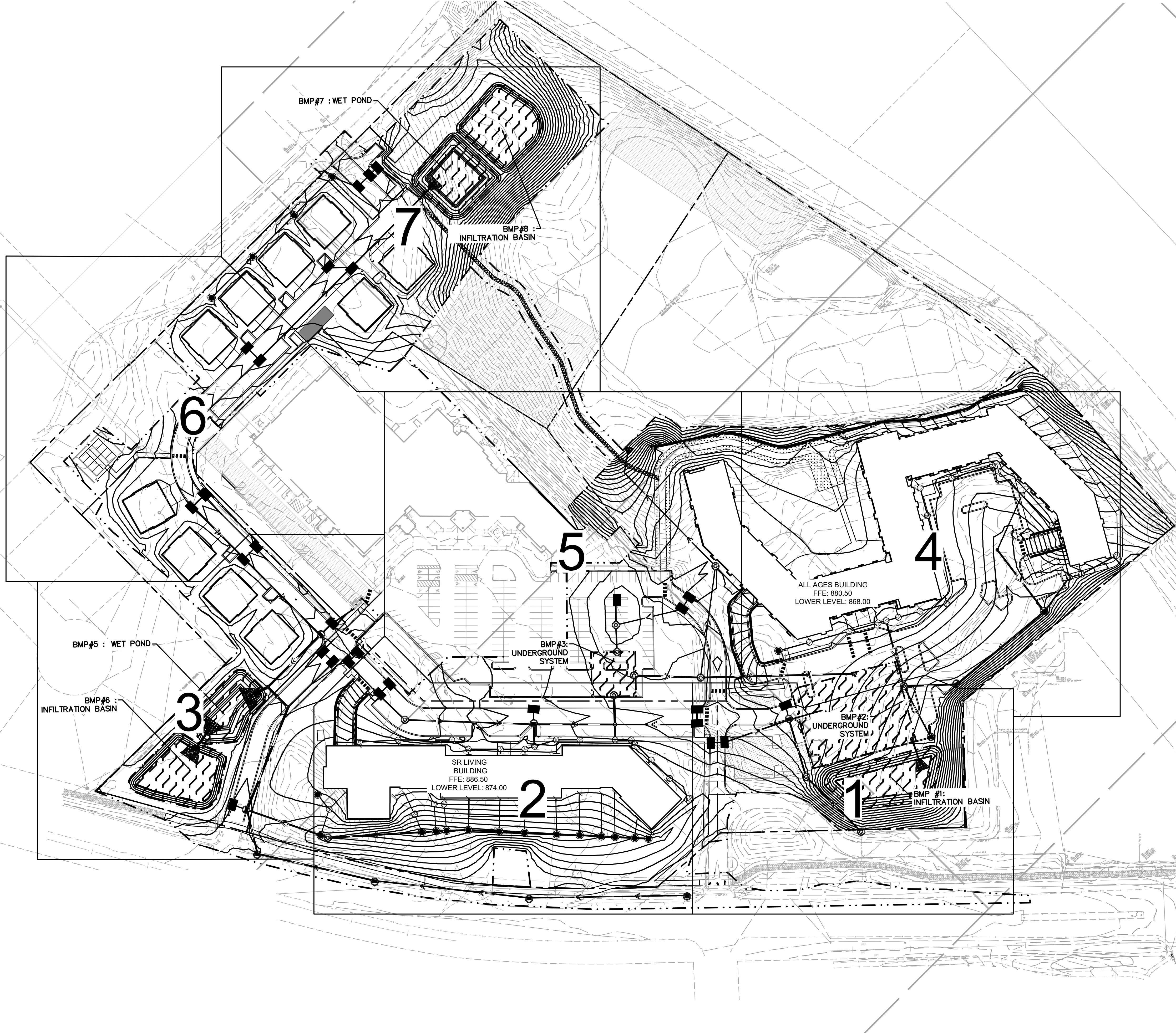


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	PROPOSED SWALE
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	PROPOSED DRAINAGE DIRECTION
	PROPOSED ADA SLOPE

- GRADING PLAN NOTES**
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF RAMSEY, SPECIFICATIONS AND BUILDING PERMIT REQUIREMENTS.
 - CONTRACTOR TO CALL GOPHER STATE CALL ONE @ 1-800-252-1166 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION/CONSTRUCTION FOR UTILITY LOCATIONS.
 - STORM SEWER PIPE SHALL BE AS FOLLOWS:
RCP PER ASTM C-76
HDPE: 12" PER AASHTO M-252
HDPE: 12" OR GREATER PER ASTM F-2306
PVC SCH. 40 PER ASTM D-1785
STORM SEWER FITTINGS SHALL BE AS FOLLOWS:
RCP PER ASTM C-76, JOINTS PER ASTM C-361, C-990, AND C-443
HDPE PER ASTM D-3212
PVC PER ASTM D-3034, JOINTS PER ASTM D-3212
 - CONTRACTOR TO FIELD VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND TOPOGRAPHIC FEATURES PRIOR TO THE START OF SITE GRADING. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES OR VARIATIONS.
 - SUBGRADE EXCAVATION SHALL BE BACKFILLED IMMEDIATELY AFTER EXCAVATION TO HELP OFFSET ANY STABILITY PROBLEMS DUE TO WATER SEEPAGE OR STEEP SLOPES WHEN PLACING NEW SURFACE MATERIAL ADJACENT TO EXISTING PAVEMENT. THE EXCAVATION SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING OF EXISTING PAVEMENT.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ALL HORIZONTAL AND VERTICAL CONTROL.
 - CONTRACTOR SHALL EXCAVATE DRAINAGE TRENCHES TO FOLLOW PROPOSED STORM SEWER ALIGNMENTS.
 - GRADES SHOWN ARE FINISHED GRADES. CONTRACTOR SHALL ROUGH GRADE TO SUBGRADE ELEVATION AND LEAVE STREET READY FOR SUBBASE.
 - ALL EXCESS MATERIAL, BITUMINOUS SURFACING, CONCRETE ITEMS, ANY ABANDONED UTILITY ITEMS, AND OTHER UNSTABLE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE CONSTRUCTION SITE.
 - REFER TO THE UTILITY PLAN FOR SANITARY SEWER MAIN, WATER MAIN SERVICE LAYOUT AND ELEVATIONS AND CASTING / STRUCTURE NOTATION.
 - CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF PAVEMENTS AND CURB AND GUTTER WITH SMOOTH UNIFORM SLOPES TO PROVIDE POSITIVE DRAINAGE.
 - INSTALL A MINIMUM OF 4" CLASS 5 AGGREGATE BASE UNDER CURB AND GUTTER AND CONCRETE SIDEWALKS.
 - UPON COMPLETION OF EXCAVATION AND FILLING, CONTRACTOR SHALL RESTORE ALL STREETS AND DISTURBED AREAS ON SITE. ALL DISTURBED AREAS SHALL BE RE-VEGETATED WITH A MINIMUM OF 4" OF TOPSOIL.
 - ALL SPOT ELEVATIONS/CONTOURS ARE TO GUTTER / FLOW LINE UNLESS OTHERWISE NOTED.
 - GRADING FOR ALL SIDEWALKS AND ACCESSIBLE ROUTES INCLUDING CROSSING DRIVEWAYS SHALL CONFORM TO CURRENT ADA STATE/NATIONAL STANDARDS. IN NO CASE SHALL ACCESSIBLE RAMP SLOPES EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPES EXCEED 2%. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPES EXCEED 0%. IN NO CASE SHALL ACCESSIBLE PARKING STALLS OR AISLES EXCEED 2% (1.5% TARGET) IN ALL DIRECTIONS. SIDEWALK ACCESS TO EXTERNAL BUILDING DOORS AND GATES SHALL BE ADA COMPLIANT. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF ADA CRITERIA CANNOT BE MET IN ANY LOCATION PRIOR TO PAVING. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR A.D.A COMPLIANCE ISSUES.
 - MAINTAIN A MINIMUM OF 0.5% GUTTER SLOPE TOWARDS LOW POINTS.
 - CONTRACTOR TO PROVIDE 3" INSULATION BY 5" WIDE CENTERED ON STORM PIPE IF LESS THAN 4" OF COVER IN PAVEMENT AREAS AND LESS THAN 3" OF COVER IN LANDSCAPE AREAS.
 - ROOF DRAIN INVERT CONNECTIONS AT THE BUILDING SHALL BE AT ELEVATION <XXXX> OR LOWER UNLESS NOTED OTHERWISE. REFERENCE MEP PLANS FOR ROOF DRAIN CONNECTION.
 - ALL STORM SEWER CONNECTIONS SHALL BE GASKETED AND WATER TIGHT INCLUDING MANHOLE CONNECTIONS.
 - ALL STORM SEWER PIPE SHALL BE AIR TESTED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.
 - MAINTAIN A MINIMUM OF 1.25% SLOPE IN BITUMINOUS PAVEMENT AREAS, 0.5% SLOPE IN CONCRETE PAVEMENT AREAS.
 - CONTRACTOR SHALL REVIEW PAVEMENT GRADIENT AND CONSTRUCT "INFALL CURB" WHERE PAVEMENT DRAINS TOWARD GUTTER, AND "OUTFALL" CURB WHERE PAVEMENT DRAINS AWAY FROM GUTTER.

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LEGEND

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PROJECT TITLE

HAVILAND FIELDS

ISSUE	DATE	DESCRIPTION
1	2024-02-09	SITE PLAN REVIEW
2	2024-03-12	SITE PLAN REVIEW R1
3	2024-05-07	SITE PLAN REVIEW R2

CERTIFICATION

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COMMISSION NUMBER:
SHEET TITLE

