & Major Storm	d_{MAX} =	2.30	2.30	feet

Allowable Channel Capacity Based On Channel Geometry

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Top Width Criterion	Q_{allow} =	69.5	69.5	cfs
MAJOR STORM Allowable Capacity is based on Top Width Criterion	d_{allow} =	1.88	1.88	ft

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	0.3	2.6	cfs
Water Depth	d =	0.24	0.55	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

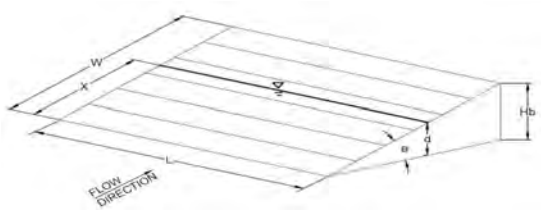
Outlook at Nine Mile

D7

Inlet Design Information (Input)

Type of Inlet [ ] Inlet Type = [ ]

Angle of Inclined Grate (must be <= 30 degrees)	θ =	degrees
Width of Grate	W =	feet
Length of Grate	L =	feet
Open Area Ratio	A_{RATIO} =	
Height of Inclined Grate	H_B =	feet
Clogging Factor	C_f =	
Grate Discharge Coefficient	C_d =	
Orifice Coefficient	C_o =	
Weir Coefficient	C_w =	



		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =			
Total Inlet Interception Capacity (assumes clogged condition)	**Q_a =**			**cfs**
	Bypassed Flow, Q_b =			**cfs**
	Capture Percentage = Q_a/Q_o = C%			**%**

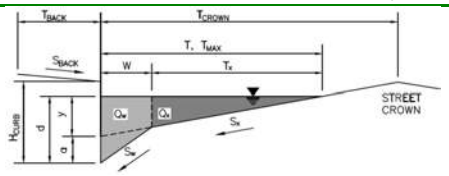
Version 4.05 Released March 2017

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: A10



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} =	0.013	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	20.0	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} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	15.0	20.0	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

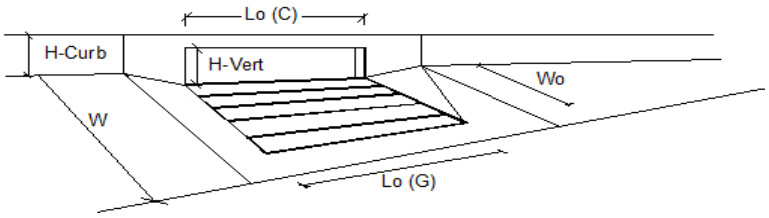
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**2.5**	**2.5**	**cfs**

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 =	2	2	
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 =**	**1.0**	**3.4**	**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**	**%**

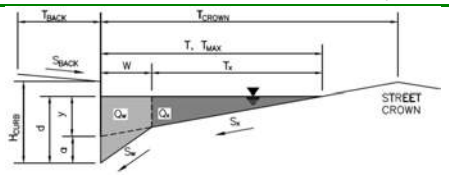
Version 4.05 Released March 2017

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: A9



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} =	0.015	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} =	20.0	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} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	15.0	20.0	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

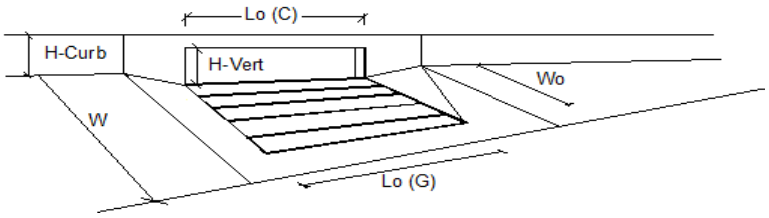
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**2.5**	**2.5**	**cfs**

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 =	2	2	
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 =**	**2.1**	**4.6**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**0.2**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**95**	**%**

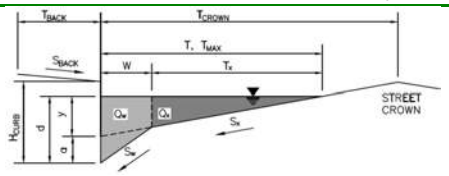
Version 4.05 Released March 2017

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: A8



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} =	0.015	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.020	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	20.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.008	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 =	1.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	16.0	20.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	8.0	inches
Allow Flow Depth at Street Crown (leave blank for no)		☐	☐	check = yes

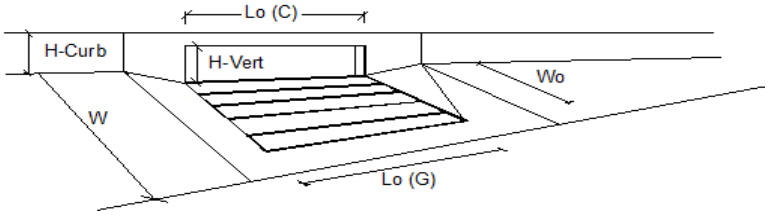
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**8.9**	**17.7**	**cfs**

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	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: OK - Q < Allowable Street Capacity'		MINOR	MAJOR	
Total Inlet Interception Capacity	**Q =**	**1.7**	**3.6**	**cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.1**	**1.9**	**cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**96**	**65**	**%**

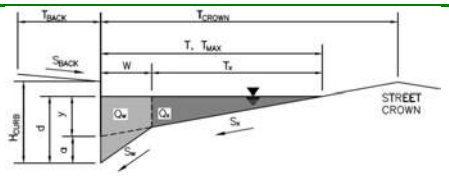
Version 4.05 Released March 2017

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: A-1-1



Gutter Geometry (Enter data in the blue cells)

Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	18.0	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} =	25.0	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} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	15.0	25.0	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

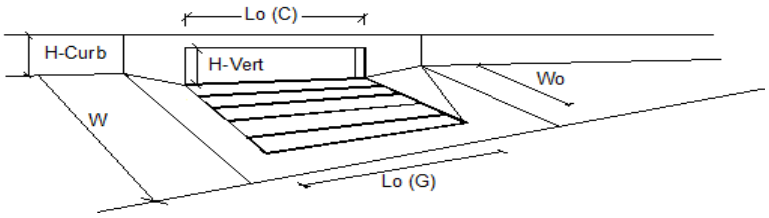
		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**2.7**	**2.7**	**cfs**

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	CDOT Type R Curb Opening	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 =	2	2
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 =**	**2.3**	**7.2** **cfs**
Total Inlet Carry-Over Flow (flow bypassing inlet)	**Q_b =**	**0.0**	**1.7** **cfs**
Capture Percentage = Q_a/Q_o =	**C% =**	**100**	**81** **%**

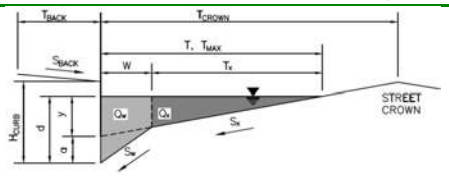
Version 4.05 Released March 2017

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: A6



Gutter Geometry (Enter data in the blue cells)

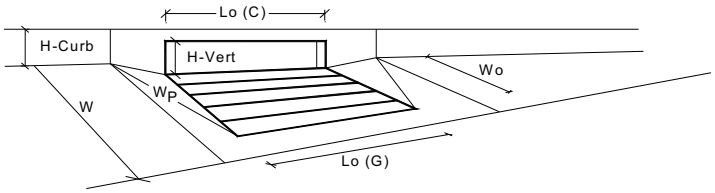
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =	20.0	ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =	0.040	ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =	0.016	
Height of Curb at Gutter Flow Line	H_{CURB} =	4.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	20.0	ft
Gutter Width	W =	2.00	ft
Street Transverse Slope	S_X =	0.018	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} =	0.020	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	15.0	20.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	4.0	10.0	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 =	2	2	
Water Depth at Flowline (outside of local depression)	Ponding Depth =	4.0	5.8	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	0.32	ft
Combination Inlet Performance Reduction Factor for Long Inlets	$RF_{Combination}$ =	0.38	0.54	
Curb Opening Performance Reduction Factor for Long Inlets	RF_{Curb} =	0.64	0.77	
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 =**	**4.1**	**12.9**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)	$Q_{PEAK\ REQUIRED}$ =	3.1	10.5	cfs

Appendix E

Referenced Information

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE, 9307 SOUTH WADSWORTH BOULEVARD
LITTLETON, COLORADO 80128-6901

May 3, 2016

SUBJECT: Action No. NWO-2016-00977-DEN, South Boulder Canon Ditch maintenance

Jody Lambert
South Boulder Canon Ditch
P.O. Box 750
Erie, CO 80516

Dear Mr. Lambert,

Reference is made to the above-mentioned proposed project located at approximately latitude 40.01285, longitude-105.1008, in Boulder County, Colorado. The work as described in your submittal will consist of piping a potion of South Boulder Canon Ditch.

This project has been reviewed in accordance with Section 404 of the Clean Water Act under which the U.S. Army Corps of Engineers regulates the discharge of dredge and fill material and certain excavation activities in waters of the United States. Waters of the U.S. includes ephemeral, intermittent and perennial streams, their surface connected wetlands and adjacent wetlands and certain lakes, ponds, drainage ditches and irrigation ditches that have a nexus to interstate commerce.

This letter is to inform you that the proposed work to the South Boulder Canon Ditch as depicted and described in the submittal, is the type of activity that is included in the Section 404(f) exemption found at 33 C.F.R. Part 323.4(a)(3) Construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance (but not construction) of drainage ditches. Discharges associated with siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are included in this exemption. Based on the information provided, a Department of the Army permit will not be required for this activity.

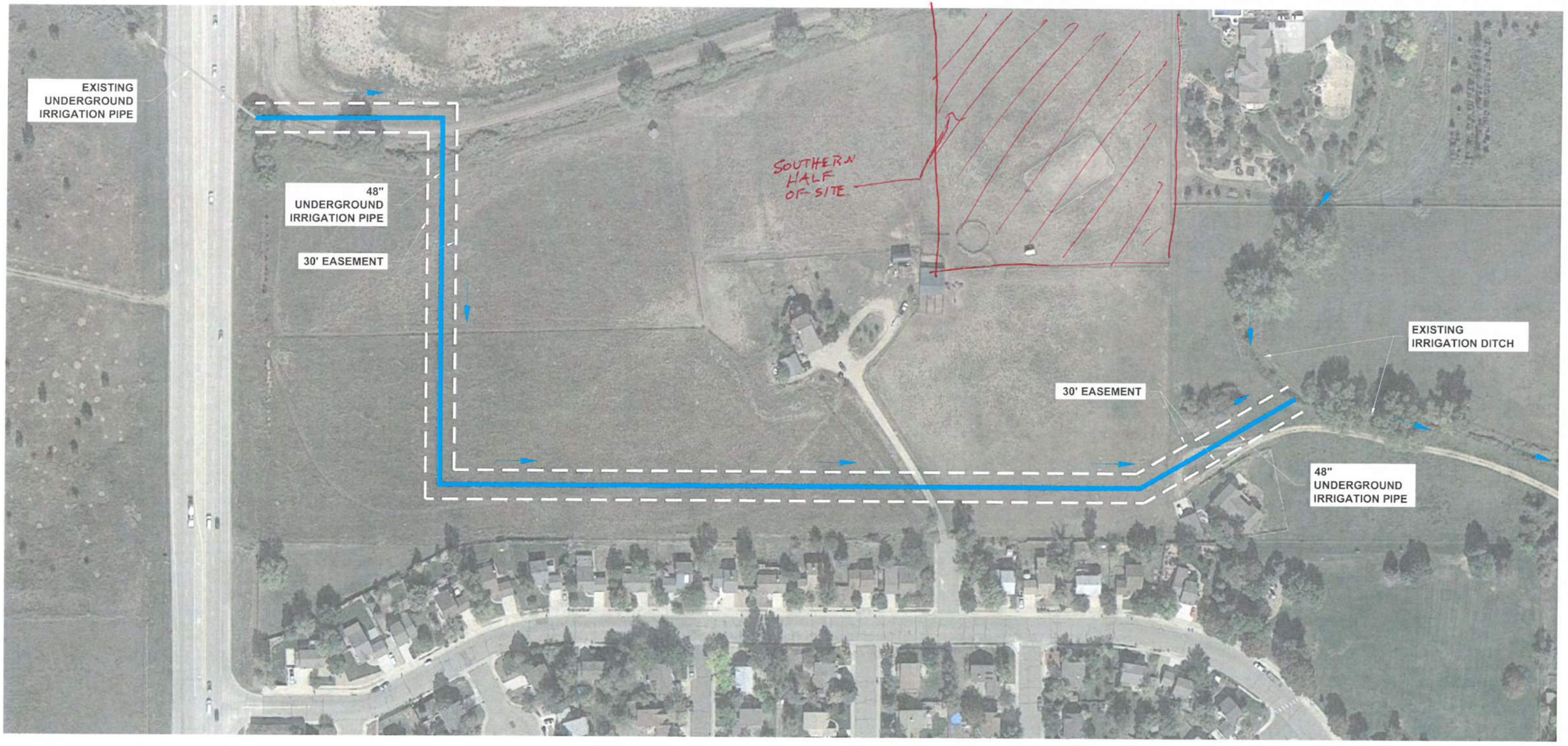
Although a Department of the Army permit will not be required for these activities, this does not eliminate the requirements that other applicable federal, state, tribal, and local permits are obtained if needed. If there are any questions, please feel free to contact Angelle Greer (303) 979-4120 or by e-mail at Angelle.V.Greer@usace.army.mil, and reference Corps File No. NWO-2016-00977-DEN.

Sincerely,

Angelle Greer

Angelle Greer
Senior Project Manager
Denver Regulatory Office

CF: (via email) Sarah Fowler, USEPA


EXISTING
UNDERGROUND
IRRIGATION PIPE
48"
UNDERGROUND
IRRIGATION PIPE
30' EASEMENT
SOUTHERN
HALF
OF SITE
EXISTING
IRRIGATION DITCH
30' EASEMENT
48"
UNDERGROUND
IRRIGATION PIPE

BULLHEAD GULCH/PRINCE TRIBUTARY

BULLHEAD GULCH OFFSITE
SEE FIGURE: 3

COAL CREEK TRIBUTARIES

COAL CREEK OFFSITE
SEE FIGURE: 3

MATCHLINE SEE FIGURE 12b

STUDY AREA BOUNDARY

SCALE: 1"=1500'

LEGEND

- CATCHMENT I.D. (300 / 60.5 CATCHMENT ACRE)
- WATERSHED DIVIDE
- CATCHMENT BOUNDARY
- MINOR CATCHMENT BOUNDARY
- OUTFALL FLOW PATH
- STUDY AREA BOUNDARY
- DETENTION AREA (2000)
- UDSWM CHANNEL/PIPE ELEMENT (2000)
- OFFSITE CATCHMENT (800 / SWMM CATCHMENT SOURCE)
- DESIGN POINT/NODE (902)

SHEET INDEX

FIGURE: 12c
FIGURE: 12b (STUDY AREA)
FIGURE: 12a

Lowe & Associates, Inc.
water resource consultants
841 Front Street
Louisville, Colorado 80027-1849
Phone: 303-673-9705
Fax: 303-673-9796

DESIGNED:	RJP
DRAWN:	DM
CHECKED:	DJL
DATE:	02-01

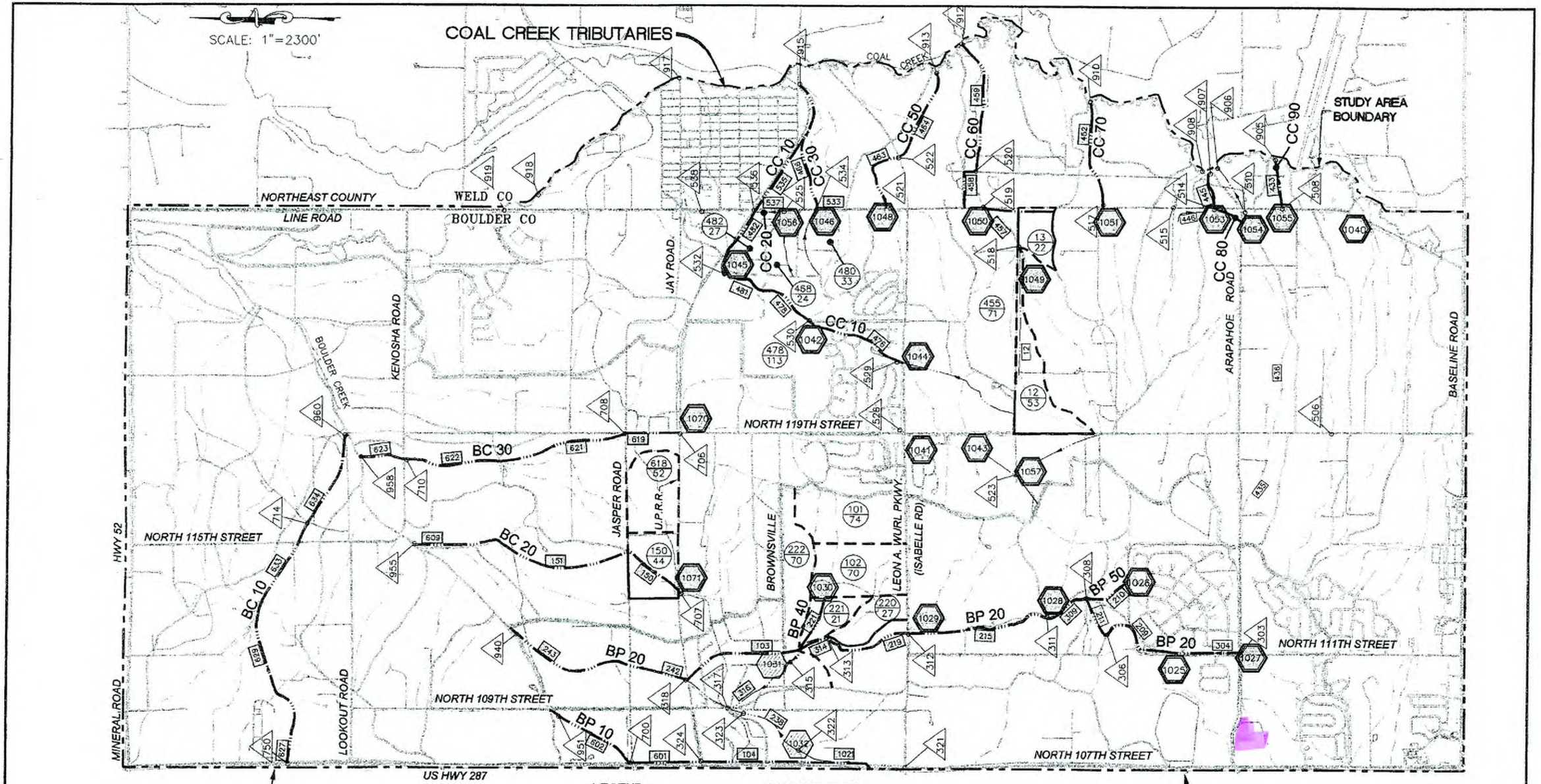
TOWN OF ERIE
URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

ERIE AND ADJACENT AREAS
OUTFALL SYSTEMS PLANNING

OUTFALL SYSTEMS MAP

Figure 12a
Page V - 3

DATE: FEBRUARY 2, 2001
C:\PROJECTS\9928\DWGS\OUTFALL-SYS-MAP.DWG



DATE: JANUARY 3, 2001
C:\PROJECTS\9922B\OPTIONS.DWG

Lore & Associates, Inc.
water resource consultants
841 Front Street
Louisville, Colorado 80027-1849
Phone: 303-673-9795
Fax: 303-673-9798

DESIGNED:	RJP
DRAWN:	DM
CHECKED:	DJL
DATE:	01-01

TOWN OF ERIE
URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

ERIE AND ADJACENT AREAS
OUTFALL SYSTEMS PLANNING

PROPOSED DRAINAGE FACILITIES
UDSWM ELEMENTS

Figure ES-2
Page ES-6

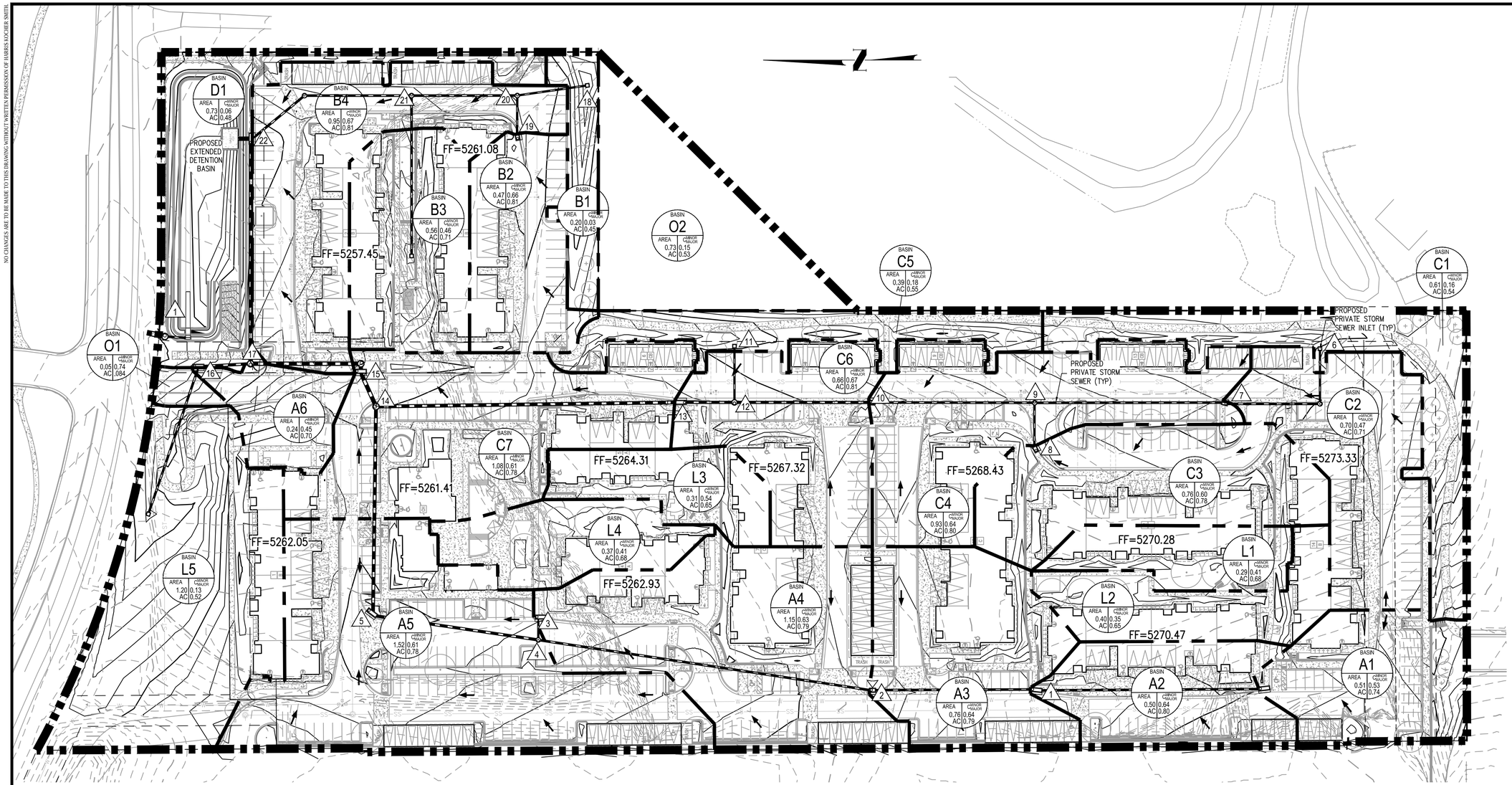
APPENDIX F

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



RUNOFF SUMMARY TABLE			
BASIN	AREA(AC)	Q2(CFS)	Q100(CFS)
A1	0.51	0.98	3.44
A2	0.50	1.09	3.46
A3	0.76	1.72	5.50
A4	1.15	2.36	7.58
A5	1.52	3.10	10.11
A6	0.24	0.34	1.43
B1	0.20	0.02	0.80
B2	0.47	1.06	3.45
B3	0.56	0.85	3.48
B4	0.95	2.20	7.10
C1	0.61	0.28	2.62
C2	0.70	1.04	4.20
C3	0.76	1.57	5.42
C4	0.93	2.05	6.81
C5	0.39	0.24	1.95
C6	0.66	1.50	4.87
C7	1.08	2.25	7.71
D1	0.74	0.16	3.22
L1	0.29	0.40	1.80
L2	0.40	0.52	1.43
L3	0.31	0.58	2.14
L4	0.37	0.56	2.32
L5	1.20	0.41	4.29
O1	0.05	0.12	0.37
O2	0.73	0.29	2.74

DESIGN POINT RUNOFF SUMMARY TABLE		
DESIGN POINT	Q2(CFS)	Q100(CFS)
1	3.05	7.69
2	4.64	10.78
3	2.30	8.87
4	6.55	17.96
5	9.79	29.45
6	0.28	2.62
7	1.25	5.48
8	1.98	6.80
9	2.85	11.98
10	4.52	15.16
11	0.24	1.95
12	4.67	16.49
13	7.23	23.42
14	16.21	48.73
15	17.96	52.10
16	0.68	6.75
17	17.36	56.40
18	0.31	3.35
19	1.06	2.73
20	1.11	5.42
21	1.77	8.11
22	20.54	69.07

LENGEND:

MAJOR BASIN BOUNDARY

MINOR BASIN BOUNDARY

DRAINAGE FLOW

PROPOSED STORM SEWER

PROPOSED CONTOURS 6172

EXISTING CONTOURS 6176

BASIN DESIGNATION — BASIN OS 1 — 2-YR RATIONAL C COEFFICIENT
BASIN SIZE IN ACRES — AREA 1.23 — AC 0.67 — 100-YR RATIONAL C COEFFICIENT
1 BASIN DESIGN POINT

WQ/DETENTION SUMMARY TABLE				
EVENT	WATER SURFACE ELEVATION (FEET)	REQUIRED VOLUME (ACRE-FEET)	PROVIDED VOLUME (ACRE-FEET)	RELEASE RATE (CFS)
WQCV	5241.95	0.37	0.37	40-HOUR
EURV	5245.08	1.22	1.34	72-HOUR
100-YEAR	5247.93	2.03	2.21	12.60

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: TEH
CHECKED BY: TEH
DRAWN BY: TEH

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
FINAL DRAINAGE PLAN

ISSUE DATE: 04-28-2017 | PROJECT #: 160602

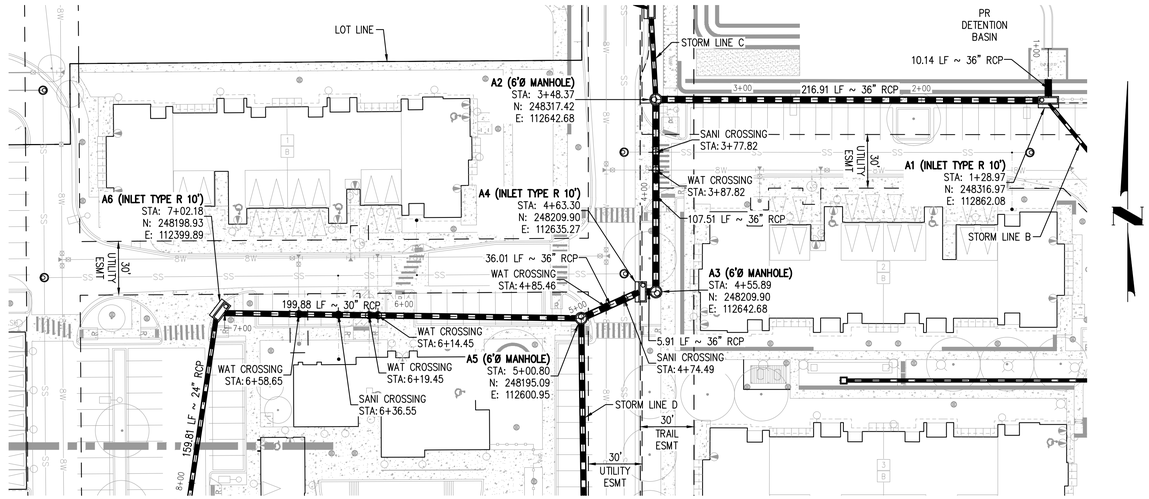
DATE	REVISION COMMENTS

SHEET NO. 1

1 OF 1

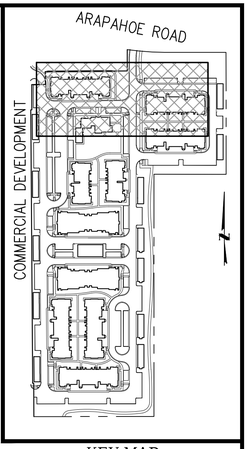
FILEPATH: P:\160602\ENGINEERING\DRAINAGE\DRAINAGE PLAN - REV_POST.DWG LAYOUT: DRAINAGE PLAN
4 XREFs: e-base_hyd, p-base, p-pgd, p-util
PLOTTED: WED 09/27/17 7:51:57A BY: TIM HOFFMAN

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



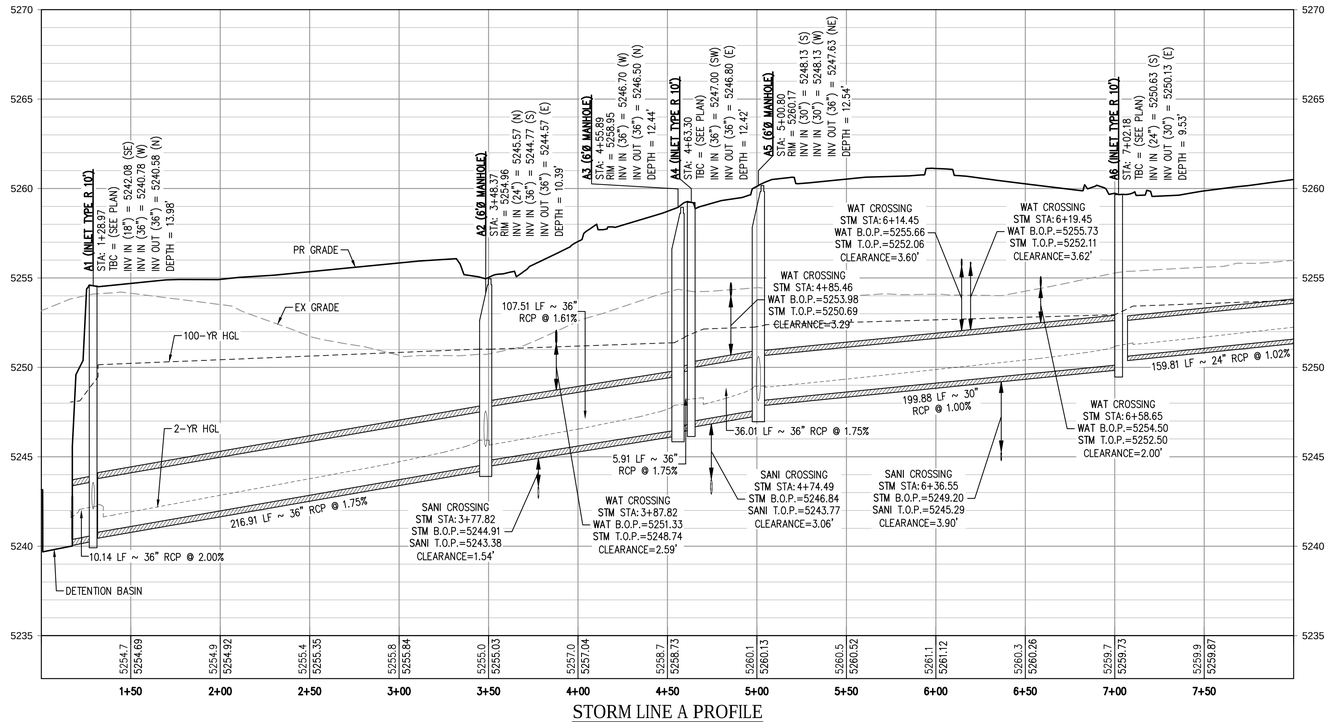
STORM LINE A PLAN

STA: 1+00 TO 8+00
SCALE: 1" = 40'



KEY MAP

SCALE: 1" = 250'



STORM LINE A PROFILE

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

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
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

Evergreen
Development | Services | Investments

OUTLOOK AT NINE MILE
STORM SEWER P&P LINE A 1

ISSUE DATE: XX_XX_XX	PROJECT #: 160602
DATE	REVISION COMMENTS

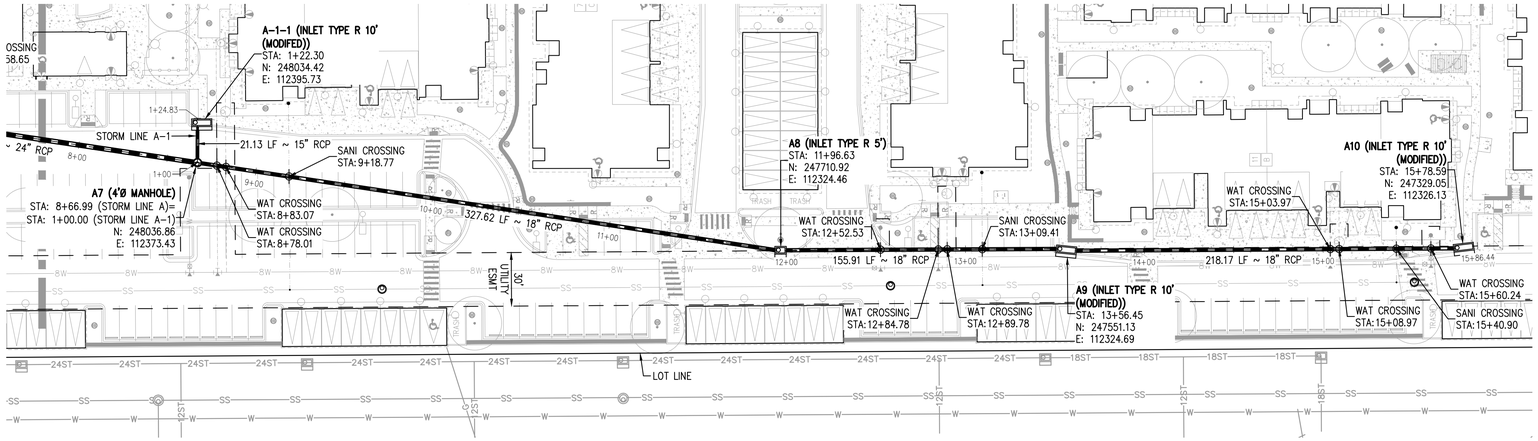
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 25

25 OF 57

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE A 1
7 XREFs: cd - stamp, cd_evergreen logo, e-tab, keymap, p-base, p-legal, p-util
PLOTTED: WED 09/27/17 7:59:40A BY: TIM HOFFMAN

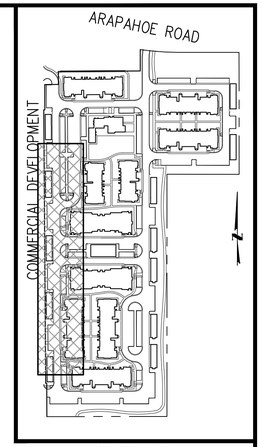
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



STORM LINE A & A-1

STA: 8+00 TO 16+00

SCALE: 1" = 40'

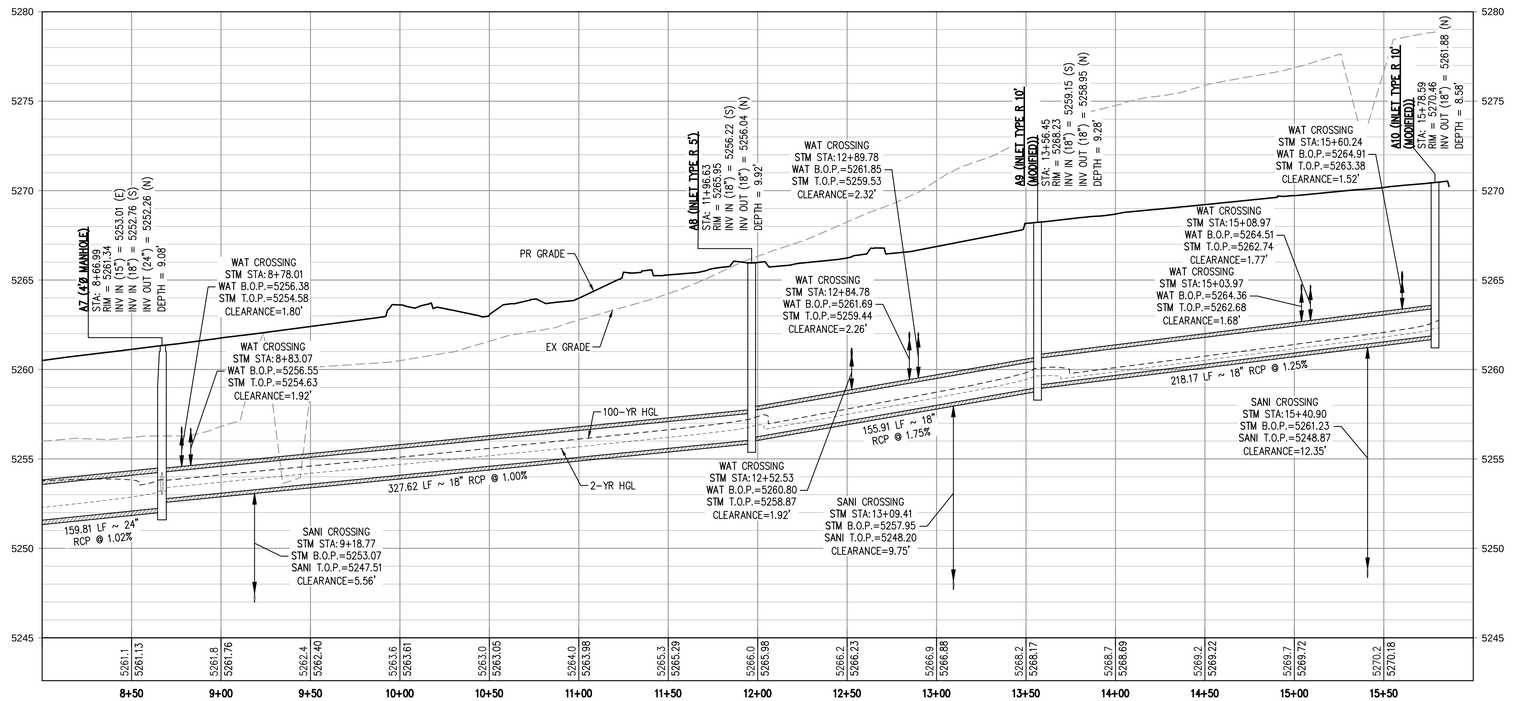


KEY MAP

SCALE: 1" = 250'

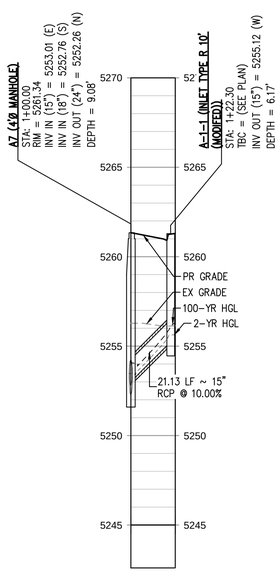
NOTES:

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.
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.



STORM LINE A PROFILE

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



STORM LINE A-1 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

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
STORM SEWER P&P LINE A 2

ISSUE DATE: XX_XX_XX | PROJECT #: 160602

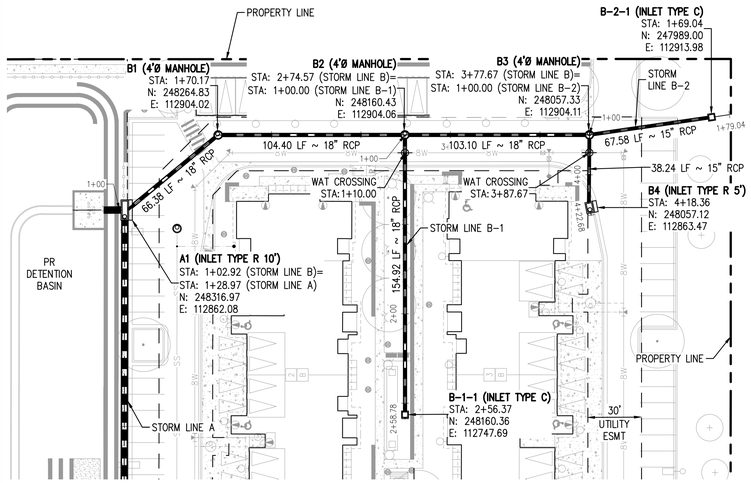
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 26

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE A 2
7 XREFs: cd - sump, cd_evergreen logo, c-util, keymap, p-base, p-legal, p-util
PLOTTED: WED 09/27/17 7:50:51A BY: TIM HOFFMAN

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

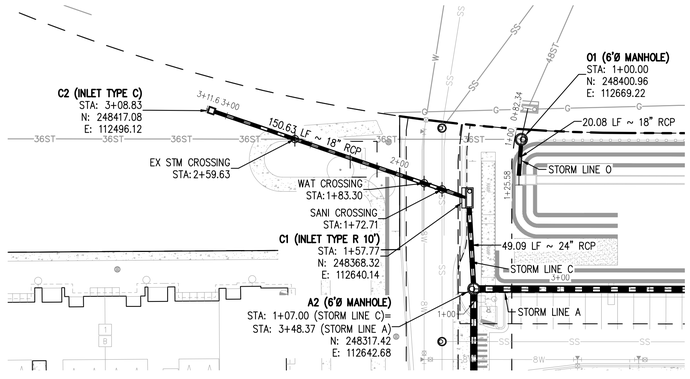


STORM LINES B, B-1 & B-2 PLAN

SCALE: 1" = 40'

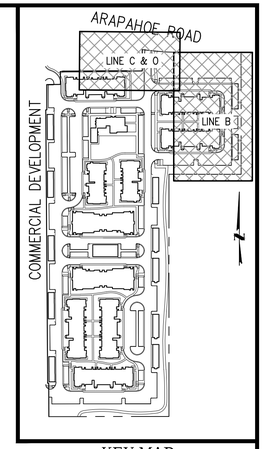
NOTES:

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.



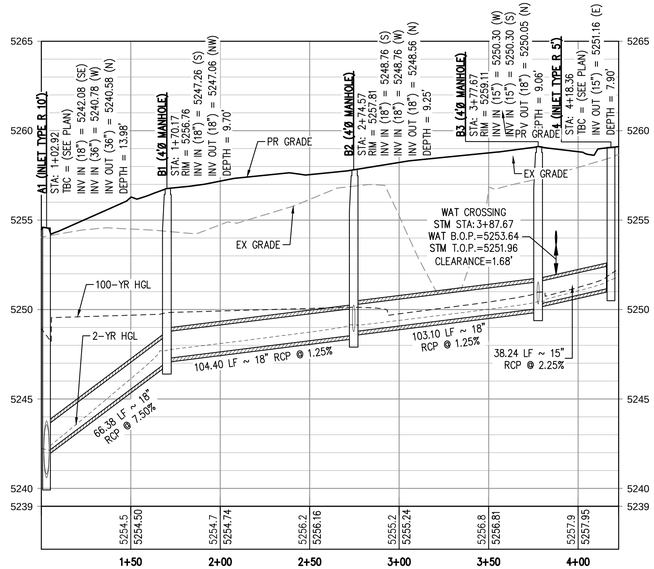
STORM LINES C & O PLAN

SCALE: 1" = 40'



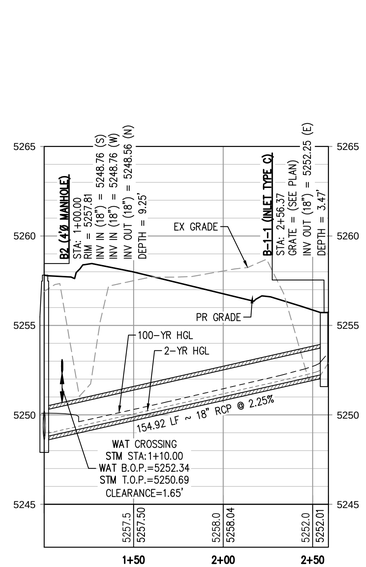
KEY MAP

SCALE: 1" = 250'



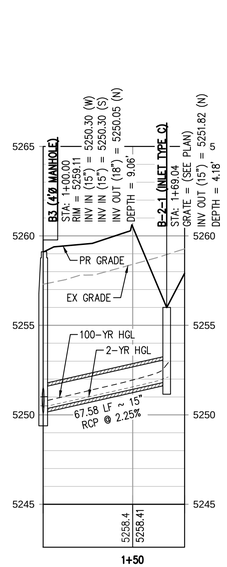
STORM LINE B PROFILE

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



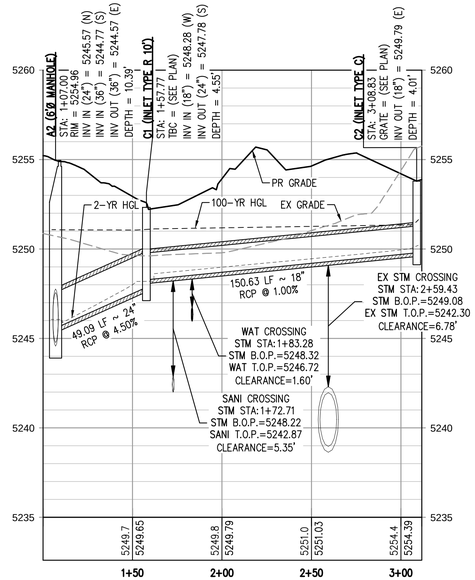
STORM LINE B-1 PROFILE

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



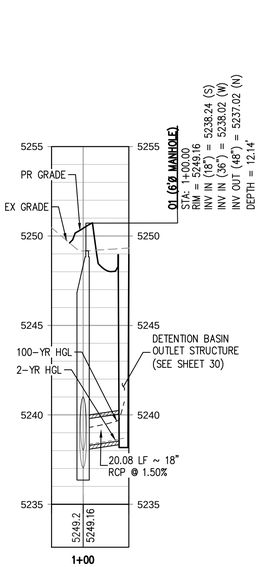
STORM LINE B-2 PROFILE

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



STORM LINE C PROFILE

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



STORM LINE O 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

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
STORM SEWER P&P LINES B, C & O

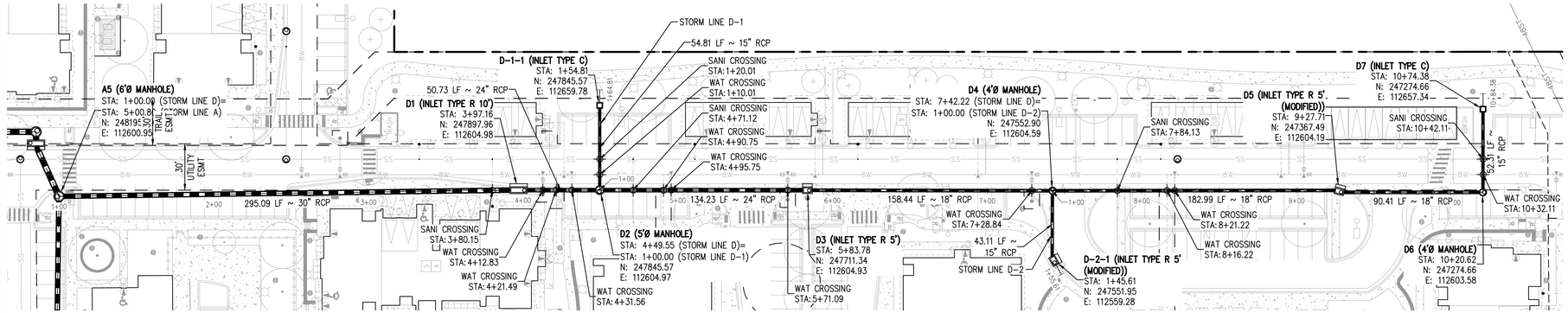
ISSUE DATE: XX_XX_XX	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
27
27 OF 57

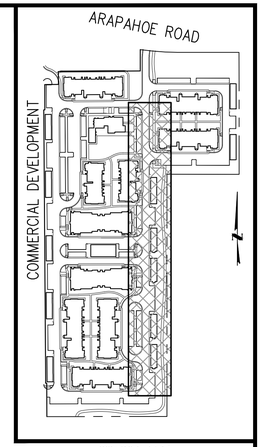
FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE B C O
XREFs: cd - stamp, cd_evergreen logo, e-mail, keymap, p-base, p-legal, p-util
PLOTTED: WED 09/27/17 8:00:06A BY: TIM HOFFMAN

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



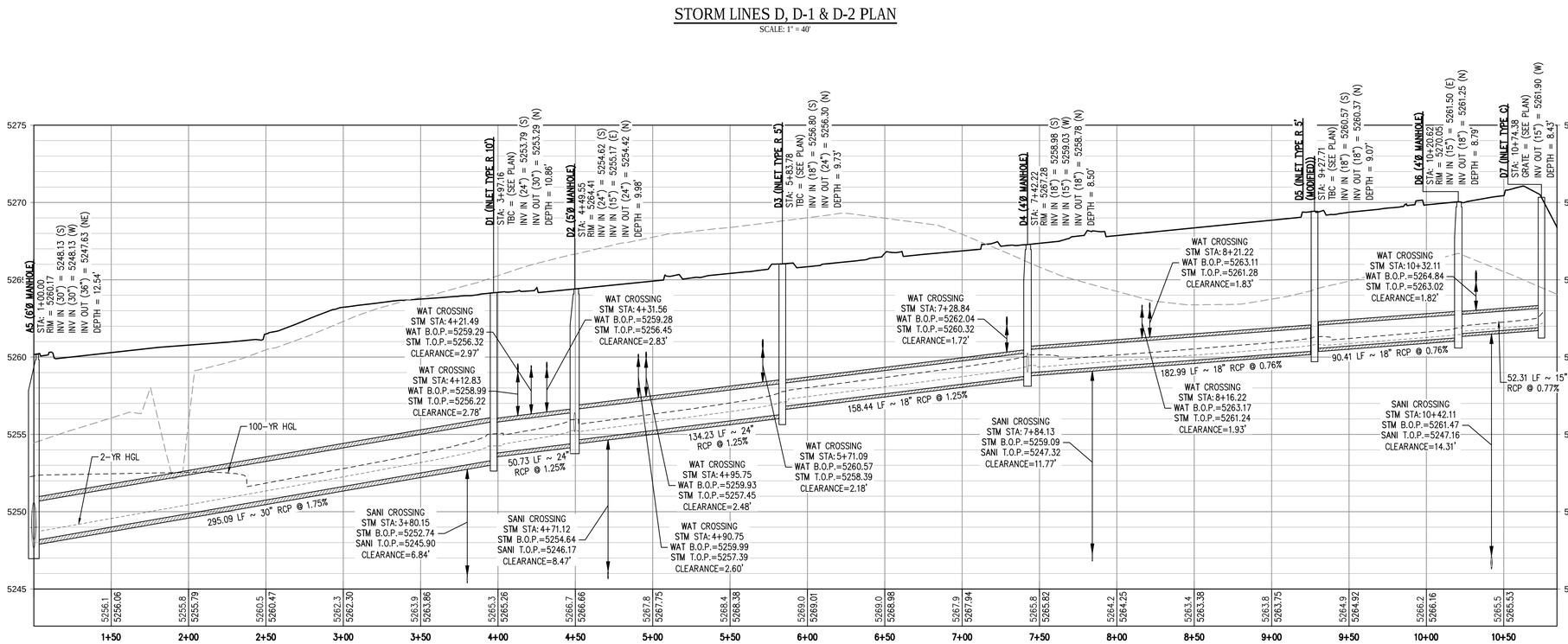
STORM LINES D, D-1 & D-2 PLAN

SCALE: 1" = 40'



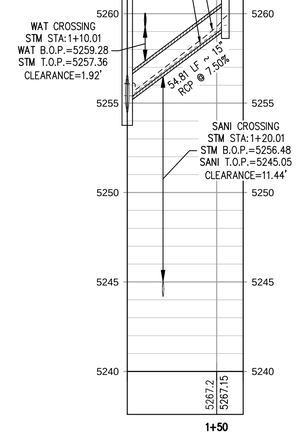
KEY MAP

SCALE: 1" = 250'



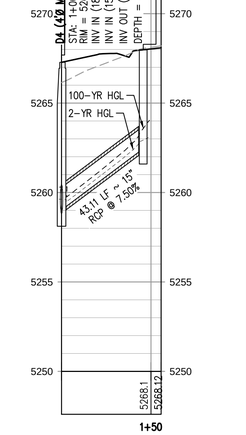
STORM LINE D PROFILE

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



STORM LINE D-1 PROFILE

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



STORM LINE D-2 PROFILE

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

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
P: 303.623.6300 F: 303.623.6311
HarrisKocherSmith.com

Evergreen
Development | Services | Investments

OUTLOOK AT NINE MILE
STORM SEWER P&P LINE D

ISSUE DATE: XX_XX_XX | PROJECT #: 160602

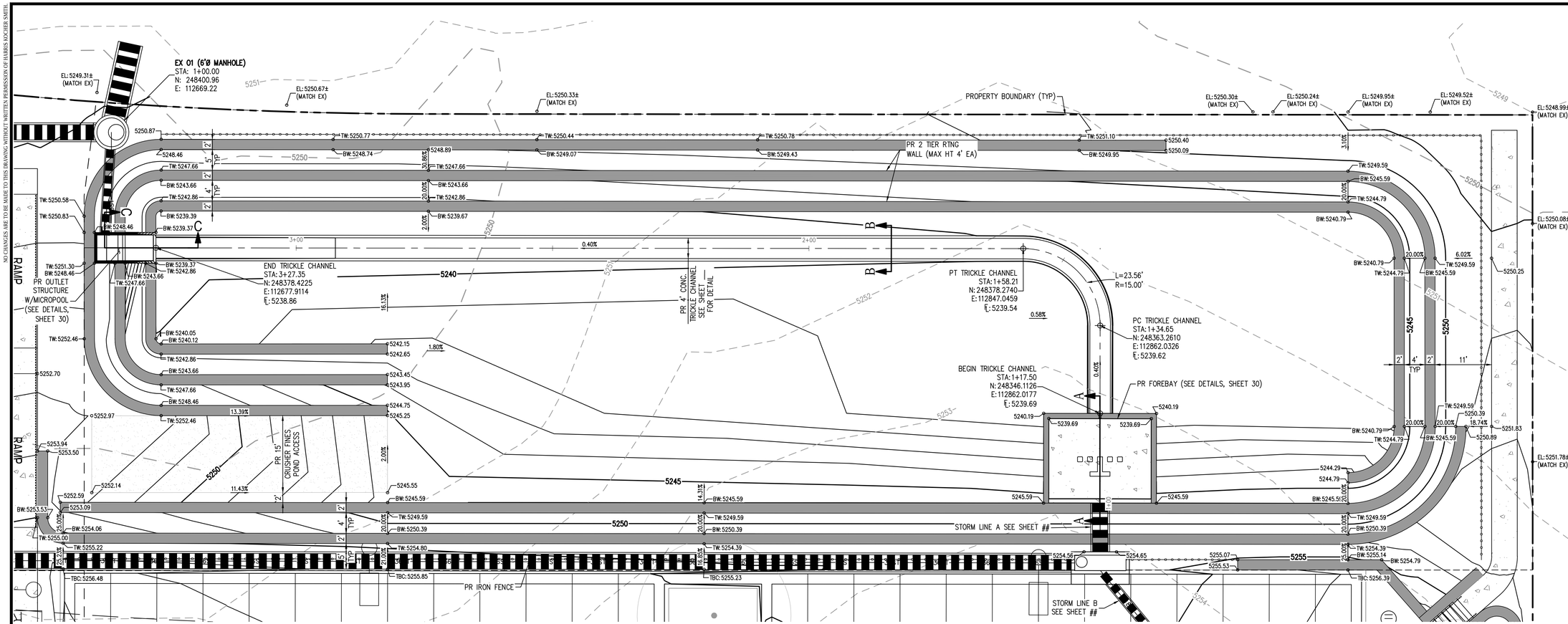
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

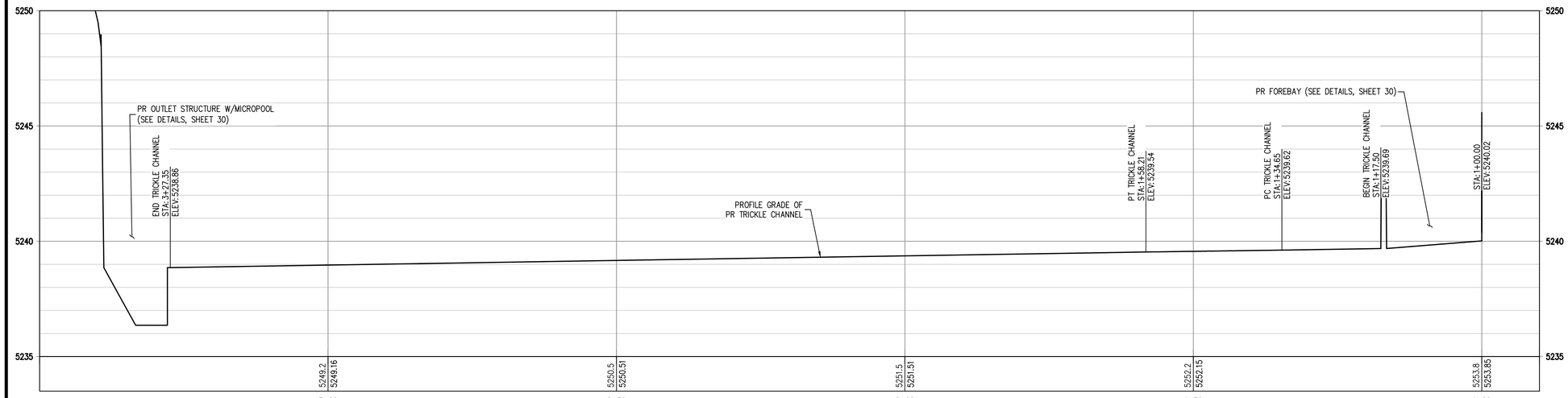
SHEET NO.
28
28 OF 57

FILEPATH: P:\160602\ENGINEERING\UTILITIES\STORM\CD - STORM P&P.DWG LAYOUT: LINE D
7 XREFs: cd - stamp, cd_evergreen logo, e-util, keymap, p-base, p-legal, p-util
PLOTTED: WED 09/27/17 8:06:17A BY: TIM HOFFMAN

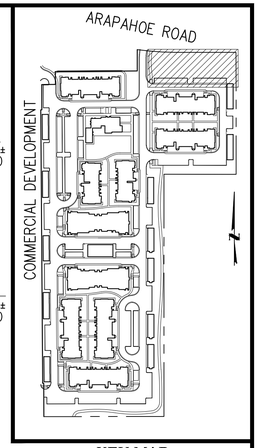
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



PLAN
SCALE: 1" = 10'



ST-TRICKLE PROFILE
HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 2'



KEY MAP
SCALE: 1" = 250'

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

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
DETENTION POND PLAN

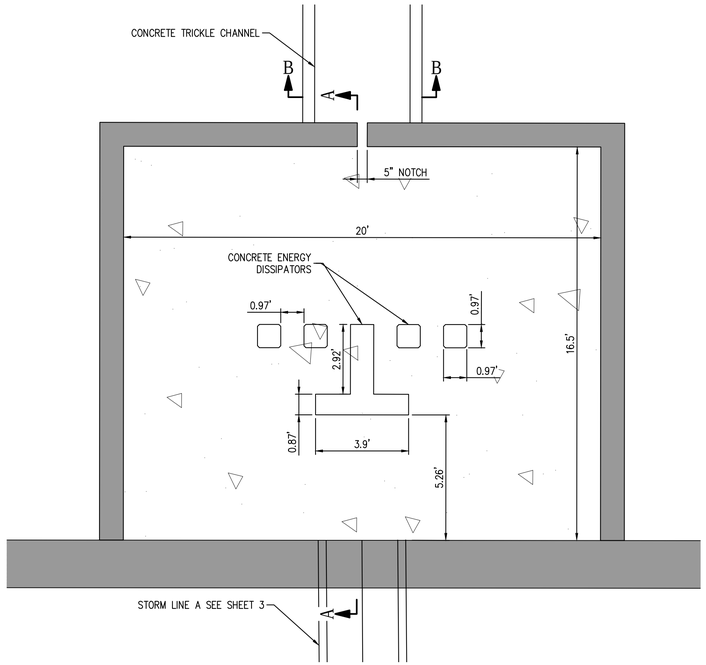
ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

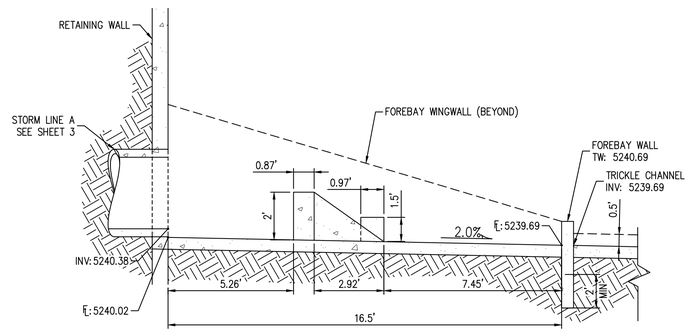
SHEET NO.
29
29 OF 57

FILEPATH: P:\160602\ENGINEERING\DRAINAGE\CD - DETENTION POND PLAN.DWG LAYOUT: LAYOUT1
5.3(REF's: cd - stamp, keymap, pBase, pSegd, pxdf)
PLOTTED: WED 09/27/17 8:03:35A BY: TIM HOFFMAN

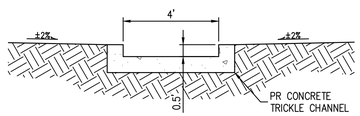
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH



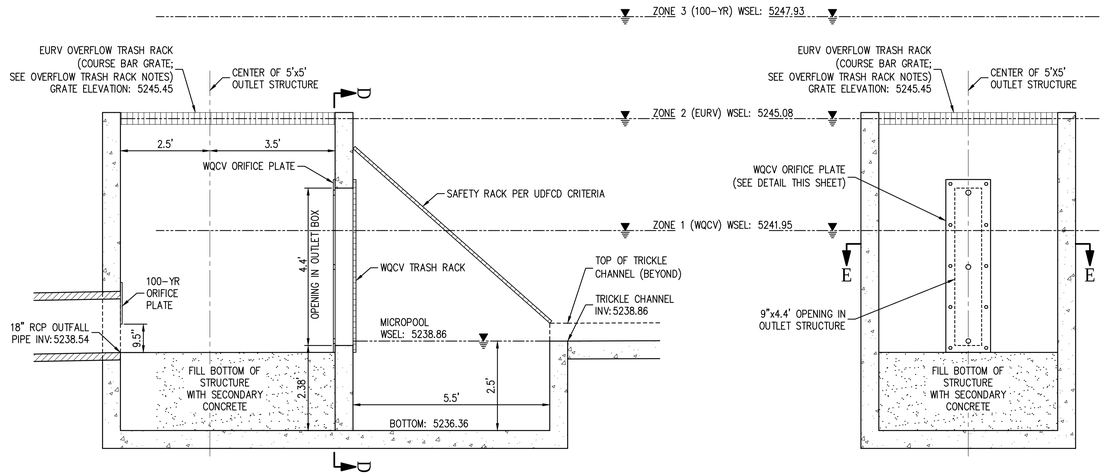
FOREBAY PLAN
SCALE: 1" = 3'



SECTION A–A
FOREBAY PROFILE DETAIL
SCALE: N.T.S.



SECTION B–B
TRICKLE CHANNEL DETAIL
SCALE: N.T.S.



SECTION C–C
WATER QUALITY OUTLET STRUCTURE PROFILE
SCALE: N.T.S.

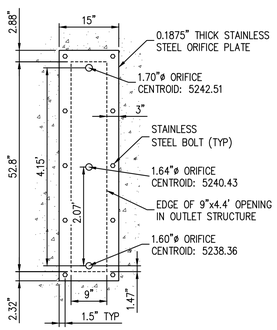
SECTION D–D
SCALE: N.T.S.

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.

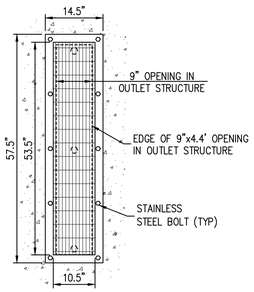
WELL SCREEN NOTES:
1. TRASH RACK SHALL BE IN ACCORDANCE WITH UDFCD TYPICAL WELL SCREEN TRASH RACK
   - 1.1. NO. 93 JOHNSON VEE WIRE STAINLESS STEEL WELL SCREEN (OR EQUIVALENT)
   - 1.2. OPENING SLOT DIMENSION SHALL BE 0.139"
   - 1.3. STAINLESS STEEL SUPPORT BARS SHALL BE TE 0.074" X 0.50", 1' O.C.
   - 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.

OVERFLOW TRASH RACK NOTES:
1. TRASH RACK SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
2. TRASH RACK SHALL BE STAINLESS ALUMINUM OR STEEL, SHALL BE HOT DIP GALVANIZED, AND MAY BE HOT POWDER COATED AFTER GALVANIZING.



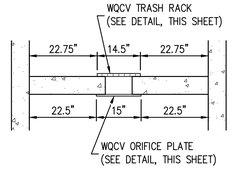
WQCV ORIFICE PLATE DETAIL
N.T.S.

10½"x53½" WELL SCREEN TRASH RACK: U.S. FILTER STAINLESS STEEL WELL SCREEN (OR EQUAL). #93 VEE WIRE OPENING SLOT DIMENSION 0.139" SUPPORT RODS TE 0.074"x0.50" CARBON STEEL FRAME 1"x1½" ANGLE ATTACH BY INTERMITTENT WELDS ALL AROUND

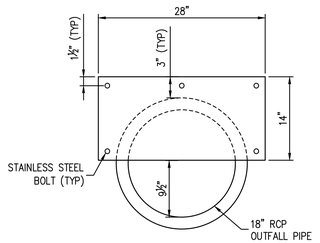


REFER TO UDFCD ORIFICE PLATE AND TRASH RACK NOTES (VOL 3, FIG OS-4)FOR ADDITIONAL INFORMATION

WQCV TRASH RACK DETAIL
N.T.S.



SECTION E–E
SCALE: N.T.S.



100-YR RESTRICTOR PLATE DETAIL
N.T.S.

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: DESIGNER
CHECKED BY: REVIEWER
DRAWN BY: DRAFTER

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
POND PLAN DETAIL 1

ISSUE DATE: 04/27/2017	PROJECT #: 160602
DATE	REVISION COMMENTS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. 30

30 OF 57

FILEPATH: P:\160602\ENGINEERING\DRAINAGE\CD - DETENTION POND DETAILS.DWG LAYOUT: LAYOUT1
2 XREFS: j-base, j-util
PLOTTED: WED 09/27/17 8:01:51A BY: TIM HOFFMAN

NINE MILE FILING NO. 1

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.

MS-000884-2017

1 LOT, 1 TRACT - 47.612 ACRES

GENERAL NOTES

1) THIS SURVEY WAS BASED ON THE TITLE COMMITMENT/REPORT BY LAND TITLE GUARANTEE COMPANY, FILE NO.: ABZ70471321-3 WITH AN EFFECTIVE DATE OF 12-02-2016 AT 5:00 P.M., 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 N 1/4 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.

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) TRACT _ IS FOR A PARK AREA AND SHALL BE MAINTAINED BY THE SUBDIVIDER, ITS SUCCESSOR OR ASSIGNS.

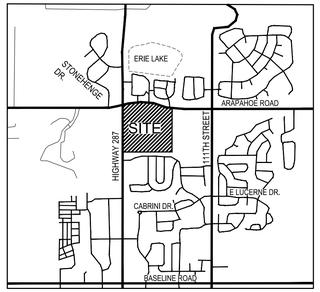
11) UTILITY AND DRAINAGE EASEMENTS, LABELED HEREON, SHALL BE GRANTED FOR THE INSTALLATION AND MAINTENANCE OF SANITARY SEWER LINES, WATER LINES, STORM DRAINAGE FACILITIES, SURFACE DRAINAGE AND FOR THE BENEFIT OF THE APPLICABLE UTILITY PROVIDERS FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ELECTRIC 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.

12) 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.

13) 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.

14) 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.

15) 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.



VICINITY MAP

LAND SUMMARY CHART		
TYPE	AREA (ACRES)	% OF TOTAL AREA
LOT 1 RESIDENTIAL	14.376	30.19
TRACT A FUTURE DEVELOPMENT	32.869	69.04
RIGHT OF WAY SUMMARY		
TO BE DEDICATED BY THIS PLAT	0.367	0.77
TOTAL	47.612	100

LAND SUMMARY CHART			
NAME	USE	OWNER	MAINTENANCE
TRACT A	FUTURE DEVELOPMENT	EVERGREEN DEVELOPMENT	EVERGREEN DEVELOPMENT

SHEET DESCRIPTION

1 COVER SHEET
2 BOUNDARY, TRACT AND LOT LAYOUT & EXISTING EASEMENTS
3 PROPOSED EASEMENTS

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.

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.

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 _____; THE (STREETS, TRACTS, EASEMENTS – INDICATE THOSE APPLICABLE) 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.

OWNER/MORTGAGEE/LIEN HOLDER SIGNATURE (SEPARATE SIGNATURE BLOCK FOR EACH)

COMPANY NAME OR OWNER

BY: _____ _____
(NAME OF AUTHORIZED OFFICIAL) DATE

TITLE: _____

ATTEST:

SECRETARY/TREASURER

STATE OF COLORADO)
) ss.
COUNTY OF _____)

ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 20____ BY _____ _____ AS _____.

WITNESS MY HAND AND OFFICIAL SEAL

_____ (SEAL)
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

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

TITLE VERIFICATION CERTIFICATE

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:

COMPANY NAME

BY: _____ _____ (DATE) _____
(NAME OF AUTHORIZED OFFICIAL)

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

_____ (SEAL)
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

BOARD OF TRUSTEES APPROVAL CERTIFICATE

THIS PLAT IS TO BE KNOWN AS **NINE MILE FILING NO. 1** 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

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 _____(NAME) _____ 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

_____ (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
(SEAL)

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016, Galloway & Company, Inc. All Rights Reserved

NINE MILE FILING NO. 1
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
PROJECT # MS-000884-2017

#	Date	Issue / Description	Init.
1	09/26/17	COMMENTS/REVIEW	BWD

Project No:	EDI000018
Drawn By:	BWD
Checked By:	BJD
Date:	2017-05-22

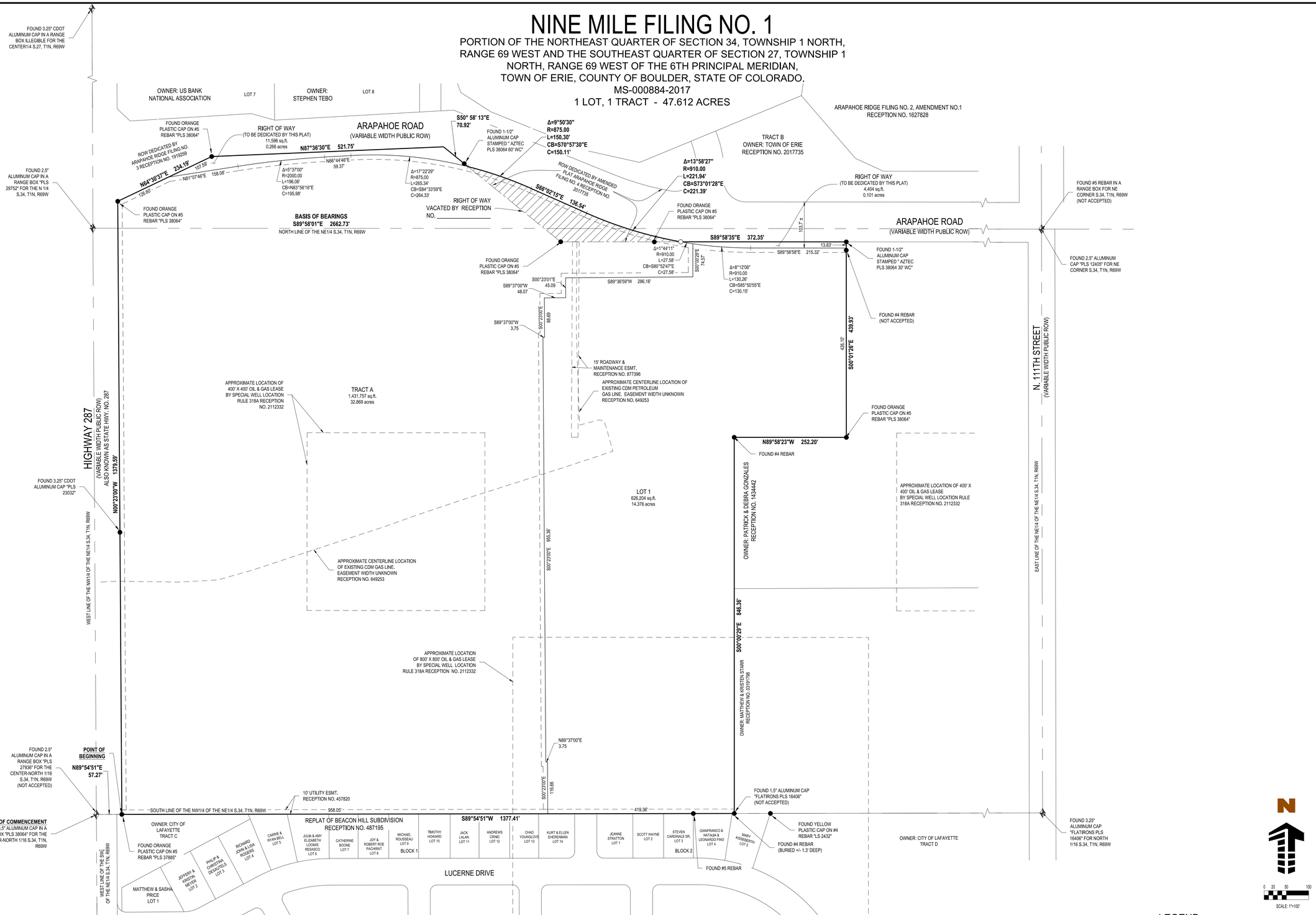
PROJECT NO.: MS-000884-2017

NINE MILE FILING NO. 1

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.

