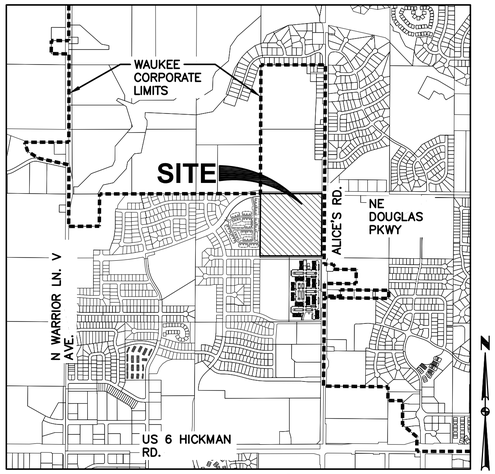
CONSTRUCTION PLANS FOR:

THE LANDING AT SHADOW CREEK PLAT 4

WAUKEE, IOWA

VICINITY MAP

NOT TO SCALE



WAUKEE, IOWA

OWNER/DEVELOPER

LANDING AT SHADOW CREEK, LLC
CONTACT: BILL SPENCER
3405 SE CROSSROADS DRIVE, SUITE E
GRIMES, IA 50111
PH. (515) 986–5994

PROJECT MANAGER

LANDMARK DEVELOPMENT SERVICES
CONTACT: NICK HALFHILL
3405 SE CROSSROADS DRIVE, SUITE E
GRIMES, IA 50111
PH. (515) 986–5994

ENGINEER/ SURVEYOR

CIVIL DESIGN ADVANTAGE
CONTACT: ERIN OLLENDIKE
3405 SE CROSSROADS DRIVE, SUITE G
GRIMES, IOWA 50111
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FX. (515) 369–4410

BENCHMARKS

1. STORM SEWER MANHOLE RIM LOCATED AT THE N.E. CORNER OF WARRIOR LANE AND FOX RUN TRAIL INTERSECTION. MANHOLE IS LOCATED 4' FROM THE EAST BACK OF CURB LINE OF WARRIOR LANE AND 46' NORTH OF FOX RUN TRAIL CENTERLINE. ELEVATION = 1014.23
2. SANITARY SEWER MANHOLE RIM LOCATED ON THE WEST SIDE OF NE DARTMOOR DRIVE, 121' +/– NORTH OF THE CENTERLINE OF NE BOWMAN DRIVE. MANHOLE IS LOCATED 9' FROM THE WEST BACK OF CURB LINE OF NE DARTMOOR DRIVE. ELEVATION = 1020.12

SUBMITTAL DATES

FIRST SUBMITTAL:	02/22/2016
SECOND SUBMITTAL:	03/29/2016
THIRD SUBMITTAL:	04/21/2016
FOURTH SUBMITTAL:	05/12/2016
FINAL SUBMITTAL:	06/03/2016
AS–BUILT SUBMITTAL:	12/22/2016

NOTES

1. ANY CHANGES PROPOSED TO THE CONSTRUCTION DRAWINGS DURING CONSTRUCTION SHALL BE APPROVED IN WRITING BY THE CITY OF WAUKEE ENGINEERING DEPARTMENT.

2. THE CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES MADE DURING CONSTRUCTION THAT HAVE NOT BEEN GRANTED APPROVAL IN WRITING BY THE CITY OF WAUKEE ENGINEERING DEPARTMENT.

3. THE RESULTS OF THE GEOTECHNICAL REPORT ARE TO BE PROVIDED TO THE CITY OF WAUKEE ENGINEERING DEPARTMENT. THE CONSTRUCTION DRAWINGS ARE SUBJECT TO ANY CHANGES REQUIRED BY THE REPORT.

ZONING

R–2 ONE AND TWO FAMILY RESIDENTIAL DISTRICT
R–4 ROW DWELLING AND TOWNHOME DISTRICT
C–1 COMMUNITY AND HIGHWAY SERVICE COMMERCIAL DISTRICT

BULK REGULATIONS

R–2 ONE AND TWO FAMILY RESIDENTIAL DISTRICT

MINIMUM LOT AREA:	8,000 SQUARE FEET (SINGLE–FAMILY) 10,000 SQUARE FEET (TWO–FAMILY)
MINIMUM FLOOR AREA:	950 SQUARE FEET (SINGLE STORY SINGLE–FAMILY) 750 SQUARE FEET (SINGLE STORY TWO–FAMILY) 1,250 SQUARE FEET (MULTI–STORY SINGLE–FAMILY) 1,050 SQUARE FEET (MULTI–STORY TWO–FAMILY)
MINIMUM LOT WIDTH:	65 FEET (SINGLE–FAMILY) 80 FEET (TWO–FAMILY)
FRONT YARD SETBACK:	30 FEET
SIDE YARD SETBACK:	7 FEET (15 FEET TOTAL)
REAR YARD SETBACK:	30 FEET

R–4 ROW DWELLING AND TOWNHOME DISTRICT

MINIMUM LOT AREA:	3,500 SQUARE FEET
MINIMUM FLOOR AREA:	800 SQUARE FEET
MINIMUM LOT WIDTH:	25 FEET PER UNIT (75 FEET TOTAL)
FRONT YARD SETBACK:	30 FEET
SIDE YARD SETBACK:	7 FEET (15 FEET TOTAL)
REAR YARD SETBACK:	30 FEET

C–1 COMMUNITY AND HIGHWAY SERVICE COMMERCIAL DISTRICT

MINIMUM LOT AREA:	NO MINIMUM
MINIMUM LOT WIDTH:	NO MINIMUM
FRONT YARD SETBACK:	30 FEET
SIDE YARD SETBACK:	NO MINIMUM
REAR YARD SETBACK:	30 FEET

INDEX OF SHEETS

NO.	DESCRIPTION
1	TITLE SHEET
2–4	TYPICAL SECTIONS AND DETAILS
5	QUANTITIES AND REFERENCE NOTES
6	HYDRANT COVERAGE PLAN
7–8	GRADING PLAN
9–10	EROSION & SEDIMENT CONTROL PLAN
11–22	STORM AND SANITARY SEWER PLAN AND PROFILE
23–29	WATERMAIN PLAN AND PROFILE
30–32	INTERSECTION DETAILS

AS-BUILT DRAWINGS

AS–BUILT PLANS ARE BASED ON SURVEYED INVERT ELEVATIONS AND INFORMATION SUPPLIED BY THE CONTRACTOR. CIVIL DESIGN ADVANTAGE TAKES NO RESPONSIBILITY FOR UNAUTHORIZED CHANGES TO THE PLANS WITHOUT CITY/OWNER KNOWLEDGE. FIELD VERIFICATION OF UTILITIES OR OTHER PLAN ELEMENTS IS ALWAYS RECOMMENDED.

LEGAL DESCRIPTION

BOOK 491, PAGE 79
EXCEPT BOOK 2007 PAGE 19461

THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 27, TOWNSHIP 79 NORTH, RANGE 26 WEST OF THE FIFTH PRINCIPAL MERIDIAN IN THE CITY OF WAUKEE, DALLAS COUNTY, IOWA.

UTILITY NOTE

ANY UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY AND RECORDS OBTAINED BY THIS SURVEYOR. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL THE UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION SHOWN.

GENERAL LEGEND

PROPOSED

SECTION LINE
CENTER LINE
RIGHT OF WAY
PERMANENT EASEMENT
TEMPORARY EASEMENT
TYPE SW–501 STORM INTAKE
TYPE SW–503 STORM INTAKE
TYPE SW–505 STORM INTAKE
TYPE SW–506 STORM INTAKE
TYPE SW–513 STORM INTAKE
TYPE SW–401 STORM MANHOLE
TYPE SW–402 STORM MANHOLE
TYPE SW–301 SANITARY MANHOLE
STORM/SANITARY CLEANOUT
WATER VALVE
FIRE HYDRANT ASSEMBLY
SIGN
DETECTABLE WARNING PANEL
WATER CURB STOP
STORM SEWER STRUCTURE NO. — ST–10
STORM SEWER PIPE NO. — L–10
SANITARY SEWER STRUCTURE NO. — S–10
SANITARY SEWER PIPE NO. — P–10
SANITARY SEWER WITH SIZE — 8"S
SANITARY SERVICE
STORM SEWER
STORM SERVICE
WATERMAIN WITH SIZE — 8"W
WATER SERVICE
SAWCUT (FULL DEPTH)
SILT FENCE
USE AS CONSTRUCTED — (UAC)
MINIMUM PROTECTION ELEVATION — MPE
TOP OF PROPOSED GROUND — TG
MINIMUM OPENING ELEVATION — MOE
MINIMUM GRADE AT STRUCTURE — MGS

EXISTING

SANITARY MANHOLE
WATER VALVE BOX
FIRE HYDRANT
WATER CURB STOP
WELL
STORM SEWER MANHOLE
STORM SEWER SINGLE INTAKE
STORM SEWER DOUBLE INTAKE
FLARED END SECTION
DECIDUOUS TREE
CONIFEROUS TREE
DECIDUOUS SHRUB
CONIFEROUS SHRUB
ELECTRIC POWER POLE
GUY ANCHOR
STREET LIGHT
POWER POLE W/ TRANSFORMER
UTILITY POLE W/ LIGHT
ELECTRIC BOX
ELECTRIC TRANSFORMER
ELECTRIC MANHOLE OR VAULT
TRAFFIC SIGN
TELEPHONE JUNCTION BOX
TELEPHONE MANHOLE/VAULT
TELEPHONE POLE
GAS VALVE BOX
CABLE TV JUNCTION BOX
CABLE TV MANHOLE/VAULT
MAIL BOX
BENCHMARK
SOIL BORING
UNDERGROUND TV CABLE
GAS MAIN
FIBER OPTIC
UNDERGROUND TELEPHONE
OVERHEAD ELECTRIC
UNDERGROUND ELECTRIC
FIELD TILE
SANITARY SEWER W/ SIZE — 8"S
STORM SEWER W/ SIZE — 15" RCP
WATER MAIN W/ SIZE — 8"W

THIS PROJECT REQUIRES AN IOWA NPDES PERMIT #2. CIVIL DESIGN ADVANTAGE WILL PROVIDE THE PERMITS AND THE INITIAL STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE CONTRACTORS USE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING THE SWPPP THROUGHOUT CONSTRUCTION AND MEETING LOCAL, STATE AND FEDERAL REQUIREMENTS.

THIS DESIGN SPECIFICALLY PREPARED FOR USE AT THE LOCATION SHOWN. USE IN ANY OTHER MANNER EXCEEDS THE INTENDED PURPOSE OF THESE DRAWINGS AND ANY ACCOMPANYING SPECIFICATIONS.

THE MOST RECENT EDITION OF THE CITY OF WAUKEE STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS AND THE 2016 EDITION OF SUDAS STANDARD SPECIFICATIONS SHALL APPLY TO ALL WORK PERFORMED ON THIS PROJECT EXCEPT AS MODIFIED HEREIN.

CIVIL DESIGN ADVANTAGE
3405 SE CROSSROADS DR. SUITE G GRIMES, IOWA 50111
PH: (515) 369-4400 Fax: (515) 369-4410
PROJECT NO. 1505.276

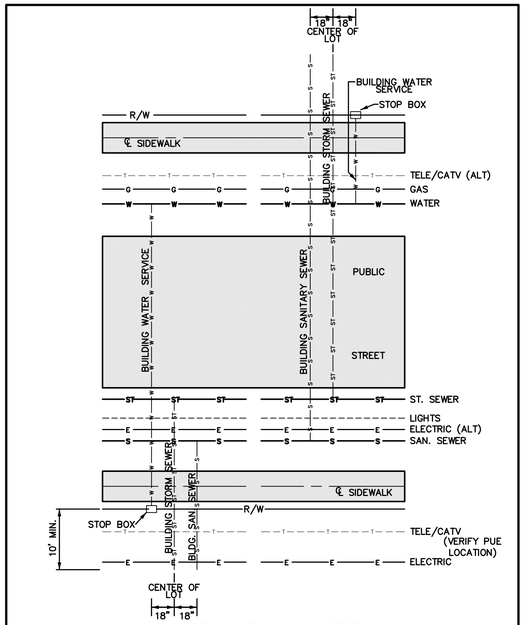
IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com
Know what's below. Call before you dig.