GRADING PLAN

SHEET NUMBER
C500

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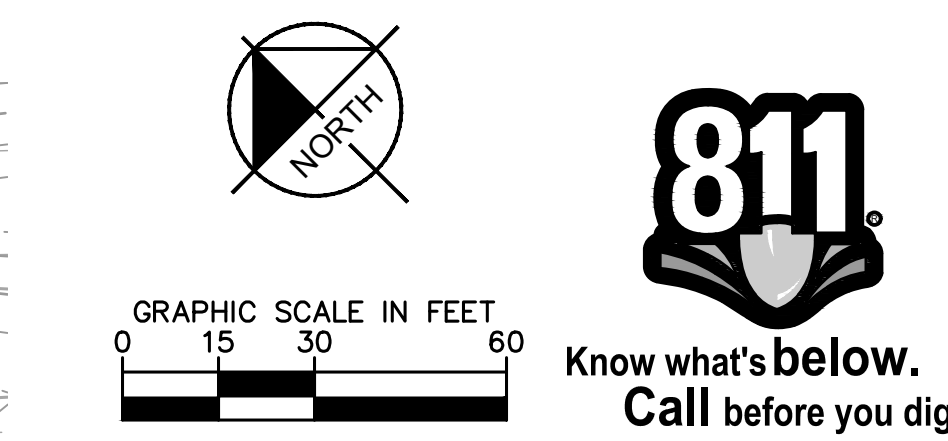
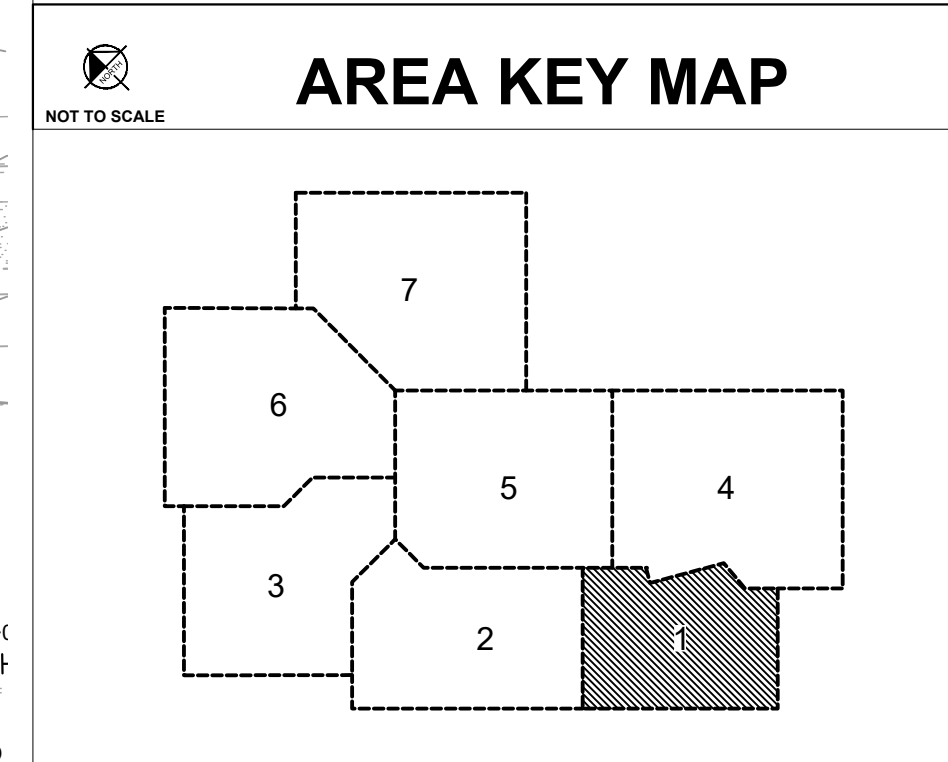
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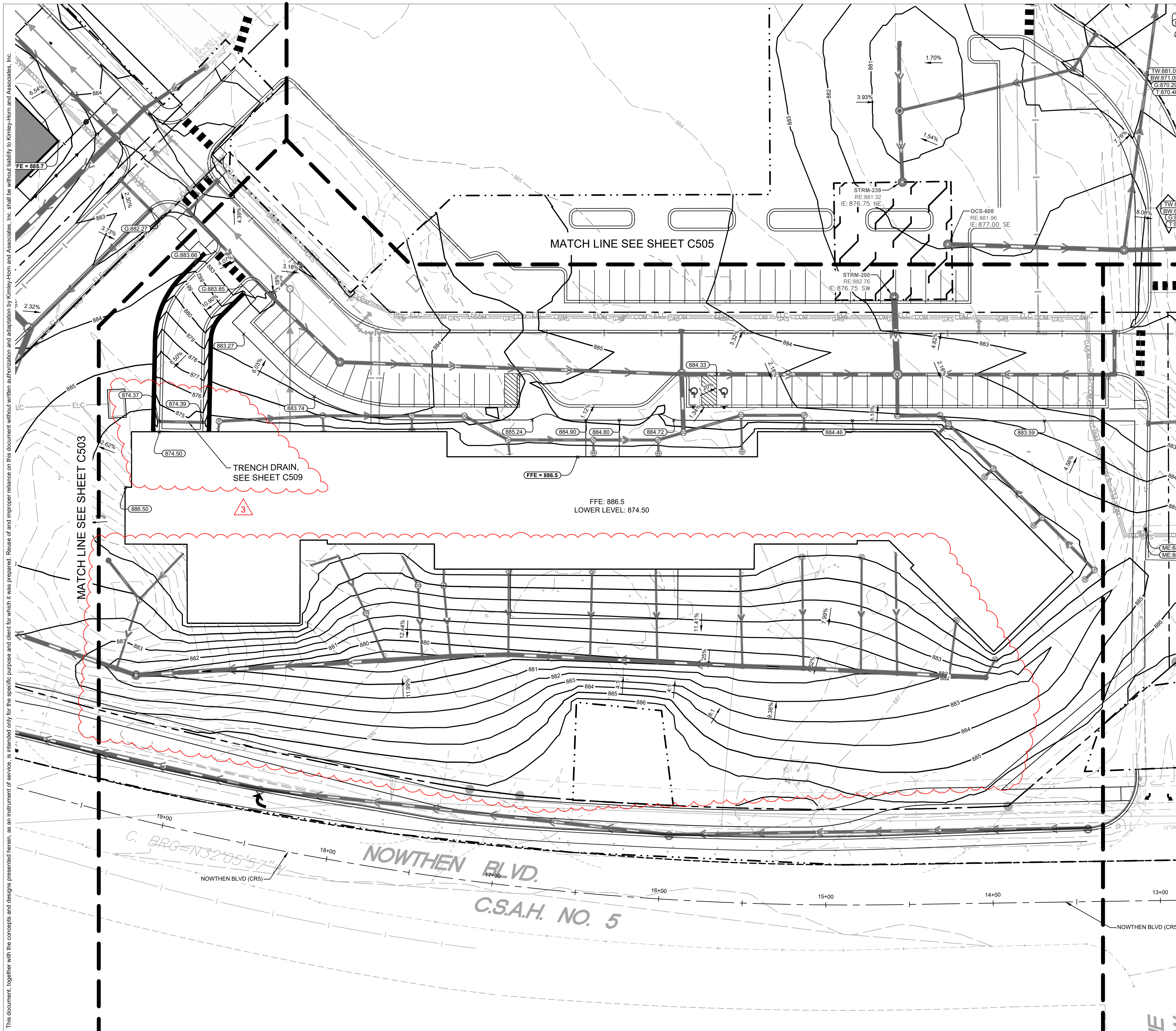
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SHEET NUMBER
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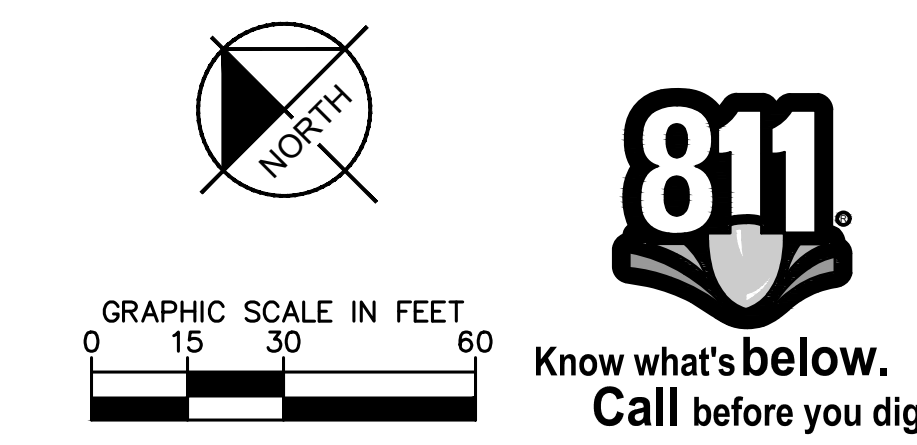
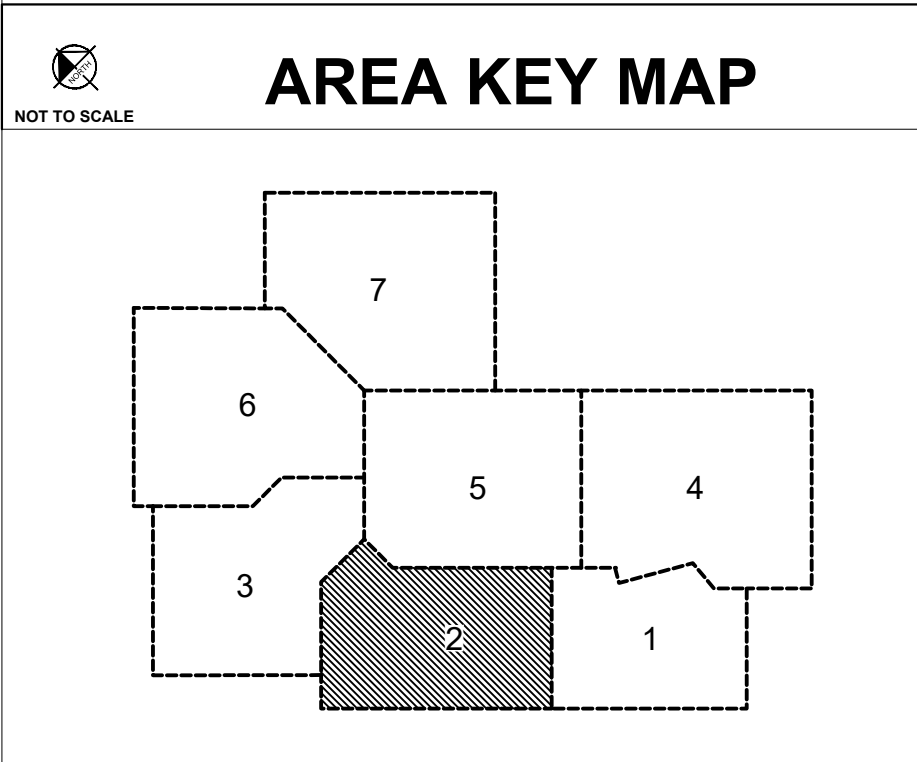
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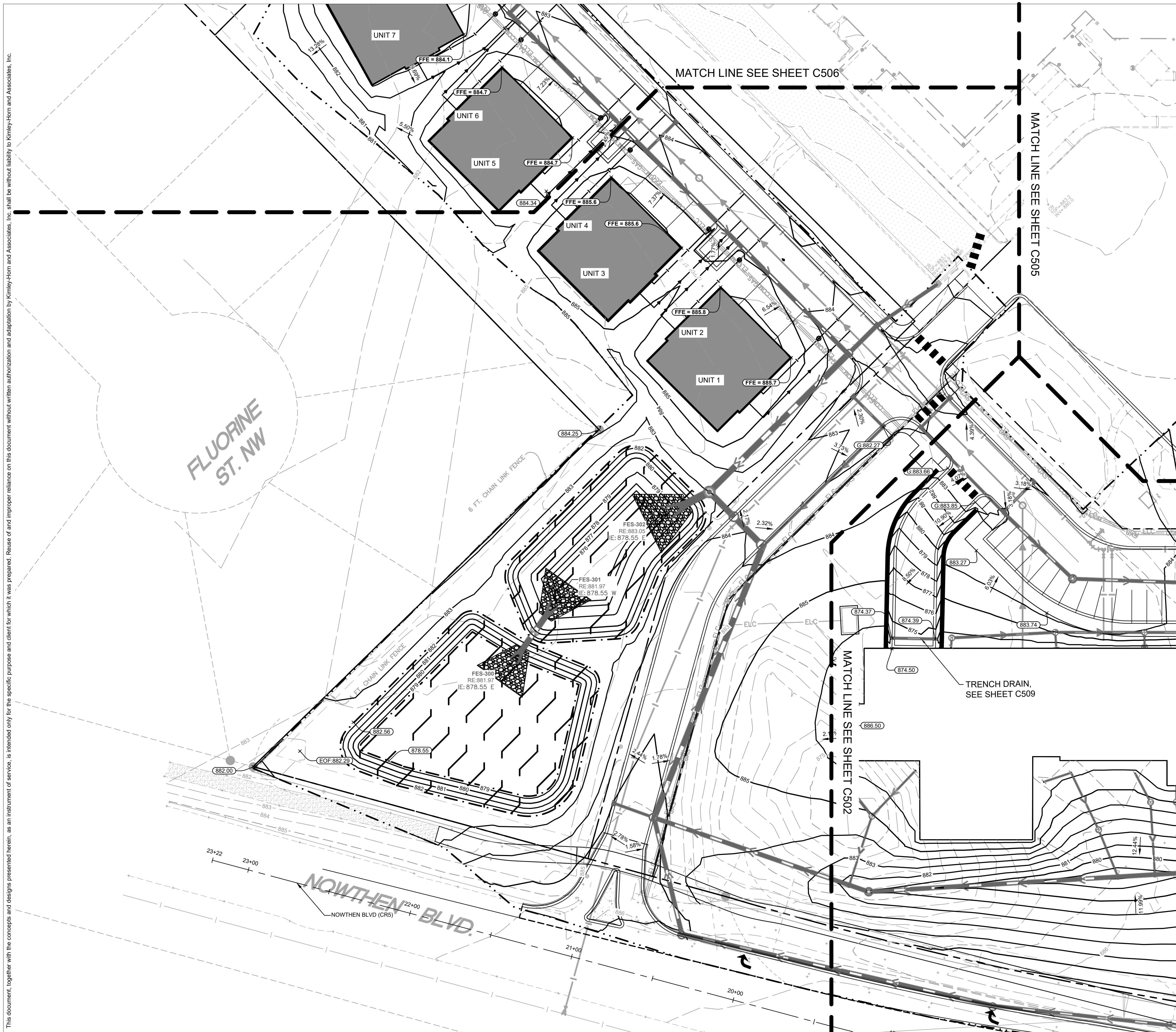