MS-000884-2017

1 LOT, 1 TRACT - 47.612 ACRES



SHEET	DESCRIPTION
1	COVER SHEET
2	BOUNDARY, TRACT AND LOT LAYOUT & EXISTING EASEMENTS
3	PROPOSED EASEMENTS

LEGEND

- ● FOUND MONUMENT (AS DESCRIBED)
- ○ SET MONUMENT NO. 5 REBAR WITH ORANGE PLASTIC CAP "PLS 38069" UNLESS OTHERWISE NOTED

N

0 20 50 100

SCALE: 1"=100'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016, Galloway & Company, Inc. All Rights Reserved

NINE MILE FILING NO. 1

TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

PROJECT # MS-000884-2017

#	Date	Issue / Description	Init.
1	09/26/17	COMMENTS/REVIEW	BWD

Project No:	EDI000018
Drawn By:	BWD
Checked By:	BJD
Date:	2017-05-22

PROJECT NO.: MS-000884-2017

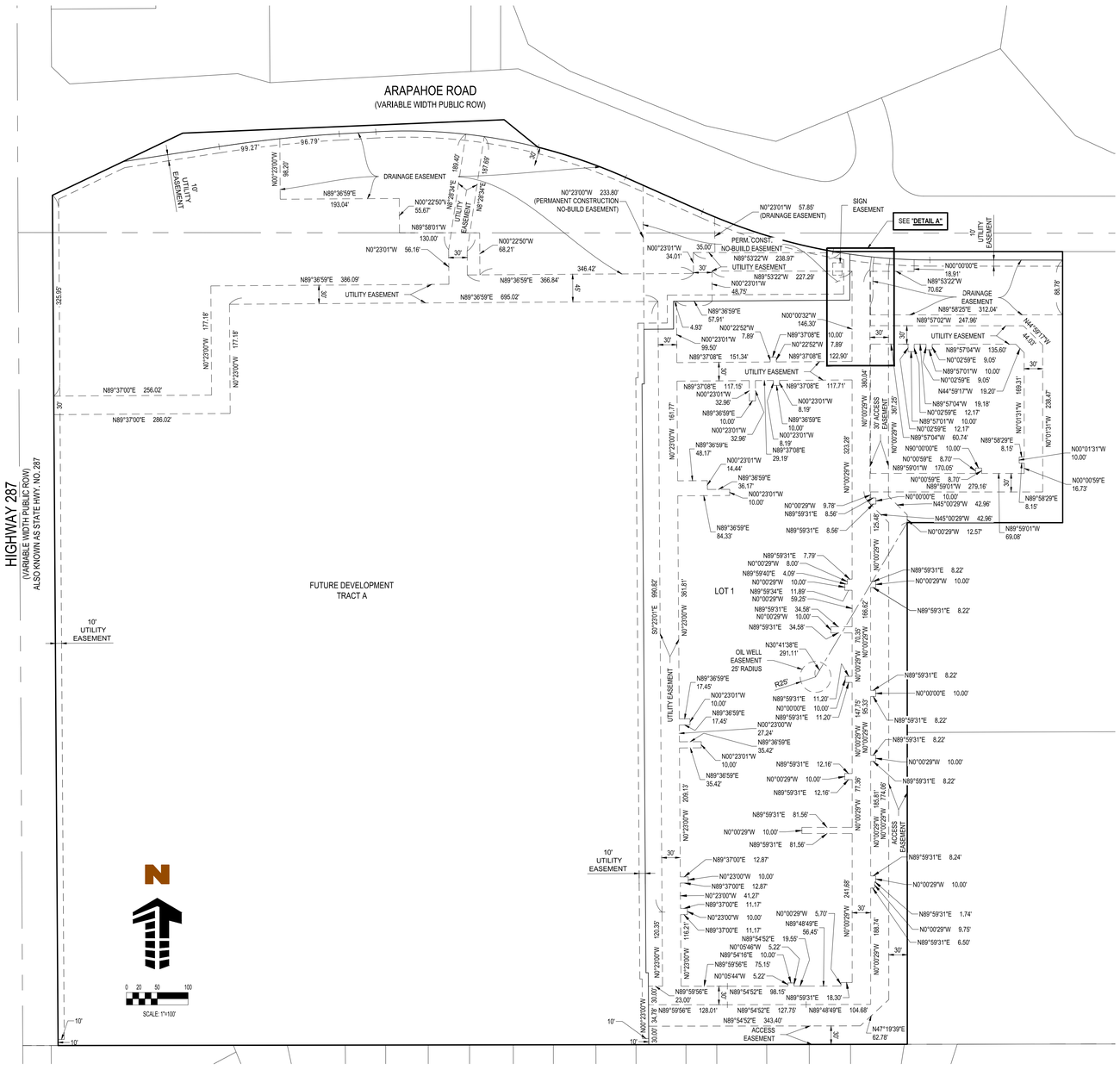
NINE MILE FILING NO. 1

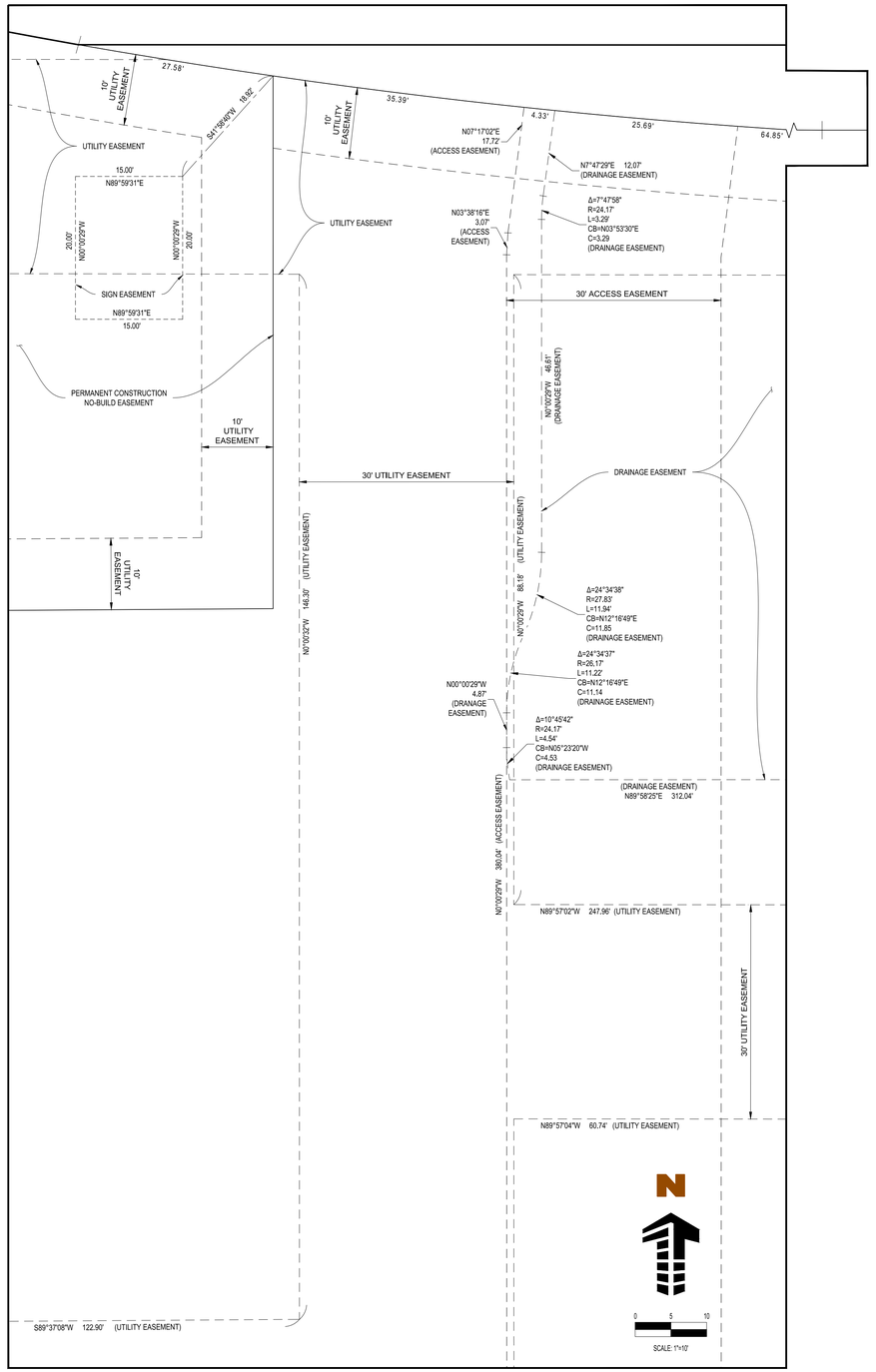
PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

MS-000884-2017

1 LOT, 1 TRACT - 47.612 ACRES

PROPOSED EASEMENTS





SHEET DESCRIPTION

SHEET	DESCRIPTION
1	COVER SHEET
2	BOUNDARY, TRACT AND LOT LAYOUT & EXISTING EASEMENTS
3	PROPOSED EASEMENTS

Galloway
Planning, Architecture, Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

© 2016, Galloway & Company, Inc. All Rights Reserved

NINE MILE FILING NO. 1
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
PROJECT # MS-000884-2017

#	Date	Issue / Description	Init.
1	09/26/17	COMMENTS/REVIEW	BWD

Project No:	EDI000018
Drawn By:	BWD
Checked By:	BJD
Date:	2017-05-22

ERIE NINE MILE CORNER

PORTION OF THE NE 1/4 OF SEC. 34, T. 1 N., R. 69 W. AND THE SE 1/4 OF SEC. 27, T. 1 N., R. 69 W. OF THE 6th P. M., TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

PUBLIC & SITE INFRASTRUCTURE PLANS

LIST OF CONTACTS

APPLICANT/DEVELOPER

EVERGREEN DEVCO, INC.
2390 E. CAMELBACK ROAD, SUITE 410
PHOENIX, ARIZONA 85016
TEL: (602) 567-7129
CONTACT: RUSSELL PERKINS

ENGINEER

GALLOWAY & COMPANY, INC.
6162 S. WILLOW DRIVE, SUITE 320
GREENWOOD VILLAGE, COLORADO 80111
TEL: (303) 770-8884
FAX: (303) 770-3636
CONTACT: BRANDON McCRARY, P.E.
EMAIL: BrandonMcCrary@gallowayus.com

SURVEYOR

GALLOWAY & COMPANY, INC.
1755 TELSTAR DRIVE, SUITE 107
COLORADO SPRINGS, COLORADO 80920
TEL: (719) 900-7220
FAX: (303) 770-3636
CONTACT: BRIAN DENNIS
EMAIL: BrianDennis@gallowayus.com

GEOTECHNICAL ENGINEER

CTL THOMPSON
1971 W. 12TH AVENUE
DENVER, CO 80204
TEL: (303) 825-0777
CONTACT: RON MCOMBER

UTILITY CONTACTS

WATER, SANITARY, & STORM SEWER

TOWN OF ERIE
645 HOLBROOK ST.
ERIE, CO 80516
(303) 926-2700
CONTACT: MATT WIERDERSPAHN

FIRE

MOUNTAIN VIEW FIRE PROTECTION DISTRICT
3561 STAGECOACH ROAD
LONGMONT, CO 80504
(303) 772-0710
CONTACT: LUANN PENFOLD

ELECTRICAL

UNITED POWER COMPANY
PO BOX 929
500 COOPERATIVE WAY
BRIGHTON, COLORADO 80601
(303) 637-1234
CONTACT: KATHY A. ROTELLO

GAS

XCEL ENERGY
1123 WEST 3RD AVENUE
DENVER, CO 80223
(303) 571-3306
CONTACT: DONNA GEORGE
EMAIL: Donna.L.George@xcelenergy.com

TELEPHONE

CENTURY LINK COMMUNICATIONS
3702 AUTOMATION WAY, SUITE 106
FORT COLLINS, COLORADO 80525
(720) 490-7508
CONTACT: TERRY SPEER

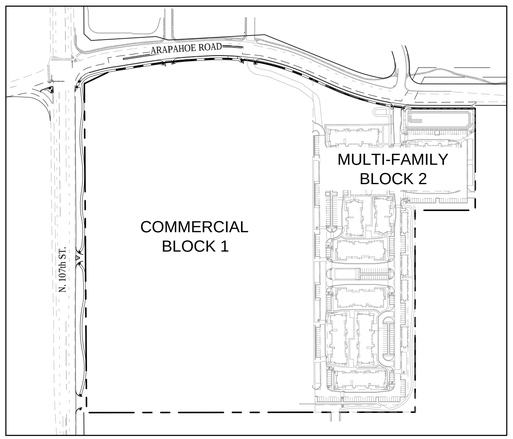
SHEET INDEX

SHEET No.	DESCRIPTION
1	COVER SHEET
2	NOTES SHEET
3	OVERALL SITE PLAN
4	OVERALL UTILITY PLAN
5	OVERALL GRADING PLAN
6	RETAINING WALL PLAN
7	INITIAL EROSION CONTROL
8	INTERIM-FINAL EROSION
9	IRRIGATION PLAN & PROFILE
10	IRRIGATION PLAN & PROFILE
11	IRRIGATION PLAN & PROFILE
12	IRRIGATION PLAN & PROFILE
13	WATER PLAN
14	SANITARY SEWER
15	SANITARY SEWER
16	STORM SEWER PLAN & PROFILE
17	STORM SEWER PLAN & PROFILE
18	STORM SEWER PLAN & PROFILE
19	STORM SEWER PLAN & PROFILE
20	STORM SEWER PLAN & PROFILE
21	STORM SEWER PLAN & PROFILE
22	DETENTION POND DETAILS
23	STORM SEWER DETAILS
24	STORM SEWER DETAILS
25	ARAPAHOE ROAD PLAN
26	ARAPAHOE ROAD PLAN
27	ARAPAHOE ROAD PLAN
28	ARAPAHOE ROAD PLAN
29	ARAPAHOE ROAD PROFILE
30	ARAPAHOE ROAD PROFILE
31	ARAPAHOE ROAD PROFILE
32	ARAPAHOE ROAD PROFILE
33	HIGHWAY 287
34	HIGHWAY 287
35	HIGHWAY 287
36	HIGHWAY 287
37	INTERSECTION DESIGN
38	SIGNAGE & STRIPING



VICINITY MAP

NOT TO SCALE



SITE MAP

SCALE: 1" = 300'

LEGAL DESCRIPTION

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°38'00" 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 ¼, 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.

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.

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

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 — DATE:

THE UNDERSIGN AS THE OWNER OR OWNER'S REPRESENTATIVE OF THE LANDS DESCRIBED HEREIN, HEREBY AGREES ON BEHALF OF HIMSELF/HERSELF, THEIR HEIRS, SUCCESSORS, AND ASSIGNS TO DEVELOP AND MAINTAIN THE PROPERTY DESCRIBED HEREON IN ACCORDANCE WITH THIS APPROVED SITE PLAN AND IN COMPLIANCE WITH THE TOWN OF ERIE UNIFIED DEVELOPMENT CODE AND MUNICIPAL CODE.

(OWNER SIGNATURE) — (OWNER NAME PRINTED)

ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____ , 20 _____

BY_____ AS _____

WITNESS MY HAND AND OFFICIAL SEAL

NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

COVER SHEET

1
OF 38

K:\Evergreen Development\EDI Erie EDI000018 - Nine Mile Corner (ER)\Management\CAD\Sheets\EDI000018_P_C01 Cover Sheet.dwg, Jim Dudley, 4/27/2017

TOWN OF ERIE 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 AT LEAST 48 HOURS 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 PRE-CONSTRUCTION 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, FORTY-EIGHT (48) HOURS 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 AND A CD INCLUDING AUTOCAD AND PDF FILES, 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 PROGRESSED TO AT LEAST THE 'SUB-GRADE' 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. 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.
20. 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.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL DURING CONSTRUCTION. ALL TRAFFIC CONTROLS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) LATEST EDITION. A PLAN SHALL BE SUBMITTED TO THE TOWN FOR REVIEW AND APPROVAL PRIOR TO THE PRE-CONSTRUCTION MEETING.
22. ALL BACKFILL SHALL CONFORM TO THE TRENCH DETAIL LOCATED IN THE TOWN OF ERIE STANDARDS & SPECIFICATIONS.
23. THE CONTRACTOR SHALL IMMEDIATELY REMOVE ANY CONSTRUCTION DEBRIS OR MUD TRACKED ONTO EXISTING ROADWAYS.
24. THE CONTRACTOR SHALL REPAIR ANY EXCAVATION OR PAVEMENT FAILURES CAUSED BY HIS CONSTRUCTION.
25. 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.
26. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO TAKE EVERY MEASURE NECESSARY TO COMPLY WITH ANY STATE, COUNTY OR TOWN DUST CONTROL ORDINANCE.
27. CONSTRUCTION VEHICLES SHALL USE TRUCK ROUTES DESIGNATED BY THE TOWN.
28. 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.
29. THE DESIGN ENGINEER SHALL PERFORM SUFFICIENT INSPECTIONS AND SURVEYS 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 DESIGN ENGINEER'S PURVIEW.
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.

TOWN OF ERIE 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 (SWMP) 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.

TOWN OF ERIE 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 (11/2) 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 CONNECTING 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 C0478. 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. A SUBSTANTIAL COMPLETION/CONSTRUCTION ACCEPTANCE OF THE NEW SANITARY SEWER MAINS IS CONTINGENT UPON THE RECEIPT OF COPIES OF:
    A. SANITARY SEWER TRENCH COMPACTION TEST RESULT, AND
    B. RECORD DRAWINGS, BOTH MYLAR AND ELECTRONIC FILES AND THE SANITARY SEWER SYSTEM BEING TESTED IN ACCORDANCE WITH THE TOWN OF ERIE STANDARDS AND SPECIFICATIONS WHICH INCLUDES:
    C. LOW PRESSURE AIR TEST 100% OF THE NEW SYSTEM, AND
    D. VACUUM TEST 100% OF THE NEW SYSTEM MANHOLES.
    E. JET VACUUM 100% OF THE NEW SYSTEM.

TOWN OF ERIE GENERAL NOTES - STORM DRAIN

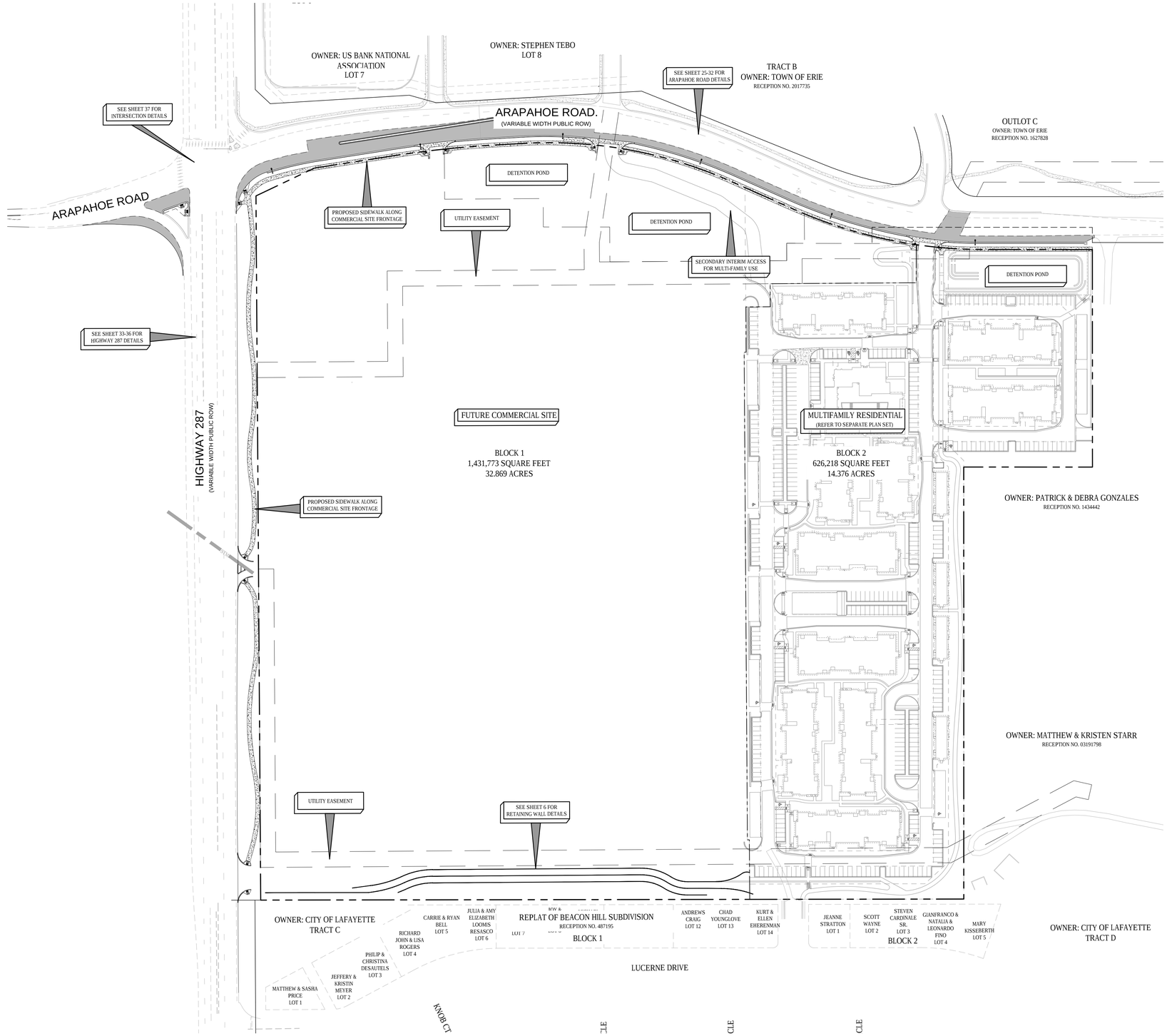
1. EXCEPT WHERE NOTED, ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE, CLASS III AND SHALL CONFORM TO REQUIREMENTS OF ASTM C76, ALL RCP SHALL HAVE RUBBER GASKETED JOINTS AND SHALL CONFORM TO REQUIREMENTS OF ASTM C443, AND SHALL PROVIDE WATERTIGHT PERFORMANCE CHARACTERISTICS.
2. TONGUE AND GROOVE JOINTS 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).

TOWN OF ERIE 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 SINGLE AXLE, FIVE (5) TON 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 AT TEN (10) FOOT INTERVALS, HALF STONES ARE NOT ALLOWED.
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



SITE LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- FIRE ACCESS EASEMENT
- SIDEWALK EASEMENT
- LANDSCAPE BUFFER
- PROPOSED BY JCMD
- EXISTING TO REMAIN
- EXISTING TO BE REMOVED

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

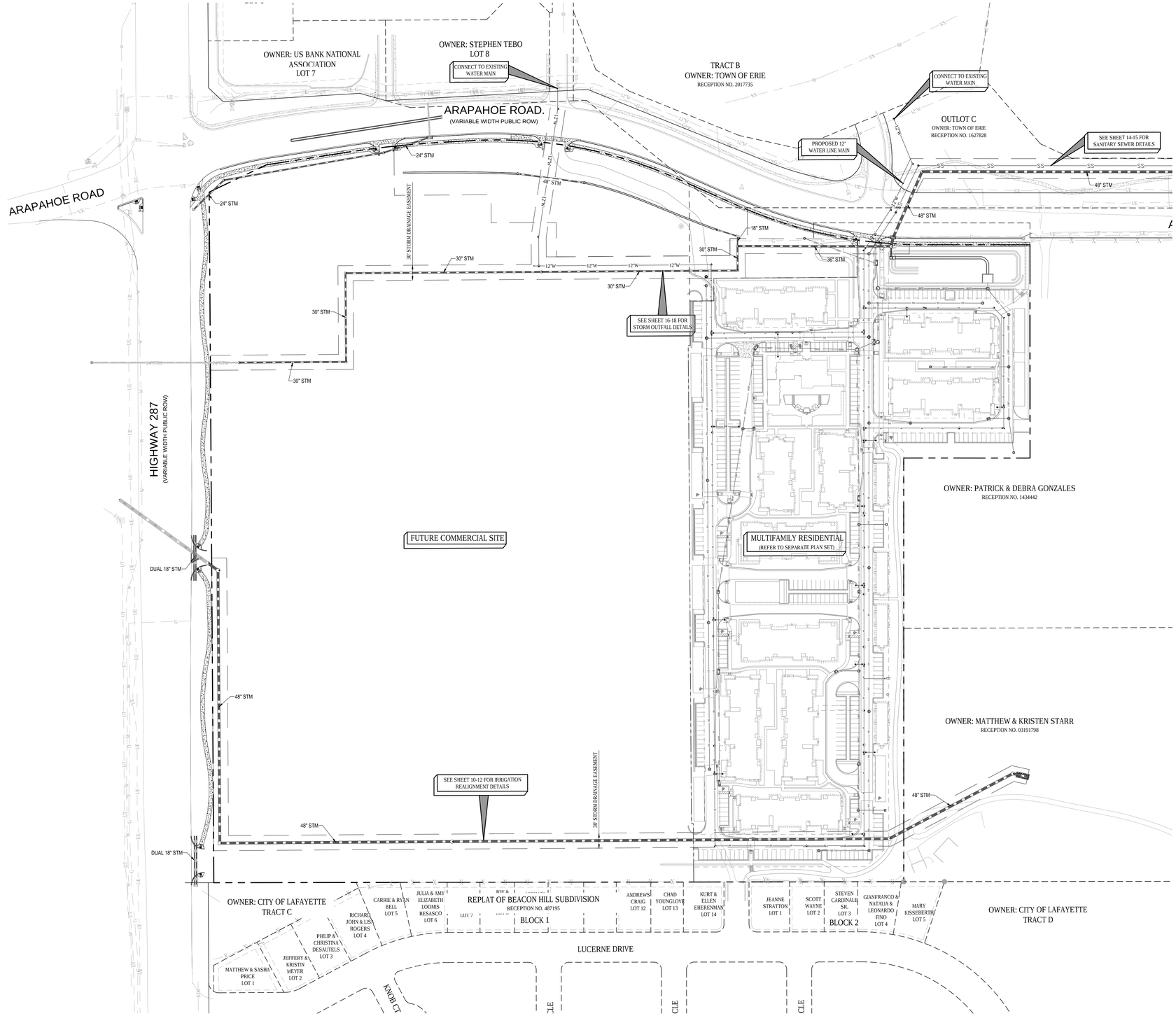
HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

OVERALL SITE PLAN

H:\Evergreen Development\CO\ Erie ED000018 - Nine Mile Corner 287&Arapahoe\CAD\C3d\ED000018_P_ESite Map - Jon Dusty - 9/21/2017



UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

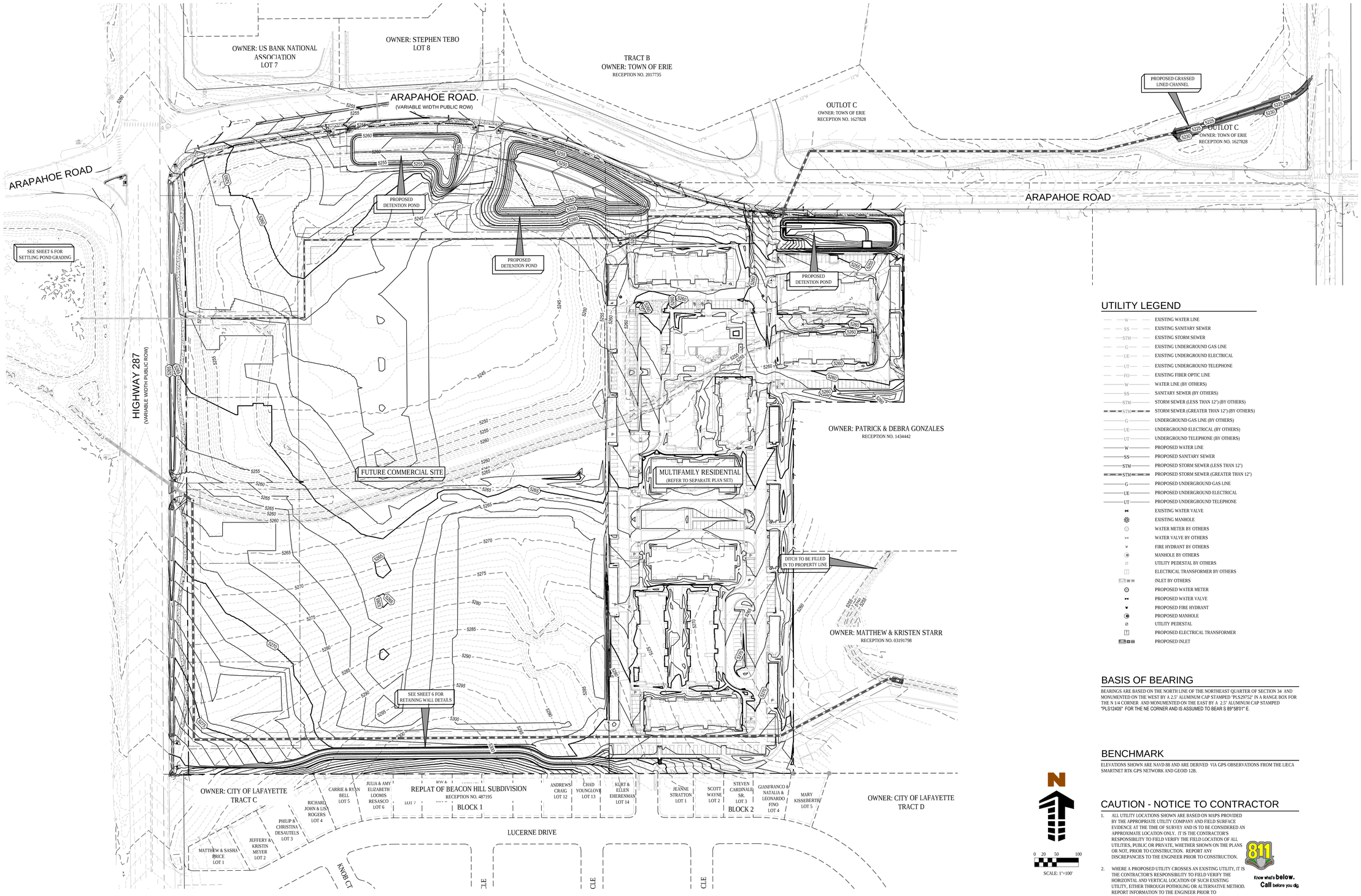
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

OVERALL UTILITY PLAN

4
OF 38

H:\Evergreen Development\ACD\ Eria ED000018 - Nine Mile Corner 2016\Assembly\CAD\PLSheet\ED018_P_EA-full.dwg, Jon Dudley - 9/27/2017



UTILITY LEGEND

W	EXISTING WATER LINE
SS	EXISTING SANITARY SEWER
STM	EXISTING STORM SEWER
G	EXISTING UNDERGROUND GAS LINE
UE	EXISTING UNDERGROUND ELECTRICAL
UT	EXISTING UNDERGROUND TELEPHONE
FO	EXISTING FIBER OPTIC LINE
W	WATER LINE (BY OTHERS)
SS	SANITARY SEWER (BY OTHERS)
STM	STORM SEWER (LESS THAN 12") (BY OTHERS)
STM	STORM SEWER (GREATER THAN 12") (BY OTHERS)
G	UNDERGROUND GAS LINE (BY OTHERS)
UE	UNDERGROUND ELECTRICAL (BY OTHERS)
UT	UNDERGROUND TELEPHONE (BY OTHERS)
W	PROPOSED WATER LINE
SS	PROPOSED SANITARY SEWER
STM	PROPOSED STORM SEWER (LESS THAN 12")
STM	PROPOSED STORM SEWER (GREATER THAN 12")
G	PROPOSED UNDERGROUND GAS LINE
UE	PROPOSED UNDERGROUND ELECTRICAL
UT	PROPOSED UNDERGROUND TELEPHONE
	EXISTING WATER VALVE
	EXISTING MANHOLE
	WATER METER BY OTHERS
	WATER VALVE BY OTHERS
	FIRE HYDRANT BY OTHERS
	MANHOLE BY OTHERS
	UTILITY PEDESTAL BY OTHERS
	ELECTRICAL TRANSFORMER BY OTHERS
	INLET BY OTHERS
	PROPOSED WATER METER
	PROPOSED WATER VALVE
	PROPOSED FIRE HYDRANT
	PROPOSED MANHOLE
	UTILITY PEDESTAL
	PROPOSED ELECTRICAL TRANSFORMER
	PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

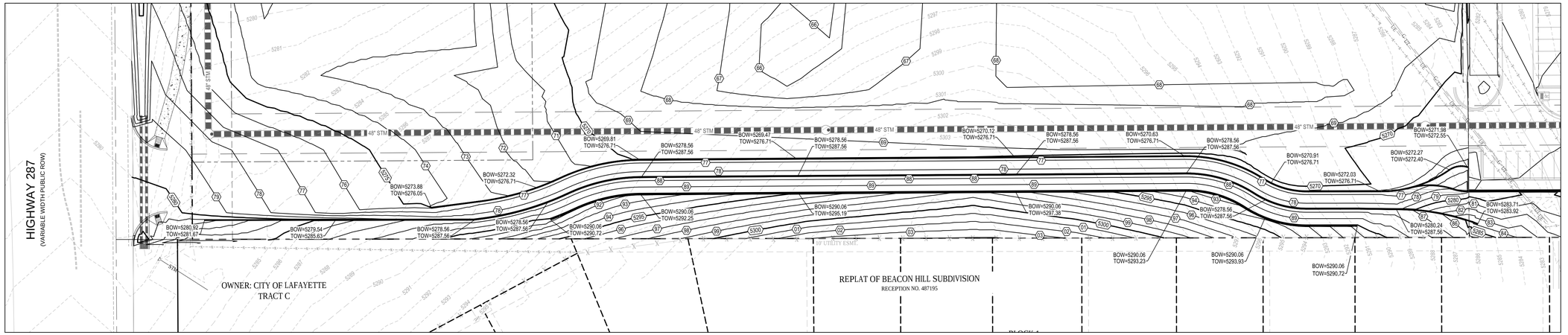
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

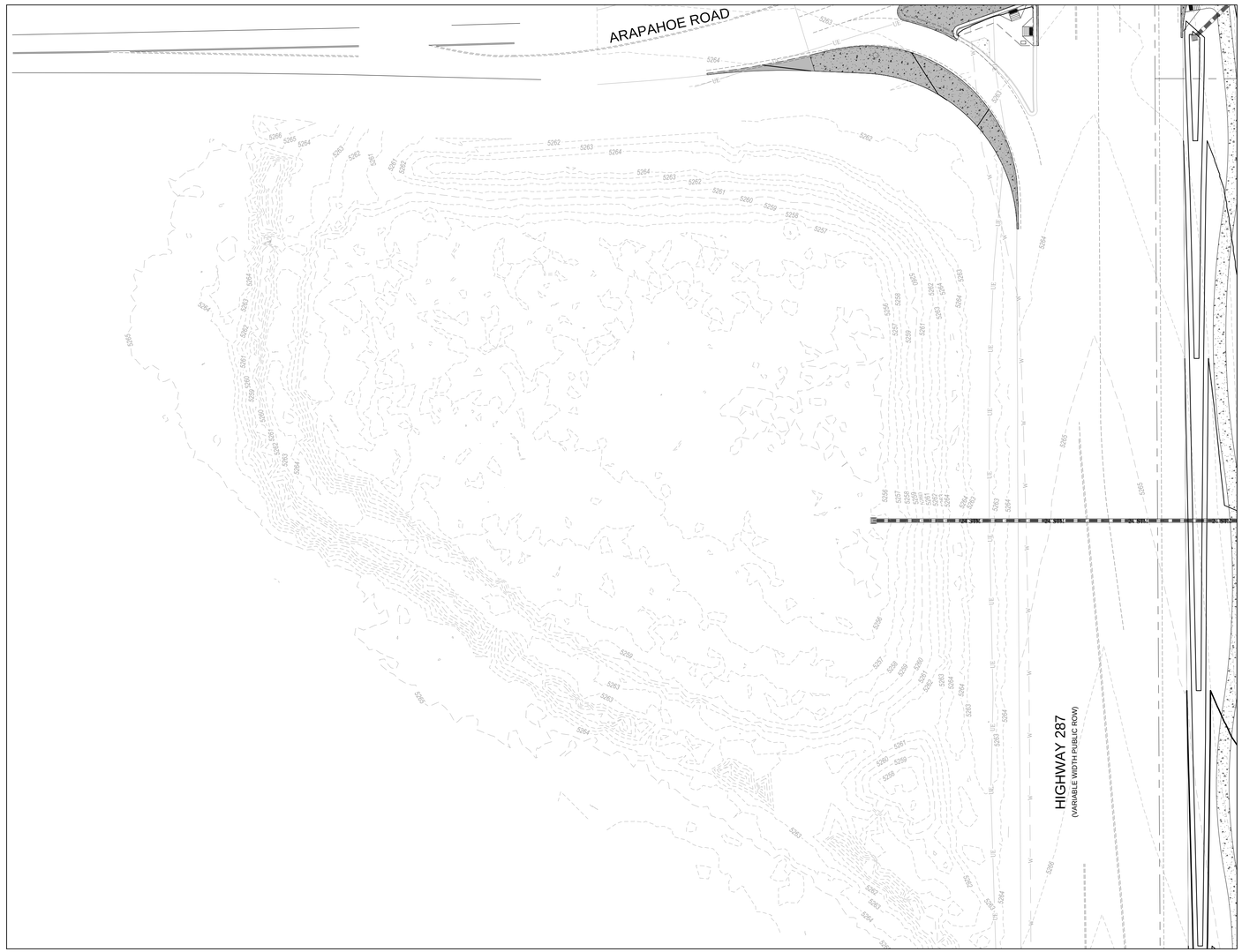
OVERALL UTILITY PLAN

5
OF 38

H:\Evergreen Development\EDI\ Erie EDI000018 - Nine Mile Corner_2B\Acad\sheet\CAD\3-Sheet\EDI18_6_P_PSPlotStamp_Jim Guido - 9/27/2017



RETAINING WALL GRADING PLAN
SCALE: 1"=40'



SETTLEING POND GRADING PLAN
SCALE: 1"=40'

GRADING LEGEND

5839	EXISTING MINOR CONTOUR
5840	EXISTING MAJOR CONTOUR
39	PROPOSED MINOR CONTOUR
5440	PROPOSED MAJOR CONTOUR
	PROPOSED GRADE BREAK
	CONSTRUCTION VEHICLE ENTRY
40.0	PROPOSED SPOT ELEVATION
40.5 / 40.0	PROPOSED TOP OF CURB ELEVATION / PROPOSED FLOWLINE ELEVATION
FF	FINISHED FLOOR
TC	TOP OF CURB
TOS	TOP OF SIDEWALK
TOSL	TOP OF SLOPE
TOF	TOP OF FOOTER
FL	FLOWLINE
FG	FINISHED GRADE
HP	HIGH POINT
LP	LOW POINT
ME	MATCH EXISTING
GB	GRADE BREAK
C	CATCH CURB AND GUTTER
S	SPILL CURB AND GUTTER
+ 4977.57	EXISTING SPOT GRADE

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

N

0 20 40

SCALE: 1"=40'

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

RETAINING WALL AND SETTLING POND GRADING PLAN

6
OF 38

M:\Projects\Developers\EDI\Erie EDI000018 - Nine Mile Corner_287\Acad\sheet\CAD\3-Plots\EDI18_E_P3_PondGrad.dwg - Jim Crosby - 9/27/2017



EROSION CONTROL LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- LOD — LIMITS OF DISTURBANCE
- FLOW ARROW
- VTC — CONSTRUCTION VEHICLE ENTRY
- CF — TEMPORARY CONSTRUCTION FENCE
- SF — SILT FENCE
- CWA — CONCRETE WASHOUT
- SSA — STABILIZED STAGING AREA
- IP — INLET PROTECTION
- SM — SEEDING AND MULCHING
- SP — SITE POSTING (CONTACTS AND PERMITS)
- WP — WASHOUT POSTING
- PT — PORTABLE TOILET
- ECB — EROSION CONTROL BLANKET
- RIPRAP OUTFALL PADS
- RS — ROCK SOCKS
- INITIAL SWALE LINE
- DC — TEMPORARY DIVERSION CHANNEL
- CD — CHECK DAM
- SL — SEDIMENT CONTROL LOG
- TSD — TEMPORARY SLOPE DRAIN
- SB — SEDIMENT BASIN

NOTE: CONTRACTOR SHALL INSTALL SILT FENCE AROUND ALL OFF-SITE DISTURBED AREAS THAT ARE A RESULT OF THE CONSTRUCTION ACTIVITIES OF THIS PROJECT (INCLUDING BUT NOT LIMITED TO WATER LINE CONSTRUCTION). IN CASES WHERE TRENCHES RUN LONGITUDINAL WITH THE GRADE STRAW BALE BARRIERS SHALL BE USED.

CONTRACTOR IS RESPONSIBLE FOR PERMANENTLY STABILIZING ALL ON- AND OFF-SITE AREAS DISTURBED DURING CONSTRUCTION, WHETHER THESE AREAS ARE SHOWN ON THE PLANS OR NOT, INCLUDING MAINTENANCE OF ALL BMP'S UNTIL A NOTICE OF INACTIVATION HAS BEEN ACCEPTED BY THE STATE.

N

0 20 40

SCALE: 1"=40'

BENCHMARK

ELEVATIONS SHOWN ARE NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

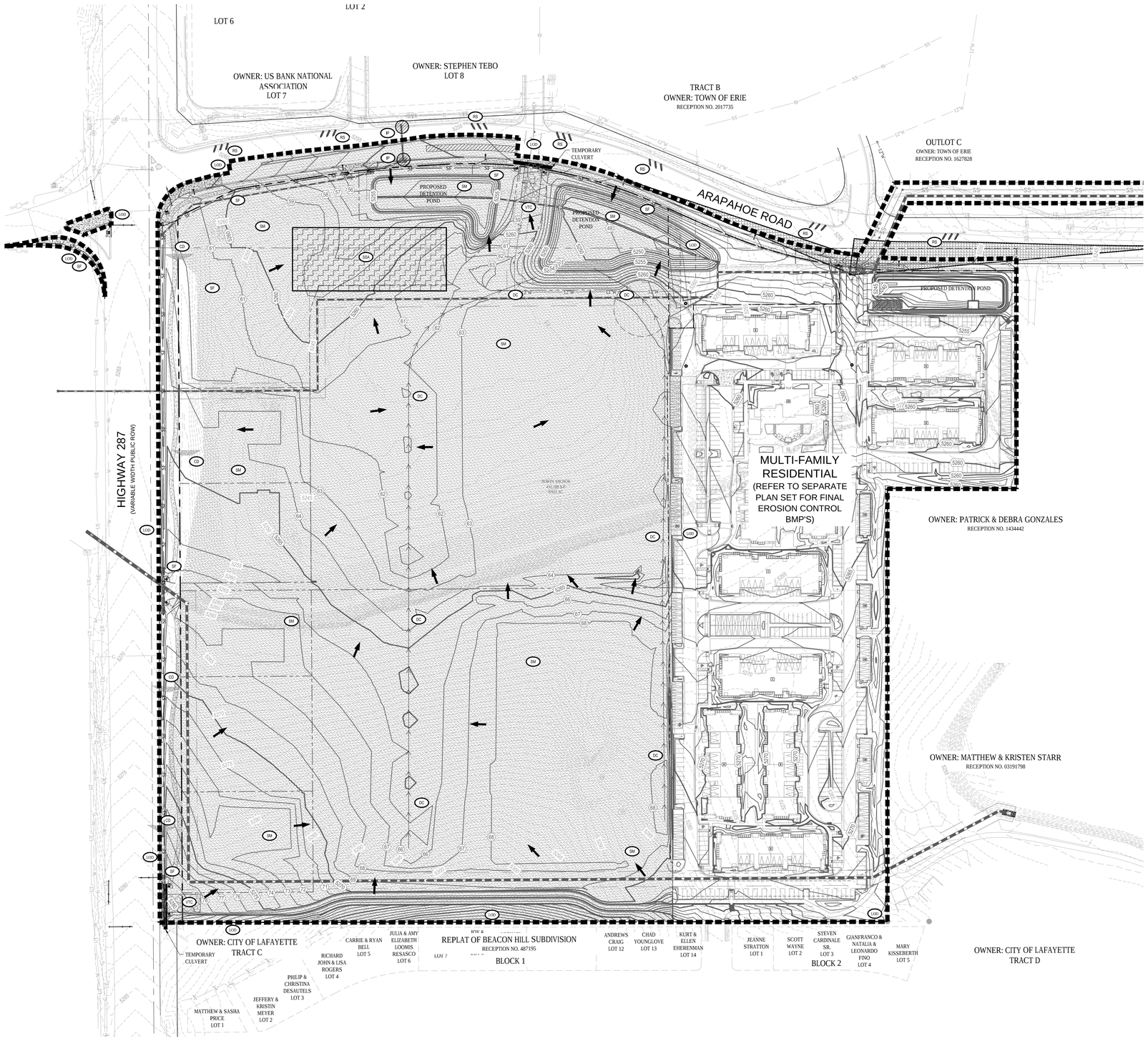
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

INITIAL EROSION CONTROL PLAN

7
OF 38

H:\Evergreen Development\PCL Erie EDI000018 - Nine Mile Corner_2016\Assets\Civil\CAD\ULRoad\ECM_P_01-ECP-Init.dwg - Ian Cooley - 9/27/2017



EROSION CONTROL LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- LOD — LIMITS OF DISTURBANCE
- FLOW ARROW
- VTC — CONSTRUCTION VEHICLE ENTRY
- CF — TEMPORARY CONSTRUCTION FENCE
- SF — SILT FENCE
- CWA — CONCRETE WASHOUT
- SSA — STABILIZED STAGING AREA
- IP — INLET PROTECTION
- SM — SEEDING AND MULCHING
- SP — SITE POSTING (CONTACTS AND PERMITS)
- WP — WASHOUT POSTING
- PT — PORTABLE TOILET
- ECB — EROSION CONTROL BLANKET
- RIPRAP OUTFALL PADS
- RS — ROCK SOCKS
- INITIAL SWALE LINE
- DC — TEMPORARY DIVERSION CHANNEL
- CD — CHECK DAM
- SL — SEDIMENT CONTROL LOG
- TSD — TEMPORARY SLOPE DRAIN
- SB — SEDIMENT BASIN

NOTE: CONTRACTOR SHALL INSTALL SILT FENCE AROUND ALL OFF-SITE DISTURBED AREAS THAT ARE A RESULT OF THE CONSTRUCTION ACTIVITIES OF THIS PROJECT (INCLUDING BUT NOT LIMITED TO WATER LINE CONSTRUCTION). IN CASES WHERE TRENCHES RUN LONGITUDINAL WITH THE GRADE STRAW BALE BARRIERS SHALL BE USED.

CONTRACTOR IS RESPONSIBLE FOR PERMANENTLY STABILIZING ALL ON- AND OFF-SITE AREAS DISTURBED DURING CONSTRUCTION, WHETHER THESE AREAS ARE SHOWN ON THE PLANS OR NOT, INCLUDING MAINTENANCE OF ALL BMP'S UNTIL A NOTICE OF INACTIVATION HAS BEEN ACCEPTED BY THE STATE.

BENCHMARK

ELEVATIONS SHOWN ARE NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

0 20 40
SCALE: 1"=40'

Know what's below. Call before you dig.

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

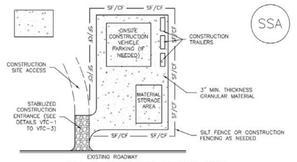
Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

INTERIM-FINAL EROSION CONTROL PLAN

8
OF 38

H:\Evergreen Development\CO\...\Nine Mile Corner...\EROSION CONTROL\...\EC_PLOT.dwg, Jim Dudy, 9/27/2017

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

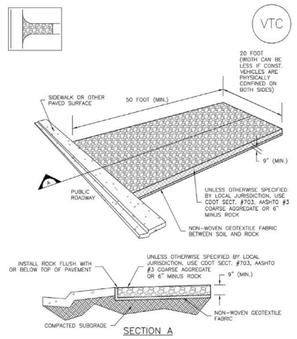
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

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.

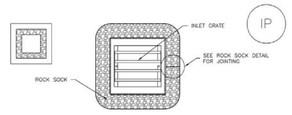
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

Vehicle Tracking Control (VTC) SM-4



VTC–1. AGGREGATE VEHICLE TRACKING CONTROL

Inlet Protection (IP) SC-6

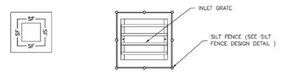


IP–3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



IP–4. SILT FENCE FOR SUMP INLET PROTECTION

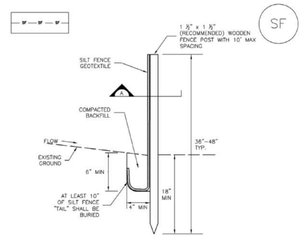
SILT FENCE INLET PROTECTION INSTALLATION NOTES

1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.

3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

Silt Fence (SF) SC-1

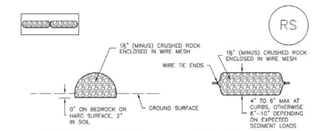


SILT FENCE

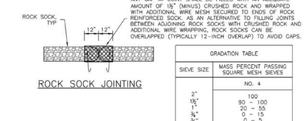
SECTION A

SF–1. SILT FENCE

SC-5 Rock Sock (RS)



ROCK SOCK SECTION ROCK SOCK PLAN



ROCK SOCK JOINTING

GRADATION TABLE	
SIEVE SIZE:	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2" 1½" 1" ¾"	100 90 – 100 20 – 55 0 – 15 0 – 5
	MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION(S) OF ROCK SOCKS.

2. CRUSHED ROCK SHALL BE 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1½" MINUS).

3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½", RECOMMENDED MINIMUM ROLL WIDTH OF 48"

4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2' CENTERS ON ENDS OF SOCKS.

5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS–1. ROCK SOCK PERIMETER CONTROL

STABILIZED STAGING AREA MAINTENANCE NOTES

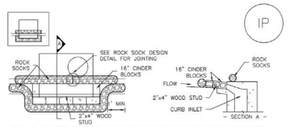
5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

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)



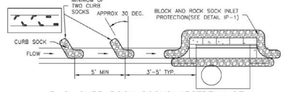
IP–1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

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.

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.

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING AND SEDIMENT STORAGE. IF 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 6" 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 1" 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.

ROCK SOCK MAINTENANCE NOTES

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

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

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

4. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.

5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE ROCK SOCK.

6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

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

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

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

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

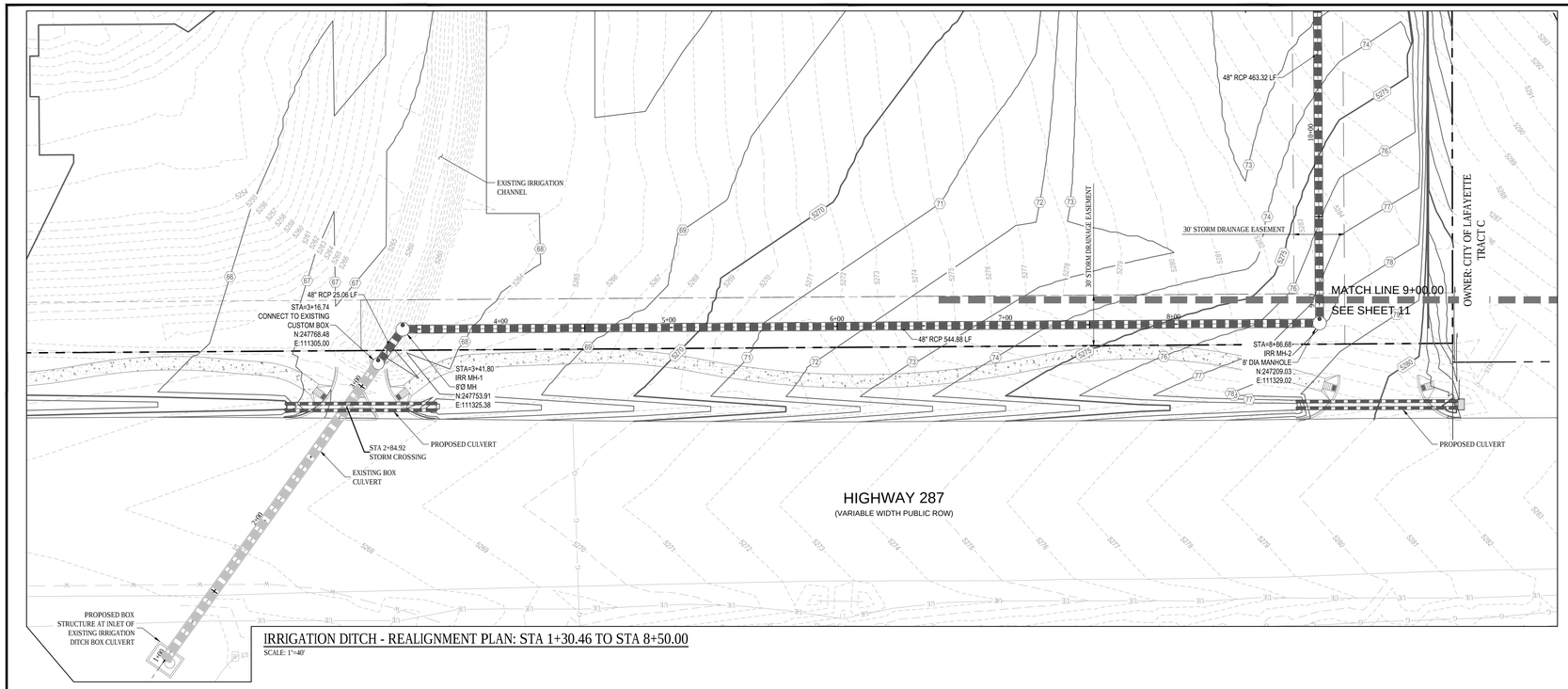
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

OVERALL
EROSION CONTROL DETAILS

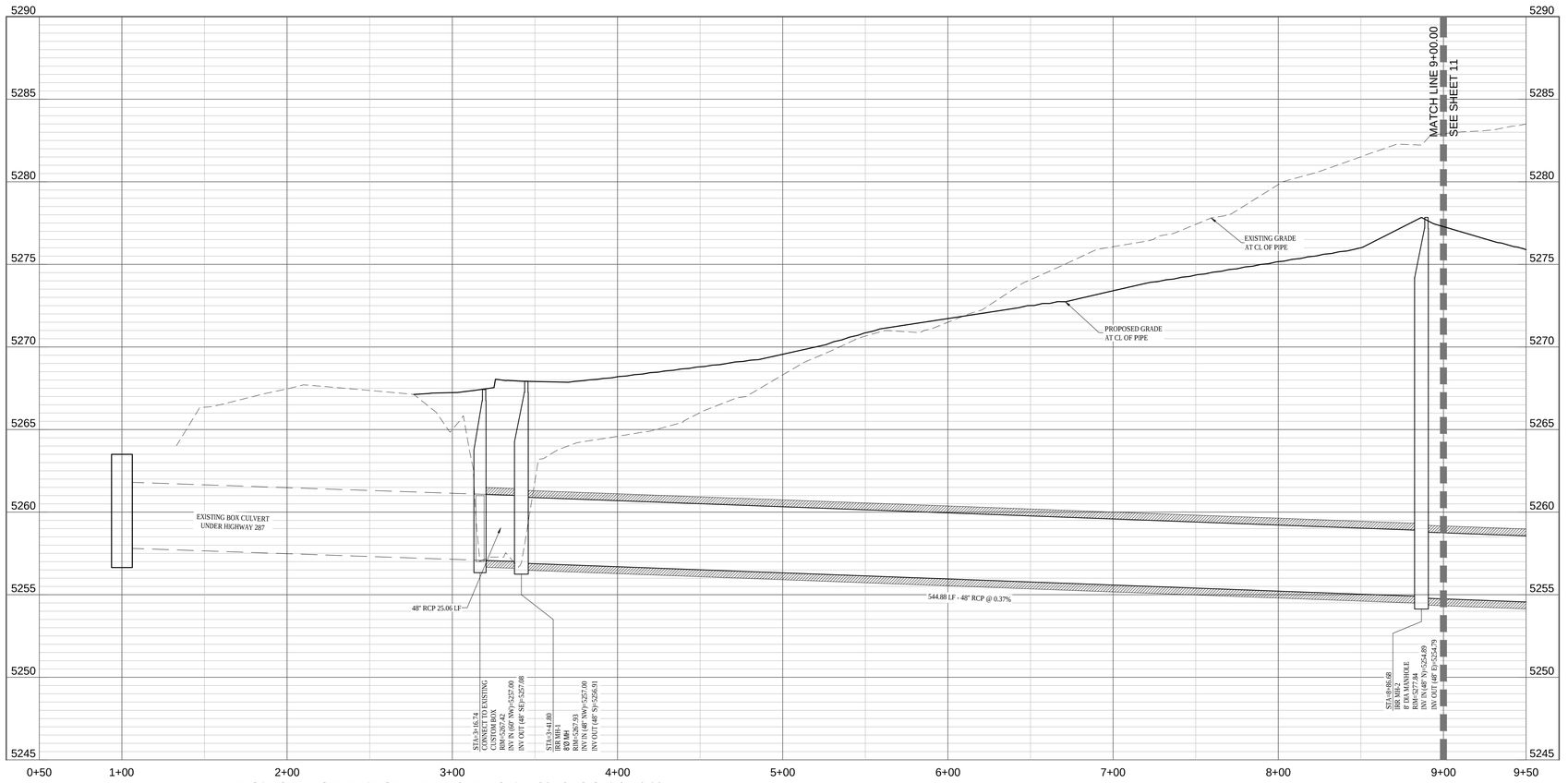
9
OF 38

H:\Evergreen Development\DCI, Eric (EDI000018 - Nine Mile Corner, 3615 Arapahoe\CAD\DI-Plan\ESHL9_1_DR-EXP.Dwg, Jim Crolly - 9/27/2017



IRRIGATION DITCH - REALIGNMENT PLAN: STA 1+30.46 TO STA 8+50.00

SCALE: 1"=40'



IRRIGATION DITCH - REALIGNMENT PROFILE: STA 1+30.46 TO STA 8+50.00

SCALE: 1"=40'

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

NOTE: CONTRACTOR TO USE PIPE RESTRAINTS AT END SECTIONS OF EACH PIPE RUN.

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

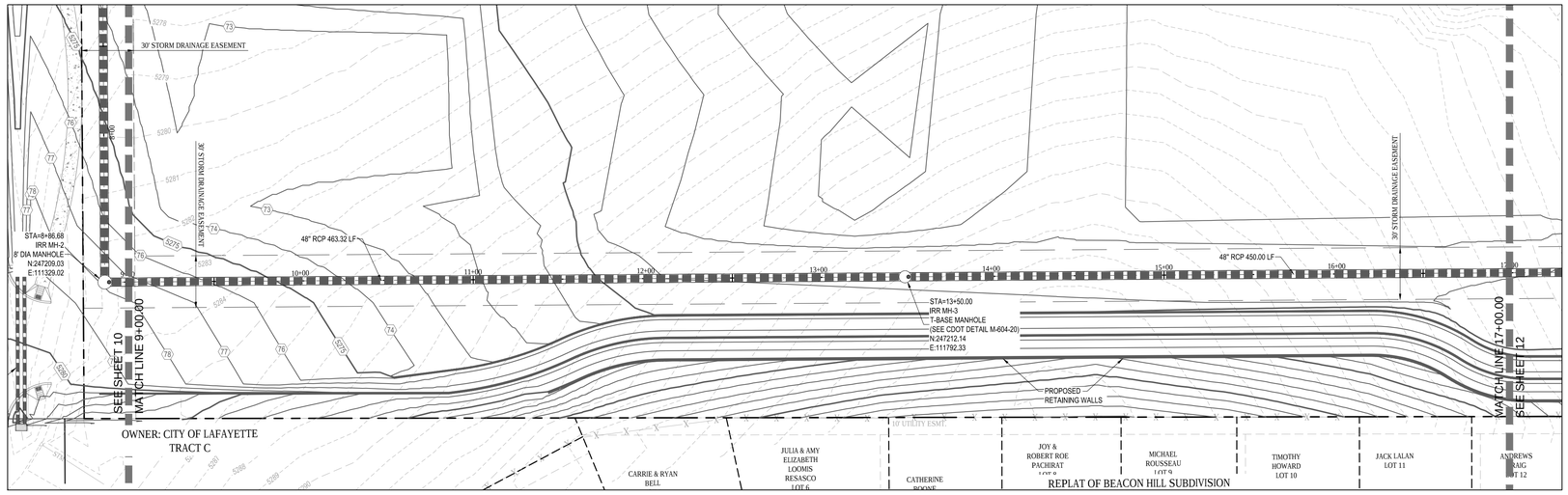
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

IRRIGATION DITCH - REALIGNMENT PLAN AND PROFILE

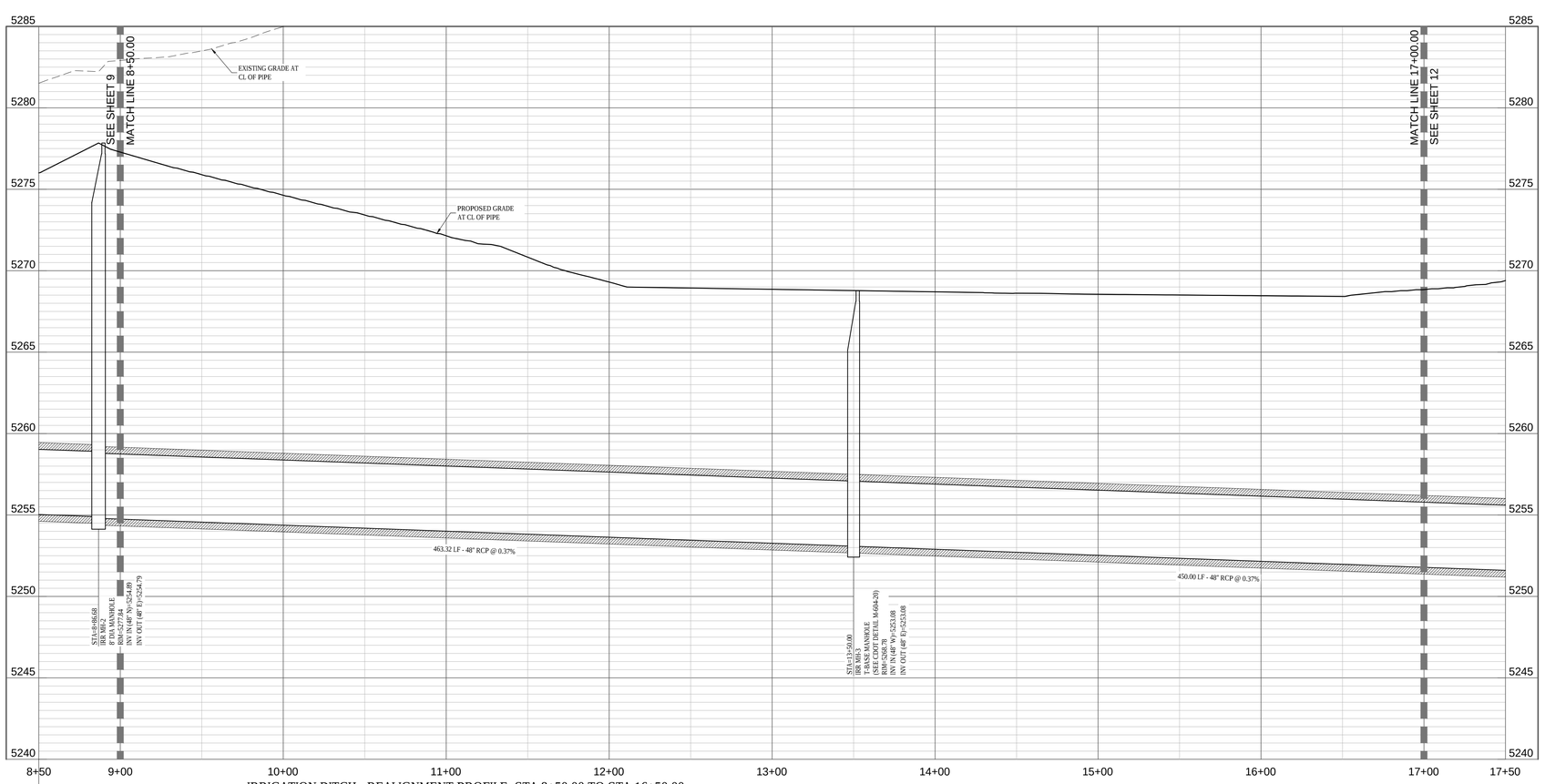
10
OF 38

H:\Evergreen Development\CO. Erie EDI000018 - Nine Mile Corner, 287&Arapahoe\CAD\3-Road\EDI18_P_13-3 on R&P.dwg, Jim Crosby - 9/27/2017



IRRIGATION DITCH - REALIGNMENT PLAN: STA 8+50.00 TO STA 16+50.00

SCALE: 1"=40'



IRRIGATION DITCH - REALIGNMENT PROFILE: STA 8+50.00 TO STA 16+50.00

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

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

NOTE: CONTRACTOR TO USE PIPE RESTRAINTS AT END SECTIONS OF EACH PIPE RUN.

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

0 20 40

SCALE: 1"=40'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

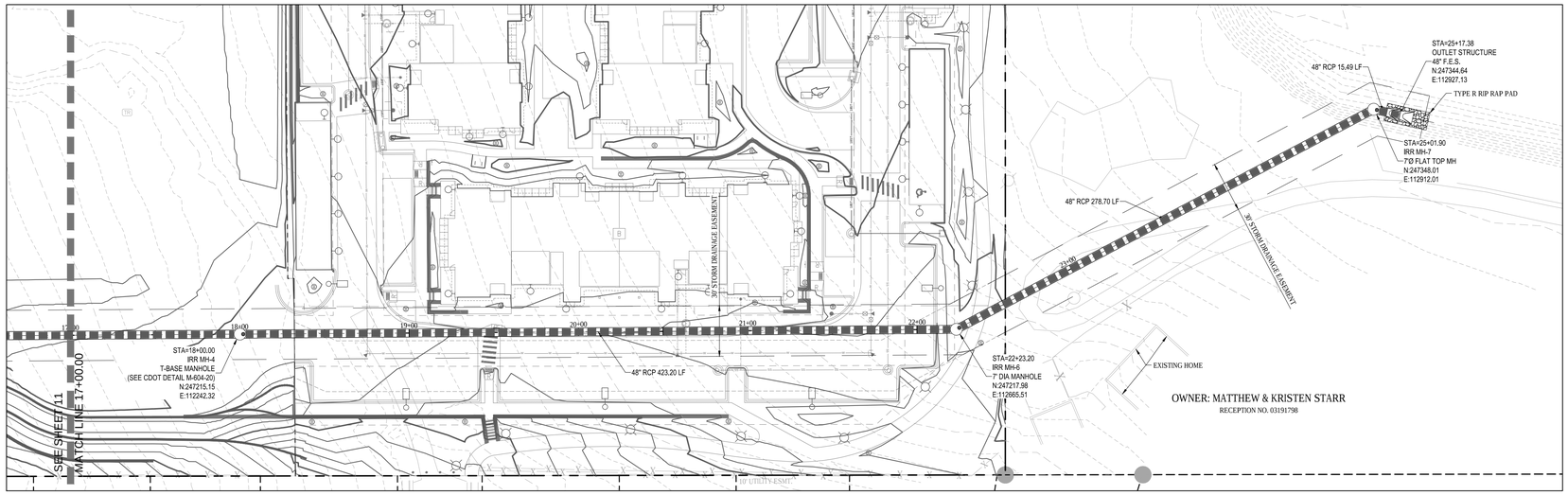
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

IRRIGATION DITCH - REALIGNMENT PLAN AND PROFILE

11
OF 38

H:\Evergreen Development\CO, Erie, EDI000018 - Nine Mile Corner, 287&Arapahoe\CAD\3-Road\EDI18_P_13-17.dwg, Jim Crosby - 9/27/2017

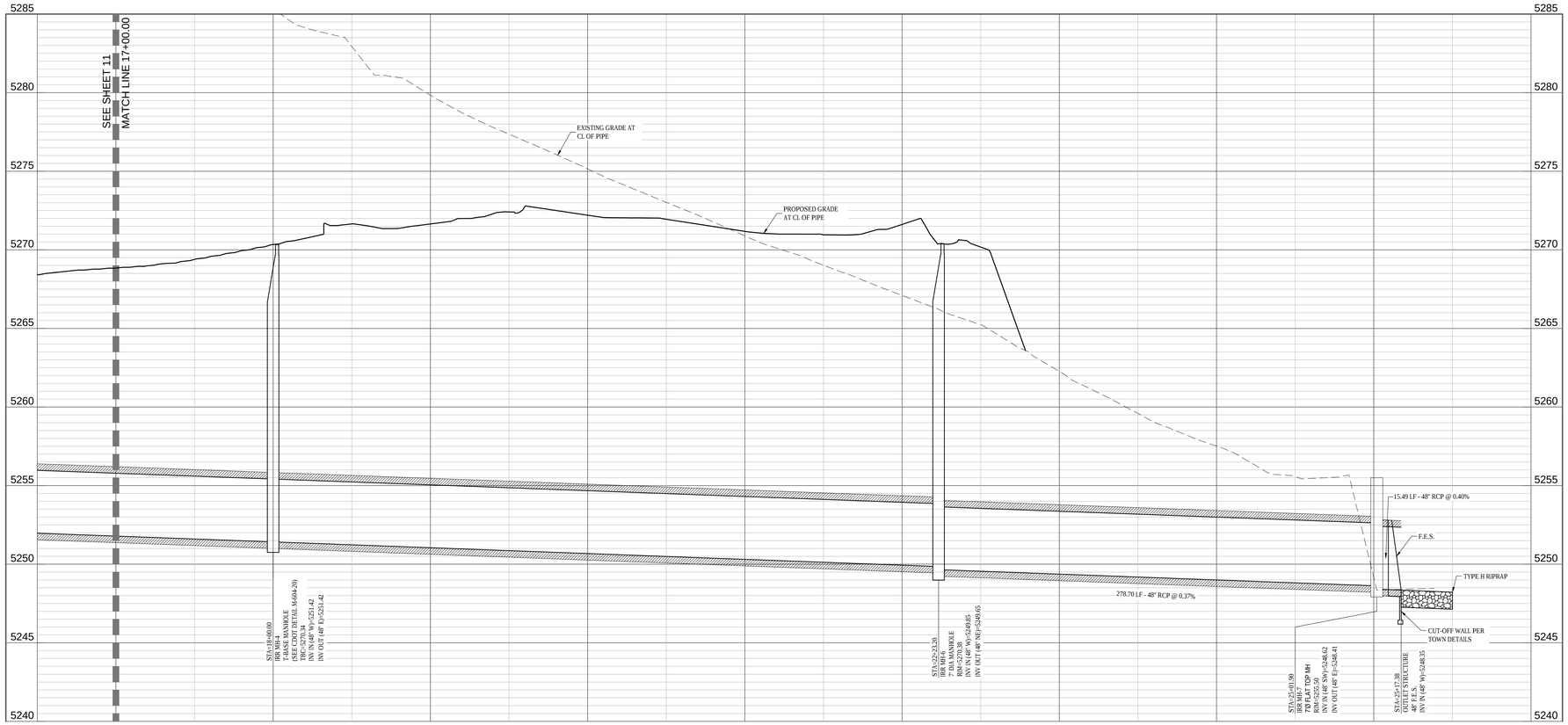


IRRIGATION DITCH - REALIGNMENT PLAN: STA 8+50.00 TO STA 16+50.00

SCALE: 1"=40'



SCALE: 1"=40'



IRRIGATION DITCH - REALIGNMENT PROFILE: STA 8+50.00 TO STA 16+50.00

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

UTILITY LEGEND

- W — EXISTING WATER LINE
- SS — EXISTING SANITARY SEWER
- STM — EXISTING STORM SEWER
- G — EXISTING UNDERGROUND GAS LINE
- UE — EXISTING UNDERGROUND ELECTRICAL
- UT — EXISTING UNDERGROUND TELEPHONE
- FO — EXISTING FIBER OPTIC LINE
- W — WATER LINE (BY OTHERS)
- SS — SANITARY SEWER (BY OTHERS)
- STM — STORM SEWER (LESS THAN 12") (BY OTHERS)
- STM — STORM SEWER (GREATER THAN 12") (BY OTHERS)
- G — UNDERGROUND GAS LINE (BY OTHERS)
- UE — UNDERGROUND ELECTRICAL (BY OTHERS)
- UT — UNDERGROUND TELEPHONE (BY OTHERS)
- W — PROPOSED WATER LINE
- SS — PROPOSED SANITARY SEWER
- STM — PROPOSED STORM SEWER (LESS THAN 12")
- STM — PROPOSED STORM SEWER (GREATER THAN 12")
- G — PROPOSED UNDERGROUND GAS LINE
- UE — PROPOSED UNDERGROUND ELECTRICAL
- UT — PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

NOTE: CONTRACTOR TO USE PIPE RESTRAINTS AT END SECTIONS OF EACH PIPE RUN.