LICENSED PROFESSIONAL ENGINEER
ERIN K. OLLENDIKE
16926
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

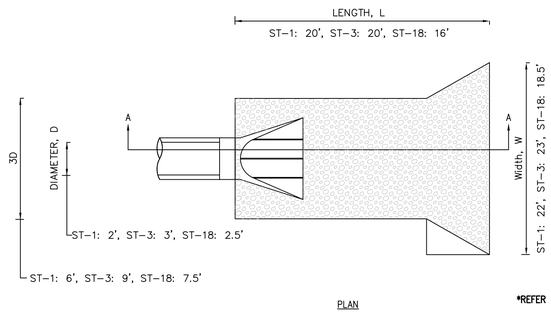
ERIN K. OLLENDIKE, P.E. DATE

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2017
PAGES OR SHEETS COVERED BY THIS SEAL:
SHEETS 1–32

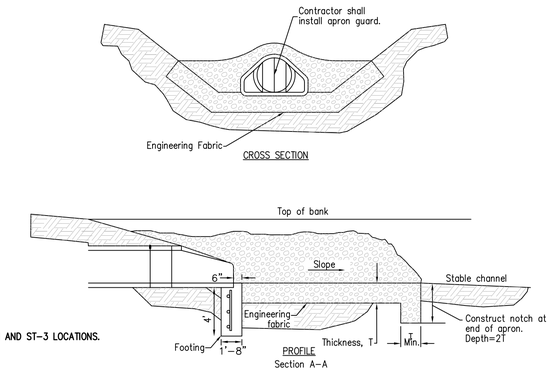


CITY OF WAUKEE UTILITY SERVICE LOCATIONS

NOT TO SCALE



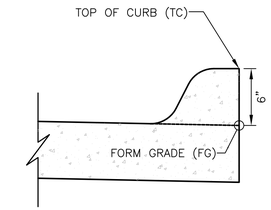
NOTE:
1. THE LAST THREE SECTIONS AND THE APRON SHALL BE CONNECTED WITH PIPE CONNECTIONS PER SECTION 4030.302C OF SUDAS.
2. INSTALL A 3' CLAY WATERSTOP AT ALL STORM SEWER OUTLETS.



*REFER TO SHEET 20 FOR ST-1 AND ST-3 LOCATIONS.

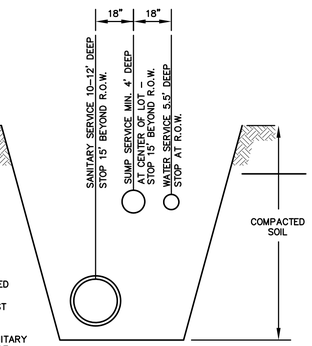
ROCK APRON FOR PIPE OUTLET

NOT TO SCALE



INTEGRAL 6" STANDARD SPOT ELEVATION REFERENCE DETAIL

NOT TO SCALE

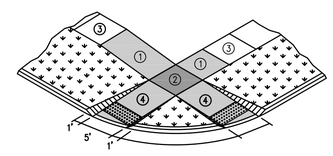


NOTES:
1. PLACE ONE 6' STEEL POST BURIED 3' AT WATER CURB BOX.
2. PLACE ONE 6' GREEN STEEL POST BURIED 3' TO LOCATE STORM SERVICE.
3. INSERT 2"x4" FROM CAPPED SANITARY SERVICE TO 2 FOOT ABOVE GRADE.

SERVICE LOCATION DETAIL

NOT TO SCALE

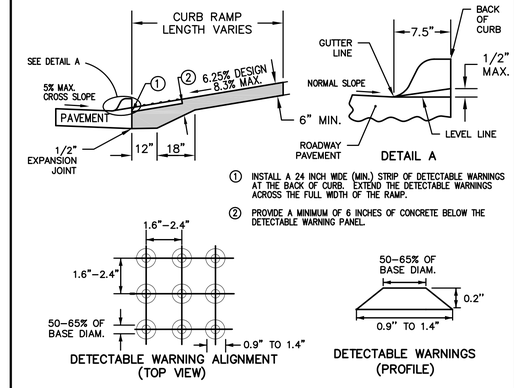
Key
- CURB RAMP
- TURNING SPACE
- DETECTABLE WARNING



1. Parallel Curb Ramp: Target cross slope of 1.5% with a maximum cross slope of 2.0%. The length of the parallel ramp is not to exceed 15 feet, regardless of resulting slope. Do not exceed 8.3% slope for parallel ramps shorter than 15 feet.
2. Turning Space: Target slope of 1.5% with a maximum slope perpendicular to the travel directions of 2.0%. Ath mid-block crossings, cross slope of landing may exceed 2.0% to match the roadway grade. Minimum 5 feet by 5 feet.
3. Target cross-slope of 1.5% with a maximum cross-slope of 2.0%.
4. Perpendicular curb ramp: Target running slope of 6.25% with maximum running slope of 8.3%

The minimum pavement depth for ramps and landings shall be 6-inches.

CURB RAMPS OUTSIDE OF INTERSECTION RADIUS

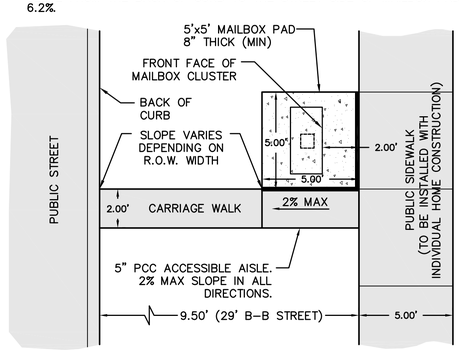


1. INSTALL A 24 INCH WIDE (MIN.) STRIP OF DETECTABLE WARNINGS AT THE BACK OF CURB. EXTEND THE DETECTABLE WARNINGS ACROSS THE FULL WIDTH OF THE RAMP.
2. PROVIDE A MINIMUM OF 6 INCHES OF CONCRETE BELOW THE DETECTABLE WARNING PANEL.

DETECTABLE WARNING DETAIL

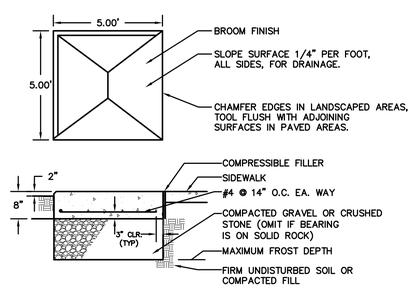
NOT TO SCALE

INSTALLATION NOTE:
1. MAILBOX PADS TO BE INSTALLED BY DEVELOPER.
2. CLUSTER MAILBOX TO BE LOCATED ON THE PARKING/STREET LIGHT SIDE OF STREET.
3. DO NOT LOCATE AT INTERSECTION.
4. LOCATE NEAR SHARED PROPERTY LINE PER APPROVED PLAN.
5. DETERMINE SIDEWALK SIDE OF MAILBOX PAD ELEVATION ASSUMING CONSTANT 4% SLOPE FROM BACK OF CURB TO SIDEWALK SIDE OF MAILBOX PAD. RESULTING SLOPE FROM BACK OF CURB TO STREET SIDE OF MAILBOX PAD WILL BE GREATER THAN 4%. FOR EXAMPLE, FOR A 29' WIDE PAVEMENT WITH A 60' WIDE R.O.W. AND A 2% MAILBOX PAD CROSS SLOPE, THE RESULTING SLOPE FROM THE BACK OF CURB TO THE STREET SIDE OF MAILBOX PAD IS 6.2%.



MAILBOX PAD DETAIL

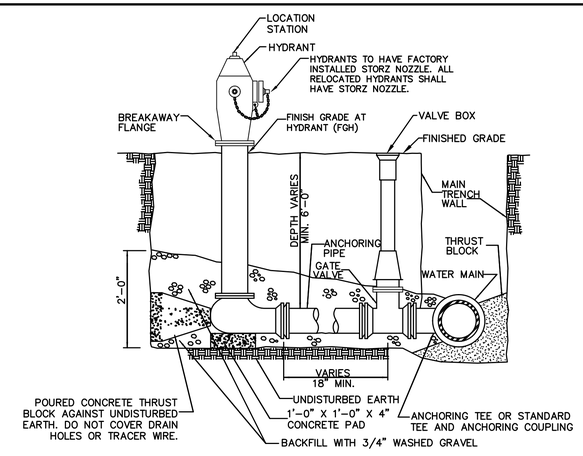
NOT TO SCALE



GENERAL NOTES
1. CONCRETE: C4 MIX.
2. REINFORCING STEEL: ASTM A615, GRADE 60.
3. THIS BASE DETAIL CAN BE USED FOR NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS (NDCBU) CLUSTER BOXES AND PARCEL LOCKERS WITH 4"x10" BOLT PATTERN.
4. REQUIRED EXPANSION BOLT CAPACITY, BASED ON CALCULATED DESIGN LOAD= 3100 LBS TENSION, 2000 LBS SHEAR.
5. MAILBOX PADS TO BE INSTALLED BY DEVELOPER.

MAILBOX PAD DETAIL

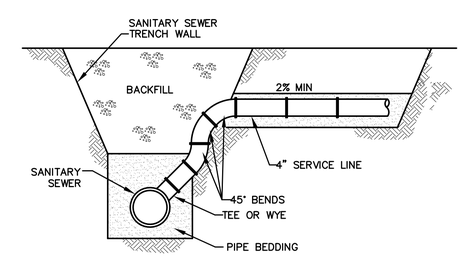
NOT TO SCALE



NOTES
1. MINIMUM SIZE FOR PIPING, VALVES AND FITTINGS FROM WATER MAIN TO HYDRANT INLET: 6".
2. PROVIDE TRACER WIRE AND TRACER WIRE STATION.
3. WRAP HYDRANT, PIPE AND FITTINGS WITH POLYETHYLENE ENCASEMENT.

HYDRANT ASSEMBLY DETAIL

NOT TO SCALE



NOTES:
1. USE FOR SERVICE CONNECTION WHEN SANITARY SEWER DEPTH EXCEEDS 12.0'.

SANITARY SEWER SERVICE RISER

NOT TO SCALE

REVISIONS	DATE
AS-BUILT SUBMITTAL	12/22/16
REVISED WATERMAIN	08/01/16
FINAL SUBMITTAL	06/03/16
FOURTH SUBMITTAL	05/12/16
THIRD SUBMITTAL	04/21/16
SECOND SUBMITTAL	03/29/16
FIRST SUBMITTAL	02/22/16

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PHONE: (515) 369-4400 FAX: (515) 369-4410
ENGINEER: EKO
EI: GH
CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4
TYPICAL SECTIONS & DETAILS

WAUKEE, IOWA

FILE: H:\2015\1505276\DWG\505276-CIV-DET-TAB.DWG
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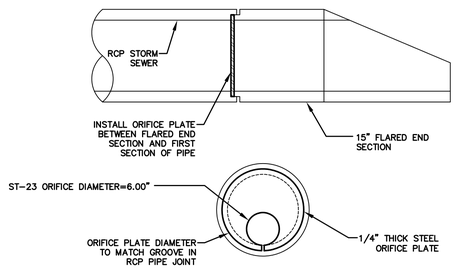
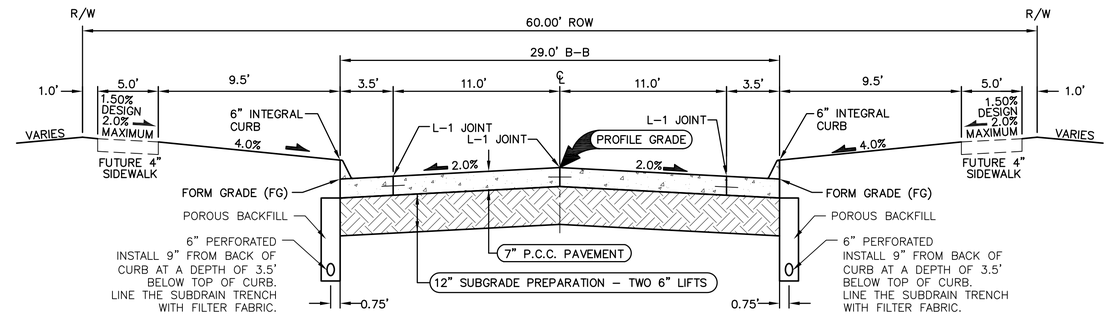


ST-23 ORIFICE PLATE DETAIL

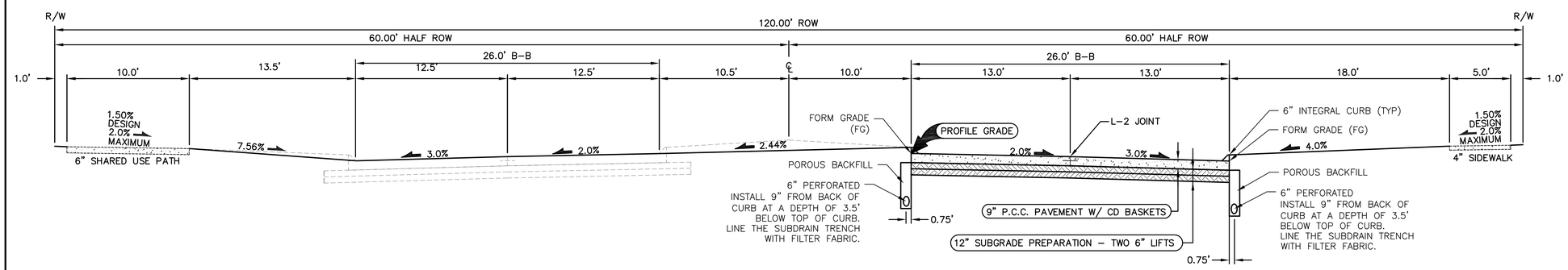
NOT TO SCALE

NOTES:
1. PREPARE SUBGRADE IN 2 – 6" LIFTS.
2. MAXIMUM C JOINT SPACING IS 15'.