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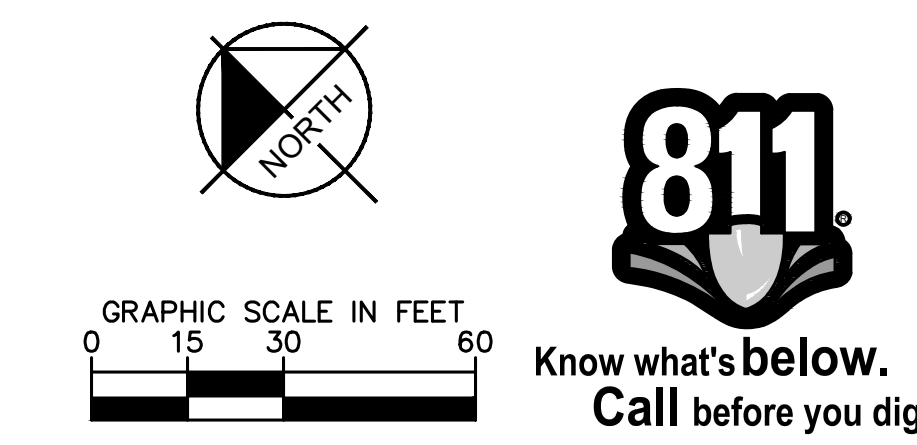
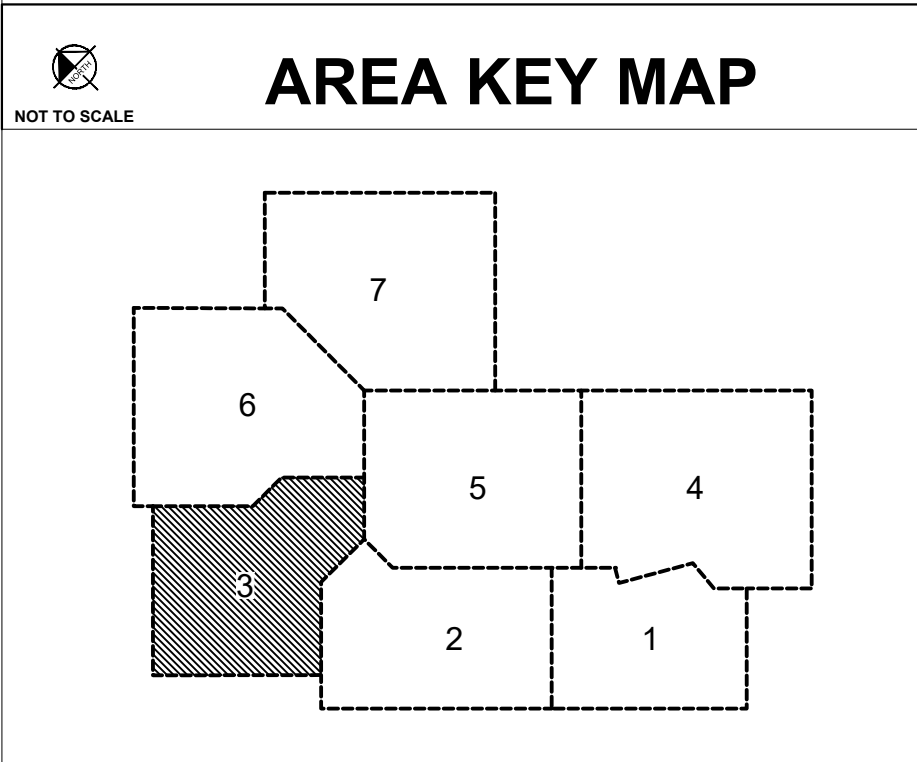
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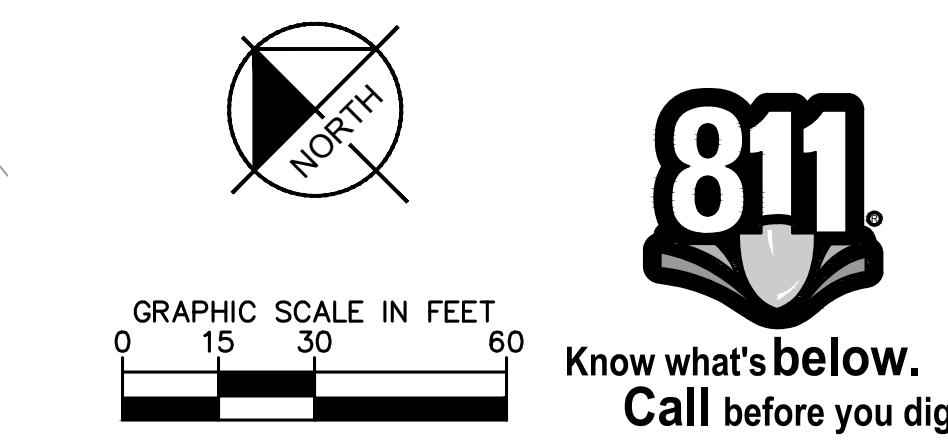
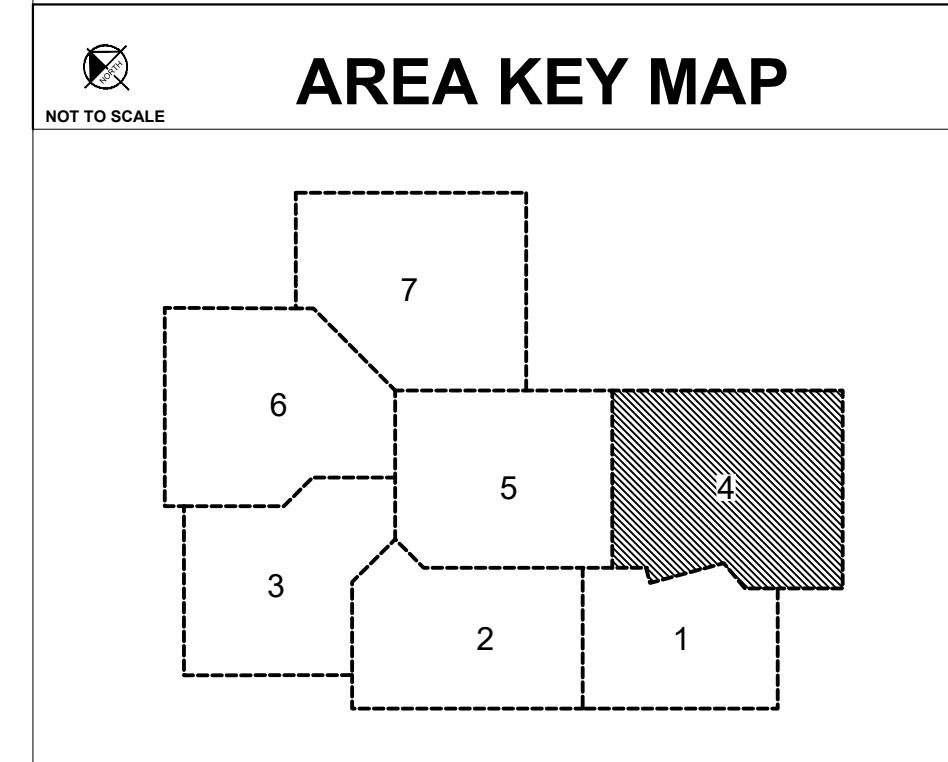
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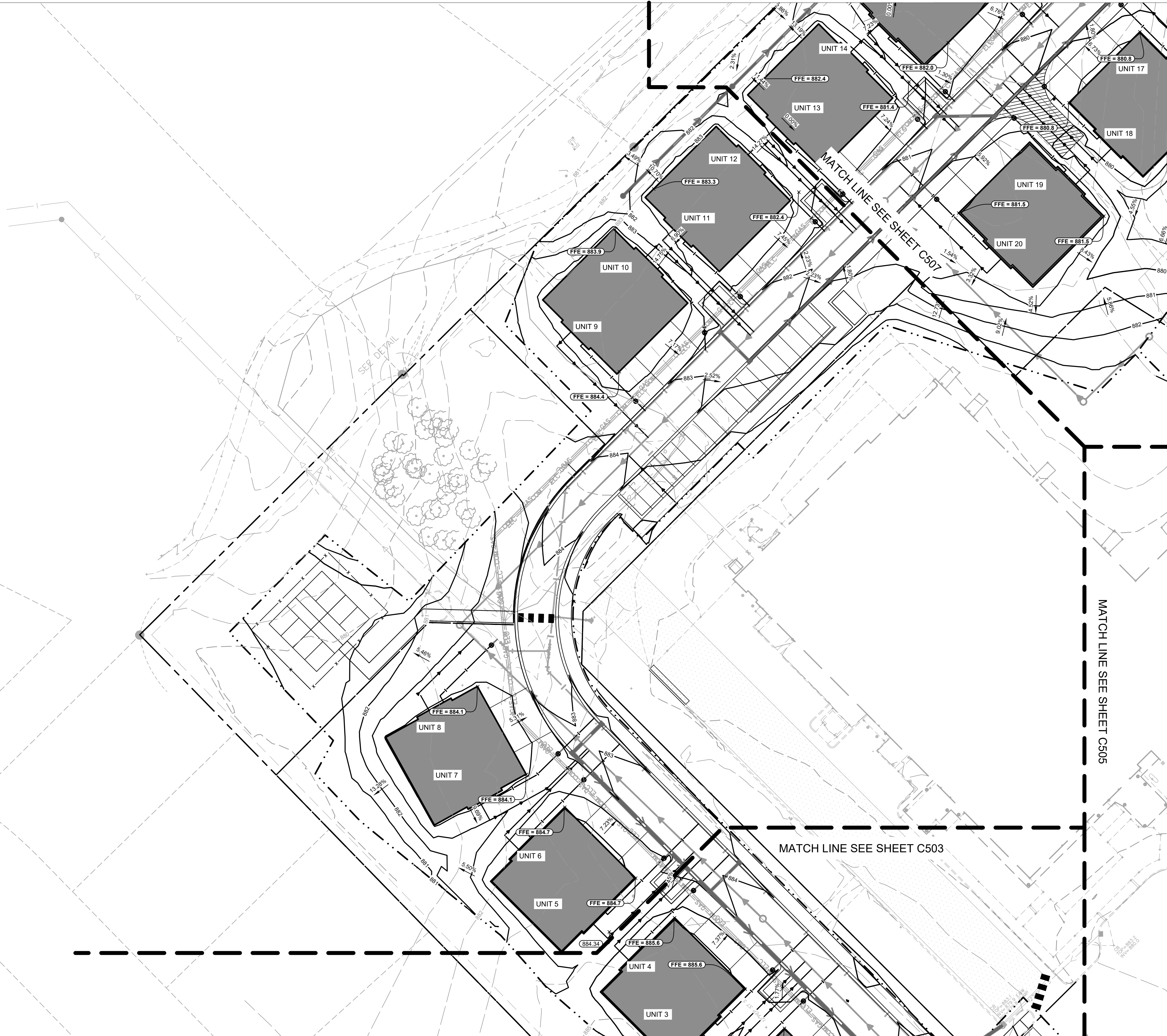
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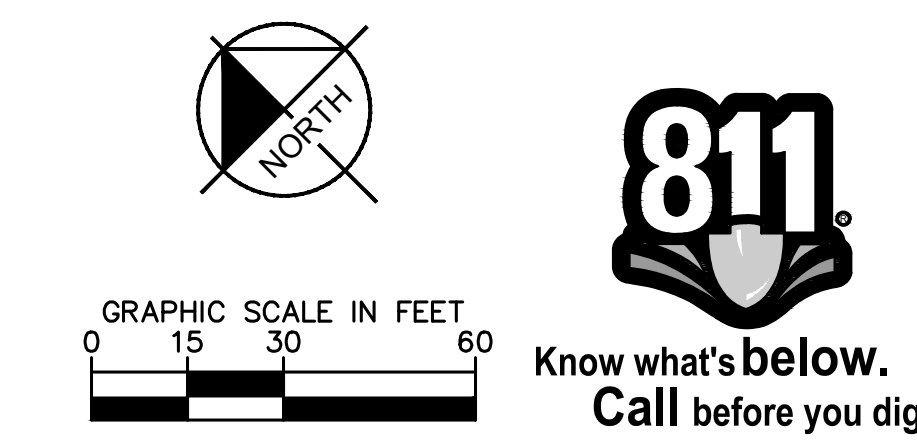
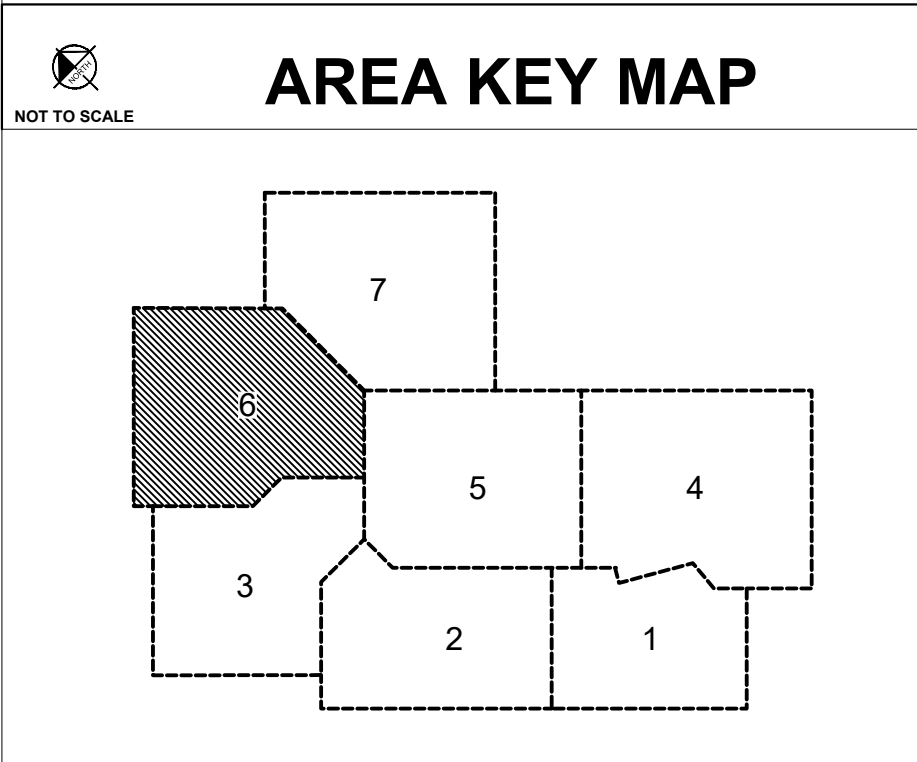