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

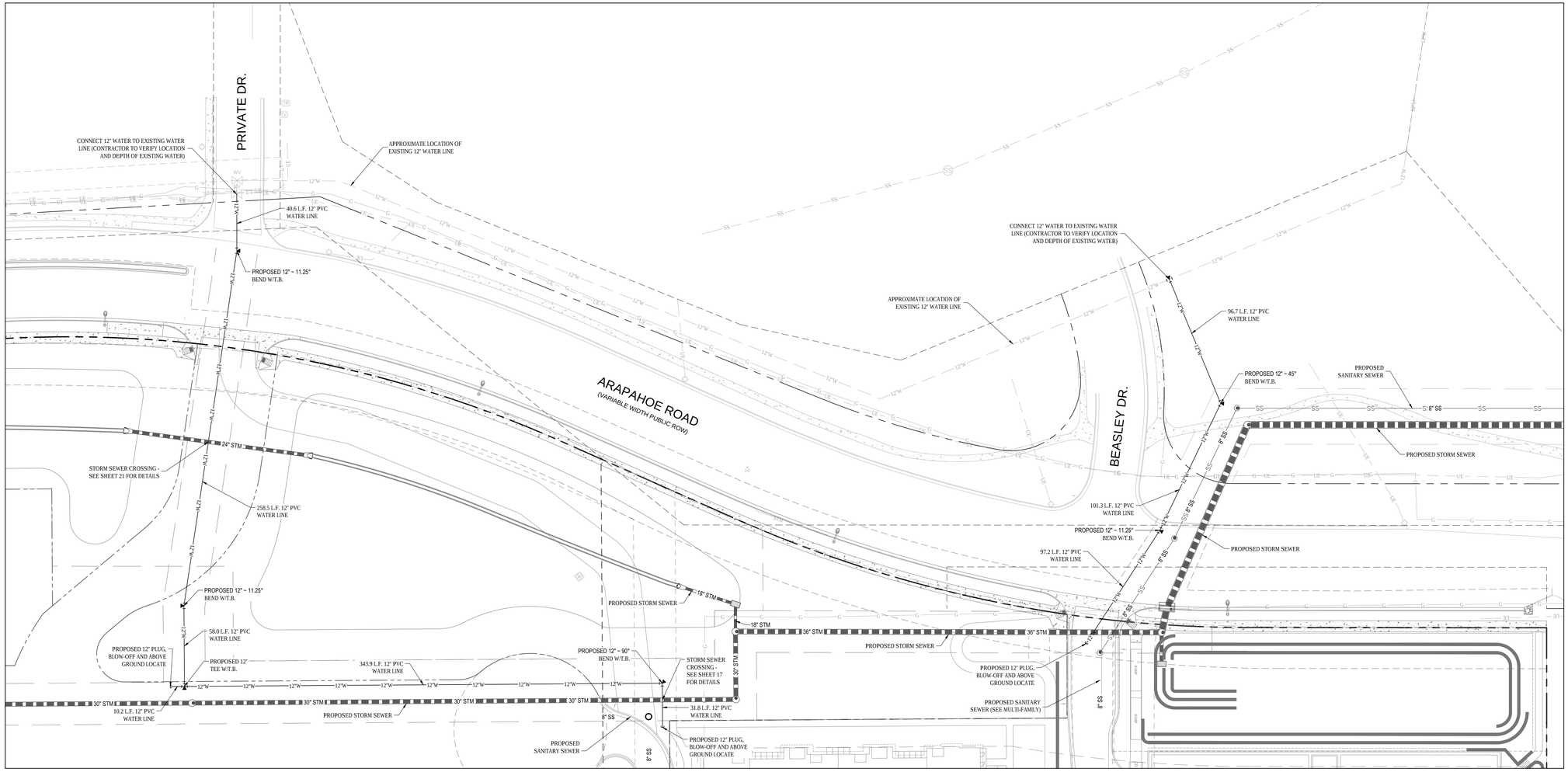
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

IRRIGATION DITCH - REALIGNMENT PLAN AND PROFILE

12
OF 38

H:\Evergreen Devco\Nine\PDC_Erie 4700\0018 - Nine Mile Corner_2016\Acad\wrc\CAD\12-Plan&Prof\12_P_01\12A-IrrMP.dwg, Jim Dudley, 9/27/2017



WATER LINE PLAN

SCALE: 1"=40'

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

N

0 20 40

SCALE: 1"=40'

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

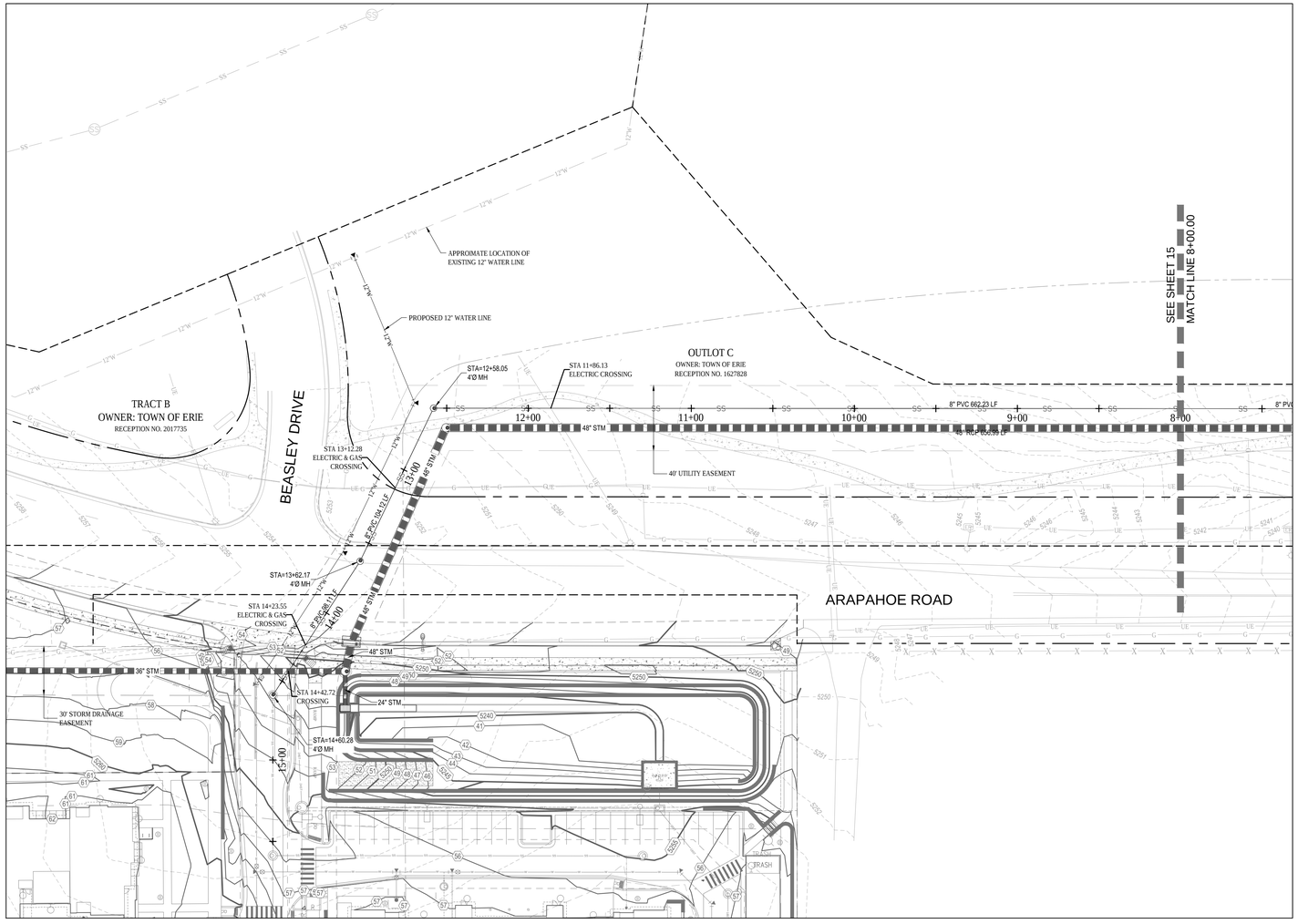
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

WATER PLAN

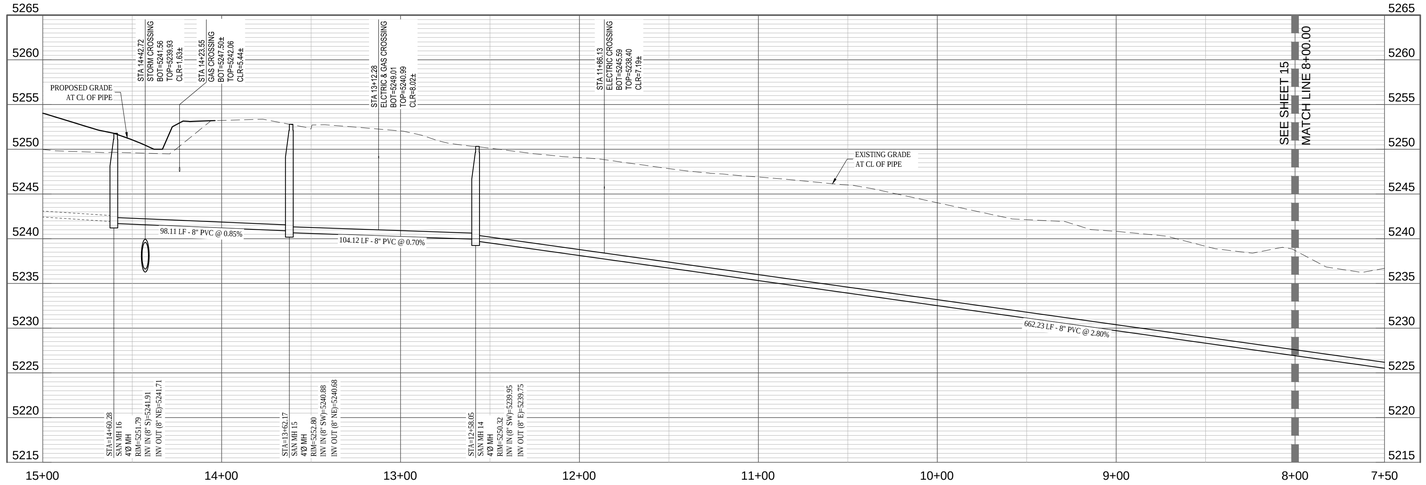
13
OF 38

H:\Evergreen Development\ACO, Erie EDI000018 - Nine Mile Corner_287&Arapahoe\CAD\12Sheet\EDI18_P_13 Water Plan.dwg, Jim Dority - 9/27/2017



SANITARY SEWER PLAN: STA 1+00.00 TO STA 10+38.96

SCALE: 1"=40'



SANITARY SEWER PROFILE: STA 1+00.00 TO STA 10+38.96

SCALE: 1"=40' HORIZ, 1"=8' VERT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- PROPOSED UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

N

0 20 40

SCALE: 1"=40'

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

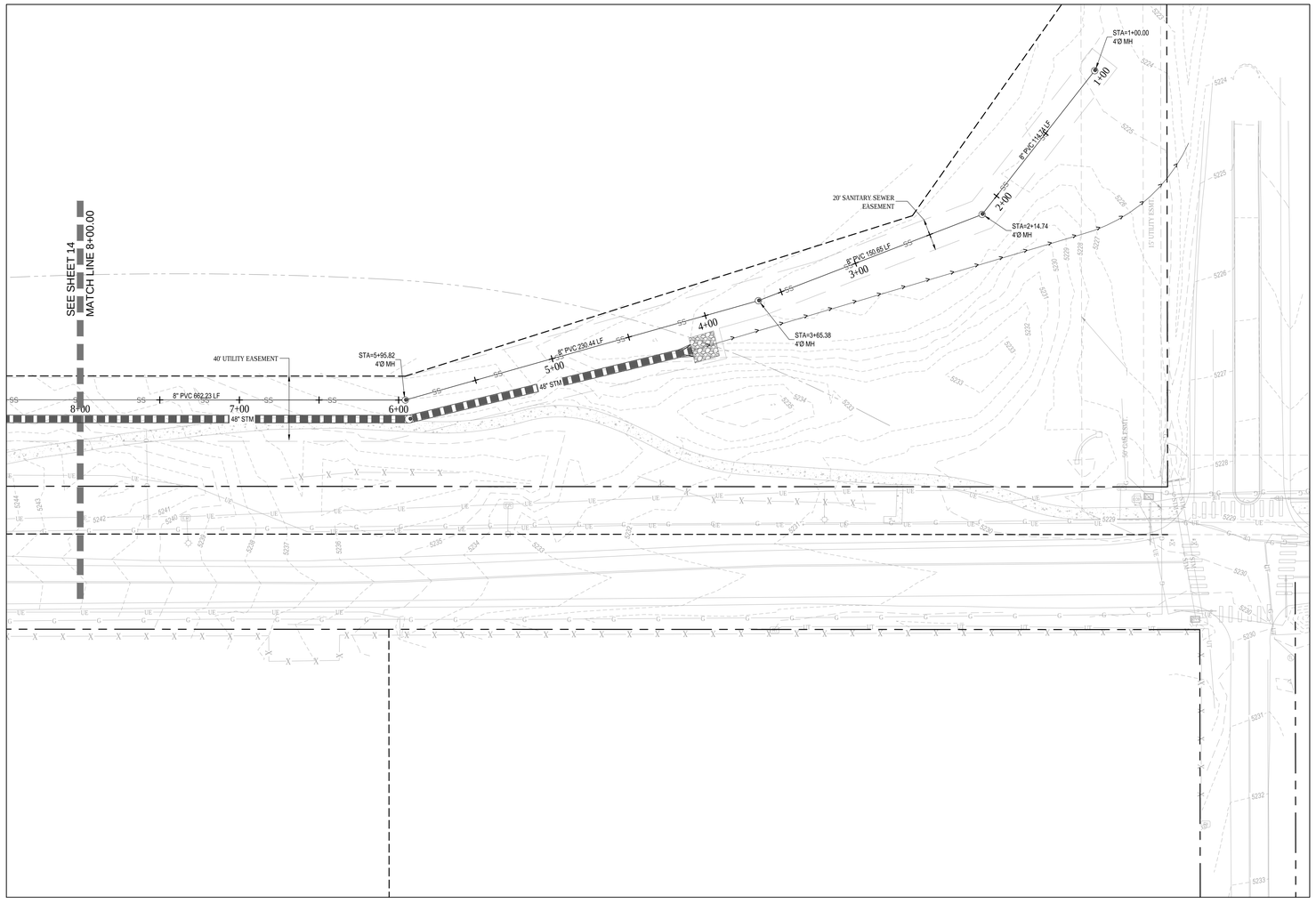
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

SANITARY SEWER
PLAN AND PROFILE

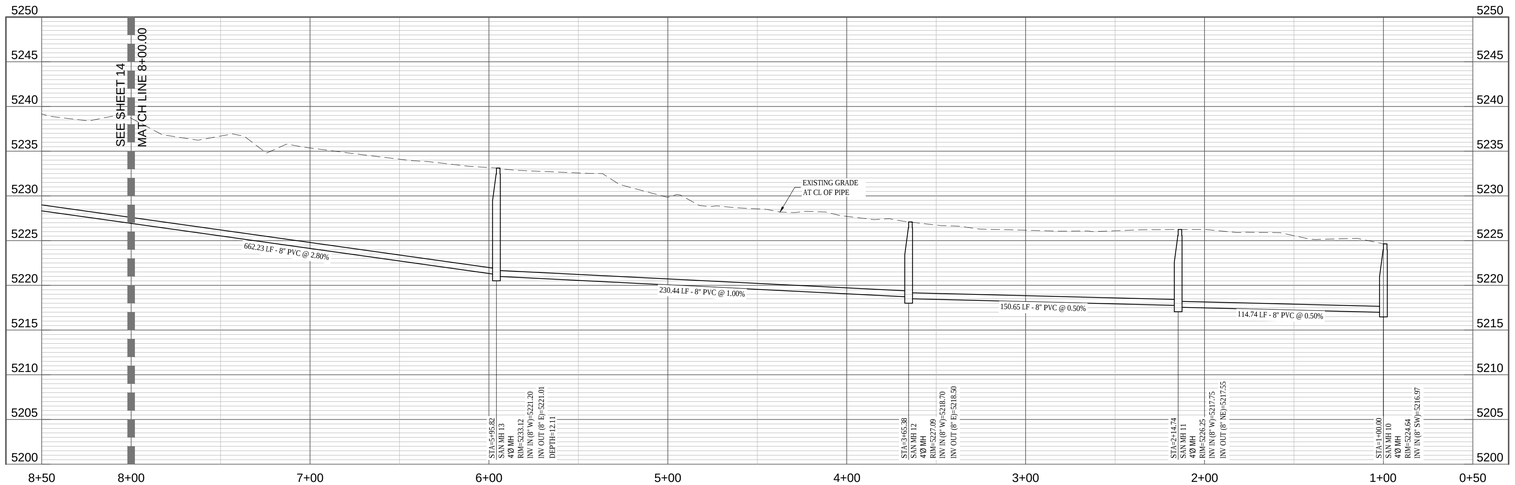
14
OF 38

K:\Evergreen Development\01 Erie EDI000018 - Nine Mile Corner - 287\Mapping\ACAD\01-Plan\EDI18_P_2-5 SS Sht P&P.dwg - JH Cuddy - 9/27/2017



SANITARY SEWER PLAN: STA 1+00.00 TO STA 10+38.96

SCALE: 1"=40'



SANITARY SEWER PROFILE: STA 1+00.00 TO STA 10+38.96

SCALE: 1"=40' HORIZ, 1"=8' VERT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

0 20 40

SCALE: 1"=40'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

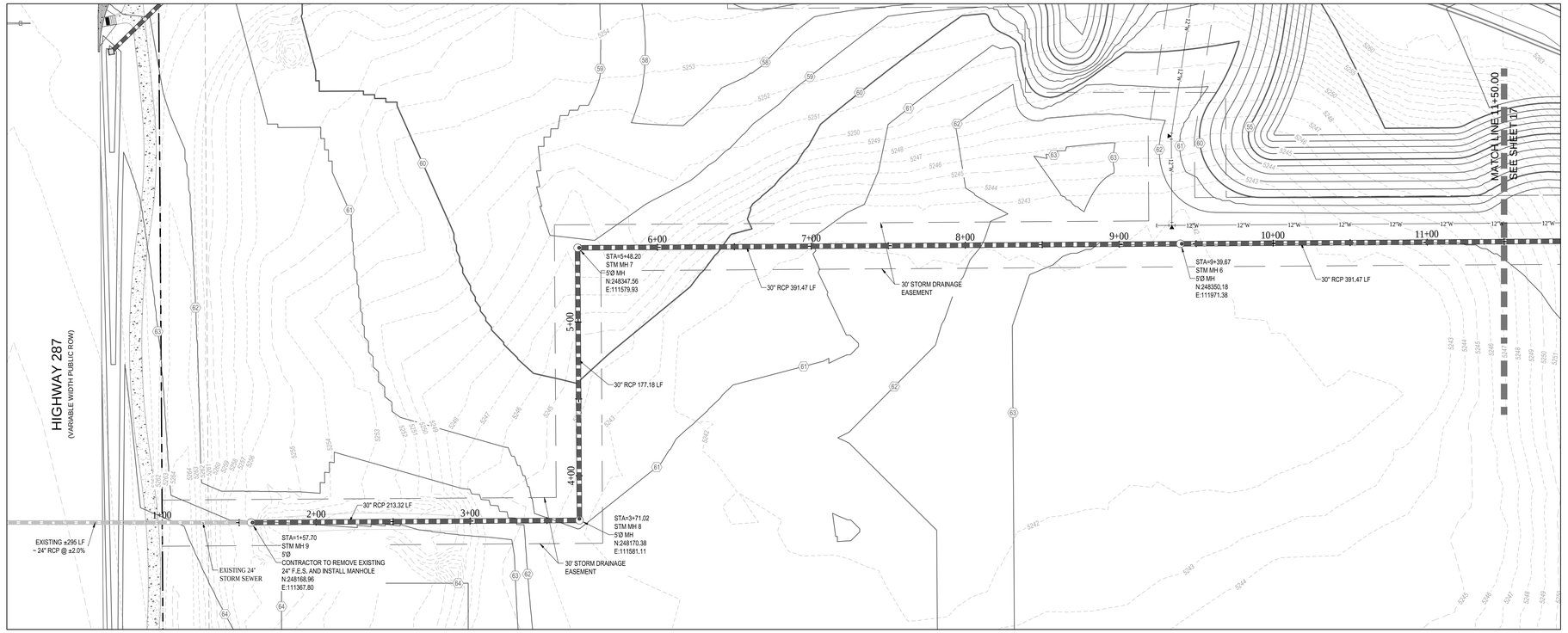
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

SANITARY SEWER
PLAN AND PROFILE

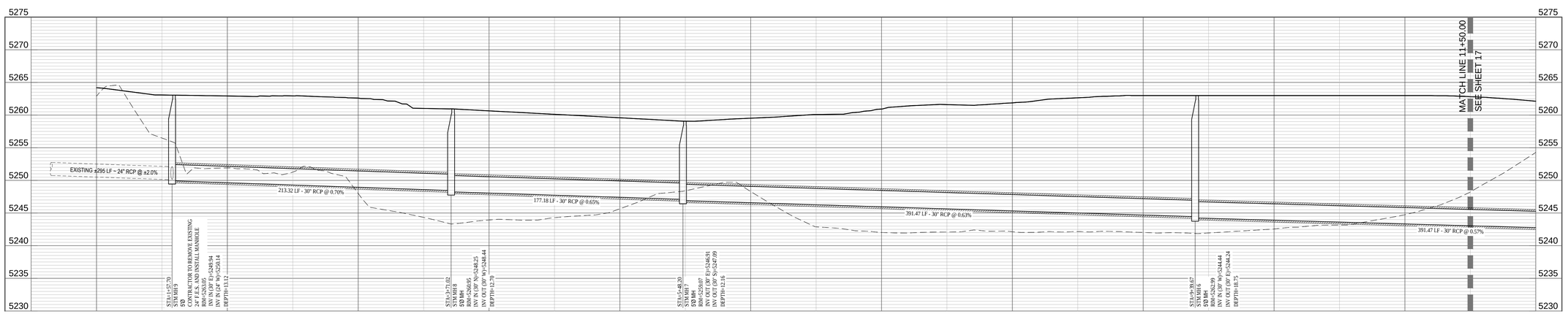
15
OF 38

K:\Evergreen Development\EDI Era ESS\EDI018 - Nine Mile Corner - ERIE\Activities\CADD\Sheets\EDI018_P_14 SS Plan Prof.dwg - Jim Kelley - 9/27/2017



STORM SEWER PLAN: STA 1+00.00 TO STA 11+50.00

SCALE: 1"=40'



STORM SEWER PROFILE: STA 1+00.00 TO STA 11+50.00

SCALE: 1"=40' HORIZ, 1"=8' VERT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

N

0 20 40

SCALE: 1"=40'

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

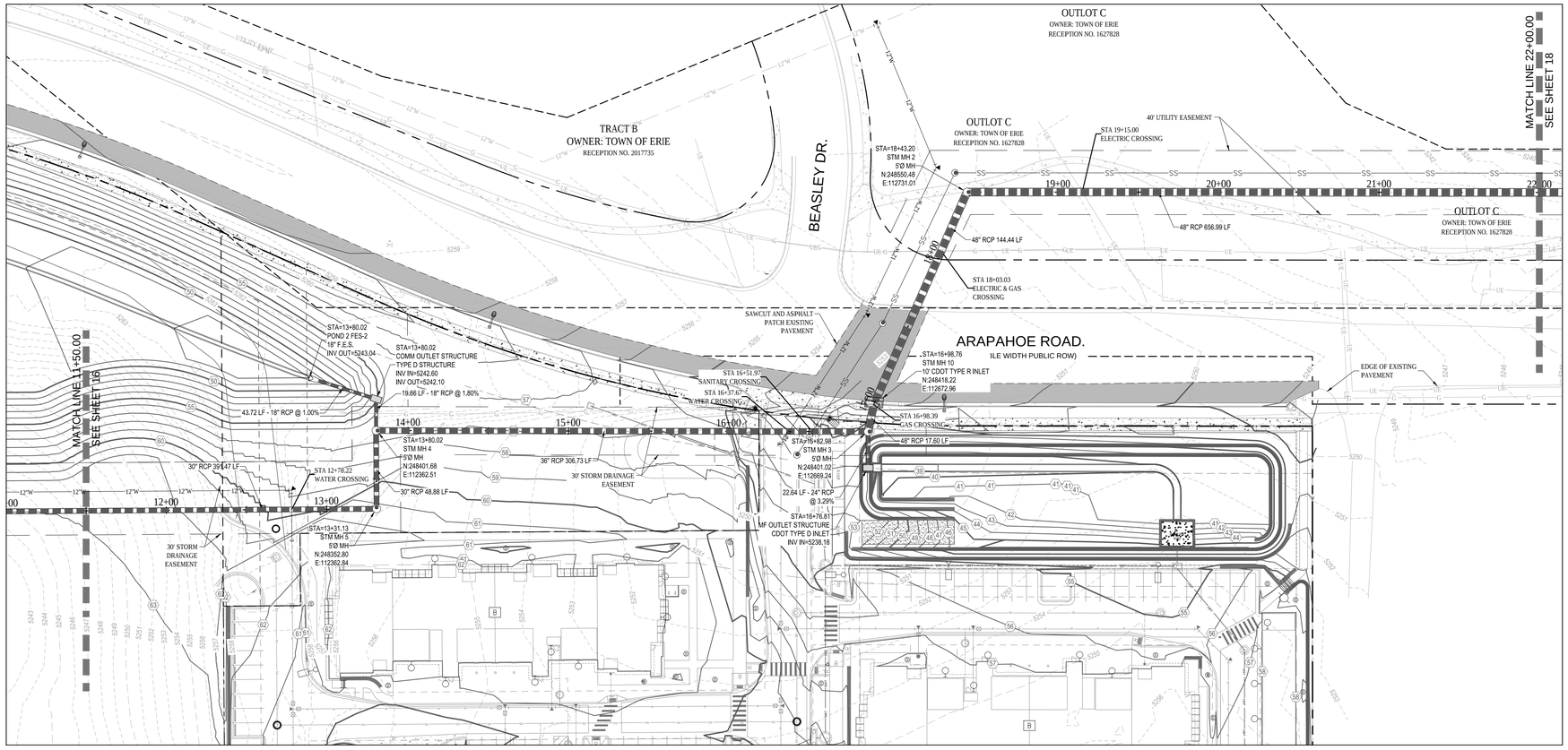
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

STORM SEWER BYPASS PLAN AND PROFILE

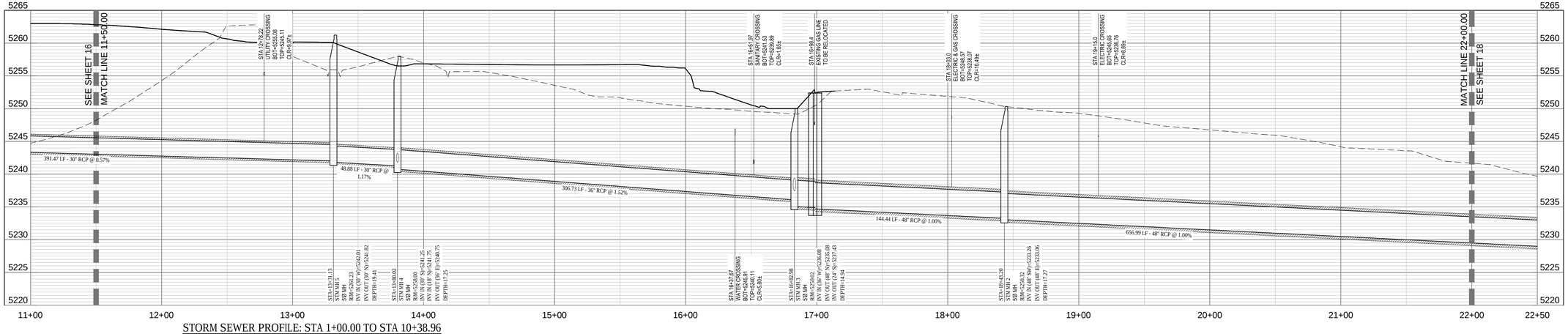
16
OF 38

W:\Evergreen Development\EDI\Civil\Erie EDI000018 - Nine Mile Corner_3874\Arapahoe\CAD\Cv\Plan\EDI18_P_PLN-Storm Shift.dwg - Jim Easley - 9/27/2017



STORM SEWER PLAN: STA 11+50.00 TO STA 22+00.00

SCALE: 1"=40'



STORM SEWER PROFILE: STA 1+00.00 TO STA 10+38.96

SCALE: 1"=40' HORIZ, 1"=8' VERT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

N

0 20 40

SCALE: 1"=40'

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

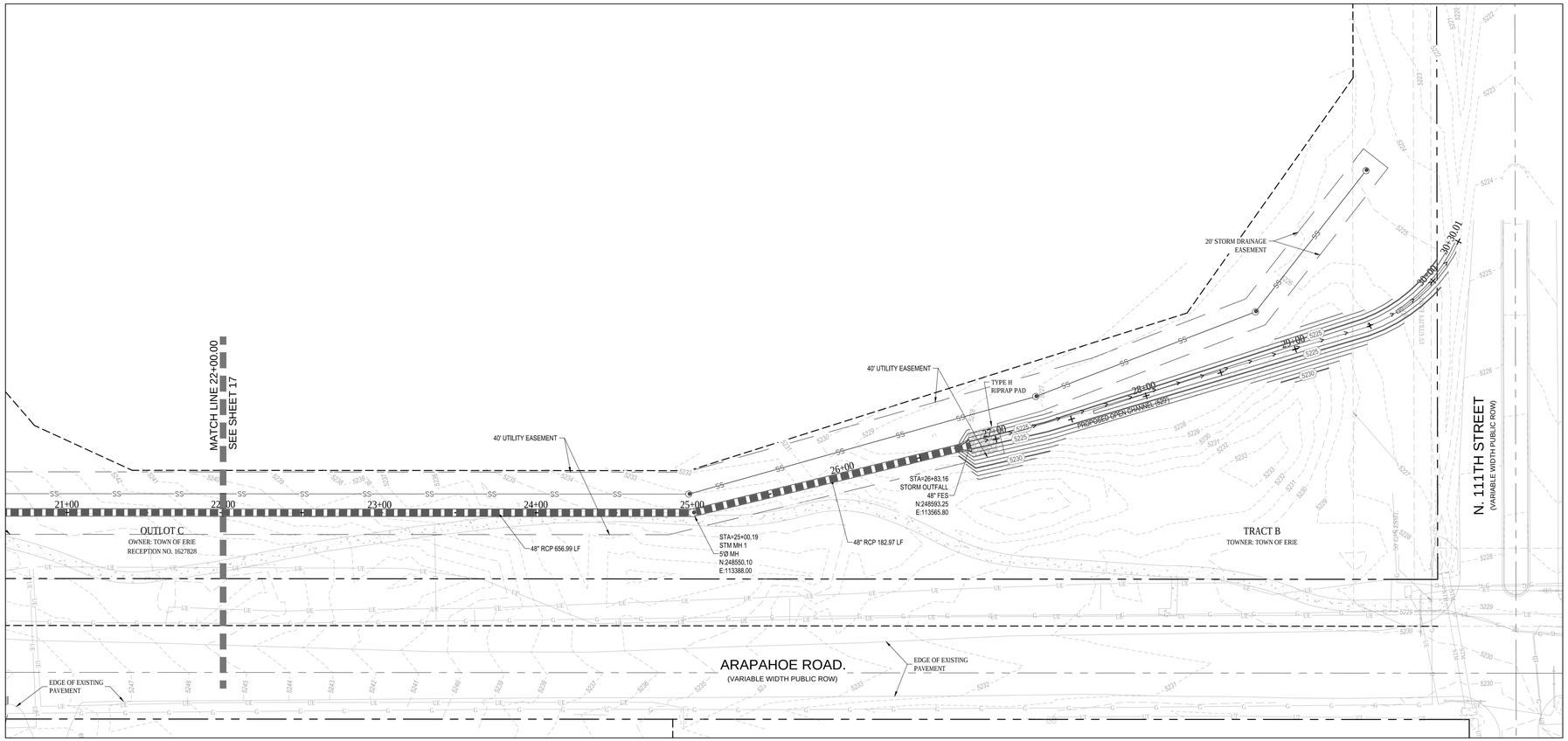
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

STORM SEWER OUTFALL PLAN AND PROFILE

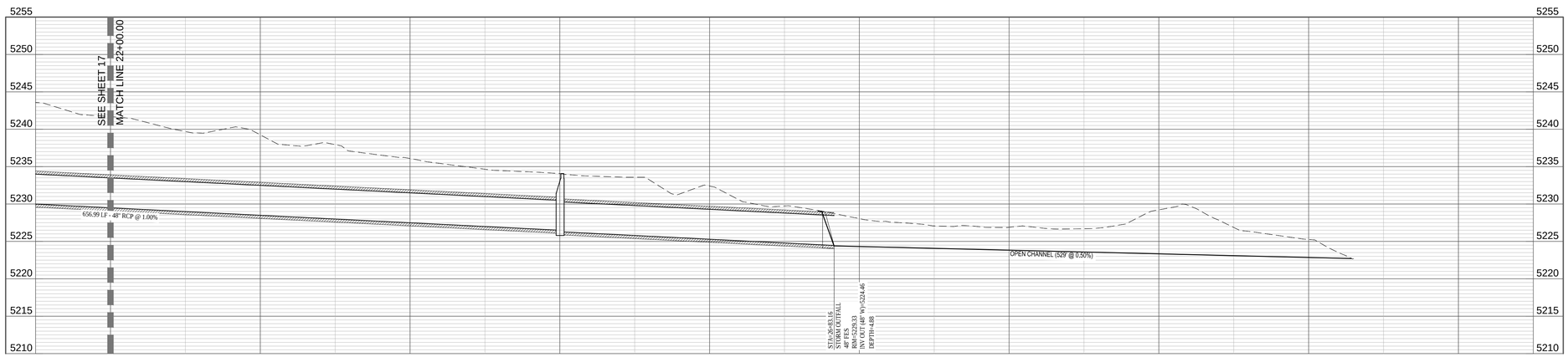
17
OF 38

I:\Evergreen Development\03_Erie EDI000018 - Nine Mile Corner - 287&Arapahoe\CAD\C3D\EDI000018_P_17-18 Storm P&P.dwg - Jon Dooley - 9/27/2017



STORM SEWER PLAN: STA 22+00.00 TO STA 26+83.16

SCALE: 1"=40'



STORM SEWER PROFILE: STA 22+00.00 TO STA 26+83.16

SCALE: 1"=40' HORIZ, 1"=8' VERT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

N

0 20 40

SCALE: 1"=40'

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

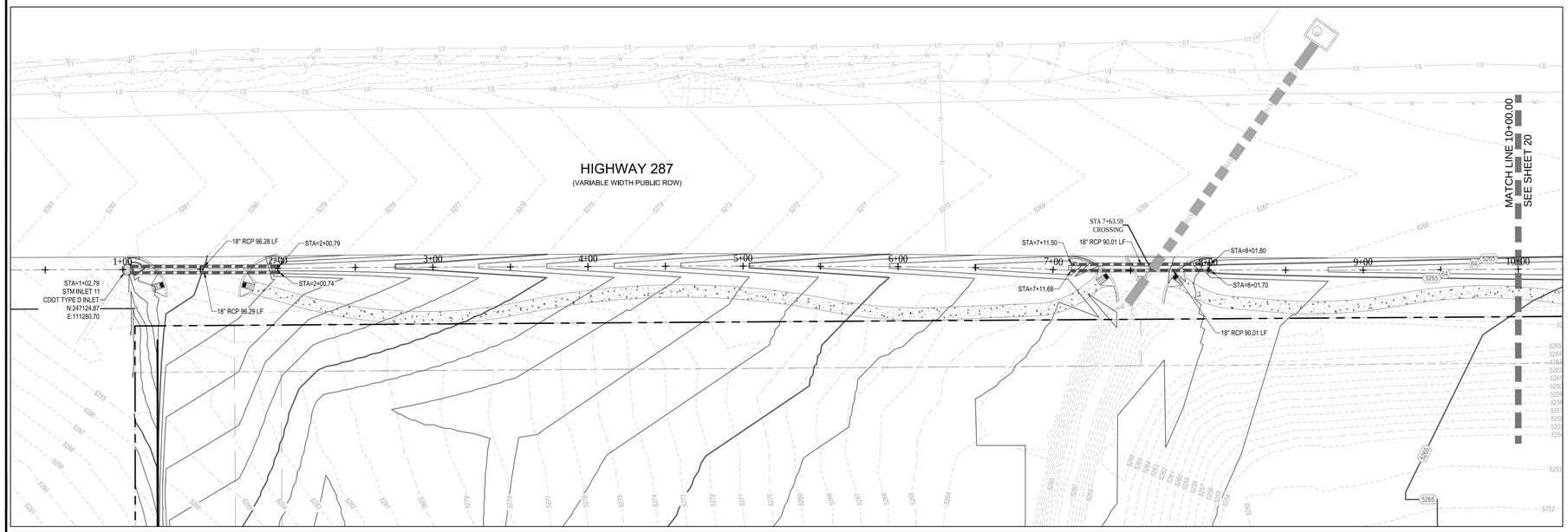
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

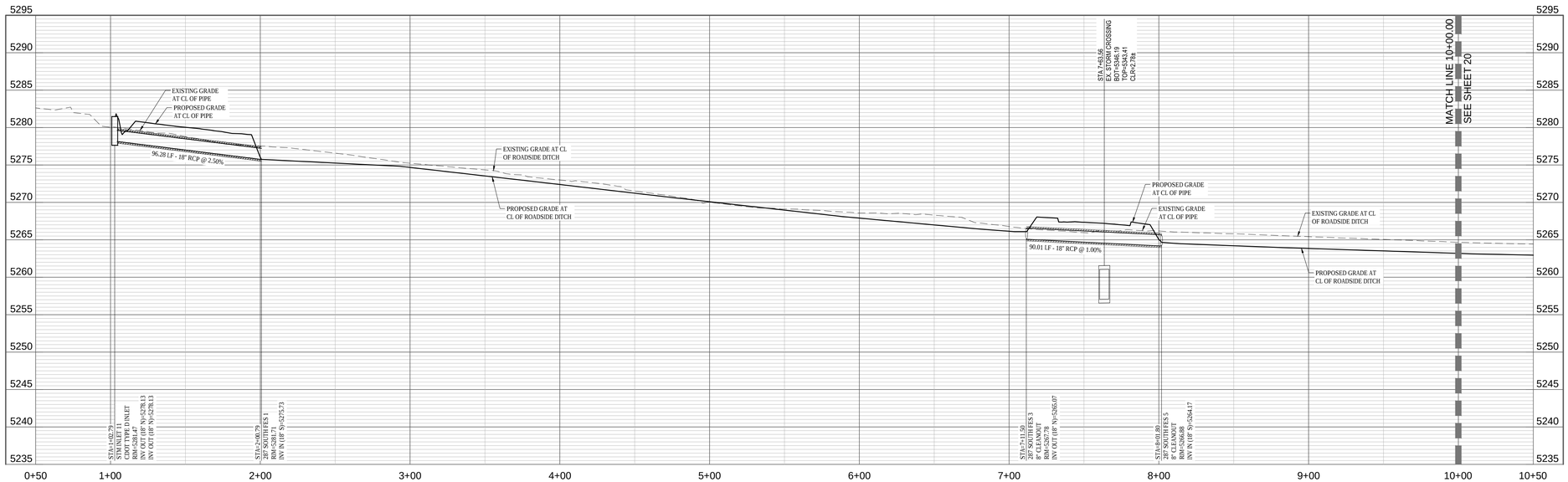
STORM SEWER OUTFALL PLAN AND PROFILE

18
OF 38

W:\Evergreen Development\CO_Erie #EDI000018 - Nine Mile Corner - 287&Arapahoe\CAD\2-Plan\EDI18_P_PLN_Storm Sht P.dwg, Jim Grafe, 9/27/2017



STORM SEWER PLAN: STA 1+00.00 TO STA 10+00.00
SCALE: 1"=40'



STORM SEWER PROFILE: STA 1+00.00 TO STA 10+00.00
SCALE: 1"=40' HORIZ, 1"=8' VERT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

0 20 40
SCALE: 1"=40'

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 N 1/4 CORNER AND MONUMENTED ON THE EAST BY A 2.5" ALUMINUM CAP STAMPED "PLS12409" FOR THE NE CORNER AND IS ASSUMED TO BEAR S 89°58'01" E.

BENCHMARK

ELEVATIONS SHOWN ARE NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

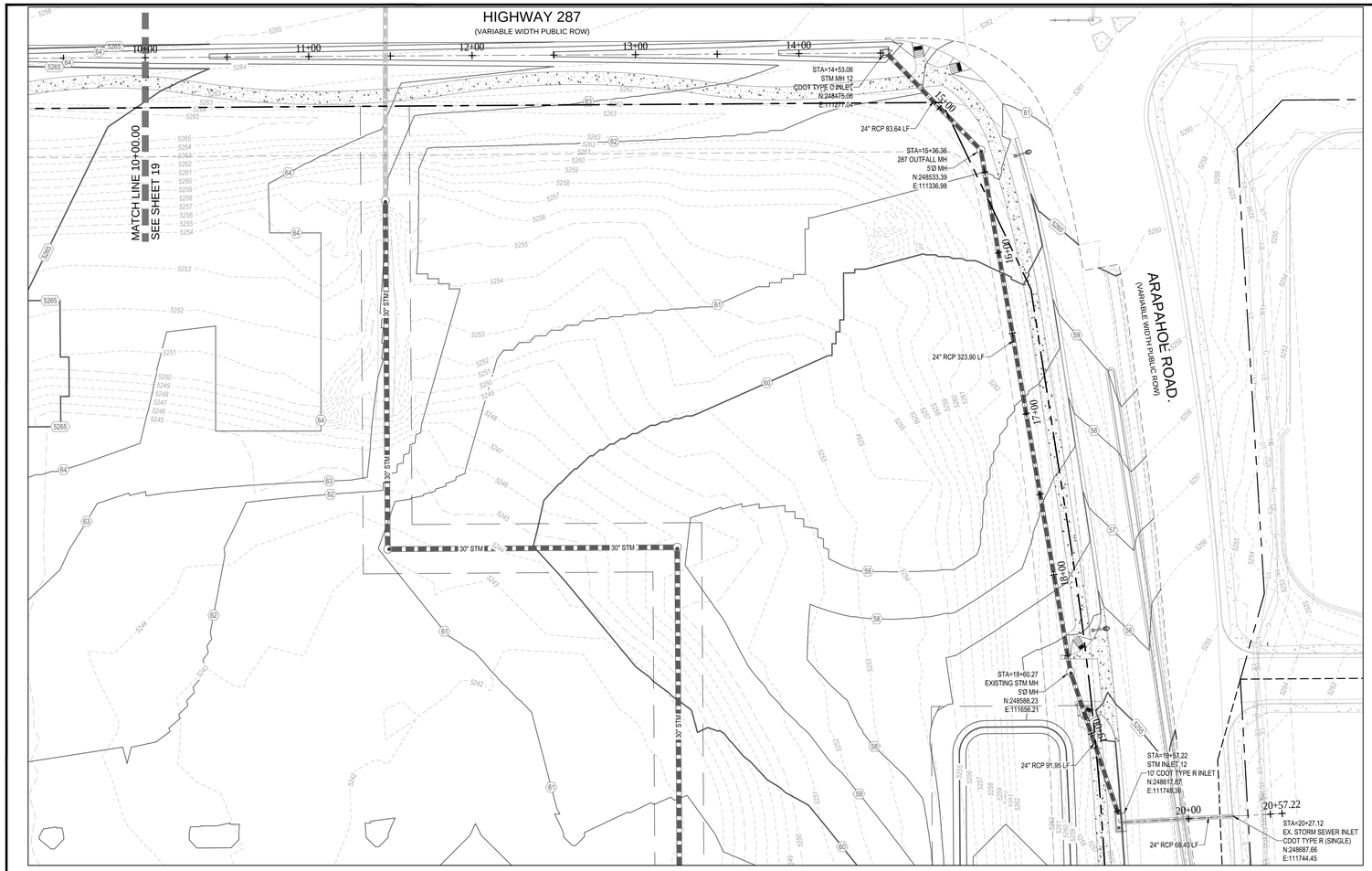
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

HIGHWAY 287 ROADSIDE DRAINAGE SWALE PLAN AND PROFILE

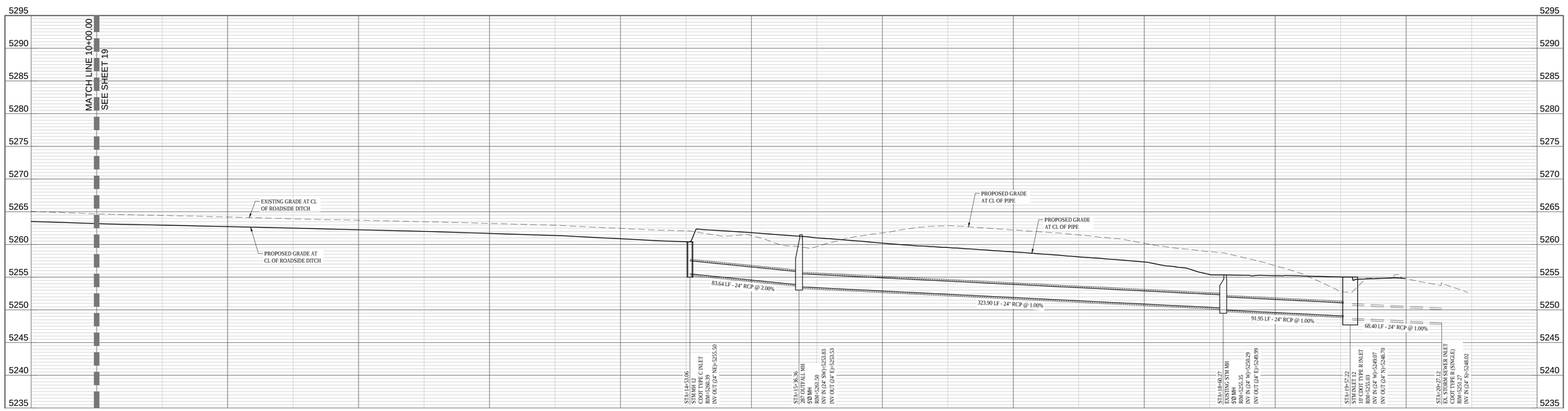
19
OF 38

H:\Evergreen Development\EDI\EDI0018 - Nine Mile Corner_287&Arapahoe\CAD\C3-Plans\EDI18_P_STL3-Storm&SP.dwg, Jim Grafe, 9/27/2017



STORM SEWER PLAN: STA 1+00.00 TO STA 11+50.00

SCALE: 1"=40'



STORM SEWER PROFILE: STA 1+00.00 TO STA 11+50.00

SCALE: 1"=40' HORIZ, 1"=8' VERT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

N

0 20 40

SCALE: 1"=40'

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

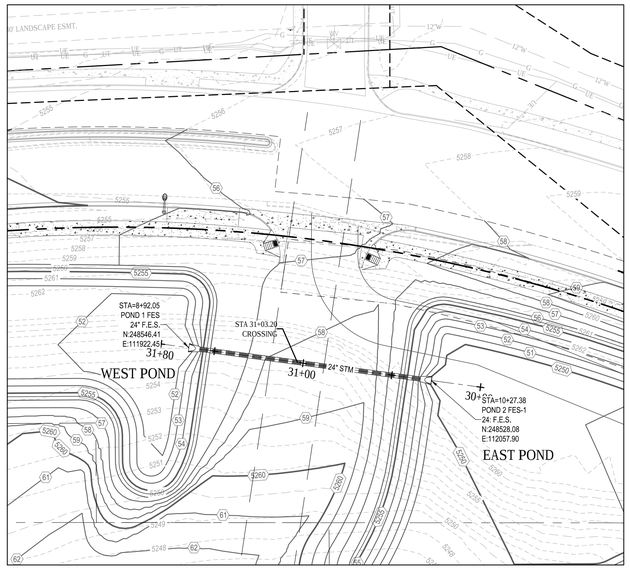
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

HIGHWAY 287 ROADSIDE DRAINAGE SWALE PLAN AND PROFILE

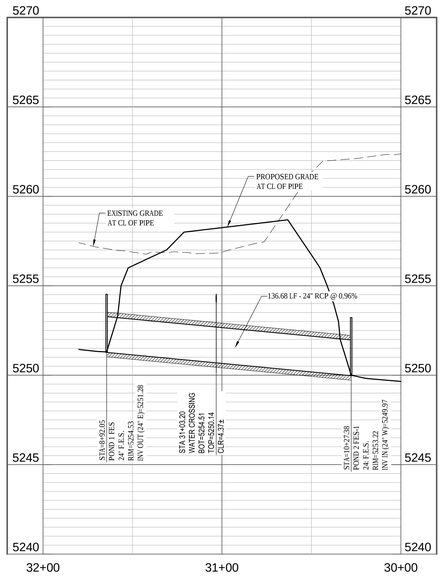
20
OF 38

H:\Evergreen Devco\Nine Mile Corner_3974\Arapahoe\CAD\Civil\EDI018_P_PLN_Storm Roff.dwg, Jim Grafton, 9/27/2017



STORM SEWER PLAN: STA 1+00.00 TO STA 11+50.00

SCALE: 1"=40'



PROFILE EDI18-POND CONNECT: STA 30+00 T0 STA 32+00

STORM SEWER PROFILE: STA 1+00.00 TO STA 11+50.00

SCALE: 1"=40' HORIZ, 1"=8' VERT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

0 20 40

SCALE: 1"=40'

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

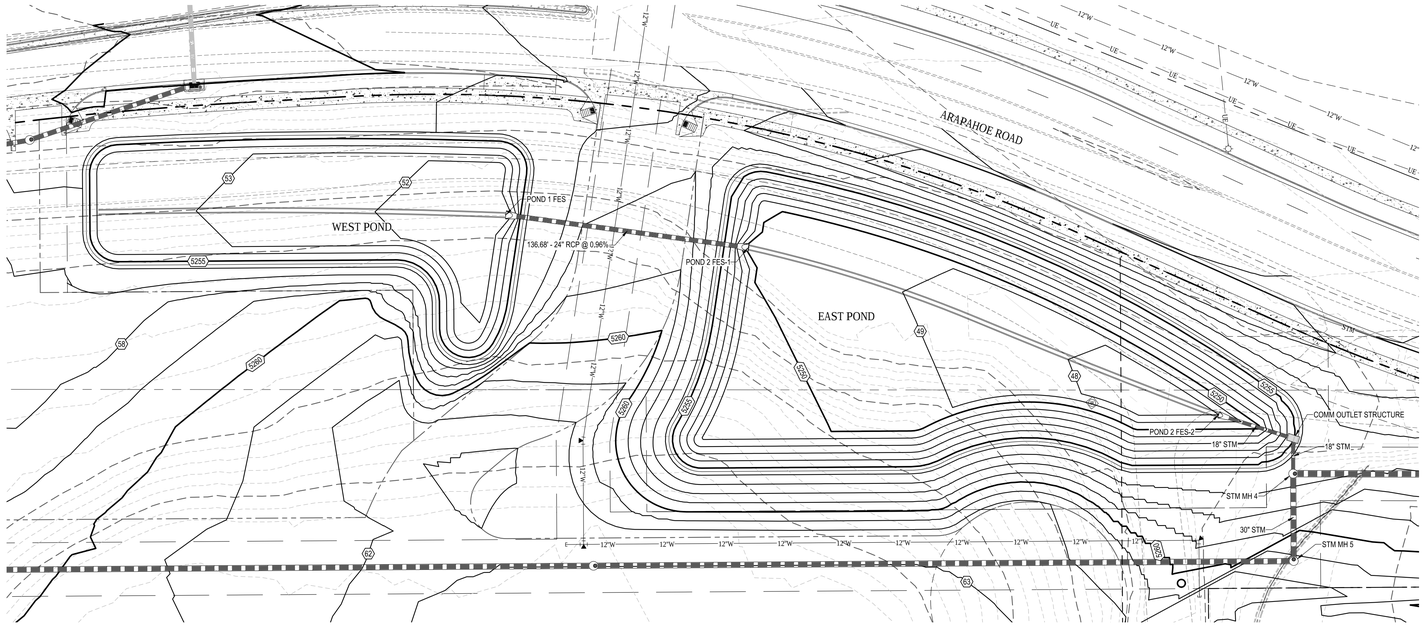
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

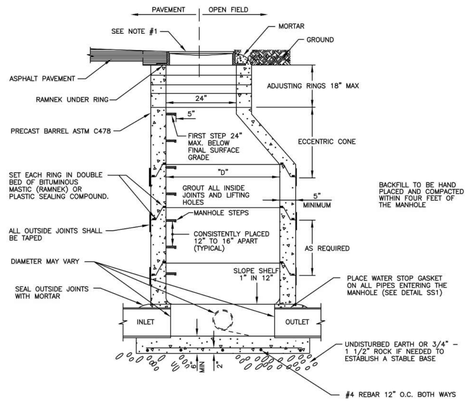
Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

STORM SEWER PLAN & PROFILE
PLAN AND PROFILE

21
OF 38

H:\Evergreen Development\EDI_Erie 870\08\03_Nine Mile Corner_3874\Admin\AC\ACD_Plan\EDI18_P_PLS_Storm SW.dwg, Jim Grafe, 9/27/2017


ARAPAHOE ROAD
WEST POND
EAST POND
POND 1 FES
136.68' - 24" RCP @ 0.96%
POND 2 FES-1
POND 2 FES-2
18" STM
COMM OUTLET STRUCTURE
18" STM
STM MH 4
30" STM
STM MH 5
12"W
UE
STM
M.21
6250
6255
6260
6265
6270
6275
6280
6285
6290
6295
6300
6305
6310
6315
6320
6325
6330
6335
6340
6345
6350
6355
6360
6365
6370
6375
6380
6385
6390
6395
6400
6405
6410
6415
6420
6425
6430
6435
6440
6445



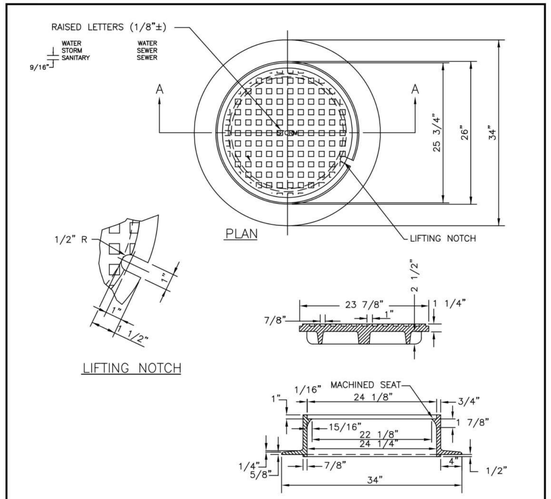
SECTION B–B

NOTES:

1. FINAL GRADE OF MANHOLE COVERS SHALL BE 1/4" LOWER THAN FINAL STREET.
2. STEPS SHOULD NOT BE PLACED OVER THE FLOW. NO STEPS ALLOWED IN THE ADJUSTING RING AREA.
3. PRECAST CONCRETE SECTIONS SHALL CONFORM TO ASTM C–478.
4. BLOCK–OUTS, WHEN APPROVED, SHALL EXTEND A MAX. OF 6" PAST MANHOLE O.D. AND BE SATISFACTORILY PLUGGED AND SEALED.
5. MANHOLES NOT IN ASPHALT OR CONCRETE SHALL BE RAISED 6" ABOVE FINAL GRADE AND A CONCRETE COLLAR INSTALLED WITH A GREEN CARSONITE POST

The Town of ERIE COLORADO

DRAWING TITLE: STANDARD MANHOLE
DRAWING NUMBER: STM8
DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN REV. DATE: 01/2012



SECTION A–A

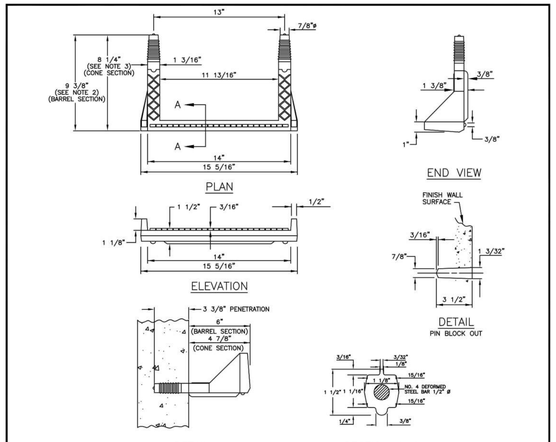
1. CASTING SPECIFICATIONS: ASTM A–48 WITH A MINIMUM TENSILE STRENGTH OF 25 KSI (CLASS 25)
2. ALL CASTINGS TO BE DIPPED IN ASPHALT BASE PAINT (OR APPROVED EQUAL)
3. CASTINGS SHALL BE AS SPECIFIED BELOW OR APPROVED EQUAL:

MANUFACTURERS	CAT. #
NEENAH	R–1706
CASTINGS, INC.	MH–400–24 C.I.
HUTCHINSON FDRY. & STL. INC.	MH–400

4. ALL NEW MANHOLES MUST INCLUDE A PLASTIC OR VINYL TAG ATTACHED TO THE TOP STEP STATING THE FOLLOWING "CAUTION CONFINED SPACE; ENTRY PERMIT REQUIRED.

The Town of ERIE COLORADO

DRAWING TITLE: 24" MANHOLE RING AND COVER
DRAWING NUMBER: STM8A
DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 1/2015



POLYPROPYLENE REINFORCED PLASTIC STEP

NOTES:

1. ASTM SPECIFICATIONS:
   A. ASTM C–478
   B. ASTM A–615 GRADE 60 (STEEL REBAR).
   C. ASTM 2146–69, TYPE III, GRADE 16906 (POLYPROPYLENE).
2. STEPS INSTALLED IN MANHOLE BARREL SECTIONS OR VERTICAL WALLS OF STRUCTURES SHALL HAVE A 9 3/8 INCH LEG AND SHALL PROJECT FROM THE WALL 6 INCHES.
3. STEPS INSTALLED IN MANHOLE CONE SECTIONS SHALL HAVE AN 8 1/4 INCH LEG AND SHALL PROJECT FROM THE WALL 4 7/8 INCHES.
4. ALL STEPS SHALL HAVE A PENETRATION DEPTH INTO THE WALL OF 3 3/8 INCHES.
5. STEPS SHALL BE INSTALLED BY THE "PRESS–FIT" METHOD UTILIZING A SPECIALLY TAPERED PIN TO FORM THE INSERT HOLE AS SHOWN, FOLLOWING MANUFACTURER'S RECOMMENDED PROCEDURE AND SHALL NOT BE GROUTED IN PLACE.
6. INSTALLED STEPS SHALL BE CAPABLE OF WITHSTANDING A PULL OUT FORCE OF 2500 LB. PER LEG FOR A MINIMUM PERIOD OF TWO MINUTES.
7. PINS MUST BE SMOOTH AND CONTINUOUSLY TAPERED. DIMENSIONS OF THE PIN AND THE INSERTED PORTION OF THE MANHOLE STEP ARE TYPICAL ONLY. M.M.D. INSTALLATIONS REQUIRE A MATCHED COMBINATION OF A TAPERED INSERT PIN AMD MANHOLE STEP, AS RECOMMENDED OR REQUIRED BY SPECIFIC MANUFACTURER OF THE STEP TO BE USED.
8. THIS STEP CAN ALSO BE USED IN TOE POCKET INSTALLATIONS PROVIDED 5" TOE CLEARANCE IS ALLOWED.

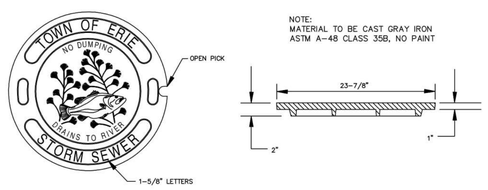
The Town of ERIE COLORADO

DRAWING TITLE: MANHOLE STEPS
DRAWING NUMBER: STM9
DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 06/2004

STORM DRAINAGE CONSTRUCTION NOTES

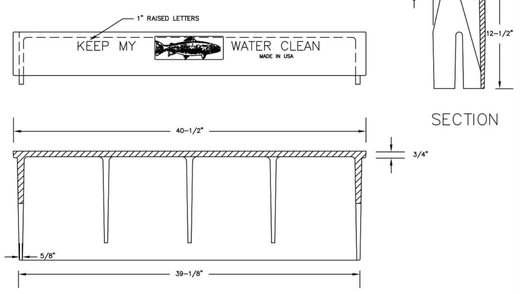
1. ALL STORM DRAINAGE CONSTRUCTION IS SUBJECT TO THE GENERAL NOTES ON THE COVER SHEET OF THESE PLANS, AS WELL AS THE STORM DRAINAGE CONSTRUCTION NOTES LISTED HERE.
2. ALL STORM DRAINAGE PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP) PER ASTM C76, CL III OR CL IV, AND JOINTING SHALL CONFORM TO ASTM C443. PVC (SDR-35), SHALL BE IN ACCORDANCE WITH ASTM D-3034; ANY STORM DRAINAGE PIPE UNDER A PROPOSED OR FUTURE TRAFFIC AREA SHALL BE RCP CL III AS A MINIMUM. RCP TO BE JACKED SHALL BE CL-V AS A MINIMUM.
3. ALL STORM DRAINAGE PIPE SHALL HAVE A MINIMUM COVER OF 24", UNLESS OTHERWISE NOTED. UNDER NO CIRCUMSTANCES WILL ANY PIPE HAVE LESS THAN 18" COVER FROM THE FINISH SURFACE TO THE OUTSIDE WALL OF THE PIPE.
4. ALL STORM DRAINAGE PIPE SHALL BE BEDDED IN ACCORDANCE WITH STANDARD DETAILS INCLUDED AFTER THE STORM SEWER PLAN AND PROFILES OF THE PLAN SET. STORM SEWER PIPE SHALL BE BEDDING CLASS 'B' UNLESS THE GEOTECHNICAL ENGINEER OR CITY ENGINEER DEEM NECESSARY A CHANGE IN BEDDING CLASS DUE TO SOIL CONDITION.
5. ALL STORM DRAINAGE TRENCHES SHALL BE SLOPED OR BRACED AND SHEETED AS NECESSARY, FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES, AND IN COMPLIANCE WITH ALL APPLICABLE STATE AND FEDERAL REQUIREMENTS. ALL EXCAVATION OPERATION SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. ALL MANHOLE RIM ELEVATIONS GIVEN ON THESE PLANS ARE TO BE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL SET THE FINAL RIM ELEVATION BASED ON THE COMPLETED FINISH SURFACE.
7. ALL STORM DRAINAGE PIPES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10' FROM ALL WATER LINES. WHERE LINES CROSS, THERE SHALL BE A MINIMUM OF 18" CLEAR VERTICAL SEPARATION. ANY STORM SEWER LINE ABOVE A WATER LINE SHALL HAVE JOINTS ENCASED IN CONCRETE PER DETAIL ON THIS SHEET IF WITHIN 18" VERTICAL SEPARATION. IF STORM SEWER IS ABOVE WATER LINE AND VERTICAL SEPARATION IS LESS THAN 1.5' THE STORM SEWER SHALL BE FULLY ENCASED IN CONCRETE PER THE APPROPRIATE ENCASEMENT DETAIL.
8. LENGTHS OF STORM SEWER PIPES ARE THE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. THEREFORE, LENGTHS SHOWN ARE APPROXIMATE AND COULD VARY DUE TO VERTICAL ALIGNMENT AND STRUCTURE WIDTHS.
9. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS OF ROOF AND CANOPY DOWNSPOUTS.
10. ASPHALT / ROAD BASE , ETC. (FOR PAVEMENT CONSTRUCTION) TO BE INSTALLED ABOVE STORM PIPE BACKFILL SHALL BE ACCORDING TO GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT.

TYPE R INLET COVER



NOTE:
MATERIAL TO BE CAST GRAY IRON
ASTM A–48 CLASS 35B, NO PAINT

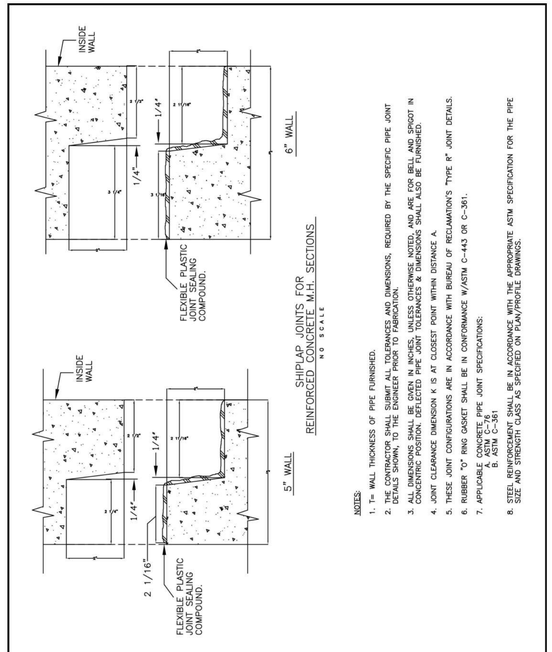
TYPE 13 INLET



SECTION

The Town of ERIE COLORADO

DRAWING TITLE: INLET & INLET COVER
DRAWING NUMBER: STM10
DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 01/2012



SHIPLAP JOINTS FOR REINFORCED CONCRETE M.H. SECTIONS
NO SCALE

NOTES:

1. 'T' = WALL THICKNESS OF PIPE FURNISHED.
2. PIPE MANUFACTURER SHALL FURNISH ALL DIMENSIONS AND DIMENSIONS, REQUIRED BY THE SPECIFIC PIPE JOINT DETAILS SHOWN, TO THE ENGINEER PRIOR TO FABRICATION.
3. ALL DIMENSIONS SHALL BE GIVEN IN INCHES, UNLESS OTHERWISE NOTED, AND ARE FOR BELL AND SPIGOT IN CONCENTRIC POSITION. DEFLECTED PIPE JOINT TOLERANCES & DIMENSIONS SHALL ALSO BE FURNISHED.
4. JOINT CLEARANCE DIMENSION K IS AT CLOSEST POINT WITHIN DISTANCE A.
5. THESE JOINT CONFIGURATIONS ARE IN ACCORDANCE WITH BUREAU OF RECLAMATION'S "TYPE R" JOINT DETAILS.
6. RUBBER "O" RING GASKET SHALL BE IN CONFORMANCE W/ASTM C–443 OR C–361.
7. APPLICABLE CONCRETE PIPE JOINT SPECIFICATIONS:
   A. ASTM C–76
   B. ASTM C–361
8. STEEL REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE APPROPRIATE ASTM SPECIFICATION FOR THE PIPE SIZE AND STRENGTH CLASS AS SPECIFIED ON PLAN/PROFILE DRAWINGS.

The Town of ERIE COLORADO

DRAWING TITLE: CONCRETE PIPE JOINTS – SHIPLAP
DRAWING NUMBER: STM11A (1 OF 2)
DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 01/2012

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

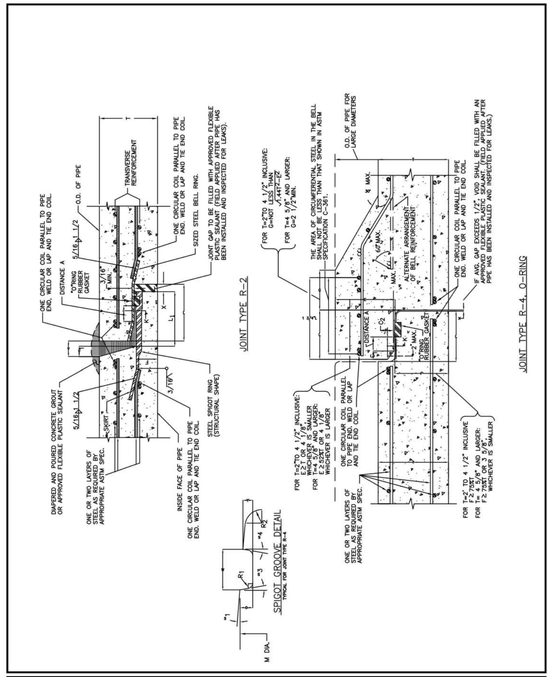
HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

STORM SEWER DETAILS

H:\Evergreen Development\CO\ Est ED000018 - Nine Mile Corner_2018\Asbuilt\CAD\ProjectFiles\18_P_2.2-3-Storm Details.dwg, JH-Cindy - 9/27/2017

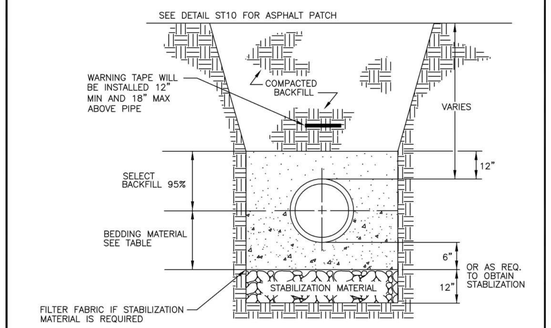


The Town of ERIE COLORADO

DRAWING TITLE: CONCRETE PIPE JOINTS – TYPE "R"

DRAWING NUMBER: STM11B (2 OF 2)

DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 01/2012



BEDDING MATERIAL GRADATION	
SIEVE SIZE	% BY WEIGHT
3/4"	90 – 100
3/8"	20 – 55
NO. 4	0 – 10
NO. 8	0 – 5

NOTES:

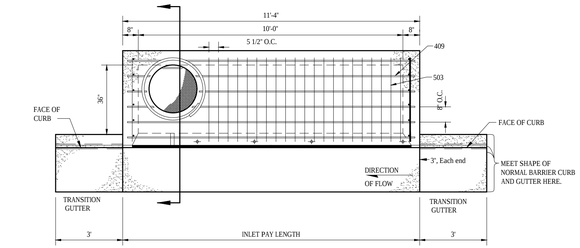
1. FULL TRENCH SECTION IN ROADWAY OR STREET R.O.W. LIMITS WILL REQUIRE 95% S.P.D. TRENCH ZONE ABOVE BEDDING MATERIALS, OUTSIDE OF STREET R.O.W. WILL REQUIRE 90% S.P.D.
2. FILTER FABRIC IS REQUIRED IF STABILIZATION MATERIAL IS USED. THE FABRIC SHALL BE INSTALLED AS SHOWN IN THE DETAIL.
3. TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKMEN AND PROTECTION OF OTHER UTILITIES IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL SAFETY REGULATIONS.
4. PIPE SHALL BE BEDDED FROM 6" BELOW THE BOTTOM OF THE PIPE TO THE HORIZONTAL CENTERLINE OF THE PIPE. SEE TABLE FOR BEDDING MATERIAL GRADATION.
5. TRENCH WIDTH SHALL NOT BE MORE THAN 24" NOR LESS THAN 12" WIDER THAN THE LARGEST OUTSIDE DIAMETER OF THE PIPE.
6. SHOULD THE TRENCH BE EXCAVATED WIDER THAN ALLOWED, A CONCRETE CRADLE SHALL BE PLACED WITH 2500 P.S.I. CONCRETE FROM TRENCH BOTTOM TO PIPE SPRINGLINE.

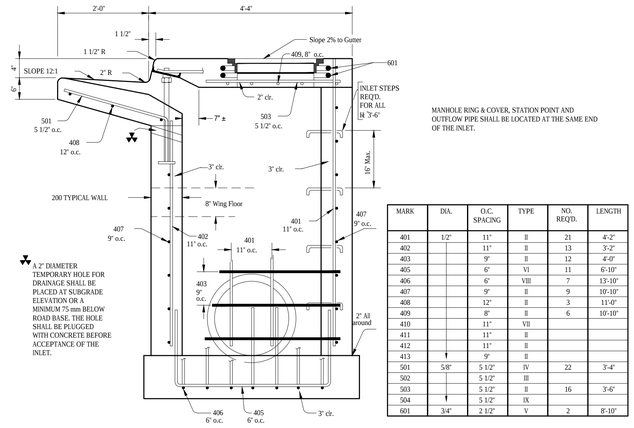
The Town of ERIE COLORADO

DRAWING TITLE: STORM SEWER TRENCH DETAIL

DRAWING NUMBER: STM12

DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN REV. DATE: 01/2012

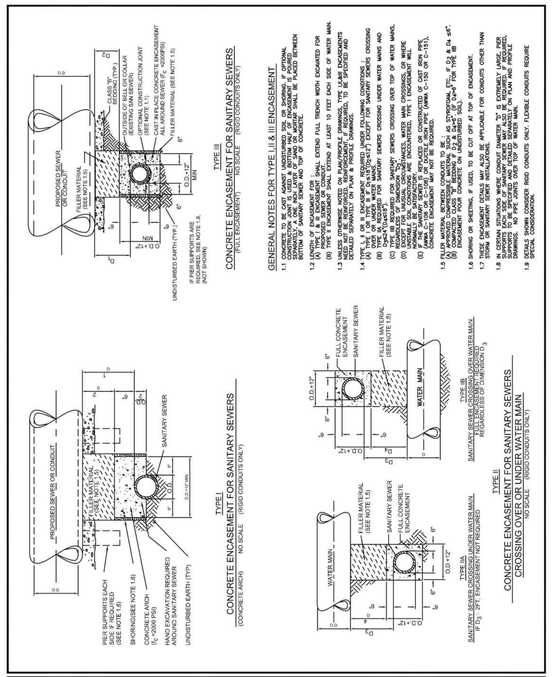




MANHOLE RING & COVER, STATION POINT AND OUTFLOW PIPE SHALL BE LOCATED AT THE SAME END OF THE INLET.

MARK	DIA.	O.C. SPACING	TYPE	NO. REQ'D.	LENGTH
401	1/2"	11"	II	21	4'-2"
402		11"	II	13	3'-2"
403		9"	II	12	4'-0"
405		6"	VI	11	6'-10"
406		6"	VIII	7	13'-10"
407		9"	II	9	10'-10"
408		12"	II	3	11'-0"
409		8"	II	6	10'-10"
410		11"	VII		
411		11"	II		
412		11"	II		
413		9"	II		
501	5/8"	5 1/2"	IV	22	3'-4"
502		5 1/2"	III		
503		5 1/2"	II	16	3'-6"
504		5 1/2"	IX		
601	3/4"	2 1/2"	V	2	8'-10"

SCALE: NOT TO SCALE



GENERAL NOTES FOR TYPE I, II & III ENCASEMENT

1.1 CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI, AIR ENTRAINMENT IS OPTIONAL. CONSTRUCTION JOINT AS USED, A BOTTOM KEY OF ENCASEMENT IS REQUIRED. CONSTRUCTION JOINTS SHALL BE PERPENDICULAR TO THE PIPE AXIS. A KEY SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.

1.2 LOCATION OF ENCASEMENT:
(A) TYPE I & II ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR SANITARY SEWER.
(B) TYPE II ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.

1.3 MINIMUM STRENGTH PIPE: ENCASEMENT SHALL BE USED WHERE SANITARY SEWER PIPE DOES NOT MEET MINIMUM STRENGTH REQUIREMENTS. ADDITIONAL REINFORCEMENT, IF REQUIRED, TO BE SPECIFIED AND DESIGNED BY ENGINEER OF RECORD.

1.4 TYPE I, II, OR III ENCASEMENT REQUIRED UNDER EXISTING CONDITIONS:
(A) TYPE I OR II ENCASEMENT REQUIRED FOR SANITARY SEWERS CROSSING UNDER WATER MAINS AND SERVICE LINES WHERE THE VERTICAL SEPARATION IS LESS THAN 18".
(B) TYPE III ENCASEMENT REQUIRED FOR SANITARY SEWERS CROSSING UNDER WATER MAINS AND SERVICE LINES WHERE THE VERTICAL SEPARATION IS LESS THAN 18".
(C) TYPE III ENCASEMENT FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, SERVICE LINES OR FIRE HYDRANT LEADS.
(D) EXCEPT FOR RIGID CONDUITS, WATER MAIN CROSSINGS, OR WHERE SANITARY SEWER PIPE DOES NOT MEET MINIMUM STRENGTH REQUIREMENTS, SANITARY SEWERS SHALL BE ENCASED IN CONCRETE.
(E) WHERE EXISTING SANITARY SEWERS ARE REPLACED OR CONSTRUCTED OF CAST IRON PIPE, CONCRETE ENCASEMENT SHALL BE REQUIRED. ENCASEMENT SHALL BE DUCTILE IRON PIPE, CONCRETE (AWWA C-150 OR C-151), OR AS APPROVED BY ENGINEER OF RECORD.

1.5 FILLER MATERIAL BETWEEN CONDUITS TO BE:
(A) CONCRETE FOR CONDUITS IN PAVED AREAS AS SYMBOLIZED, $f'_{cr} = f'_c + 2\sigma$ & $\sigma_a = \sigma'$.
(B) EXCAVATED SOILS FOR CONDUITS IN UNPAVED AREAS, $f'_{cr} = f'_c + 2\sigma$ FOR TYPE IB
EXCAVATED FOUR CONCRETE IN PAVED AREAS SHALL.

1.6 SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.

1.7 STEEL OR SYNTHETIC REINFORCEMENT MAY BE REQUIRED FOR CONCRETE ENCASEMENT. SEE STORM DRAINAGE DESIGN AND TECHNICAL CRITERIA FOR MATERIALS AND DESIGN.

1.8 IN VERTICAL SITUATIONS WHERE CONDUIT DIAMETER IS 12" OR EXTREMELY LARGE, PIER SUPPORTS MAY BE REQUIRED TO SUPPORT CONDUIT DURING CONCRETE PLACEMENT. SEE STORM DRAINAGE DESIGN AND TECHNICAL CRITERIA FOR PLAN AND PROFILE DETAILS. PIER POINTS OVER TOP OF WATER MAIN.