29' B/B P.C.C. ROADWAY WITH 60' R.O.W.

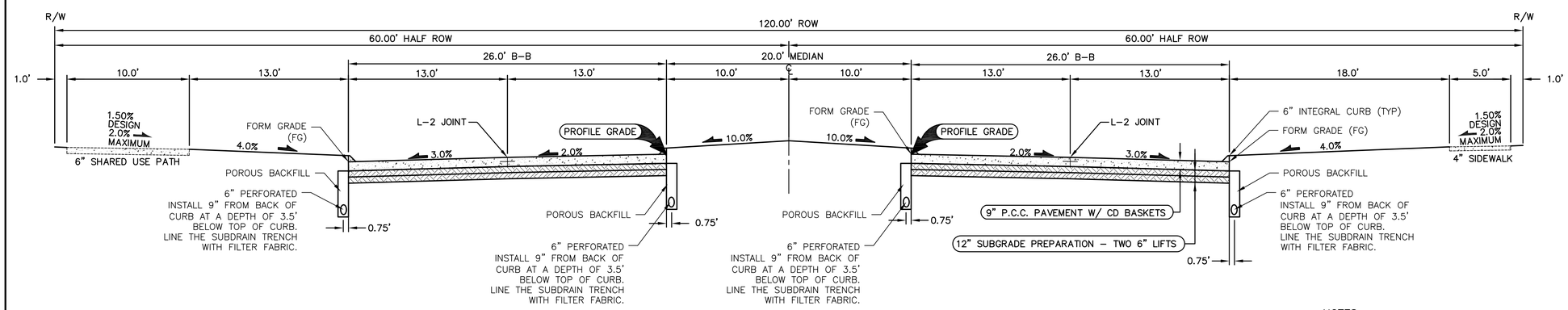
NOT TO SCALE NE ADDISON DRIVE



NE DOUGLAS PARKWAY (PARTIAL BUILD) WITH 120' R.O.W.

NOT TO SCALE

NOTES:
1. PREPARE SUBGRADE IN 2 – 6" LIFTS.
2. MAXIMUM CD JOINT SPACING IS 15'.



NE DOUGLAS PARKWAY (FULL BUILD) WITH 120' R.O.W.

NOT TO SCALE

NOTES:
1. PREPARE SUBGRADE IN 2 – 6" LIFTS.
2. MAXIMUM CD JOINT SPACING IS 15'.

REVISIONS	DATE
AS-BUILT SUBMITTAL	12/22/16
REVISED WATERMAIN	08/01/16
FINAL SUBMITTAL	06/03/16
FOURTH SUBMITTAL	05/12/16
THIRD SUBMITTAL	04/21/16
SECOND SUBMITTAL	03/29/16
FIRST SUBMITTAL	02/22/16

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ENGINEER: EKO | EI: GH

CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4
TYPICAL SECTIONS & DETAILS

WAUKEE, IOWA

FILE: H:\2015\1505276\DWG\1505276-CIV-DET-TAB.DWG
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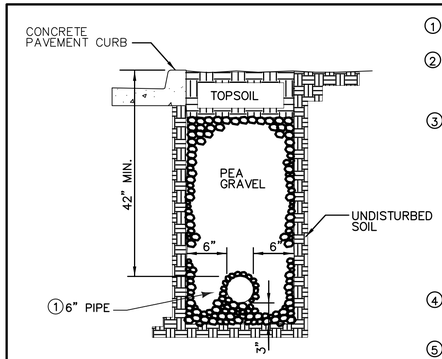
PLOT DATE: 10/21/2016 5:25 PM
COMMENT:
ENG:
TECH:



① PLACE PERFORATIONS DOWN FOR ALL INSTALLATIONS.

② ALL SUBDRAINS ARE TO BE TIED INTO STORM SEWER STRUCTURES AND THEIR LOCATIONS ARE TO BE INCLUDED IN THE AS-BUILTS FOR THE SUBDIVISION.

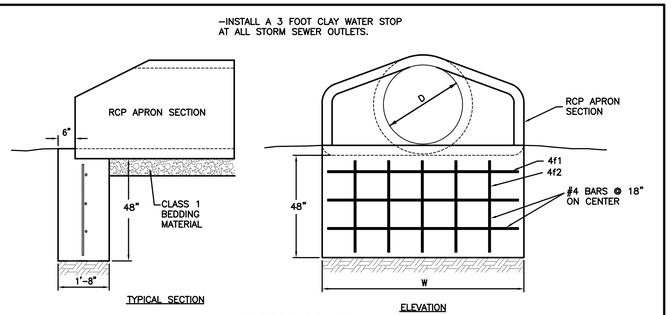
③ THE GEOTECHNICAL ENGINEER SHALL BE PRESENT ONSITE DURING SUBGRADE PREPARATION AND PROOF ROLL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE GEOTECHNICAL ENGINEER IS PRESENT ONSITE AND A COPY OF ALL REPORTS AND FINDINGS REQUIRING ALTERATION FROM THE APPROVED PLAN SET BE PROVIDED TO THE WAUKEE ENGINEERING DEPARTMENT FOR REVIEW AND DISCUSSION PRIOR TO COMMENCING WITH PAVING WITHIN THE PROJECT.

④ CORE DRILL ALL STORM SEWER AND PLACE NON-SHRINK GROUT COLLAR AT CONNECTION.

⑤ RODENT GUARDS ARE TO BE INSTALLED WHERE THE PIPE TIES INTO THE STRUCTURE.

6" PERFORATED SUBDRAIN

NOT TO SCALE

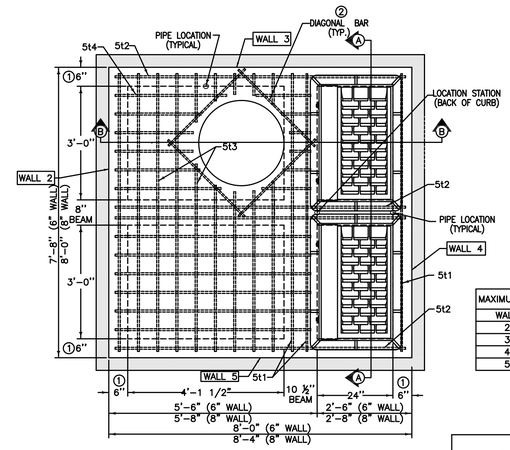


REINFORCING BAR LIST

D	W	Mark	Size	Length	Count
12"	2'-4"	4f1	4	2'-0"	3
		4f2	4	3'-8"	2
15"	2'-10"	4f1	4	2'-6"	3
		4f2	4	3'-8"	2
18"	3'-5"	4f1	4	3'-1"	3
		4f2	4	3'-8"	3
24"	4'-6"	4f1	4	4'-2"	3
		4f2	4	3'-8"	3
30"	5'-7"	4f1	4	5'-3"	3
		4f2	4	3'-8"	4
36"	6'-8"	4f1	4	6'-4"	3
		4f2	4	3'-8"	5
42"	7'-3"	4f1	4	6'-11"	3
		4f2	4	3'-8"	5
48"	7'-10"	4f1	4	7'-6"	3
		4f2	4	3'-8"	6
54"	8'-5"	4f1	4	8'-1"	3
		4f2	4	3'-8"	6
60"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	6
66"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	6
72"	10'-0"	4f1	4	9'-8"	3
		4f2	4	3'-8"	7
78"	10'-7"	4f1	4	10'-3"	3
		4f2	4	3'-8"	7
84"	11'-1"	4f1	4	10'-9"	3
		4f2	4	3'-8"	8

RCP APRON FOOTING DETAIL

NOT TO SCALE



PLAN

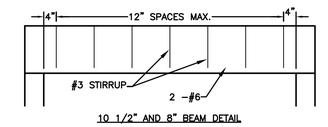
① USE 8" WALL OPTION FOR INTAKE DEPTHS GREATER THAN 7'-0" AND LESS THAN 10'-0".

② INSTALL FOUR #4 DIAGONAL BARS AT MANHOLE OPENING AND AT ALL PIPE OPENINGS.

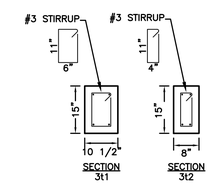
③ CAST-IN-PLACE BASE SHOWN. IF BASE IS PRECAST INTEGRAL WITH WALLS, THE FOOTPRINT OF BASE IS NOT REQUIRED TO EXTEND BEYOND THE OUTER EDGE OF THE WALLS.

④ 12 INCH MINIMUM WALL HEIGHT ABOVE ALL PIPES.

⑤ CONSTRUCT 8"X15" AND 10 ½"X15" P.C. CONCRETE BEAMS INTEGRAL WITH 12" P.C. CONCRETE FLAT TOP.



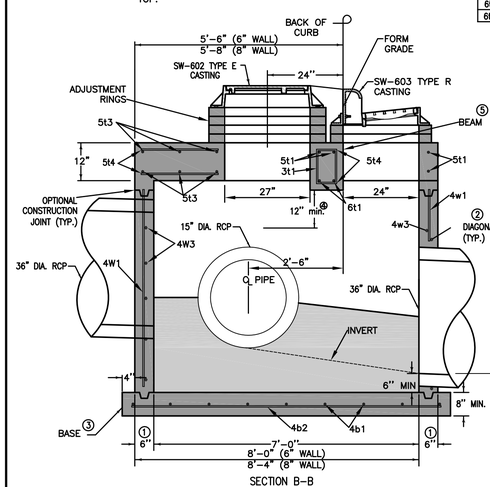
10 1/2" AND 8" BEAM DETAIL



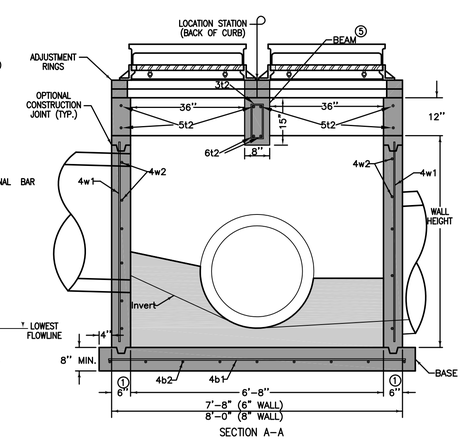
MAXIMUM PIPE DIAMETERS	
WALL	MAX. DIA.
2	48"
3	30"
4	48"
5	30"

REINFORCING BAR LIST

MARK	SIZE	LOCATION	SHAPE	COUNT 6" WALL	COUNT 8" WALL	LENGTH 6" WALL	LENGTH 8" WALL	SPACING 6" WALL	SPACING 8" WALL
3t1	3	TOP		7	7	3'-2"*	3'-2"*	12"	12"
3t2	3	TOP		8	8	2'-10"*	2'-10"*	10 ⅞"	10 ⅞"
4b1	4	BASE		9	9	7'-10"	8'-2"	12 ¼"	12 ¾"
4b2	4	BASE		9	9	8'-2"	8'-6"	11 ¾"	12 ¼"
4w1	4	WALLS		30	30	WALL HEIGHT MINUS 4"		12"	12"
4w2	4	WALLS		VARIES	VARIES	7'-8"	8'-0"	12"	12"
4w3	4	WALLS		VARIES	VARIES	7'-4"	7'-8"	12"	12"
5t1	5	TOP		4	4	7'-4"	7'-8"	SEE DETAIL	SEE DETAIL
5t2	5	TOP		6	6	7'-8"	8'-0"	SEE DETAIL	SEE DETAIL
5t3	5	TOP		18	18	7'-4"	7'-8"	6 ¼"	6 ¼"
5t4	5	TOP		24	24	5'-2"	5'-4"	5 ¾"	6"
6t1	6	TOP		2	2	7'-4"	7'-8"	SEE DETAIL	SEE DETAIL
6t2	6	TOP		2	2	7'-8"	8'-0"	SEE DETAIL	SEE DETAIL



SECTION B-B



SECTION A-A

SW-506 MODIFIED DOUBLE GRATE INTAKE WITH MANHOLE (ST-19)

NOT TO SCALE

REVISIONS

	DATE
AS-BUILT SUBMITTAL	12/22/16
REVISED WATERMAIN	08/01/16
FINAL SUBMITTAL	06/03/16
FOURTH SUBMITTAL	05/12/16
THIRD SUBMITTAL	04/21/16
SECOND SUBMITTAL	03/29/16
FIRST SUBMITTAL	02/22/16

3405 S.E. CROSSROADS DRIVE, SUITE G
GRIMES, IOWA 50111
PHONE: (515) 369-4400 FAX: (515) 369-4410
ENGINEER: EKO | EI: GH
CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4
TYPICAL SECTIONS & DETAILS

WAUKEE, IOWA

FILE: H:\2015\1505276\DWG\150527B-CDV-DET-748.DWG
FILE DATE: 12/21/2016 LAST MOD: 12/21/2016 5:25 PM
PLOTTED BY: GRAE HERGOLD DATE: 12/21/2016
TECH:
COMMENT:
ENG:

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
1	COMBINED CLEARING AND GRUBBING	AC	17.11
2	STRIPPING, SALVAGING AND SPREAD TOPSOIL	LS	1
3	CLASS 10 EXCAVATION	LS	1
4	SUBGRADE PREPARATION	SY	7798
5	SANITARY SEWER GRAVITY MAIN, 10" DIA	LF	364
6	SANITARY SEWER GRAVITY MAIN, 8" DIA	LF	1997
7	SANITARY SEWER PRIVATE SERVICE, 6" DIA	LF	146
8	SANITARY SEWER SERVICE STUB, 4" DIA	EA	31
9	SUBDRAIN, 6" PERFORATED PVC	LF	1812
10	STORM SEWER, TRENCHED, 8" PERFORATED PVC	LF	375
11	STORM SEWER, TRENCHED, 15" RCP	LF	553
12	STORM SEWER, TRENCHED, 18" RCP	LF	326
13	STORM SEWER, TRENCHED, 24" RCP	LF	657
14	STORM SEWER, TRENCHED, 30" RCP	LF	82
15	STORM SEWER, TRENCHED, 36" RCP	LF	402
16	STORM SEWER SERVICE STUB, 4" DIA	EA	31
17	STORM SEWER, 15" RCP APRON W/ FOOTING & APRON GUARD	EA	1
18	STORM SEWER, 18" RCP APRON W/ FOOTING & APRON GUARD	EA	2
19	STORM SEWER, 24" RCP APRON W/ FOOTING & APRON GUARD	EA	3
20	STORM SEWER, 30" RCP APRON W/ FOOTING & APRON GUARD	EA	1
21	STORM SEWER, 36" RCP APRON W/ FOOTING & APRON GUARD	EA	1
22	WATER MAIN, 8" DIA	LF	1288
23	WATER MAIN, 12" DIA	EA	1894
24	WATER SERVICE STUB, 1" DIA	EA	31
25	VALVE, 8" DIA	EA	3
26	VALVE, 12" DIA	EA	4
27	FIRE HYDRANT ASSEMBLY	EA	12
28	TEMPORARY FIRE HYDRANT ASSEMBLY	EA	1
29	TEMPORARY FIRE HYDRANT ASSEMBLY (RELOCATED)	EA	1
30	MANHOLE, SW-301, 48" (SANITARY SEWER)	EA	9
31	STORM SEWER CLEANOUT	EA	2
32	MANHOLE, SW-401, 48" (STORM SEWER)	EA	3
33	MANHOLE, SW-401, 60" (STORM SEWER)	EA	4
34	INTAKE, SW-501	EA	4
35	INTAKE, SW-503	EA	2
36	INTAKE, SW-505	EA	1
37	INTAKE, SW-506	EA	2
38	INTAKE, SW-506 MODIFIED	EA	1
39	PAVEMENT, 9" P.C.C.	SY	2323
40	PAVEMENT, 7" P.C.C.	SY	4280
41	PAVEMENT, 4" P.C.C. SIDEWALK	SY	49
42	PAVEMENT, 6" P.C.C. SIDEWALK RAMPS	SY	49
43	DETECTABLE WARNING PANELS	SF	48
44	SEEDING, FERTILIZING, AND MULCHING	AC	15.73
45	TRAFFIC CONTROL	LS	1
46	EROSION CONTROL	LS	1
47	ROCK OUTLET PROTECTION, CLASS 'E' RIP RAP	TONS	75
48	MAILBOX CLUSTER	EA	2

ESTIMATE REFERENCE INFORMATION

Data listed below is for informational purpose only and shall not constitute a basis for any extra work orders.

ITEM NO.	DESCRIPTION
	THE MOST RECENT EDITION OF THE CITY OF WAUKEE STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS AND THE 2016 EDITION OF SUDAS STANDARD SPECIFICATIONS SHALL APPLY TO ALL WORK PERFORMED ON THIS PROJECT EXCEPT AS MODIFIED HEREIN. ALL REFERENCES TO SECTIONS AND FIGURES ARE TO THE SUDAS STANDARD SPECIFICATIONS. CITY OF WAUKEE STANDARD DETAILS SHALL GOVERN IF ANY DISCREPANCIES.
1	CLEAR AND GRUB ALL AREAS AFFECTED BY GRADING OPERATIONS. THE CONTRACTOR SHALL FIELD VERIFY CLEARING AND GRUBBING NEEDS PRIOR TO BIDDING. INCLUDES REMOVAL OF ANY EXISTING FIELD FENCE. ALL MATERIAL THAT IS REMOVED FROM THE PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR. INCLUDED REMOVAL OF EXISTING CROPS FOR CONSTRUCTION OF TEMPORARY ACCESS. DO NOT DISTURB CROPS OUTSIDE OF THE PROJECT LIMITS.
2	STRIP, SALVAGE AND RE-SPREAD TOPSOIL PER SECTION 2010 OF SUDAS STANDARD SPECIFICATIONS OR PROVIDE THE CITY WITH A TOPSOIL PRESERVATION PLAN. TOPSOIL TO BE RESPREAD SHALL BE FREE OF ROCK AND DEBRIS AND BE SUITABLE FOR THE GROWTH OF GRASS. COORDINATE LOCATION OF STOCKPILE WITH OWNER.
3	EXCAVATION INCLUDES ALL WORK NECESSARY TO ACHIEVE PROPER GRADES AS SHOWN IN THE PLANS. NO PAYMENT FOR OVERHAUL SHALL BE ALLOWED.
4	REFER TO SHEET 3 FOR TYPICAL LOCATIONS AND THICKNESS.
5-6	SANITARY SEWER FOR 8" SHALL BE PVC TRUSS PIPE. ANY CONNECTIONS TO EXISTING SANITARY SEWER SHALL BE CONSIDERED INCIDENTAL. REFER TO FIG. 3010.101 AND 3010.103 FOR PIPE EMBEDMENT DETAILS. GRANULAR PIPE BEDDING SHALL BE CONSIDERED INCIDENTAL. EXISTING SANITARY SEWER WILL NEED TO BE RETESTED AFTER SADDLE WYE INSTALLATION.
5-16	REFER TO FIGURE 3010.102 FOR TRENCH BEDDING AND BACKFILL ZONE DETAILS. GRANULAR PIPE BEDDING SHALL BE CONSIDERED INCIDENTAL. CONNECTIONS TO EXISTING STORM SEWER PIPE AND STRUCTURES SHALL BE CONSIDERED INCIDENTAL. WRAP ALL PIPE JOINTS IN ENGINEERING FABRIC. CLEAN AND TELEVISE SANITARY AND STORM SEWER PRIOR TO PAVING AND PROVIDE TELEVISING REPORT TO CITY IN HARD COPY AND DISC FORMAT. TELEVISING SHALL BE CONSIDERED INCIDENTAL. ALL STORM SEWER PIPE THAT CROSSES OVER WATERMAIN SHALL HAVE O-RING GASKETS JOINT RATED AT 13 PSI OR GREATER. O-RING GASKET JOINTS SHALL BE INSTALLED ON EACH SIDE OF THE CROSSING UNTIL THE NORMAL DISTANCE FROM THE WATER TO THE SEWER IS AT LEAST 10 FEET.
8,16,24	REFER TO SHEET 2 FOR SERVICE LOCATION DETAIL. STORM SEWER SERVICES TYING INTO EXISTING RCP PIPE ARE TO BE CORE DRILLED.
17-21	THE LAST THREE SECTIONS AND APRON SHALL BE CONNECTED WITH PIPE CONNECTORS. REFER TO FIG. 4030.221 – RCP APRON SECTION FOOTING FOR FOOTING CONSTRUCTION DETAILS. APRON GUARD REQUIRED ON ALL APRONS. RCP APRON FOOTING, PIPE APRON GUARD AND PIPE CONNECTORS TO BE CONSIDERED INCIDENTAL. INSTALL CLAY WATERSTOPS AT ALL RCP APRONS, MIN. 3' LONG.
22-26	REFER TO FIG. 3010.101 AND FIG. 3010.104 FOR TRENCH BEDDING AND BACKFILL ZONE DETAILS. GRANULAR PIPE BEDDING SHALL BE CONSIDERED INCIDENTAL. REFER TO FIG. 5010.101 FOR THRUST BLOCK DETAILS. REFER TO FIG. 5010.102 FOR TRACER SYSTEM DETAILS. ALL FITTINGS, POLYETHYLENE WRAP, THRUST BLOCKS, AND TRACER WIRE SYSTEM SHALL BE CONSIDERED INCIDENTAL.
27	REFER TO FIG. 5020.201 – FIRE HYDRANT ASSEMBLY FOR FIRE HYDRANT CONSTRUCTION DETAILS. INCLUDES ANCHORING TEE, ANCHORING ELBOW, GATE VALVE, VALVE BOX, ANCHORING PIPE, ANCHORING COUPLING, ELBOWS, STORZ FITTINGS, POLYETHYLENE WRAP, THRUST BLOCK AND TRACER WIRE SYSTEM AND FIRE HYDRANT.
28-29	REFER TO WATERMAIN PLAN AND PROFILE SHEETS FOR LOCATIONS OF EXISTING FIRE HYDRANTS. ANY RELOCATED FIRE HYDRANTS ARE TO INCLUDE STORZ FITTINGS.
30	REFER TO FIG. 6010.301 – CIRCULAR SANITARY SEWER MANHOLE (SW-301) FOR CONSTRUCTION DETAILS. CASTINGS IN PAVEMENT SHALL BE TYPE B RING AND COVER. WHEN CASTINGS ARE NOT IN PAVEMENT, INSTALL MANHOLE CONE SECTION, MANHOLE STEPS, AND RING/COVER CASTING SUCH THAT SEPARATION IS MAINTAINED BETWEEN MANHOLE COVERS AND PAVED AREAS (BACK OF CURB, SIDEWALK PAVEMENT, SIDEWALK APPROACHES/RAMPS). ALL SANITARY SEWER MANHOLES SHALL BE VACUUM TESTED.
32-33	REFER TO FIG. 6010.401 – CIRCULAR STORM SEWER MANHOLE (SW-401) FOR CONSTRUCTION DETAILS. MANHOLE INSIDE DIAMETERS GREATER THAN 48" SHALL BE CONSIDERED INCIDENTAL.
34-38	REFER TO FIG. 6010.514 – BOXOUTS FOR GRATE INTAKES. REFER TO FIG. 6010.603 – CASTINGS FOR GRATE INTAKES FOR TYPE R GRATE DETAILS AND FIG. 6010.602 – CASTINGS FOR STORM SEWER MANHOLES FOR TYPE E CASTING DETAILS. THE MAXIMUM HEIGHT OF ADJUSTING RINGS ALLOWED FOR INTAKE CASTINGS IS 6". THE MAXIMUM HEIGHT OF ADJUSTING RINGS ALLOWED FOR MANHOLE CASTINGS IS 12".
34	REFER TO FIG 6010.501 – SINGLE GRATE INTAKE (SW-501) FOR CONSTRUCTION DETAILS.
35	REFER TO FIG 6010.503 – SINGLE GRATE INTAKE WITH MANHOLE (SW-503) FOR CONSTRUCTION DETAILS.
36	REFER TO FIG 6010.505 – DOUBLE GRATE INTAKE (SW-505) FOR CONSTRUCTION DETAILS.
37	REFER TO FIG 6010.506 – DOUBLE GRATE INTAKE WITH MANHOLE (SW-506) FOR CONSTRUCTION DETAILS.

ESTIMATE REFERENCE INFORMATION

Data listed below is for informational purpose only and shall not constitute a basis for any extra work orders.