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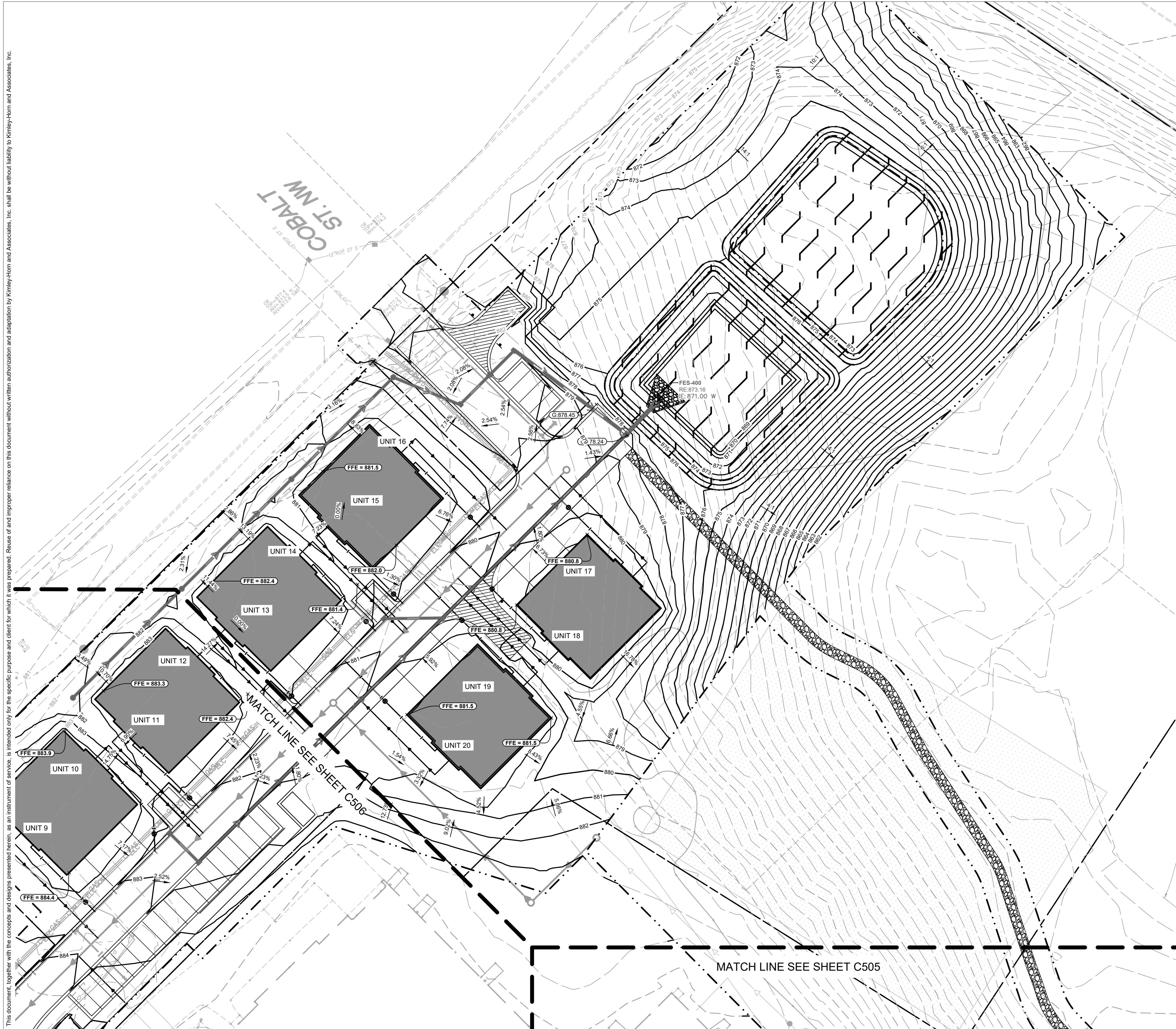
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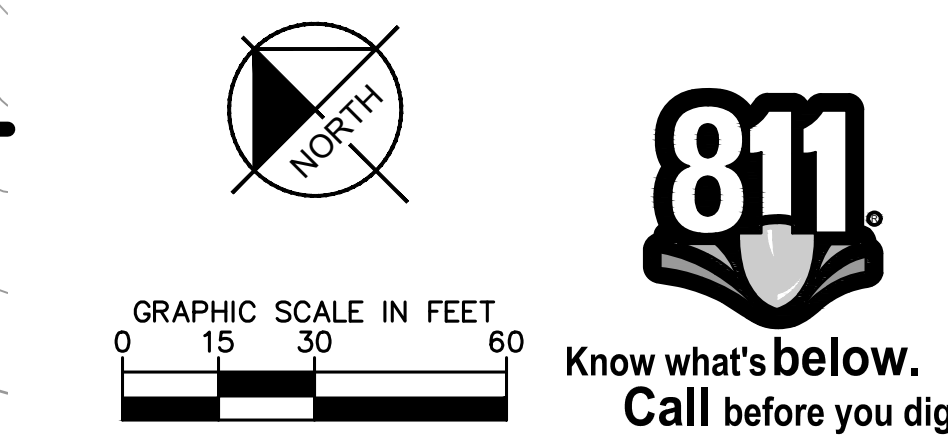
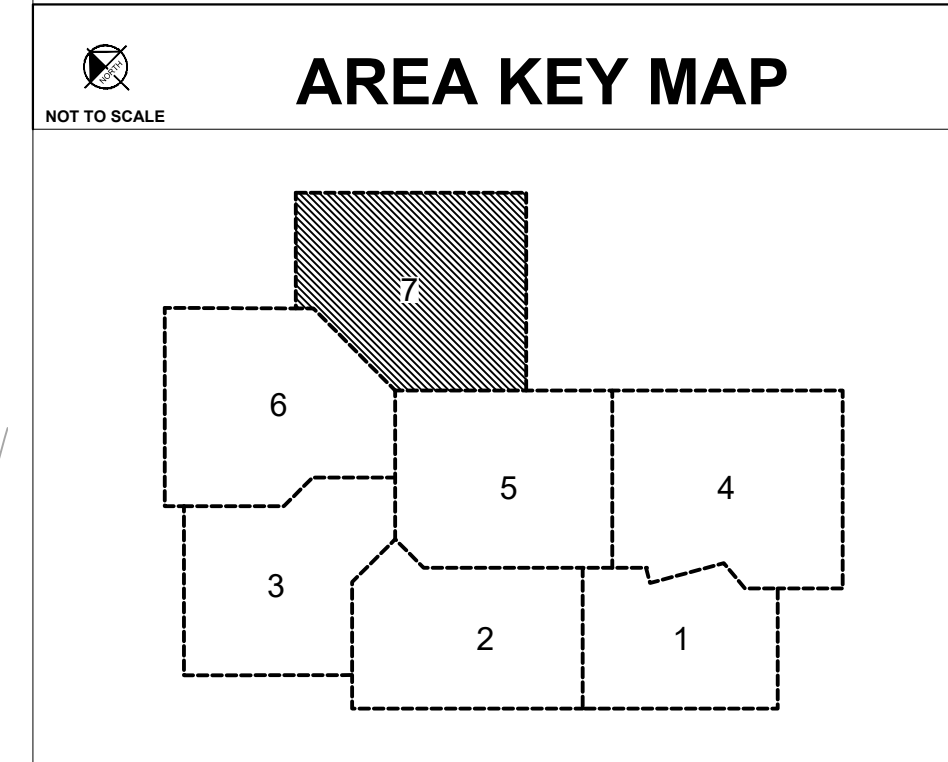
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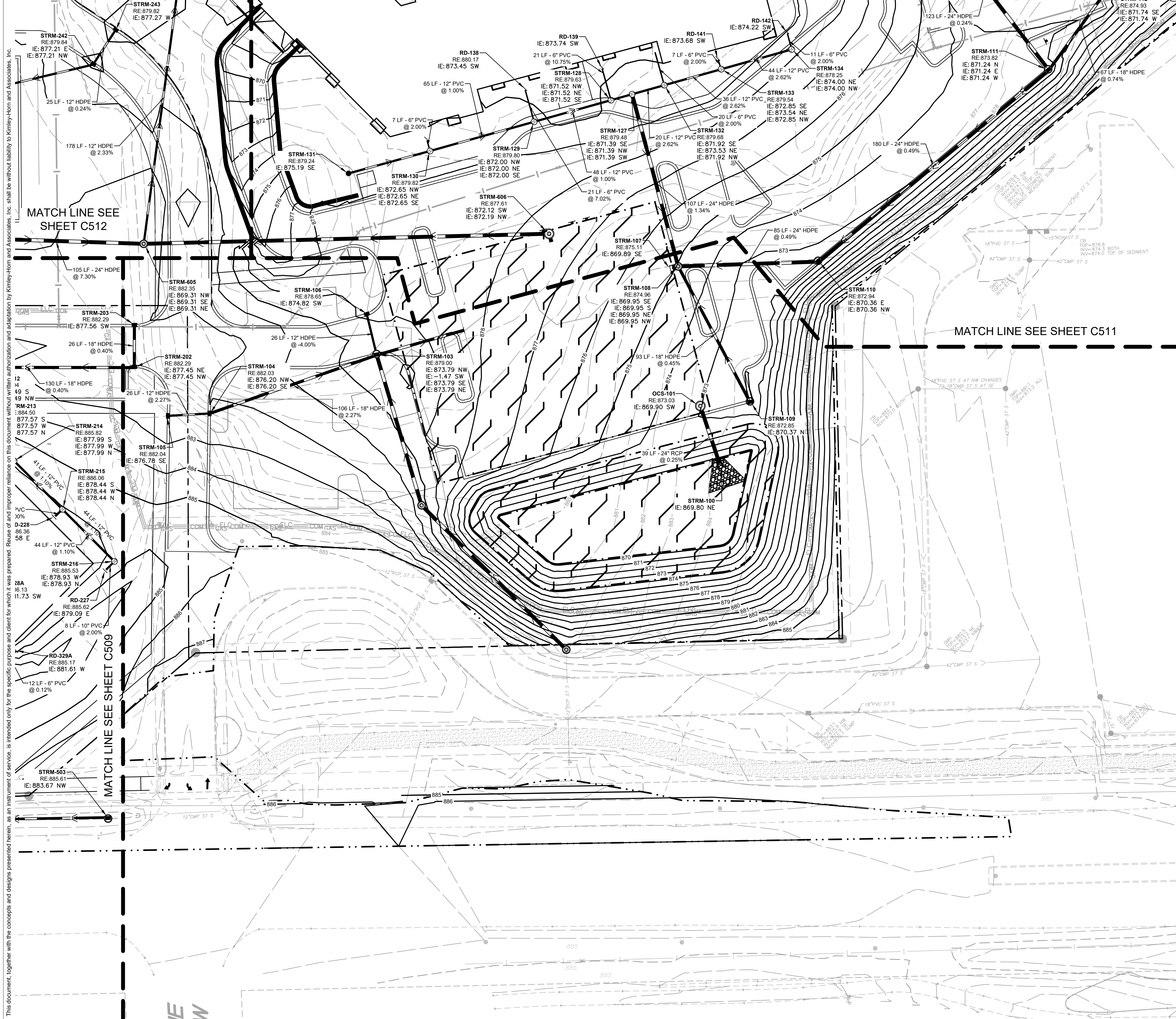
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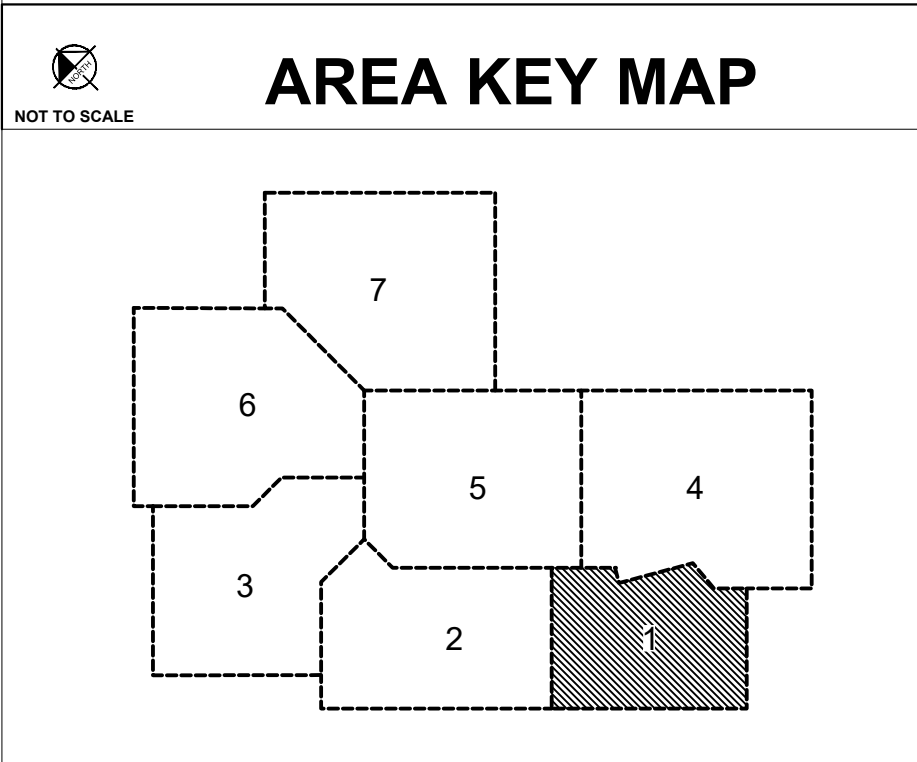
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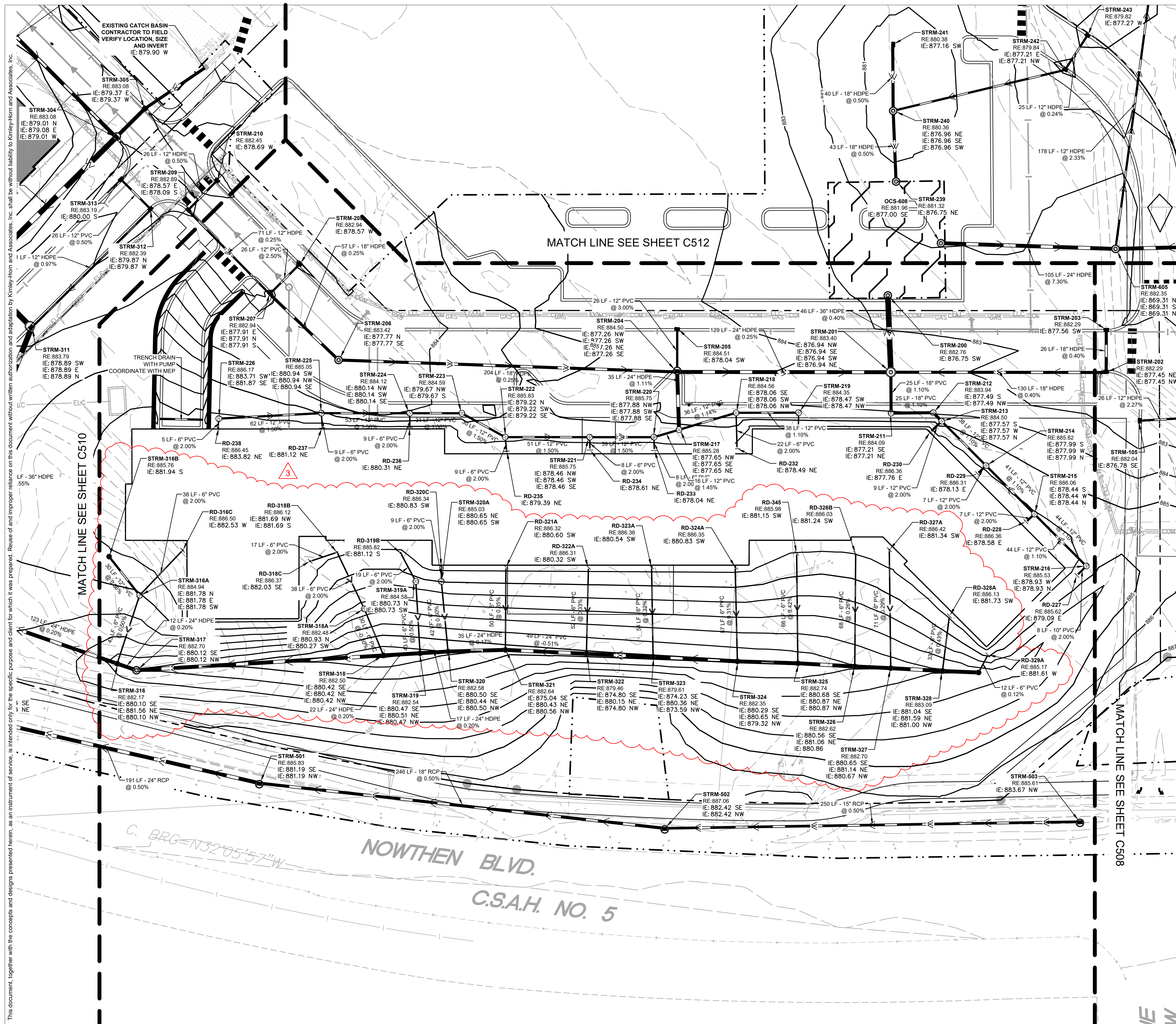
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LEGEND