1.9 DETAILS SHOWN CONSIDER RIGID CONDUITS ONLY. FLEXIBLE CONDUITS REQUIRE SPECIAL CONSIDERATION.

The Town of ERIE COLORADO

DRAWING TITLE: CONCRETE ENCASEMENT OF RIGID CONDUITS

DRAWING NUMBER: STM13A (1 OF 2)

DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 06/2004

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com
©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

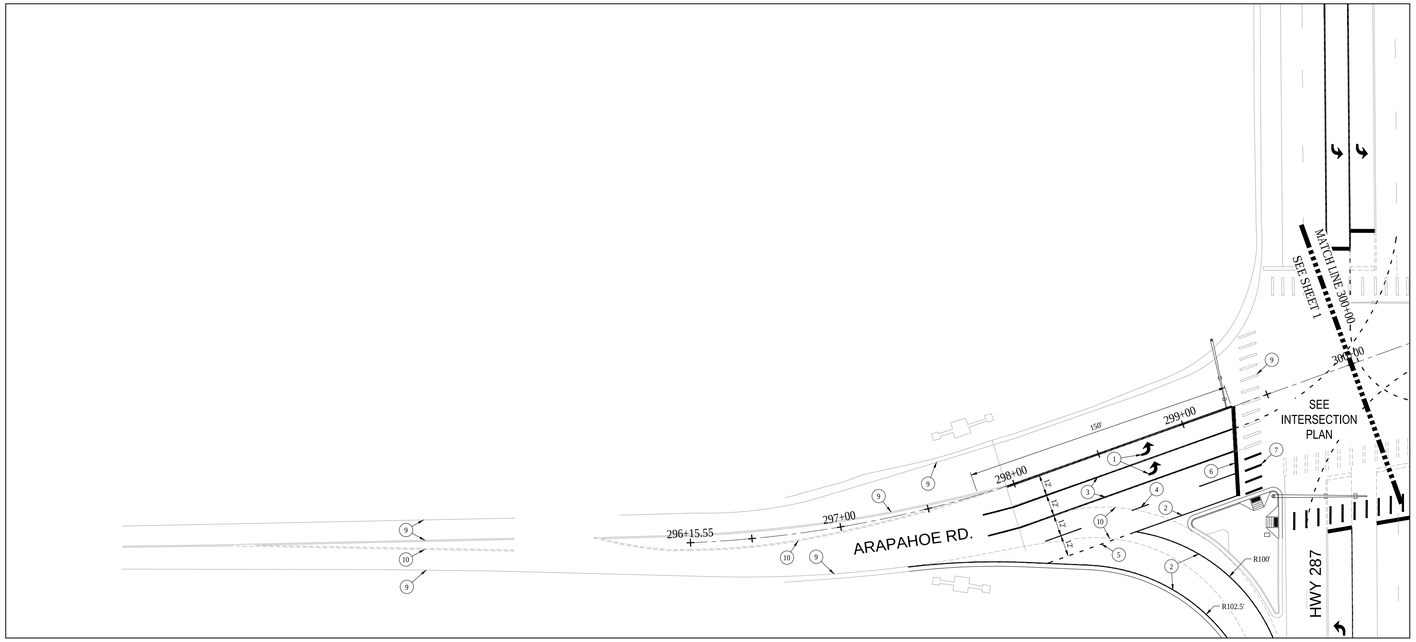
HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

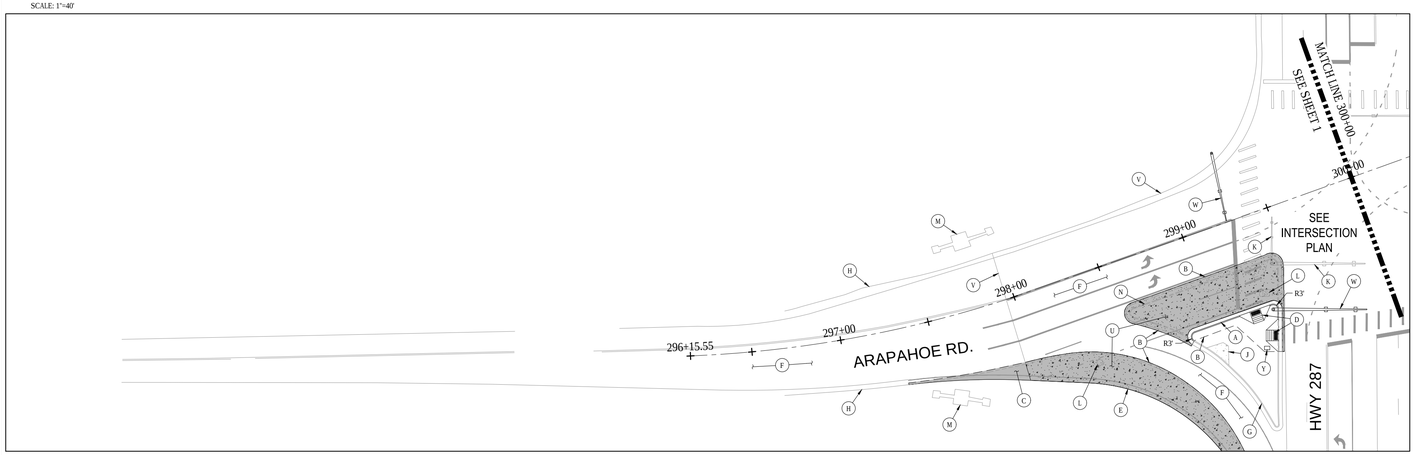
STORM SEWER DETAILS

H:\Evergreen Development\CO\1 Erie EDI000018 - Nine Mile Corner_2016\Aeppelfeld\CAD\1 Plan\ST\16_P_13-24-Storm Details.dwg, Jim Cordry, 9/27/2017



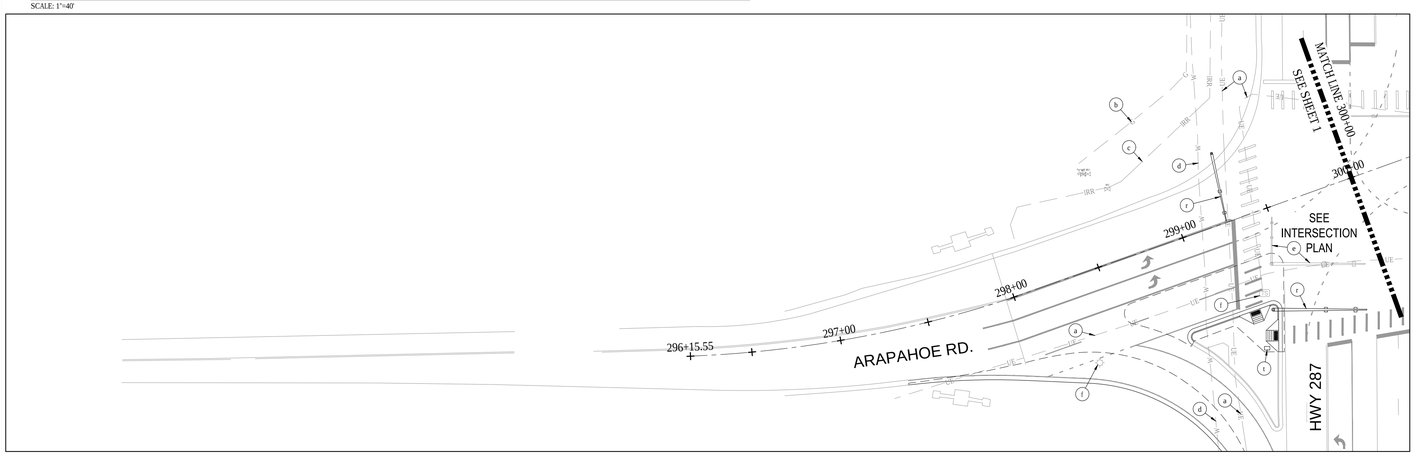
ARAPAHOE ROAD SIGNAGE & STRIPING PLAN: STA 296+15.55 TO STA 300+00.00

SCALE: 1"=40'



ARAPAHOE ROAD HORIZONTAL CONTROL & PAVING PLAN: STA 296+15.55 TO STA 300+00.00

SCALE: 1"=40'

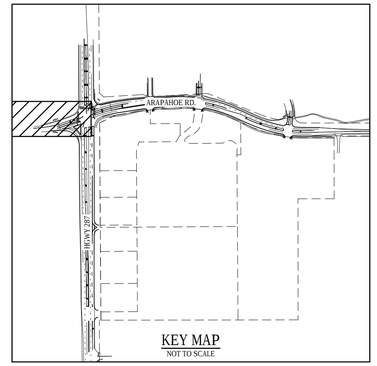


ARAPAHOE ROAD UTILITY PLAN: STA 296+15.55 TO STA 300+00.00

SCALE: 1"=40'

SIGNAGE & STRIPING SCHEDULE

1. PROPOSED LEFT TURN SYMBOL, WHITE
2. PROPOSED 4" WIDE SOLID LINE, WHITE
3. PROPOSED 8" WIDE SOLID LINE, WHITE
4. PROPOSED 4" WIDE SKIP LANE LINE, WHITE
5. PROPOSED 4" WIDE DOTTED EXTENTION LINE, WHITE
6. PROPOSED 24" WIDE STOP BAR, WHITE
7. PROPOSED CROSSWALK STRIPING PER M.U.T.C.D., WHITE
8. PROPOSED 4" DOUBLE SOLID YELLOW LINES
9. EXISTING PAVEMENT MARKING TO REMAIN
10. EXISTING PAVEMENT MARKING TO BE REMOVED
11. PROPOSED "ONLY" TEXT, WHITE
12. PROPOSED "STOP" SIGN
13. PROPOSED "ONE WAY" SIGN
14. PROPOSED 4" WIDE SOLID LINE, YELLOW
15. PROPOSED 8" WIDE DOTTED EXTENSION LINE, WHITE
16. PROPOSED RIGHT TURN SYMBOL, WHITE
17. EXISTING "STOP" SIGN TO REMAIN
18. PROPOSED "RIGHT LANE MUST TURN RIGHT" SIGN
19. PROPOSED BUS STOP SIGN. BUS STOP LOCATION TO BE CONFIRMED WITH RTD



ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

PAVING PLAN SCHEDULE

A. PROPOSED CURB AND GUTTER
B. PROPOSED SAWCUT
C. PROPOSED ASPHALT PAVEMENT
D. PROPOSED ADA RAMP
E. PROPOSED EDGE OF CONCRETE
F. EXISTING ROADWAY PAVEMENT TO REMAIN
G. EXISTING CURB AND GUTTER TO REMAIN
H. EXISTING EDGE OF ASPHALT TO REMAIN
J. EXISTING ADA RAMP TO REMAIN
K. EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
L. EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
M. EXISTING MONUMENT TO REMAIN
N. EXISTING CURB AND GUTTER TO BE REMOVED
O. PROPOSED SIDEWALK
P. EXISTING INLET TO REMAIN
Q. EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
R. EXISTING STREET LIGHT TO REMAIN
S. EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
T. EXISTING SIDEWALK TO REMAIN
U. PROPOSED CONCRETE PAVEMENT
V. EXISTING EDGE OF CONCRETE TO REMAIN
W. PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
X. PROPOSED STAMPED CONCRETE MEDIAN TO MATCH EXISTING
Y. PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
Z. PROPOSED 8-FT WIDE CONCRETE CROSSPAN
AA. PROPOSED RIP RAP
BB. PROPOSED ASPHALT MILL AND OVERLAY

UTILITY PLAN SCHEDULE

a. EXISTING UNDERGROUND ELECTRIC TO REMAIN
b. EXISTING GAS LINE TO REMAIN
c. EXISTING IRRIGATION LINE TO REMAIN
d. EXISTING WATER MAIN TO REMAIN
e. EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
f. EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
g. PROPOSED STORM SEWER INLET (SEE STORM SEWER PLAN & PROFILES)
h. EXISTING STORM SEWER INLET TO REMAIN
i. EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
j. EXISTING STREET LIGHT TO REMAIN
k. EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
l. PROPOSED STORM SEWER (SEE STORM SEWER PLAN & PROFILES)
m. EXISTING SANITARY MANHOLE TO REMAIN
n. PROPOSED SANITARY SEWER (SEE SANITARY SEWER PLAN & PROFILES)
o. PROPOSED WATER LINE (SEE WATER PLAN)
p. EXISTING STORM SEWER TO REMAIN
q. EXISTING UNDERGROUND TELEPHONE LINE TO REMAIN
r. PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
s. EXISTING 24-INCH STORM SEWER TO REMAIN
t. PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
u. PROPOSED STREET LIGHT. 250-WATT HIGH PRESSURE SODIUM, 35-FT IN HEIGHT.
v. EXISTING STORM SEWER MANHOLE TO REMAIN

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

N

0 20 40

SCALE: 1"=40'

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

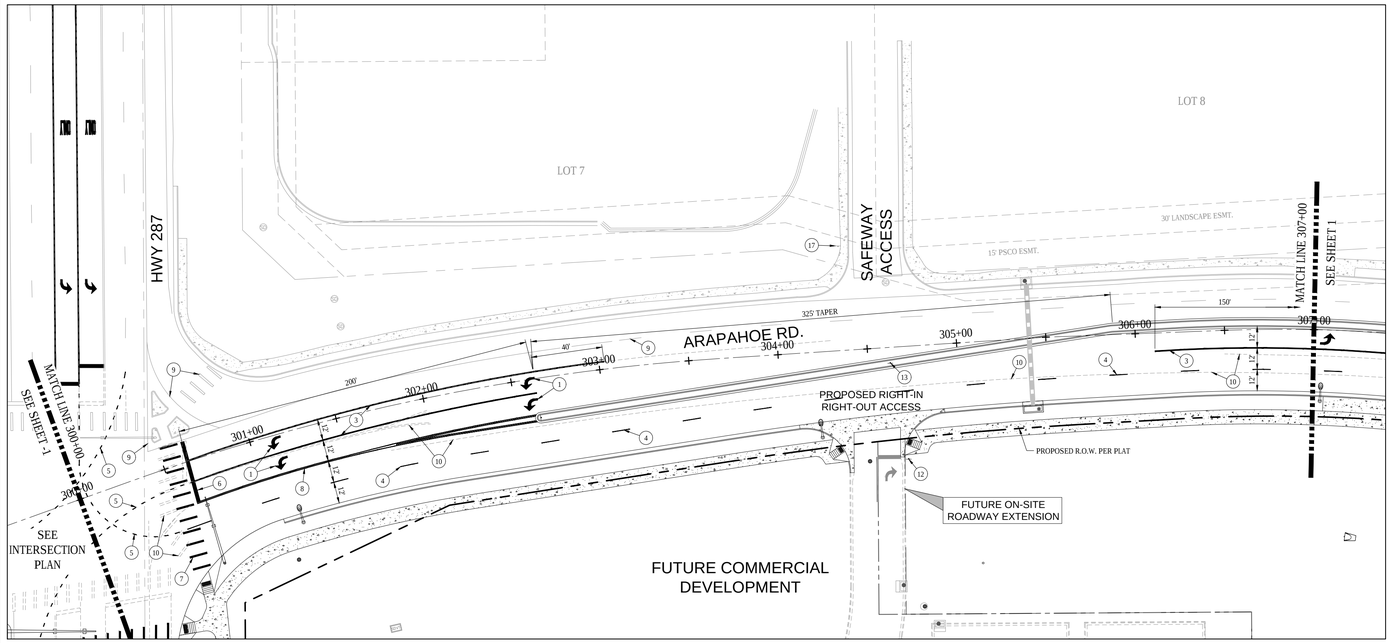
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	ED#000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

ARAPAHOE ROAD
SITE PLAN

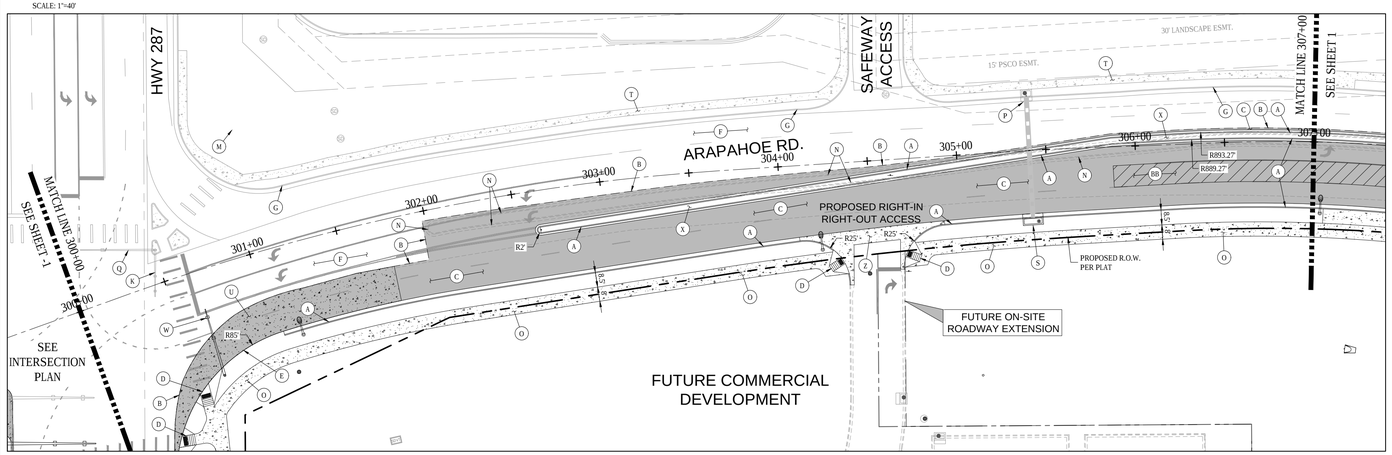
25
OF 38

H:\Evergreen Development\ED_Erie ED#000018 - Nine Mile Corner_287&Arapahoe\CAD\Layout\Erie\ARAPAHOE RD_P_25-28.dwg Bill Rice, Party - Jim Corley - 9/27/2017



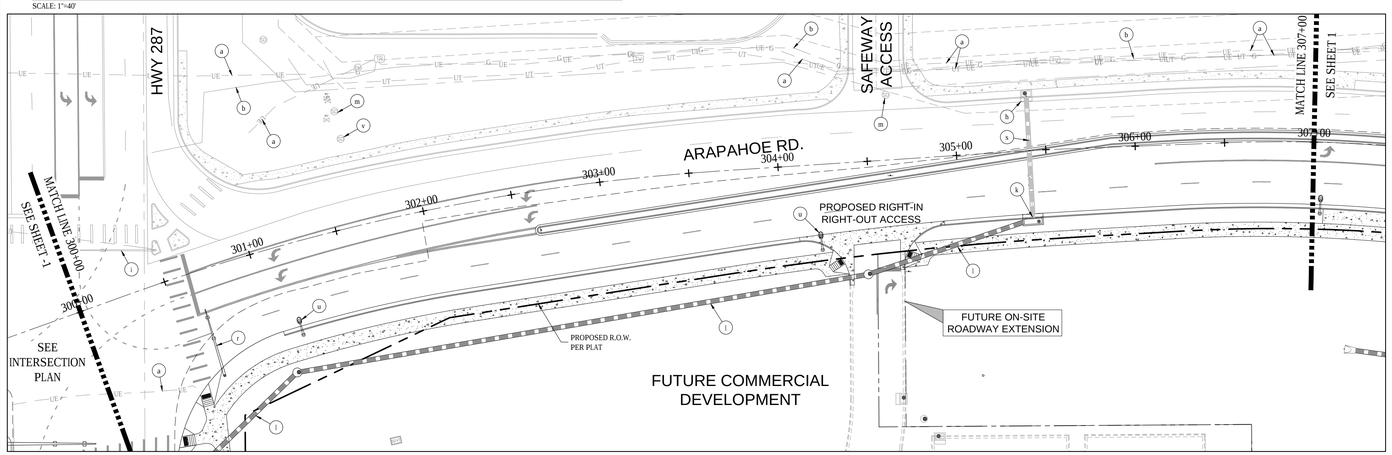
ARAPAHOE ROAD SIGNAGE & STRIPING PLAN: STA 300+00.00 TO STA 307+00.00

SCALE: 1"=40'



ARAPAHOE ROAD HORIZONTAL CONTROL & PAVING PLAN: STA 300+00.00 TO STA 307+00.00

SCALE: 1"=40'



ARAPAHOE ROAD UTILITY PLAN: STA 300+00.00 TO STA 307+00.00

SCALE: 1"=40'

SIGNAGE & STRIPING SCHEDULE

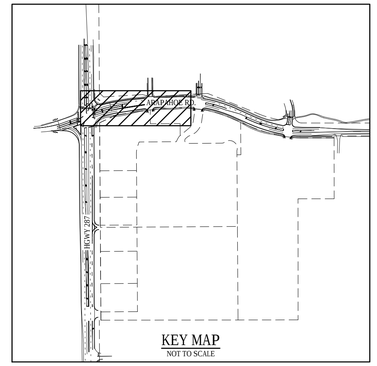
1. PROPOSED LEFT TURN SYMBOL, WHITE
2. PROPOSED 4" WIDE SOLID LINE, WHITE
3. PROPOSED 8" WIDE SOLID LINE, WHITE
4. PROPOSED 4" WIDE SKIP LANE LINE, WHITE
5. PROPOSED 4" WIDE DOTTED EXTENTION LINE, WHITE
6. PROPOSED 24" WIDE STOP BAR, WHITE
7. PROPOSED CROSSWALK STRIPING PER M.U.T.C.D., WHITE
8. PROPOSED 4" DOUBLE SOLID YELLOW LINES
9. EXISTING PAVEMENT MARKING TO REMAIN
10. EXISTING PAVEMENT MARKING TO BE REMOVED
11. PROPOSED "ONLY" TEXT, WHITE
12. PROPOSED "STOP" SIGN
13. PROPOSED "ONE WAY" SIGN
14. PROPOSED 4" WIDE SOLID LINE, YELLOW
15. PROPOSED 8" WIDE DOTTED EXTENSION LINE, WHITE
16. PROPOSED RIGHT TURN SYMBOL, WHITE
17. EXISTING "STOP" SIGN TO REMAIN
18. PROPOSED "RIGHT LANE MUST TURN RIGHT" SIGN
19. PROPOSED BUS STOP SIGN. BUS STOP LOCATION TO BE CONFIRMED WITH RTD

PAVING PLAN SCHEDULE

A. PROPOSED CURB AND GUTTER
B. PROPOSED SAWCUT
C. PROPOSED ASPHALT PAVEMENT
D. PROPOSED ADA RAMP
E. PROPOSED EDGE OF CONCRETE
F. EXISTING ROADWAY PAVEMENT TO REMAIN
G. EXISTING CURB AND GUTTER TO REMAIN
H. EXISTING EDGE OF ASPHALT TO REMAIN
J. EXISTING ADA RAMP TO REMAIN
K. EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
L. EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
M. EXISTING MONUMENT TO REMAIN
N. EXISTING CURB AND GUTTER TO BE REMOVED
O. PROPOSED SIDEWALK
P. EXISTING INLET TO REMAIN
Q. EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
R. EXISTING STREET LIGHT TO REMAIN
S. EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
T. EXISTING SIDEWALK TO REMAIN
U. PROPOSED CONCRETE PAVEMENT
V. EXISTING EDGE OF CONCRETE TO REMAIN
W. PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
X. PROPOSED STAMPED CONCRETE MEDIAN TO MATCH EXISTING
Y. PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
Z. PROPOSED 8-FT WIDE CONCRETE CROSSPAN
AA. PROPOSED RIP RAP
BB. PROPOSED ASPHALT MILL AND OVERLAY

UTILITY PLAN SCHEDULE

a. EXISTING UNDERGROUND ELECTRIC TO REMAIN
b. EXISTING GAS LINE TO REMAIN
c. EXISTING IRRIGATION LINE TO REMAIN
d. EXISTING WATER MAIN TO REMAIN
e. EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
f. EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
g. PROPOSED STORM SEWER INLET (SEE STORM SEWER PLAN & PROFILES)
h. EXISTING STORM SEWER INLET TO REMAIN
i. EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
j. EXISTING STREET LIGHT TO REMAIN
k. EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
l. PROPOSED STORM SEWER (SEE STORM SEWER PLAN & PROFILES)
m. EXISTING SANITARY MANHOLE TO REMAIN
n. PROPOSED SANITARY SEWER (SEE SANITARY SEWER PLAN & PROFILES)
o. PROPOSED WATER LINE (SEE WATER PLAN)
p. EXISTING STORM SEWER TO REMAIN
q. EXISTING UNDERGROUND TELEPHONE LINE TO REMAIN
r. PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
s. EXISTING 24-INCH STORM SEWER TO REMAIN
t. PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
u. PROPOSED STREET LIGHT. 250-WATT HIGH PRESSURE SODIUM, 35-FT IN HEIGHT.
v. EXISTING STORM SEWER MANHOLE TO REMAIN



ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

N

0 20 40

SCALE: 1"=40'

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

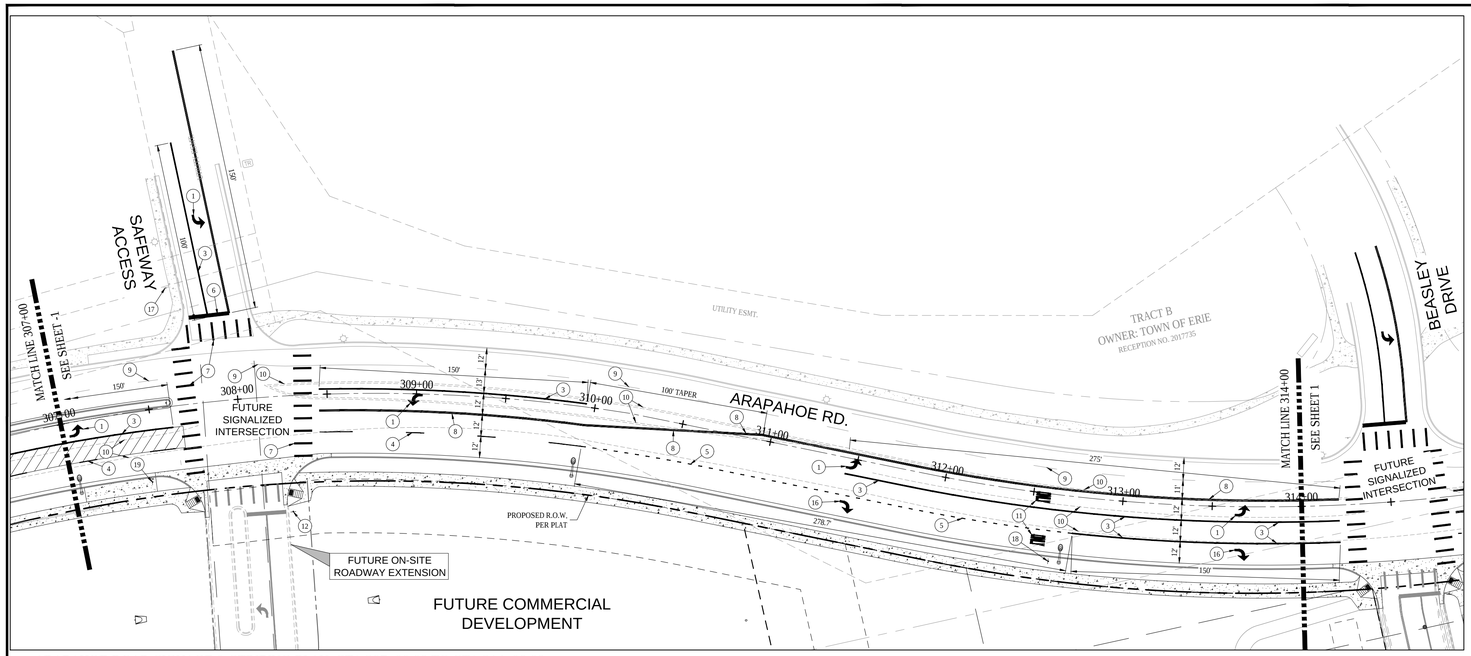
HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

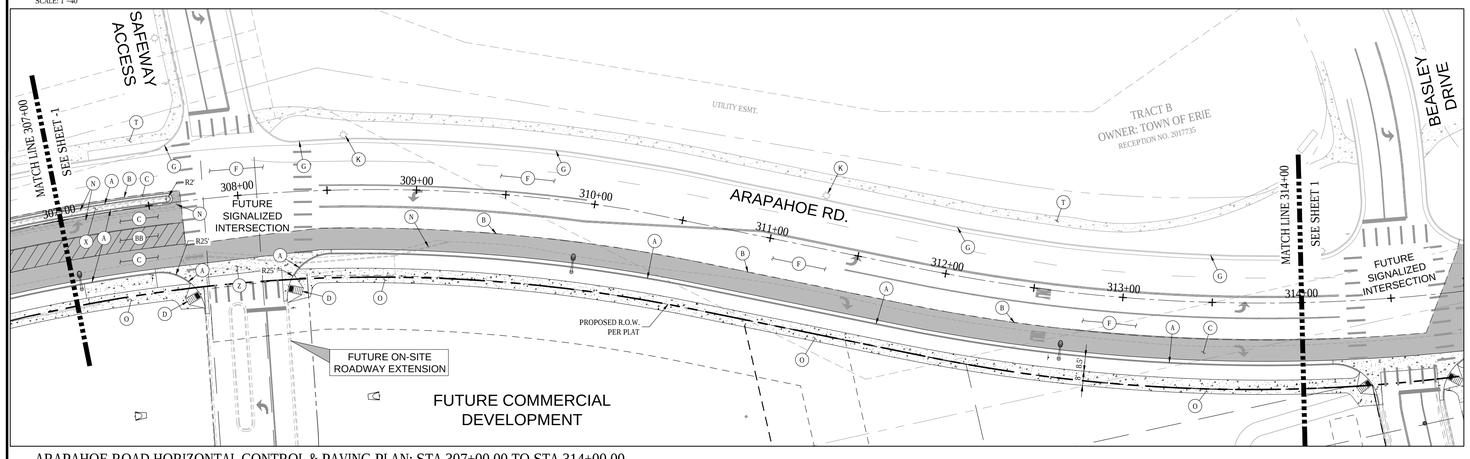
ARAPAHOE ROAD
SITE PLAN

W:\Engineer Dwelling\evergreen\CD_Erie #2000018 - Nine Mile Corner - 287&Arapahoe\CAD\CD Plans\2018_6_25_26-Area Rd Plan.dwg, Jim Dudley, 6/7/2017



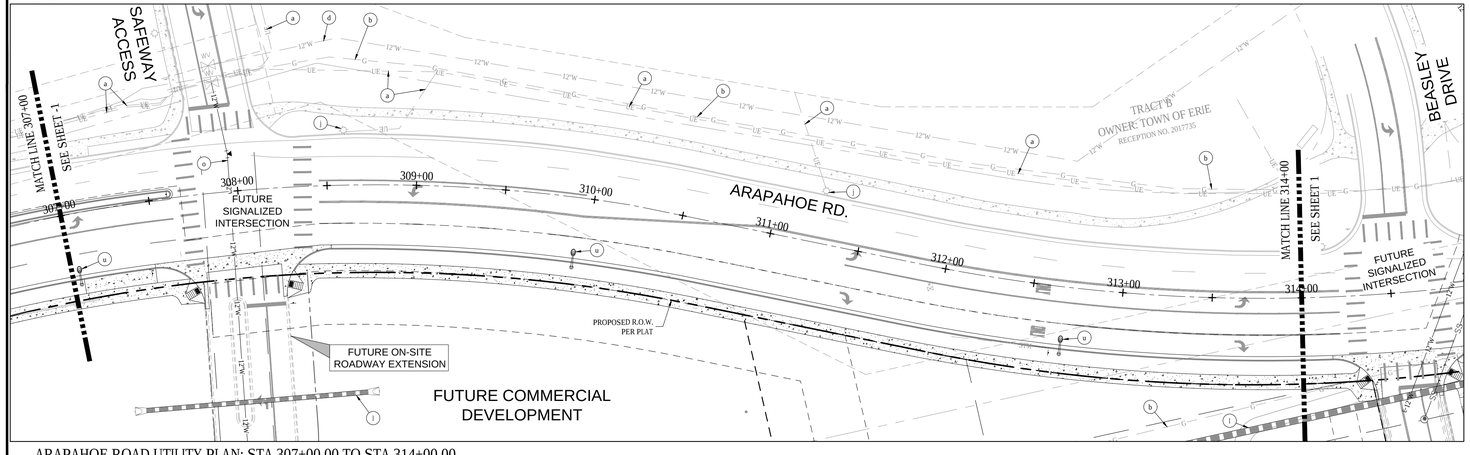
ARAPAHOE ROAD SIGNAGE & STRIPING PLAN: STA 307+00.00 TO STA 314+00.00

SCALE: 1"=40'



ARAPAHOE ROAD HORIZONTAL CONTROL & PAVING PLAN: STA 307+00.00 TO STA 314+00.00

SCALE: 1"=40'



ARAPAHOE ROAD UTILITY PLAN: STA 307+00.00 TO STA 314+00.00

SCALE: 1"=40'

SIGNAGE & STRIPING SCHEDULE

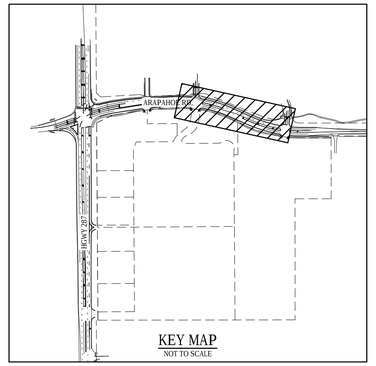
1. PROPOSED LEFT TURN SYMBOL, WHITE
2. PROPOSED 4" WIDE SOLID LINE, WHITE
3. PROPOSED 8" WIDE SOLID LINE, WHITE
4. PROPOSED 4" WIDE SKIP LANE LINE, WHITE
5. PROPOSED 4" WIDE DOTTED EXTENTION LINE, WHITE
6. PROPOSED 24" WIDE STOP BAR, WHITE
7. PROPOSED CROSSWALK STRIPING PER M.U.T.C.D., WHITE
8. PROPOSED 4" DOUBLE SOLID YELLOW LINES
9. EXISTING PAVEMENT MARKING TO REMAIN
10. EXISTING PAVEMENT MARKING TO BE REMOVED
11. PROPOSED "ONLY" TEXT, WHITE
12. PROPOSED "STOP" SIGN
13. PROPOSED "ONE WAY" SIGN
14. PROPOSED 4" WIDE SOLID LINE, YELLOW
15. PROPOSED 8" WIDE DOTTED EXTENSION LINE, WHITE
16. PROPOSED RIGHT TURN SYMBOL, WHITE
17. EXISTING "STOP" SIGN TO REMAIN
18. PROPOSED "RIGHT LANE MUST TURN RIGHT" SIGN
19. PROPOSED BUS STOP SIGN. BUS STOP LOCATION TO BE CONFIRMED WITH RTD

PAVING PLAN SCHEDULE

- A PROPOSED CURB AND GUTTER
- B PROPOSED SAWCUT
- C PROPOSED ASPHALT PAVEMENT
- D PROPOSED ADA RAMP
- E PROPOSED EDGE OF CONCRETE
- F EXISTING ROADWAY PAVEMENT TO REMAIN
- G EXISTING CURB AND GUTTER TO REMAIN
- H EXISTING EDGE OF ASPHALT TO REMAIN
- J EXISTING ADA RAMP TO REMAIN
- K EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
- L EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
- M EXISTING MONUMENT TO REMAIN
- N EXISTING CURB AND GUTTER TO BE REMOVED
- O PROPOSED SIDEWALK
- P EXISTING INLET TO REMAIN
- Q EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
- R EXISTING STREET LIGHT TO REMAIN
- S EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
- T EXISTING SIDEWALK TO REMAIN
- U PROPOSED CONCRETE PAVEMENT
- V EXISTING EDGE OF CONCRETE TO REMAIN
- W PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
- X PROPOSED STAMPED CONCRETE MEDIAN TO MATCH EXISTING
- Y PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
- Z PROPOSED 8-FT WIDE CONCRETE CROSSPAN
- AA PROPOSED RIP RAP
- BB PROPOSED ASPHALT MILL AND OVERLAY

UTILITY PLAN SCHEDULE

- a EXISTING UNDERGROUND ELECTRIC TO REMAIN
- b EXISTING GAS LINE TO REMAIN
- c EXISTING IRRIGATION LINE TO REMAIN
- d EXISTING WATER MAIN TO REMAIN
- e EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
- f EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
- g PROPOSED STORM SEWER INLET (SEE STORM SEWER PLAN & PROFILES)
- h EXISTING STORM SEWER INLET TO REMAIN
- i EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
- j EXISTING STREET LIGHT TO REMAIN
- k EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
- l PROPOSED STORM SEWER (SEE STORM SEWER PLAN & PROFILES)
- m EXISTING SANITARY MANHOLE TO REMAIN
- n PROPOSED SANITARY SEWER (SEE SANITARY SEWER PLAN & PROFILES)
- o PROPOSED WATER LINE (SEE WATER PLAN)
- p EXISTING STORM SEWER TO REMAIN
- q EXISTING UNDERGROUND TELEPHONE LINE TO REMAIN
- r PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
- s EXISTING 24-INCH STORM SEWER TO REMAIN
- t PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
- u PROPOSED STREET LIGHT. 250-WATT HIGH PRESSURE SODIUM, 35-FT IN HEIGHT.
- v EXISTING STORM SEWER MANHOLE TO REMAIN



ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

N

20 0 40

SCALE: 1"=40'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

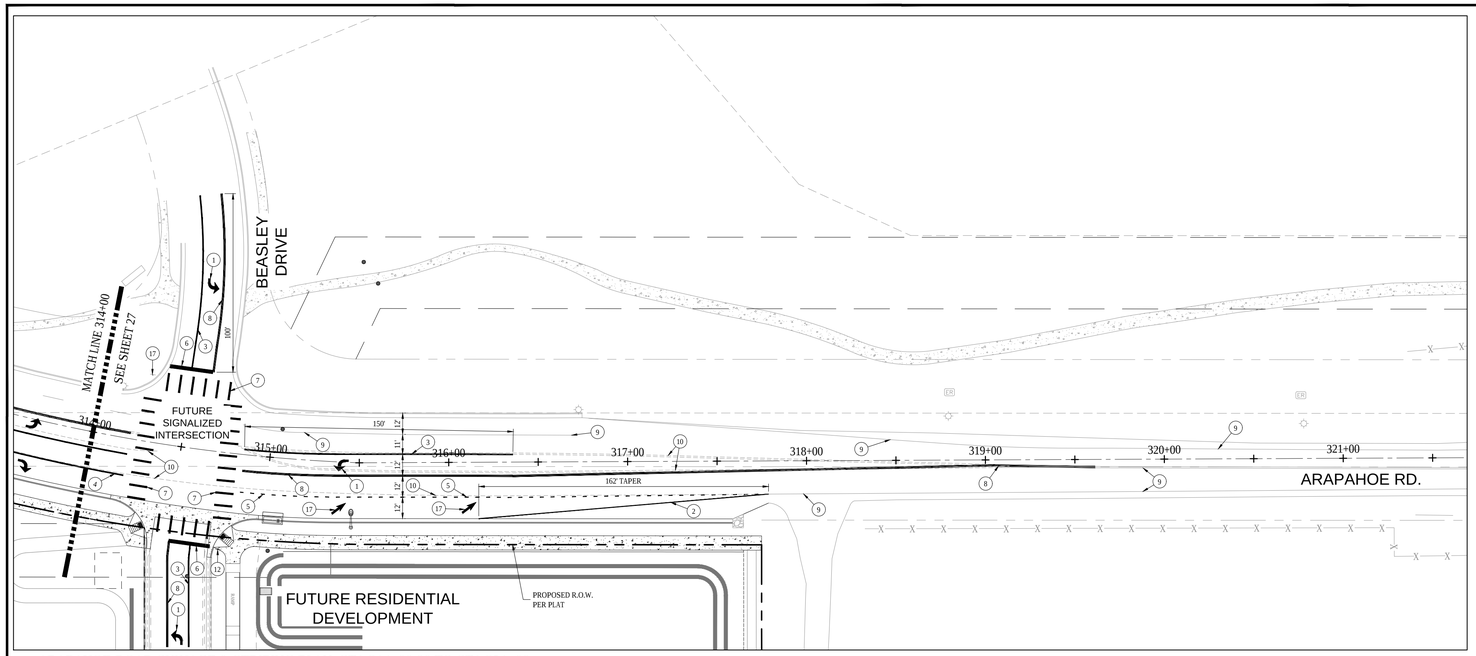
HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

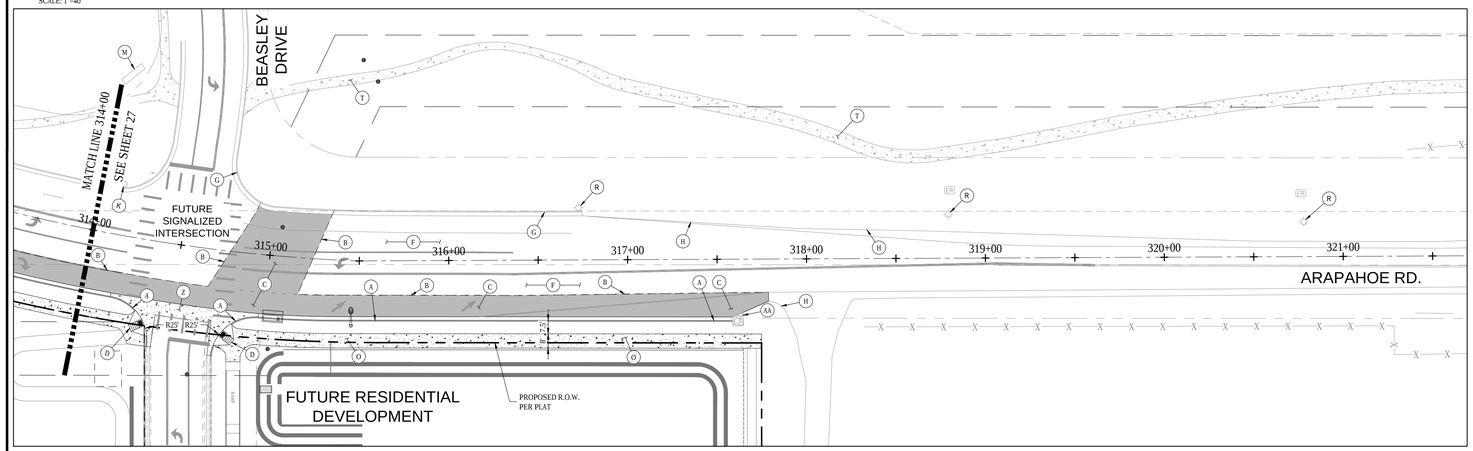
ARAPAHOE ROAD
SITE PLAN

H:\Evergreen Development\CO\1. Erie EDI000018 - Nine Mile Corner - 287&Arapahoe\CAD\3.Road\EDI018_P_23x36 Area Brd Plan Hwy - Jim Crofts - 9272017



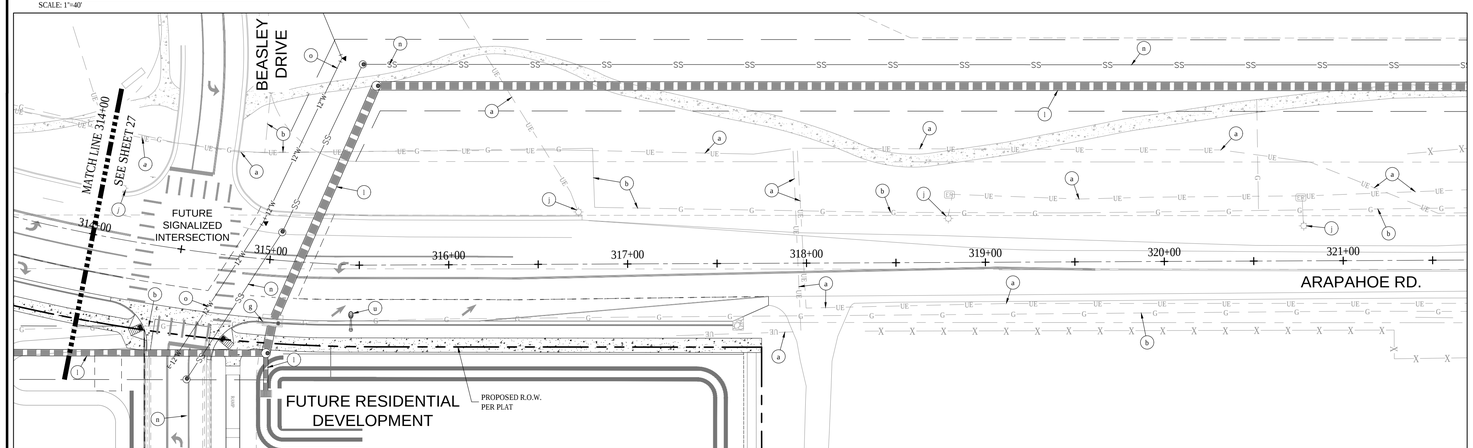
ARAPAHOE ROAD SIGNAGE & STRIPING PLAN: STA 314+00.00 TO STA 321+00

SCALE: 1"=40'



ARAPAHOE ROAD HORIZONTAL CONTROL & PAVING PLAN: STA 314+00.00 TO STA 321+00

SCALE: 1"=40'

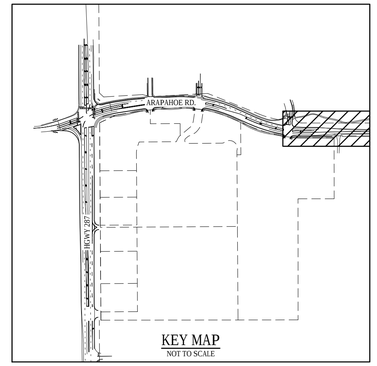


ARAPAHOE ROAD UTILITY PLAN: STA 314+00.00 TO STA 321+00

SCALE: 1"=40'

SIGNAGE & STRIPING SCHEDULE

1. PROPOSED LEFT TURN SYMBOL, WHITE
2. PROPOSED 4" WIDE SOLID LINE, WHITE
3. PROPOSED 8" WIDE SOLID LINE, WHITE
4. PROPOSED 4" WIDE SKIP LANE LINE, WHITE
5. PROPOSED 4" WIDE DOTTED EXTENTION LINE, WHITE
6. PROPOSED 24" WIDE STOP BAR, WHITE
7. PROPOSED CROSSWALK STRIPING PER M.U.T.C.D., WHITE
8. PROPOSED 4" DOUBLE SOLID YELLOW LINES
9. EXISTING PAVEMENT MARKING TO REMAIN
10. EXISTING PAVEMENT MARKING TO BE REMOVED
11. PROPOSED "ONLY" TEXT, WHITE
12. PROPOSED "STOP" SIGN
13. PROPOSED "ONE WAY" SIGN
14. PROPOSED 4" WIDE SOLID LINE, YELLOW
15. PROPOSED 8" WIDE DOTTED EXTENSION LINE, WHITE
16. PROPOSED RIGHT TURN SYMBOL, WHITE
17. EXISTING "STOP" SIGN TO REMAIN
18. PROPOSED "RIGHT LANE MUST TURN RIGHT" SIGN
19. PROPOSED BUS STOP SIGN. BUS STOP LOCATION TO BE CONFIRMED WITH RTD



ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

PAVING PLAN SCHEDULE

A. PROPOSED CURB AND GUTTER
B. PROPOSED SAWCUT
C. PROPOSED ASPHALT PAVEMENT
D. PROPOSED ADA RAMP
E. PROPOSED EDGE OF CONCRETE
F. EXISTING ROADWAY PAVEMENT TO REMAIN
G. EXISTING CURB AND GUTTER TO REMAIN
H. EXISTING EDGE OF ASPHALT TO REMAIN
J. EXISTING ADA RAMP TO REMAIN
K. EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
L. EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
M. EXISTING MONUMENT TO REMAIN
N. EXISTING CURB AND GUTTER TO BE REMOVED
O. PROPOSED SIDEWALK
P. EXISTING INLET TO REMAIN
Q. EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
R. EXISTING STREET LIGHT TO REMAIN
S. EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
T. EXISTING SIDEWALK TO REMAIN
U. PROPOSED CONCRETE PAVEMENT
V. EXISTING EDGE OF CONCRETE TO REMAIN
W. PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
X. PROPOSED STAMPED CONCRETE MEDIAN TO MATCH EXISTING
Y. PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
Z. PROPOSED 8-FT WIDE CONCRETE CROSSPAN
AA. PROPOSED RIP RAP
BB. PROPOSED ASPHALT MILL AND OVERLAY

UTILITY PLAN SCHEDULE

a. EXISTING UNDERGROUND ELECTRIC TO REMAIN
b. EXISTING GAS LINE TO REMAIN
c. EXISTING IRRIGATION LINE TO REMAIN
d. EXISTING WATER MAIN TO REMAIN
e. EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
f. EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
g. PROPOSED STORM SEWER INLET (SEE STORM SEWER PLAN & PROFILES)
h. EXISTING STORM SEWER INLET TO REMAIN
i. EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
j. EXISTING STREET LIGHT TO REMAIN
k. EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
l. PROPOSED STORM SEWER (SEE STORM SEWER PLAN & PROFILES)
m. EXISTING SANITARY MANHOLE TO REMAIN
n. PROPOSED SANITARY SEWER (SEE SANITARY SEWER PLAN & PROFILES)
o. PROPOSED WATER LINE (SEE WATER PLAN)
p. EXISTING STORM SEWER TO REMAIN
q. EXISTING UNDERGROUND TELEPHONE LINE TO REMAIN
r. PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
s. EXISTING 24-INCH STORM SEWER TO REMAIN
t. PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
u. PROPOSED STREET LIGHT. 250-WATT HIGH PRESSURE SODIUM, 35-FT IN HEIGHT.
v. EXISTING STORM SEWER MANHOLE TO REMAIN

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

N

0 20 40

SCALE: 1"=40'

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

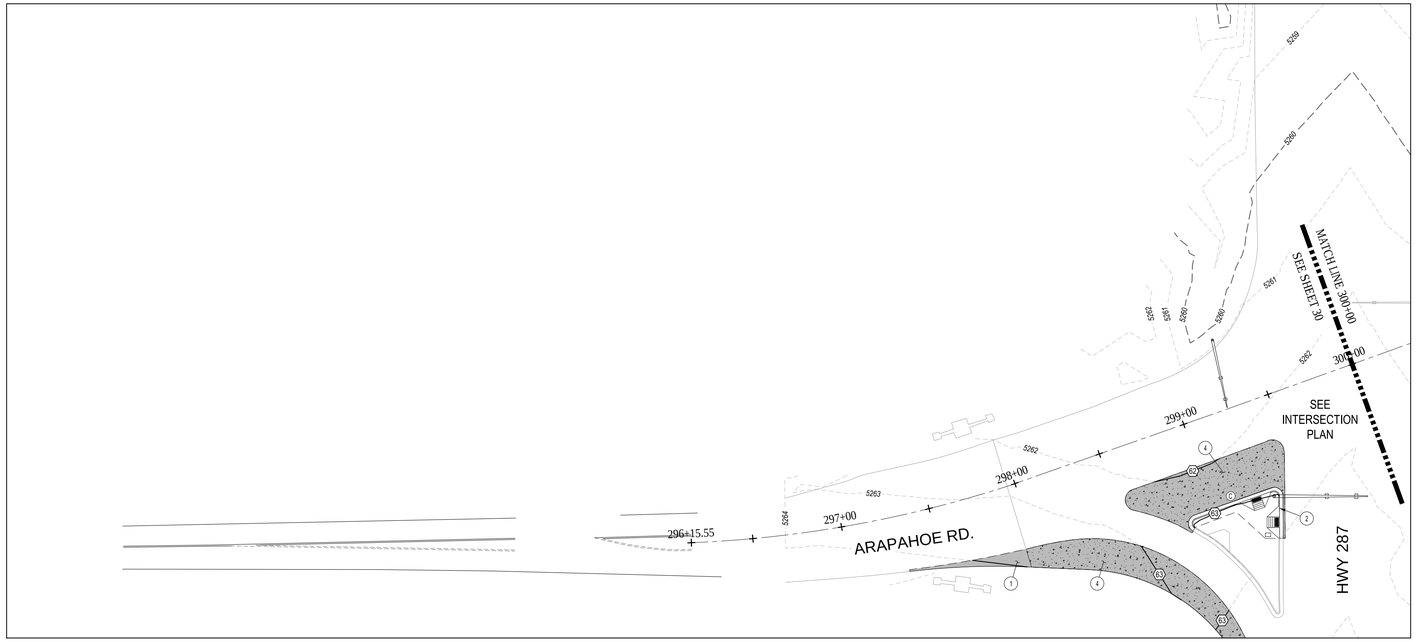
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

ARAPAHOE ROAD
SITE PLAN

28
OF 38

H:\Evergreen Development\CO\...\Nine Mile Corner - 30734\Amethyst\CAD\CD Plots\EDI018_P_2x36 Arapa Blvd Striping.dwg - Jim Shelby - 9/27/2017

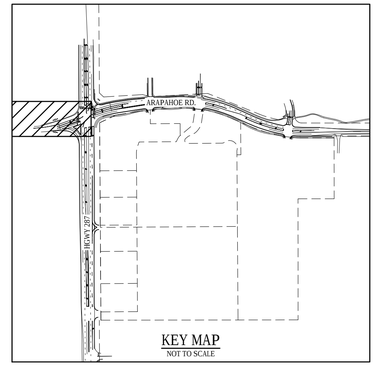


ARAPAHOE ROAD GRADING PLAN: STA 296+15.55 TO STA 300+00.00

SCALE: 1"=40'

GRADING SCHEDULE

1. PROPOSED HEAVY DUTY ASPHALT PAVEMENT
2. PROPOSED CURB AND GUTTER
3. PROPOSED SIDEWALK
4. PROPOSED CONCRETE PAVEMENT
5. PROPOSED ASPHALT MILL AND OVERLAY



KEY MAP
NOT TO SCALE

ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

GRADING LEGEND

5839	EXISTING MINOR CONTOUR
5840	EXISTING MAJOR CONTOUR
39	PROPOSED MINOR CONTOUR
5440	PROPOSED MAJOR CONTOUR
	PROPOSED GRADE BREAK
40.0	PROPOSED SPOT ELEVATION
40.5 40.0	PROPOSED TOP OF CURB ELEVATION PROPOSED FLOWLINE ELEVATION
FF	FINISHED FLOOR
TC	TOP OF CURB
TOS	TOP OF SIDEWALK
TOSL	TOP OF SLOPE
TOF	TOP OF FOOTER
FL	FLOWLINE
FG	FINISHED GRADE
HP	HIGH POINT
LP	LOW POINT
ME	MATCH EXISTING
GB	GRADE BREAK
Ⓒ	CATCH CURB AND GUTTER
Ⓢ	SPILL CURB AND GUTTER
+ 4977.57	EXISTING SPOT GRADE

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

0 20 40

SCALE: 1"=40'

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

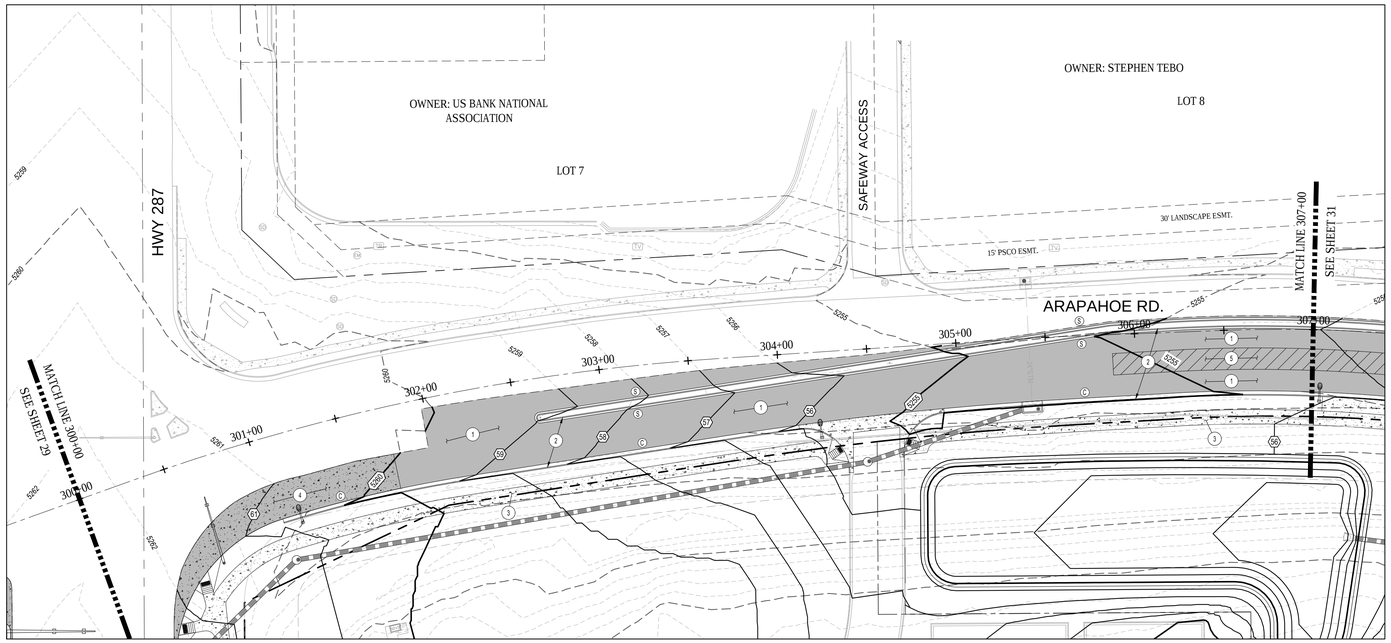
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

ARAPAHOE ROAD
GRADING
PLAN & PROFILE

29
OF 38

w:\Evergreen-Development\DCI, Erie (EDI000018 - Nine Mile Corner, 3074\Admin\CAD\C3-Revit\Civil\3_R_2A-33-Road-RAP.rvg - Jim Dukta - 9/27/2017

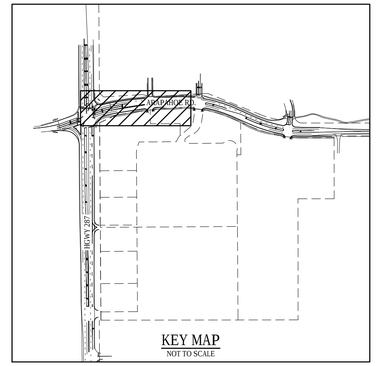


ARAPAHOE ROAD GRADING PLAN: STA 300+00.00 TO STA 307+00.00
SCALE: 1"=40'

ARAPAHOE ROAD GRADING PLAN: STA 300+00.00 TO STA 307+00.00
SCALE: 1"=40'

GRADING SCHEDULE

1. PROPOSED HEAVY DUTY ASPHALT PAVEMENT
2. PROPOSED CURB AND GUTTER
3. PROPOSED SIDEWALK
4. PROPOSED CONCRETE PAVEMENT
5. PROPOSED ASPHALT MILL AND OVERLAY



KEY MAP
NOT TO SCALE

ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

GRADING LEGEND

5839	EXISTING MINOR CONTOUR
5840	EXISTING MAJOR CONTOUR
39	PROPOSED MINOR CONTOUR
5440	PROPOSED MAJOR CONTOUR
	PROPOSED GRADE BREAK
40.0	PROPOSED SPOT ELEVATION
40.5 / 40.0	PROPOSED TOP OF CURB ELEVATION / PROPOSED FLOWLINE ELEVATION
FF	FINISHED FLOOR
TC	TOP OF CURB
TOS	TOP OF SIDEWALK
TOSL	TOP OF SLOPE
TOF	TOP OF FOOTER
FL	FLOWLINE
FG	FINISHED GRADE
HP	HIGH POINT
LP	LOW POINT
ME	MATCH EXISTING
GB	GRADE BREAK
C	CATCH CURB AND GUTTER
S	SPILL CURB AND GUTTER
+ 4877.57	EXISTING SPOT GRADE

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

N

0 20 40
SCALE: 1"=40'

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

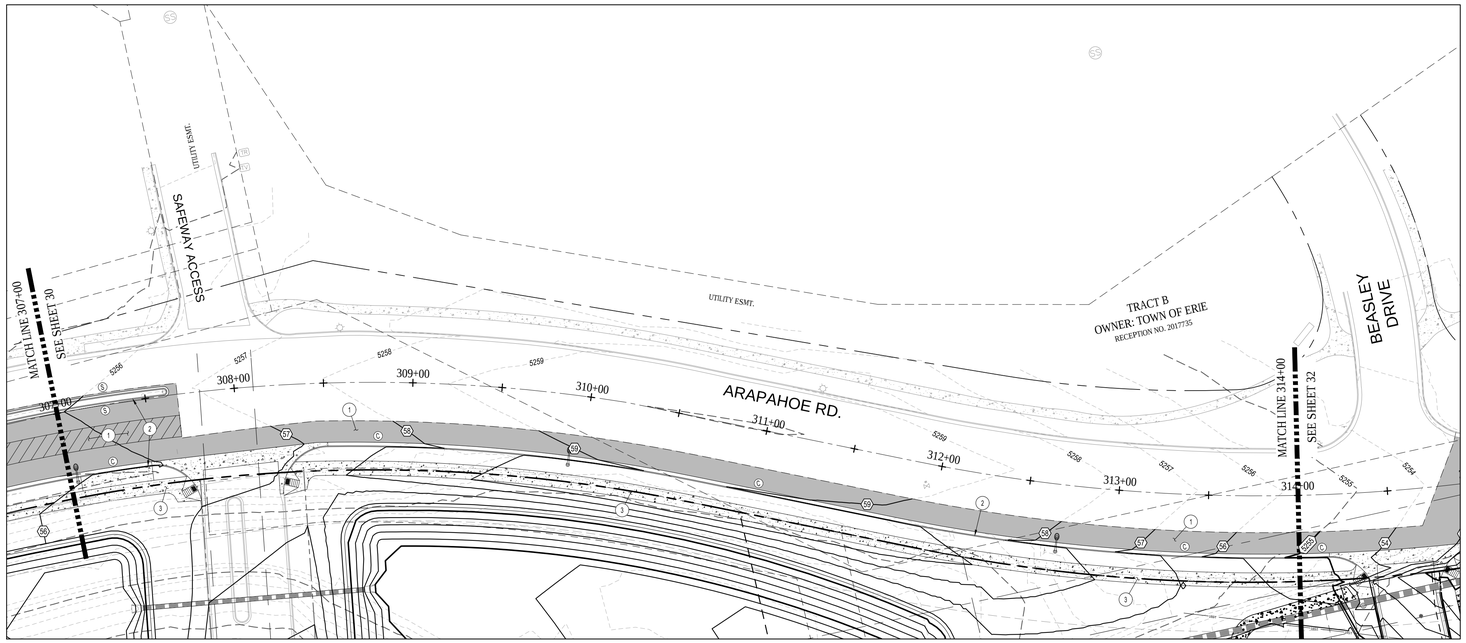
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

ARAPAHOE ROAD
GRADING
PLAN & PROFILE

30
OF 38

H:\Evergreen Development\ACO, Erie EDI000018 - Nine Mile Corner_287&Arapahoe\CAD\Civil\Plan\EDI18_P_29-33 Road RAP.dwg, Jim Dunlop, 9/27/2017

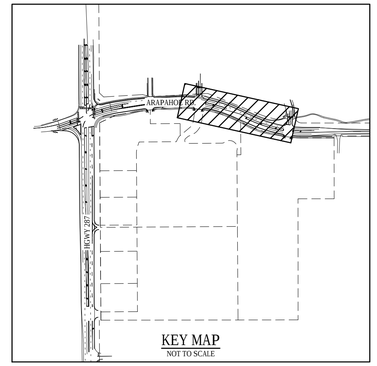


ARAPAHOE ROAD GRADING PLAN: STA 307+00.00 TO STA 314+00.00

SCALE: 1"=40'

GRADING SCHEDULE

1. PROPOSED HEAVY DUTY ASPHALT PAVEMENT
2. PROPOSED CURB AND GUTTER
3. PROPOSED SIDEWALK
4. PROPOSED CONCRETE PAVEMENT
5. PROPOSED ASPHALT MILL AND OVERLAY



KEY MAP

NOT TO SCALE

ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

GRADING LEGEND

5839	EXISTING MINOR CONTOUR
5840	EXISTING MAJOR CONTOUR
39	PROPOSED MINOR CONTOUR
5440	PROPOSED MAJOR CONTOUR
	PROPOSED GRADE BREAK
40.0	PROPOSED SPOT ELEVATION
40.5 / 40.0	PROPOSED TOP OF CURB ELEVATION / PROPOSED FLOWLINE ELEVATION
FF	FINISHED FLOOR
TC	TOP OF CURB
TOS	TOP OF SIDEWALK
TOSL	TOP OF SLOPE
TOF	TOP OF FOOTER
FL	FLOWLINE
FG	FINISHED GRADE
HP	HIGH POINT
LP	LOW POINT
ME	MATCH EXISTING
GB	GRADE BREAK
C	CATCH CURB AND GUTTER
S	SPILL CURB AND GUTTER
+ 4877.57	EXISTING SPOT GRADE

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.



0 20 40

SCALE: 1"=40'

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

ARAPAHOE ROAD GRADING PLAN: STA 307+00.00 TO STA 314+00.00

SCALE: 1"=40'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

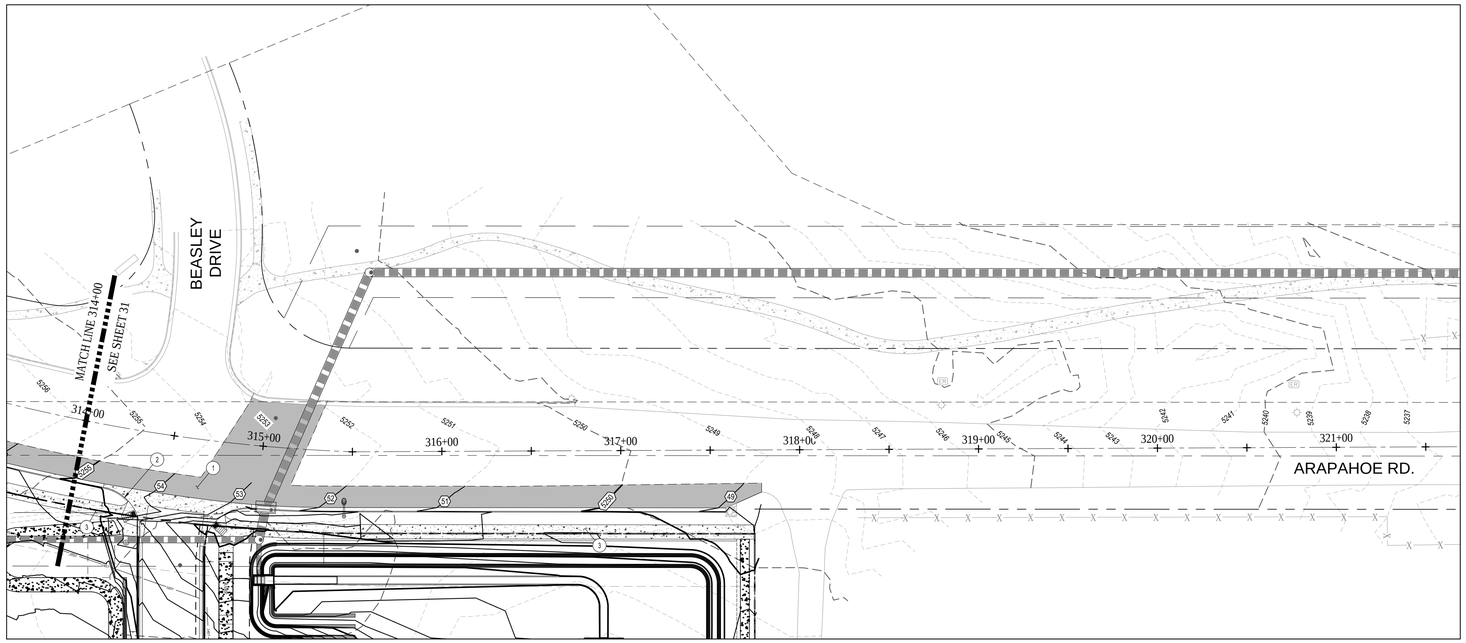
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

ARAPAHOE ROAD
GRADING
PLAN & PROFILE

31
OF 38

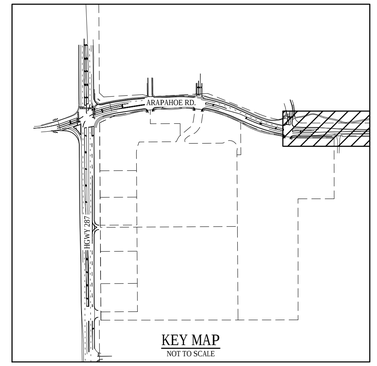
H:\Evergreen Development\CO\...\Erie 2016\2016 - Nine Mile Corner - 3074\Aesthetic\CAD\C3-Road\ENGR_C_3A-31-Road ENGR.dwg - Jim Dunks - 9/27/2017



ARAPAHOE ROAD GRADING PLAN: STA 314+00.00 TO STA 322+00
SCALE: 1"=40'

GRADING SCHEDULE

1. PROPOSED HEAVY DUTY ASPHALT PAVEMENT
2. PROPOSED CURB AND GUTTER
3. PROPOSED SIDEWALK
4. PROPOSED CONCRETE PAVEMENT
5. PROPOSED ASPHALT MILL AND OVERLAY



KEY MAP
NOT TO SCALE

ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

GRADING LEGEND

5839	EXISTING MINOR CONTOUR
5840	EXISTING MAJOR CONTOUR
39	PROPOSED MINOR CONTOUR
5440	PROPOSED MAJOR CONTOUR
	PROPOSED GRADE BREAK
40.0	PROPOSED SPOT ELEVATION
40.5 / 40.0	PROPOSED TOP OF CURB ELEVATION / PROPOSED FLOWLINE ELEVATION
FF	FINISHED FLOOR
TC	TOP OF CURB
TOS	TOP OF SIDEWALK
TOSL	TOP OF SLOPE
TOF	TOP OF FOOTER
FL	FLOWLINE
FG	FINISHED GRADE
HP	HIGH POINT
LP	LOW POINT
ME	MATCH EXISTING
GB	GRADE BREAK
C	CATCH CURB AND GUTTER
S	SPILL CURB AND GUTTER
+ 4877.57	EXISTING SPOT GRADE

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

0 20 40
SCALE: 1"=40'

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

ARAPAHOE ROAD GRADING PLAN: STA 314+00.00 TO STA 322+00
SCALE: 1"=40'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

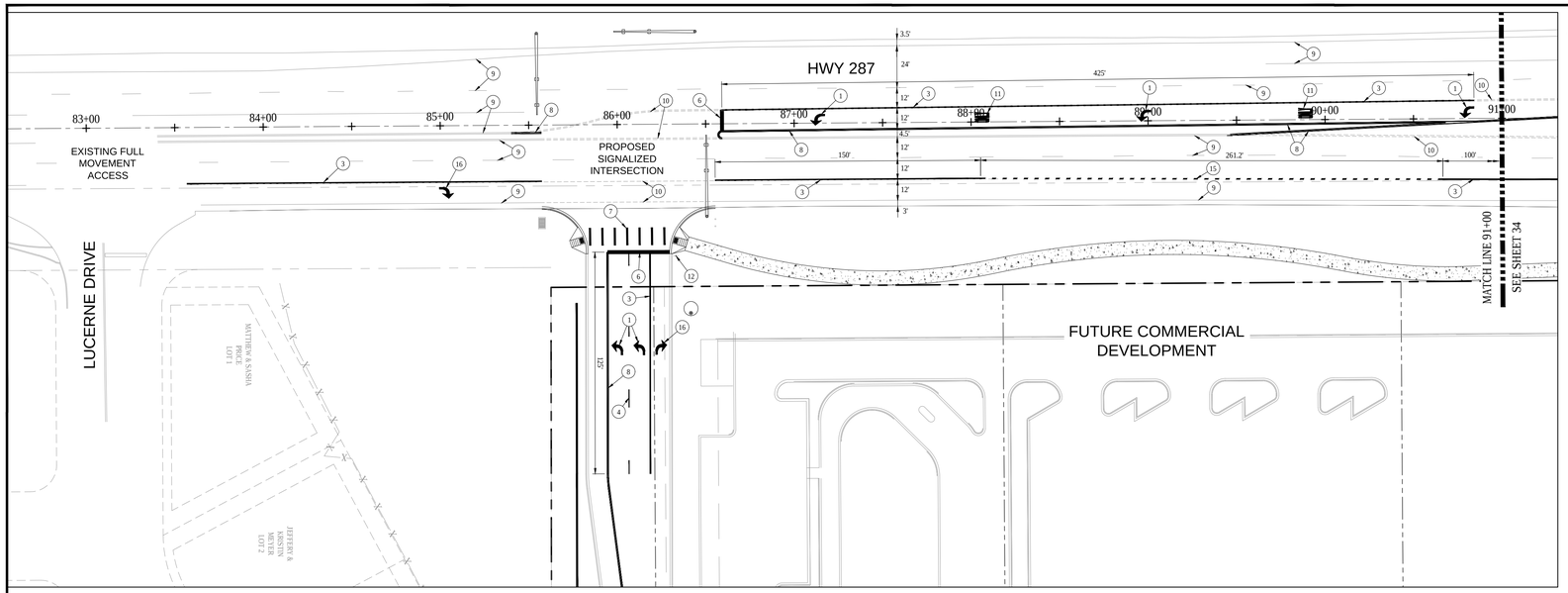
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

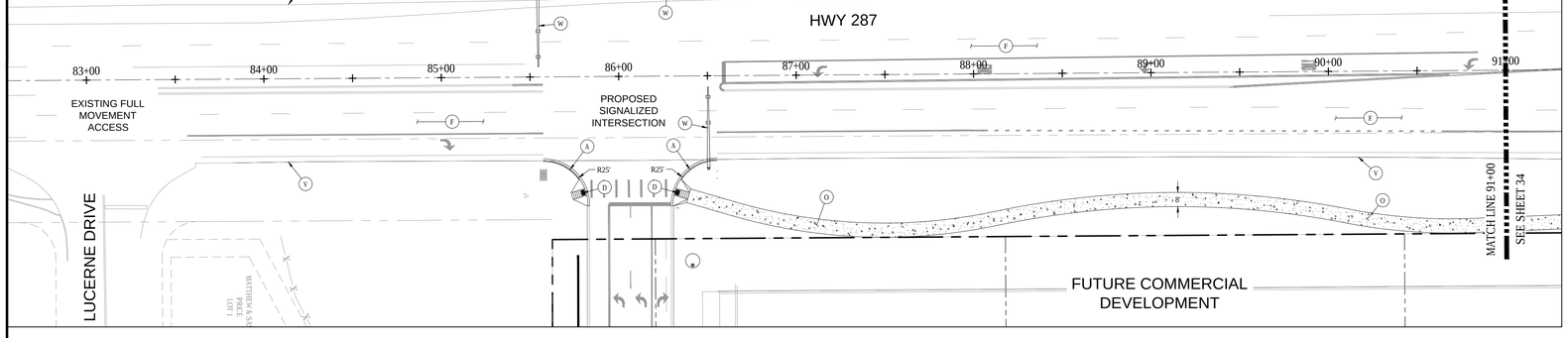
ARAPAHOE ROAD
GRADING
PLAN & PROFILE

32
OF 38

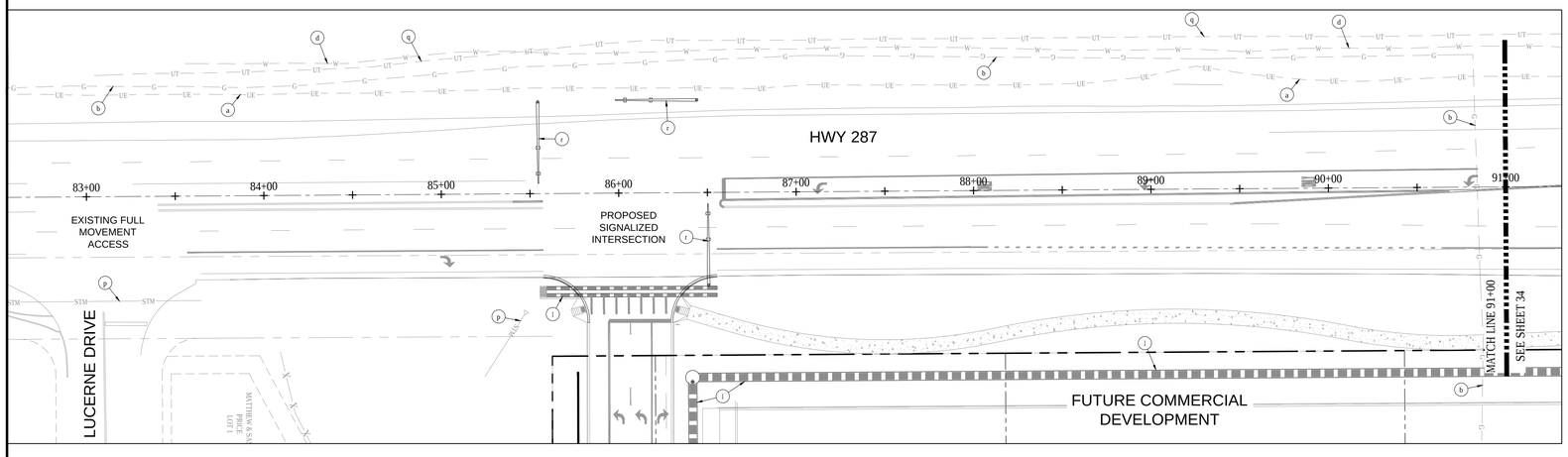
H:\Evergreen Development\DCI, Erie (EDI000018 - Nine Mile Corner, 287&Arapahoe\CAD\C3 Revit\Civil\3_R_2A-32-Road PAP.rvg - Jim Dooley - 9/27/2017