ITEM NO.	DESCRIPTION
38	REFER TO SHEET 4 FOR CONSTRUCTION DETAIL.
39-40	REFER TO FIG. 7010.101 – JOINTS (PV-101) FOR JOINT DETAILS. MAXIMUM CD AND C JOINT SPACING IS 15 FEET.
41-42	REFER TO FIG. 7030.204 – GENERAL SIDEWALK AND ACCESSIBLE RAMP DETAILS AND FIG. 7030.208 – CURB RAMPS WITHIN INTERSECTION RADIUS FOR CLASS B OR C SIDEWALK FOR CONSTRUCTION DETAILS. DETECTABLE WARNING PANELS TO BE ARMOR TILE, ADA SOLUTIONS OR APPROVED EQUAL, BRICK RED IN COLOR. ACCESSIBLE CURB RAMPS INCLUDING TURNING SPACES SHALL BE 6" THICK P.C.C.
43	REFER TO SHEET 2 FOR DETAILS.
44	THE SITE SEEDING SHALL CONFORM TO THE SPECIFICATION FOR TYPE (1) PERMANENT LAWN MIXTURE AND TYPE (4) URBAN TEMPORARY EROSION CONTROL SEED MIXTURE. SEEDING QUANTITIES –TYPE 1 PERMANENT LAWN MIXTURE = 3.17 AC –TYPE 4 URBAN TEMPORARY EROSION CONTROL MIXTURE = 12.56 AC
45	ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ROAD BARRICADES AT END OF EXISTING PAVEMENTS UNTIL THE PROJECT IS ACCEPTED..
46	REFER TO SHEET 9 AND 10 OF THE CONSTRUCTION DRAWINGS FOR EROSION AND SEDIMENT CONTROLS. REFER TO SEPARATE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR SPECIFIC DETAILS. EROSION CONTROL QUANTITIES – 1 CONCRETE WASH PIT – 2,681 LF OF SILT FENCE – 15.73 ACRES OF SEEDING, FERTILIZING AND MULCHING. – 11 INLET PROTECTION DEVICES – 1 12" HDPE OR CMP TEMPORARY STANDPIPE – 1 15" HDPE OR CMP TEMPORARY STANDPIPE – 1 18" HDPE OR CMP TEMPORARY STANDPIPE
47	INSTALL ENGINEERING FABRIC UNDER ALL RIP-RAP. ENGINEERING FABRIC SHALL BE CONSIDERED INCIDENTAL.
48	REFER TO SHEET 2 FOR CONSTRUCTION DETAILS. MAILBOX CLUSTERS ARE LOCATED BETWEEN LOTS 21/22 AND LOTS 30/31.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF WAUKEE STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS AND TO THE 2016 EDITION OF SUDAS STANDARD SPECIFICATIONS. THE WAUKEE STANDARD SPECIFICATIONS SHALL GOVERN IF ANY DISCREPANCIES.
2. WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE, THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS. THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATIONS AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.
3. THE CONTRACTOR IS REQUIRED TO UTILIZE THE UTILITY ONE-CALL SERVICE AT 800-292-8989 AT LEAST 48 HOURS PRIOR TO EXCAVATING ANYWHERE ON THE PROJECT.
4. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY AREAS OF PAVEMENT OR SIDEWALK NOT TO BE REMOVED THAT IS DAMAGED DUE TO OPERATING HIS EQUIPMENT ON THE PAVEMENT OR SIDEWALK. PAVEMENT REPLACEMENT SHALL COMPLY WITH THE WAUKEE STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS.
5. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK BETWEEN ALL SUPPLIERS AND SUBCONTRACTORS INVOLVED IN THE PROJECT. INCLUDING STAGING OF CONSTRUCTION DETAILS.
6. THE CONTRACTOR SHALL CONFINE HIS GRADING OPERATIONS TO WITHIN THE PROPOSED AND EXISTING RIGHT OF WAY, CONSTRUCTION LIMITS AND EASEMENTS SHOWN ON THE PLANS. ANY DAMAGE TO PROPERTIES OUTSIDE THE SITE BOUNDARY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL NOTIFY (48 HRS NOTICE) THE FOLLOWING:
   A. CITY OF WAUKEE ENGINEERING DEPARTMENT
   B. APPROPRIATE UTILITY COMPANIES
   C. OWNER
   D. CIVIL DESIGN ADVANTAGE

   * 48 HOUR NOTICE SHALL BE GIVEN TO THE CITY OF WAUKEE ENGINEERING DEPARTMENT PRIOR TO WEEKEND AND HOLIDAY WORK.
8. PRIOR TO CONSTRUCTION, THE PROJECT MANAGER SHALL CONTACT THE WAUKEE ENGINEERING DEPARTMENT AND SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST ONE WEEK PRIOR TO THE ANTICIPATED START OF CONSTRUCTION.
9. SPECIAL CARE SHALL BE TAKEN WHEN FORMING AT INTERSECTIONS SO THE PROFILES SHOWN ON THE PLANS AND THE ELEVATIONS SHOWN ON THE INTERSECTION DETAILS ARE OBTAINED. SHORT LENGTHS OF FORMS OR FLEXIBLE FORMS MAY BE NECESSARY AT THESE LOCATIONS.
10. TO OBTAIN THE CORRECT FORM GRADES AT LOW POINTS WHERE INTAKES ARE LOCATED, THE CONTRACTOR MUST EXERCISE ADDITIONAL CARE WHEN PAVING FULL WIDTH PAVEMENTS. THIS MAY REQUIRE POURING ONE HALF OF THE PAVEMENT AT A TIME OR OTHER METHODS APPROVED BY THE ENGINEER.
11. THE CONTRACTOR MAY BE REQUIRED AS DIRECTED BY THE ENGINEER OR THE CITY, TO PLACE TEMPORARY WARNING DEVICES AND SAFETY FENCE AT CERTAIN LOCATIONS WHERE REPLACEMENT FEATURES ARE NOT INSTALLED THE SAME DAY. THIS WILL BE INCIDENTAL TO THE BID ITEM TRAFFIC CONTROL. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ROAD BARRICADES AT END OF EXISTING PAVEMENTS UNTIL THE PROJECT IS ACCEPTED.
12. PLAN AND PROFILE SHEETS INCLUDED IN THE PROJECT ARE FOR THE PURPOSE OF ALIGNMENT, LOCATION AND SPECIFIC DIRECTIONS FOR WORK TO BE PERFORMED UNDER THIS CONTRACT. IRRELEVANT DATA ON THESE SHEETS IS NOT TO BE CONSIDERED A PART OF THIS CONTRACT.
13. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE TO THE CONSTRUCTION AREA AND HAUL ROADS TO PREVENT THE SPREAD OF DUST.
14. THE CONTRACTOR IS REQUIRED TO BE FAMILIAR WITH AND COMPLY WITH OSHA STANDARDS. NOTHING WITHIN THESE PLANS SHALL RELIEVE THE CONTRACTOR OF THIS REQUIREMENT.
15. ALL MATERIAL TESTING SHALL BE CONSIDERED INCIDENTAL TO OTHER CONSTRUCTION.
16. PRIOR TO ANY WORK AT THE SITE, CONTRACTOR SHALL EXAMINE ANY APPLICABLE DRAWINGS AVAILABLE FROM THE OWNER, ENGINEER, AND/OR ARCHITECT, AND CONSULT WITH OWNER'S PERSONNEL AND UTILITY COMPANY REPRESENTATIVES. NO COMPENSATION WILL BE ALLOWED FOR DAMAGE FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.
17. ALL TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. (MUTCD)
18. ALL SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING.
19. SIDEWALKS, ACCESSIBLE CURB RAMPS AND SIDEWALK RAMPS INCLUDING RAISED TRUNCATED DOME AND DETECTABLE WARNINGS AND WARNING PANELS SHALL BE DESIGNED AND INSTALLED TO THE LATEST P.R.O.W.A.G. AND A.D.A. REQUIREMENTS.
20. PLACE 3/4" EXPANSION JOINT BETWEEN ALL P.C.C. PAVEMENT/SIDEWALKS AND BUILDINGS. PLACE 1/2" EXPANSION JOINT BETWEEN SIDEWALKS AND P.C.C PAVEMENT. THE PCC RAMP JOINT LOCATED AT THE BACK OF CURB AND ALL EXPANSION JOINTS SHALL BE SEALED.
21. REMOVE DEBRIS SPILLED INTO R.O.W. AT THE END OF EACH WORK DAY AND BEFORE RAIN EVENTS.
22. DO NOT STORE CONSTRUCTION MATERIALS AND EQUIPMENT IN THE R.O.W.
23. ALL PROPERTY PINS SHALL BE PROTECTED FROM GRADING OR OTHER OPERATIONS. ANY PINS DISTURBED SHALL BE RESET AT THE CONTRACTOR'S EXPENSE.
24. IN THE EVENT OF A DISCREPANCY BETWEEN DETAILED PLANS AND QUANTITIES, THE DETAILED PLANS SHALL GOVERN.
25. ALL FIELD TILES ENCOUNTERED SHALL BE REPAIRED AND CONNECTED TO STORM SEWERS WHERE POSSIBLE. LOCATIONS SHALL BE PROVIDED TO THE ENGINEER FOR NOTATION ON AS-BUILTS.
26. ALL CONSTRUCTION STAKING TO BE COMPLETED UNDER THE DIRECTION OF A LICENSED ENGINEER OR LAND SURVEYOR. ALL CURB DROPS AND SIDEWALK/SHARED USE PATH SHALL ALSO BE STAKED UNDER THE DIRECTION OF A LICENSED ENGINEER OR LAND SURVEYOR
27. THE CONTRACTOR SHALL SUBMIT A LIST OF CONSTRUCTION MATERIALS TO THE CITY OF WAUKEE ENGINEERING DEPARTMENT PRIOR TO CONSTRUCTION.
28. A GEOTECHNICAL ENGINEER SHALL BE ONSITE DURING CONSTRUCTION AND FOR PROOF ROLLING TO INSPECT SOILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE GEOTECHNICAL ENGINEER IS PRESENT. A COPY OF ALL REPORTS AND FINDINGS REQUIRING ALTERATION FROM THE APPROVED PLAN SET IS TO BE PROVIDED TO THE WAUKEE ENGINEERING DEPARTMENT FOR REVIEW AND DISCUSSION PRIOR TO COMMENCING WITH PAVING WITHIN THE PROJECT.
29. THE CONTRACTOR SHALL COORDINATE ALL EXISTING PUBLIC UTILITY CONNECTIONS WITH THE CITY OF WAUKEE ENGINEERING DEPARTMENT.
30. ALL TESTING SHALL BE COMPLETED ACCORDING TO THE CITY OF WAUKEE STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS AND THE WAUKEE ENGINEERING DEPARTMENT SHALL BE PRESENT TO WITNESS ALL TESTING.
31. AS-BUILTS SHALL BE PROVIDED TO THE WAUKEE ENGINEERING DEPARTMENT INCLUDING ALL UTILITIES AND AS-BUILT GRADES FOR DRAINAGE SWALES, OVERFLOWS, ACCESSIBLE RAMPS AND DETENTION FACILITIES. THE CONTRACTOR SHALL PROVIDE INFORMATION TO THE DESIGN ENGINEER FOR INCLUSION ON THE RECORD AS-BUILT DRAWINGS.
32. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING AND TELEVISING ALL STORM AND SANITARY SEWERS. THE CITY OF WAUKEE ENGINEERING DEPARTMENT SHALL WITNESS AND APPROVE ALL CLEANING AND TELEVISING PRIOR TO PAVING. A COPY OF THE VIDEOS AND A HARD COPY OF THE INSPECTION REPORT SHALL BE PROVIDED TO THE CITY OF WAUKEE ENGINEERING DEPARTMENT. ALL SANITARY SEWER MANHOLES ARE TO BE VACUUM TESTED.
33. ALL FIRE HYDRANTS INCLUDING ANY RELOCATED HYDRANTS SHALL HAVE STORZ FITTINGS.
34. ALL PROPOSED PEDESTRIAN CROSSINGS SHALL BE INSTALLED AS PART OF THE PLAT IMPROVEMENTS.
35. ALL CONNECTIONS TO EXISTING MANHOLES ARE TO BE CORE DRILLED AND USE A LINK SEAL.
36. ANY FIELD FENCE LOCATED WITHIN THE PROPERTY IS TO BE REMOVED. ANY TREES OR BRUSH ALONG THE NORTH PROPERTY BOUNDARY IS ALSO TO BE REMOVED.
37. VERIFY THAT ALL EXISTING MANHOLES WITHIN THE PLAT BOUNDARY HAVE A MINIMUM OF ONE 4-INCH ADJUSTING RING TO ALLOW FOR FUTURE ADJUSTMENT.
38. CONTRACTOR SHALL COORDINATE UTILITY AND PAVEMENT WORK WITH THE ADJOINING CITY OF WAUKEE DOUGLAS PARKWAY PROJECT.