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED RIDGE LINE
- PROPOSED SWALE
- PROPOSED STORM MANHOLE (SOLID CASTING)
- PROPOSED STORM MANHOLE (ROUND INLET CASTING)
- PROPOSED STORM MANHOLE/ CATCH BASIN (CURB INLET CASTING)
- PROPOSED STORM SEWER CLEANOUT
- PROPOSED FLARED END SECTION
- PROPOSED RIPRAP
- PROPOSED STORM SEWER
- PROPOSED SPOT ELEVATION
- PROPOSED HIGH POINT ELEVATION
- PROPOSED LOW POINT ELEVATION
- PROPOSED GUTTER ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED FLUSH PAVEMENT ELEVATION
- MATCH EXISTING ELEVATION
- PROPOSED EMERGENCY OVERFLOW ELEVATION
- PROPOSED TOP/BOTTOM OF WALL ELEVATION
- PROPOSED DRAINAGE DIRECTION
- PROPOSED ADA SLOPE



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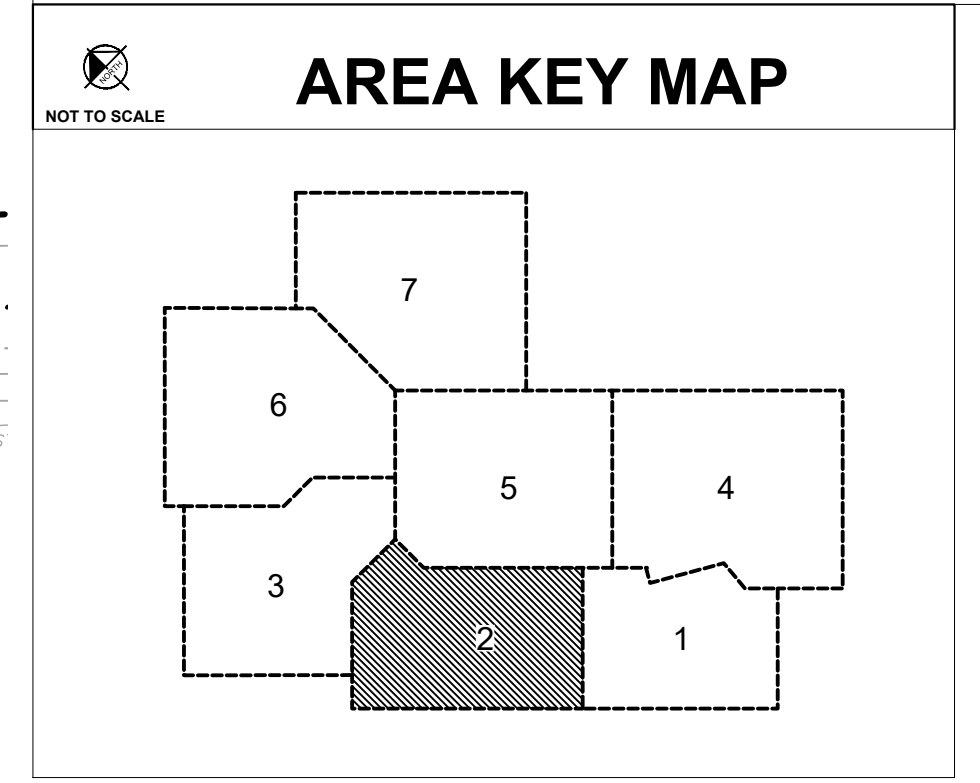
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PROJECT TITLE

HAVILAND FIELDS

ISSUE	DATE	DESCRIPTION
1	2024-02-09	SITE PLAN REVIEW
2	2024-03-12	SITE PLAN REVIEW R1
3	2024-05-07	SITE PLAN REVIEW R2



CERTIFICATION

NOT FOR CONSTRUCTION

DRAWN BY	GAR
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COMMISSION NUMBER	