HIGHWAY 287 SIGNAGE & STRIPING PLAN: STA 83+00.00 TO STA 91+00.00
SCALE: 1"=40'



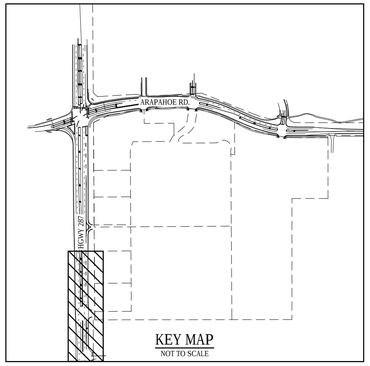
HIGHWAY 287 HORIZONTAL CONTROL & PAVING PLAN: STA 83+00.00 TO STA 91+00.00
SCALE: 1"=40'



HIGHWAY 287 UTILITY PLAN: STA 83+00.00 TO STA 91+00.00
SCALE: 1"=40'

SIGNAGE & STRIPING SCHEDULE

1. PROPOSED LEFT TURN SYMBOL, WHITE
2. PROPOSED 4" WIDE SOLID LINE, WHITE
3. PROPOSED 8" WIDE SOLID LINE, WHITE
4. PROPOSED 4" WIDE SKIP LANE LINE, WHITE
5. PROPOSED 4" WIDE DOTTED EXTENTION LINE, WHITE
6. PROPOSED 24' WIDE STOP BAR, WHITE
7. PROPOSED CROSSWALK STRIPING PER M.U.T.C.D., WHITE
8. PROPOSED 4" DOUBLE SOLID YELLOW LINES
9. EXISTING PAVEMENT MARKING TO REMAIN
10. EXISTING PAVEMENT MARKING TO BE REMOVED
11. PROPOSED "ONLY" TEXT, WHITE
12. PROPOSED "STOP" SIGN
13. PROPOSED "ONE WAY" SIGN
14. PROPOSED 4" WIDE SOLID LINE, YELLOW
15. PROPOSED 8" WIDE DOTTED EXTENSION LINE, WHITE
16. PROPOSED RIGHT TURN SYMBOL, WHITE
17. EXISTING "STOP" SIGN TO REMAIN
18. PROPOSED "RIGHT LANE MUST TURN RIGHT" SIGN
19. PROPOSED BUS STOP SIGN. BUS STOP LOCATION TO BE CONFIRMED WITH RTD



ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

PAVING PLAN SCHEDULE

- A PROPOSED CURB AND GUTTER
- B PROPOSED SAWCUT
- C PROPOSED ASPHALT PAVEMENT
- D PROPOSED ADA RAMP
- E PROPOSED EDGE OF CONCRETE
- F EXISTING ROADWAY PAVEMENT TO REMAIN
- G EXISTING CURB AND GUTTER TO REMAIN
- H EXISTING EDGE OF ASPHALT TO REMAIN
- J EXISTING ADA RAMP TO REMAIN
- K EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
- L EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
- M EXISTING MONUMENT TO REMAIN
- N EXISTING CURB AND GUTTER TO BE REMOVED
- O PROPOSED SIDEWALK
- P EXISTING INLET TO REMAIN
- Q EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
- R EXISTING STREET LIGHT TO REMAIN
- S EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
- T EXISTING SIDEWALK TO REMAIN
- U PROPOSED CONCRETE PAVEMENT
- V EXISTING EDGE OF CONCRETE TO REMAIN
- W PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
- X PROPOSED STAMPED CONCRETE MEDIAN TO MATCH EXISTING
- Y PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
- Z PROPOSED 8-FT WIDE CONCRETE CROSSPAN
- AA PROPOSED RIP RAP
- BB PROPOSED ASPHALT MILL AND OVERLAY

UTILITY PLAN SCHEDULE

- a EXISTING UNDERGROUND ELECTRIC TO REMAIN
- b EXISTING GAS LINE TO REMAIN
- c EXISTING IRRIGATION LINE TO REMAIN
- d EXISTING WATER MAIN TO REMAIN
- e EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
- f EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
- g PROPOSED STORM SEWER INLET (SEE STORM SEWER PLAN & PROFILES)
- h EXISTING STORM SEWER INLET TO REMAIN
- i EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
- j EXISTING STREET LIGHT TO REMAIN
- k EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
- l PROPOSED STORM SEWER (SEE STORM SEWER PLAN & PROFILES)
- m EXISTING SANITARY MANHOLE TO REMAIN
- n PROPOSED SANITARY SEWER (SEE SANITARY SEWER PLAN & PROFILES)
- o PROPOSED WATER LINE (SEE WATER PLAN)
- p EXISTING STORM SEWER TO REMAIN
- q EXISTING UNDERGROUND TELEPHONE LINE TO REMAIN
- r PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
- s EXISTING 24-INCH STORM SEWER TO REMAIN
- t PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
- u PROPOSED STREET LIGHT. 250-WATT HIGH PRESSURE SODIUM, 35-FT IN HEIGHT.
- v EXISTING STORM SEWER MANHOLE TO REMAIN

UTILITY LEGEND

- W EXISTING WATER LINE
- SS EXISTING SANITARY SEWER
- STM EXISTING STORM SEWER
- G EXISTING UNDERGROUND GAS LINE
- UE EXISTING UNDERGROUND ELECTRICAL
- UT EXISTING UNDERGROUND TELEPHONE
- FO EXISTING FIBER OPTIC LINE
- W WATER LINE (BY OTHERS)
- SS SANITARY SEWER (BY OTHERS)
- STM STORM SEWER (LESS THAN 12") (BY OTHERS)
- STM STORM SEWER (GREATER THAN 12") (BY OTHERS)
- G UNDERGROUND GAS LINE (BY OTHERS)
- UE UNDERGROUND ELECTRICAL (BY OTHERS)
- UT UNDERGROUND TELEPHONE (BY OTHERS)
- W PROPOSED WATER LINE
- SS PROPOSED SANITARY SEWER
- STM PROPOSED STORM SEWER (LESS THAN 12")
- STM PROPOSED STORM SEWER (GREATER THAN 12")
- G PROPOSED UNDERGROUND GAS LINE
- UE PROPOSED UNDERGROUND ELECTRICAL
- UT PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

0 20 40
SCALE: 1"=40'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com
©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

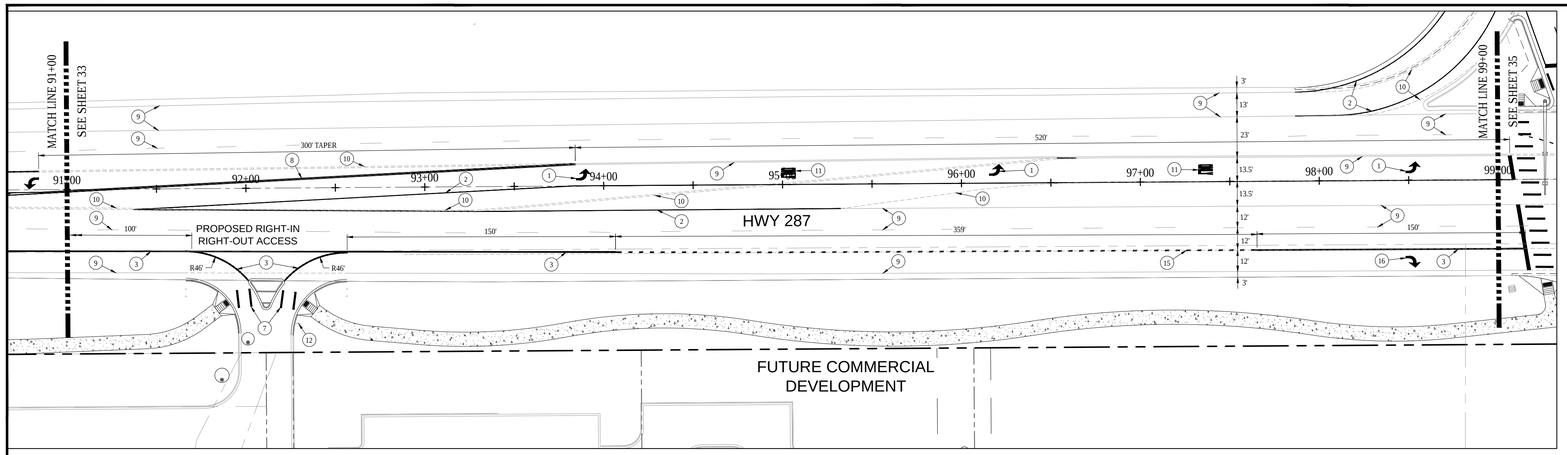
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

HIGHWAY 287
PLAN

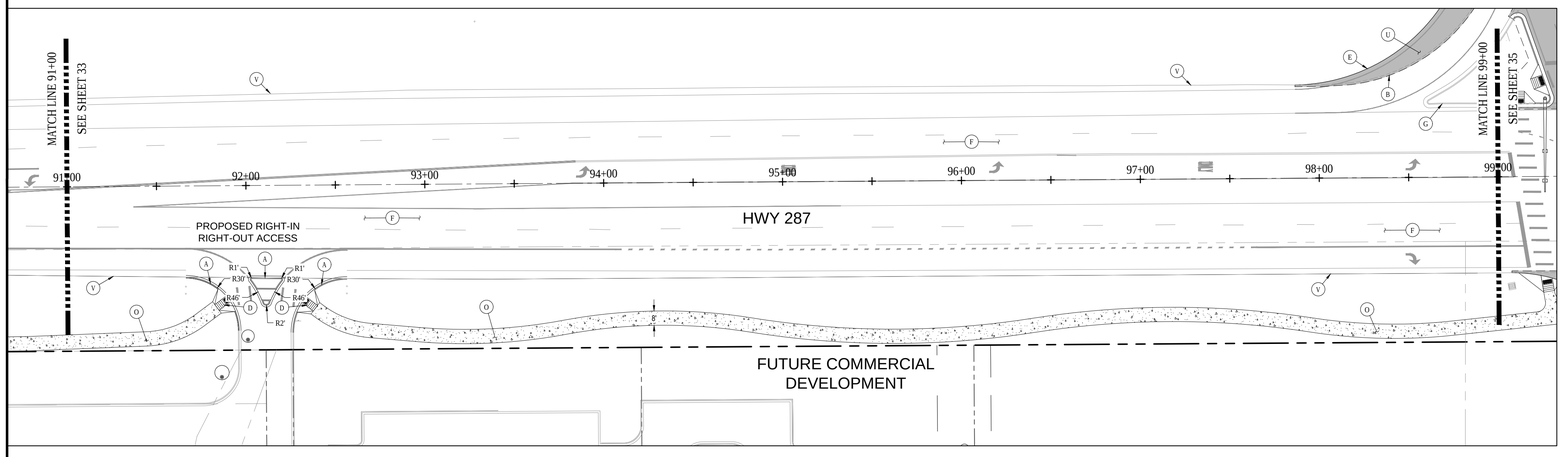
33
OF 38

H:\Evergreen\Development\CO\...\Erie (EDI000018 - Nine Mile Corner - 287&Arapahoe)\CAD\C3-Plan\EDI18_0_3_SA-Hwy 287 Plan.dwg - Jim Eisley - 9/27/2017



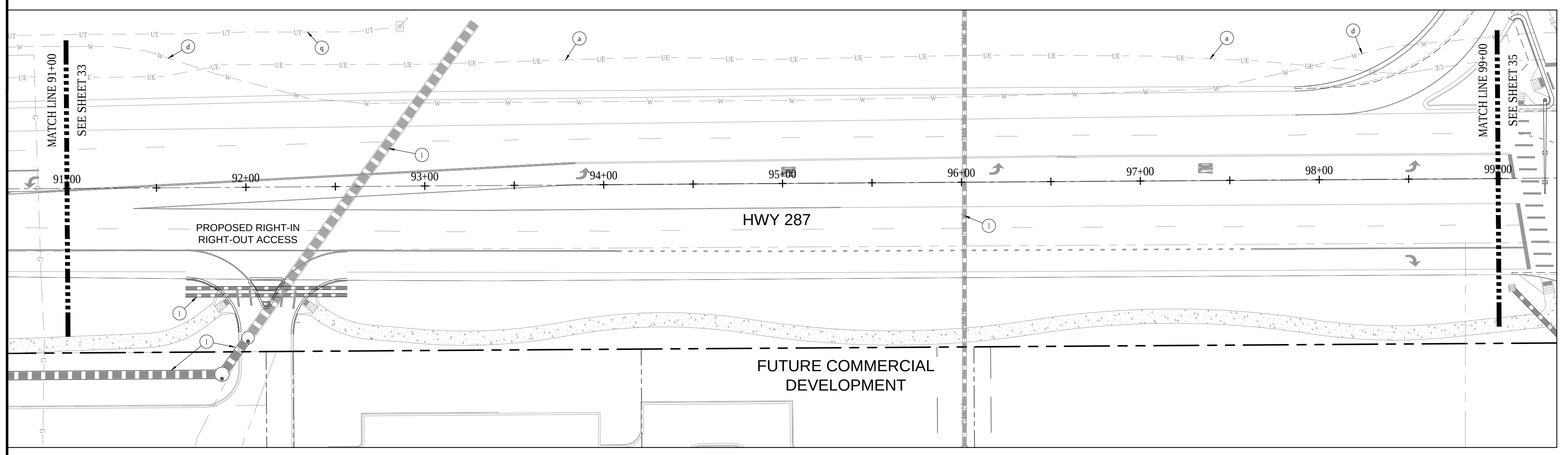
HIGHWAY 287 SIGNAGE & STRIPING PLAN: STA 91+00.00 TO STA 99+00.00

SCALE: 1"=40'



HIGHWAY 287 HORIZONTAL CONTROL & PAVING PLAN: STA 91+00.00 TO STA 99+00.00

SCALE: 1"=40'

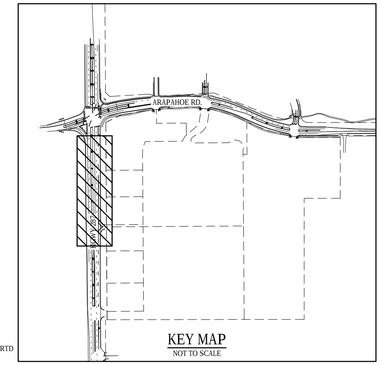


HIGHWAY 287 UTILITY PLAN: STA 91+00.00 TO STA 99+00.00

SCALE: 1"=40'

SIGNAGE & STRIPING SCHEDULE

1. PROPOSED LEFT TURN SYMBOL, WHITE
2. PROPOSED 4" WIDE SOLID LINE, WHITE
3. PROPOSED 8" WIDE SOLID LINE, WHITE
4. PROPOSED 4" WIDE SKIP LANE LINE, WHITE
5. PROPOSED 4" WIDE DOTTED EXTENTION LINE, WHITE
6. PROPOSED 24" WIDE STOP BAR, WHITE
7. PROPOSED CROSSWALK STRIPING PER M.U.T.C.D., WHITE
8. PROPOSED 4" DOUBLE SOLID YELLOW LINES
9. EXISTING PAVEMENT MARKING TO REMAIN
10. EXISTING PAVEMENT MARKING TO BE REMOVED
11. PROPOSED "ONLY" TEXT, WHITE
12. PROPOSED "STOP" SIGN
13. PROPOSED "ONE WAY" SIGN
14. PROPOSED 4" WIDE SOLID LINE, YELLOW
15. PROPOSED 8" WIDE DOTTED EXTENSION LINE, WHITE
16. PROPOSED RIGHT TURN SYMBOL, WHITE
17. EXISTING "STOP" SIGN TO REMAIN
18. PROPOSED "RIGHT LANE MUST TURN RIGHT" SIGN
19. PROPOSED BUS STOP SIGN. BUS STOP LOCATION TO BE CONFIRMED WITH RTD



ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

PAVING PLAN SCHEDULE

- A PROPOSED CURB AND GUTTER
- B PROPOSED SAWCUT
- C PROPOSED ASPHALT PAVEMENT
- D PROPOSED ADA RAMP
- E PROPOSED EDGE OF CONCRETE
- F EXISTING ROADWAY PAVEMENT TO REMAIN
- G EXISTING CURB AND GUTTER TO REMAIN
- H EXISTING EDGE OF ASPHALT TO REMAIN
- J EXISTING ADA RAMP TO REMAIN
- K EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
- L EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
- M EXISTING MONUMENT TO REMAIN
- N EXISTING CURB AND GUTTER TO BE REMOVED
- O PROPOSED SIDEWALK
- P EXISTING INLET TO REMAIN
- Q EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
- R EXISTING STREET LIGHT TO REMAIN
- S EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
- T EXISTING SIDEWALK TO REMAIN
- U PROPOSED CONCRETE PAVEMENT
- V EXISTING EDGE OF CONCRETE TO REMAIN
- W PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
- X PROPOSED STAMPED CONCRETE MEDIAN TO MATCH EXISTING
- Y PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
- Z PROPOSED 8-FT WIDE CONCRETE CROSSPAN
- AA PROPOSED RIP RAP
- BB PROPOSED ASPHALT MILL AND OVERLAY

UTILITY PLAN SCHEDULE

- a EXISTING UNDERGROUND ELECTRIC TO REMAIN
- b EXISTING GAS LINE TO REMAIN
- c EXISTING IRRIGATION LINE TO REMAIN
- d EXISTING WATER MAIN TO REMAIN
- e EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
- f EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
- g PROPOSED STORM SEWER INLET (SEE STORM SEWER PLAN & PROFILES)
- h EXISTING STORM SEWER INLET TO REMAIN
- i EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
- j EXISTING STREET LIGHT TO REMAIN
- k EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
- l PROPOSED STORM SEWER (SEE STORM SEWER PLAN & PROFILES)
- m EXISTING SANITARY MANHOLE TO REMAIN
- n PROPOSED SANITARY SEWER (SEE SANITARY SEWER PLAN & PROFILES)
- o PROPOSED WATER LINE (SEE WATER PLAN)
- p EXISTING STORM SEWER TO REMAIN
- q EXISTING UNDERGROUND TELEPHONE LINE TO REMAIN
- r PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
- s EXISTING 24-INCH STORM SEWER TO REMAIN
- t PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
- u PROPOSED STREET LIGHT. 250-WATT HIGH PRESSURE SODIUM, 35-FT IN HEIGHT.
- v EXISTING STORM SEWER MANHOLE TO REMAIN

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

0 20 40

SCALE: 1"=40'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

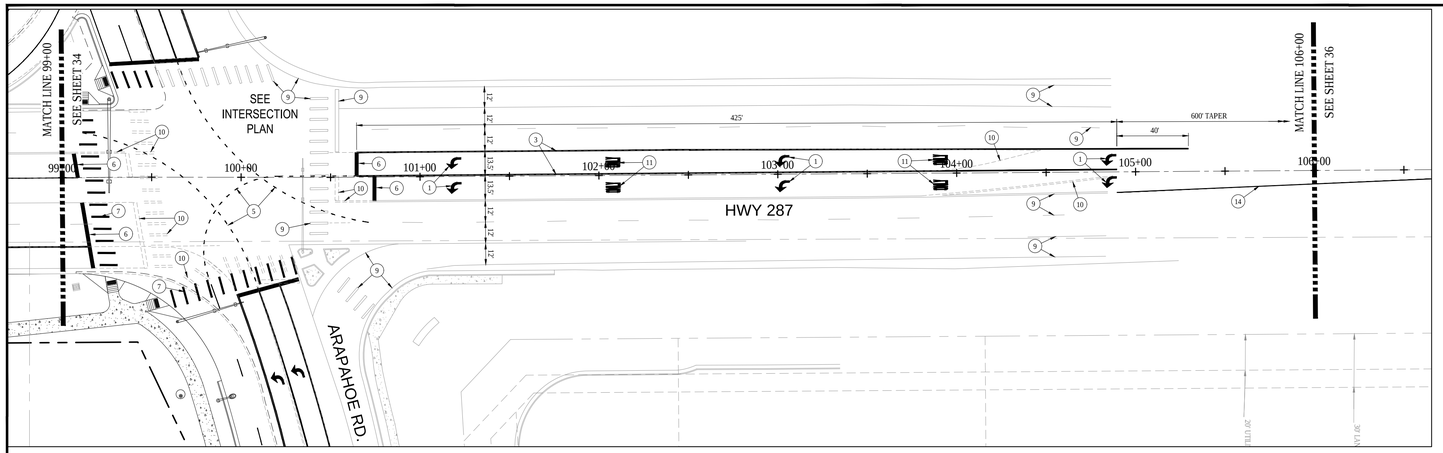
HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

HIGHWAY 287
PLAN

H:\Evergreen\Development\CO...Erie (EDI000018 - Nine Mile Corner - 8034\Aesthetic\ACAD\3-Plan\EDI18_3_3287&Hwy_287 Plan.dwg, Jim Elsdon, 9/27/2017



HIGHWAY 287 SIGNAGE & STRIPING PLAN: STA 99+00.00 TO STA 106+00.00

SCALE: 1"=40'

HIGHWAY 287 HORIZONTAL CONTROL & PAVING PLAN: STA 99+00.00 TO STA 106+00.00

SCALE: 1"=40'

HIGHWAY 287 UTILITY PLAN: STA 99+00.00 TO STA 106+00.00

SCALE: 1"=40'

SIGNAGE & STRIPING SCHEDULE

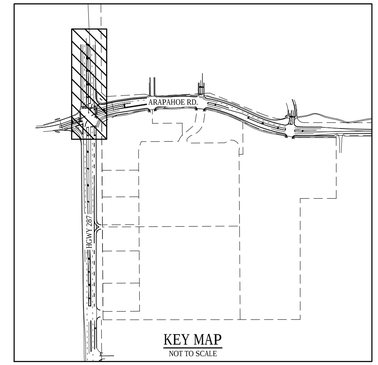
1. PROPOSED LEFT TURN SYMBOL, WHITE
2. PROPOSED 4" WIDE SOLID LINE, WHITE
3. PROPOSED 8" WIDE SOLID LINE, WHITE
4. PROPOSED 4" WIDE SKIP LANE LINE, WHITE
5. PROPOSED 4" WIDE DOTTED EXTENTION LINE, WHITE
6. PROPOSED 24" WIDE STOP BAR, WHITE
7. PROPOSED CROSSWALK STRIPING PER M.U.T.C.D., WHITE
8. PROPOSED 4" DOUBLE SOLID YELLOW LINES
9. EXISTING PAVEMENT MARKING TO REMAIN
10. EXISTING PAVEMENT MARKING TO BE REMOVED
11. PROPOSED "ONLY" TEXT, WHITE
12. PROPOSED "STOP" SIGN
13. PROPOSED "ONE WAY" SIGN
14. PROPOSED 4" WIDE SOLID LINE, YELLOW
15. PROPOSED 8" WIDE DOTTED EXTENSION LINE, WHITE
16. PROPOSED RIGHT TURN SYMBOL, WHITE
17. EXISTING "STOP" SIGN TO REMAIN
18. PROPOSED "RIGHT LANE MUST TURN RIGHT" SIGN
19. PROPOSED BUS STOP SIGN. BUS STOP LOCATION TO BE CONFIRMED WITH RTD

PAVING PLAN SCHEDULE

A. PROPOSED CURB AND GUTTER
B. PROPOSED SAWCUT
C. PROPOSED ASPHALT PAVEMENT
D. PROPOSED ADA RAMP
E. PROPOSED EDGE OF CONCRETE
F. EXISTING ROADWAY PAVEMENT TO REMAIN
G. EXISTING CURB AND GUTTER TO REMAIN
H. EXISTING EDGE OF ASPHALT TO REMAIN
J. EXISTING ADA RAMP TO REMAIN
K. EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
L. EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
M. EXISTING MONUMENT TO REMAIN
N. EXISTING CURB AND GUTTER TO BE REMOVED
O. PROPOSED SIDEWALK
P. EXISTING INLET TO REMAIN
Q. EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
R. EXISTING STREET LIGHT TO REMAIN
S. EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
T. EXISTING SIDEWALK TO REMAIN
U. PROPOSED CONCRETE PAVEMENT
V. EXISTING EDGE OF CONCRETE TO REMAIN
W. PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
X. PROPOSED STAMPED CONCRETE MEDIAN TO MATCH EXISTING
Y. PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
Z. PROPOSED 8-FT WIDE CONCRETE CROSSPAN
AA. PROPOSED RIP RAP
BB. PROPOSED ASPHALT MILL AND OVERLAY

UTILITY PLAN SCHEDULE

a. EXISTING UNDERGROUND ELECTRIC TO REMAIN
b. EXISTING GAS LINE TO REMAIN
c. EXISTING IRRIGATION LINE TO REMAIN
d. EXISTING WATER MAIN TO REMAIN
e. EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
f. EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
g. PROPOSED STORM SEWER INLET (SEE STORM SEWER PLAN & PROFILES)
h. EXISTING STORM SEWER INLET TO REMAIN
i. EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
j. EXISTING STREET LIGHT TO REMAIN
k. EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
l. PROPOSED STORM SEWER (SEE STORM SEWER PLAN & PROFILES)
m. EXISTING SANITARY MANHOLE TO REMAIN
n. PROPOSED SANITARY SEWER (SEE SANITARY SEWER PLAN & PROFILES)
o. PROPOSED WATER LINE (SEE WATER PLAN)
p. EXISTING STORM SEWER TO REMAIN
q. EXISTING UNDERGROUND TELEPHONE LINE TO REMAIN
r. PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
s. EXISTING 24-INCH STORM SEWER TO REMAIN
t. PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
u. PROPOSED STREET LIGHT. 250-WATT HIGH PRESSURE SODIUM, 35-FT IN HEIGHT.
v. EXISTING STORM SEWER MANHOLE TO REMAIN



ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

0 20 40

SCALE: 1"=40'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

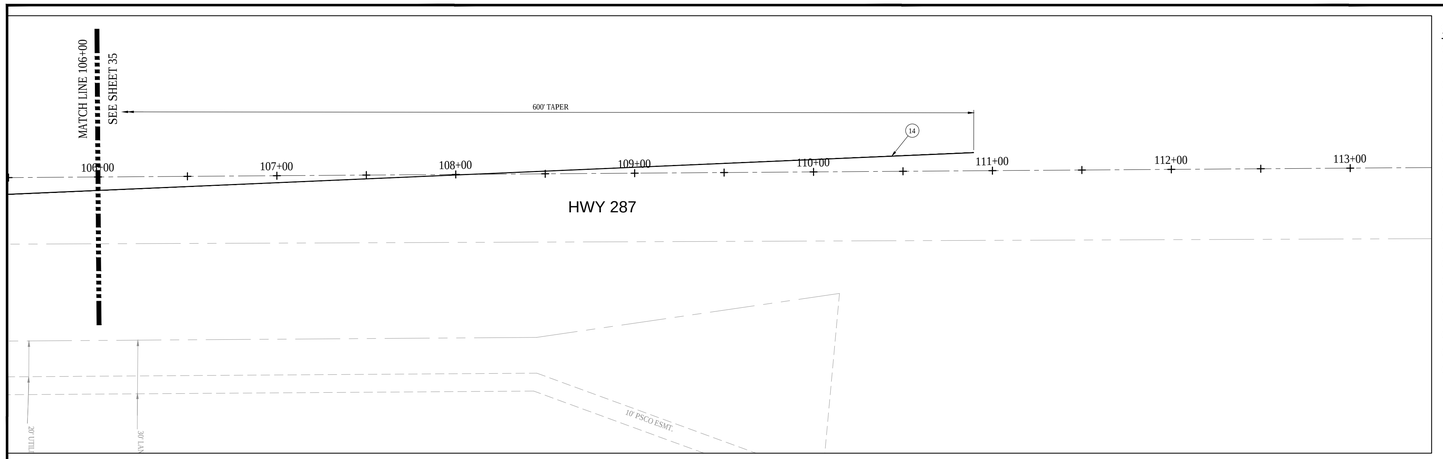
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

HIGHWAY 287
PLAN

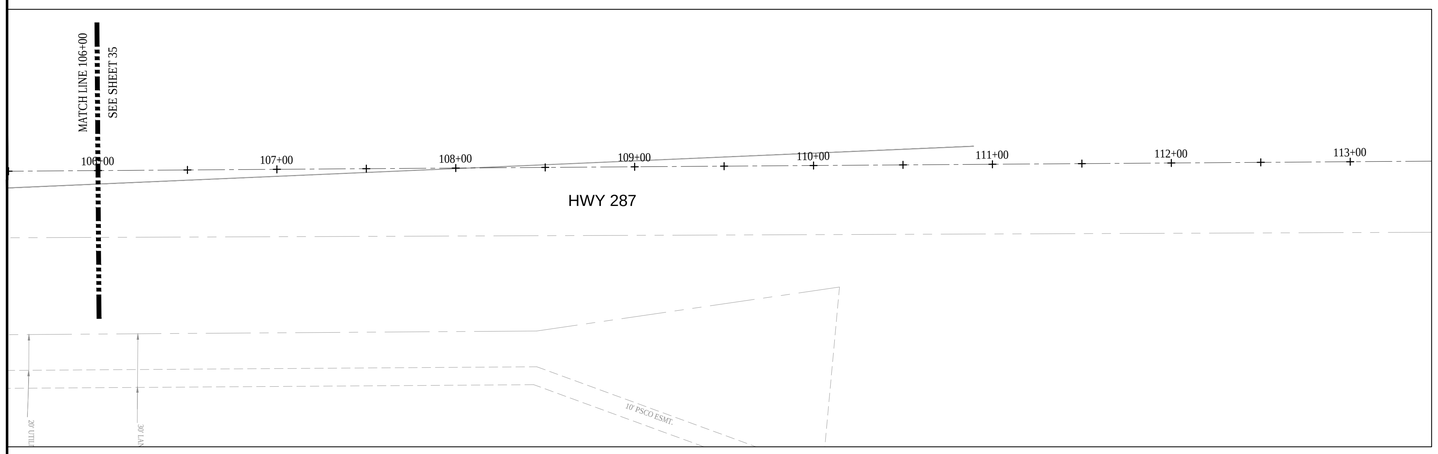
35
OF 38

W:\Evergreen Development\CO_Erie 6700\0018 - Nine Mile Corner - 287&Arapahoe\CAD\Civil\Plan\EDI18_P_3-3_35.mxd, 3/7/2017 2:57:00 PM, Erin Conley



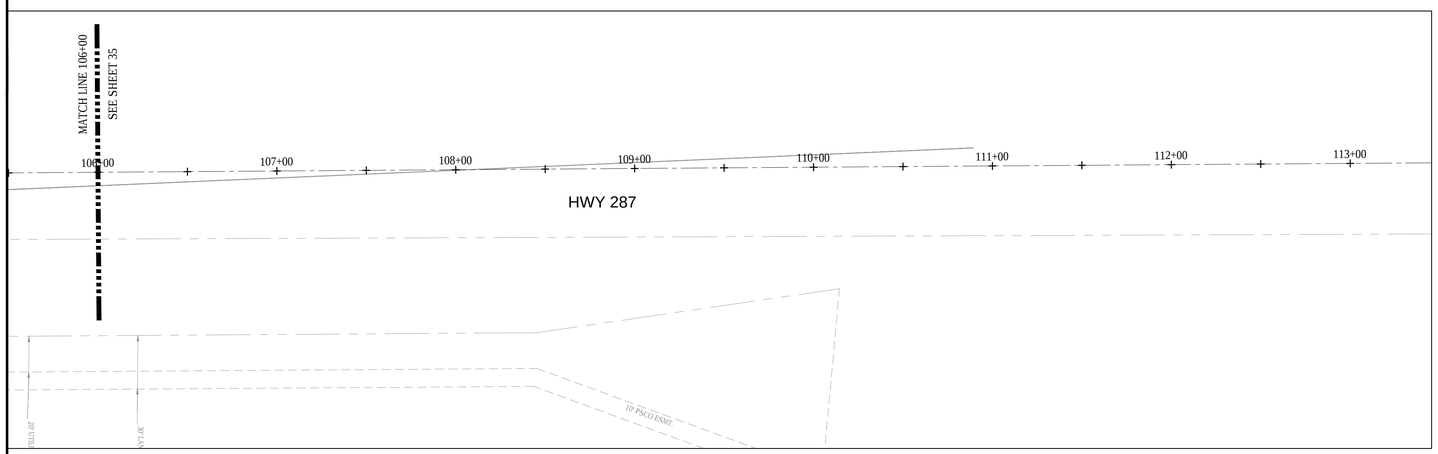
HIGHWAY 287 SIGNAGE & STRIPING PLAN: STA 106+00.00 TO STA 113+00.00

SCALE: 1"=40'



HIGHWAY 287 HORIZONTAL CONTROL & PAVING PLAN: STA 106+00.00 TO STA 113+00.00

SCALE: 1"=40'



HIGHWAY 287 UTILITY PLAN: STA 106+00.00 TO STA 113+00.00

SCALE: 1"=40'

SIGNAGE & STRIPING SCHEDULE

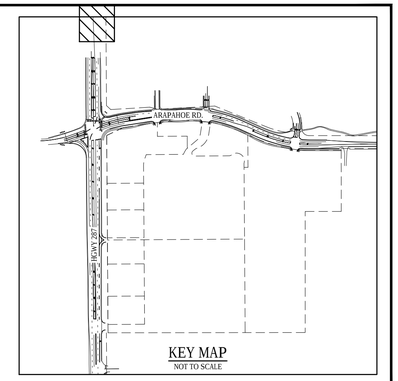
1. PROPOSED LEFT TURN SYMBOL, WHITE
2. PROPOSED 4" WIDE SOLID LINE, WHITE
3. PROPOSED 8" WIDE SOLID LINE, WHITE
4. PROPOSED 4" WIDE SKIP LANE LINE, WHITE
5. PROPOSED 4" WIDE DOTTED EXTENTION LINE, WHITE
6. PROPOSED 24" WIDE STOP BAR, WHITE
7. PROPOSED CROSSWALK STRIPING PER M.U.T.C.D., WHITE
8. PROPOSED 4" DOUBLE SOLID YELLOW LINES
9. EXISTING PAVEMENT MARKING TO REMAIN
10. EXISTING PAVEMENT MARKING TO BE REMOVED
11. PROPOSED "ONLY" TEXT, WHITE
12. PROPOSED "STOP" SIGN
13. PROPOSED "ONE WAY" SIGN
14. PROPOSED 4" WIDE SOLID LINE, YELLOW
15. PROPOSED 8" WIDE DOTTED EXTENSION LINE, WHITE
16. PROPOSED RIGHT TURN SYMBOL, WHITE
17. EXISTING "STOP" SIGN TO REMAIN
18. PROPOSED "RIGHT LANE MUST TURN RIGHT" SIGN
19. PROPOSED BUS STOP SIGN. BUS STOP LOCATION TO BE CONFIRMED WITH RTD

PAVING PLAN SCHEDULE

- A PROPOSED CURB AND GUTTER
- B PROPOSED SAWCUT
- C PROPOSED ASPHALT PAVEMENT
- D PROPOSED ADA RAMP
- E PROPOSED EDGE OF CONCRETE
- F EXISTING ROADWAY PAVEMENT TO REMAIN
- G EXISTING CURB AND GUTTER TO REMAIN
- H EXISTING EDGE OF ASPHALT TO REMAIN
- J EXISTING ADA RAMP TO REMAIN
- K EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
- L EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
- M EXISTING MONUMENT TO REMAIN
- N EXISTING CURB AND GUTTER TO BE REMOVED
- O PROPOSED SIDEWALK
- P EXISTING INLET TO REMAIN
- Q EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
- R EXISTING STREET LIGHT TO REMAIN
- S EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
- T EXISTING SIDEWALK TO REMAIN
- U PROPOSED CONCRETE PAVEMENT
- V EXISTING EDGE OF CONCRETE TO REMAIN
- W PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
- X PROPOSED STAMPED CONCRETE MEDIAN TO MATCH EXISTING
- Y PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
- Z PROPOSED 8-FT WIDE CONCRETE CROSSPAN
- AA PROPOSED RIP RAP
- BB PROPOSED ASPHALT MILL AND OVERLAY

UTILITY PLAN SCHEDULE

- a EXISTING UNDERGROUND ELECTRIC TO REMAIN
- b EXISTING GAS LINE TO REMAIN
- c EXISTING IRRIGATION LINE TO REMAIN
- d EXISTING WATER MAIN TO REMAIN
- e EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
- f EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
- g PROPOSED STORM SEWER INLET (SEE STORM SEWER PLAN & PROFILES)
- h EXISTING STORM SEWER INLET TO REMAIN
- i EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
- j EXISTING STREET LIGHT TO REMAIN
- k EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
- l PROPOSED STORM SEWER (SEE STORM SEWER PLAN & PROFILES)
- m EXISTING SANITARY MANHOLE TO REMAIN
- n PROPOSED SANITARY SEWER (SEE SANITARY SEWER PLAN & PROFILES)
- o PROPOSED WATER LINE (SEE WATER PLAN)
- p EXISTING STORM SEWER TO REMAIN
- q EXISTING UNDERGROUND TELEPHONE LINE TO REMAIN
- r PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
- s EXISTING 24-INCH STORM SEWER TO REMAIN
- t PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
- u PROPOSED STREET LIGHT, 250-WATT HIGH PRESSURE SODIUM, 35-FT IN HEIGHT.
- v EXISTING STORM SEWER MANHOLE TO REMAIN



ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

0 20 40

SCALE: 1"=40'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

HIGHWAY 287
PLAN

36
OF 38

H:\Evergreen Development\CO, Erie EDI000018 - Nine Mile Corner, 29.5\Autodesk\ACAD\3-Sheet\EDI18_P_3.5\Hwy 287 Sheet.dwg, Jim Crotty, 9/27/2017

ROADWAY LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- SIDEWALK EASEMENT
- EXISTING TO REMAIN
- PROPOSED FUTURE
- PROPOSED NEW
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT MILL AND OVERLAY
- PROPOSED CONCRETE PAVEMENT

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 N 1/4 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.

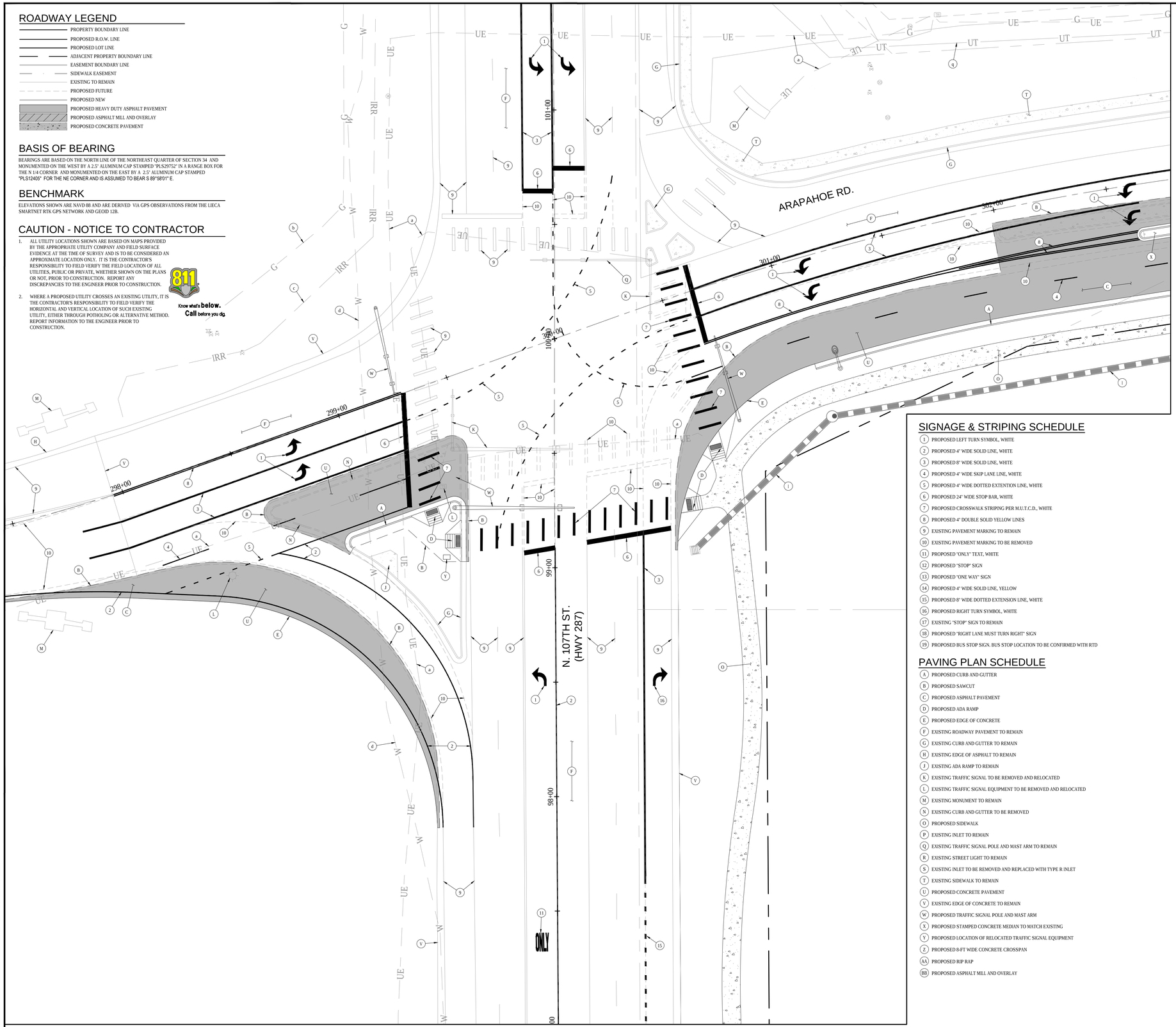
BENCHMARK

ELEVATIONS SHOWN ARE NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

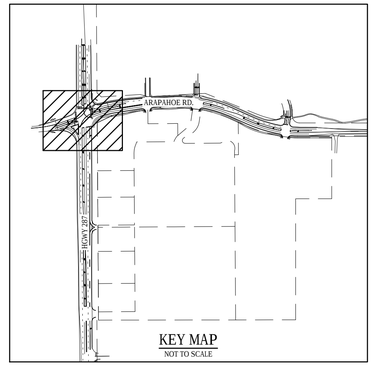
1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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



HIGHWAY 287 & ARAPAHOE RD INTERSECTION PLAN

SCALE: 1"=20'



SIGNAGE & STRIPING SCHEDULE

1. PROPOSED LEFT TURN SYMBOL, WHITE
2. PROPOSED 4" WIDE SOLID LINE, WHITE
3. PROPOSED 8" WIDE SOLID LINE, WHITE
4. PROPOSED 4" WIDE SKIP LANE LINE, WHITE
5. PROPOSED 4" WIDE DOTTED EXTENTION LINE, WHITE
6. PROPOSED 24" WIDE STOP BAR, WHITE
7. PROPOSED CROSSWALK STRIPING PER M.U.T.C.D., WHITE
8. PROPOSED 4" DOUBLE SOLID YELLOW LINES
9. EXISTING PAVEMENT MARKING TO REMAIN
10. EXISTING PAVEMENT MARKING TO BE REMOVED
11. PROPOSED "ONLY" TEXT, WHITE
12. PROPOSED "STOP" SIGN
13. PROPOSED "ONE WAY" SIGN
14. PROPOSED 4" WIDE SOLID LINE, YELLOW
15. PROPOSED 8" WIDE DOTTED EXTENSION LINE, WHITE
16. PROPOSED RIGHT TURN SYMBOL, WHITE
17. EXISTING "STOP" SIGN TO REMAIN
18. PROPOSED "RIGHT LANE MUST TURN RIGHT" SIGN
19. PROPOSED BUS STOP SIGN. BUS STOP LOCATION TO BE CONFIRMED WITH RTD

PAVING PLAN SCHEDULE

- A PROPOSED CURB AND GUTTER
- B PROPOSED SAWCUT
- C PROPOSED ASPHALT PAVEMENT
- D PROPOSED ADA RAMP
- E PROPOSED EDGE OF CONCRETE
- F EXISTING ROADWAY PAVEMENT TO REMAIN
- G EXISTING CURB AND GUTTER TO REMAIN
- H EXISTING EDGE OF ASPHALT TO REMAIN
- J EXISTING ADA RAMP TO REMAIN
- K EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
- L EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
- M EXISTING MONUMENT TO REMAIN
- N EXISTING CURB AND GUTTER TO BE REMOVED
- O PROPOSED SIDEWALK
- P EXISTING INLET TO REMAIN
- Q EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
- R EXISTING STREET LIGHT TO REMAIN
- S EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
- T EXISTING SIDEWALK TO REMAIN
- U PROPOSED CONCRETE PAVEMENT
- V EXISTING EDGE OF CONCRETE TO REMAIN
- W PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
- X PROPOSED STAMPED CONCRETE MEDIAN TO MATCH EXISTING
- Y PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
- Z PROPOSED 8-FT WIDE CONCRETE CROSSPAN
- AA PROPOSED RIP RAP
- BB PROPOSED ASPHALT MILL AND OVERLAY

UTILITY LEGEND

- W EXISTING WATER LINE
- SS EXISTING SANITARY SEWER
- STM EXISTING STORM SEWER
- G EXISTING UNDERGROUND GAS LINE
- UE EXISTING UNDERGROUND ELECTRICAL
- UT EXISTING UNDERGROUND TELEPHONE
- FO EXISTING FIBER OPTIC LINE
- W WATER LINE (BY OTHERS)
- SS SANITARY SEWER (BY OTHERS)
- STM STORM SEWER (LESS THAN 12") (BY OTHERS)
- STM STORM SEWER (GREATER THAN 12") (BY OTHERS)
- G UNDERGROUND GAS LINE (BY OTHERS)
- UE UNDERGROUND ELECTRICAL (BY OTHERS)
- UT UNDERGROUND TELEPHONE (BY OTHERS)
- W PROPOSED WATER LINE
- SS PROPOSED SANITARY SEWER
- STM PROPOSED STORM SEWER (LESS THAN 12")
- STM PROPOSED STORM SEWER (GREATER THAN 12")
- G PROPOSED UNDERGROUND GAS LINE
- UE PROPOSED UNDERGROUND ELECTRICAL
- UT PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- PROPOSED UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

UTILITY PLAN SCHEDULE

- a EXISTING UNDERGROUND ELECTRIC TO REMAIN
- b EXISTING GAS LINE TO REMAIN
- c EXISTING IRRIGATION LINE TO REMAIN
- d EXISTING WATER MAIN TO REMAIN
- e EXISTING TRAFFIC SIGNAL TO BE REMOVED AND RELOCATED
- f EXISTING TRAFFIC SIGNAL EQUIPMENT TO BE REMOVED AND RELOCATED
- g PROPOSED STORM SEWER INLET (SEE STORM SEWER PLAN & PROFILES)
- h EXISTING STORM SEWER INLET TO REMAIN
- i EXISTING TRAFFIC SIGNAL POLE AND MAST ARM TO REMAIN
- j EXISTING STREET LIGHT TO REMAIN
- k EXISTING INLET TO BE REMOVED AND REPLACED WITH TYPE R INLET
- l PROPOSED STORM SEWER (SEE STORM SEWER PLAN & PROFILES)
- m EXISTING SANITARY MANHOLE TO REMAIN
- n PROPOSED SANITARY SEWER (SEE SANITARY SEWER PLAN & PROFILES)
- o PROPOSED WATER LINE (SEE WATER PLAN)
- p EXISTING STORM SEWER TO REMAIN
- q EXISTING UNDERGROUND TELEPHONE LINE TO REMAIN
- r PROPOSED TRAFFIC SIGNAL POLE AND MAST ARM
- s EXISTING 24-INCH STORM SEWER TO REMAIN
- t PROPOSED LOCATION OF RELOCATED TRAFFIC SIGNAL EQUIPMENT
- u PROPOSED STREET LIGHT. 250-WATT HIGH PRESSURE SODIUM, 35-FT IN HEIGHT.
- v EXISTING STORM SEWER MANHOLE TO REMAIN

N

0 10 20

SCALE: 1"=20'

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

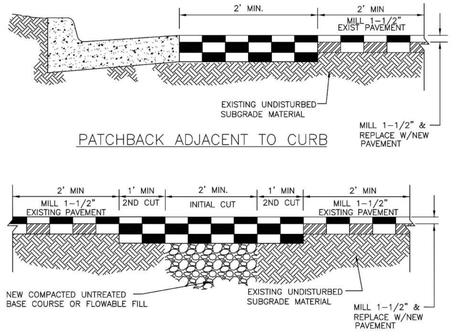
#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

HIGHWAY 287 & ARAPAHOE ROAD INTERSECTION PLAN

37
OF 38

W:\Evergreen Development\CO_Erie EDI000018 - Nine Mile Corner_3874\Admin\Civil\ACAD\Plan\EDI18_P_37 X 24 Intersection.dwg, Jim Dooley, 9/27/2017



PATCHBACK ADJACENT TO CURB

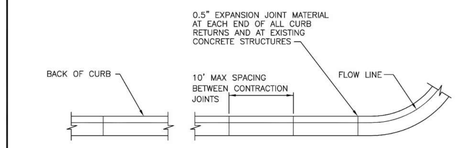
PATCHBACK FOR UTILITY AND SERVICE TRENCHES

NOTE:

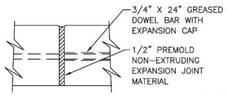
1. IF ASPHALT PATCH THICKNESS IS NOT IDENTIFIED ON PLANS USE 6-1/2" MIN ASPHALT PATCH OR MATCH EXISTING, WHICH EVER THICKNESS IS GREATER.
2. MINIMUM DEPTH OF WEARING COURSE SHALL BE 1-1/2" AND SHALL BE GRADING SX ASPHALT.
3. MINIMUM DEPTH OF INTERMEDIATE COURSE SHALL BE 5" AND BE INSTALLED IN 2 LIFTS. INTERMEDIATE COURSE SHALL BE GRADING S OR G ASPHALT.
4. PATCH SHALL BE PLACED AND COMPACTED IN LIFTS A MAXIMUM OF 3" IN DEPTH.
5. APPLY SS-I TACK COAT TO EXISTING ASPHALT AND/OR CONCRETE VERTICAL SURFACES.
6. TRENCHES LESS THAN 2' IN WIDTH MUST RECEIVE PRIOR APPROVAL FROM THE TOWN OF ERIE ENGINEERING DEPARTMENT AND SHALL BE FLOW-FILLED.
7. PROVIDE 28 DAY 60 PSI CONTROLLED LOW STRENGTH FLOWABLE FILL AS SPECIFIED. USE FILL THAT FLOWS EASILY AND VIBRATION IS NOT REQUIRED. CURE TO INITIAL SET BEFORE PLACING NEW UNTREATED BASE COURSE OR NEW ASPHALT PAVEMENT. USE FLOWABLE FILL IN EXCAVATIONS THAT ARE TOO NARROW TO RECEIVE COMPACTION EQUIPMENT.
8. REMOVE ADDITIONAL PAVEMENT TO A PAINTED LANE STRIPE, A LIP OF GUTTER, A CURB, AN EXISTING PAVEMENT PATCH, OR AN EDGE OF THE PAVEMENT IF SUCH STREET FEATURE IS WITHIN TWO FEET OF THE SECOND SAW CUT.
9. PROVIDE UNTREATED BASE COURSE MATERIAL. DO NOT USE GRAVEL OR WASHED ROCK. PLACE NEW MATERIAL IN LIFTS NOT EXCEEDING 8" AFTER COMPACTION. COMPACT TO A MODIFIED PROCTOR DENSITY OF 95% OR GREATER.
10. STRAIGHT SAWCUT OR BLADECUT THE EXISTING ASPHALT PAVEMENT WHEN JOINING WITH NEW ASPHALT PAVEMENT.

The Town of ERIE COLORADO

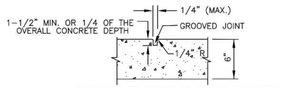
DRAWING TITLE: TRENCH AND CURB PATCH
DRAWING NUMBER: ST10
DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 1/2014



LAYOUT



EXPANSION JOINT



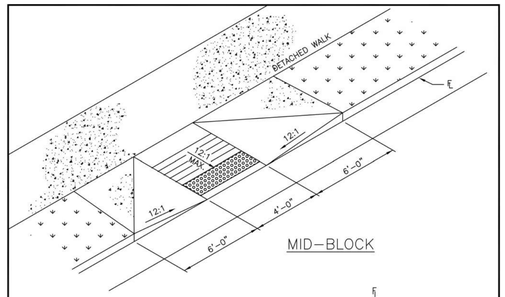
CONTRACTION JOINT

NOTES:

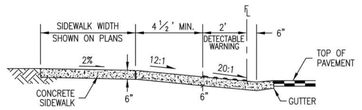
1. EXPANSION JOINT MATERIAL SHALL BE NON-EXTRUDING AND RESILIENT TYPE TO MEET AASHTO SPEC. M-213.
2. ANY OVER-EXCAVATION SHALL BE REPLACED BY GRANULAR BACKFILL COMPACTED TO 95% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698.

The Town of ERIE COLORADO

DRAWING TITLE: CURB AND GUTTER JOINT DETAIL
DRAWING NUMBER: SW1
DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 01/2010



MID-BLOCK



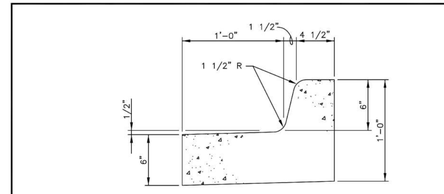
TYPICAL RAMP SECTION

NOTES:

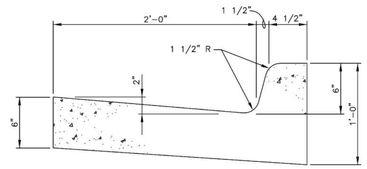
1. THERE SHALL BE NO LIP WHERE THE RAMP MEETS THE GUTTER.
2. CURB RAMPS SHALL BE PROVIDED AT ALL CORNERS OF STREET INTERSECTIONS AND AT "T" INTERSECTIONS WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB.
3. RAMP SURFACE SHALL HAVE A COARSE BROOM FINISH WITH GROOVES PLACED PERPENDICULAR TO THE SLOPE AT 8" INTERVALS, 1/2" DEPTH.
4. CURB RAMPS SHALL BE POURED MONOLITHICALLY WITH THE CURB, GUTTER AND APRON.
5. RAMP DIMENSIONS SHALL BE SPECIFIED ON THE CONSTRUCTION PLANS, RAMP AND WING SLOPES SHALL NOT BE STEEPER THAN 12:1.
6. RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1. THE DETECTABLE WARNING AREA SLOPE SHALL NOT BE STEEPER THAN 20:1.
7. DETECTABLE WARNINGS SHALL BE EAST JORDON IRON WORKS 7005 SERIES DETECTABLE WARNING PLATES OR APPROVED EQUAL.

The Town of ERIE COLORADO

DRAWING TITLE: CURB RAMP MID BLOCK TYPE 1 DETACHED SIDEWALK
DRAWING NUMBER: SW10A
DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 01/2015



MEDIAN CURB & GUTTER SPILL



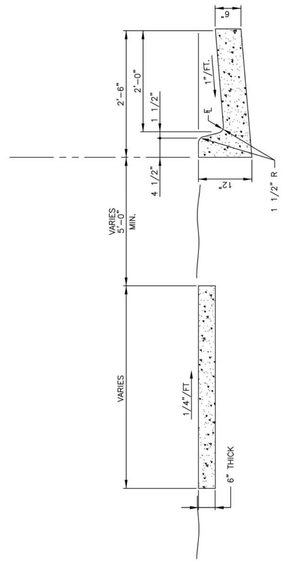
VERTICAL CURB & GUTTER CATCH

NOTES:

1. SUBGRADE TO BE COMPACTED TO 95% MODIFIED PROCTOR.

The Town of ERIE COLORADO

DRAWING TITLE: VERTICAL CURB SECTION
DRAWING NUMBER: SW12
DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 01/2010

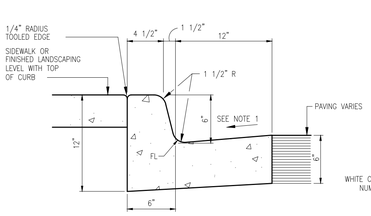


NOTES

1. SIDEWALK WIDTH SHALL BE SPECIFIED ON THE CONSTRUCTION PLANS.
2. LANDSCAPE TREATMENT MUST BE SPECIFIED.
3. 6" VERTICAL CURB, GUTTER, AND SIDEWALK IS REQUIRED FOR COLLECTOR AND ARTERIAL STREETS.

The Town of ERIE COLORADO

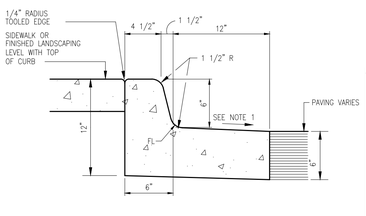
DRAWING TITLE: 6" VERTICAL CURB, GUTTER AND DETACHED SIDEWALK
DRAWING NUMBER: SW13
DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 01/2014



NOTES:

1. GUTTER CROSS SLOPE SHALL BE 1/2 IN./FT. WHEN DRAINING AWAY FROM CURB AND 1 IN./FT. WHEN DRAINING TOWARD CURB.
2. BASE OF CURB SHALL REST ON COMPACTED FILL.
3. ALL EXPOSED CONCRETE SHALL HAVE A SACK FINISH.
4. CONTROL JOINTS SHALL BE INSTALLED AT 10 FOOT MAXIMUM INTERVALS AND AT THE END OF CURB RETURNS - SEE CURB CONTROL JOINT DETAIL.
5. EXPANSION JOINTS SHALL BE INSTALLED AT 500 FOOT MAXIMUM INTERVALS AND/OR TO MATCH LOCATION OF EXPANSION JOINTS IN PAVING - SEE CURB EXPANSION JOINT DETAIL.

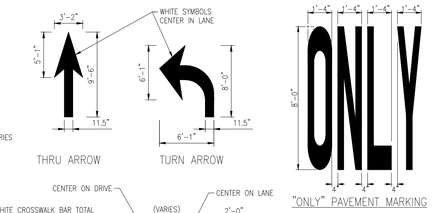
1 CATCH CURB AND 1' WIDE GUTTER
SCALE: 1 1/2" =1'-0"



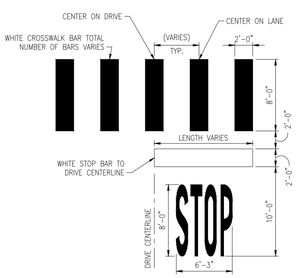
NOTES:

1. GUTTER CROSS SLOPE SHALL BE 1/2 IN./FT. WHEN DRAINING AWAY FROM CURB AND 1 IN./FT. WHEN DRAINING TOWARD CURB.
2. BASE OF CURB SHALL REST ON COMPACTED FILL.
3. ALL EXPOSED CONCRETE SHALL HAVE A SACK FINISH.
4. CONTROL JOINTS SHALL BE INSTALLED AT 10 FOOT MAXIMUM INTERVALS AND AT THE END OF CURB RETURNS - SEE CURB CONTROL JOINT DETAIL.
5. EXPANSION JOINTS SHALL BE INSTALLED AT 500 FOOT MAXIMUM INTERVALS AND/OR TO MATCH LOCATION OF EXPANSION JOINTS IN PAVING - SEE CURB EXPANSION JOINT DETAIL.

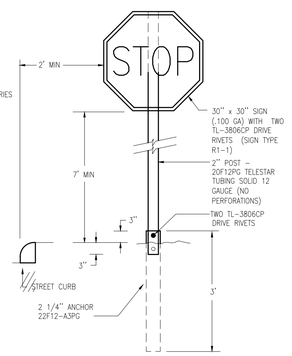
2 SPILL CURB AND 1' WIDE GUTTER
SCALE: 1 1/2" =1'-0"



"ONLY" PAVEMENT MARKING



3 LANE STRIPING DETAILS
SCALE: 1/8" = 1'



4 STOP SIGN DETAIL
SCALE: 1 1/2" =1'-0"

TYPICAL AS STATED IN THE UNIFORM TRAFFIC CONTROL DEVICES MANUAL

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016 Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

HIGHWAY 287 & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.
1	9/26/17	Revised Per City Comments	JG

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

SIGNAGE & STRIPING

H:\Evergreen\Development\CO, Erie 2016\2016018 - Nine Mile Corner - 2016\Arapahoe\CAD\Civil\Sheet\ESA_E_SR_Signage Details.dwg, Jim Grafton, 9/27/2017

TOWN OF ERIE
Community Development Department
645 Holbrook Street – PO Box 750 – Erie, CO 80516
Tel: 303.926.2770 – Fax: 303.926.2706 – Web: www.erieco.gov

LAND USE APPLICATION

Please fill in this form completely. Incomplete applications will not be processed.

STAFF USE ONLY		
FILE NAME:		
FILE NO:	DATE SUBMITTED:	FEES PAID:

PROJECT/BUSINESS NAME: Nine Mile Corner- Evergreen Devco, Inc.

PROJECT ADDRESS: Southeast corner of Highway 287 and Arapahoe Road - Erie, CO

PROJECT DESCRIPTION: Site Plan and Preliminary Plat; Commercial and Multifamily Residential Development

LEGAL DESCRIPTION *(Please see attached Exhibit A - Legal Description)*

Subdivision Name:

Filing #: Lot #: Block #: Section: Township: Range:

OWNER (*attach separate sheets if multiple*)

Name/Company: Town of Erie and Town of Erie Urban Renewal Authority
Contact Person: A.J. Krieger
Address: 645 Holbrook St. P.O. Box 750
City/State/Zip: Erie, CO 80516
Phone: 303-926-2700 Fax:
E-mail: townadministrator@erieco.gov

AUTHORIZED REPRESENTATIVE

Company/Firm: Norris Design
Contact Person: Ryan McBreen
Address: 1101 Bannock St.
City/State/Zip: Denver, CO 80204
Phone: 303-892-1166 Fax:
E-mail: rmcbreen@norris-design.com

MINERAL RIGHTS OWNER (*attach separate sheets if multiple*)

Name/Company: Kerr-McGee Oil & Gas Onshore LP
Address: 1099 18th Street, Suite 1800
City/State/Zip: Denver, CO 80202

MINERAL LEASE HOLDER (*attach separate sheets if multiple*)

Name/Company: Kerr-McGee Oil & Gas Onshore LP
Address: 1099 18th Street, Suite 1800
City/State/Zip: Denver, CO 80202

LAND-USE & SUMMARY INFORMATION

Present Zoning: Community Commercial / Planned Development
Proposed Zoning: Planned Development
Gross Acreage: 47.15 acres
Gross Site Density (du/ac):
Lots/Units Proposed:
Gross Floor Area:

SERVICE PROVIDERS

Electric: Xcel Energy
Metro District: N/A
Water *(if other than Town):*
Gas: Xcel Energy
Fire District: Mountain View Fire and Rescue
Sewer *(if other than Town):*

PAGE TWO MUST BE SIGNED AND NOTARIZED

DEVELOPMENT REVIEW FEES			
ANNEXATION		**SUBDIVISION**	
☐ Major	$ 4000.00	☐ Sketch Plan	$ 1000.00 + 10.00 per lot
☐ Minor	$ 2000.00	☒ Preliminary Plat	$ 2000.00 + 40.00 per lot
☐ Deannexation	$ 1000.00	☐ Final Plat	$ 2000.00 + 20.00 per lot
COMPREHENSIVE PLAN AMENDMENT		☐ Minor Subdivision Plat	$ 2000.00
☐ Major	$ 3000.00	☐ Minor Amendment Plat	$ 1000.00 + 10.00 per lot
☐ Minor	$ 1200.00	☐ Road Vacation (constructed)	$ 1000.00
ZONING/REZONING		☐ Road Vacation (paper)	$ 100.00
☐ Rezoning	$ 1700.00 + 10.00 per acre	**SITE PLAN**	
☐ PUD Rezoning	$ 1700.00 + 10.00 per acre	☒ Residential	$ 1400.00 + 10.00 per unit
☐ PUD Amendment	$ 1700.00 + 10.00 per acre	☐ Non-Resi. (>10,000 sq. ft.)	$ 2200.00
☐ Major PD Amendment	$ 3700.00 + 10.00 per acre	☐ Non-Resi. (>2,000 sq. ft.)	$ 1000.00
☐ Minor PD Amendment	$ 500.00	☐ Non-Resi. (<2,000 sq. ft.)	$ 200.00
SPECIAL REVIEW USE		☐ Amendment (major)	$ 1100.00
☐ Major	$ 1000.00	☐ Amendment (minor)	$ 350.00
☐ Minor	$ 400.00	**VARIANCE**	$ 600.00
☐ Oil & Gas	$ 1200.00	**SERVICE PLAN**	$ 10,000.00
*All fees **include** both Town of Erie Planning & Engineering review. These fees **do not include** referral agency review fees, outside consultant review fees, or review fees incurred by consultants acting on behalf of staff. See Town of Erie Municipal Code, Title 2-10-5 for all COMMUNITY DEVELOPMENT FEES.*			

The undersigned is fully aware of the request/proposal being made and the actions being initiated on the referenced property. The undersigned understand that the application must be found to be complete by the Town of Erie before the request can officially be accepted and the development review process initiated. The undersigned is aware that the applicant is fully responsible for all reasonable costs associated with the review of the application/request being made to the Town of Erie. Pursuant to Chapter 7 (Section 7.2.B.5) of the Unified Development Code (UDC) of the Town of Erie, applicants shall pay all costs billed by the Town for legal, engineering and planning costs incurred by staff, including consultants acting on behalf of staff, necessary for project review. By this acknowledgement, the undersigned hereby certify that the above information is true and correct.

Owner: _____ Date: _____

Owner: _____ Date: _____

Applicant: Jeffry A. Wikstrom Date: 5-1-17
Evergreen Devco, Principal

STATE OF Colorado)
) ss.
County of Denver)

The foregoing instrument was acknowledged before me this 1 day of May, 2017,

by Shannon Glee Squires.

My commission expires: 01-20-2021.

Witness my hand and official seal.

SHANNON GLEE SQUIRES
Notary Public
State of Colorado
Notary ID # 20174003223
My Commission Expires 01-20-2021

Jeff A. Wikstrom
Applicant

EXHIBIT A - LEGAL DESCRIPTION

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.

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.

May 22, 2017

Town of Erie - Community Planning and Development
Mr. Todd Bjerkaas
645 Holbrook St.
Erie, CO 80516

RE: Nine Mile Corner Site Plan and Minor Subdivision Plat – Written Statement

Dear Mr. Bjerkaas

On behalf of the Applicant, Evergreen Devco, Inc., we are pleased to provide this Site Plan and Minor Subdivision Plat application for the Nine Mile Corner within the Town of Erie, Colorado. This property is approximately 43 acres, located on the southeast corner of HWY 287 and Arapahoe Road. Currently, this property is going through the Town of Erie's rezoning process that will ultimately allow the Applicant to develop the property as a cohesive mixed-use project that includes both commercial/retail and high density residential uses. The Minor Subdivision Plat portion of this application encompasses the entire 43-acre property and proposes to subdivide the property into two separate lots, to be known as Block 1 & Block 2. The Site Plan portion of the application addresses the development of Block 2 as a multi-family residential community. The development of the commercial/retail uses on Block 1 will presented as part of a future Site Plan application to the Town of Erie. The following information responds to the requirements for a written statement as identified within Code Title 10 of the Town of Erie Unified Development Code for Site Plan Review.

a. *General project concept and purpose of the request;*
The purpose of the Minor Subdivision Plat application is to join several disparate parcels together for the creation of two distinct developable parcels, one for multi-family residential uses and the other for commercial/retail uses. These newly created parcels are known as Block 1 and Block 2, respectively, on the included Minor Subdivision Plat. This Minor Subdivision Plat application includes all necessary submittal items as required by the Town of Erie Minor Subdivision Plat process.

The Site Plan application is for the development of the ~15-acre multi-family parcel, known as Block 2 on the accompanying Minor Subdivision Plat. Proposed is a multi-family development that includes the development of approximately 304 multifamily units in the following quantities:

Unit Type	Unit Count	% of Total
1-Bedroom Unit	158	52%
2-Bedroom Unit	146	48%
Total	**304**	**100%**

The residential units will be dispersed throughout the project in a variety of building types to provide a varied and diverse community. The building types are as follows:

Building Type	Max. Res. Units Per Building	Total Buildings
3-Story: A	18	2
3-Story: B	28	6
4-Story	44	2
Carriage Units over Garage	3	4

These buildings have been strategically placed within the site to create a desirable community to live in and ensure maximum compatibility with surrounding uses. The two larger, 4-story buildings have been placed central to the property, which creates a setback of more than 400' both from Arapahoe Road to the north and from the existing single-family detached residential development in Lafayette to the south. The 3-story buildings are located on the interior of the site and help to transitionally "step down" from the taller 4-story buildings. In addition, private single-story garages and garages tucked under carriage units are also provided. These one- and two-story garage buildings are mainly located on the perimeter of the project and serve to further increase compatibility with existing surrounding uses by reducing building heights and massing adjacent to these uses. The 3-story buildings, garages, and garages with carriage units are all set back a minimum of 100' both from Arapahoe Road to the north and from the existing single-family detached residential development in Lafayette to the south.

Vehicular access will be provided by three separate connections. One access will be with a direct connection on the north side of the site to Arapahoe Road. This connection will be full movement and will serve as the main entrance to the project. A second vehicular access point will be provided at the southwest side of the project through the future commercial property to the west and out to Highway 287. A third access point is planned on the northwest side of the site that will connect directly to the commercial/retail development. No vehicular access points are proposed on either the east or south side of the property into the existing single-family residential development. Circulation throughout the site is straightforward and convenient for all residents, without encouraging cut-through traffic for adjacent uses.

Parking will be provided at a rate that meets the standards set within the PD and needs of these future Town of Erie residents. Approximately 612 total parking spaces are provided. Of this total amount of parking, 176 spaces are offered within private garages. Freestanding garages, garages with carriage units on top, and garages within the 3- and 4- story residential buildings are all provided for resident use. Surface, tandem, and garage parking has been dispersed throughout the project site to ensure convenient access for all residents.

The project is proposing extensive amenities for its residents. The centerpiece of these amenities is the approximately 5,700 square foot clubhouse. The clubhouse is located on the northern end of the site at

the main entrance off of Arapahoe Road. The building itself will house the leasing and management offices, meeting space, exercise studio, central mail, restrooms for pool, dog wash station, bike storage, maintenance space, and pool equipment. Adjacent to the clubhouse is an outdoor resort style pool and spa, as well as an outdoor kitchen and gathering spaces. The clubhouse will serve as a central community space for residents. Additionally, outdoor recreational and social spaces are provided central to building clusters throughout the site to provide amenities within close proximity to all residents. These spaces will serve as gathering areas and provide community garden planters and open lawn area that will provide space for a variety of uses.

Pedestrian access is also plentiful throughout the development. In addition to providing pedestrian access to the site at the vehicular access points identified above, 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.

Landscaping will be provided throughout the residential community. The intent of the proposed landscape design is to create a 'campus' feel through the repetitive use of gathering spaces and lawn areas within each courtyard. The landscape compliments the hardscape design through the incorporation of curved planting swaths, which soften the orthogonal walk scheme. With emphasis on grasses and low water plant species, the landscape creates an organized, native aesthetic to compliment the natural landscape. By focusing on the layering of plant texture and heights, the landscape creates interest throughout the site.

b. *Discuss how the proposed development is in compliance with the five approval criteria of the Municipal Code Title 10 - UDC for Site Plan review;*

1. *The Site Plan is consistent with the Town of Erie Comprehensive Master Plan;*

Response: The proposed Site Plan and corresponding proposed uses is consistent with the Town of Erie Comprehensive Plan. The Comprehensive Plan future land use map designates that this parcel should be used for Regional Commercial land uses. According to the Comprehensive Plan, Regional Commercial shall provide more intense retail and employment opportunities and permit high density residential as a secondary use. The proposed development for this site is consistent with this description, as it will provide retail to serve the community along the high-visibility intersection of Highway 287 and Arapahoe Road, and, as secondary use, in the less visible area of the property, will provide high density residential units.

Additionally, the development meets the Comprehensive Plan development character goals of maintaining a balanced land use mix of commercial and residential land uses, promoting contiguous and compact growth both on-site and adjacent to other development, complementing the uses and character of the surrounding area, incorporating both safe and

convenient circulation of pedestrian and vehicular traffic, and providing the community with easy access to a variety of goods, services, and employment opportunities.

2. *The Site Plan is consistent with any previously approved subdivision plat, planned development, or any other precedent plan or land use approval as applicable;*
Response: No previously approved subdivision plats, planned developments, or other precedent plans exist currently for this site. The Applicant previously submitted a Planned Development-Development Plan application ("Nine Mile PD-DP") which is currently in review. The Site Plan is consistent with this submitted Nine Mile PD-DP rezoning application.

3. *The Site Plan complies with all applicable development and design standards set forth in the Municipal Code Title 10 - UDC, including but not limited to the provisions in Chapter 2, Zoning Districts, Chapter 3, Use Regulations, Chapter 4, Dimensional Requirements, and Chapter 6, Development and Design Standards;*
Response: The proposed Site Plan complies with all applicable development and design standards outlined by the Municipal Code Title 10 – UDC, with the exception of those standards being modified by the Nine Mile PD-DP, currently under review. In this case, the Site Plan is consistent with these regulations to be modified in the PD, per the pending approval of the PD Rezoning by the Town of Erie.

4. *Any significant adverse impacts reasonably anticipated to result from the use will be mitigated or offset to the maximum extent practicable;*
Response: No significant adverse impacts are anticipated to result from this project.