REVISIONS	DATE
AS-BUILT SUBMITTAL	12/22/16
REVISED WATERMAIN	08/01/16
FINAL SUBMITTAL	06/03/16
FOURTH SUBMITTAL	05/12/16
THIRD SUBMITTAL	04/21/16
SECOND SUBMITTAL	03/29/16
FIRST SUBMITTAL	02/22/16

3405 S.E. CROSSROADS DRIVE, SUITE G
GRIMES, IOWA 50111
PHONE: (515) 369-4400 FAX: (515) 369-4410
ENGINEER: EKO | EI: GH
CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4
QUANTITIES AND REFERENCE NOTES
WAUKEE, IOWA

FILE: H:\2015\1505276\DWG\505276-CIV-DET-TAB.DWG
REF: XREF: 1505276-XR-TB, 1505276-XR-TITLE LOTTED: 12/21/2016 5:25 PM COMMENT:
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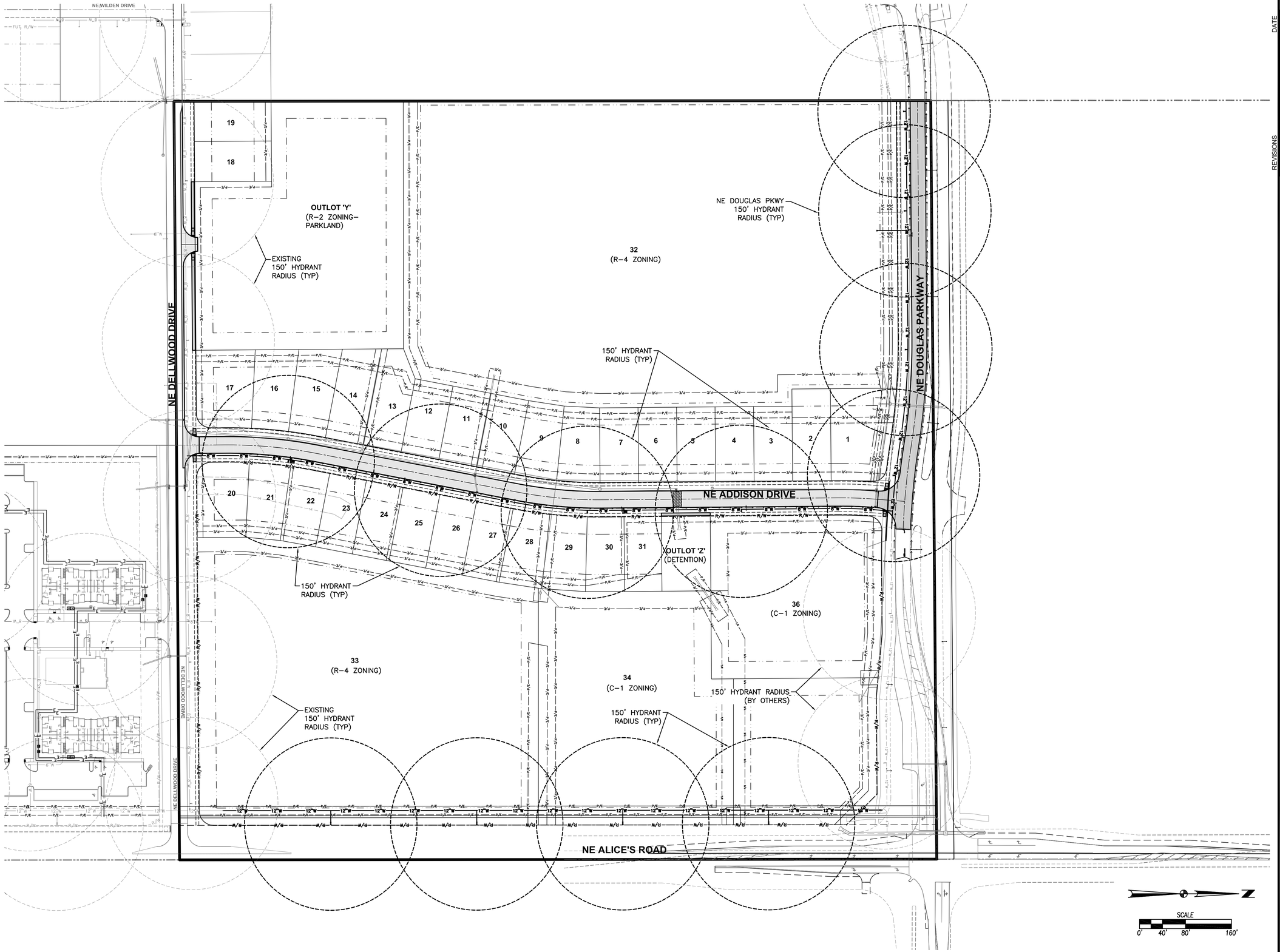

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LANDING AT SHADOW CREEK PLAT 4
HYDRANT COVERAGE PLAN

WAUKEE, IOWA

1505.276

FILE: H:\2015\1505276\DWG\1505276-COV-DET-TAB.DWG
PLOTTED BY: GRAE HEROLD DATE PLOTTED: 12/22/2016 5:28 PM COMMENT: ENG:
TECH:

GRADING NOTES

1. EXISTING TOPO FOR THIS AREA WAS TAKEN FROM PROPOSED CONTOURS FOR THE LANDING AT SHADOW CREEK PLAT 2 & THE LANDING AT SHADOW CREEK PLAT 3. ALICE PATRICIA HOMES AND DOUGLAS PARKWAY CONTOURS PROVIDED BY FOTH ENGINEERING. TIE-IN POINTS MAY VARY BASED ON CONSTRUCTED ELEVATIONS.
2. IT IS THE APPLICANT'S RESPONSIBILITY TO PROVIDE THE WAUKEE ENGINEERING DEPARTMENT WITH A CERTIFIED AS-BUILT GRADING PLAN PRIOR TO ACCEPTANCE OF IMPROVEMENTS.

AREA OF DISTURBANCE = 17.11 AC

*CONTRACTORS SHALL BE RESPONSIBLE FOR SEEDING THE ENTIRE AREA OF OUTLOT 'Y' WITH TYPE (I) PERMANENT SEEDING

GRADING LIMITS (TYP)

OVERLAND FLOWAGE EASEMENT WIDTH VARIES BEHIND LOTS 13 AND 14

100-YEAR ELEVATION =1010.18

OVERFLOW =~~1012.00~~ 1012.10

OVERFLOW PATH

HIGH POINT =1014.75

SPOT ELEVATIONS ARE LOCATED 5' FROM THE PROPERTY LINE.

100-YEAR ELEVATION =1009.55

10' OVERLAND FLOWAGE EASEMENT

OVERFLOW PATH

OVERFLOW=~~1009.55~~ 1009.41

10' OVERLAND FLOWAGE EASEMENT

CENTERLINE OF SWALE IS LOCATED 5' OFF OF PROPERTY LINE

OVERFLOW PATH

100-YEAR ELEVATION =997.18

OVERFLOW PATH

OVERFLOW=~~997.81~~ 997.73

OVERFLOW=~~1001.00~~ 1000.75

100-YEAR ELEVATION =999.56

DETENTION EASEMENT

OVERFLOW=~~1006.50~~ 1006.74

OUTLOT 'Y'

OUTLOT 'Z'

NE DELLWOOD DRIVE

NE ADDISON DRIVE

NE DOUGLAS PARKWAY

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CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4
GRADING PLAN

WAUKEE, IOWA

1505.276

SCALE 0' 25' 50' 100'

FILE: J:\2015\1505276\DWG\1505276-GRADING-JS-BUILT.DWG
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COMMENT:
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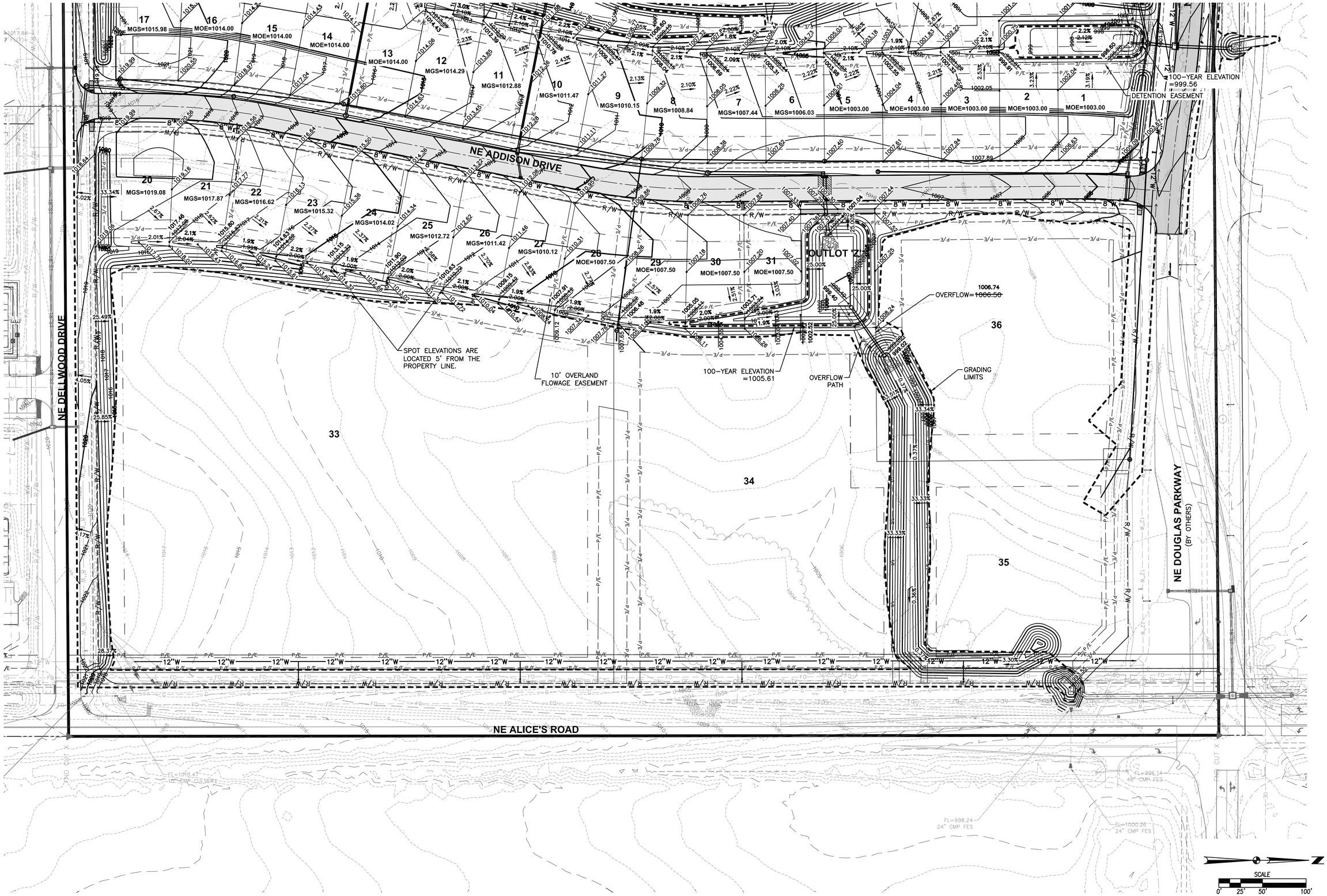

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CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4
GRADING PLAN

WAUKEE, IOWA

1505.276

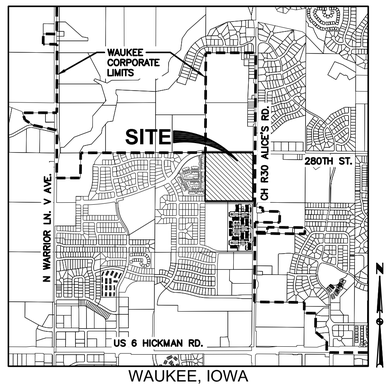
FILE: H:\2015\1505276\DWG\1505276-GRADING-AS-BUILT.DWG
PLOT SCALE: 1:20 DATE PLOTTED: 12/21/2016 9:32 PM COMMENT:
PLOTTED BY: ERIN OLENDIKE TECH: ENG:

LANDING AT SHADOW CREEK PLAT 4

EROSION AND SEDIMENT CONTROL PLAN

VICINITY MAP

NOT TO SCALE



WAUKEE, IOWA

STABILIZATION QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	SILT FENCE	LF	2,681
2	SEEDING, FERTILIZING, AND MULCHING	AC	15.73
3	INLET PROTECTION DEVICES	EA	11
4	CONCRETE WASHOUT PIT	EA	1
6	12" HDPE TEMPORARY STANDPIPE	EA	1
7	15" HDPE TEMPORARY STANDPIPE	EA	1
8	18" HDPE TEMPORARY STANDPIPE	EA	1

DISCHARGE POINT SUMMARY

DISCHARGE POINT #1 TO AN UNNAMED TRIBUTARY OF LITTLE WALNUT CREEK ±3600 FT

TOTAL AREA DISTURBED TO DISCHARGE POINT	5.71 ACRES
STORAGE VOLUME REQUIRED (# OF ACRES*3600 CU FT)	20,556 CU FT
VOLUME PROVIDED IN SILT FENCE (1,329 LF @ 4.5 CU FT/LF OF FENCE)	5,981 CU FT
VOLUME PROVIDED IN TSB #1	16,578 CU FT
TOTAL VOLUME PROVIDED	22,559 CU FT