SHEET TITLE

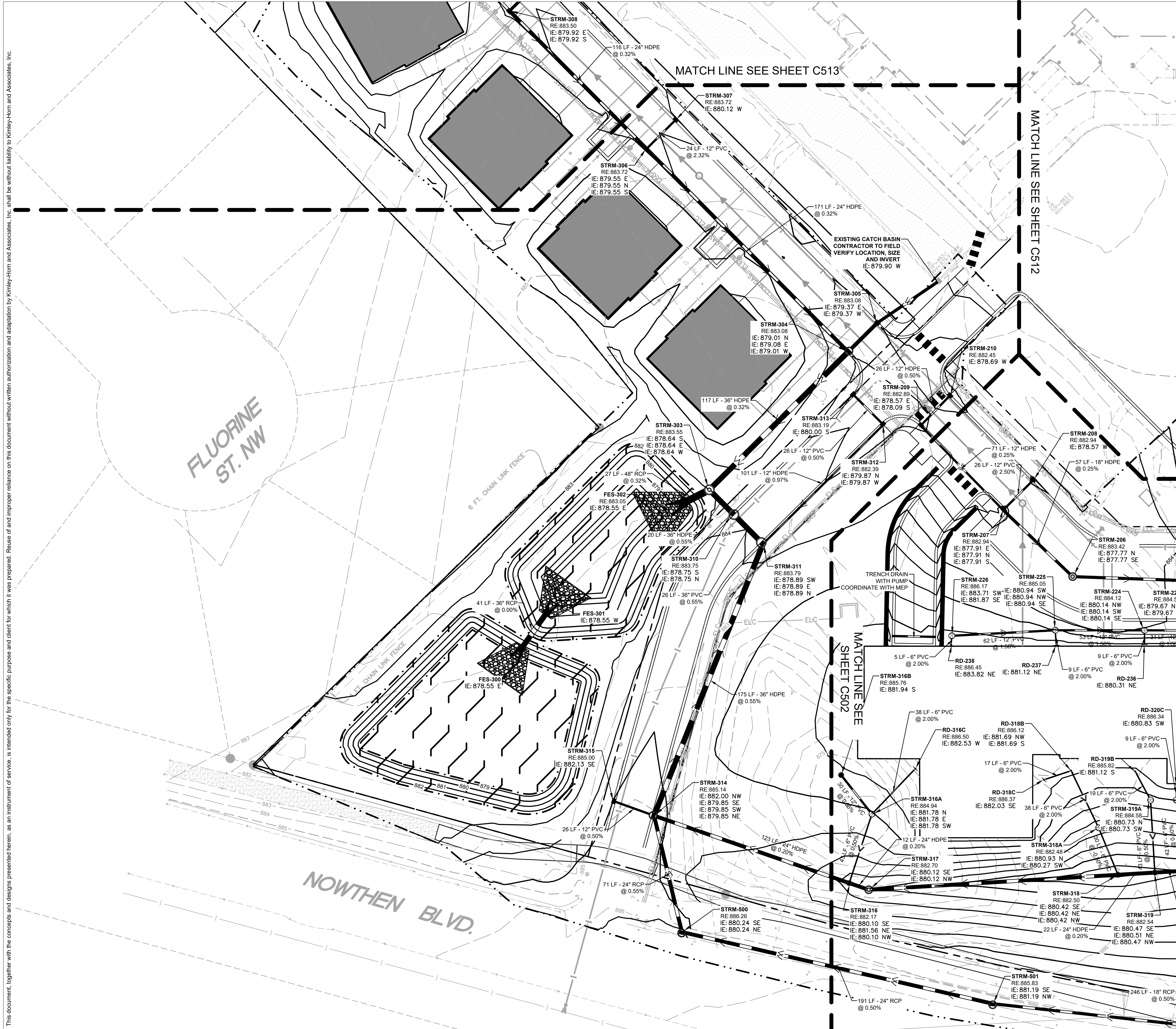
STORM SEWER PLAN

SHEET NUMBER

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

PRELIMINARY - NOT FOR CONSTRUCTION



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- PROPOSED DRAINAGE DIRECTION
- 0.00% PROPOSED ADA SLOPE

AREA KEY MAP

NOT TO SCALE

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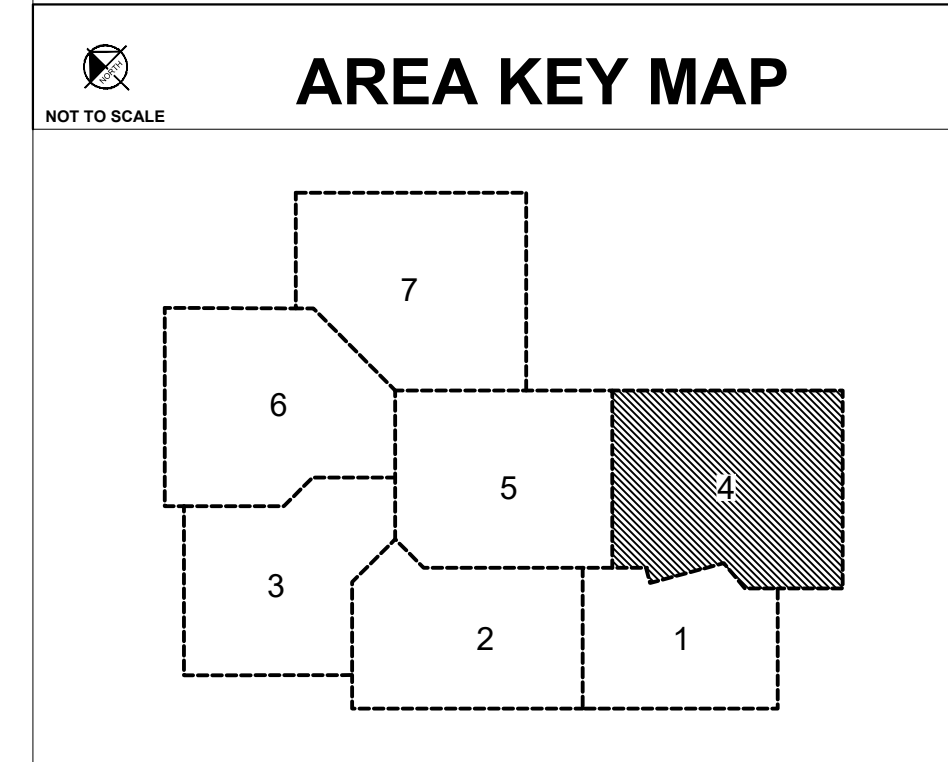
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STORM SEWER
PLAN

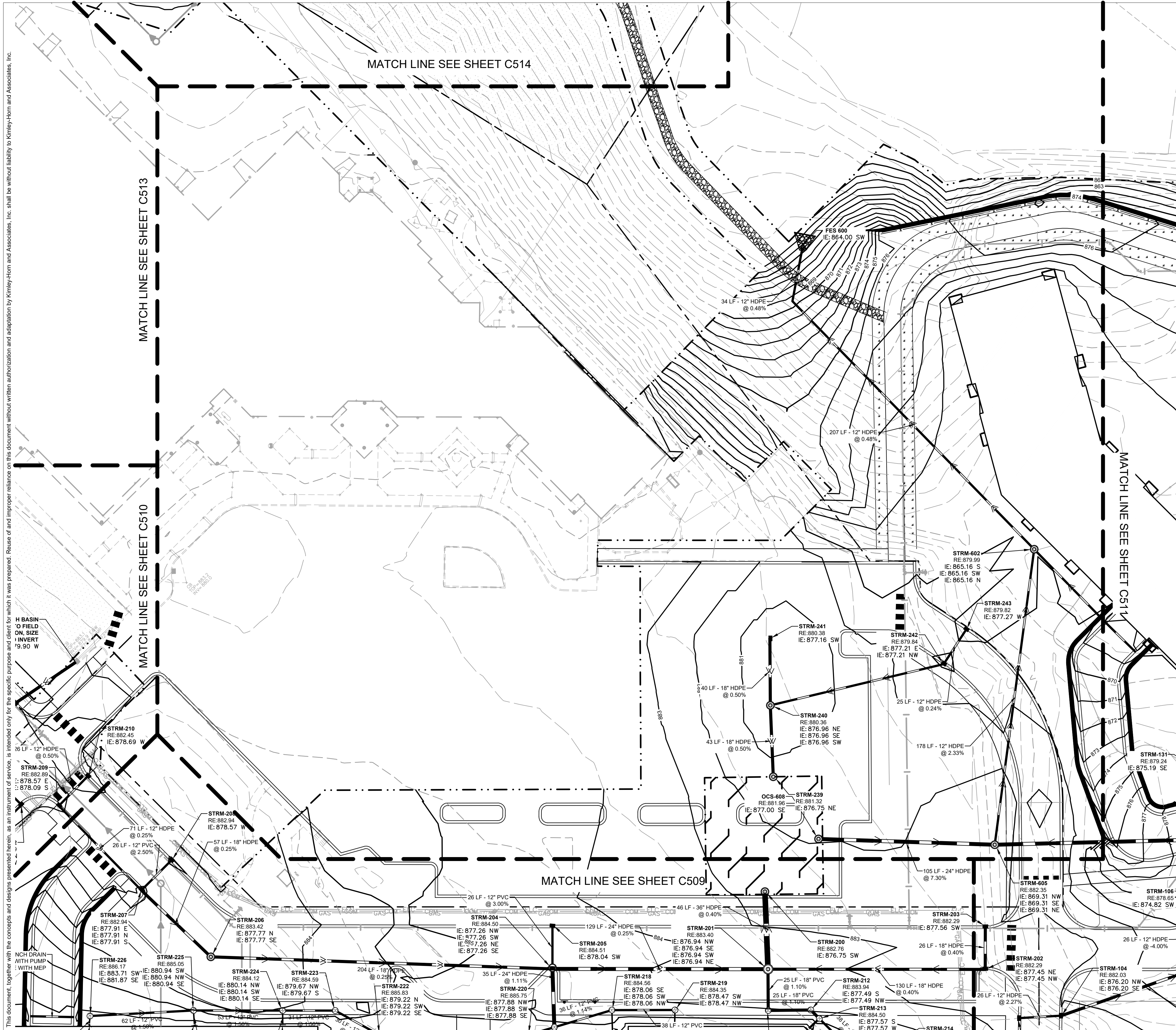
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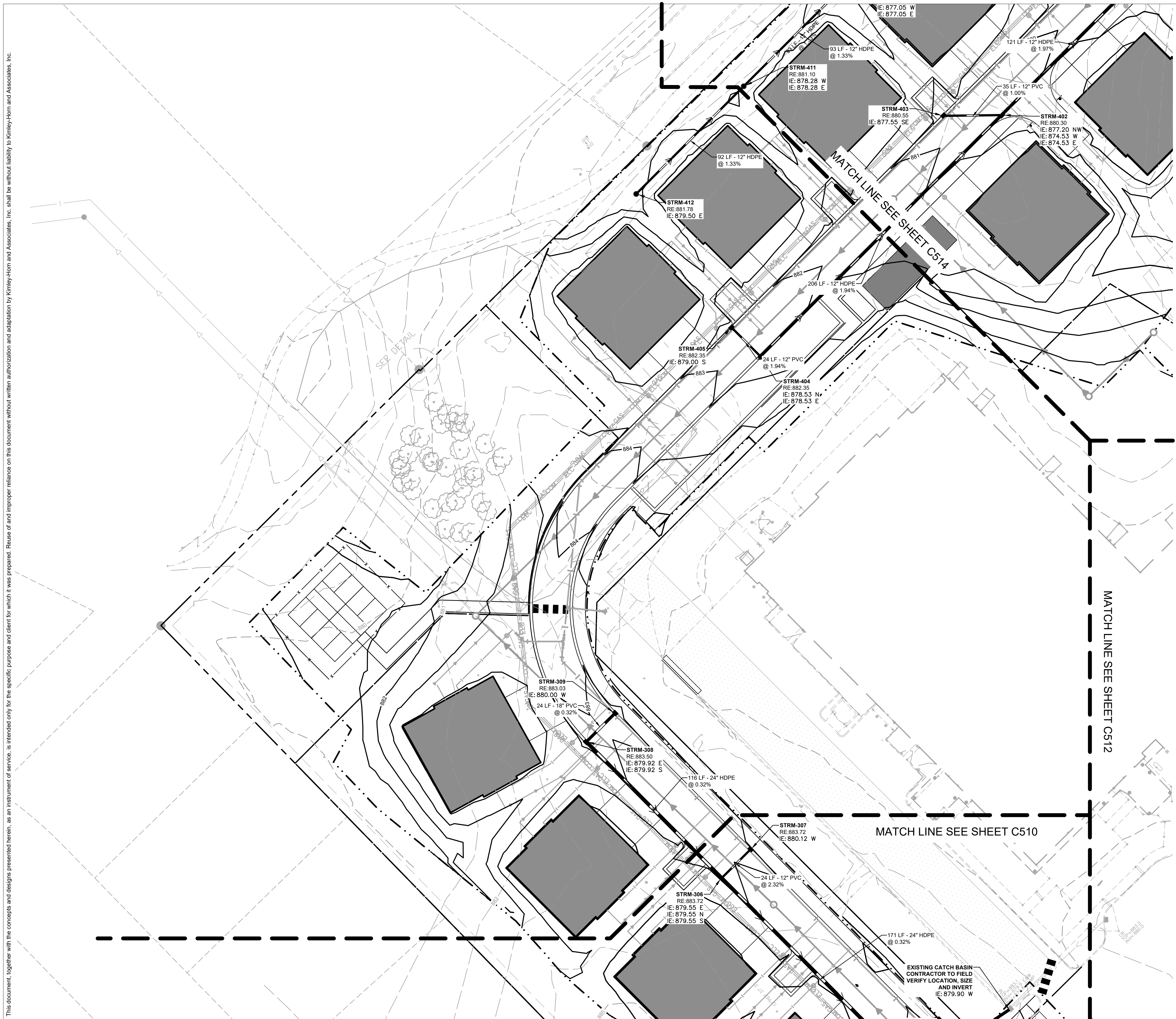
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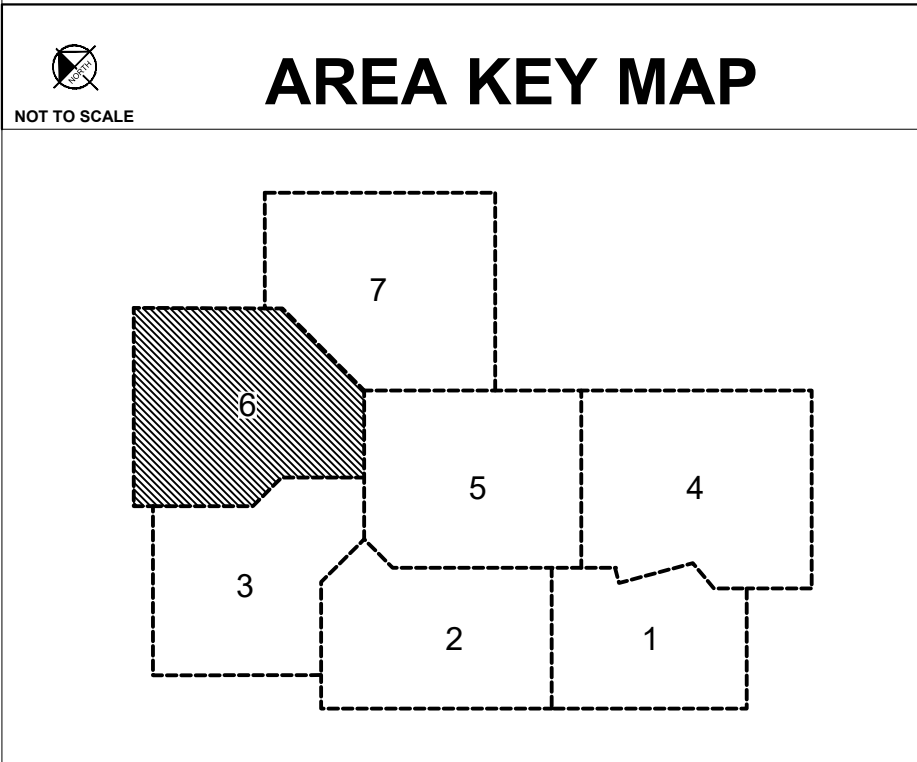
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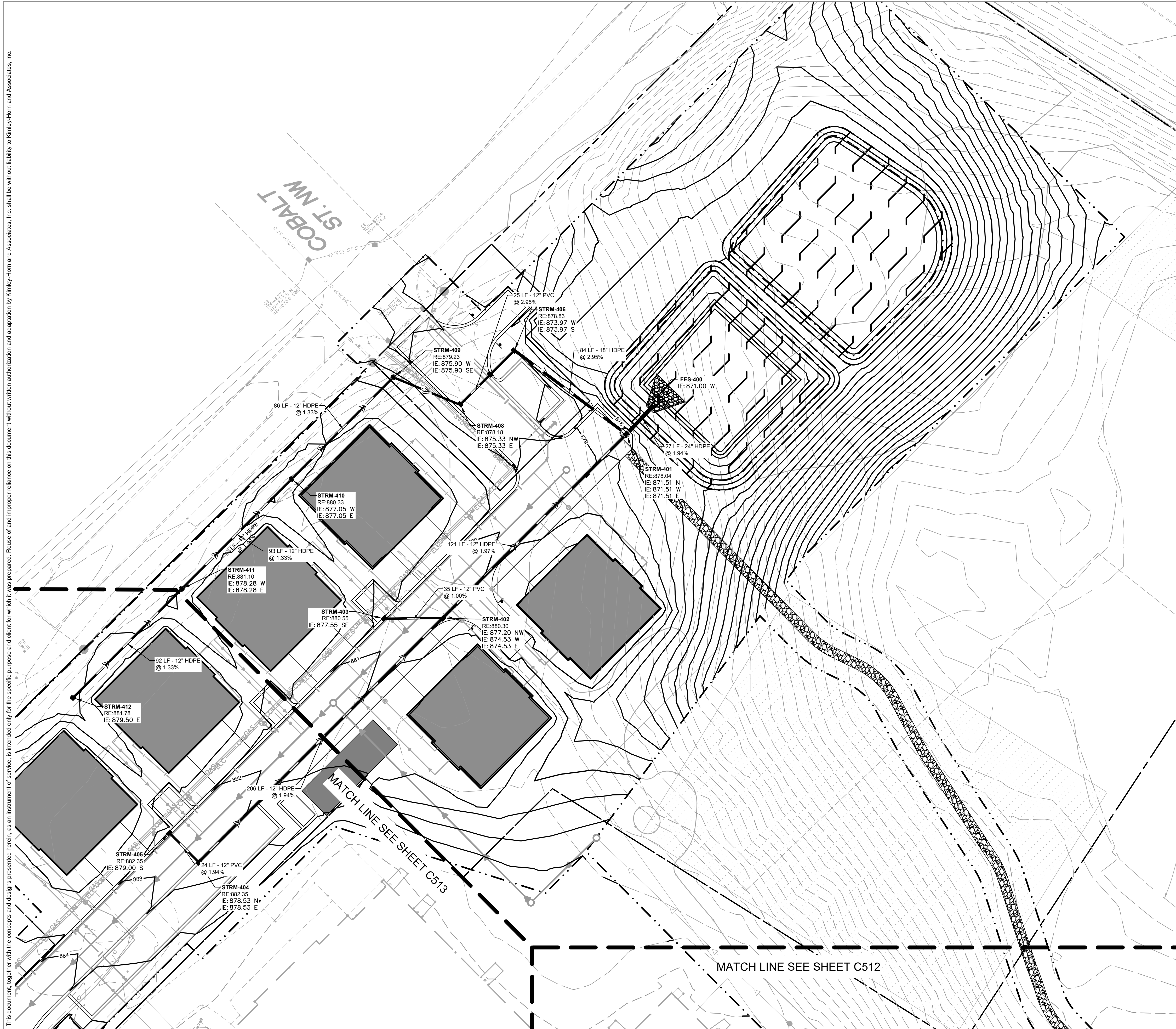
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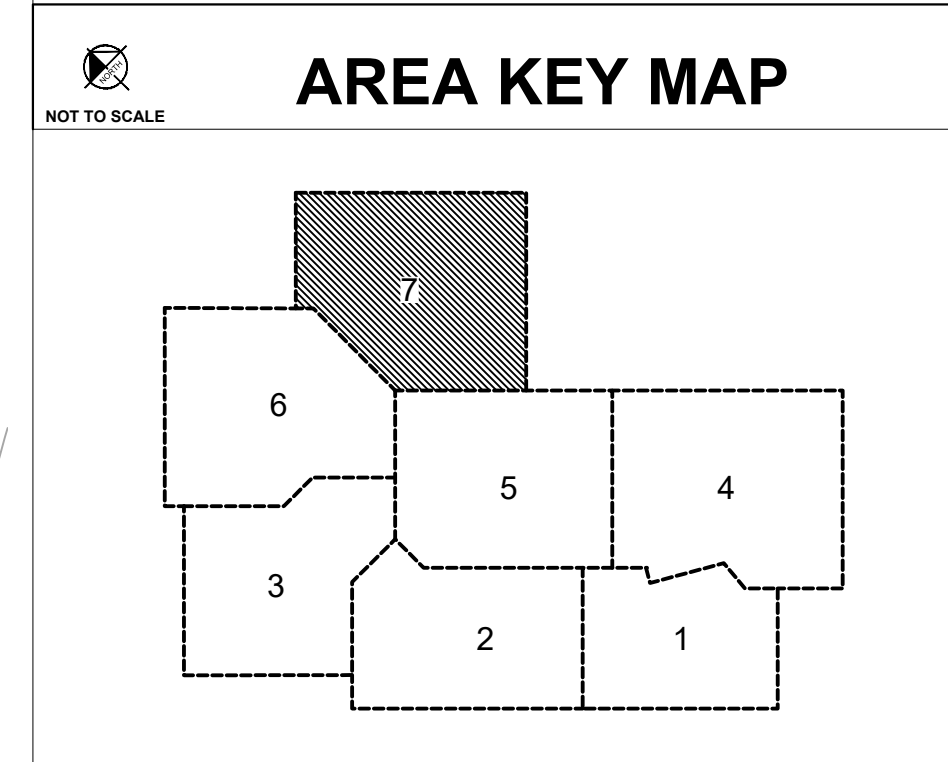
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STORM SEWER PLAN