5. *The development proposed on the Site Plan and its general location is or will be compatible with the character of surrounding land uses.*
Response: The development team is informed about the site's location and is aware of the adjacent uses currently surrounding the site or proposed for the future. The layout of this development, the setbacks provided, and the use of extensive landscaping and buffering all demonstrate the Applicant's commitment to creating a development that is complementary and compatible with the surrounding area. On the north side of the project, adjacent to Arapahoe Road, a 100' building setback is provided as well as strategically placed landscaping, which combined create an extensive buffer from Arapahoe Road. Regarding the east side of the property, the garage buildings at the perimeter are only one- and two-stories tall which provides a transition from the internally located larger buildings to the off-site single-family residences. In addition, 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. Finally, on the west side of the site adjacent to the future commercial

development, single-story garages and fencing are utilized to buffer and screen the proposed residential uses from the planned commercial uses.

c. *Discuss how the proposed building architecture provides visual interest consistent with the community's identity, character and scale. Explain how building facades and rooflines are articulated to reduce the mass, scale, uniform and monolithic appearances of large buildings. Describe how architectural features, patterns and details provide visual interest at the scale of the pedestrian;*
Response: The exterior design of the buildings promotes a distinctive multi-family character with materials, massing, and details that are compatible with the adjacent residential neighborhoods. The architectural character of the buildings emphasizes an upscale suburban architecture punctuated with gabled and hipped roof forms with large overhangs. The 1 -, 2-, 3-, and 4-story massing is broken up with varying roof forms as well as carefully placed color and stone to establish a pleasing rhythm on the façade. All buildings three stories will also step down at the ends to help break up the massing. The primary exterior materials are glass, synthetic stone, and siding. There will be one common color palette employed throughout the neighborhood to create an authentic and purposefully styled theme, but the location of colors and materials will vary between building types in order to differentiate buildings. All building exteriors will be highly detailed with a distinct base, middle, and top to create a distinctly human scaled pedestrian experience while proposed green spaces and internal walks provide pedestrian connections to the clubhouse, nearby parks, commercial areas, and adjacent residential neighborhoods.

d. *Provide a development schedule indicating the approximate date when construction of the proposed development, and when applicable, phases of the proposed development.*
Response: The development timeline of the project will occur based on design time, the Town of Erie review and approval process, and existing market conditions. The Applicant intends to work through the Town of Erie rezoning and development process as timely as possible with the residential portion of the project, with plans to initiate construction following Site Plan and Final Plat approval.

e. *Provide general business related data including the total number of employees, the square footage of building(s), lot area, and total project value (building and site development costs excluding land value);*
Response: These details will be solidified and supplied with the planned future commercial Site Plan application as the Applicant works with the Town of Erie through the Site Plan approval process.

f. *If residential units are proposed, provide the number of units and how they are being integrated into the proposed development;*
Response: The proposed number of residential units expected for this project is 304. The residential component of the development will be incorporated through the use of 18-plex, 28-plex buildings, and 44-plex buildings. In addition, a limited amount of carriage units over garages will be provided. These building types will vary from one another through variation in color scheme, building height, and roof style. The overall unit breakdown within the project, including all residential building types, is:
    - 1 bedroom units: 158 units (52% of total units)

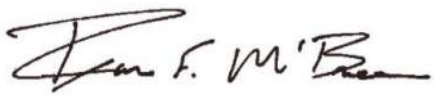
- 2 bedroom units: 146 units (48% of total units)

g. *A brief description regarding the location, function and ownership/maintenance of public and private open space, parks, trails, common areas, common buildings;*
Response: The proposed residential development includes several privately owned but accessible common spaces such as green court spaces and plazas. The provided regional trail connection, while privately owned and maintained will be publicly accessible. Private common spaces include a resort-style pool and clubhouse, as well as internal gathering and amenity spaces located throughout the community. All common areas, both public and private, will be maintained privately.

h. *A brief description regarding the status of mineral rights and the substance of any existing or proposed covenants, special conditions, grants of easements, or other restrictions applying to the proposed subdivision.*
Response: No mineral rights or consequent covenants, special conditions, easements or other restrictions apply to the proposed subdivision. An existing oil well exists on the site that has been capped. The Site Plan accounts for its location and appropriate setbacks are applied.

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

May 22, 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 – Completeness Review
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 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

Staff has determined that the application submittals for the Nine Mile Corner Site Plan and Minor Subdivision applications are sufficiently complete to send out for referral comments once the comments and requirements below have been addressed.

Site Plan Comments:

1. Section 11: Site Plan:
   a. On the Title Block for all drawings, add the project number: SP-000832-2016.
      Response: The project number has been added on all sheets.

   b. Remove background information for the buildings that have been demolished and the grayscaled commercial building footprints.
      Response: This information has been removed as requested.

2. Section 14: Additional Information:
   a. Provide typical floor plans for each building type as a separate exhibit.
      Response: Typical floor plans for each building type are included with this submittal as a separate exhibit.

Minor Subdivision Comments:

1. Section 8: Minor Subdivision Plat:
   a. On the Title Block for the plat, add the project number: MS-000888-2017.
      Response: The project number has been added on all sheets.

May 22, 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 – Initial Submittal Review
Case Number**: SP-000832-2016**

Dear Mr. Bjerkaas,

Enclosed herein are the review comments provided to us in regards to the initial submittal review of the Nine Mile Corner Site Plan. 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

TOWN OF ERIE COMMENTS:

1. Section 1. Application:
   a. Please revise the owner information in the application to: Name: Town of Erie and Town of Erie Urban Renewal Authority; Contact Person: A.J. Krieger; and, Phone: (303) 926-2700.
   Response: The Land Use Application has been updated to reflect these changes.

   b. Have the applicant sign the application on the Applicant: line and not on the Owner: line.
   Response: The Applicant has signed the application on the designated Applicant line.

   c. Revise the notary block to print the name of the individual signing the application and not the name of the Notary Public.
   Response: The signature block has been updated with this change.

2. Section 4. Proof of Ownership: Provide a title policy no more than 30 days prior to application (no earlier than October 19, 2016). Update the ALTA Survey to match the Title Policy.
   Response: The title policy that matches the Survey has been provided as part of this application.

3. Section 8: Product/Material Sample Board: Provide a sample board.
   Response: A sample board is provided with this application.

4. Section 9: Colored Rendering of Elevations: Provide renderings.
   Response: Colored rendering elevations are provided with this application.

5. Section 11: Site Plan Exhibits: Provide site plan set in compliance with the Town's Site Plan User's Guide requirements.
   Response: Site Plan exhibits are included in compliance with the User's Guide requirements.

6. Section 13: Development Reports:
   a. Provide Phase III Drainage Report and CDs.
   b. Provide Final Erosion Control Study and Plans.
   c. Provide Final Area Grading Plans.
   d. Provide Final Road Construction Plans.
   e. Provide Final Landscape Construction Plans.
   f. Provide a Final Geological Report.
   g. Provide a Traffic Impact Study.
   h. Provide a Native Tree and Vegetation Plan.
   i. Provide a Threatened and Endangered Species, Habitat, and Wetlands Report.
   j. Provide a Cultural, Archaeological, and Historical Resources Report.

k. Provide an Environmental Hazards Report.
l. Provide a Soils/Geotech Report.
Response: The reports, as required by the Town of Erie, are included as part of this submittal package.

Land Title
GUARANTEE COMPANY
Since 1967

Customer Distribution

Our Order Number: ABZ70471321-3

Date: 12-09-2016

Property Address: VACANT LAND AT HWY 287 AND ARAPAHOE, ERIE, CO 80516

For Closing Assistance
Tom Blake
3033 E 1ST AVE #600
DENVER, CO 80206
303-331-6237 (phone)
303-393-4959 (fax)
tblake@ltgc.com
Company License: CO44565

Closer's Assistant
NED DAVIS
3033 E 1ST AVE #600
DENVER, CO 80206
303-331-6213 (phone)
303-393-3989 (fax)
ndavis@ltgc.com

For Title Assistance
KIM ZIMMERMAN
5975 GREENWOOD PLAZA BLVD
GREENWOOD VILLAGE, CO 80111
720-406-2083 (phone)
303-393-4842 (fax)
kzimmerman@ltgc.com

PLEASE CONTACT YOUR CLOSER OR CLOSER'S ASSISTANT FOR WIRE TRANSFER INSTRUCTIONS

TOWN OF ERIE
Attention: A.J. KRIEGER
ajkrieger@erieco.gov
Delivered via: Electronic Mail

EVERGREEN DEVCO INC
Attention: ANGIE GRENDAHL
2390 E CAMELBACK RD #410
PHOENIX, AZ 85016
602-478-4238 (phone)
602-567-7144 (work)
602-567-7154 (work fax)
agrendahl@evgre.com
Delivered via: Electronic Mail

LAND TITLE GUARANTEE COMPANY

Attention: SHERRI GOLDSTEIN

3033 E 1ST AVE #600
DENVER, CO 80206
303-321-1880 (work)
303-322-7603 (work fax)
sgoldstein@ltgc.com
Delivered via: Electronic Mail

Land Title Guarantee Company

Estimate of Title Fees

Order Number: ABZ70471321-3 Date: 12-09-2016

Property Address: VACANT LAND AT HWY 287 AND ARAPAHOE, ERIE, CO 80516

Buyer/Borrower: EVERGREEN DEVCO, INC., A CALIFORNIA CORPORATION

Seller: TOWN OF ERIE URBAN RENEWAL AUTHORITY, AS TO PARCELS A AND B THE TOWN OF ERIE, WELD COUNTY, STATE OF COLORADO, A MUNICIPAL CORPORATION, AS TO PARCEL C

Visit Land Title's website at www.ltgc.com for directions to any of our offices.

Estimate of Title Insurance Fees	
ALTA Owners Policy 06-17-06 (Reissue Rate)	$8,152.00
Tax Certificate	$63.00
If Land Title Guarantee Company will be closing this transaction, the fees listed above will be collected at closing.	
Total	$8,215.00
THANK YOU FOR YOUR ORDER!	

ALTA COMMITMENT
Old Republic National Title Insurance Company
Schedule A

Order Number: ABZ70471321-3

Customer Ref -Loan No.:

Property Address:

VACANT LAND AT HWY 287 AND ARAPAHOE, ERIE, CO 80516

1. Effective Date:

12-02-2016 At 5:00 P.M.

2. Policy to be Issued and Proposed Insured:

"ALTA" Owner's Policy 06-17-06 $10,000,000.00
Proposed Insured:
EVERGREEN DEVCO, INC., A CALIFORNIA CORPORATION

3. The estate or interest in the land described or referred to in this Commitment and covered herein is:

A FEE SIMPLE

4. Title to the estate or interest covered herein is at the effective date hereof vested in:

TOWN OF ERIE URBAN RENEWAL AUTHORITY, AS TO PARCELS A AND B
THE TOWN OF ERIE, WELD COUNTY, STATE OF COLORADO, A MUNICIPAL CORPORATION, AS TO PARCEL C

5. The Land referred to in this Commitment is 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 ON 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

Order Number: ABZ70471321-3

Customer Ref -Loan No.:

COLORADO BY THE DEED RECORDED JANUARY 2, 1998 UNDER RECEPTION NO. 1759789.

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.

NOTE: THE FINAL POLICY DOES NOT IN ANY WAY GUARANTEE OR INSURE THE DIMENSIONS OF THE ABOVE DESCRIBED LAND, THE LEGAL DESCRIPTION IS DERIVED FROM THE CHAIN OF TITLE AND ONLY AN ACCURATE SURVEY CAN DETERMINE THE DIMENSIONS.

Copyright 2006-2016 American Land Title Association. All Rights Reserved

The use of this Form is restricted to ALTA licensees and ALTA members in good standing as of the date of use. All other uses are prohibited. Reprinted under license from the American Land Title Association.

ALTA COMMITMENT
Old Republic National Title Insurance Company
Schedule B-1

(Requirements)

Order Number: ABZ70471321-3

The following are the requirements to be complied with:

Payment to or for the account of the grantors or mortgagors of the full consideration for the estate or interest to be insured.

Proper instrument(s) creating the estate or interest to be insured must be executed and duly filed for record, to-wit:

1. ORDINANCE AUTHORIZING THE SALE OF SUBJECT PROPERTY AND THE EXECUTION OF NECESSARY DOCUMENTS BY THE TOWN OF ERIE AND TOWN OF ERIE URBAN RENEWAL AUTHORITY.

2. WARRANTY DEED FROM TOWN OF ERIE URBAN RENEWAL AUTHORITY AND THE TOWN OF ERIE TO EVERGREEN DEVCO, INC., A CALIFORNIA CORPORATION CONVEYING SUBJECT PROPERTY.

3. ORDER OF DISMISSAL ISSUED BY THE CLERK OF THE DISTRICT COURT IN AND FOR THE COUNTY OF BOULDER OF CIVIL ACTION NO. 2016CV30791 ENTITLED THE CITY OF LAFAYETTE, PLAINTIFF (S), VS. TOWN OF ERIE URBAN RENEWAL AUTHORITY ET AL., DEFENDANT (S). NOTICE OF LIS PENDENS RECORDED JULY 19, 2016, UNDER RECEPTION NO. 03531289.

   NOTE: THE ISSUANCE OF THE POLICIES AND/OR ENDORSEMENTS REFERENCED IN THIS COMMITMENT ARE SUBJECT TO THE APPROVAL OF THE UNDERWRITER OF SAID POLICIES AND/OR ENDORSEMENTS. THIS COMMITMENT MAY BE REVISED AS REQUIRED BY THE UNDERWRITER TO ISSUE THE POLICIES AND/OR ENDORSEMENTS REQUESTED. THIS NOTE WILL BE DELETED UPON THE RECEIPT OF SAID APPROVAL.

Old Republic National Title Insurance Company
Schedule B-2

(Exceptions)

Order Number: ABZ70471321-3

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

1. **Any facts, rights, interests, or claims thereof, not shown by the Public Records but that could be ascertained by an inspection of the Land or that may be asserted by persons in possession of the Land.**

2. **Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.**

3. **Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records.**

4. **Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the Public Records.**

5. **Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date of the proposed insured acquires of record for value the estate or interest or mortgage thereon covered by this Commitment.**

6. **(a) Taxes or assessments that are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; (b) proceedings by a public agency that may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.**

7. **(a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water.**

   EXISTING LEASES AND TENANCIES, IF ANY.

8. ALL COAL THAT MAY BE UNDERNEATH THE SURFACE OF THE LAND HEREIN DESCRIBED, ALSO SUCH RIGHT OF WAY AND OTHER GROUNDS AS MAY BE NECESSARY FOR THE PROPER WORKING OF ANY COAL MINES THAT MAY BE DEVELOPED UPON SAID PREMISES AND FOR THE TRANSPORTATION OF THE COAL FROM THE SAME, AS RESERVED UNTO THE UNION PACIFIC RAILWAY COMPANY IN THE DEED RECORDED JUNE 11, 1891 IN BOOK 138 AT PAGE 469, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

   (AFFECTS PARCEL C (III))

9. A RIGHT OF WAY FOR DITCHES IN, ON AND OVER SAID PREMISES AND THE RIGHT TO ENTER UPON SAID PREMISES FOR THE PURPOSE OF REPAIRING AND MAINTAINING SUCH DITCHES, AS RESERVED IN DEED RECORDED MARCH 23, 1893 IN BOOK 158 AT PAGE 300.

   (AFFECTS PARCEL C (III))

10. ALL COAL THAT MAY BE UNDERNEATH THE SURFACE OF THE LAND, AND THE EXCLUSIVE RIGHT TO PROSPECT, SINK SHAFT OR SHAFTS AND MINE FOR THE SAME; ALSO RESERVING SUCH RIGHT OF WAY AND OTHER GROUNDS AS MAY BE NECESSARY FOR THE PROPER WORKING OF ANY COAL MINE THAT MAY BE DEVELOPED UPON SAID PREMISES AND FOR THE TRANSPORTATION OF COAL FROM THE SAME, AS RESERVED UNTO THE COLORADO MORTGAGE AND INVESTMENT CO., LTD., A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF GREAT BRITAIN AND IRELAND; ANDREW WHITTON; JAMES GUTHRIE; AND ALEXANDER GOURLAY

Old Republic National Title Insurance Company
Schedule B-2

(Exceptions)

Order Number: ABZ70471321-3

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

IN THE DEED RECORDED OCTOBER 18, 1901 IN BOOK 249 AT PAGE 209, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

NOTE: MINERAL DEED RECORDED FEBRUARY 27, 1907 IN BOOK 296 AT PAGE 299.

NOTE: MINERAL DEED RECORDED SEPTEMBER 11, 1929 IN BOOK 566 AT PAGE 360.

(AFFECTS PARCELS A AND B)

11. ALL COAL OR OTHER MINERALS THAT MAY BE UNDERNEATH THE SURFACE OF THE LAND; AND THE EXCLUSIVE RIGHT TO PROSPECT, SINK SHAFT OR SHAFTS, AND MINE FOR THE SAME, AS RESERVED UNTO THE COLORADO MORTGAGE & INVESTMENT COMPANY, LIMITED, A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF GREAT BRITAIN AND IRELAND; ANDREW WHITTON; JAMES GUTHRIE; AND ALEXANDER GOURLEY IN THE DEED RECORDED JANUARY 21, 1904 IN BOOK 251 AT PAGE 460, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

    (AFFECTS PARCELS B AND C(I))

12. AN UNDIVIDED ONE-HALF INTEREST IN THE COAL AND OTHER MINERALS LYING UNDERNEATH THE SURFACE OF THE LAND AS CONVEYED TO GEORGE MURRAY, EDWARD E. HOLMES AND ALFRED N. GOSSETT BY THE DEED RECORDED FEBRUARY 27, 1907 IN BOOK 296 AT PAGE 299.

    (AFFECTS PARCELS A, B AND C(II))

13. ALL COAL AND OTHER MINERALS UNDERNEATH THE SURFACE OF THE LAND, AND THE EXCLUSIVE RIGHT TO PROSPECT, SINK SHAFT OR SHAFTS, AND MINE FOR THE SAME; ALSO RESERVING SUCH RIGHT OF WAY AND OTHER GROUNDS AS MAY BE NECESSARY FOR THE PROPER WORKING OF ANY COAL OR OTHER MINE OR MINES THAT MAY BE DEVELOPED UPON SAID PREMISES AND FOR THE TRANSPORTATION OF THE PRODUCTS THEREFROM, AND FOR SUCH SURFACE AREA SO REQUIRED, AS RESERVED UNTO THE COLORADO MORTGAGE AND INVESTMENT COMPANY, LIMITED, A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF GREAT BRITAIN AND IRELAND; ANDREW WHITTON; JAMES GUTHRIE; AND ALEXANDER GOURLAY IN THE DEED RECORDED JANUARY 15, 1910 IN BOOK 340 AT PAGE 259, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

    (AFFECTS A, B AND C(II))

14. AN UNDIVIDED 2½% INTEREST IN AND TO ALL THE OIL AND GAS IN AND UNDER AND THAT MAY BE PRODUCED FROM THE LAND, AS CONVEYED TO ROY R. CARPENTER BY THE DEED RECORDED JULY 22, 1924 IN BOOK 511 AT PAGE 168, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

    (AFFECTS ALL PARCELS)

15. THE RIGHT TO MAINTAIN, REPLACE AND USE WATER PIPE LINE; AND THE RIGHT TO DRAW WATER FROM SAID RESERVOIR BY MEANS OF SAID PIPE LINE FOR DOMESTIC USE, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS TO REPAIR AND MAINTAIN THE SAME, AS RESERVED UNTO GEORGE L. SCHOFIELD, A. MAUDE SCHOFIELD, FLOYD EUGENE HARRIS, NEVADIA HARRIS, BENNETT W. MUIR AND FRIEDA E. MUIR IN THE DEED RECORDED NOVEMBER 2, 1956 IN BOOK

Old Republic National Title Insurance Company
Schedule B-2

(Exceptions)

Order Number: ABZ70471321-3

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

1028 AT PAGE 471.

(AFFECTS PARCEL C(III))

16. ANY RIGHTS OR INTERESTS OF THIRD PARTIES WHICH EXIST OR ARE CLAIMED TO EXIST IN AND OVER THE PRESENT AND PAST BED, BANKS OR WATERS OF SOUTH BOULDER CANYON DITCH, SAID DITCH BEING REFERRED TO IN THE LEGAL DESCRIPTION CONTAINED IN DEED RECORDED APRIL 29, 1968 UNDER RECEPTION NO. 877395 AND DEED RECORDED MAY 21, 1969 UNDER RECEPTION NO. 913694.

    (AFFECTS PARCELS A, AND C(II))

17. ANY CHANGES IN AREA DUE TO THE RELOCATION OR MOVEMENT OF SOUTH BOULDER CANYON DITCH, SAID DITCH BEING DESCRIBED IN THE LEGAL DESCRIPTION CONTAINED IN DEED RECORDED APRIL 29, 1968 UNDER RECEPTION NO. 877395 AND DEED RECORDED MAY 21, 1969 UNDER RECEPTION NO. 913694.

    (AFFECTS PARCELS A AND C(II))

18. AN EASEMENT FOR ROADWAY AND FOR THE MAINTENANCE AND REPAIR OF RESERVOIR, AS RESERVED UNTO THE TOWN OF ERIE IN THE DEED RECORDED APRIL 29, 1968 UNDER RECEPTION NO. 877396.

    (AFFECTS PARCEL B)

19. EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF COLORADO, FOR NATURAL GAS FACILITIES, AND INCIDENTAL PURPOSES, BY INSTRUMENT RECORDED AUGUST 04, 1981, UNDER RECEPTION NO. 457820.

    (AFFECTS PARCEL A)

20. OIL AND GAS LEASE BETWEEN TOWN OF ERIE, LESSOR, AND MARTIN EXPLORATION MANAGEMENT CORP., LESSEE, RECORDED MARCH 31, 1983 UNDER RECEPTION NO. 541012, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985 UNDER RECEPTION NO. 702639. REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    NOTE: NOTICE OF OIL AND GAS INTERESTS AND SURFACE USE IN CONNECTION WITH THE ABOVE LEASE RECORDED JANUARY 23, 2001 UNDER RECEPTION NO. 2112332.

    (AFFECTS PARCELS B, C(I) AND C(II))

21. OIL AND GAS LEASE BETWEEN RODGER D. BEERY AND CAMILLA R. BEERY, LESSORS, AND MARTIN EXPLORATION MANAGEMENT CORP., LESSEE, RECORDED APRIL 11, 1983 UNDER RECEPTION NO. 542944, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985, UNDER RECEPTION NO. 702639. REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068

Old Republic National Title Insurance Company
Schedule B-2

(Exceptions)

Order Number: ABZ70471321-3

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

(AFFECTS PARCEL A)

22. RIGHT OF WAY EASEMENT FOR PIPELINE, AND INCIDENTAL PURPOSES, AS GRANTED TO CDM PIPELINE COMPANY, INC., A COLORADO CORPORATION IN INSTRUMENT RECORDED JULY 16, 1984 UNDER RECEPTION NO. 634026, AND CORRECTION AND AMENDMENT OF PIPELINE RIGHT-OF-WAY GRANT RECORDED OCTOBER 15, 1984 UNDER RECEPTION NO. 652036.

    PIPELINE SURVEY MAP RECORDED SEPTEMBER 28, 1984 UNDER RECEPTION NO. 649253.

    (AFFECTS PARCEL A)

23. (ITEM INTENTIONALLY DELETED)

24. ANY TAX, LIEN, FEE, OR ASSESSMENT BY REASON OF INCLUSION OF SUBJECT PROPERTY IN THE LONGMONT FIRE PROTECTION DISTRICT, AS EVIDENCED BY INSTRUMENT RECORDED APRIL 29, 1985, UNDER RECEPTION NO. 685397 AND MODIFIED ORDER OF INCLUSION RECORDED SEPTEMBER 3, 1985 UNDER RECEPTION NO. 710155.

    (AFFECTS ALL PARCELS)

25. OIL AND GAS LEASE BETWEEN GEORGE W. KUHL, VIVIAN M. KUHL, RODGER D. KUHL AND JANE M. KUHL, LESSORS, AND O.D. PRESLEY, LESSEE, RECORDED MAY 06, 1985 UNDER RECEPTION NO. 686620, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985 UNDER RECEPTION NO. 702639. REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    (AFFECTS PARCEL B)

26. OIL AND GAS LEASE BETWEEN ROY N. AUSTIN, LESSOR, AND O.D. PRESLEY, LESSEE, RECORDED MAY 06, 1985 UNDER RECEPTION NO. 686626, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985 UNDER RECEPTION NO. 702639. REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    (AFFECTS ALL PARCELS)

27. OIL AND GAS LEASE BETWEEN JANE KUEHNER, MARY F. DEHAAN, MICHAEL R. SHELTON, MARK L. SHELTON, BRUCE D. CARPENTER, JEAN K. CARPENTER, GLENN C. CARPENTER AND SARAH A. CARPENTER, LESSORS, AND O.D. PRESLEY, LESSEE, RECORDED AUGUST 06, 1985 UNDER RECEPTION NO. 703693, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

Old Republic National Title Insurance Company
Schedule B-2

(Exceptions)

Order Number: ABZ70471321-3

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

NOTE: RATIFICATIONS OF OIL AND GAS LEASE RECORDED JUNE 12, 1986 UNDER RECEPTION NOS. 766084, 766085 AND 766086.

(AFFECTS ALL PARCELS)

28. OIL AND GAS LEASE BETWEEN CLAUDE JONES AND ALINE JONES, LESSORS, AND O.D. PRESLEY, LESSEE, RECORDED AUGUST 06, 1985 UNDER RECEPTION NO. 703694, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    (AFFECTS ALL PARCELS)

29. OIL AND GAS LEASE BETWEEN EVAN DUVAL, JR. AND O.D. PRESLEY, LESSORS, AND RICHARDSON OIL COMPANY, LESSEE, RECORDED AUGUST 06, 1985 UNDER RECEPTION NO. 703697, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    (AFFECTS PARCELS A, B AND C(I AND II))

30. OIL AND GAS LEASE BETWEEN WINNIFRED H. EWALT, LESSOR, AND O.D. PRESLEY, LESSEE, RECORDED OCTOBER 08, 1985 UNDER RECEPTION NO. 717948, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

    NOTE: RATIFICATION OF OIL AND GAS LEASE RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766083.

    (AFFECTS ALL PARCELS)

31. OIL AND GAS LEASE BETWEEN JAY P. WALKER, LESSOR, AND O.D. PRESLEY, LESSEE, RECORDED JULY 09, 1986 UNDER RECEPTION NO. 772253, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS ALL PARCELS)

32. MINERAL DEED RECORDED MARCH 5, 1992 UNDER RECEPTION NO. 1165768.

    (AFFECTS SE 1/4 OF SECTION 27 AND THE N 1/2 OF THE NE 1/4 OF SECTION 34)

33. OIL AND GAS LEASE BETWEEN PAUL K. LASNIK, LESSOR, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 17, 1992 UNDER RECEPTION NO. 1168168, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS ALL PARCELS)

Old Republic National Title Insurance Company
Schedule B-2

(Exceptions)

Order Number: ABZ70471321-3

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

34. OIL AND GAS LEASE BETWEEN HELEN M. MASTRIONA AND FRANK M. MASTRIONA, LESSORS, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 24, 1992 UNDER RECEPTION NO. 1169721, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS ALL PARCELS)

35. OIL AND GAS LEASE BETWEEN DOROTHY J. BLACKBURN AND JOSEPH BLACKBURN, LESSORS, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 24, 1992 UNDER RECEPTION NO. 1169722, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS ALL PARCELS)

36. OIL AND GAS LEASE BETWEEN DOLORES T. FORBIS AND DERL D. FORBIS, LESSORS, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 30, 1992 UNDER RECEPTION NO. 1171195, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS ALL PARCELS)

37. OIL AND GAS LEASE BETWEEN MARTIN EXPLORATION MANAGEMENT COMPANY, LESSOR, AND BASIN EXPLORATION INCORPORATED, LESSEE, RECORDED NOVEMBER 08, 1993 UNDER RECEPTION NO. 1358710, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    NOTE: NOTICE OF OIL AND GAS INTERESTS AND SURFACE USE IN CONNECTION WITH THE ABOVE LEASE RECORDED JANUARY 23, 2001 UNDER RECEPTION NO. 2112332.

    (AFFECTS ALL PARCELS)

38. RESOLUTION #94-25, PERTAINING TO ANNEXATION, RECORDED NOVEMBER 9, 1994 UNDER RECEPTION NO. 1477392 AND MAP IN CONNECTION THEREWITH RECORDED NOVEMBER 9, 1994 UNDER RECEPTION NO. 1477393.

    (AFFECTS PARCEL C (I, II & III) AND A PORTION OF PARCEL B)

39. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN NELSON AGREEMENT REGARDING USE OF PUBLIC STREET RECORDED JULY 24, 1998 UNDER RECEPTION NO. 1827415.

    (AFFECTS PARCEL A)

40. REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED MAY 17, 2002 UNDER RECEPTION NO. 2288464.

    (AFFECTS PARCEL C(III))

41. REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED OCTOBER 23, 2007 UNDER RECEPTION NO. 2890878.

    (AFFECTS PARCEL C(III))

Old Republic National Title Insurance Company
Schedule B-2

(Exceptions)

Order Number: ABZ70471321-3

The policy or policies to be issued will contain exceptions to the following unless the same are disposed of to the satisfaction of the Company:

42. REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED DECEMBER 21, 2007 UNDER RECEPTION NO. 2900941.

    (AFFECTS PARCEL C(III))

43. TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN LONG-TERM LEASE PURCHASE OPTION AGREEMENT DATED JANUARY 10, 2012 BY AND BETWEEN THE TOWN OF ERIE URBAN RENEWAL AUTHORITY AND BRIAN NELSON AND SHAWNA NELSON, AS MEMORIALIZED BY RECORD NOTICE RECORDED WITH WARRANTY DEED JANUARY 17, 2012 UNDER RECEPTION NO. 3196450.

    NOTE: BY WARRANTY DEED RECORDED JANUARY 16, 2013 UNDER RECEPTION NO. 3282584, BRIAN NELSON AND SHAWNA NELSON CONVEYED OPTION TO PURCHASE, AS SET FORTH IN SAID AGREEMENT, TO TOWN OF ERIE URBAN RENEWAL AUTHORITY.

    (AFFECTS PARCEL A)

44. OIL AND GAS LEASE BETWEEN NOBLE ENERGY, INC., A DELAWARE CORPORATION AND EXTRACTION OIL & GAS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, RECORDED MARCH 11, 2015 UNDER RECEPTION NO. 3432573 AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

    (AFFECTS PARCEL C (III))

45. RESOLUTION #05-2015, PERTAINING TO ANNEXATION, RECORDED APRIL 21, 2015 UNDER RECEPTION NO. 3440934 AND MAP IN CONNECTION THEREWITH RECORDED APRIL 21, 2015 UNDER RECEPTION NO. 3440932.

46. RESOLUTION #06-2015, PERTAINING TO ZONING, RECORDED APRIL 21, 2015 UNDER RECEPTION NO. 3440935 AND MAP IN CONNECTION THEREWITH RECORDED APRIL 21, 2015 UNDER RECEPTION NO. 3440933.

    (ITEMS 45-46 AFFECT PARCEL A AND A PORTION OF PARCEL B)

JOINT NOTICE OF PRIVACY POLICY OF

LAND TITLE GUARANTEE COMPANY,
LAND TITLE GUARANTEE COMPANY - GRAND JUNCTION,
LAND TITLE GUARANTEE COMPANY OF SUMMIT COUNTY
LAND TITLE INSURANCE CORPORATION AND
OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

This Statement is provided to you as a customer of Land Title Guarantee Company and Meridian Land Title, LLC, as agents for Land Title Insurance Corporation and Old Republic National Title Insurance Company.

We want you to know that we recognize and respect your privacy expectations and the requirements of federal and state privacy laws. Information security is one of our highest priorities. We recognize that maintaining your trust and confidence is the bedrock of our business. We maintain and regularly review internal and external safeguards against unauthorized access to non-public personal information ("Personal Information").

In the course of our business, we may collect Personal Information about you from:

- applications or other forms we receive from you, including communications sent through TMX, our web-based transaction management system;
- your transactions with, or from the services being performed by, us, our affiliates, or others;
- a consumer reporting agency, if such information is provided to us in connection with your transaction;

  and

- the public records maintained by governmental entities that we either obtain directly from those entities, or from our affiliates and non-affiliates.

Our policies regarding the protection of the confidentiality and security of your Personal Information are as follows:

- We restrict access to all Personal Information about you to those employees who need to know that information in order to provide products and services to you.
- We maintain physical, electronic and procedural safeguards that comply with federal standards to protect your Personal Information from unauthorized access or intrusion.
- Employees who violate our strict policies and procedures regarding privacy are subject to disciplinary action.
- We regularly access security standards and procedures to protect against unauthorized access to Personal Information.

WE DO NOT DISCLOSE ANY PERSONAL INFORMATION ABOUT YOU WITH ANYONE FOR ANY PURPOSE THAT IS NOT PERMITTED BY LAW.

Consistent with applicable privacy laws, there are some situations in which Personal Information may be disclosed. We may disclose your Personal Information when you direct or give us permission; when we are required by law to do so, for example, if we are served a subpoena; or when we suspect fraudulent or criminal activities. We also may disclose your Personal Information when otherwise permitted by applicable privacy laws such as, for example, when disclosure is needed to enforce our rights arising out of any agreement, transaction or relationship with you.

Our policy regarding dispute resolution is as follows. Any controversy or claim arising out of or relating to our privacy policy, or the breach thereof, shall be settled by arbitration in accordance with the rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

LAND TITLE GUARANTEE COMPANY

LAND TITLE GUARANTEE COMPANY - GRAND JUNCTION

DISCLOSURE STATEMENTS

Note: Pursuant to CRS 10-11-122, notice is hereby given that:

A) The Subject real property may be located in a special taxing district.
B) A certificate of taxes due listing each taxing jurisdiction will be obtained from the county treasurer of the county in which the real property is located or that county treasurer's authorized agent unless the proposed insured provides written instructions to the contrary. (for an Owner's Policy of Title Insurance pertaining to a sale of residential real property)
C) The information regarding special districts and the boundaries of such districts may be obtained from the Board of County Commissioners, the County Clerk and Recorder, or the County Assessor.

Note: Effective September 1, 1997, CRS 30-10-406 requires that all documents received for recording or filing in the clerk and recorder's office shall contain a top margin of at least one inch and a left, right and bottom margin of at least one half of an inch. The clerk and recorder may refuse to record or file any document that does not conform, except that, the requirement for the top margin shall not apply to documents using forms on which space is provided for recording or filing information at the top margin of the document.

Note: Colorado Division of Insurance Regulations 8-1-2 requires that "Every title entity shall be responsible for all matters which appear of record prior to the time of recording whenever the title entity conducts the closing and is responsible for recording or filing of legal documents resulting from the transaction which was closed". Provided that Land Title Guarantee Company conducts the closing of the insured transaction and is responsible for recording the legal documents from the transaction, exception number 5 will not appear on the Owner's Title Policy and the Lenders Policy when issued.

Note: Affirmative mechanic's lien protection for the Owner may be available (typically by deletion of Exception no. 4 of Schedule B-2 of the Commitment from the Owner's Policy to be issued) upon compliance with the following conditions:

A) The land described in Schedule A of this commitment must be a single family residence which includes a condominium or townhouse unit.
B) No labor or materials have been furnished by mechanics or material-men for purposes of construction on the land described in Schedule A of this Commitment within the past 6 months.
C) The Company must receive an appropriate affidavit indemnifying the Company against un-filed mechanic's and material-men's liens.
D) The Company must receive payment of the appropriate premium.
E) If there has been construction, improvements or major repairs undertaken on the property to be purchased within six months prior to the Date of the Commitment, the requirements to obtain coverage for unrecorded liens will include: disclosure of certain construction information; financial information as to the seller, the builder and or the contractor; payment of the appropriate premium fully executed Indemnity Agreements satisfactory to the company, and, any additional requirements as may be necessary after an examination of the aforesaid information by the Company.

No coverage will be given under any circumstances for labor or material for which the insured has contracted for or agreed to pay.

Note: Pursuant to CRS 10-11-123, notice is hereby given:

This notice applies to owner's policy commitments disclosing that a mineral estate has been severed from the surface estate, in Schedule B-2.

A) That there is recorded evidence that a mineral estate has been severed, leased, or otherwise conveyed from the surface estate and that there is a substantial likelihood that a third party holds some or all interest in oil, gas, other minerals, or geothermal energy in the property; and
B) That such mineral estate may include the right to enter and use the property without the surface owner's permission.

Note: Pursuant to CRS 10-1-128(6)(a), It is unlawful to knowingly provide false, incomplete, or misleading facts or information to an insurance company for the purpose of defrauding or attempting to defraud the company. Penalties may include imprisonment, fines, denial of insurance, and civil damages. Any insurance company or agent of an insurance company who knowingly provides false, incomplete, or misleading facts or information to a policyholder or claimant for the purpose of defrauding or attempting to defraud the policyholder or claimant with regard to a settlement or award payable from insurance proceeds shall be reported to the Colorado Division of Insurance within the Department of Regulatory Agencies.

Note: Pursuant to Colorado Division of Insurance Regulations 8-1-3, notice is hereby given of the availability of a closing protection letter for the lender, purchaser, lessee or seller in connection with this transaction.

Commitment to Insure

ALTA Commitment - 2006 Rev.

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY, a Minnesota corporation, (Company) for a valuable consideration, commits to issue its policy or policies of title insurance, as identified in Schedule A, in favor of the Proposed Insured named in Schedule A, as owner or mortgagee of the estate or interest in the land described or referred to in Schedule A, upon payment of the premiums and charges and compliance with the requirements; all subject to the provisions of Schedule A and B and to the Conditions of this Commitment.

This Commitment shall be effective only when the identity of the Proposed Insured and the amount of the policy or policies committed for have been inserted in Schedule A by the Company. All liability and obligation under this commitment shall cease and terminate six months after the Effective Date or when the policy or policies committed for shall issue, whichever first occurs, provided that the failure to issue such policy or policies is not the fault of the Company.

CONDITIONS AND STIPULATIONS

1. The term "mortgage", when used herein, shall include deed of trust, trust deed, or other security instrument.
2. If the proposed Insured has or acquires actual knowledge of any defect, lien, encumbrance, adverse claim or other matter affecting the estate or interest or mortgage thereon covered by this Commitment other than those shown in Schedule B hereof, and shall fail to disclose such knowledge to Company in writing, the Company shall be relieved from liability for any loss or damage resulting from any act of reliance hereon to the extent the Company is prejudiced by failure to so disclose such knowledge. If the proposed Insured shall disclose such knowledge to the Company, or if the Company otherwise acquires actual knowledge of any such defect, lien, encumbrance, adverse claim or other matter, the Company at its option may amend Schedule B of this Commitment accordingly, but such amendment shall not relieve the Company from liability previously incurred pursuant to paragraph 3 of these Conditions and Stipulations.
3. Liability of the Company under this Commitment shall be only to the named proposed Insured and such parties included under the definition of Insured in the form of policy or policies committed for and only for actual loss incurred in reliance hereon in undertaking in good faith (a) to comply with the requirements hereof or (b) to eliminate exceptions shown in Schedule B, or (c) to acquire or create the estate or interest or mortgage thereon covered by this Commitment. In no event shall such liability exceed the amount stated in Schedule A for the policy or policies committed for and such liability is subject to the insuring provisions and the Conditions and Stipulations and the Exclusions from Coverage of the form of policy or policies committed for in favor of the proposed Insured which are hereby incorporated by reference and are made a part of this Commitment except as expressly modified herein.
4. This commitment is a contract to issue one or more title insurance policies and is not an abstract of title or a report of the condition of title. Any action or actions or rights of action that the proposed Insured may have or may bring against the Company arising out of the status of the title to the estate or interest or the status of the mortgage thereon covered by this Commitment must be based on and are subject to the provisions of this Commitment.
5. The policy to be issued contains an arbitration clause. All arbitrable matters when the Amount of Insurance is $2,000,000 or less shall be arbitrated at the option of either the Company or the Insured as the exclusive remedy of the parties. You may review a copy of the arbitration rules at www.alta.org.

STANDARD EXCEPTIONS

In addition to the matters contained in the Conditions and Stipulations and Exclusions from Coverage above referred to, this Commitment is also subject to the following:

1. Rights or claims of parties in possession not shown by the Public Records.
2. Easements, or claims of easements, not shown by the Public Records.
3. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, and any facts which a correct survey or inspection of the Land would disclose and which are not shown by the Public Records.
4. Any lien, or right to a lien, for services, labor or material theretofore or hereafter furnished, imposed by law and not shown by the Public Records.
5. Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the Public Records or attaching subsequent to the effective date hereof but prior to the date the proposed insured acquires of record for value the estate or interest or mortgage thereon covered by this Commitment.

IN WITNESS WHEREOF, Old Republic National Title Insurance Company has caused its corporate name and seal to be affixed by its duly authorized officers on the date shown in Schedule A to be valid when countersigned by a validating officer or other authorized signatory.

Issued by:
Land Title Guarantee Company
3033 East First Avenue
Suite 600
Denver, Colorado 80206
303-321-1880

John E. Freyer, Jr
President

Old Republic National Title Insurance Company
a Stock Company
400 Second Avenue South
Minneapolis, Minnesota 55401
(612)371-1111

Mark Bilbrey
President

AMERICAN LAND TITLE ASSOCIATION

Rande Yeager
Secretary



On March 20, 2015, I performed a limited visual assessment of the trees located on the land area that is comprised of the following three parcels of land: Prince Reservoir, Kuhl property, and the newly acquired Nelson property. No in-depth tree risk assessments were completed during the limited visual assessment of the property and will need to be performed if any of the trees on the site are to be preserved in conjunction with any future development plans. My observations for the purposes of this report are geared to site and species generalizations as opposed to details concerning individual trees.

1) Tree Diversity

South Boulder Canyon ditch

The South Boulder Canyon ditch transects the surveyed area flowing from the western boundary through to the eastern boundary of the site. Trees found within this area have all self-sown, or have grown or spread by natural dispersion of seed such as wind or animals.

Invasive plant species are clearly present in the South Boulder Canyon ditch, making a significant contribution to the vegetation community. Invasive plant species, also referred to as exotics, introduced, or nonindigenous species are organisms which have expanded outside their native distributional range, arriving there by human activity,

either deliberate or accidental. Exotic vegetation now grows here naturally and reproduces actively, outcompeting native cottonwood and willow. They disturb, and in time, will entirely replace native trees and plant communities. Their effect on natural plant and animals ranges from somewhat disruptive to very harmful.

Invasive trees found throughout the South Boulder Canyon ditch are comprised of the following species: ash (*Fraxinus spp.*), Siberian elm (*Ulmus pumilia*), mulberry (*Morus spp.*), and Russian-olive (*Elaeagnus angustifolia*). Russian-olive is identified as a List-B noxious weed by the Colorado Noxious Weed Act

Native trees found throughout the South Boulder Canyon ditch are comprised of the following species: plains cottonwood (*Populus sargentii*) and peachleaf willow (*Salix amalgoides*).

Prince Reservoir

Prince Reservoir's western property line is comprised of the same invasive and native species that are detailed to be found in the South Boulder Canyon ditch.
Trees located on the northwest corner of the property near the intersection of Arapahoe Road and Highway 287 are comprised of a native stand of multi-stemmed plains cottonwoods (*Populous sargentii*).

Kuhl Property

Trees found surrounding the Kuhl property are comprised of the following species: Siberian elm (*Ulmus pumilia*), crabapples/apples (*Malus spp.*), and junipers (*Juniperus spp.*)

Nelson Property

Trees found surrounding the Nelson property are comprised of the following species: crabapples/apples (*Malus spp.*), junipers (*Juniperus spp.*), plum/cherry (*Prunus spp.*), Austrian pines (*Pinus nigra*), honeylocusts (*Gledistia spp.*), and willow (*Salix spp.*). In addition, there is a recently planted row of Austrian pines (*Pinus nigra*) on the western border adjacent to Highway 287.

2) Condition

South Boulder Canyon ditch/Prince Reservoir

The age, sizes, and overall health of the trees found in the South Boulder Canyon ditch are highly variable. The historical movement, distribution, and quality of water have greatly influenced the species diversity, density, and overall health of the plant

community found within this area. Trees found in this stand have historically received no maintenance during their existence and are the result of the continual stressors of the site and harsh growing conditions. Tree structure and health has been influenced by a number of factors: old age, drought, insect attack, disease, fluctuating hydrology, pressure from exotic tree species, and changing soil chemistry and structure.

Trees growing in and alongside of the ditch can be categorized by the following traits:

- Structural defects and weaknesses due to lack of maintenance
    - Multi-stemmed trees with several co-dominant trunks and branches
    - Trunks exhibiting a high degree of lean deviating from desirable 90 degrees due to competition and overcrowding
    - Poor/weak branch attachments and extensive included bark
- Prevalent crown dieback or portions of deadwood within their canopies
- Large and small standing dead trees intermixed with live trees
- Evidence of complete and partial tree failures due to erosion of ditch banks, storm damage, and declining health. Trees exhibit poor response wood growth to previous failures
- Low vigor

Nelson/Kuhl Properties

Trees surrounding the residential structures on both the Nelson and Kuhl properties can be categorized by the following traits:

- Purposely planted as landscape improvements
- Received minimal to no maintenance during their existence
- Located on non-irrigated sites and are drought stressed
- Relatively young in age
- Trees developed with numerous structural defects and weaknesses due to lack of maintenance. Multi-stemmed trees with several co-dominant trunks and branches
- Several possess prevalent crown dieback or portions of deadwood within their canopies

3) <u>Tree Risk and Preservation Potential</u>

Tree risk management deals in probabilities of failure, rather than certainties, coupled with the consequences associated with a failure, which ultimately determine the risk rating of a tree. Age, species, site, and condition all influence the relative hazard of the

tree and influence the likelihood of tree failure rating. A high probability of failure does not necessarily make a tree a hazard. Trees become a potential hazard when there is a target. A target is a structure, vehicle or a person that would be struck by a falling tree or its parts. The target directly influences the degree of hazard. If no targets are present, the tree poses no hazard even if tree failure is imminent.

South Boulder Canyon ditch/Prince Reservoir

Trees located on the South Boulder Canyon ditch and along eastern border of Prince Reservoir, in its current state and area usage frequency, pose no to negligible risk as there are no targets present. The consequences of failure for the majority of the trees found in this area would greatly increase if development were to encroach in close proximity this this area and new targets were placed within this area.

This area provides excellent wildlife habitat and serves as a wildlife corridor. Evidence of small mammals and an abundance of bird nesting sites are apparent in this site. Development in close proximity to this ditch would greatly alter the wildlife habitat provided in this area. Any disruption of the natural flow of the ditch or grade changes will have negative consequences on the overall health and long term sustainability of these already stressed trees and any wildlife habitat value proved in this area. Cottonwood trees are particularly susceptible to water stress and may decline as groundwater becomes less available.

Any grade changes made near these trees can disturb the delicate relationship between roots and the surrounding soil. This results in root mortality, decline in vigor and frequently, in death of the tree. The severity of the symptoms and the rate at which the tree declines depends on the extent of the grade change, the age, size and initial vigor of the tree and the species. Generally, mature or over-mature trees and those in a weakened condition are most sensitive to grade changes.

The majority of the trees located alongside the South Boulder Canyon ditch and along the eastern border of the Prince Reservoir property are not feasible candidates to retain or relocate in conjunction with any intensive construction, demolition, and water diversion operations based on one or more of thefactors described above. All invasive species including ash (Fraxinus spp.), Siberian elm (Ulmus pumilia), mulberry (Morus spp.), and Russian-olive (Elaeagnus angustifolia) should be removed from the properties regardless of what other tree preservation strategies are employed.

The preservation of any of these trees is entirely dependent upon what is planned for the site in the future and may be deemed unsuitable for preservation once plans are developed and additional information is gathered upon the individual trees. The two trees listed in order of most desirable/suitable for preservation:

1. Large plains cottonwood located on the south eastern corner of the Kuhl parcel originating from ditch bank (see map)
2. Large plains cottonwood located on the south western corner of the Kuhl parcel originating from ditch bank (see map)

Nelson/Kuhl Properties

The size and condition of the trees surrounding the residential properties pose slightly more consequences of failure due to the proximity of targets, in the form of structures, in relation to tree locations, albeit minor due to their current sizes. Neither property possesses any specimen trees or trees in prime condition exhibiting highly desirable traits. Trees found in these areas are small, poorly maintained, and drought stressed. This same assessment would apply for the planted row of Austrian pines (Pinus nigra) on the western border adjacent to Highway 287. None of these trees are suitable for relocation or retention based on the factors described above. The small sizes coupled with replacement cost make replacement more suitable than preservation.

A formal tree risk assessment should be performed by a qualified tree risk assessor if any existing trees are to be integrated into development plans. Steps should also be taken to protect the trees and critical root zones to minimize damage to any trees that are to be preserved and incorporated into any planned development. Tree protection zone requirements are detailed in the Town Unified Development Code and should be established prior to any earth-moving operations.

Please let me know if you would like me to help with this endeavor in any way, whether it be aiding in establishing tree protection zones, conducting formal tree risk assessments, or design plan reviews. Please see attached map.

Mike McGill | Natural Resources Supervisor
Town of Erie | Parks & Recreation Department
P.O. Box 1110 Erie, CO 80516
Phone: 303-926-2896 | Cell: 303-901-4655 | Fax: 303-665-9420
mmcgill@erieco.gov | www.erieco.gov/parksandrec

Nationally Accredited Agency & 2013 Gold Medal Award Winner

The information contained in this e-mail message may be privileged, confidential and protected from disclosure. If you are not the intended recipient, any dissemination, distribution, or copying is strictly prohibited. If you think that you have received this e-mail message in error, please contact the sender and delete the original message immediately.



CONCEPT SITE PLAN
April 28, 2017

Evergreen
Development | Services | Investments

NINE MILE CORNER

KEPHART community • planning • architecture
HKS HARRIS KOCHER SMITH
Galloway Planning. Architecture. Engineering.
NORRIS DESIGN Planning | Landscape Architecture | Project Promotion

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

15 ACRES

SITE PLAN - SP-000832-2016

SITE DATA SUMMARY CHART ZONE DISTRICT:		
ITEM	SQUARE FOOTAGE	% OF GROSS SITE
GROSS SITE AREA	659,355	100.0%
- 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)	186,087	28.2%
- EXISTING VEGETATION	22,783	3.5%
- TRAILS AND SIDEWALKS	99,798	15.1%
LANDSCAPE TOTAL	308,668	46.8%
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)	612	
- PROVIDED (INCLUDING HANDICAP)	612	
- HANDICAP PROVIDED	8	



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.

SHEET INDEX

1	COVER SHEET
2	SITE PLAN
3	SITE PLAN
4	SITE PLAN
5	LANDSCAPE NOTES
6	LANDSCAPE SCHEDULES AND CHARTS
7	OVERALL LANDSCAPE PLAN
8	LANDSCAPE PLAN
9	LANDSCAPE PLAN
10	LANDSCAPE PLAN
11	LANDSCAPE PLAN
12	LANDSCAPE PLAN
13	LANDSCAPE PLAN
14	LANDSCAPE DETAILS
15	LANDSCAPE DETAILS
16	LANDSCAPE DETAILS
17	OVERALL UTILITY PLAN
18	OVERALL UTILITY PLAN
19	OVERALL UTILITY PLAN
20	GRADING PLAN
21	GRADING PLAN
22	GRADING PLAN
23	SITE PHOTOMETRIC PLAN
24	SITE LIGHT FIXTURES
25	BLDG A - ELEVATIONS
26	BLDG A - ELEVATIONS
27	BLDG B - ELEVATIONS
28	BLDG B - ELEVATIONS
29	BLDG C - ELEVATIONS
30	BLDG C - ELEVATIONS
31	ACCESSORY ELEVATIONS
32	ACCESSORY ELEVATIONS
33	CARRIAGE ELEVATIONS
34	CARRIAGE ELEVATIONS
35	CLUBHOUSE ELEVATIONS
36	CLUBHOUSE ELEVATIONS

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

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: _____

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

PROJECT NUMBER: 160602

Drawn By: Tim Snyder
Printed: FRI 05/19/17 8:46:41A By: Tim Snyder
Plotted: FRI 05/19/17 8:46:41A By: Tim Snyder
DATE: 05/19/2017
Drawing: P:\160602\ENGINEERING\SITE PLANS\P - COVER.DWG Layout: LAYOUT1

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017

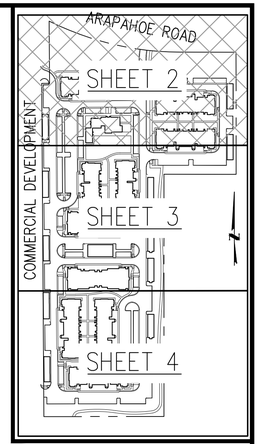
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

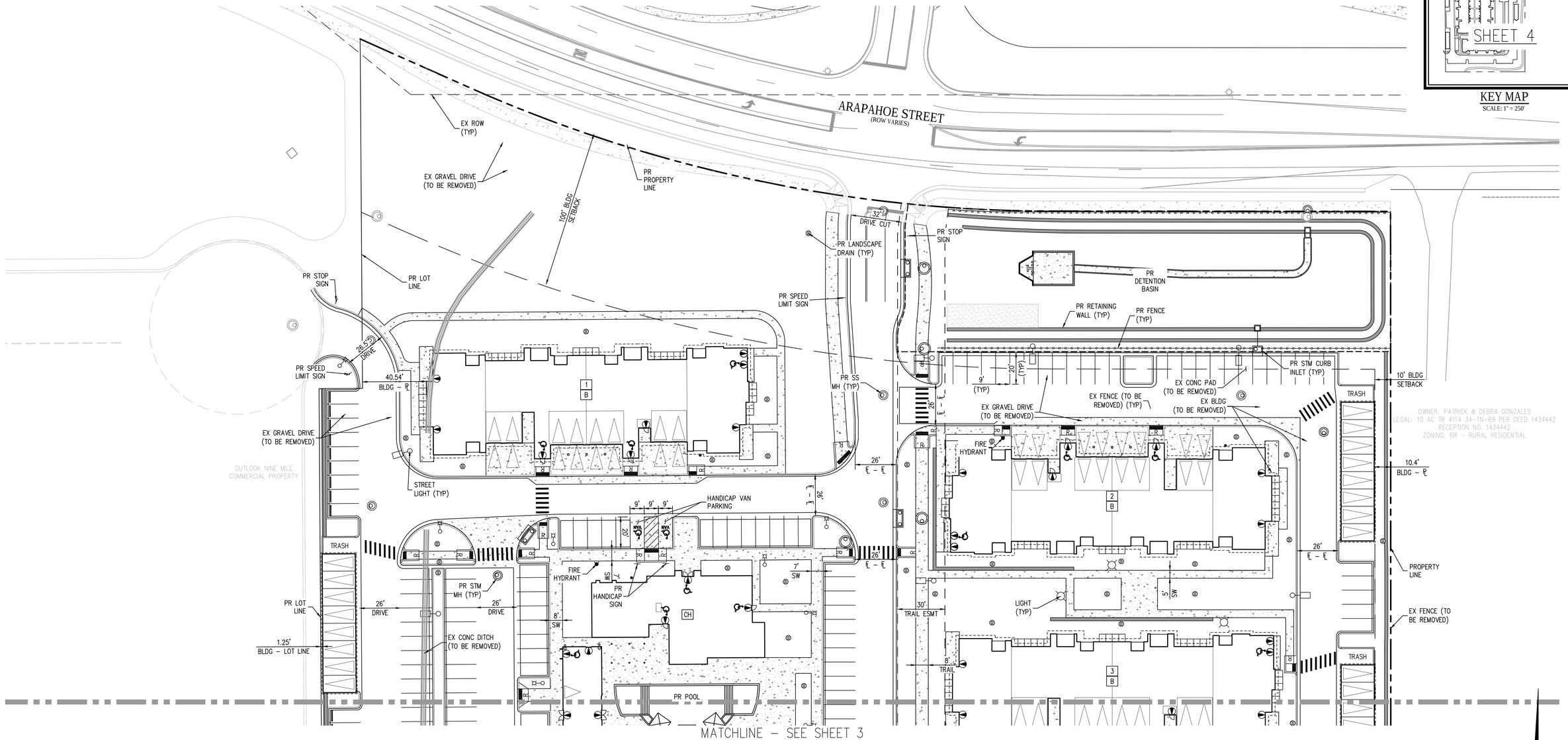
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016



KEY MAP
SCALE: 1" = 250'



MATCHLINE - SEE SHEET 3

NOTE:
SEE LANDSCAPE SHEETS FOR WALK/TRAIL MATERIAL SPECIFICATIONS.

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

30 0 30 60
SCALE: 1" = 30'

PROJECT NUMBER: 160602

Filepath: P:\160602\ENGINEERING\SITE PLANS\P- SITE PLANDWG Layout: 2 SITE PLAN
03/31/17 Last Saved By: Tim Sayler Last Saved By: Tim Sayler
Plotted: FRI 05/19/17 9:04:11A By: Tim Sayler

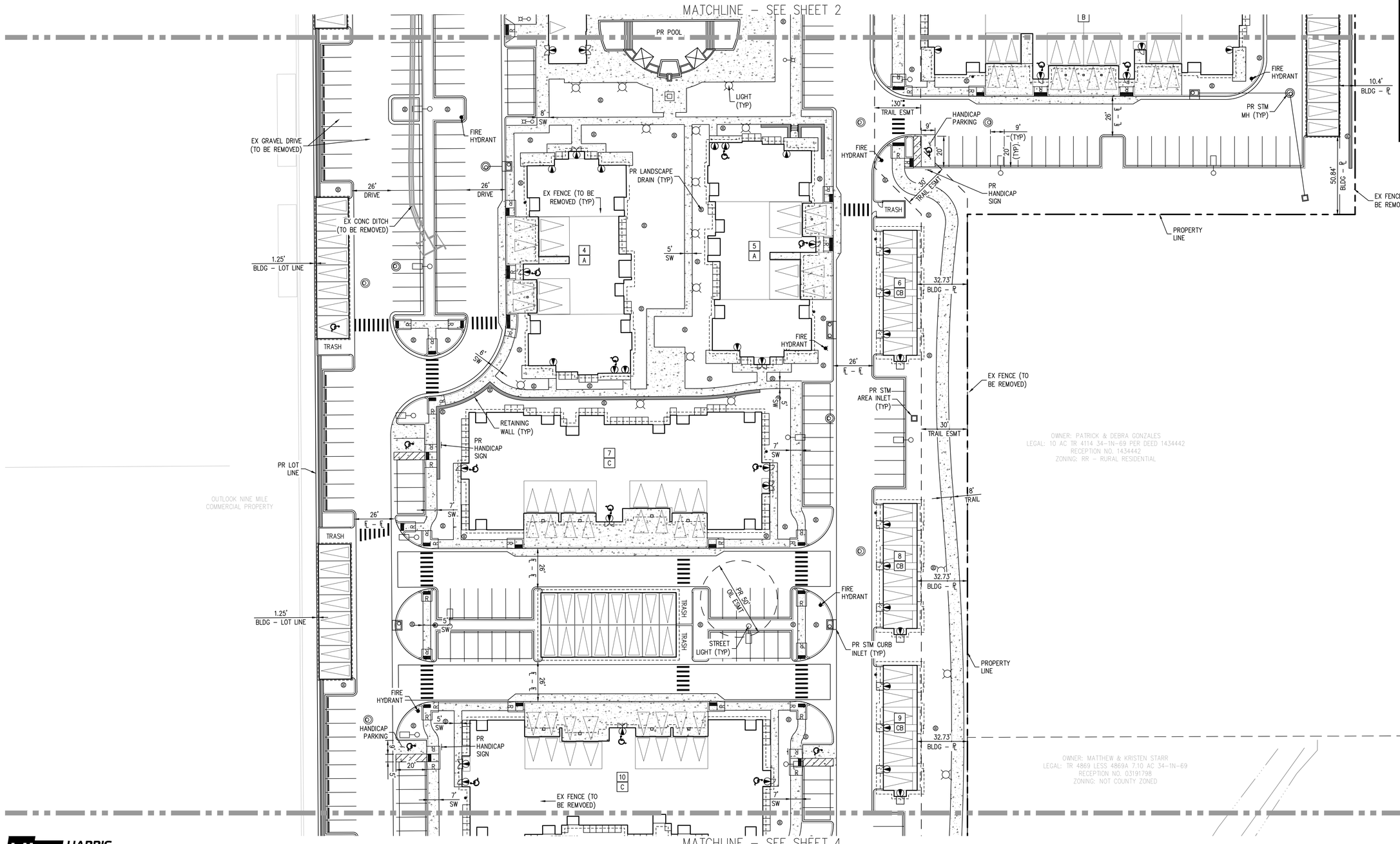
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

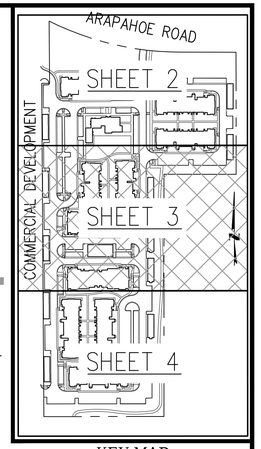
NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

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.

15 ACRES

SITE PLAN - SP-000832-2016





KEY MAP
SCALE: 1" = 250'

NOTE:
SEE LANDSCAPE SHEETS FOR WALK/TRAIL MATERIAL SPECIFICATIONS.

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

30 0 30 60
SCALE: 1" = 30'

PROJECT NUMBER: 160602

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 3 OF 36

Filepath: P:\160602\ENGINEERING\SITE PLAN\SP - SITE PLAN.DWG Layout: 3 SITE PLAN
Plotted: FRI 05/19/17 9:04:14A By: Tim Saylor

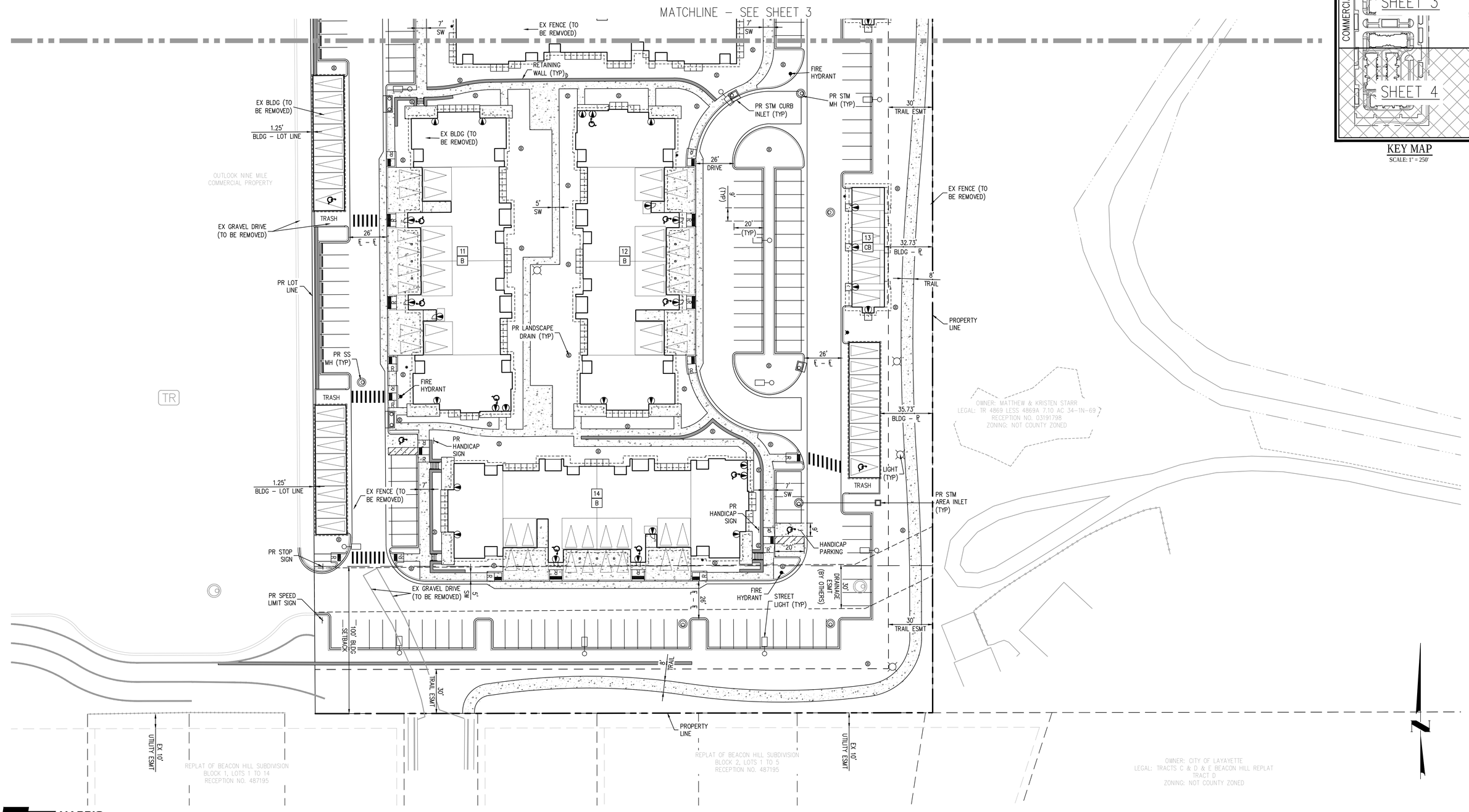
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

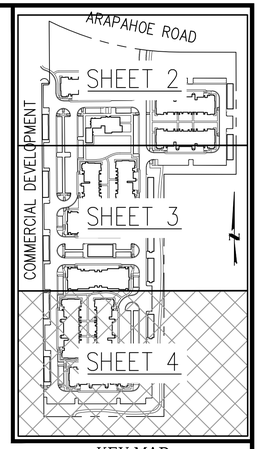
NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

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.

15 ACRES

SITE PLAN - SP-000832-2016





KEY MAP
SCALE: 1" = 250'

NOTE:
SEE LANDSCAPE SHEETS FOR WALK/TRAIL MATERIAL SPECIFICATIONS.

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

30 0 30 60
SCALE: 1" = 30'

PROJECT NUMBER: 160602

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 4 OF 36

SITE PLAN

Filepath: P:\160602\ENGINEERING\SITE PLANS\SP - SITE PLAN.DWG Layout: A-SITE PLAN
PLOTTED: Thu, Jun 22, 2017 - 9:04:15am by Tim Snyder (Last Saved: Thu, Jun 22, 2017 - 9:04:15am by Tim Snyder)
Plotted: FRI 07/21/17 9:04:15A By: Tim Snyder

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

15 ACRES

SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion

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 8" - 12" 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 3" 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 +/- 1/8" 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.

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\NDS-MF-PLAN.DWG Layout: 5 LANDSCAPE NOTES
Plotted: MON,05/22/17 3:47:39P By: Leanne Vidair

PROJECT NUMBER: 160602

LANDSCAPE NOTES

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 5 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

15 ACRES

SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion

LANDSCAPE PLANT LIST

SYM.		BOTANICAL NAME	COMMON NAME	SIZE & COND.
				(UNLESS OTHERWISE NOTED)
		DECIDUOUS TREES		
	ACE	ACER SACCHARUM 'BAILSTA'	FALL FIESTA SUGAR MAPLE	2.5" CAL. B&B
	CAL	CATALPA SPECIOSA	WESTERN CATALPA	2.5" CAL. B&B
	GIN	GINKGO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD GINKGO	2.5" CAL. B&B
	GRT	KOELREUTERIA PANICULATA	GOLDENRAIN TREE	2.5" CAL. B&B
	KCT	GYMNOCLADUS DIOICUS	KENTUCKY COFFEETREE	2.5" CAL. B&B
	OAK	QUERCUS X MACDANIELII 'CLEMONS'	HERITAGE OAK	2.5" CAL. B&B
	RLI	TILIA CORDATA 'GLENLEVEN'	GLENLEVEN LINDEN	2.5" CAL. B&B
	SHU	QUERCUS SHUMMARDI	SHUMMARD OAK	2.5" CAL. B&B
	SCH	SOPHORA JAPONICA 'REGENT'	JAPANESE PAGODA TREE	2.5" CAL. B&B
		EVERGREEN TREES		
	AUS	PINUS NIGRA	AUSTRIAN PINE	6' HT. MIN.
	BOP	PINUS LEUCODERMIS	BOSNIAN PINE 'MINT TRUFFLE'	6' HT. MIN.
	BSP	PICEA PUNGENS 'BAKERI'	BAKERI SPRUCE	6' HT. MIN.
	FSP	PICEA PUNGENS 'FASTIGIATA'	FASTIGATE BLUE SPRUCE	6' HT. MIN.
	PON	PINUS PONDEROSA	PONDEROSA PINE	6' HT. MIN.
	PVP	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID'	VANDERWOLF PINE	6' HT. MIN.
		ORNAMENTAL TREES		
	ABM	ACER X FREEMANII 'JEFFERSRED'	AUTUMN BLAZE MAPLE	2.0" CAL. B&B
	ABS	AMELANCHIER X GRANDIFLORA	AUTUMN BRILLIANCE SERVICEBERRY	6' HT. CLUMP
	CCH	CRATAEGUS LAEVIGATA 'CRIMSON CLOUD'	CRIMSON CLOUD HAWTHORN	2.0" CAL. B&B
	GMT	ACER GINNALA	GINNALA MAPLE	2.0" CAL. B&B
	PRF	MALUS 'PRAIRIEFIRE'	PRAIRIEFIRE CRABAPPLE	2.0" CAL. B&B
	SPR	MALUS X 'SPRING SNOW'	SPRING SNOW CRABAPPLE	2.0" CAL. B&B
		DECIDUOUS SHRUBS (3' SPREAD)		
	ART	CORNUS SERICEA 'ARCTIC FIRE'	ARCTIC FIRE DOGWOOD	#5 CONT.
	DCM	DAPHNE X BURKWOODII 'CAROL MACKIE'	CAROL MACKIE DAPHNE	#5 CONT.
	GFS	SPIREA JAPONICA 'GOLDFLAME'	GOLDFLAME SPIREA	#5 CONT.
	HKO	DIERVILLA X KODIAK ORANGE	KODIAK ORANGE HONEYSUCKLE	#5 CONT.
	KEL	CORNUS SERICEA 'KELSEYI'	KELSEY DOGWOOD	#5 CONT.
	LMS	SPIREA X BUMALDA 'LIMEMOUND'	LIMEMOUND SPIREA	#5 CONT.
	ORB	BERBERIS THUNBERGII 'ORANGE ROCKET'	ROCKET ORANGE BARBERRY	#5 CONT.
		DECIDUOUS SHRUBS (5' SPREAD)		
	FLA	PRUNUS GLANDULOSA	FLOWERING ALMOND	#5 CONT.
	FQP	CHAENOMELES JAPONICA 'CAMEO	PINK FLOWERING QUINCE	#5 CONT.
	GLS	RHUS AROMATICA 'GROW-LOW'	GRO-LOW FRAGRANT SUMAC	#5 CONT.
	IVO	CORNUS ALBA 'BAIL HALO'	IVORY HALO DOGWOOD	#5 CONT.
	MKL	SYRINGA PATULA 'MISS KIM'	MISS KIM LILAC	#5 CONT.
	PBS	PRUNUS BESSEYI 'PAWNEE BUTTES'	PAWNEE BUTTES SANDCHERRY	#5 CONT.
	URC	ARONIA ARBUTIFOLIA 'ERECTA'	UPRIGHT RED CHOKEBERRY	#5 CONT.
	WRP	WEIGELA FLORIDA 'RED PRINCE'	RED PRINCE WEIGELA	#5 CONT.
		DECIDUOUS SHRUBS (7' SPREAD)		
	DFV	VIBURNUM PLICATUM TOMENTOSUM 'SUMMER SNOWFLAKE'	DOUBLEFILE VIBURNUM	#5 CONT.
	MOC	PHILADELPHUS LEWISII 'CHEYENNE'	CHEYENNE MOCKORANGE	#5 CONT.
	NCG	PHYSOCARPUS OPULIFOLIUS 'CENTER GLOW'	CENTER GLOW NINEBARK	#5 CONT.
	PLS	PRUNUS X CISTENA	CISTENA PLUM	#5 CONT.
	VBM	VIBURNUM DENTATUM 'CHRISTOM'	BLUE MUFFIN VIBURNUM	#5 CONT.
		EVERGREEN SHRUBS/UPRIGHT JUNIPERS		
	BCH	JUNIPERUS HORIZONTALIS 'BLUE CHIP'	BLUE CHIP JUNIPER	#5 CONT.
	BOX	BUXUS 'GREEN VELVET'	GREEN VELVET BOXWOOD	#5 CONT.
	GMJ	JUNIPERUS PROCUMBENS 'GREEN MOUND'	GREEN MOUND JUNIPER	#5 CONT.
	MOO	JUNIPERUS SCOPULORUM 'MOONGLOW'	MOONGLOW JUNIPER	6' HT. MIN.
	MSL	PINUS MUGO 'SLOWMOUND'	SLOWMOUND MUGO PINE	#5 CONT.
	SYL	PINUS SYLVESTRIS 'ALBYN PROSTRATA'	SPREADING SCOTS PINE	#5 CONT.
		ORNAMENTAL GRASSES		
	BAG	BOUTELOUA GRACILIS 'BLONDE AMBITION'	BLONDE AMBITION GRASS	#1 CONT.
	BFE	FESTUCA GLAUCA 'ELIJAH BLUE'	BLUE FESCUE	#1 CONT.
	FRG	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	#1 CONT.
	GHM	PANICUM VIRGATUM 'HEAVY METAL'	HEAVY METAL SWITCHGRASS	#1 CONT.
	HFG	PENNISETUM ALOPECUROIDES 'HAMELN'	HARDY FOUNTAIN GRASS	#1 CONT.
	JFG	HAKENOCHLOA MARCRA 'AUREOLA'	JAPANESE FOREST GRASS	#1 CONT.
	PMG	MISCANTHUS SINENSIS 'PURPURASCENS'	PURPLE MAIDEN GRASS	#1 CONT.
	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.