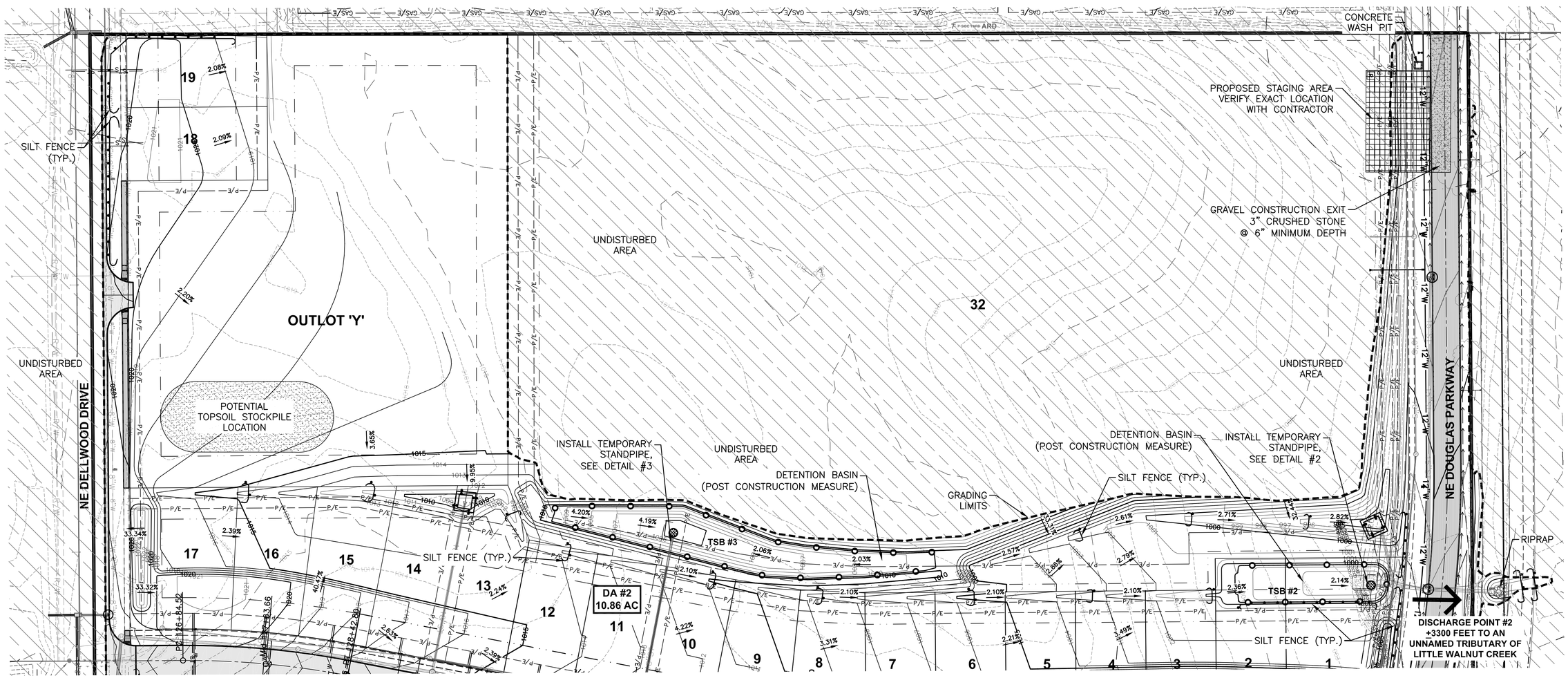
DISCHARGE POINT #2 TO AN UNNAMED TRIBUTARY OF LITTLE WALNUT CREEK ±3300 FT

TOTAL AREA DISTURBED TO DISCHARGE POINT	10.86 ACRES
STORAGE VOLUME REQUIRED (# OF ACRES*3600 CU FT)	39,096 CU FT
VOLUME PROVIDED IN SILT FENCE (1,252 LF CALC. AVG. @ 12.2 CU FT/LF OF FENCE)	15,274 CU FT
VOLUME PROVIDED IN TSB #2	8,505 CU FT
VOLUME PROVIDED IN TSB #3	18,301 CU FT
TOTAL VOLUME PROVIDED	42,080 CU FT

SWPPP LEGEND

DRAINAGE ARROW — X.XX %
GRADING LIMITS
FILTER SOCK
SILT FENCE
DITCH CHECK
INLET PROTECTION
PORTABLE RESTROOM — R
CONCRETE WASHOUT PIT
TEMPORARY STANDPIPE
AREA TO BE SEEDED
STRAW MAT
UNDISTURBED AREA
RIPRAP
GRAVEL ENTRANCE
STAGING AREA
TEMPORARY SEDIMENT BASIN — TSB #

SCALE 0' 30' 60' 120'



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LANDING AT SHADOW CREEK PLAT 4
EROSION & SEDIMENT CONTROL PLAN
WAUKEE, IOWA

1505.276

FILE: H:\2015\1505276\DWG\1505276-SWPPP.DWG
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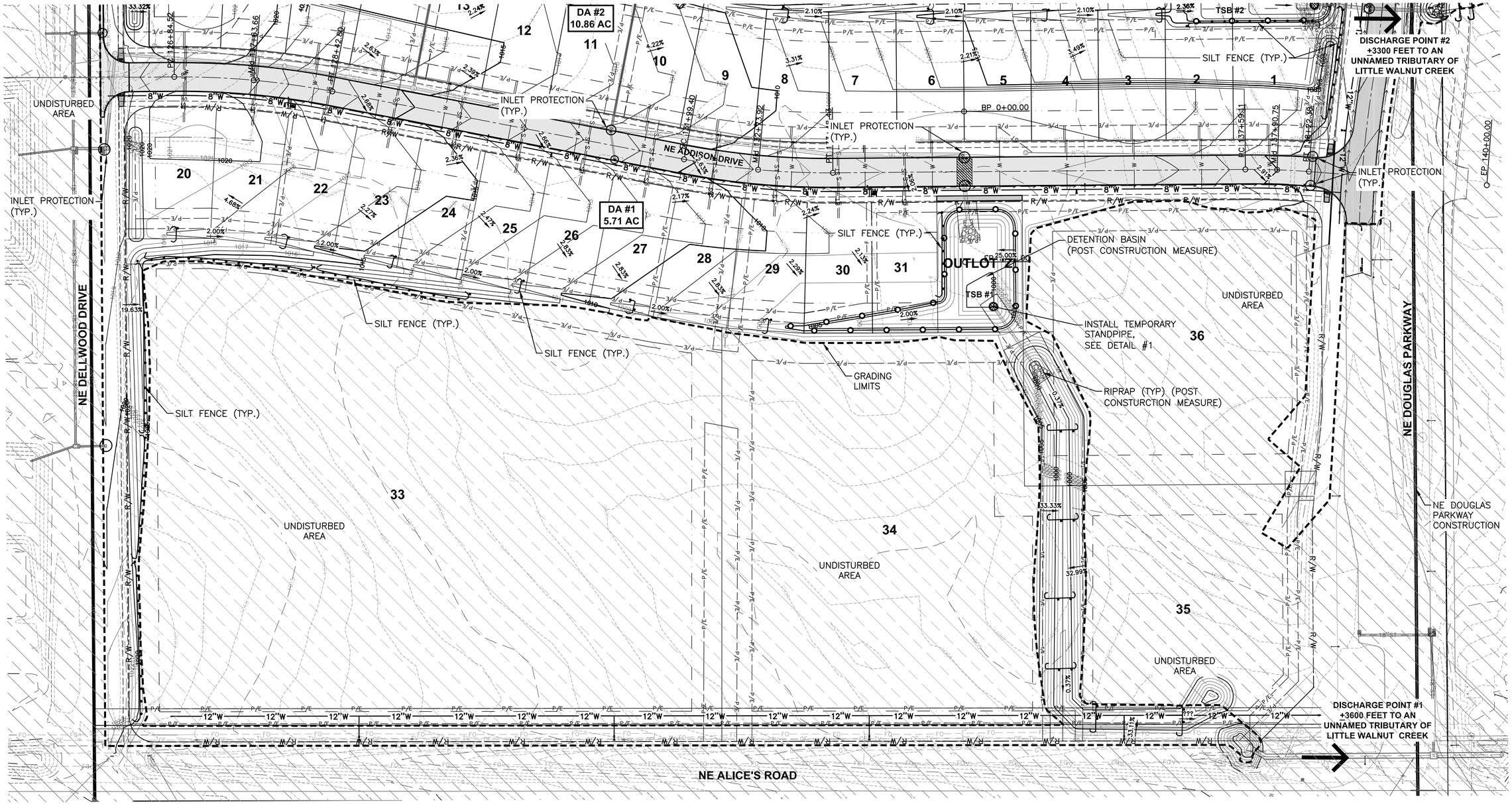
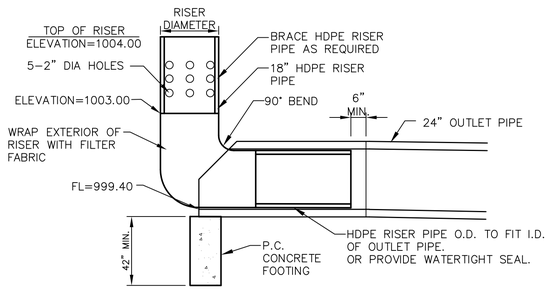


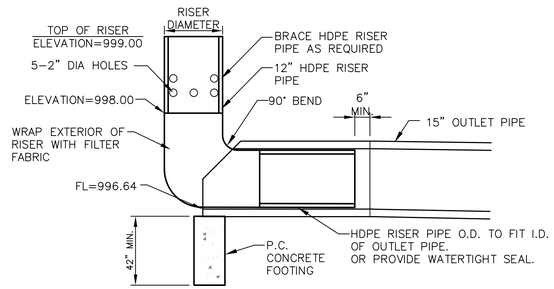
TEMPORARY STAND PIPE #1 DETAIL

NOT TO SCALE



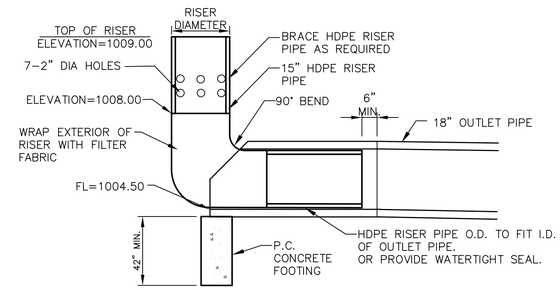
TEMPORARY STAND PIPE #2 DETAIL

NOT TO SCALE



TEMPORARY STAND PIPE #3 DETAIL

NOT TO SCALE



SCALE
0' 30' 60' 120'

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CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4
EROSION & SEDIMENT CONTROL PLAN

WAUKEE, IOWA

1505.276

FILE: H:\2015\1505276\DWG\1505276-SWPPP.DWG
REF(S): XREF(S) NONE PLOTTED: 12/21/2016 5:31 PM
PLOTTED BY: GRAE HEROLD
COMMENT:
ENG:
TECH:

REFER TO SHEET 30 FOR INTERSECTION DETAILS.

REFER TO SHEET 15 FOR L-14 PLAN AND PROFILE

REFER TO SHEET 23 FOR WATERMAIN PLAN AND PROFILE.

REFER TO SHEET 18 FOR L-8, L-9 AND L-11 PLAN AND PROFILE

NE DELLWOOD DRIVE

NE ADDISON DRIVE
7" PCC

LOT 17 · LOT 16 · LOT 15 · LOT 14 · LOT 13 · LOT 12 · LOT 11 · LOT 20 · LOT 21 · LOT 22 · LOT 23 · LOT 24 · LOT 25 · LOT 26

△ = 11°20'10"
L = 158.28'
R = 800.00'
CH = 158.02'
CHB = N5°14'40"E

15' SANITARY SEWER EASEMENT

20' STORM SEWER EASEMENT

CRITICAL CROSSING
BOTTOM OF STORM=1007.38
TOP OF SANITARY=1003.95

CRITICAL CROSSING
BOTTOM OF STORM=1003.49
TOP OF SANITARY=998.04

30' SETBACK

5' SIDEWALK (FUTURE)

60.00' ROW

29.00' B-B

18.50' TYP

400 LF OF 6" PERFORATED SUBDRAIN

6" SUBDRAIN FL=1008.13

STA 126+11.00 BEGIN PAVEMENT

CRITICAL CROSSING
BOTTOM OF STORM=1009.86
TOP OF EXISTING WATER=1008.36

CRITICAL CROSSING
BOTTOM OF STORM=1009.65
TOP OF WATER=1008.15

STREET LIGHT

ST-16
STORM CLEANOUT
RIM=1020.14
FL=1016.64

MAILBOX PAD

126+94 TG=1020.89
126+93 TG=1020.87
127+60 TG=1020.28
127+65 TG=1020.13
128+22 TG=1018.22
128+39 TG=1017.73
128+88 TG=1016.69
129+06 TG=1016.37
129+55 TG=1015.51
129+71 TG=1015.23
130+22 TG=1014.34
130+36 TG=1014.09
130+89 TG=1013.17
131+01 TG=1012.95
131+56 TG=1012.00
131+66 TG=1011.82

SHEET INDEX

SCALE 0' 10' 20' 40'

HP STA = 127+09.98
HP ELEV = 1019.931
VPI STA = 127+10
VPI ELEV = 1021.04
VC = 130'
K=19.00

VPI STA = 128+45
VPI ELEV = 1016.42
VC = 65'
K=38.88

PROFILE GRADE

EXISTING GROUND

-2.50% -4.03% -3.42% -3.42% -1.75%

L-13: 166 LF OF 24" RCP @ ~~0.90%~~ 0.83%

L-12: 128 LF OF 24" RCP @ ~~0.90%~~ 1.15%

L-10: 198 LF OF 24" RCP @ ~~1.65%~~ 1.53%

P-15: 253 LF OF 8" PVC @ ~~1.00%~~ 1.18%

P-14: 343 LF OF 8" PVC @ ~~2.94%~~ 2.90%

1020 · 1015 · 1010 · 1005 · 1000 · 995 · 990

126+00 · 127+00 · 128+00 · 129+00 · 130+00 · 131+00

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CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4