SHEET NUMBER

C514

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RECTANGULAR

CIRCULAR

NOTES:

- MANHOLE INVERT SHALL SLOPED TO PROVIDE A SMOOTH FLOW FROM INLET TO OUTLET
- CONCRETE BASE SHALL BE 6" POURED IN PLACE OR 5" PRECAST SLAB
- CONCRETE ADJUSTING RINGS TO BE INSTALLED MAX 7-2" RINGS, MIN 2-2" RINGS
- GROUT BETWEEN RINGS, SHIMS SHALL BE METAL, CONCRETE OR PLASTIC
- INSPECTION OF MANHOLE REQUIRED BEFORE BACKFILLING
- A 12 GAUGE COPPER CLAD STEEL TRACER WIRE IS REQUIRED WITH ALL STORM LINES
- CONDUCTIVITY IS REQUIRED ON ALL TRACER WIRE
- TRACER WIRES ARE TO END IN STRUCTURES, AT FINISHED GRADE ON ALL SERVICES AND STUBS
- STEPS ARE REQUIRED IF STRUCTURE FROM THE CASTING TO THE INVERT IS GREATER THAN 4 FEET

APPROVED: 1 - 2024

City of RAMSEY

STANDARD DETAILS: CATCH BASIN

CITY PLATE No. STO-1

NOTE: SURMOUNTABLE CURB & GUTTER

- CATCH BASIN CASTING SHALL BE NEENAH R-3501TB (BICYCLE SAFE) OR APPROVED EQUAL.
- FOR CATCH BASINS ADJACENT TO RADIUS, USE NEENAH R-3246R OR APPROVED EQUAL.

NOTE: B 618 CURB & GUTTER

- CATCH BASIN CASTING SHALL BE NEENAH R-3246 (BICYCLE SAFE) OR APPROVED EQUAL.

STANDARD CATCHBASIN CASTING

APPROVED: 1 - 2024

City of RAMSEY

STANDARD DETAILS: STORMWATER CASTING

CITY PLATE No. STO-4

CONE

CIRCULAR

NOTES:

- MANHOLE INVERT SHALL BE SLOPED TO PROVIDE A SMOOTH FLOW FROM INLET TO OUTLET
- CONCRETE BASE SHALL BE 6" POURED IN PLACE OR 5" PRECAST SLAB
- CONCRETE ADJUSTING RINGS TO BE INSTALLED MAX 7-2" RINGS, MIN 2-2" RINGS
- GROUT BETWEEN RINGS, SHIMS SHALL BE METAL, CONCRETE OR PLASTIC
- SHIMS USED FOR LEVELING SHALL BE METAL OR CONCRETE
- A 12 GAUGE COPPER CLAD STEEL TRACER WIRE IS REQUIRED WITH ALL STORM LINES
- CONDUCTIVITY IS REQUIRED ON ALL TRACER WIRE
- TRACER WIRES ARE TO END IN STRUCTURES, AT FINISHED GRADE ON ALL SERVICES AND STUBS

APPROVED: 1 - 2024

City of RAMSEY

STANDARD DETAILS: STORM AREA INLET

CITY PLATE No. STO-2

STANDARD DETAILS: SLAB TOP MANHOLE COVER

APPROVED: 4 - 2005

City of RAMSEY

CITY PLATE No. STO-5

STANDARD DETAIL

NOTES:

- MANHOLE INVERT SHALL SLOPED TO PROVIDE A SMOOTH FLOW FROM INLET TO OUTLET
- INSPECTION OF MANHOLE REQUIRED BEFORE BACKFILLING
- ALL INLET INVERTS TO BE 0.10 ABOVE OUTLET INVERTS UNLESS OTHERWISE NOTED
- CONCRETE ADJUSTING RINGS TO BE INSTALLED MAX 7-2" RINGS, MIN 2-2" RINGS
- GROUT BETWEEN RINGS, SHIMS SHALL BE METAL, CONCRETE OR PLASTIC
- A 12 GAUGE COPPER CLAD STEEL TRACER WIRE IS REQUIRED WITH ALL STORM LINES
- CONDUCTIVITY IS REQUIRED ON ALL TRACER WIRE
- STEPS ARE REQUIRED IF STRUCTURE FROM THE CASTING TO THE INVERT IS GREATER THAN 4 FEET
- TRACER WIRES ARE TO END IN STRUCTURES, AT FINISHED GRADE ON ALL SERVICES AND STUBS

APPROVED: 1 - 2024

City of RAMSEY

STANDARD DETAILS: STORM MANHOLE

CITY PLATE No. STO-3

R-2560 Series or Approved Equal. Beehive Grates with Frames

SUITABLE FOR DRAINAGE ON CIRCUMSTANCES WHERE CLOGGING OF A FLAT GRATING IS A PROBLEM. EXCELLENT FOR ROADSIDE OR EARTH DITCH CATCH BASINS.

Catalog No.	Dimensions in inches							WT. LBS
	A	B	C	D	E	F	G	
R-2560-A	12	1	11	12 1/2	19	4	4	80
R-2560-B	15 1/2	1 1/4	15	15	21	5	3	120
R-2560-C	18	1 1/4	16 1/2	20 1/2	30	8	4	190
R-2560-C1	22	1 1/2	20	23	28	6	4 1/2	195
R-2560-C2	22	1 1/2	20 1/2	24	28 1/4	6	4 1/2	270
R-2560-D	22	1 1/2	20	24 1/2	35	9	4 1/2	315
R-2560-D1	22	1 1/2	20	23	28 1/4	6	7	210
R-2560-D2	22	1 1/2	20 1/2	24	35	6	7	285
R-2560-D3	22	1 1/2	20	24 1/2	36	9	7	345
R-2560-E	23	1 1/2	21	25 1/2	35 1/2	9	7	340
R-2560-EA	25 3/4	7/8	24 1/8	26 1/2	35 1/2	4	6	235
R-2560-EB	25 3/4	7/8	24 1/8	26 1/2	35 1/2	4	9	255
R-2560-E1	25 3/4	7/8	24 1/8	26 1/2	35 1/2	7	6	285
R-2560-E2	25 3/4	7/8	24 1/8	26 1/2	35 1/2	7	9	300
R-2560-E5	25 3/4	7/8	24 1/8	26 1/2	35 1/2	8	6	345
R-2560-E6	25 3/4	7/8	24 1/8	26 1/2	35 1/2	8	9	365
R-2560-E7	25 3/4	7/8	24 1/8	26 1/2	35 1/2	9	6	350
R-2560-E8	25 3/4	7/8	24 1/8	26 1/2	35 1/2	9	9	365
R-2560-E9	25 3/4	7/8	24 1/8	26 1/2	35 1/2	10	6	360
R-2560-E10	25 3/4	7/8	24 1/8	26 1/2	35 1/2	10	9	380
R-2560-G	32	1 1/2	30	36	46	7	4	535

R-2570 Catch Basin Frame, Grate

Light Duty
Total Weight 170 Pounds

STORM CASTINGS FOR NON-TRAFFIC AREAS NTS

APPROVED: 9 - 2011

City of RAMSEY

STANDARD DETAILS: STORM CASTING - NON TRAFFIC AREAS

CITY PLATE No. STO-6

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NOTES:

1. A 12 GAUGE COPPER CLAD STEEL TRACER WIRE REQUIRED WITH ALL STORM LINES
2. CONDUCTIVITY IS REQUIRED ON ALL TRACER WIRE
3. TRACER WIRES ARE TO END IN STRUCTURES, AT FINISHED GRADE ON ALL SERVICES AND STUBS
4. 6" BASE FOR ALL MANHOLES LESS THAN 14FT. DEEP, INCREASE BASE 2" PER 6 FT OF DEPTH BEYOND 14 FT. 5" PRECAST BASE MAY BE USED FOR MANHOLES LESS THAN 14 FT. DEEP

APPROVED: 1 - 2024

City of RAMSEY

STANDARD DETAILS: POND OUTLET

CITY PLATE No. STO-7

NOTE: GUARDS MUST BE INCORPORATED ON ALL INSTALLATIONS EXCEPT WHERE SPECIFICALLY ALLOWED OTHERWISE BY THE CITY ENGINEER.