LANDSCAPE AREA	AREAS/CALCULATIONS	REQUIRED TREES	PROVIDED TREES	REQUIRED SHRUBS	PROVIDED SHRUBS
STREET ROW: 1 TREE FOR EVERY 40 LINEAR FEET	607 LINEAR FT	15	16	NA	NA
PARKING AREA: 1 TREE FOR EVERY 15 SPOTS. 1 SHRUB PER PARKING SPOT	364 SPOTS	24	30	364	384
INTERIOR AREA: 1 TREE /1000 SQ FT. 1 SHRUB/ 150 SQ FT.	181,836.5 SQ FT	182	185	1213	1657
TOTAL		221	231	1577	2041

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 CONSUMPTION. 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 ½ MATURE SIZE	REPLACE WITH PLANTS OF AT LEAST ½ MATURE SIZE

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\NDS-MF-PLAN.DWG Layout: 6 SCHEDULE & CHARTS
Plotted: MON 05/22/17 3:47:38P By: Leanna Valahr

PROJECT NUMBER: 160602

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

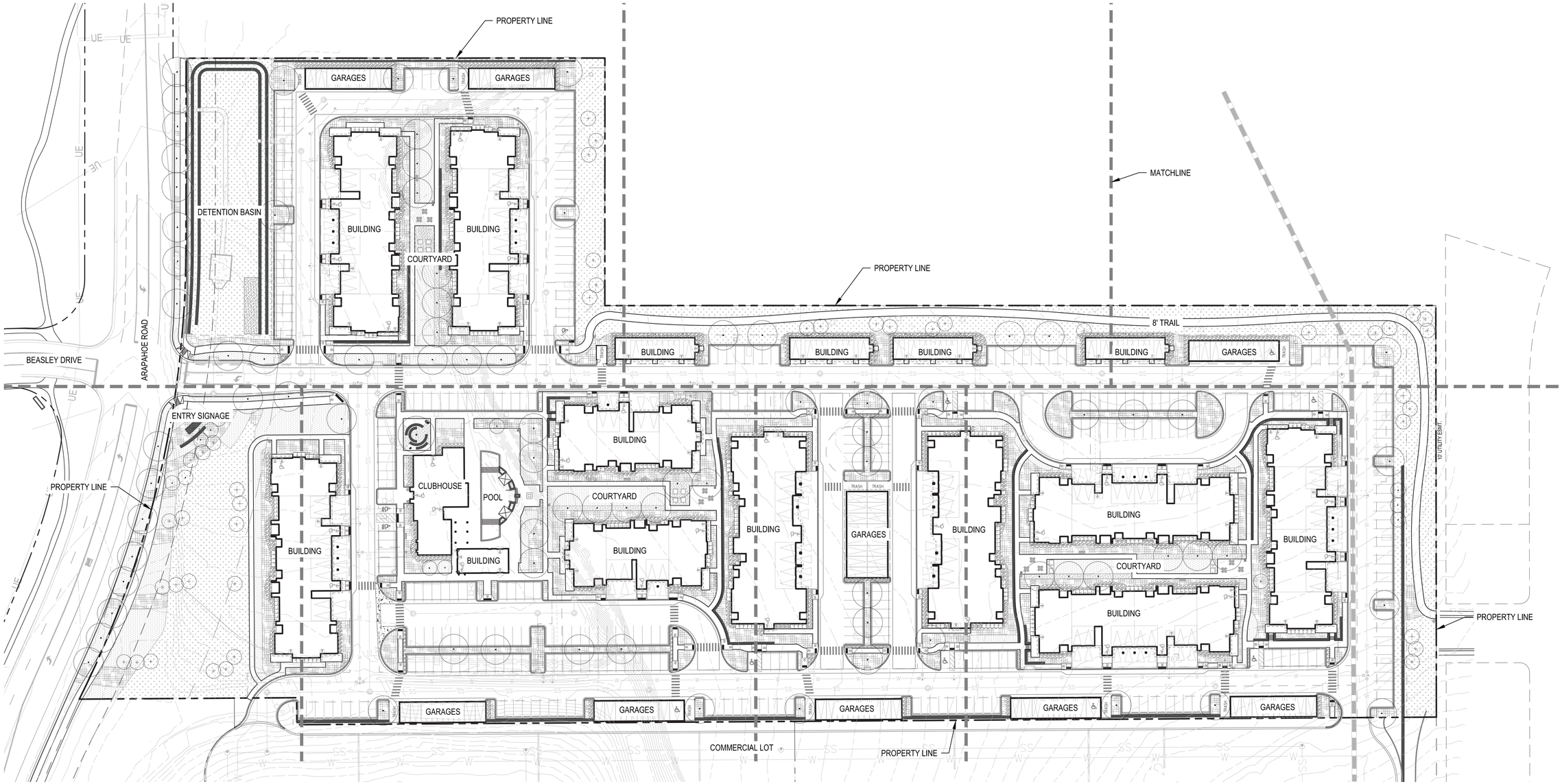
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion



811

NORTH

0 25 50 100

SCALE 1" = 50'

OVERALL LANDSCAPE PLAN

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 7 OF 36

PROJECT NUMBER: 160602

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\ND-LNDS-MF-PLAN.DWG Layout: 7 OVERALL
Plotted: MON 05/22/17 3:47:47P By: Leanna Valehr

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

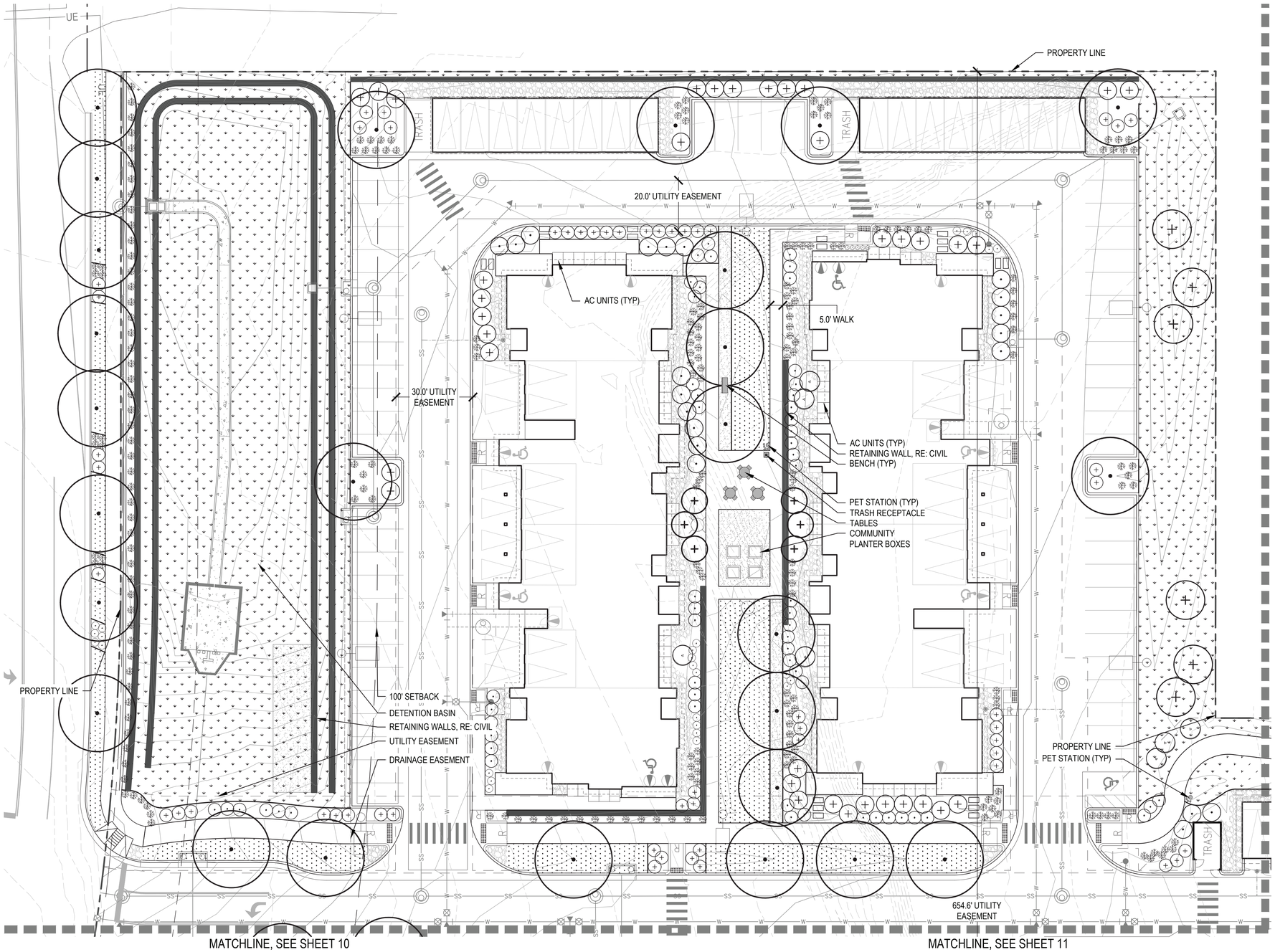
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

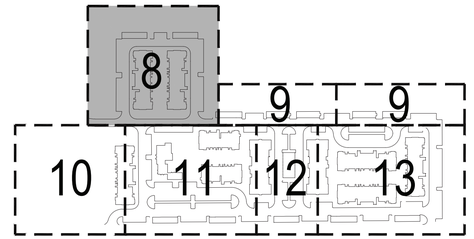
SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion



KEY MAP



LEGEND

- CANOPY TREE
- EVERGREEN TREE
- ORNAMENTAL TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASSES
- PERENNIALS
- STEEL EDGER
- SPADE-CUT EDGE
- FENCE
- MATCHLINE
- SOD
- BED
- NATIVE SEED
- 4"-6" RIVER COBBLE
- CRUSHER FINES
- BENCH
- BIKE RACK
- PET WASTE STATION
- LANDSCAPE BOULDERS
- STEPPERS

811

NORTH

0 10 20 40
SCALE 1" = 20'

LANDSCAPE PLAN

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017

PROJECT NUMBER: 160602

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTAL SS\SITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\NDLNDS-WF-PLAN.DWG Layout: 8 LS PLAN
Plotted: MON 05/22/2017 3:47:51P By: Leanne Weiler

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

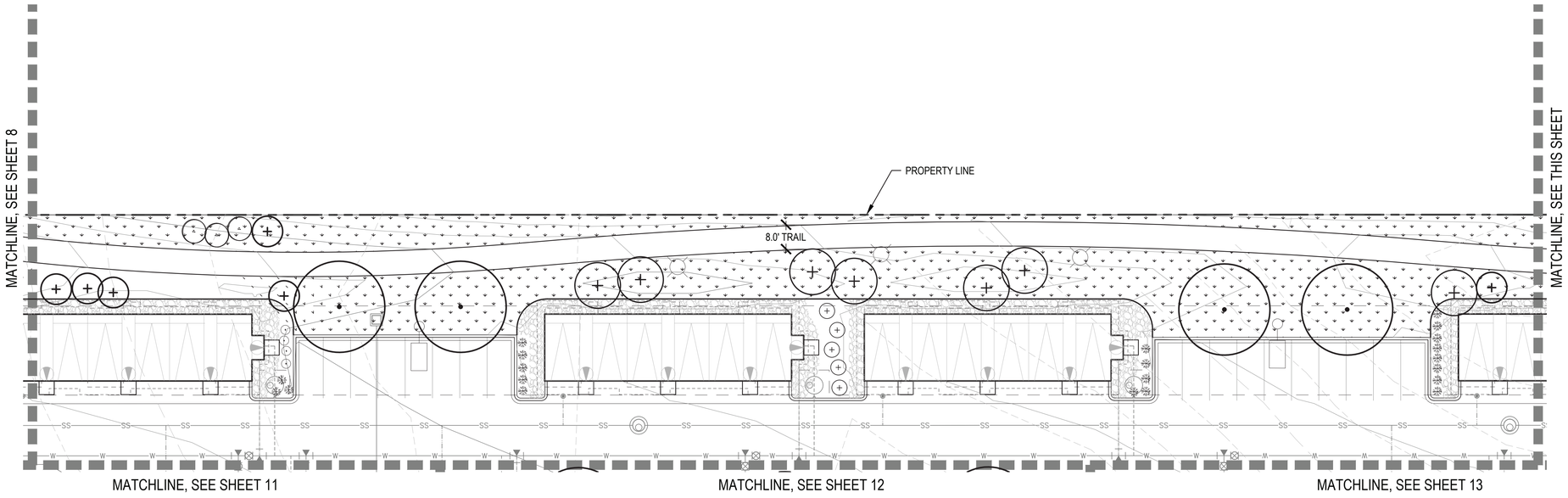
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

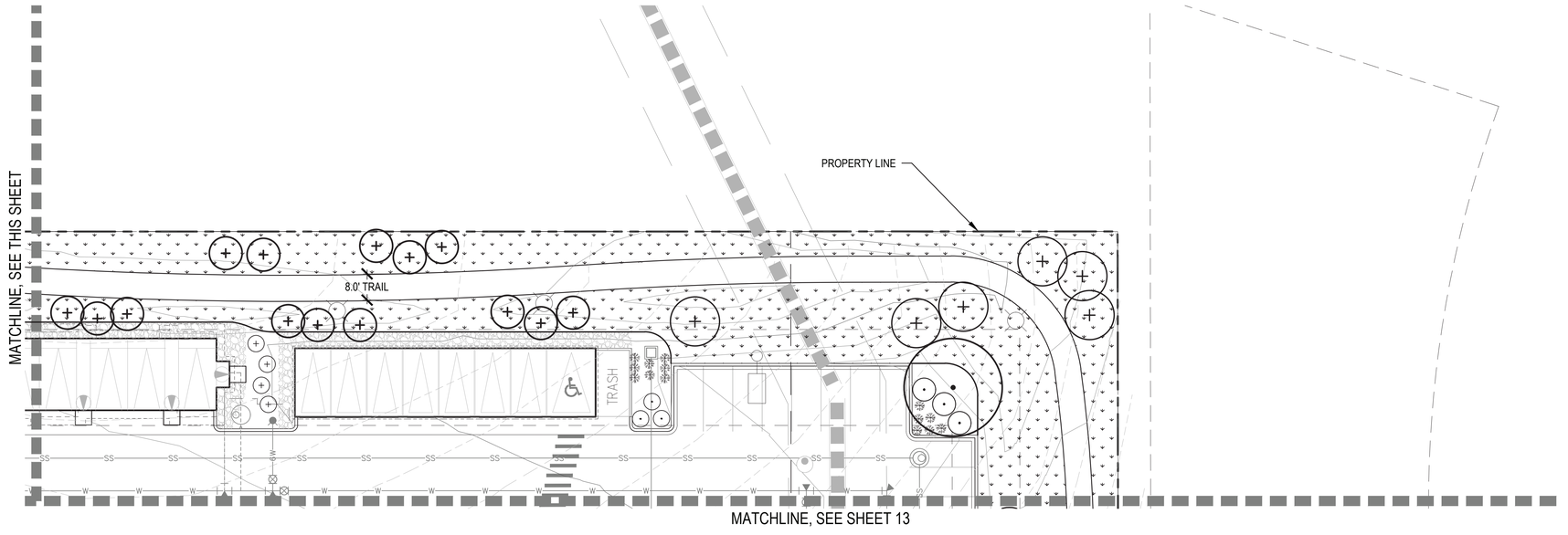
15 ACRES

SITE PLAN - SP-000832-2016

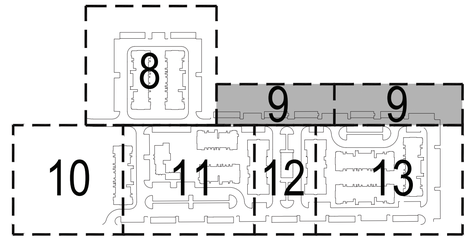
1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion





KEY MAP



LEGEND

- CANOPY TREE
- EVERGREEN TREE
- ORNAMENTAL TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASSES
- PERENNIALS
- STEEL EDGER
- SPADE-CUT EDGE
- FENCE
- MATCHLINE
- SOD
- BED
- NATIVE SEED
- 4"-6" RIVER COBBLE
- CRUSHER FINES
- BENCH
- BIKE RACK
- PET WASTE STATION
- LANDSCAPE BOULDERS
- STEPPERS

811

NORTH

0 10 20 40
SCALE 1" = 20'

LANDSCAPE PLAN

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 9 OF 36

PROJECT NUMBER: 160602

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\ND-LNDS-MF-PLAN.DWG Layout: 9 LS PLAN
Plotted: MON 05/22/17 3:47:37P By: Luanne Weiehr

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

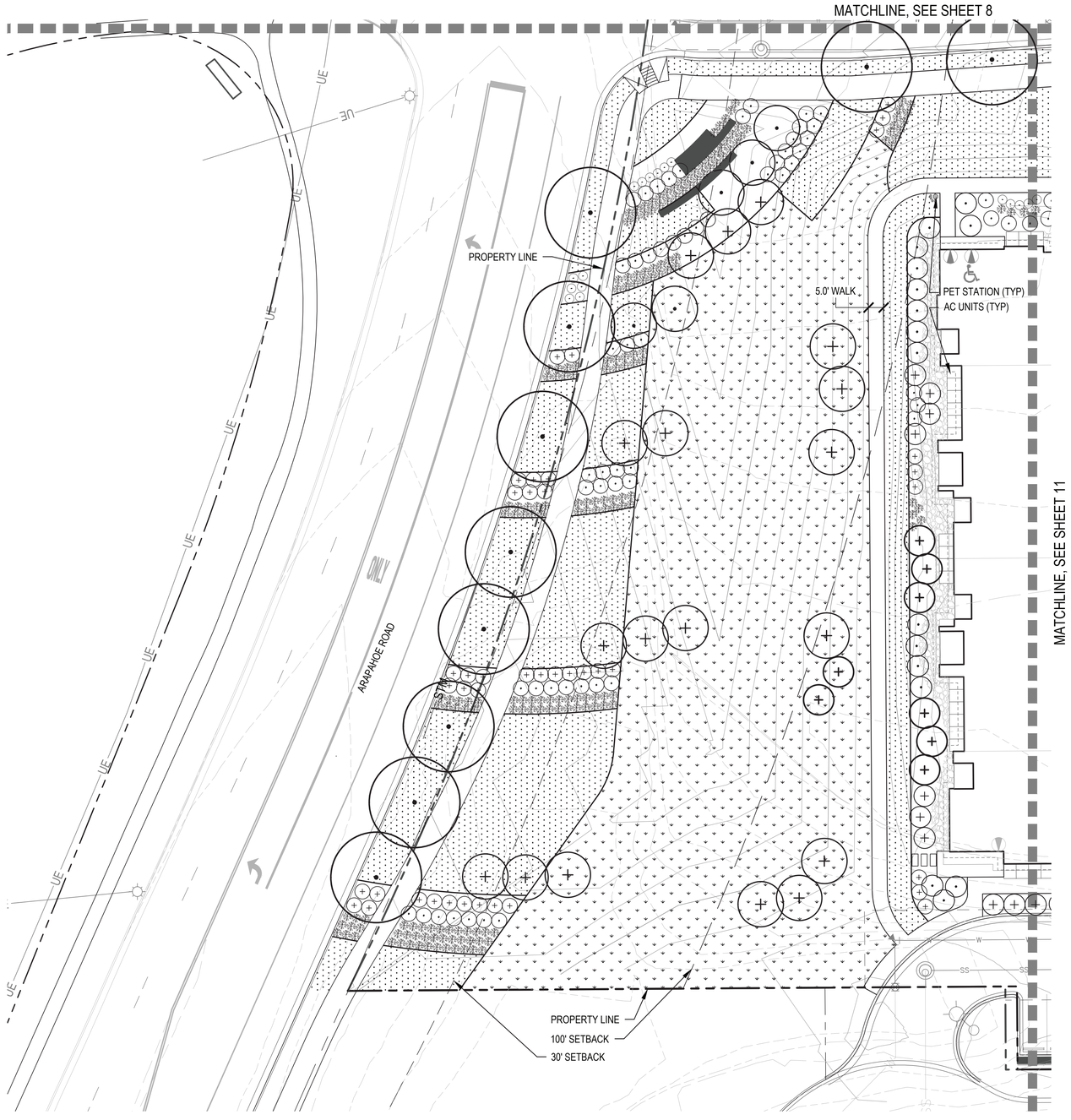
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

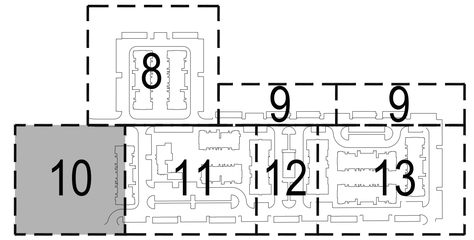
SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

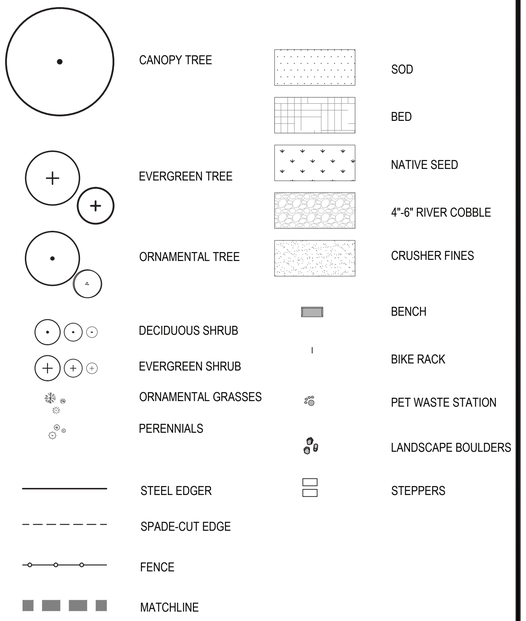
NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion



KEY MAP



LEGEND



811

NORTH

0 10 20 40
SCALE 1" = 20'

PROJECT NUMBER: 160602

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017

LANDSCAPE PLAN
SHEET 10 OF 36

Filepath: P:\EVERGREEN\ NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\NINDLNDS-MF-PLAN.DWG Layout: 10 LS PLAN
Plotted: MON 05/22/17 3:48:01P By: Leanna Valehr

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

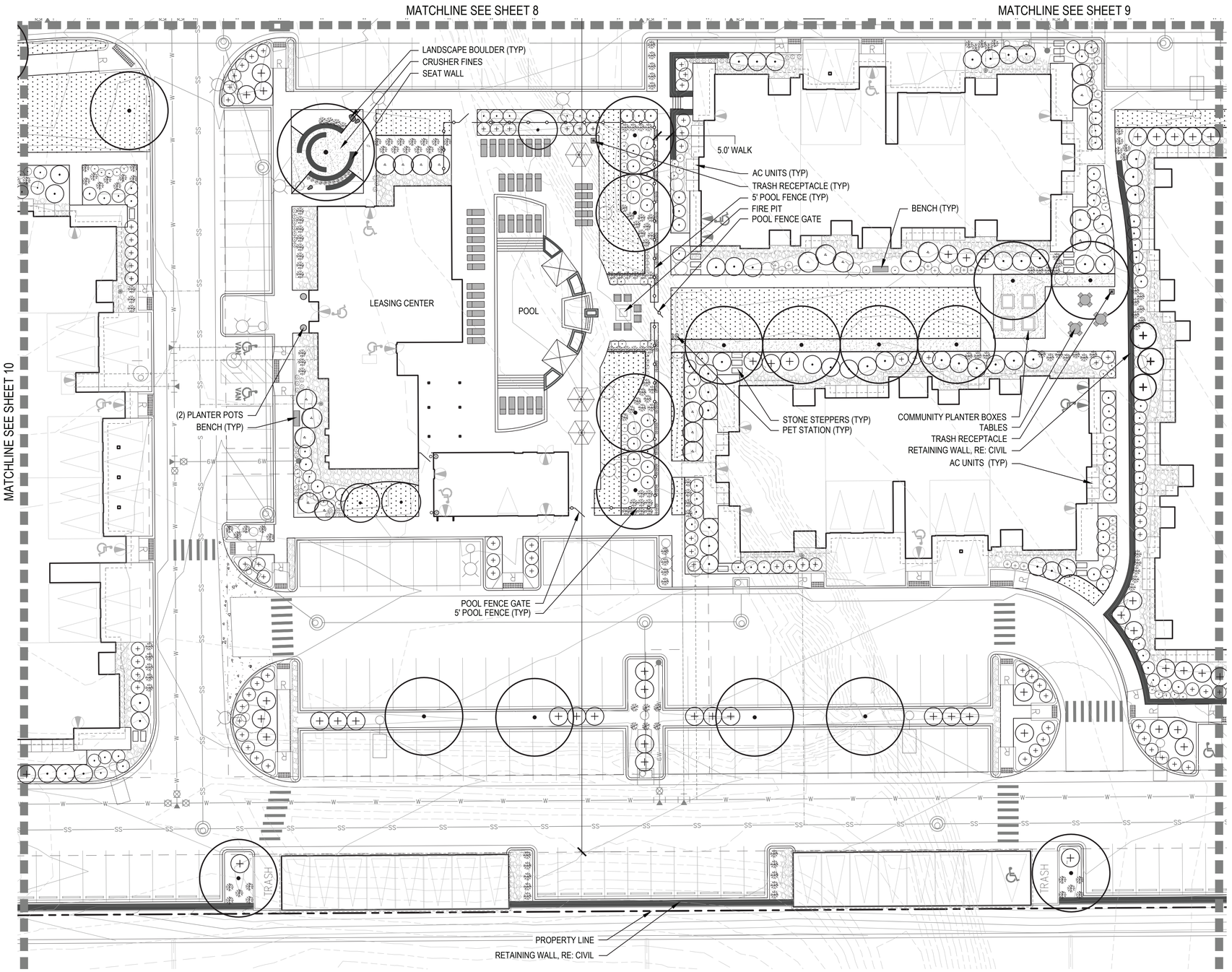
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

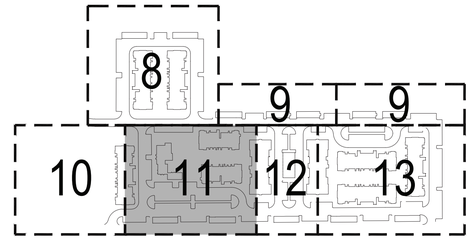
SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion



KEY MAP



LEGEND

- CANOPY TREE
- EVERGREEN TREE
- ORNAMENTAL TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASSES
- PERENNIALS
- STEEL EDGER
- SPADE-CUT EDGE
- FENCE
- MATCHLINE
- SOD
- BED
- NATIVE SEED
- 4"-6" RIVER COBBLE
- CRUSHER FINES
- BENCH
- BIKE RACK
- PET WASTE STATION
- LANDSCAPE BOULDERS
- STEPPERS

811

NORTH

0 10 20 40

SCALE 1" = 20'

LANDSCAPE PLAN

SHEET 11 OF 36

PROJECT NUMBER: 160602

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

Filepath: P:\EVERGREEN\NINE MILE\DRAWINGS\SUBMITTAL\SITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\ND-LNDS-MF-PLAN.DWG Layout: 11 LS PLAN
Plotted: MON,05/22/17 3:43:00P By: Leanne Velehr

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

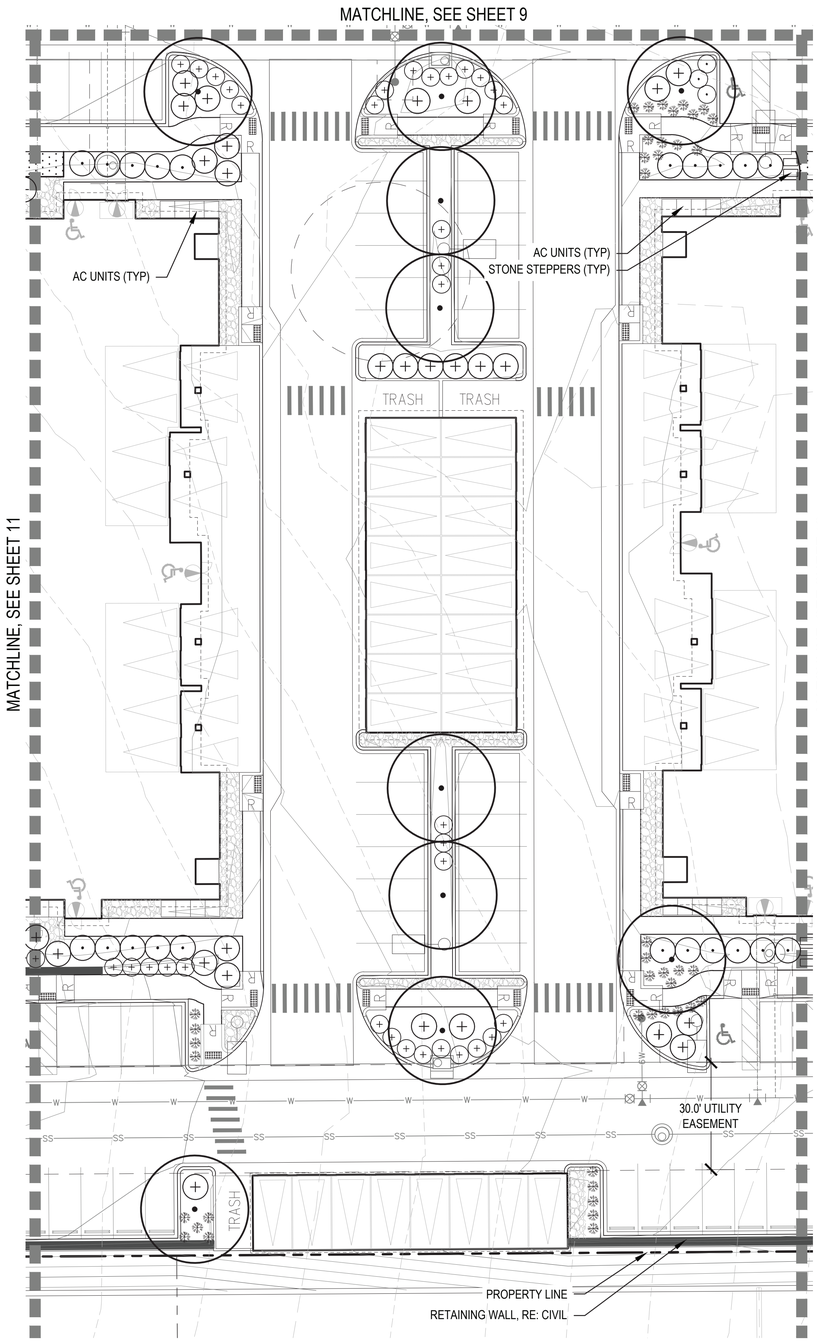
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

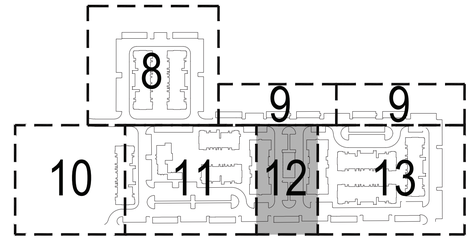
SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

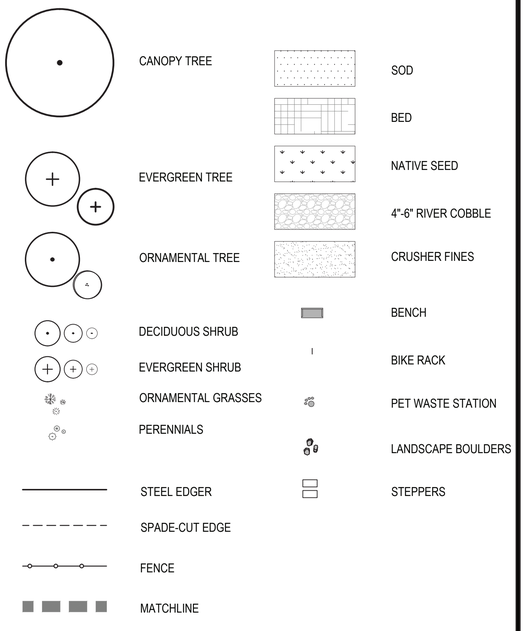
NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion



KEY MAP



LEGEND



811

NORTH

0 10 20 40

SCALE 1" = 20'

LANDSCAPE PLAN

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 12 OF 36

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

PROJECT NUMBER: 160602

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\NDS-LNDS-MF-PLAN.DWG Layout: 12 LS PLAN
Plotted: MON 05/22/17 3:48:11P By: Leanna Valahr

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

15 ACRES

SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion

MATCHLINE, SEE SHEET 9

MATCHLINE, SEE SHEET 12

RETAINING WALL, RE: CIVIL
STONE STEPPERS (TYP)
TABLES
COMMUNITY PLANTER BOXES
BENCH (TYP)

AC UNITS (TYP)

AC UNITS (TYP)

10' UTILITY ESMT.

TRASH RECEPTACLE (TYP)
PET STATION (TYP)
AC UNITS (TYP)

BENCH (TYP)
COMMUNITY PLANTER BOXES
TRASH RECEPTACLE (TYP)
TABLES
STONE STEPPERS (TYP)
RETAINING WALL, RE: CIVIL

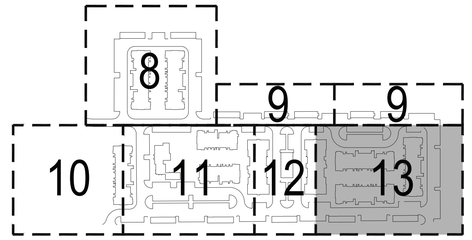
PET STATION (TYP)
RETAINING WALL, RE: CIVIL

TRASH

TRASH

PROPERTY LINE
RETAINING WALL, RE: CIVIL

KEY MAP



LEGEND

- CANOPY TREE
- EVERGREEN TREE
- ORNAMENTAL TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASSES
- PERENNIALS
- STEEL EDGER
- SPADE-CUT EDGE
- FENCE
- MATCHLINE
- SOD
- BED
- NATIVE SEED
- 4"-6" RIVER COBBLE
- CRUSHER FINES
- BENCH
- BIKE RACK
- PET WASTE STATION
- LANDSCAPE BOULDERS
- STEPPERS

811

NORTH

0 10 20 40
SCALE 1" = 20'

PROJECT NUMBER: 160602

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017

LANDSCAPE PLAN
SHEET 13 OF 36

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTAL\SSITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\ND-LND5-MF-PLAN.DWG Layout: 13 LS PLAN
Plotted: MON 05/22/17 3:48:18P By: Leanne Voehr

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

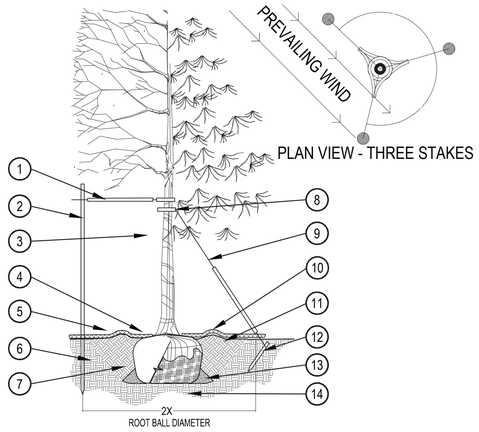
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion



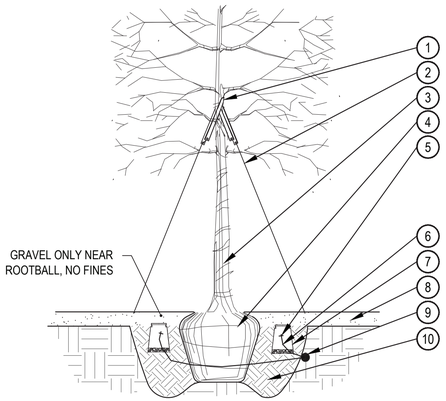
PRUNING NOTES:
1. ALL PRUNING SHALL COMPLY WITH ANSI A300 STANDARDS.
2. DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS AND BROKEN BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED. HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND 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 180° 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. ¾" 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"



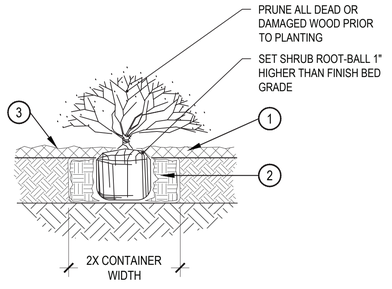
1. USE NYLON TREE STRAPS AT END OF WIRE.
2. 12 GAUGE GALVANIZED WIRE USE TWO PER TREE
3. 4" TREE TAPE (DECIDUOUS TREES ONLY). WRAP ENTIRE TRUNK TO SECOND BRANCH SECURED AT 2" INTERVALS WITH GRAFTING CORD OR STAPLES.
4. REMOVE WIRE BASKET AFTER TREE IS IN THE PIT. REMOVE TWINE, & PULL BURLAP FROM TREE 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"

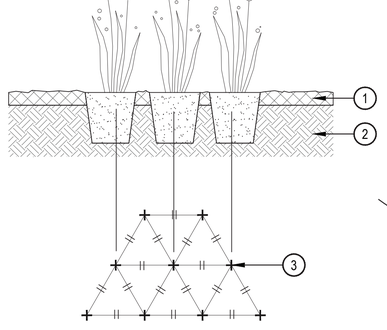
1. SPECIFIED MULCH
2. AMENDED SOIL IN PLANTING BED PER SPECIFICATIONS. TILL SOIL TO A DEPTH OF EIGHT INCHES.
3. FINISH GRADE (TOP OF MULCH)



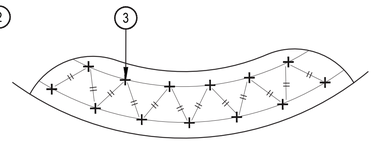
NOTE:
1. BROKEN OR CRUMBLING ROOT-BALLS WILL BE REJECTED
2. CARE SHOULD BE TAKEN NOT TO DAMAGE THE SHRUB OR ROOT-BALL WHEN REMOVING IT FROM ITS CONTAINER
3. ALL JUNIPERS SHOULD BE PLANTED SO THE TOP OF THE ROOT-BALL OCCURS ABOVE THE FINISH GRADE OF THE MULCH LAYER
4. DIG PLANT PIT TWICE AS WIDE AND HIGH AS THE CONTAINER

3 SHRUB PLANTING

SCALE: 1-1/2" = 1'-0"



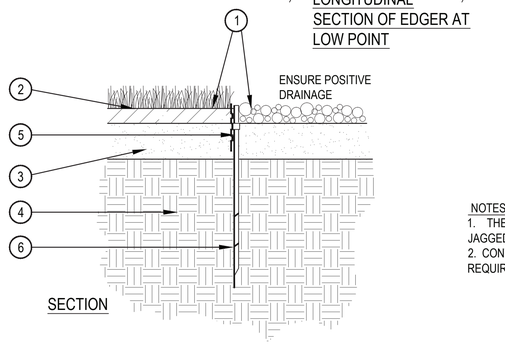
1. SPECIFIED MULCH
2. AMENDED PLANTING BED TILLED TO A DEPTH OF 6"
3. CENTER OF PLANT



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. 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"

Plotted: MON 05/22/17 3:48:19P By: Luanna Vitalni
Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\ND5-MP-PLAN.DWG Layout: 14 DETAILS

PROJECT NUMBER: 160602

LANDSCAPE DETAILS

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 14 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

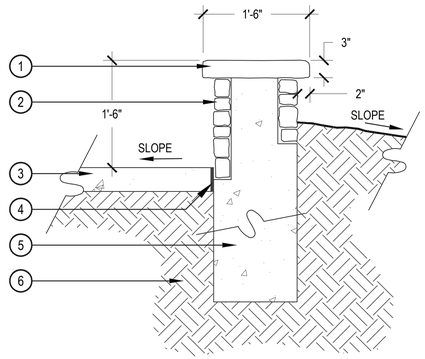
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion



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"



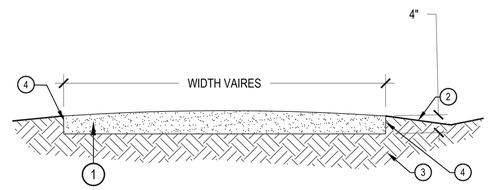
VICTOR STANLEY™ *Create a timeless moment.™*

Product may be patented. Visit VICTORSTANLEY.COM for details.

1. MANUFACTURER: VICTOR STANLEY
2. MODEL: EVA BENCH, WITH ARM REST
3. FINISH: BLACK POWDERCOAT SUPPORTS, IPE WOOD
4. MOUNT PER MANUFACTURER'S INSTRUCTIONS
5. CONTACT: VICTOR STANLEY
   P: 1.800.368.2573
   E: INFO@VICTORSTANLEY.COM

4 BENCH

SCALE: N.T.S.



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"



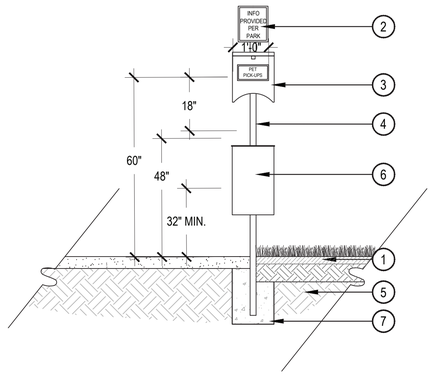
VICTOR STANLEY™ *Create a timeless moment.™*

Product may be patented. Visit VICTORSTANLEY.COM for details.

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

5 BIKE RACK

SCALE: N.T.S.



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"



VICTOR STANLEY™ *Create a timeless moment.™*

Product may be patented. Visit VICTORSTANLEY.COM for details.

1. MANUFACTURER: VICTOR STANLEY
2. MODEL: S-42
3. FINISH: BLACK POWDERCOAT
4. MOUNT PER MANUFACTURER'S INSTRUCTIONS
5. CONTACT: VICTOR STANLEY
   P: 1.800.368.2573
   E: INFO@VICTORSTANLEY.COM

6 WASTE RECEPTACLE

SCALE: N.T.S.

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTAL\SSITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\ND-LNDS-WF-PLAN.DWG Layout: 15 DETAILS
Plotted: MON 05/22/17 3:48:23P By: Leanne Weiler

PROJECT NUMBER: 160602

LANDSCAPE DETAILS

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 15 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

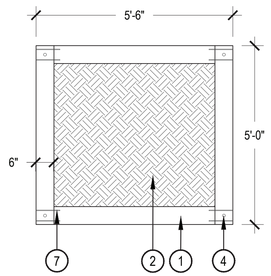
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

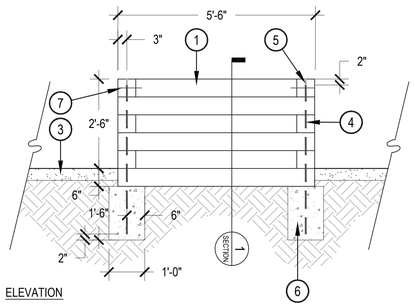
SITE PLAN - SP-000832-2016

1101 Bannock Street
Denver, Colorado 80204
P 303.892.1166
F 303.892.1186
www.norris-design.com

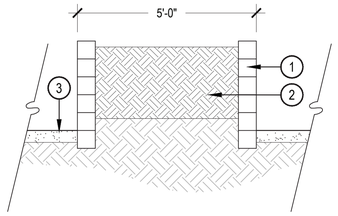
NORRIS DESIGN
Planning | Landscape Architecture | Project Promotion



PLAN



ELEVATION

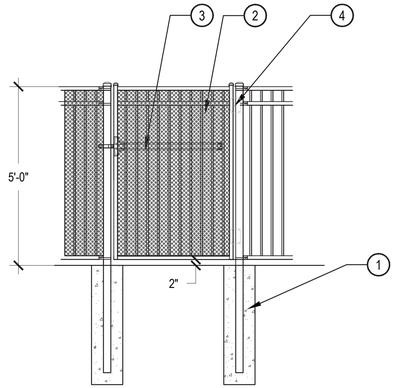


SECTION

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"

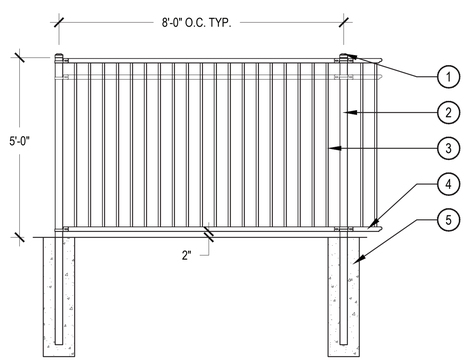


1. CONCRETE FOOTING PER MANUFACTURER, SLOPE CONCRETE AWAY FROM POST FOR POSITIVE DRAINAGE
2. PERFORATED METAL PANEL POWDER COATED TO MATCH FENCE
3. PANIC BAR ON POOL GATES, DETEX V40xERxWx711xFC WITH 81-800 POWER SUPPLY, REF. DCE-18133 LINE ITEM 1. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
4. SELF-CLOSING HINGES

NOTES:
1. ENSURE GATES MEET ALL APPLICABLE CODES
2. KEY FOB HARDWARE AT POOL GATES

2 FENCE GATE

SCALE: 1/2" = 1'-0"



1. 2 ½" POST CAP
2. 2 ½" SQ. POST
3. ¾" PICKET, 3" O.C.
4. 1 ½" X 1 ½" TOP AND BOTTOM RAILS
5. CONCRETE FOOTING PER MANUFACTURER, SLOPE CONCRETE AWAY FROM POST FOR POSITIVE DRAINAGE
6. FINISH: POWERCOATED BLACK

3 POOL FENCE

SCALE: 1/2" = 1'-0"

Filepath: P:\EVERGREEN NINE MILE\DRAWINGS\SUBMITTALS\SITE PLAN\SITE PLAN-02\FINAL TOWN AND REFERRAL SUBMITTAL\NINDLIN05-MF-PLAN.DWG Layout: 16 DETAILS
Plotted: MON,05/22/17 3:43:28P By: Lenme Veiehr

PROJECT NUMBER: 160602

LANDSCAPE DETAILS

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 16 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

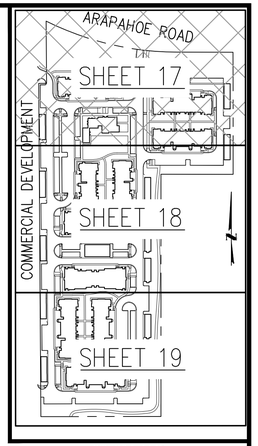
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016

LEGEND:

- PROPERTY BOUNDARY
- LOT LINE BOUNDARY
- RIGHT-OF-WAY
- BUILDING SETBACK
- PROPOSED ACCESS 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



KEY MAP
SCALE: 1" = 250'

ARAPAHOE STREET
(ROW VARIES)

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

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

OUTLOOK NINE MILE
COMMERCIAL PROPERTY

EX ROW LINE
PR PROPERTY LINE (TYP)
EX GAS LINE (TO BE REMOVED)
100' BLDG SETBACK
PR 36" STM LINE (BY OTHERS)
PR LANDSCAPE DRAIN (TYP)
PR LOT LINE (TYP)
PR 8" SANI LINE (TYP)
PR 10" WAT LINE (TYP)
PR DRAINAGE ESMT (TYP)
PR 30' ACCESS ESMT
STM OUTLET INTO INTO DETENTION
PR STM MH (TYP)
PR DRAINAGE ESMT (TYP)
PR DETENTION BASIN
PR DOMESTIC TAP (TYP)
PR FIRE LINE TEE (TYP)
PR 24" STM LINE (TYP)
PR CONNECTION TO ADJACENT SITE
PR WAT BEND (TYP)
PR SANI SERVICE CLEANOUT (TYP)
PR WAT VALVE (TYP)
PR WAT TEE (TYP)
PR 5' TYPE R CURB INLET (TYP)
PR 18"STM LINE (TYP)
TRASH
PR SANI SERVICE LINE
PR SANI MH (TYP)
PR FIRE HYDRANT
PR WAT METER (TYP)
PR 36" STM LINE (TYP)
10' TYPE R CURB INLET (TYP)
PR SANI SERVICE TAP (TYP)
PR 30" STM LINE (TYP)
PR 30' UTILITY ESMT
PROPERTY LINE (TYP)
PR 20' UTILITY ESMT
10' SANI - WAT
10' WAT - SANI
10' WAT - STM
VARIES (10' MIN) STM - WAT
PR 30' ACCESS ESMT
PR POOL
CH

MATCHLINE - SEE SHEET 18

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

30 0 30 60
SCALE: 1" = 30'

PROJECT NUMBER: 160602

Plotted: FRI 05/19/17 8:54:33A By: Tim Snyder
Drawing: P:\160602\ENGINEERING\UTILITIES\SP - OVERALL UTILITY PLAN.DWG Layout: 17 OVERALL UTILITY PLAN

OVERALL UTILITY PLAN

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 17 OF 36

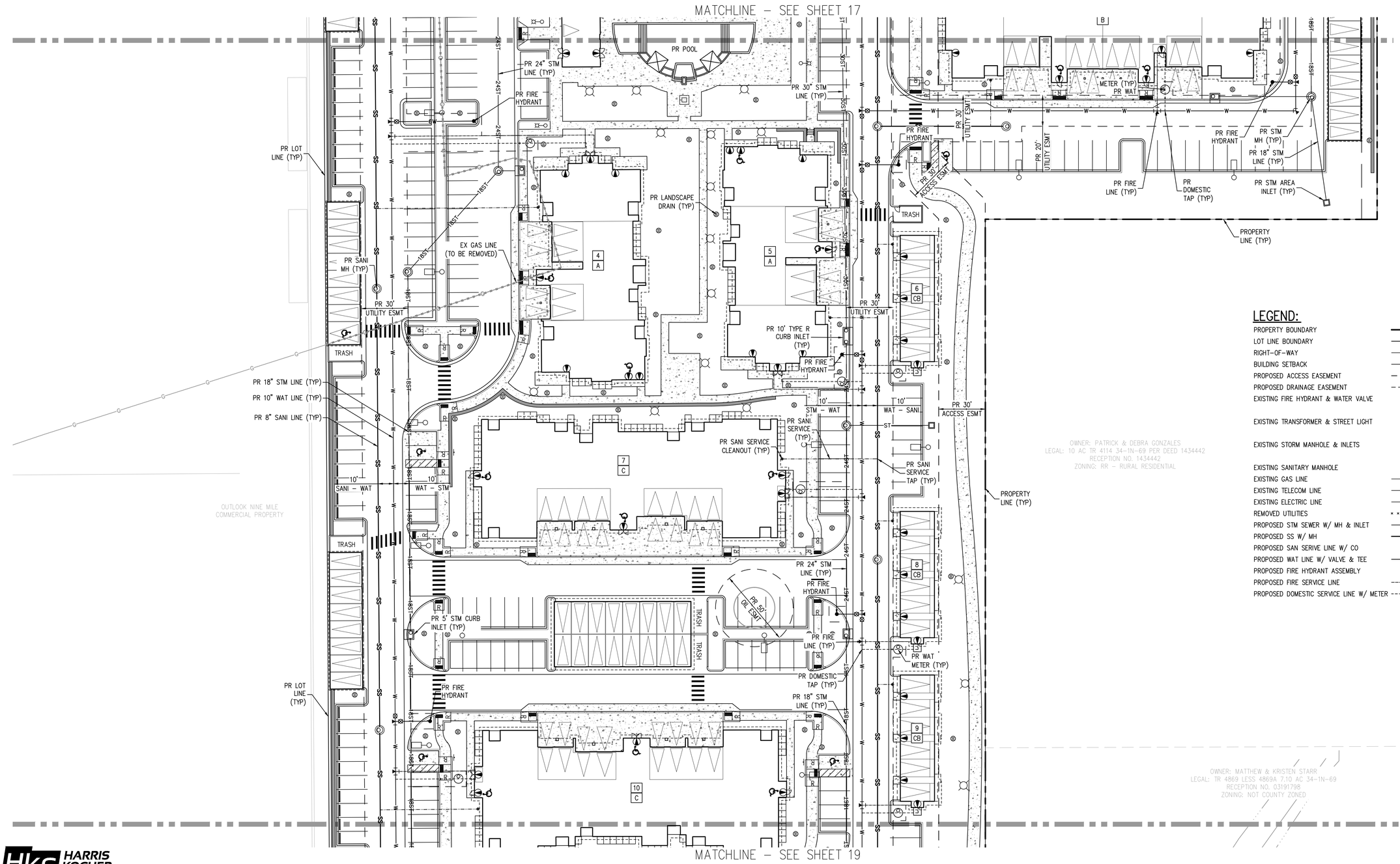
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

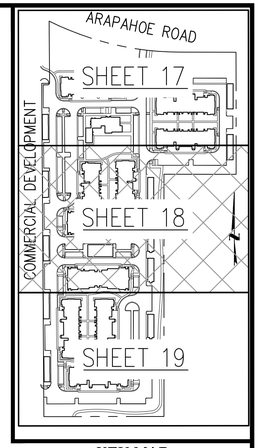
NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

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.

15 ACRES

SITE PLAN - SP-000832-2016





KEY MAP
SCALE: 1" = 250'

LEGEND:

- PROPERTY BOUNDARY
- LOT LINE BOUNDARY
- RIGHT-OF-WAY
- BUILDING SETBACK
- PROPOSED ACCESS 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

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

30 0 30 60
SCALE: 1" = 30'

PROJECT NUMBER: 160602

Filepath: P:\160602\ENGINEERING\UTILITIES\SP - OVERALL UTILITY PLAN.DWG Layout: 18 OVERALL UTILITY PLAN
Xrefs:
Plotted: FRI 05/19/17 8:54:36A By: Tim Sayler

OVERALL UTILITY PLAN

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 18 OF 36

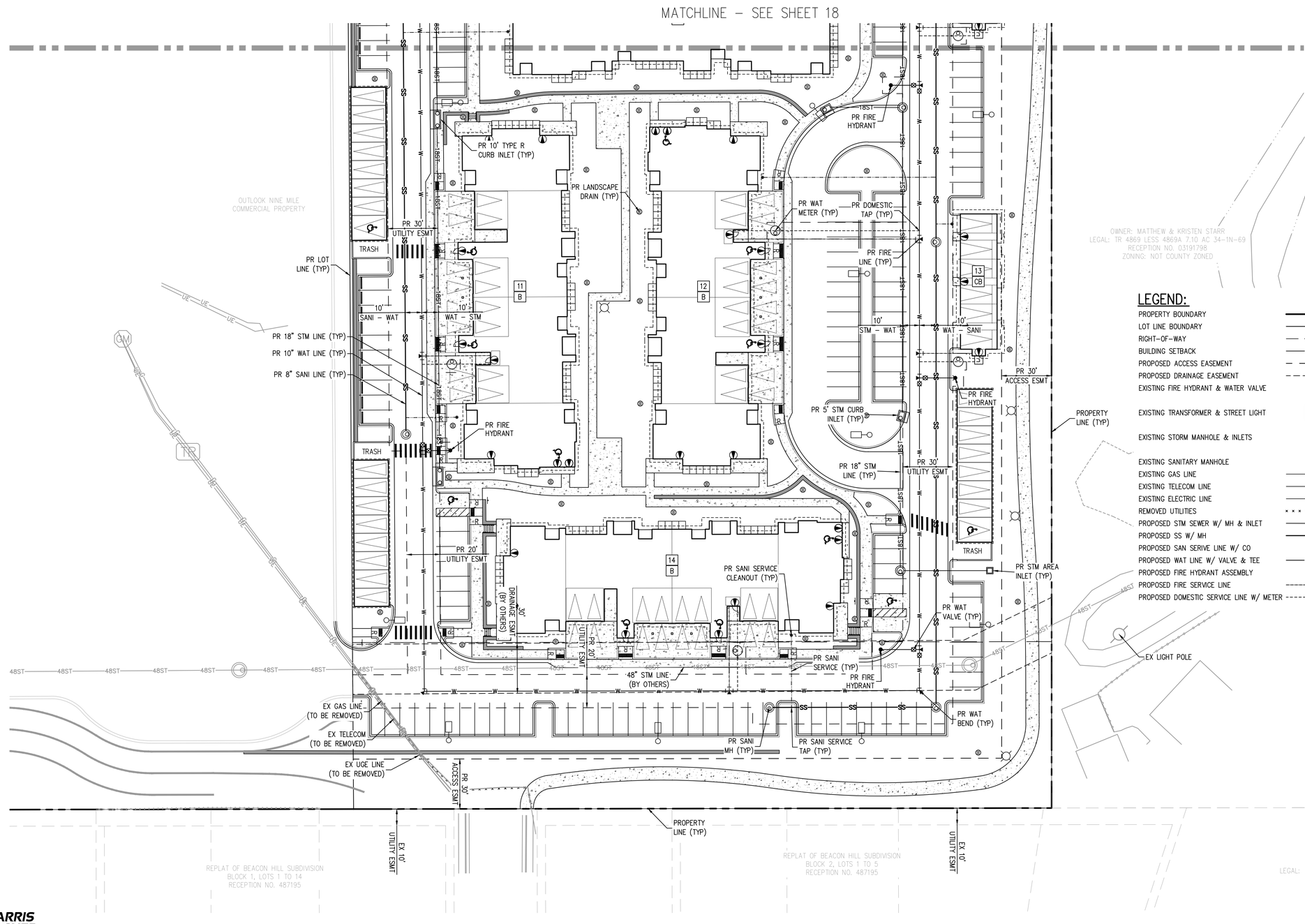
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

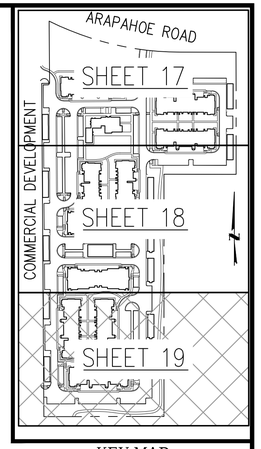
NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

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.

15 ACRES

SITE PLAN - SP-000832-2016





KEY MAP
SCALE: 1" = 250'

LEGEND:

- PROPERTY BOUNDARY
- LOT LINE BOUNDARY
- RIGHT-OF-WAY
- BUILDING SETBACK
- PROPOSED ACCESS 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

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

30 0 30 60
SCALE: 1" = 30'

PROJECT NUMBER: 160602

Drawn By: TS
Checked By: TS
Date/Time: 5/19/2017 8:54:41 AM
Plotted By: Tim Saylor
Plotted: FRI 05/19/17 8:54:41 A
Drawing: P:\160602\ENGINEERING\UTILITIES\SP - OVERALL UTILITY PLAN.DWG Layout: 19 OVERALL UTILITY PLAN

OVERALL UTILITY PLAN

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 19 OF 36

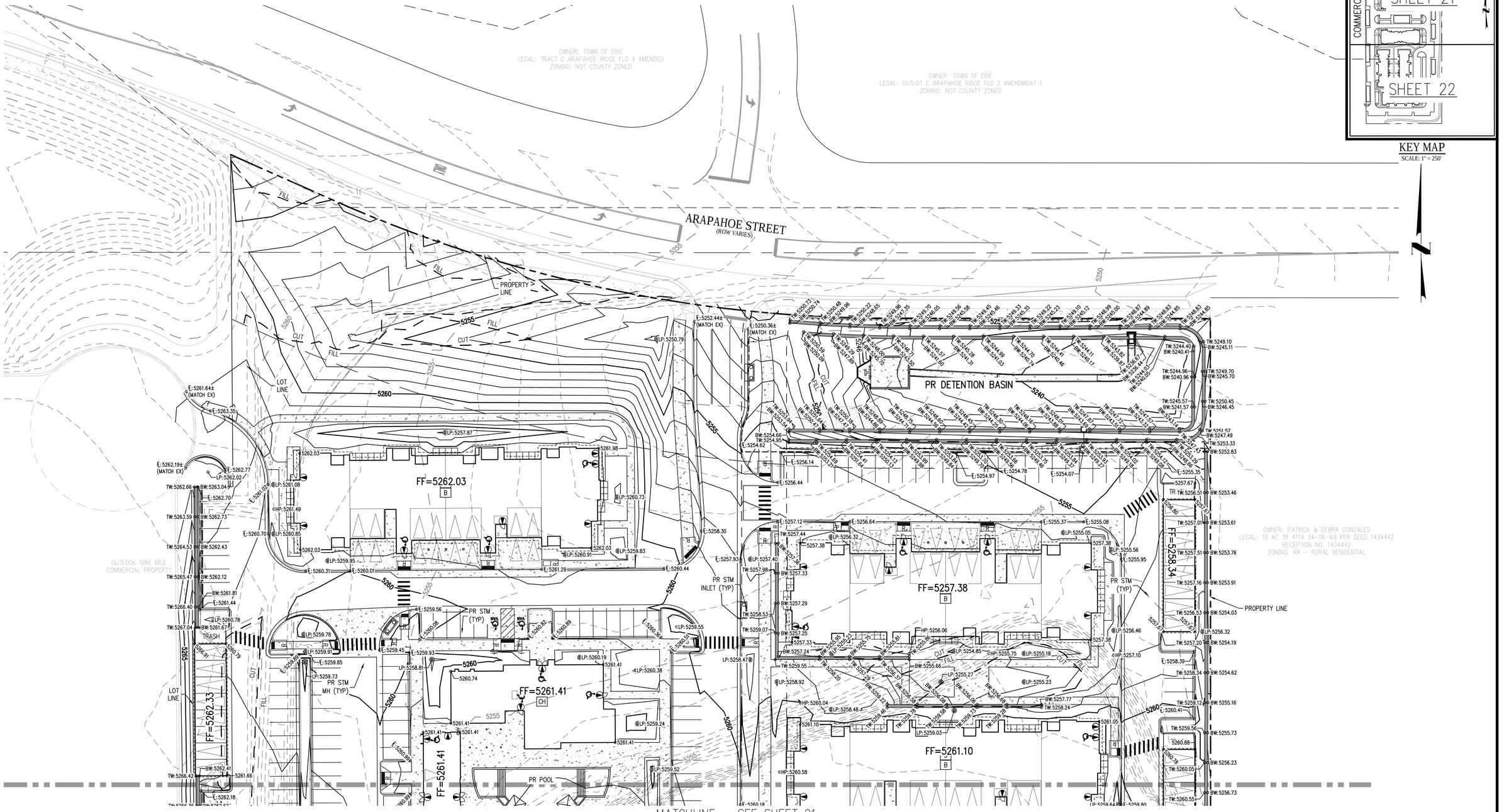
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

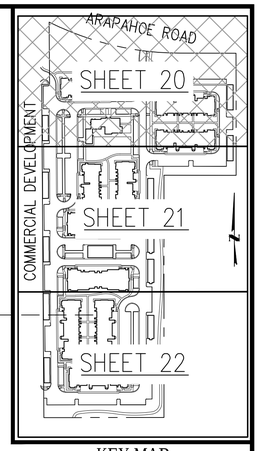
NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

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.

15 ACRES

SITE PLAN - SP-000832-2016





KEY MAP
SCALE: 1" = 250'

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

30 0 30 60
SCALE: 1" = 30'

PROJECT NUMBER: 160602

Drawn By: P:\160602\ENGINEERING\GRADING\SP - GRADING.DWG Layout: 20 GRADING PLAN
10/3/2017 8:57:35 AM
Plotted: FRI 09/19/17 8:57:35A By: Tim Sayler

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017

GRADING PLAN
SHEET 20 OF 36

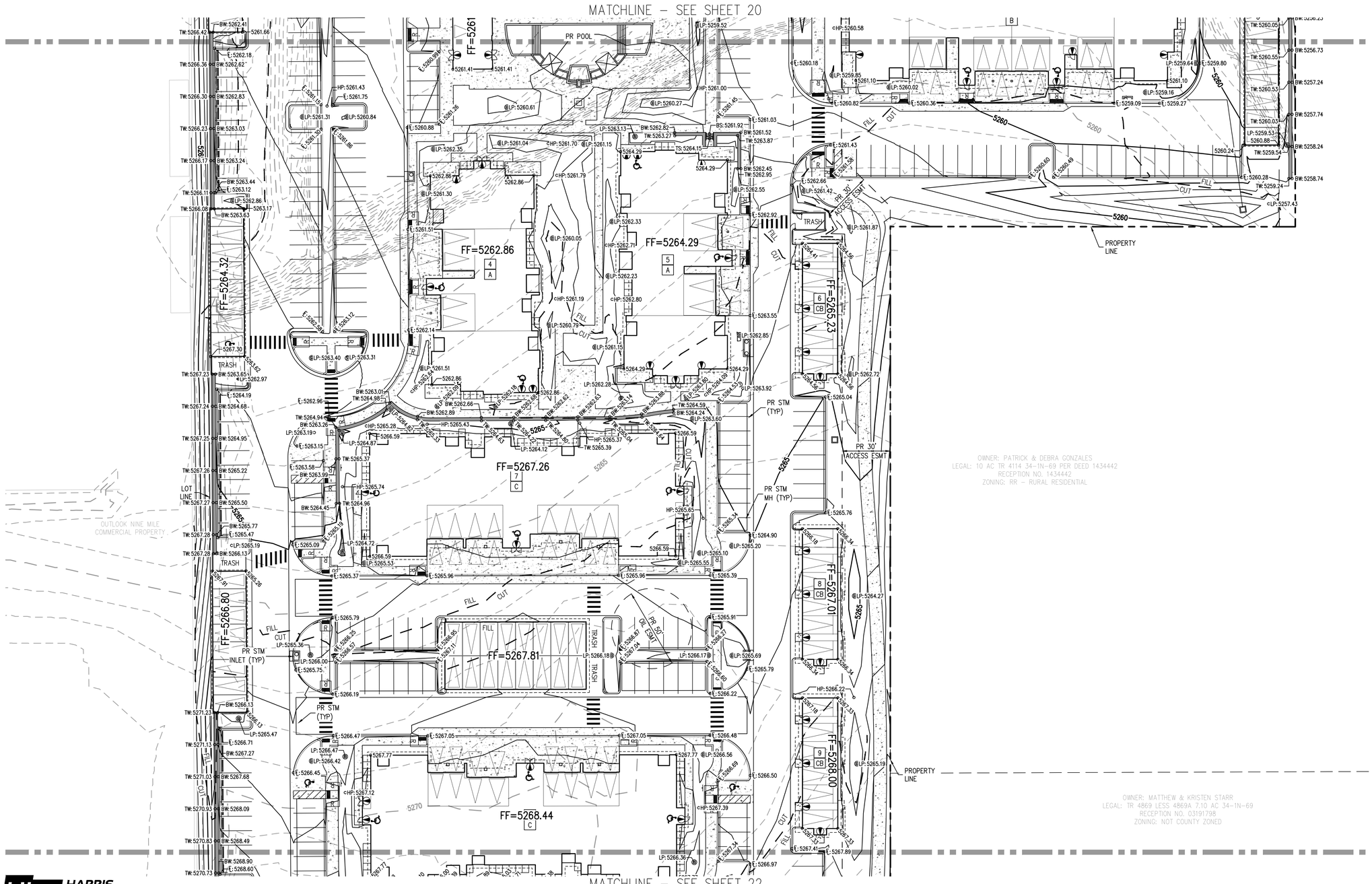
NO CHANGES ARE TO BE MADE TO THIS DRAWING WITHOUT WRITTEN PERMISSION OF HARRIS KOCHER SMITH

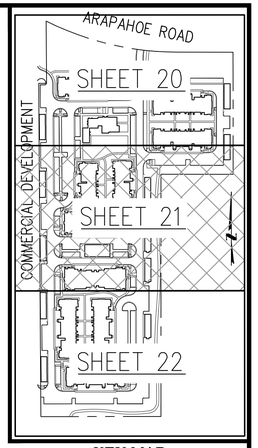
NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

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.

15 ACRES

SITE PLAN - SP-000832-2016





KEY MAP

SCALE: 1" = 250'

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

30 0 30 60

SCALE: 1" = 30'

PROJECT NUMBER: 160602

Drawn By: Author
Checked By: Checker
Date/Time: 5/22/2017 8:57:43 AM
Plotted By: Tim Saylor
Plotted: FRI 05/19/17 8:57:43A By: Tim Saylor
Drawing: P:\160602\ENGINEERING\GRADING\SP - GRADING.DWG Layout: 21 GRADING PLAN

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017

GRADING PLAN

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

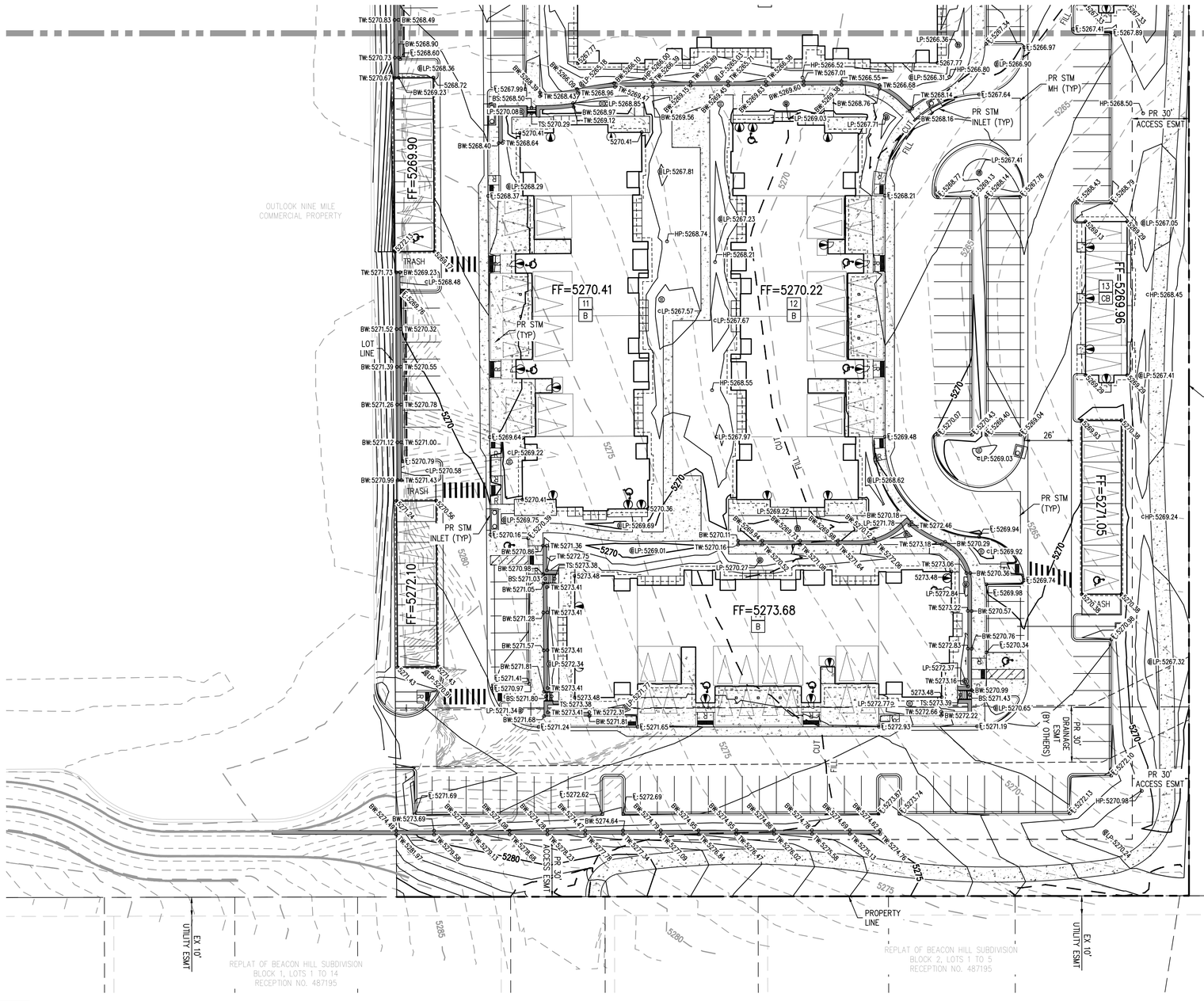
NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

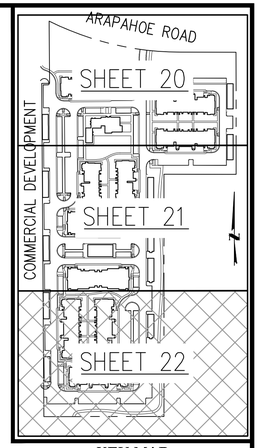
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

15 ACRES

SITE PLAN - SP-000832-2016

MATCHLINE – SEE SHEET 21





KEY MAP
SCALE: 1" = 250'

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

30 0 30 60
SCALE: 1" = 30'

PROJECT NUMBER: 160602

GRADING PLAN

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 22 OF 36

Filepath: P:\160602\ENGINEERING\GRADING\SP - GRADING.DWG Layout: 22 GRADING PLAN
Xrefs:
Plotted: FRI 05/19/17 8:57:47A By: Tim Sayler

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

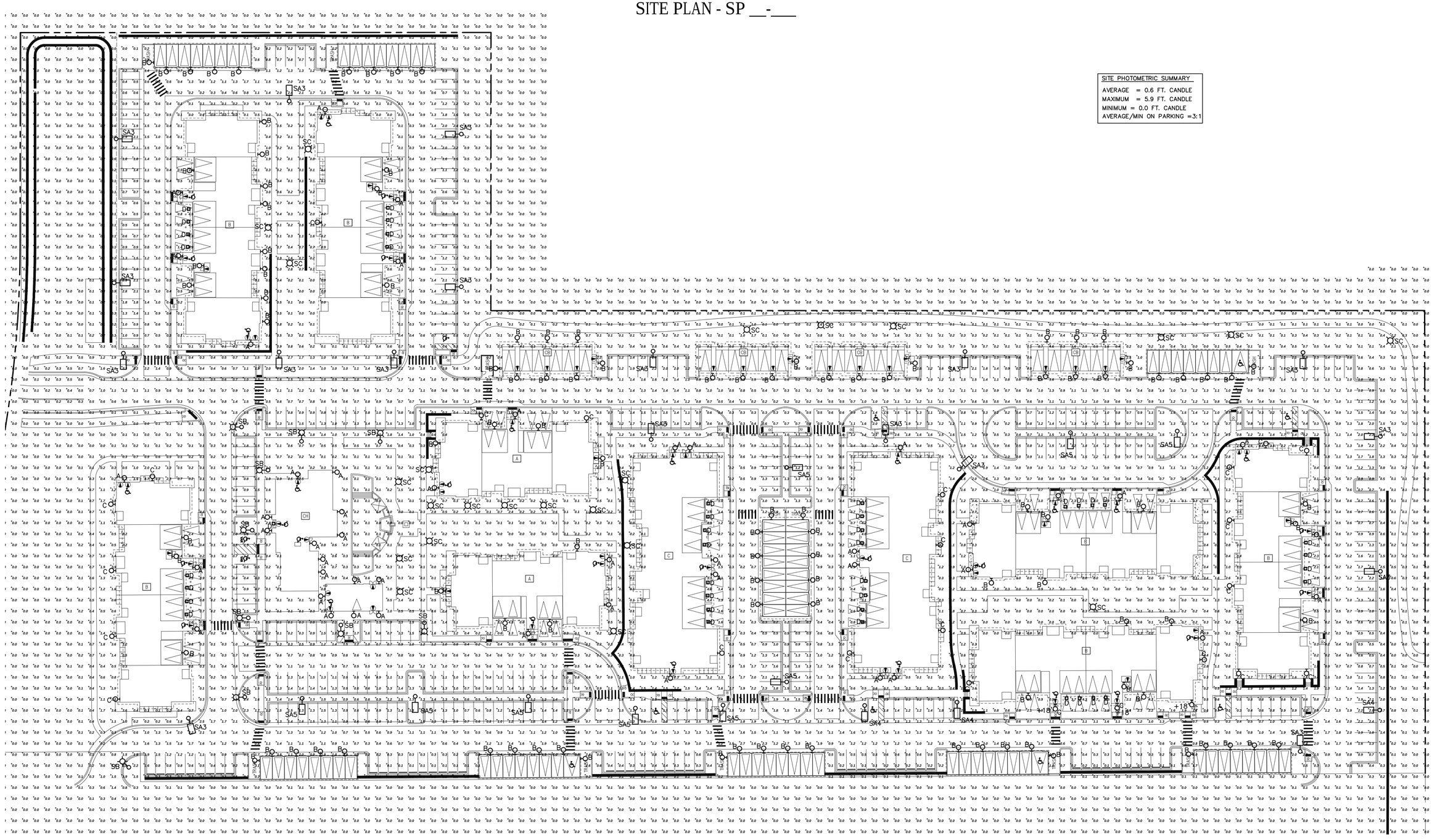
OUTLOOK NINE MILE

PORTION OF _ WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

14 ACRES

SITE PLAN - SP __-___

SITE PHOTOMETRIC SUMMARY
AVERAGE = 0.6 FT. CANDLE
MAXIMUM = 5.9 FT. CANDLE
MINIMUM = 0.0 FT. CANDLE
AVERAGE/MIN ON PARKING =3:1



40 0 40 80 N

SCALE: 1" = 40'

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

ENGINEERING CONSULTANTS INTERNATIONAL ELECTRICAL ENGINEERS
2555 WALNUT ST. SUITE B., DENVER, CO 80205
(303) 355-5534 (tel) walter@rgecinc.com

PROJECT NUMBER: 160602

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017

SITE PHOTOMETRIC PLAN

SHEET 23 OF 36

OUTLOOK NINE MILE - SITE PLAN

Filepath: P:\JOBS\2017\OUTLOOK NINE MILE\SITE PHOTOMETRICS\SDP - TITLEBLOCK.DWG Layout: MODEL
Plotted: 5/22/2017 - 3:42:09P By: Sophia
Plotted: MON, 04/17/17

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

OUTLOOK NINE MILE

PORTION OF _ WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO

14 ACRES

SITE PLAN - SP __-___

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



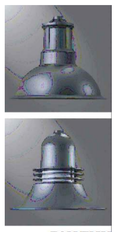
FIXTURE "A"



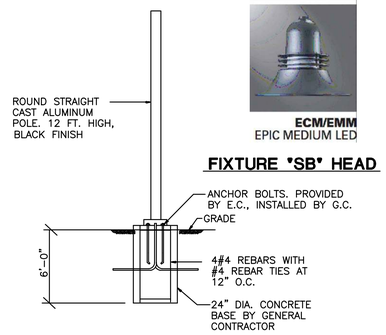
FIXTURE "B"



FIXTURE "C"



ECM/EMM
EPIC MEDIUM LED



FIXTURE "SB" HEAD

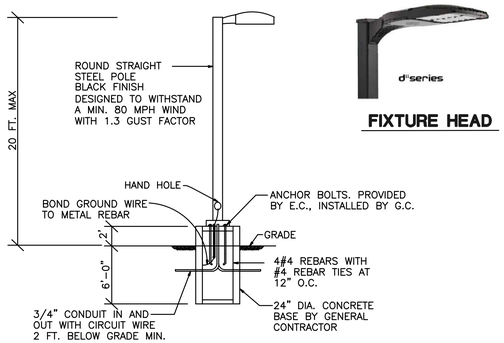
FIXTURES TYPE "SB" INSTALLATION DETAIL

NO SCALE



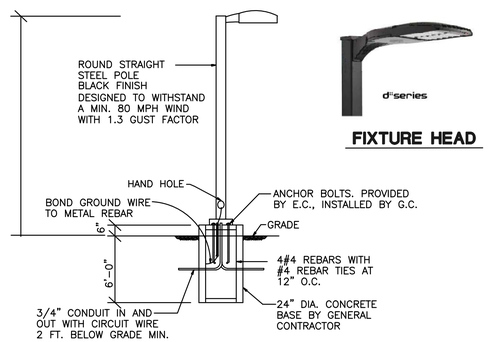
UCB

FIXTURE "SC"



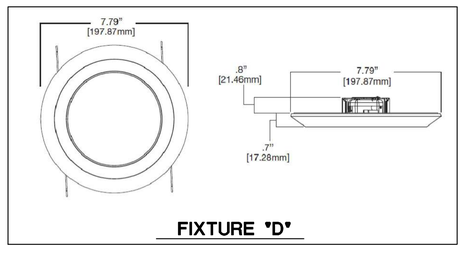
FIXTURES TYPE SA5 INSTALLATION DETAIL ON PARKING SURFACE

NO SCALE



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

ENGINEERING CONSULTANTS
2555 WALNUT ST. SUITE B., DENVER, CO 80205
(303) 355-5534 (tel) walter@rgceinc.com

PROJECT NUMBER: 160602

Filepath: P:\JOBS\2017\OUTLOOK NINE MILE\SITE PHOTOMETRICS\SDP - TITLEBLOCK.DWG Layout: MODEL
Plotted: 4/17/2017 3:42:20PM By: Sophia

SITE LIGHT FIXTURES

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 24 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

15 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
17	STONE SILL
18	LOW-PROFILE METAL CORNER TRIM
22	STOREFRONT
28	ELECTRIC METER STACK
29	GAS METER
30	MDP
31	A/C CONDENSOR
33	RISER ROOM DOOR

BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"



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"

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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

BLDG A - ELEVATIONS
REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 25 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

15 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
17	STONE SILL
18	LOW-PROFILE METAL CORNER TRIM
22	STOREFRONT
28	ELECTRIC METER STACK
29	GAS METER
30	MDP
31	A/C CONDENSOR
33	RISER ROOM DOOR

BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"



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"

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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

BLDG A - ELEVATIONS

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 26 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

15 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
17	STONE SILL
18	LOW-PROFILE METAL CORNER TRIM
22	STOREFRONT
28	ELECTRIC METER STACK
29	GAS METER
30	MDP
31	A/C CONDENSOR
33	RISER ROOM DOOR



4 BLDG B - REAR ELEVATION
1/16" = 1'-0"



2 BLDG B - LEFT ELEVATION
1/16" = 1'-0"

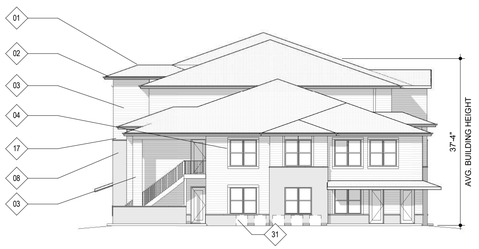
BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"



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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

BLDG B - ELEVATIONS

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.
15 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
17	STONE SILL
18	LOW-PROFILE METAL CORNER TRIM
22	STOREFRONT
28	ELECTRIC METER STACK
29	GAS METER
30	MDP
31	A/C CONDENSOR
33	RISER ROOM DOOR



4 BLDG B - REAR ELEVATION
1/16" = 1'-0"



2 BLDG B - LEFT ELEVATION
1/16" = 1'-0"

BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"



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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

BLDG B - ELEVATIONS
REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 28 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

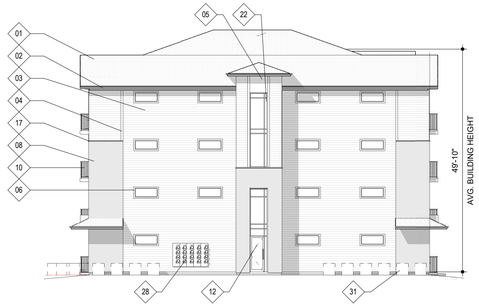
A PORTION OF THE NORTHEAST QUARTER OF SECTION 34, TOWNSHIP 1 NORTH, RANGE 69 WEST, AND THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 NORTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.
15 ACRES

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
17	STONE SILL
18	LOW-PROFILE METAL CORNER TRIM
22	STOREFRONT
28	ELECTRIC METER STACK
29	GAS METER
30	MDP
31	A/C CONDENSOR
33	RISER ROOM DOOR



4 BLDG C - REAR ELEVATION
1/16" = 1'-0"



2 BLDG C - LEFT ELEVATION
1/16" = 1'-0"

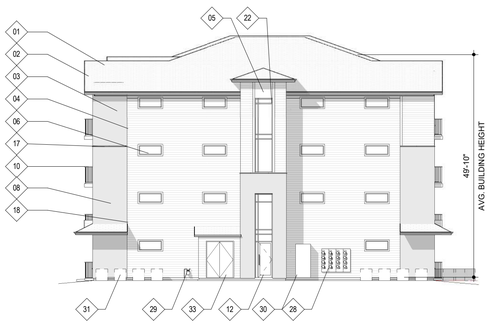
BUILDING COLOR SCHEME #1

COLOR #1: BENJAMIN MOORE 1616 STORMY SKY
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"
TRIM/PANEL: BENJAMIN MORE HC-81 MANCHESTER TAN
WINDOWS: ATRIUM WINDOWS; VINYL; ALMOND
METAL RAILING: DARK BRONZE

BUILDING COLOR SCHEME #2

COLOR #1: BENJAMIN MOORE 1532 MAJESTIC SAGE
COLOR #2: BENJAMIN MOORE 1523 EMBASSY GREEN
COLOR #3: WOODTONE RUSTIC SERIES "MOUNTAIN CEDAR"
TRIM/PANEL: BENJAMIN MORE HC-81 MANCHESTER TAN
WINDOWS: ATRIUM WINDOWS; VINYL; ALMOND
METAL RAILING: DARK BRONZE

ASPHALT ROOF: TAMKO HERITAGE "RUSTIC BROWN"



3 BLDG C - RIGHT ELEVATION
1/16" = 1'-0"



1 BLDG C - 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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

BLDG C - ELEVATIONS
REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 29 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.
15 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
17	STONE SILL
18	LOW-PROFILE METAL CORNER TRIM
22	STOREFRONT
28	ELECTRIC METER STACK
29	GAS METER
30	MDP
31	A/C CONDENSOR
33	RISER ROOM DOOR



4 BLDG C - REAR ELEVATION
1/16" = 1'-0"



2 BLDG C - LEFT ELEVATION
1/16" = 1'-0"

BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"



3 BLDG C - RIGHT ELEVATION
1/16" = 1'-0"



1 BLDG C - 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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

BLDG C - ELEVATIONS
REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 30 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

15 ACRES

SITE PLAN - SP-000832-2016

KEYNOTES	
	ARCHITECTURAL COMPOSITE SHINGLE ROOF
	3/4" X 8" PAINTED FASCIA
	6" CEMENTITIOUS LAP SIDING
	5/4" X 6" PAINTED CEMENTITIOUS ACCENT TRIM
	CEMENTITIOUS PANEL SIDING
05	VINYL WINDOW
08	STONE VENEER
09	OVERHEAD GARAGE DOOR
17	STONE SILL
22	STOREFRONT

BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"



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"

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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

CLUBHOUSE ELEVATIONS

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 31 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.
15 ACRES

SITE PLAN - SP-000832-2016

KEYNOTES	
	CHITECTURAL COMPOSITE SHINGLE ROOF
	5/4" X 6" PAINTED FASCIA
	6" CEMENTITIOUS LAP SIDING
	5/4" X 6" PAINTED CEMENTITIOUS ACCENT TRIM
	CEMENTITIOUS PANEL SIDING
06	VINYL WINDOW
08	STONE VENEER
09	OVERHEAD GARAGE DOOR
17	STONE SILL
22	STOREFRONT

BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"



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"

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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

CLUBHOUSE ELEVATIONS
REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 32 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

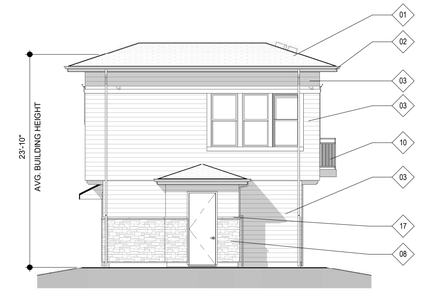
15 ACRES

SITE PLAN - SP-000832-2016

KEYNOTES	
01	ARCHITECTURAL COMPOSITE SHINGLE ROOF
02	5/4" X 8" PAINTED FASCIA
03	6" CEMENTITIOUS LAP SIDING
05	CEMENTITIOUS PANEL SIDING
08	STONE VENEER
09	OVERHEAD GARAGE DOOR
10	42" HIGH GUARD RAIL
17	STONE SILL
33	RISER ROOM DOOR



4 CARRIAGE FRONT ELEVATION
1/8" = 1'-0"



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

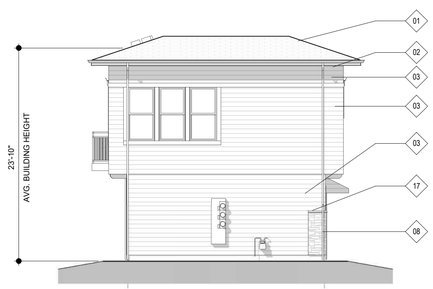
BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"



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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

CARRIAGE ELEVATIONS

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 33 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

15 ACRES

SITE PLAN - SP-000832-2016

KEYNOTES	
	ARCHITECTURAL COMPOSITE SHINGLE ROOF
	5/4" X 8" PAINTED FASCIA
	6" CEMENTITIOUS LAP SIDING
	CEMENTITIOUS PANEL SIDING
08	STONE VENEER
09	OVERHEAD GARAGE DOOR
10	42" HIGH GUARD RAIL
17	STONE SILL
33	RISER ROOM DOOR



4 CARRIAGE FRONT ELEVATION
1/8" = 1'-0"



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

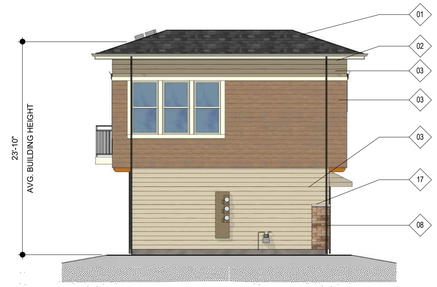
BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"



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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

CARRIAGE ELEVATIONS

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 34 OF 36

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

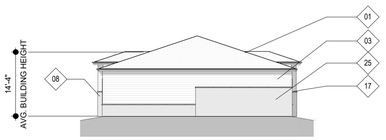
NINE MILE SUBDIVISION FILING NO.1 BLOCK 2

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.