IMPORTANT

HINGED CONNECTIONS (TO BE FREE OF RIP RAP AND BACKFILL)

6" MAX.

ALL GUARDS TO HAVE (1) CROSS BAR - 60" AND UP TO HAVE (2) EQUALLY SPACED

PIPE SIZE	BOLT DIA.	BAR SIZE
12"-24"	5/8"	5/8"
27"-48"	3/4"	3/4"
54"-90"	1"	1"
22"-29"	5/8"	5/8"
36"-59"	3/4"	3/4"
65"-88"	1"	1"

NOTE: COATINGS ARE AS SPECIFIED ELSEWHERE

IMPORTANT

APPROVED: 2 - 2006

City of RAMSEY

STANDARD DETAILS: TRASH GUARD

CITY PLATE No. STO-8

NOTES:

1. A 10 GAGE SOLID COPPER TRACER WIRE IS REQUIRED WITH ALL SEWER LINES
2. CONDUCTIVITY IS REQUIRED ON ALL TRACER WIRE
3. TRACER WIRES ARE TO END IN STRUCTURES, AT FINISHED GRADE ON ALL SERVICES AND STUBS
4. STEPS WILL BE REQUIRED AT A MAXIMUM OF 3' FROM THE RIM AND 16" ON CENTER THERE AFTER.
5. 8" BASE FOR ALL MANHOLES LESS THEN 14' DEEP, INCREASE BASE THICKNESS BY 2" PER 6' OF DEPTH BEYOND 14' & REINFORCE WITH 6"X 6" & 10" X 10" MESH.

APPROVED: 1 - 2016

City of RAMSEY

STANDARD DETAILS: SUMP MANHOLE

CITY PLATE No. STO-9

NOTE: TRASH GUARDS SEE DETAIL STO-12

NOTE: FOR USE WITH PIPE 36" DIA. OR GREATER

(3) 1-1/4" HOLES USE 3-1" BY 1" L-SHAPED BOLTS AND TIE TO REBAR VERTICAL AND HORIZONTAL

NOTE: BRING CONCRETE HEADWALL UP TO A POINT THAT WILL NOT HINDER THE OPERATION OF THE TRASH GUARD.

#4 EACH FACE 1" (TYP.) HORIZONTAL

#3 AT 12" O.C. STAGGERED VERTICAL

LIGHTWEIGHT SHEET PILE ASTM-A-857, GR. 33&36

16.9 LBS PER LINEAL FOOT 0.209 NOMINAL THICKNESS

APPROVED: 9 - 2016

City of RAMSEY

STANDARD DETAILS: STORM SEWER PILING & CONCRETE END SECTION

CITY PLATE No. STO-10

CASTING PER PLAN MINIMUM OF 2 AND MAXIMUM OF 6 REINFORCED CONCRETE ADJUSTING RINGS

PLACE FULL MORTAR BED BETWEEN RINGS, AND INSTALL WATER TIGHT WRAP AROUND CASTING AND RINGS

REINFORCED CONCRETE COVER CONFORMING TO ASTM C478

STEPS AS PER STANDARD PLATE 4180J OR DETAILS

AS REQUIRED

INLETS AS REQUIRED

REMOVABLE MAINTENANCE CAP

REINFORCED CONCRETE BASE SLAB CONFORMING TO ASTM C478 AND MNDOT STD. PLATE 4011

APPROVED: 4 - 2016

City of RAMSEY

STANDARD DETAILS: OIL SKIMMER CATCH BASIN

CITY PLATE No. STO-11

90° BEND W/ ACCESS RISER HDPE PIPE

90° BEND W/ ACCESS RISER

OUTLET TEE HDPE PIPE TEE INLET

PLAN VIEW NOT TO SCALE

6" TOPSOIL WITH SEED INSTALL FILTER FABRIC BETWEEN TOPSOIL AND ROCK

36" HDPE PERFORATED PIPE

2" MINUS CLEAR ROCK

UNDISTURBED EARTH

GEOTEXTILE FILTER FABRIC

MINIMUM SPACINGS
PIPE COVER 12"
PIPE TO TRENCH SIDEWALL 18"
PIPE CENTER TO PIPE CENTER 63"
PIPE WALL TO PIPE WALL 22"

INSTALL GEOTEXTILE FILTER FABRIC BETWEEN ROCK AND ADJACENT SOIL ON BOTTOM, SIDES AND TOP OF TRENCH.

SECTION VIEW NOT TO SCALE

APPROVED: 9 - 2011

City of RAMSEY

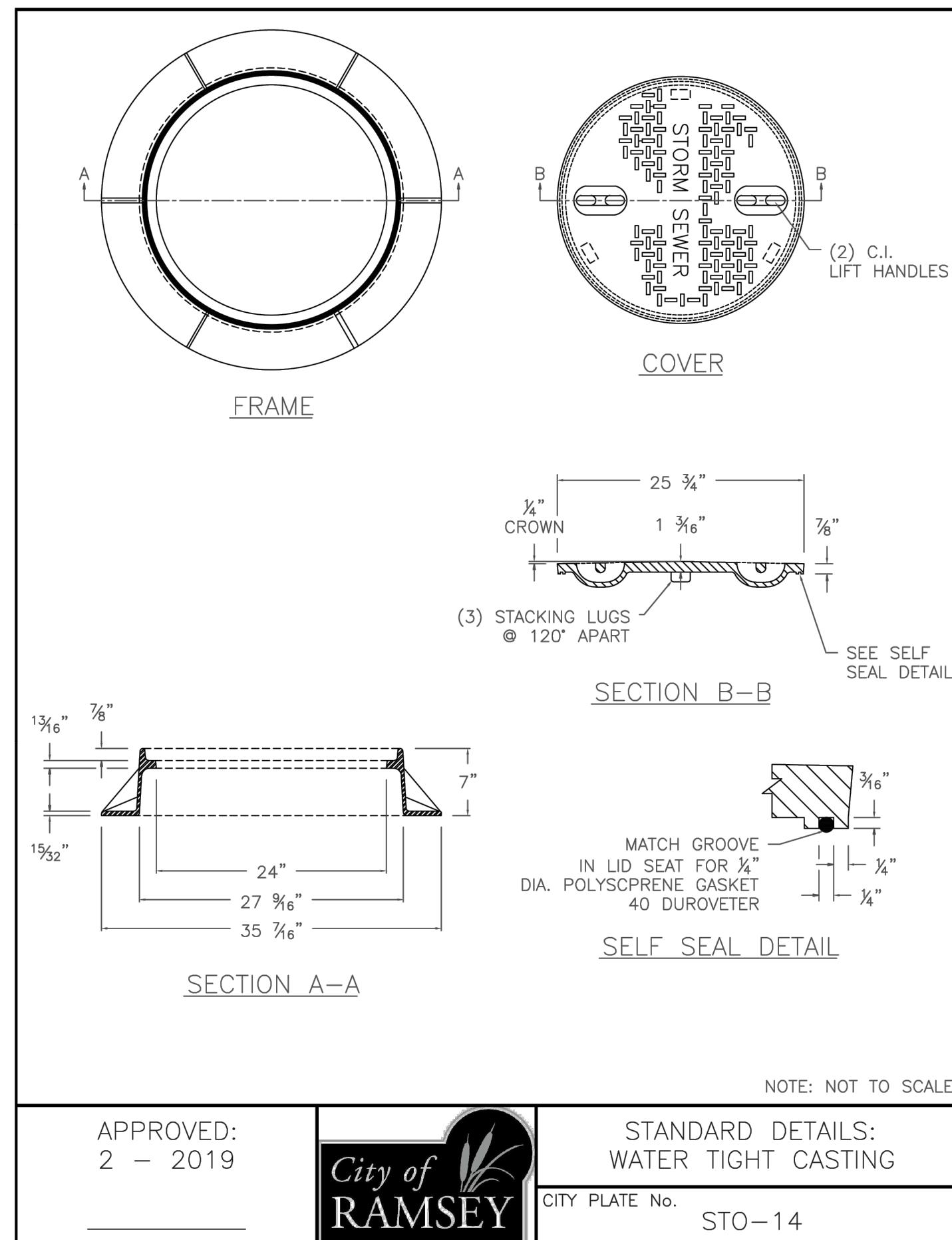
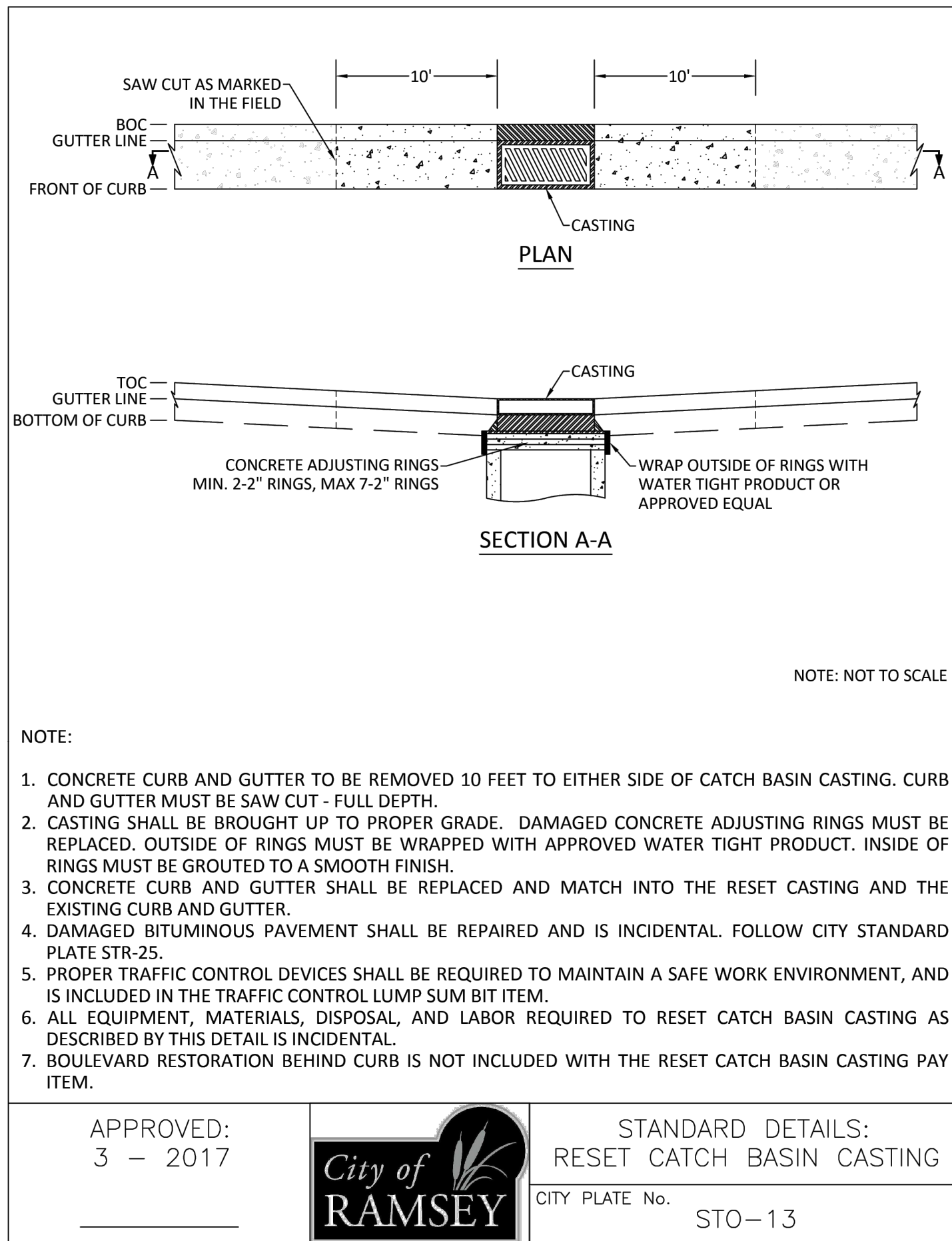
STANDARD DETAILS: HDPE DRAINAGE STRUCTURE

CITY PLATE No. STO-12

ISSUE	DATE	DESCRIPTION
1	2024-02-09	SITE PLAN REVIEW
2	2024-03-12	SITE PLAN REVIEW R1
3	2024-05-07	SITE PLAN REVIEW R2

NOT FOR CONSTRUCTION

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COMMISSION NUMBER	



Architecture
Interior Design
Landscape Architecture
Engineering

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CONSULTANTS



PROJECT TITLE

HAVILAND FIELDS

ISSUE	DATE	DESCRIPTION
1	2024-02-09	SITE PLAN REVIEW
2	2024-03-12	SITE PLAN REVIEW R1
3	2024-05-07	SITE PLAN REVIEW R2

CERTIFICATION

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SHEET TITLE

STORM DETAILS

SHEET NUMBER

C517

PRELIMINARY - NOT FOR CONSTRUCTION