15 ACRES

SITE PLAN - SP-000832-2016

KEYNOTES	
	ARCHITECTURAL COMPOSITE SHINGLE ROOF
	5/4" X 8" PAINTED FASCIA
	6" CEMENTITIOUS LAP SIDING
	STONE VENEER
09	OVERHEAD GARAGE DOOR
17	STONE SILL
25	SPLIT-FACE CONCRETE MASONRY UNITS
26	METAL TRASH ENCLOSURE GATE



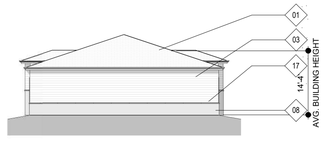
16 LEFT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



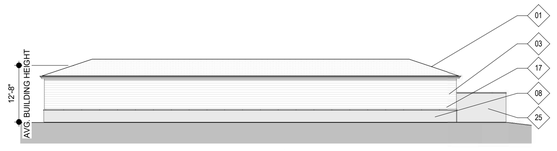
10 FRONT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



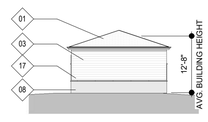
15 REAR ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



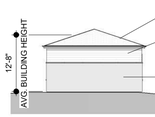
9 RIGHT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



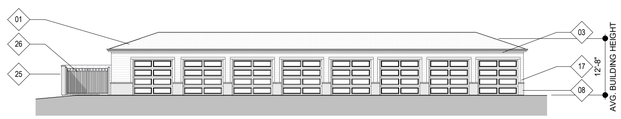
14 REAR ELEVATION - GARAGE TYPE B
1/16" = 1'-0"



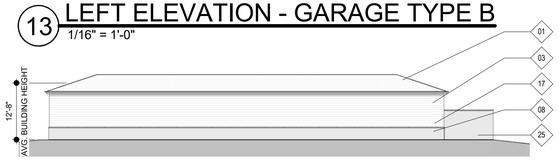
8 RIGHT ELEVATION - GARAGE TYPE B
1/16" = 1'-0"



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



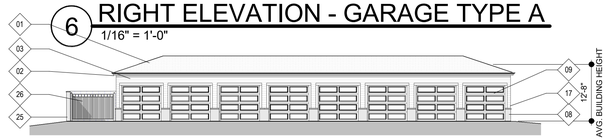
7 FRONT ELEVATION - GARAGE TYPE B
1/16" = 1'-0"



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

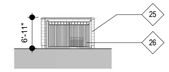


6 RIGHT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"

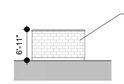


11 LEFT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"

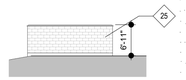
5 FRONT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"



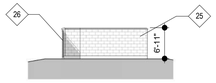
4 TRASH FRONT ELEVATION
1/16" = 1'-0"



2 TRASH REAR ELEVATION
1/16" = 1'-0"



3 TRASH LEFT ELEVATION
1/16" = 1'-0"



1 TRASH RIGHT ELEVATION
1/16" = 1'-0"

BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"

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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

ACCESSORY ELEVATIONS

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 35 OF 36

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

NINE MILE SUBDIVISION FILING NO.1 BLOCK 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.

15 ACRES

SITE PLAN - SP-000832-2016

KEYNOTES	
	ARCHITECTURAL COMPOSITE SHINGLE ROOF
	5/4" X 8" PAINTED FASCIA
	6" CEMENTITIOUS LAP SIDING
	STONE VENEER
09	OVERHEAD GARAGE DOOR
17	STONE SILL
25	SPLIT-FACE CONCRETE MASONRY UNITS
26	METAL TRASH ENCLOSURE GATE



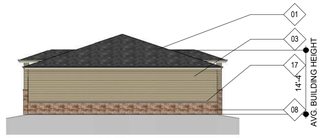
16 LEFT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



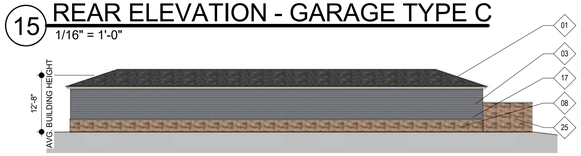
10 FRONT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



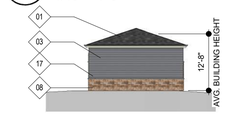
15 REAR ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



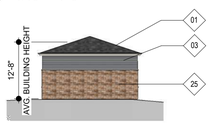
9 RIGHT ELEVATION - GARAGE TYPE C
1/16" = 1'-0"



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



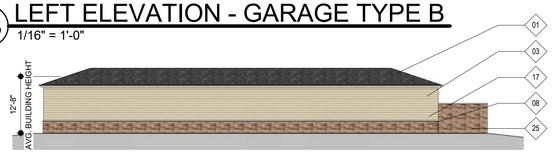
8 RIGHT ELEVATION - GARAGE TYPE B
1/16" = 1'-0"



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"

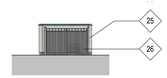
6 RIGHT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"



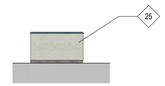
11 LEFT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"



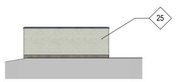
5 FRONT ELEVATION - GARAGE TYPE A
1/16" = 1'-0"



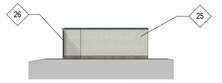
4 TRASH FRONT ELEVATION
1/16" = 1'-0"



2 TRASH REAR ELEVATION
1/16" = 1'-0"



3 TRASH LEFT ELEVATION
1/16" = 1'-0"



1 TRASH RIGHT ELEVATION
1/16" = 1'-0"

BUILDING COLOR SCHEME #1

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

BUILDING COLOR SCHEME #2

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"

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 RESPONSBILITY 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.

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

PROJECT NUMBER: 160602

ACCESSORY ELEVATIONS

REVISION DATE: 05-22-2017 ISSUE DATE: 04-27-2017 SHEET 36 OF 36

NINE MILE SUBDIVISION FILING NO. 1

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.



VICINITY MAP

GENERAL NOTES

1) THIS SURVEY WAS BASED ON THE TITLE COMMITMENT/REPORT BY LAND TITLE GUARANTEE COMPANY, FILE NO.: ABJ70471321-3 WITH AN EFFECTIVE DATE OF 12-02-2016 AT 5:00 P.M., 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 N 1/4 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.

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) PROPERTIES ARE SUBJECT TO ALL COAL THAT MAY BE UNDERNEATH THE SURFACE OF THE LAND HEREIN DESCRIBED, ALSO SUCH RIGHT OF WAY AND OTHER GROUNDS AS MAY BE NECESSARY FOR THE PROPER WORKING OF ANY COAL MINES THAT MAY BE DEVELOPED UPON SAID PREMISES AND FOR THE TRANSPORTATION OF THE COAL FROM THE SAME, AS RESERVED UNTO THE UNION PACIFIC RAILWAY COMPANY IN THE DEED RECORDED JUNE 11, 1891 IN BOOK 138 AT PAGE 469, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

10) PROPERTIES ARE SUBJECT TO A RIGHT OF WAY FOR DITCHES IN, ON AND OVER SAID PREMISES AND THE RIGHTS TO ENTER UPON SAID PREMISES FOR THE PURPOSE OF REPAIRING AND MAINTAINING SUCH DITCHES, AS RESERVED IN DEED RECORDED MARCH 23, 1893 IN BOOK 158 AT PAGE 300.

11) PROPERTIES ARE SUBJECT TO ALL COAL THAT MAY BE UNDERNEATH THE SURFACE OF THE LAND, AND THE EXCLUSIVE RIGHT TO PROSPECT, SINK SHAFT OR SHAFTS AND MINE FOR THE SAME; ALSO RESERVING SUCH RIGHT OF WAY AND OTHER GROUNDS AS MAY BE NECESSARY FOR THE PROPER WORKING OF ANY COAL MINE THAT MAY BE DEVELOPED UPON SAID PREMISES AND FOR THE TRANSPORTATION OF COAL FROM THE SAME, AS RESERVED UNTO THE COLORADO MORTGAGE AND INVESTMENT CO., LTD., A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF GREAT BRITAIN AND IRELAND; ANDREW WHITTON; JAMES GUTHRIE; AND ALEXANDER GOURLAY IN THE DEED RECORDED OCTOBER 18, 1901 IN BOOK 249 AT PAGE 209, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN. NOTE: MINERAL DEED RECORDED FEBRUARY 27, 1907 IN BOOK 296 AT PAGE 299. NOTE: MINERAL DEED RECORDED SEPTEMBER 11,1929 IN BOOK 566 AT PAGE 360.

12) PROPERTIES ARE SUBJECT TO ALL COAL OR OTHER MINERALS THAT MAY BE UNDERNEATH THE SURFACE OF THE LAND; AND THE EXCLUSIVE RIGHT TO PROSPECT, SING SHAFT OR SHAFTS, AND MINE FOR THE SAME, AS RESERVED UNTO THE COLORADO MORTGAGE & INVESTMENT COMPANY, LIMITED, A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF GREAT BRITAIN AND IRELAND; ANDREW WHITTON; JAMES GUTHRIE; AND ALEXANDER GOURLEY IN THE DEED RECORDED JANUARY 21, 1904 IN BOOK 251 AT PAGE 460, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

13) PROPERTIES ARE SUBJECT TO AN UNDIVIDED ONE-HALF INTEREST IN THE COAL AND OTHER MINERALS LYING UNDERNEATH THE SURFACE OF THE LAND AS CONVEYED TO GEORGE MURRAY, EDWARD E. HOLMES AND ALFRED N. GOSSETT BY THE DEED RECORDED FEBRUARY 27, 1907 IN BOOK 296 AT PAGE 299.

14) PROPERTIES ARE SUBJECT TO ALL COAL AND OTHER MINERALS UNDERNEATH THE SURFACE OF THE LAND, AND THE EXCLUSIVE RIGHT TO PROSPECT, SINK OR SHAFTS, AND MINE FOR THE SAME; ALSO RESERVING SUCH RIGHT OF WAY AND OTHER GROUNDS AS MAY BE NECESSARY FOR THE PROPER WORKING OF ANY COAL OR OTHER MINE OR MINES THAT MAY BE DEVELOPED UPON SAID PREMISES AND FOR THE TRANSPORTATION OF THE PRODUCTS THEREFROM, AND FOR SUCH SURFACE AREA SO REQUIRED, AS RESERVED UNTO THE COLORADO MORTGAGE AND INVESTMENT COMPANY, LIMITED, AND CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF GREAT BRITAIN AND IRELAND; ANDREW WHITTON; JAMES GUTHRIE; AND ALEXANDER GOURLAY IN THE DEED RECORDED JANUARY 15, 1910 IN BOOK 340 AT PAGE 259, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

15) PROPERTIES ARE SUBJECT TO AN UNDIVIDED 2 1/2% INTEREST IN A ND TO ALL THE OIL AND GAS IN AND UNDER AND THAT MAY BE PRODUCED FROM THE LAND, AS CONVEYED TO ROY R. CARPENTER BY THE DEED RECORDED JULY 22, 1924 IN BOOK 511 AT PAGE 168, AND ANY AND ALL ASSIGNMENTS THEREOF OR INTERESTS THEREIN.

16) PROPERTIES ARE SUBJECT TO THE RIGHT TO MAINTAIN, REPLACE AND USE WATER PIPE LINE; AND THE RIGHT TO DRAW WATER FROM SAID RESERVOIR BY MEANS OF SAID PIPE LINE FOR DOMESTIC USE, TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS TO REPAIR AND MAINTAIN THE SAME, AS RESERVED UNTO GEORGE L. SCHOFIELD, A. MAUDE SCHOFIELD, FLOYD EUGENE HARRIS, NEVADIA HARRIS, BENNETT W. MUIR AND FRIEDA E. MUIR IN THE DEED RECORDED NOVEMBER 2, 1956 IN BOOK 1028 AT PAGE 471.

17) PROPERTIES ARE SUBJECT TO ANY RIGHTS OR INTERESTS OF THIRD PARTIES WHICH EXIST OR ARE CLAIMED TO EXIST IN AND OVER THE PRESENT AND PAST BED, BANKS OR WATERS OF SOUTH BOULDER CANYON DITCH, SAID DITCH BEING REFERRED TO IN THE LEGAL DESCRIPTION CONTAINED IN DEED RECORDED APRIL 29, 1968 UNDER RECEPTION NO. 877395 AND DEED RECORDED MAY 21, 1969 UNDER RECEPTION NO. 913694.

18) PROPERTIES ARE SUBJECT TO ANY CHANGES IN AREA DUE TO THE RELOCATION OR MOVEMENT OF SOUTH BOULDER CANYON DITCH, SAID DITCH BEING DESCRIBED IN THE LEGAL DESCRIPTION CONTAINED IN DEED RECORDED APRIL 29, 1968 UNDER RECEPTION NO. 877395 AND DEED RECORDED MAY 21, 1969 UNDER RECEPTION NO. 913694.

19) PROPERTIES ARE SUBJECT TO AN EASEMENT FOR ROADWAY AND FOR THE MAINTENANCE AND REPAIR OF RESERVOIR, AS RESERVED UNTO THE TOWN OF ERIE IN THE DEED RECORDED APRIL 29, 1968 UNDER RECEPTION NO. 877396.

20) PROPERTIES ARE SUBJECT TO EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF COLORADO, FOR NATURAL GAS FACILITIES, AND INCIDENTAL PURPOSES, BY INSTRUMENT RECORDED AUGUST 04, 1981, UNDER RECEPTION NO. 457820.

21) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN TOWN OF ERIE, LESSOR, AND MARTIN EXPLORATION MANAGEMENT CORP., LESSEE, RECORDED MARCH 31, 1983 UNDER RECEPTION NO. 541012, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN. NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985 UNDER RECEPTION NO. 702639. REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082. NOTE: NOTICE OF OIL AND GAS INTERESTS AND SURFACE USE IN CONNECTION WITH THE ABOVE LEASE RECORDED JANUARY 23, 2001 UNDER RECEPTION NO. 2112332.

22) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN RODGER D. BEERY AND CAMILLA R. BEERY, LESSORS, AND MARTIN EXPLORATION MANAGEMENT CORP., LESSEE, RECORDED APRIL 11, 1983 UNDER RECEPTION NO. 542944, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN. NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985, UNDER RECEPTION NO. 702639. REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

23) PROPERTIES ARE SUBJECT TO RIGHT OF WAY EASEMENT FOR PIPELINE, AND INCIDENTAL PURPOSES, AS GRANTED TO CDM PIPELINE COMPANY, INC., A COLORADO CORPORATION IN INSTRUMENT RECORDED JULY 16, 1984 UNDER RECEPTION NO. 634026, AND CORRECTION AND AMENDMENT OF PIPELINE RIGHT-OF-WAY GRANT RECORDED OCTOBER 15, 1984 UNDER RECEPTION NO. 652036. PIPELINE SURVEY MAP RECORDED SEPTEMBER 28, 1984 UNDER RECEPTION NO. 649253.

24) PROPERTIES ARE SUBJECT TO ANY TAX, LIEN, FEE, OR ASSESSMENT BY REASON OF INCLUSION OF SUBJECT PROPERTY IN THE LONGMONT FIRE PROTECTION DISTRICT, AS EVIDENCED BY INSTRUMENT RECORDED APRIL 29, 1985, UNDER RECEPTION NO. 685397 AND MODIFIED ORDER OF INCLUSION RECORDED SEPTEMBER 3, 1985 UNDER RECEPTION NO. 710155.

25) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN GEORGE W. KUHL, VIVIAN M. KUHL, RODGER D. KUHL AND JANE M. KUHL, LESSORS, AND O.D. PRESLEY, LESSEE, RECORDED MAY 06, 1985 UNDER RECEPTION NO. 686620, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN. NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985 UNDER RECEPTION NO. 702639.REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

26) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN ROY N. AUSTIN, LESSOR, AND O.D. PRESLEY, LESSEE, RECORDED MAY 06, 1985 UNDER RECEPTION NO. 686626, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN NOTE: AFFIDAVIT OF PRODUCTION RECORDED JULY 30, 1985 UNDER RECEPTION NO. 702639. REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

27) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN JANE KUEHNER, MARY F. DEHAAN, MICHAEL R. SHELTON, MARK L. SHELTON, BRUCE D. CARPENTER, JEAN K. CARPENTER, GLENN C. CARPENTER AND SARAH A. CARPENTER, LESSORS, AND O.D. PRESLEY, LESSEE, RECORDED AUGUST 06, 1985 UNDER RECEPTION NOS. 766084, 766085, AND 766086.

28) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN CLAUDE JONES AND ALINE JONES, LESSORS, AND O.D. PRESLEY, LESSEE, RECORDED AUGUST 06, 1985 UNDER RECEPTION NO. 703694, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN. NOTE: REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

29) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN EVAN DUVAL, JR. AND O.D. PRESLEY, LESSORS, AND RICHARDSON OIL COMPANY, LESSEE, RECORDED AUGUST 06, 1985 UNDER RECEPTION NO. 703697, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN. NOTE: REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082.

30) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN WINNIFRED H. EWALT, LESSOR, AND O.D. PRESLEY, LESSEE, RECORDED OCTOBER 08, 1985 UNDER RECEPTION NO. 717948, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN. NOTE: REVISED AFFIDAVIT OF PRODUCTION RECORDED APRIL 21, 1986 UNDER RECEPTION NO. 754068 AND RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766082. NOTE: RATIFICATION OF OIL AND GAS LEASE RECORDED JUNE 12, 1986 UNDER RECEPTION NO. 766083.

31) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN JAY P. WALKER, LESSOR, AND O.D. PRESLEY, LESSEE, RECORDED JULY 09, 1986 UNDER RECEPTION NO. 772253, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

32) PROPERTIES ARE SUBJECT TO MINERAL DEED RECORDED MARCH 5, 1992 UNDER RECEPTION NO. 1165768.

33) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN PAUL K. LASNIK, LESSOR, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 17, 1992 UNDER RECEPTION NO. 1168168, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

34)

35) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN HELEN M. MASTRIONA AND FRANK M. MASTRIONA, LESSORS, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 24, 1922 UNDER RECEPTION NO. 1169721, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

36) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN DOROTHY J. BLACKBURN AND JOSEPH BLACKBURN, LESSORS, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 24, 1992 UNDER RECEPTION NO. 1169722, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

37) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN DOLORES T. FORBIS AND DERL D. FORBIS, LESSORS, AND MARTIN EXPLORATION MANAGEMENT COMPANY, LESSEE, RECORDED MARCH 30, 1992 UNDER RECEPTION NO. 1171195, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

38) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN MARTIN EXPLORATION MANAGEMENT COMPANY, LESSOR, AND BASIN EXPLORATION INCORPORATED, LESSEE, RECORDED NOVEMBER 08,1993 UNDER RECEPTION NO. 1358710, AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN. NOTE: NOTICE OF OIL AND GAS INTERESTS AND SURFACE USE IN CONNECTION WITH THE ABOVE LEASE RECORDED JANUARY 23, 2001 UNDER RECEPTION NO. 2112332.

39) PROPERTIES ARE SUBJECT TO RESOLUTION #94-25, PERTAINING TO ANNEXATION, RECORDED NOVEMBER 9, 1994 UNDER RECEPTION NO. 1477392 AND MAP IN CONNECTION THEREWITH RECORDED NOVEMBER 9, 1994 UNDER RECEPTION NO. 1477393.

40) PROPERTIES ARE SUBJECT TO TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN NELSON AGREEMENT REGARDING USE OF PUBLIC STREET RECORDED JULY 24, 1998 UNDER RECEPTION NO. 1827415.

41) PROPERTIES ARE SUBJECT TO REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED MAY 17, 2002 UNDER RECEPTION NO. 2288464.

42) PROPERTIES ARE SUBJECT TO REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED OCTOBER 23, 2007 UNDER RECEPTION NO. 2890878.

43)

44) PROPERTIES ARE SUBJECT TO REQUEST FOR NOTIFICATION OF SURFACE DEVELOPMENT AS EVIDENCED BY INSTRUMENT RECORDED DECEMBER 21, 2007 UNDER RECEPTION NO. 2900941.

45) PROPERTIES ARE SUBJECT TO TERMS, CONDITIONS, PROVISIONS, BURDENS AND OBLIGATIONS AS SET FORTH IN LONG-TER LEASE PURCHASE OPTION AGREEMENT DATED JANUARY 10, 2012 BY AND BETWEEN THE TOWN OF ERIE URBAN RENEWAL AUTHORITY AND BRIAN NELSON AND SHAWNA NELSON, AS MEMORIALIZED BY RECORD NOTICE RECORDED WITH WARRANTY DEED JANUARY 17, 2012 UNDER RECEPTION NO. 3196450. NOTE: BY WARRANTY DEED RECORDED JANUARY 16, 2013 UNDER RECEPTION NO. 3282584, BRIAN NELSON AND SHAWNA NELSON CONVEYED OPTION TO PURCHASE, AS SET FORTH IN SAID AGREEMENT, TO TOWN OF ERIE URBAN RENEWAL AUTHORITY.

46) PROPERTIES ARE SUBJECT TO OIL AND GAS LEASE BETWEEN NOBLE ENERGY, INC., A DELAWARE CORPORATION AND EXTRACTION OIL & GAS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, RECORDED MARCH 11, 2015 UNDER RECEPTION NO. 3432573 AND ANY AND ALL ASSIGNMENTS THEREOF, OR INTEREST THEREIN.

47) PROPERTIES ARE SUBJECT TO RESOLUTION #05-2015, PERTAINING TO ANNEXATION, RECORDED APRIL 21, 2015 UNDER RECEPTION NO. 3440934 AND MAP IN CONNECTION THEREWITH RECORDED APRIL 21, 2015 UNDER RECEPTION NO. 3440932.

48) PROPERTIES ARE SUBJECT TO RESOLUTION #06-2015, PERTAINING TO ZONING, RECORDING APRIL 21, 2015 UNDER RECEPTION NO. 3440935 AND MAP IN CONNECTION THEREWITH RECORDED APRIL 21, 2015 UNDER RECEPTION NO. 3440933.

LAND SUMMARY CHART

TYPE	AREA (ACRES)	% OF TOTAL AREA
RESIDENTIAL BLOCK 2 (INCLUDES R.O.W. AREA TO BE VACATED)	15.137	31.79
COMMERCIAL BLOCK 1 (INCLUDES R.O.W. AREA TO BE VACATED)	32.106	67.44
RIGHT OF WAY SUMMARY		
TO BE DEDICATED BY THIS PLAT	0.367	0.77
TO BE VACATED BY THIS PLAT (THIS AREA IS ALREADY INCLUDED AS PART OF THE RESIDENTIAL AND COMMERCIAL BLOCKS ABOVE)	0.472	NA
TOTAL	47.610	100.00

LEGEND

● FOUND MONUMENT (AS DESCRIBED)

○ SET MONUMENT NO. 5 REBAR WITH ORANGE PLASTIC CAP "PLS 38069" UNLESS OTHERWISE NOTED

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.

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.

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 _____ THE (STREETS, TRACTS, EASEMENTS I INDICATE THOSE APPLICABLE) 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.

OWNER/MORTGAGEE/LIEN HOLDER SIGNATURE (SEPARATE SIGNATURE BLOCK FOR EACH)

COMPANY NAME OR OWNER

BY: _____ _____
(NAME OF AUTHORIZED OFFICIAL) DATE

TITLE: _____

ATTEST:

SECRETARY/TREASURER

STATE OF COLORADO)
) ss.
COUNTY OF _____)

ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 20____ BY _____ AS _____.

WITNESS MY HAND AND OFFICIAL SEAL

_____ (SEAL)
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

TITLE VERIFICATION CERTIFICATE

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:

COMPANY NAME

BY: _____ _____ (DATE) _____
(NAME OF AUTHORIZED OFFICIAL)

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

_____ (SEAL)
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

BOARD OF TRUSTEES APPROVAL CERTIFICATE

THIS PLAT IS TO BE KNOWN AS _____ 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

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 _____ (NAME) _____ 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

_____ (SEAL)
NOTARY PUBLIC

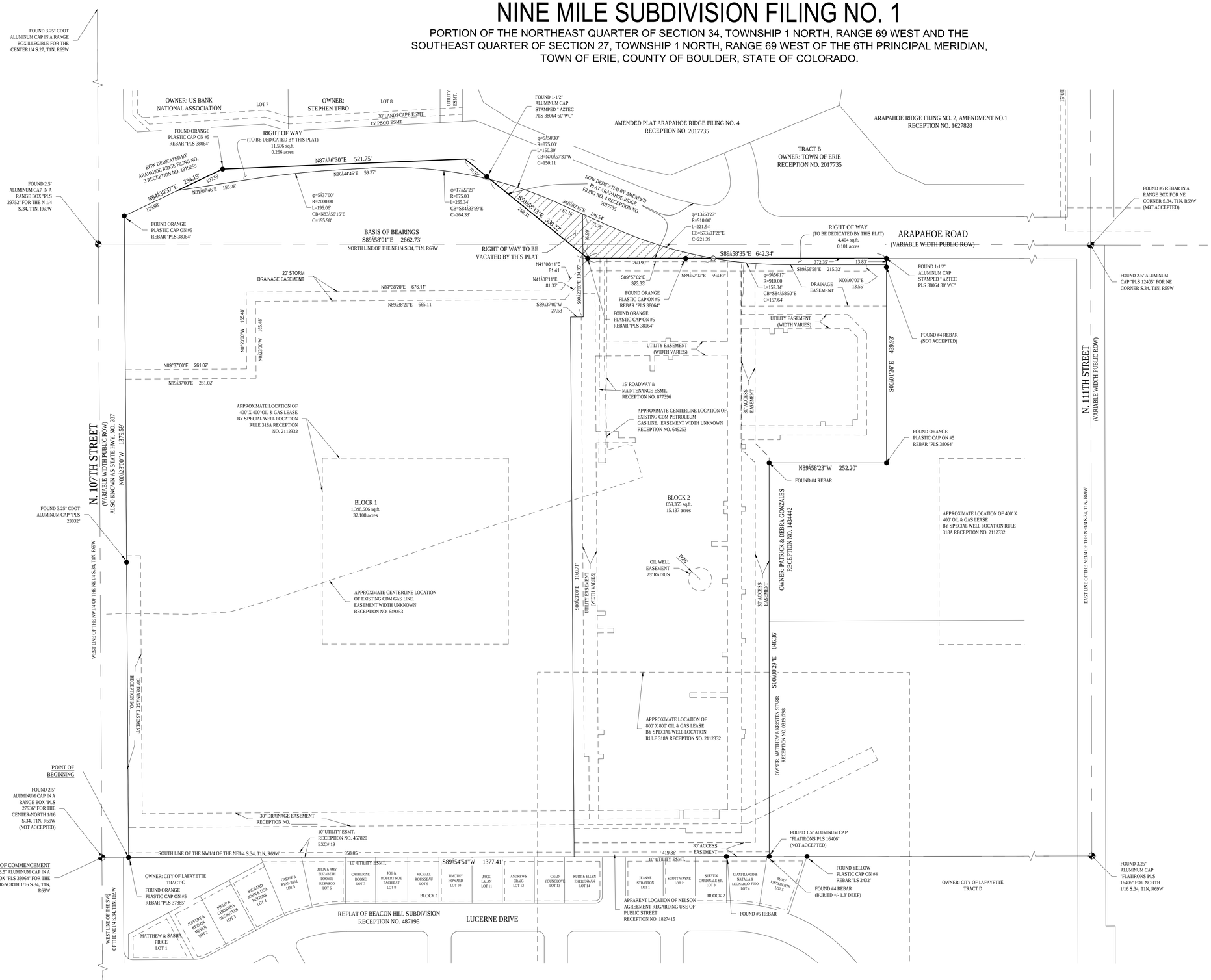
MY COMMISSION EXPIRES: _____

SURVEYOR&S CERTIFICATE

I, BRIAN J. DENNIS, A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THI

NINE MILE SUBDIVISION FILING NO. 1

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.



LEGEND

- ● FOUND MONUMENT (AS DESCRIBED)
- ○ SET MONUMENT NO. 5 REBAR WITH ORANGE PLASTIC CAP "PLS 38069" UNLESS OTHERWISE NOTED

SCALE: 1"=100'

Galloway
Planning, Architecture, Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

NINE MILE SUBDIVISION FILING NO. 1
TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO
PROJECT # MS-000884-2017

#	Date	Issue / Description	Init.

Project No:	EDI000018
Drawn By:	BWD
Checked By:	BJD
Date:	2017-05-22

2 OF 2
PROJECT NO.: MS-000884-2017

ERIE NILE MILE CORNER

PORTION OF THE NE 1/4 OF SEC. 34, T. 1 N., R. 69 W. AND THE SE 1/4 OF SEC. 27, T. 1 N., R. 69 W. OF THE 6th P. M., TOWN OF ERIE, COUNTY OF BOULDER, STATE OF COLORADO.

PUBLIC & SITE INFRASTRUCTURE PLANS

LIST OF CONTACTS

APPLICANT/DEVELOPER

EVERGREEN DEVCO. INC.
2380 E. CAMELBACK ROAD, SUITE 410
PHOENIX, ARIZONA 85016
TEL: (602) 567-7129
CONTACT: RUSSELL PERKINS

ENGINEER

GALLOWAY & COMPANY, INC.
6162 S. WILLOW DRIVE, SUITE 320
GREENWOOD VILLAGE, COLORADO 80111
TEL: (303) 770-8884
FAX: (303) 770-3636
CONTACT: BRANDON McCRARY, P.E.
EMAIL: BrandonMcCrary@gallowayus.com

SURVEYOR

GALLOWAY & COMPANY, INC.
1755 TELSTAR DRIVE, SUITE 107
COLORADO SPRINGS, COLORADO 80920
TEL: (719) 900-7220
FAX: (303) 770-3636
CONTACT: BRIAN DENNIS
EMAIL: BrianDennis@gallowayus.com

GEOTECHNICAL ENGINEER

CTL THOMPSON
1971 W. 12TH AVENUE
DENVER, CO 80204
TEL: (303) 825-0777
CONTACT: RON MCOMBER

UTILITY CONTACTS

WATER, SANITARY, & STORM SEWER

TOWN OF ERIE
645 HOLBROOK ST.
ERIE, CO 80516
(303) 926-2700
CONTACT: MATT WEIRDERSPAHN

FIRE

MOUNTAIN VIEW FIRE PROTECTION DISTRICT
3561 STAGECOACH ROAD
LONGMONT, CO 80504
(303) 772-0710
CONTACT: LUANN PENFOLD

ELECTRICAL

UNITED POWER COMPANY
PO BOX 929
500 COOPERATIVE WAY
BRIGHTON, COLORADO 80601
(303) 637-1234
CONTACT: KATHY A. ROTELLO

GAS

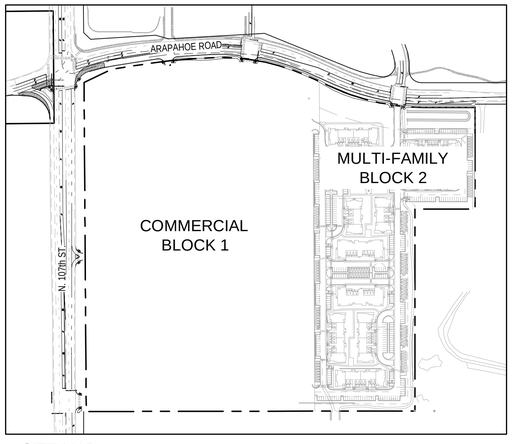
XCEL ENERGY
1123 WEST 3RD AVENUE
DENVER, CO 80223
(303) 571-3306
CONTACT: DONNA GEORGE
EMAIL: Donna.L.George@xcelenergy.com

TELEPHONE

CENTURY LINK COMMUNICATIONS
3702 AUTOMATION WAY, SUITE 106
FORT COLLINS, COLORADO 80525
(720) 490-7508
CONTACT: TERRY SPEER



VICINITY MAP
NOT TO SCALE



SITE MAP
SCALE: 1" = 300'

SHEET INDEX

DWG No.	DESCRIPTION
1	COVER SHEET
2	OVERALL PRELIMINARY SITE PLAN
3	OVERALL PRELIMINARY UTILITY PLAN
4	OVERALL PRELIMINARY GRADING PLAN
5	PRELIMINARY RETAINING WALL GRADING PLAN ENLARGEMENT
6	PRELIMINARY OVERALL EROSION CONTROL PLAN (INITIAL)
7	PRELIMINARY OVERALL EROSION CONTROL PLAN (INTERIM/FINAL)
8	OVERALL EROSION CONTROL DETAILS
9	IRRIGATION DITCH - REALIGNMENT PLAN AND PROFILE
10	IRRIGATION DITCH - REALIGNMENT PLAN AND PROFILE
11	IRRIGATION DITCH - REALIGNMENT PLAN AND PROFILE
12	PRELIMINARY SANITARY SEWER PLAN AND PROFILE
13	PRELIMINARY STORM SEWER OUTFALL PLAN AND PROFILE
14	PRELIMINARY STORM SEWER OUTFALL PLAN AND PROFILE
15	PRELIMINARY STORM SEWER OUTFALL PLAN AND PROFILE
16	ARAPAHOE ROAD SITE PLAN
17	ARAPAHOE ROAD SITE PLAN
18	ARAPAHOE ROAD SITE PLAN
19	ARAPAHOE ROAD SITE PLAN
20	ARAPAHOE ROAD GRADING PLAN & PROFILE
21	ARAPAHOE ROAD GRADING PLAN & PROFILE
22	ARAPAHOE ROAD GRADING PLAN & PROFILE
23	ARAPAHOE ROAD GRADING PLAN & PROFILE
24	HIGHWAY 287 PLAN
25	HIGHWAY 287 PLAN
26	HIGHWAY 287 PLAN
27	HIGHWAY 287 PLAN
28	HIGHWAY 287 & ARAPAHOE ROAD INTERSECTION PLAN.

LEGAL DESCRIPTION

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 ¼, 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.

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.

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

N. 107th St. & ARAPAHOE RD.
ERIE, COLORADO

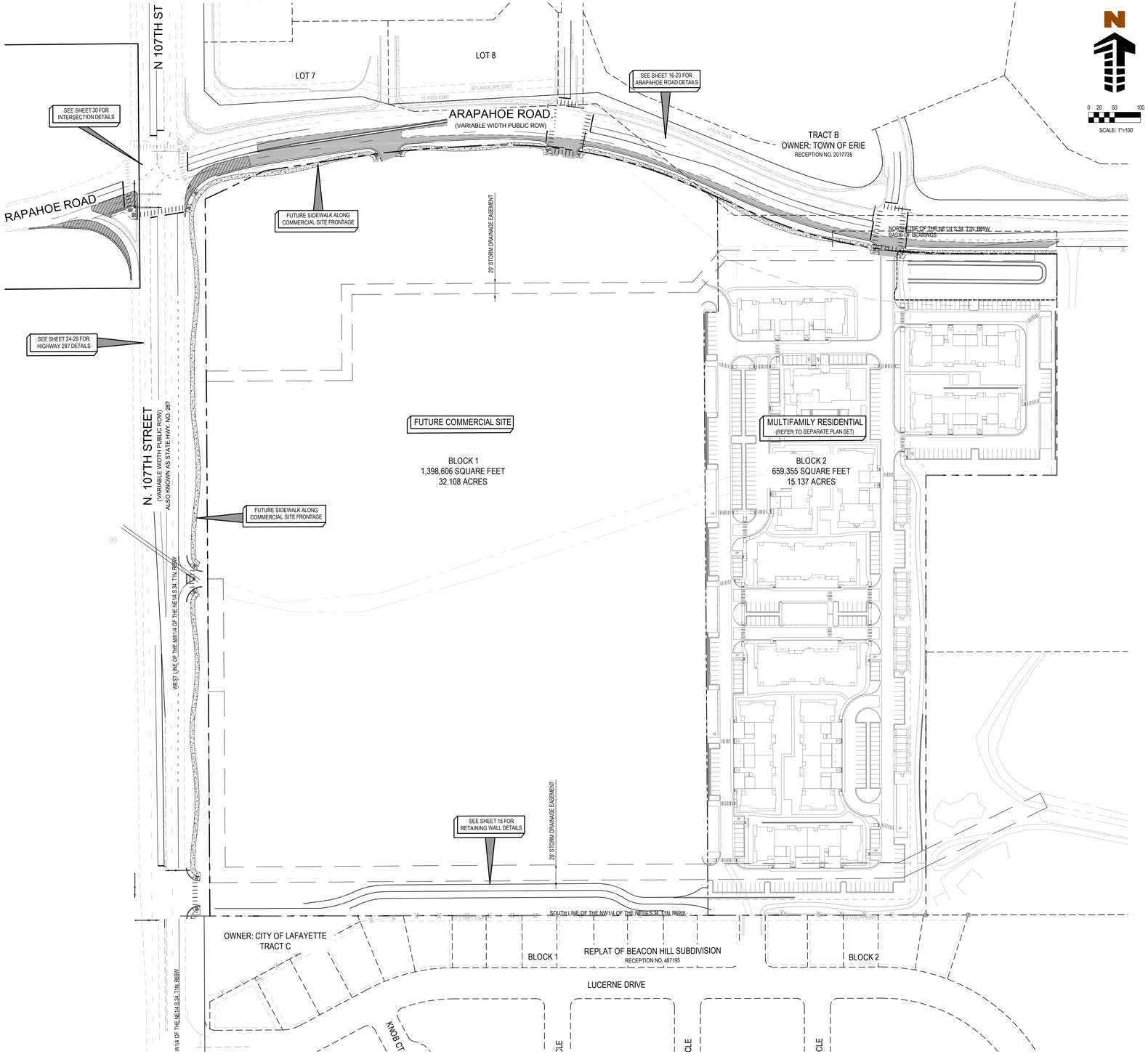
#	Date	Issue / Description	Init.

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

COVER SHEET

1
OF 28

H:\Evergreen-Developments\PCD_Erie EDI000018 - Nine Mile Corner_2978\Arapahoe\PCD\PDF\EDI18_2_01-Cvr.dwg, Ann Vanderheyden - 4/27/2017



SITE LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED LOT LINE
- ADJACENT PROPERTY BOUNDARY LINE
- EASEMENT BOUNDARY LINE
- FIRE ACCESS EASEMENT
- SIDEWALK EASEMENT
- LANDSCAPE BUFFER
- PROPOSED BY JCMD
- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- PROPOSED NEW
- TRAFFIC DIRECTION
- PARKING COUNT
- CART CORRAL (APPROXIMATE LOCATION)
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY JCMD
- WATER VALVE BY JCMD
- FIRE HYDRANT BY JCMD
- MANHOLE BY JCMD
- UTILITY PEDESTAL BY JCMD
- ELECTRICAL TRANSFORMER BY JCMD
- INLET BY JCMD
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

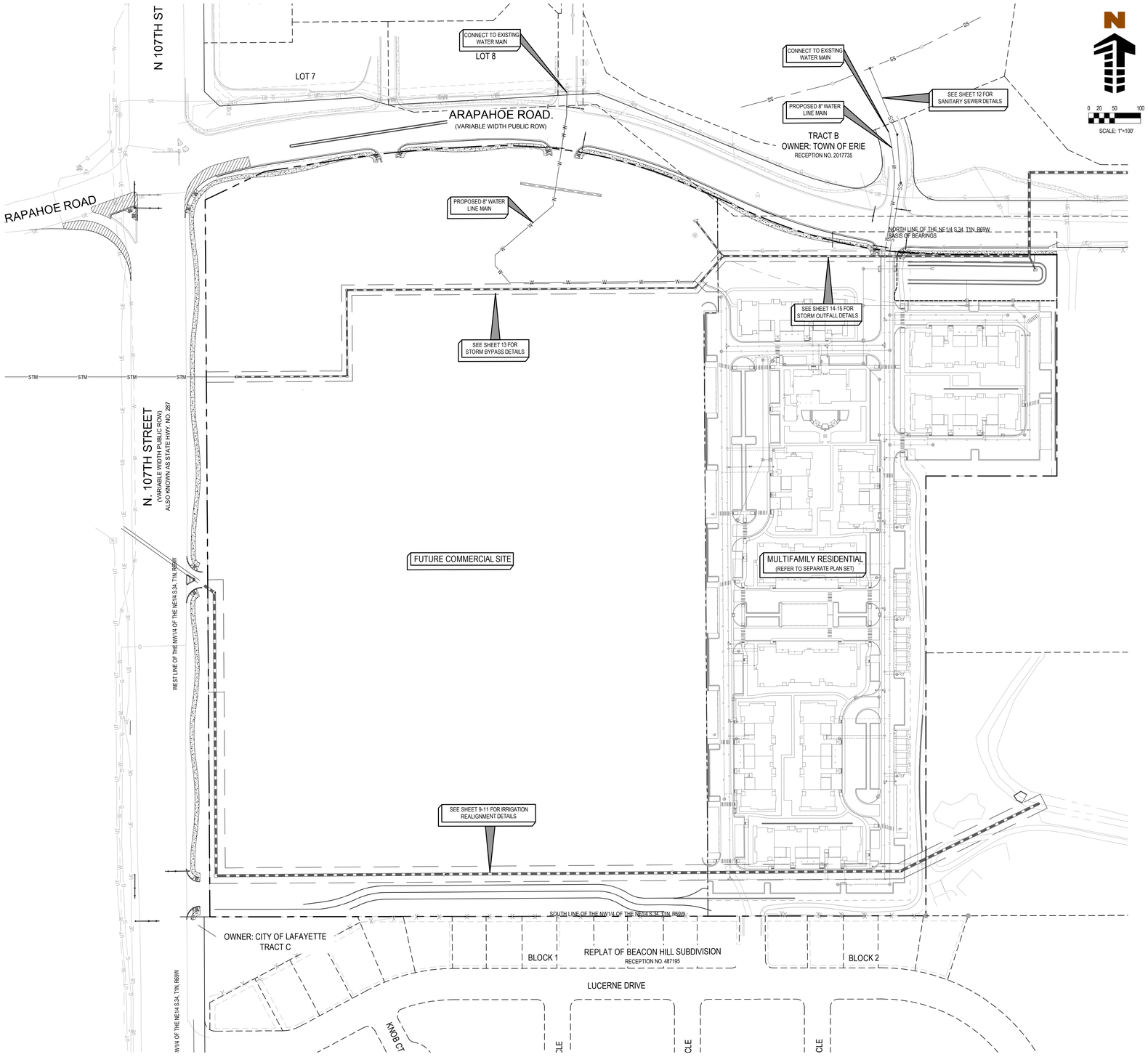
N. 107th St. & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

PRELIMINARY OVERALL SITE PLAN

H:\Evergreen Development\CO_Erie EDI000018 - Nine Mile Corner_BF\4-Map\Arc\MXD\4-Plan\EDI018_0_SitePlan.Mxp - Rick Chalfant - 4/27/2017



UTILITY LEGEND

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING UNDERGROUND GAS LINE
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING UNDERGROUND TELEPHONE
- EXISTING FIBER OPTIC LINE
- WATER LINE (BY OTHERS)
- SANITARY SEWER (BY OTHERS)
- STORM SEWER (LESS THAN 12") (BY OTHERS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS)
- UNDERGROUND ELECTRICAL (BY OTHERS)
- UNDERGROUND TELEPHONE (BY OTHERS)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER (LESS THAN 12")
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE
- PROPOSED UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

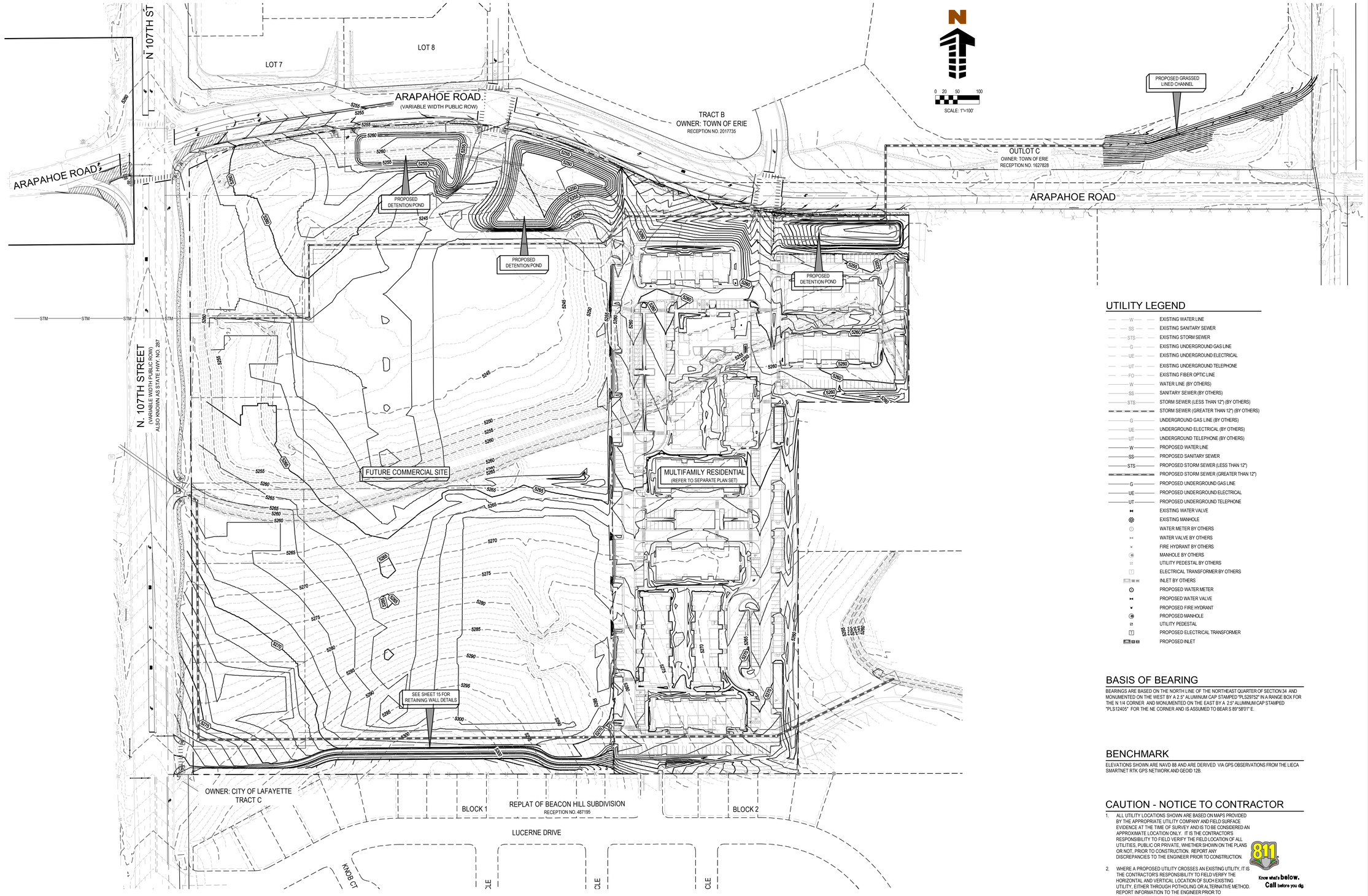
N. 107th St. & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

PRELIMINARY OVERALL UTILITY PLAN

W:\Evergreen Development\CO_Erie EDI000018 - Nine Mile Corner_2016\Assumptions\CAD\ProdFiles\E_P_01x36.dwg, Rick Gordon - 4/27/2017



UTILITY LEGEND

- EXISTING WATER LINE (W)
- EXISTING SANITARY SEWER (SS)
- EXISTING STORM SEWER (STS)
- EXISTING UNDERGROUND GAS LINE (G)
- EXISTING UNDERGROUND ELECTRICAL (UE)
- EXISTING UNDERGROUND TELEPHONE (UT)
- EXISTING FIBER OPTIC LINE (FO)
- WATER LINE (BY OTHERS) (W)
- SANITARY SEWER (BY OTHERS) (SS)
- STORM SEWER (LESS THAN 12") (BY OTHERS) (STS)
- STORM SEWER (GREATER THAN 12") (BY OTHERS)
- UNDERGROUND GAS LINE (BY OTHERS) (G)
- UNDERGROUND ELECTRICAL (BY OTHERS) (UE)
- UNDERGROUND TELEPHONE (BY OTHERS) (UT)
- PROPOSED WATER LINE (W)
- PROPOSED SANITARY SEWER (SS)
- PROPOSED STORM SEWER (LESS THAN 12") (STS)
- PROPOSED STORM SEWER (GREATER THAN 12")
- PROPOSED UNDERGROUND GAS LINE (G)
- PROPOSED UNDERGROUND ELECTRICAL (UE)
- PROPOSED UNDERGROUND TELEPHONE (UT)
- EXISTING WATER VALVE
- EXISTING MANHOLE
- WATER METER BY OTHERS
- WATER VALVE BY OTHERS
- FIRE HYDRANT BY OTHERS
- MANHOLE BY OTHERS
- UTILITY PEDESTAL BY OTHERS
- ELECTRICAL TRANSFORMER BY OTHERS
- INLET BY OTHERS
- PROPOSED WATER METER
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED MANHOLE
- UTILITY PEDESTAL
- PROPOSED ELECTRICAL TRANSFORMER
- PROPOSED INLET

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

N. 107th St. & ARAPAHOE RD.
ERIE, COLORADO

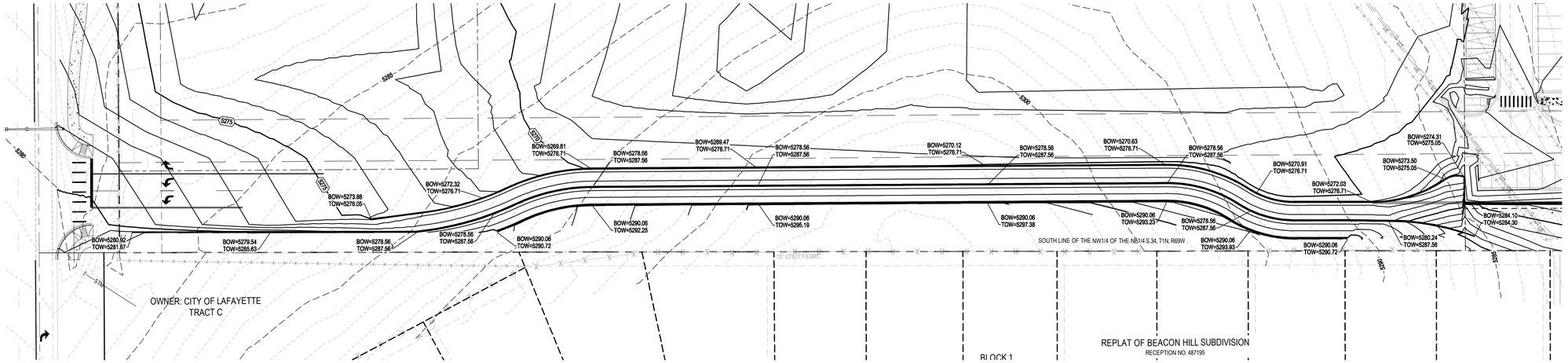
#	Date	Issue / Description	Init.

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

PRELIMINARY OVERALL GRADING PLAN

4
OF 28

H:\Evergreen Development\CO_Erie\EDI000018 - Nine Mile Corner - 287&Arapahoe\CAD\SHEETS\EDI18_0_GP.dwg, Rick Donner - 4/27/2017



GRADING LEGEND

5839	EXISTING MINOR CONTOUR
5840	EXISTING MAJOR CONTOUR
39	PROPOSED MINOR CONTOUR
5440	PROPOSED MAJOR CONTOUR
	PROPOSED GRADE BREAK
	CONSTRUCTION VEHICLE ENTRY
40.0	PROPOSED SPOT ELEVATION
40.5 40.0	PROPOSED TOP OF CURB ELEVATION PROPOSED FLOWLINE ELEVATION
FF	FINISHED FLOOR
TC	TOP OF CURB
TOS	TOP OF SIDEWALK
TOSL	TOP OF SLOPE
TOF	TOP OF FOOTER
FL	FLOWLINE
FG	FINISHED GRADE
HP	HIGH POINT
LP	LOW POINT
ME	MATCH EXISTING
GB	GRADE BREAK
Ⓒ	CATCH CURB AND GUTTER
Ⓢ	SPILL CURB AND GUTTER
+ 4877.57	EXISTING SPOT GRADE

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 N 1/4 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 NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

N. 107th St. & ARAPAHOE RD.
ERIE, COLORADO

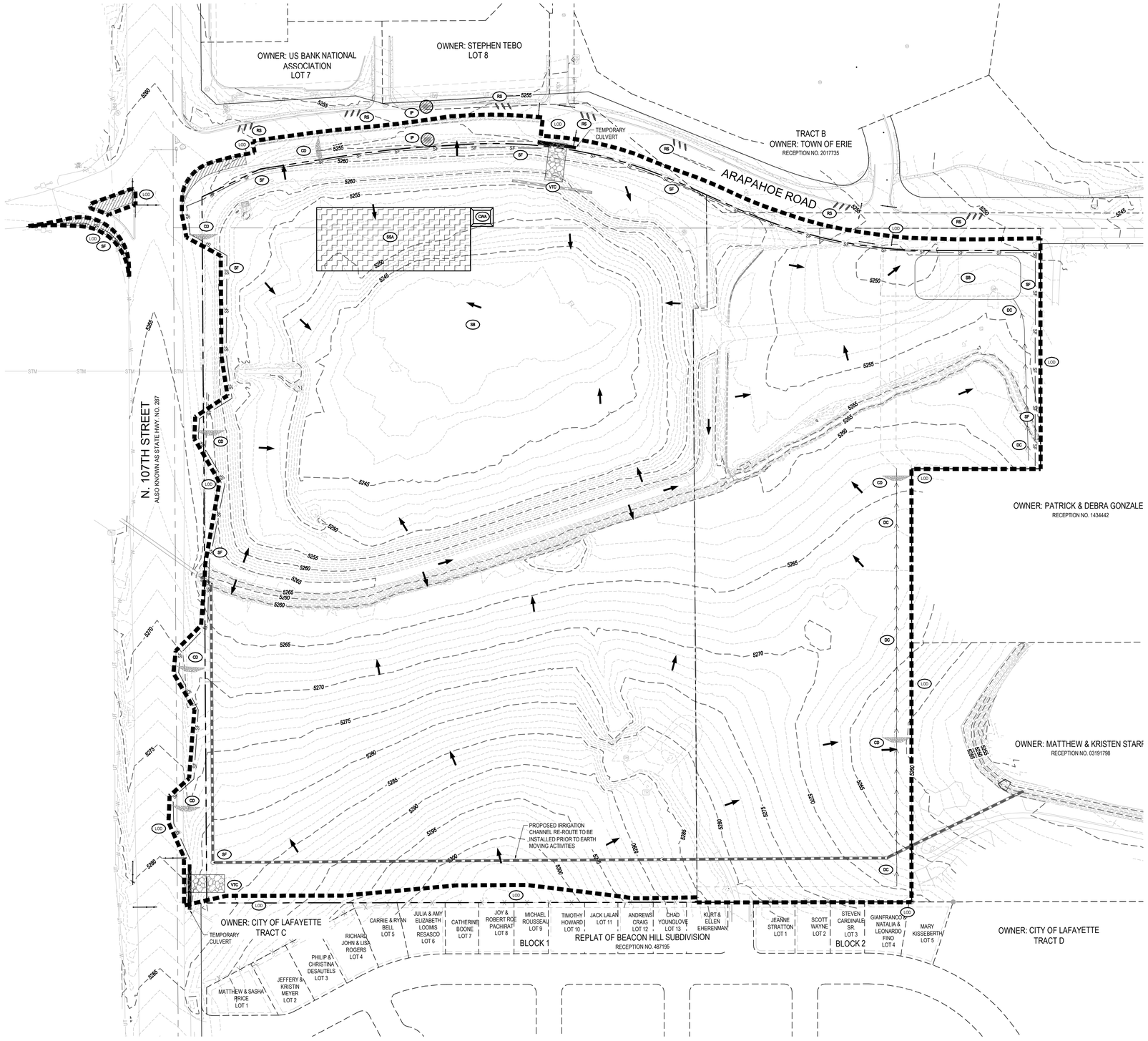
#	Date	Issue / Description	Init.

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

PRELIMINARY RETAINING WALL GRADING PLAN ENLARGEMENT

5
OF 28

I:\Evergreen Development\CO_Erie\EDI000018 - Nine Mile Corner_2016\Acad\Land\ADO\Sheet\EDI_E_PLOverall Wall Key - Rick Gordon - 4.27.2017



EROSION CONTROL LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- LOD — LIMITS OF DISTURBANCE
- FLOW ARROW
- VTC — CONSTRUCTION VEHICLE ENTRY
- CF — TEMPORARY CONSTRUCTION FENCE
- SF — SILT FENCE
- CWA — CONCRETE WASHOUT
- SSA — STABILIZED STAGING AREA
- IP — INLET PROTECTION
- SM — SEEDING AND MULCHING
- SP — SITE POSTING (CONTACTS AND PERMITS)
- WP — WASHOUT POSTING
- PT — PORTABLE TOILET
- ECB — EROSION CONTROL BLANKET
- RIPRAP OUTFALL PADS
- RS — ROCK SOCKS
- INITIAL SWALE LINE
- DC — TEMPORARY DIVERSION CHANNEL
- CD — CHECK DAM
- SL — SEDIMENT CONTROL LOG
- TSD — TEMPORARY SLOPE DRAIN
- SB — SEDIMENT BASIN

NOTE: CONTRACTOR SHALL INSTALL SILT FENCE AROUND ALL OFF-SITE DISTURBED AREAS THAT ARE A RESULT OF THE CONSTRUCTION ACTIVITIES OF THIS PROJECT (INCLUDING BUT NOT LIMITED TO WATER LINE CONSTRUCTION). IN CASES WHERE TRENCHES RUN LONGITUDINAL WITH THE GRADE STRAW BALE BARRIERS SHALL BE USED.

CONTRACTOR IS RESPONSIBLE FOR PERMANENTLY STABILIZING ALL ON- AND OFF-SITE AREAS DISTURBED DURING CONSTRUCTION, WHETHER THESE AREAS ARE SHOWN ON THE PLANS OR NOT, INCLUDING MAINTENANCE OF ALL BMP'S UNTIL A NOTICE OF INACTIVATION HAS BEEN ACCEPTED BY THE STATE.

BENCHMARK

ELEVATIONS SHOWN ARE NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

Know what's below. Call before you dig.

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen
Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

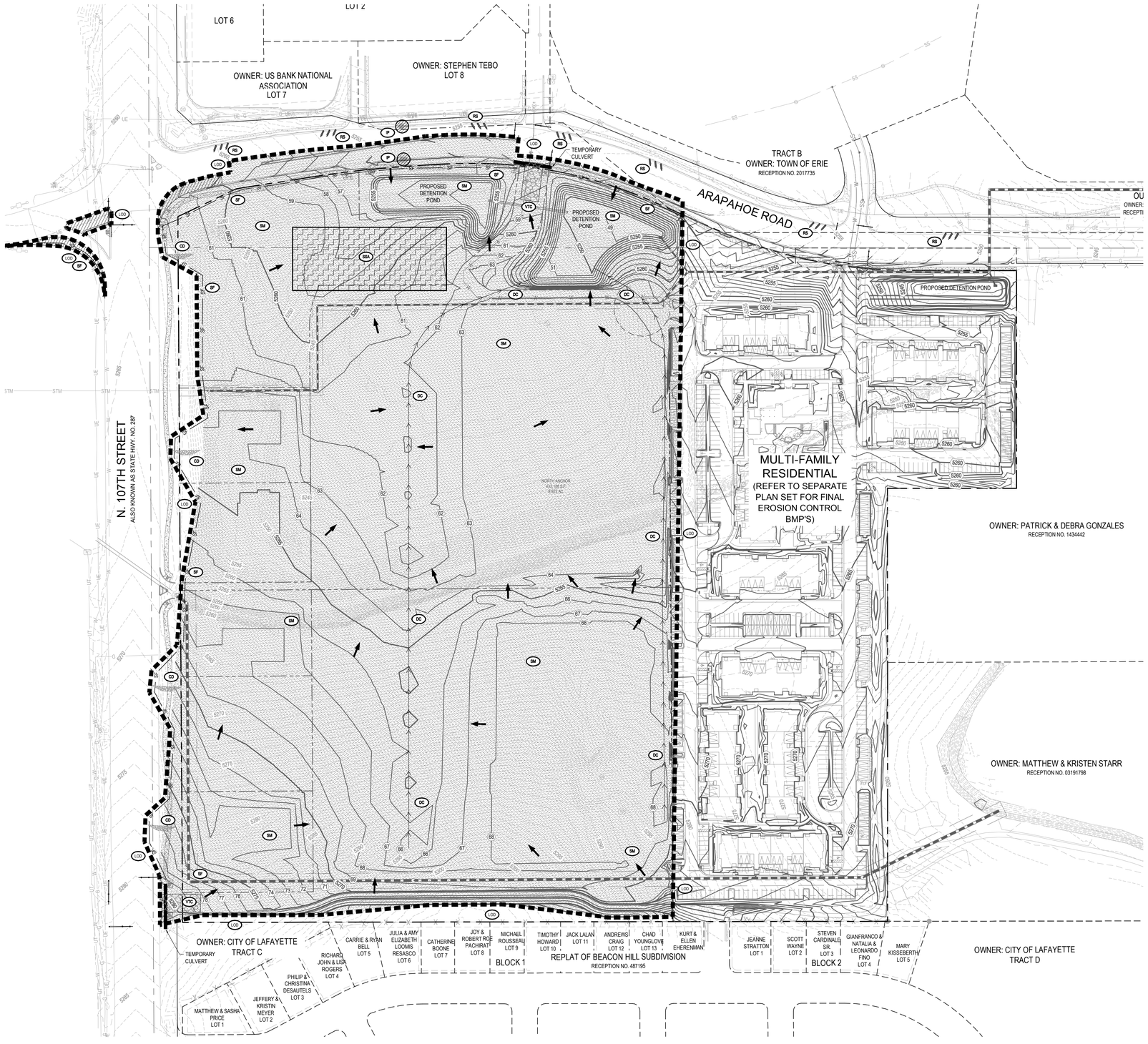
N. 107th St. & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

PRELIMINARY OVERALL EROSION CONTROL PLAN (INITIAL)

H:\Evergreen Development\CO_Erie\EDI000018 - Nine Mile Corner_2016\Assumptions\ADO\ENGR\EDI18_E_BASCP.mxd by: Alicia Gordon - 4/27/2017



EROSION CONTROL LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- LOD — LIMITS OF DISTURBANCE
- FLOW ARROW
- VTC — CONSTRUCTION VEHICLE ENTRY
- CF — TEMPORARY CONSTRUCTION FENCE
- SF — SILT FENCE
- CWA — CONCRETE WASHOUT
- SSA — STABILIZED STAGING AREA
- IP — INLET PROTECTION
- SM — SEEDING AND MULCHING
- SP — SITE POSTING (CONTACTS AND PERMITS)
- WP — WASHOUT POSTING
- PT — PORTABLE TOILET
- ECB — EROSION CONTROL BLANKET
- RIPRAP OUTFALL PADS
- RS — ROCK SOCKS
- INITIAL SWALE LINE
- DC — TEMPORARY DIVERSION CHANNEL
- CD — CHECK DAM
- SL — SEDIMENT CONTROL LOG
- TSD — TEMPORARY SLOPE DRAIN
- SB — SEDIMENT BASIN

NOTE: CONTRACTOR SHALL INSTALL SILT FENCE AROUND ALL OFF-SITE DISTURBED AREAS THAT ARE A RESULT OF THE CONSTRUCTION ACTIVITIES OF THIS PROJECT (INCLUDING BUT NOT LIMITED TO WATER LINE CONSTRUCTION). IN CASES WHERE TRENCHES RUN LONGITUDINAL WITH THE GRADE STRAW BALE BARRIERS SHALL BE USED.

CONTRACTOR IS RESPONSIBLE FOR PERMANENTLY STABILIZING ALL ON- AND OFF-SITE AREAS DISTURBED DURING CONSTRUCTION, WHETHER THESE AREAS ARE SHOWN ON THE PLANS OR NOT, INCLUDING MAINTENANCE OF ALL BMP'S UNTIL A NOTICE OF INACTIVATION HAS BEEN ACCEPTED BY THE STATE.

BENCHMARK

ELEVATIONS SHOWN ARE NAVD 88 AND ARE DERIVED VIA GPS OBSERVATIONS FROM THE LIECA SMARTNET RTK GPS NETWORK AND GEOID 12B.

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

Galloway
Planning. Architecture. Engineering.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 O
www.gallowayUS.com

©2016. Galloway & Company, Inc. All Rights Reserved

Evergreen Development | Services | Investments

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

PUBLIC & SITE INFRASTRUCTURE PLANS
NINE MILE CORNER
EVERGREEN DEVCO INC

N. 107th St. & ARAPAHOE RD.
ERIE, COLORADO

#	Date	Issue / Description	Init.

Project No:	EDI000018
Drawn By:	RDG
Checked By:	BSM
Date:	APRIL 2017

PRELIMINARY OVERALL EROSION CONTROL PLAN (INTERIM/FINAL)

7
OF 28

H:\Evergreen Development\C3_Erie ESD000018 - Nine Mile Corner_SE19\Arapahoe\ACAD\Sheet\ESD\ALP_ESC\ESC Plan.dwg, Rob Grabbe - 4/7/2017