STORM & SANITARY SEWER PLAN AND PROFILE

WAUKEE, IOWA

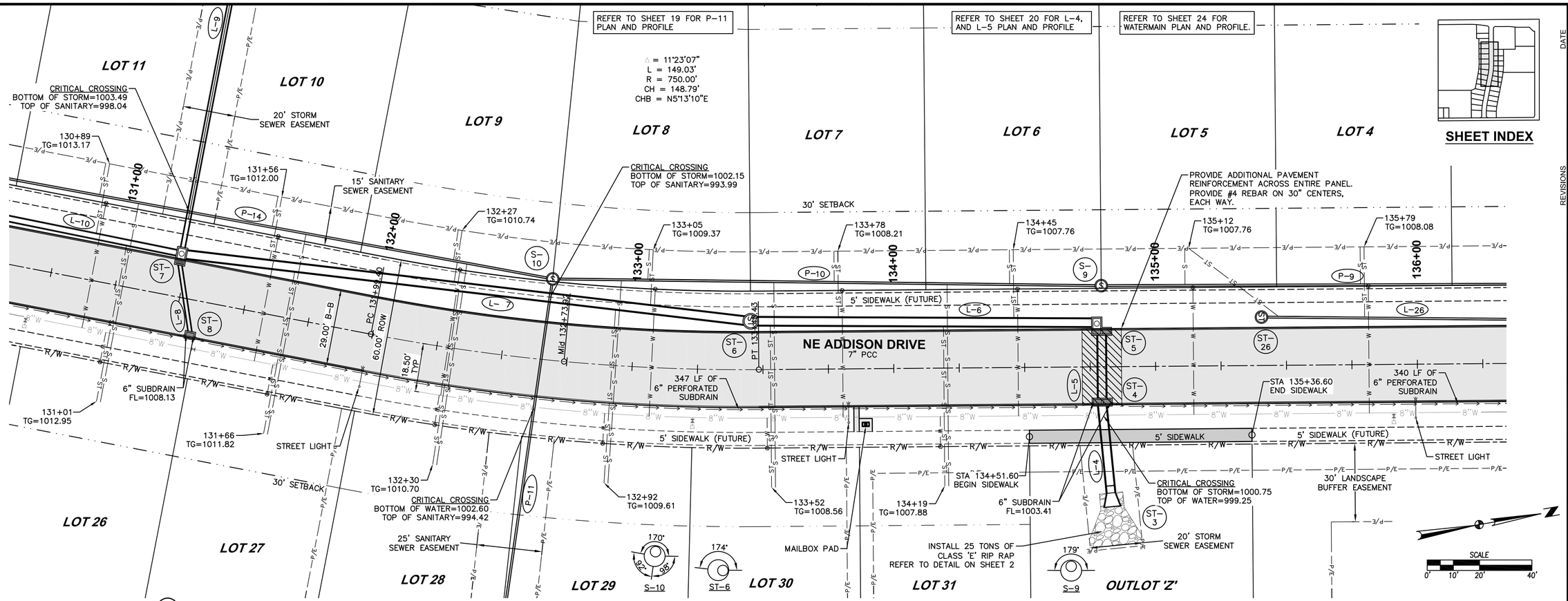
1505.276

FILE: H:\2015\1505276\DWG\1505276-PNP-AS-BUILT.DWG
FILE SIZE: 22" x 36" PLOT DATE: 12/21/2016 5:37 PM COMMENT:
PLOTTED BY: GALE HERGLD TECH: ENG:

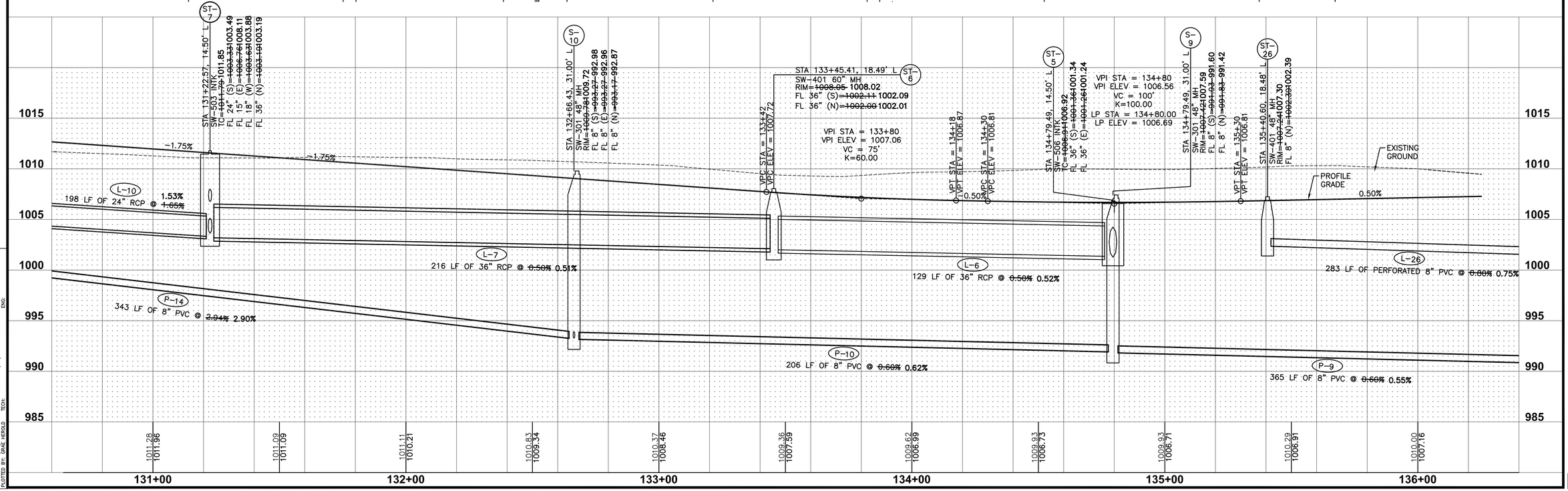
REFER TO SHEET 19 FOR P-11 PLAN AND PROFILE

REFER TO SHEET 20 FOR L-4, AND L-5 PLAN AND PROFILE

REFER TO SHEET 24 FOR WATERMAIN PLAN AND PROFILE.



SHEET INDEX



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LANDING AT SHADOW CREEK PLAT 4

STORM & SANITARY SEWER PLAN AND PROFILE

WAUKEE, IOWA

FILE: H:\2015\1505276\DWG\1505276-PNP-AS-BUILT.DWG
PLOTTED: 12/21/2016 5:38 PM
PLOTTED BY: GRAE HERGOLD
COMMENT:
ENG:
TECH:

REFER TO SHEET 25 FOR WATERMAIN PLAN AND PROFILE.

REFER TO SHEET 22 FOR L-24 AND L-25 PLAN AND PROFILE.

REFER TO SHEET 31 FOR INTERSECTION DETAILS.

LOT 6 | LOT 5 | LOT 4 | LOT 3 | LOT 2 | LOT 1

PROVIDE ADDITIONAL PAVEMENT REINFORCEMENT. PROVIDE #4 REBAR ON 30" CENTERS, EACH WAY.

30' SETBACK

134+45 TG=1007.76

135+12 TG=1007.76

15' SANITARY SEWER EASEMENT

135+79 TG=1008.08

136+46 TG=1008.38

137+13 TG=1007.62

137+81 TG=1006.23

CRITICAL CROSSING: BOTTOM OF STORM=999.16 TOP OF SANITARY=990.42

25' LANDSCAPE BUFFER EASEMENT

20' STORM SEWER EASEMENT

PRC 325+69.35

135+00 | 136+00 | 137+00 | 138+00 | 139+00 | 326+00 | 327+00

P-10 | S-9 | P-9 | S-5 | P-5 | L-24

5' SIDEWALK (FUTURE)

L-6 | L-26 | L-25

NE ADDISON DRIVE

7" PCC

NE DOUGLAS PARKWAY

9" PCC

ST-5 | ST-26 | ST-4 | ST-24 | ST-25

PC 137+59.11 | Mid 137+90.76 | PT 138+22.38

60.00' ROW | 29.00' B-B | 18.50' TYP

347 LF OF 6" PERFORATED SUBDRAIN

340 LF OF 6" PERFORATED SUBDRAIN

STA 138+88.44 (NE ADDI
STA 326+66.02 (NE DOU

Mid 326+67.82

5' SIDEWALK (FUTURE) | 5' SIDEWALK | 5' SIDEWALK (FUTURE)

STREET LIGHT

6" SUBDRAIN FL=1003.41

CRITICAL CROSSING BOTTOM OF STORM=1000.75 TOP OF WATER=999.25

20' STORM SEWER EASEMENT

ST-3

OUTLOT 'Z'

INSTALL 25 TONS OF CLASS 'E' RIP RAP

Δ = 4°50'00"
L = 63.27'
R = 750.00'
CH = 63.25'
CHB = N1°56'40"E

6" SUBDRAIN FL=1001.03

CRITICAL CROSSING: TOP OF SANITARY=990.51 TOP OF WATER=997.72

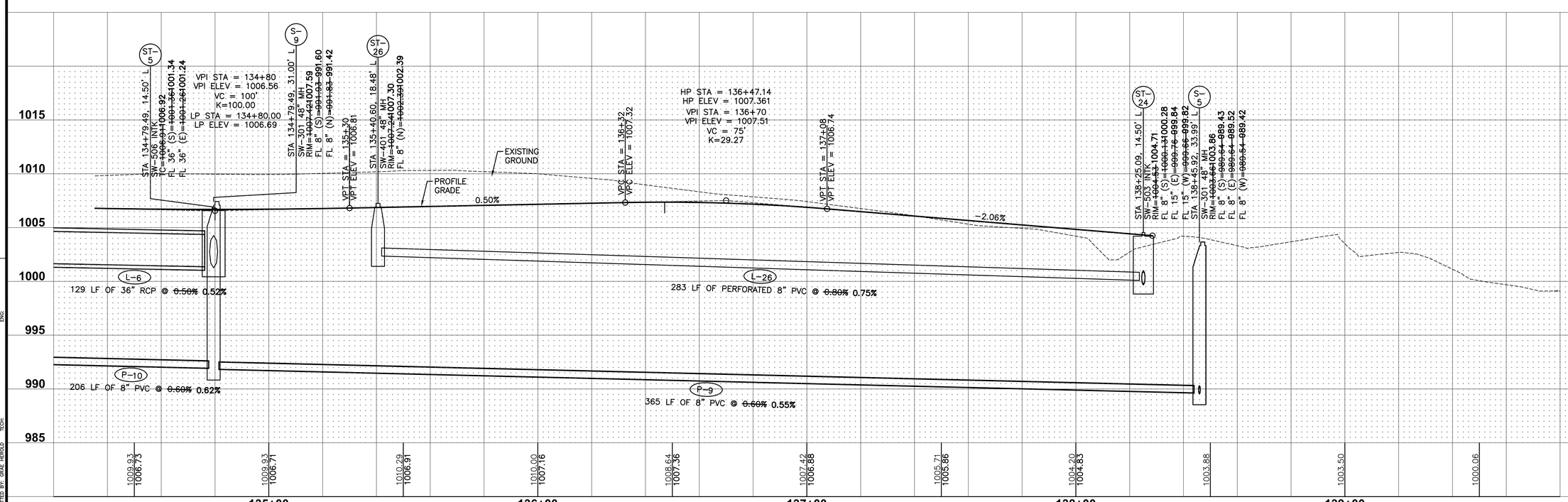
30' SETBACK | 30' LANDSCAPE BUFFER EASEMENT | 15' SANITARY SEWER EASEMENT

P-6 | S-5 | ST-26

LOT 36

SCALE 0' 10' 20' 40'

SHEET INDEX



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LANDING AT SHADOW CREEK PLAT 4

STORM & SANITARY SEWER PLAN AND PROFILE

WAUKEE, IOWA

1505.276

FILE: H:\2013\1505276\DWG\1505276-PHP-AS-BUILT.DWG
LAYOUT: 13-PLAN AND PROFILE DATE PLOTTED: 12/21/2016 5:37 PM COMMENT:
PLOTTED BY: GRAE HEROLD TECH: ENG:

REFER TO SHEET 32 FOR INTERSECTION DETAILS

LOT 19 | LOT 18 | OUTLOT 'Y' | LOT 17

PLAT BOUNDARY

30' SETBACK

10' OVERLAND FLOWAGE EASEMENT

10' PUE

154+54
TG=1020.23

155+24
TG=1020.65

PROPOSED PARK ENTRANCE. REFER TO INTERSECTION DETAILS FOR SPOT ELEVATIONS.

154+00 | 155+00 | 156+00 | 157+00 | 158+00 | 159+00

5' SIDEWALK (FUTURE)

5' SIDEWALK

7" PCC

70.00' ROW

29.00' B-B

18.50' TYP

3.50 CURB AND GUTTER SECTION

EXISTING UTILITIES

EXISTING NE DELLWOOD DRIVE

NE DELLWOOD DRIVE
(EXISTING)

ST-EX15

ST-17

L-17

EX 20' STORM SEWER EASEMENT
BK. 2015
PG. 19753

EX 10' PUE
BK. 2015
PG. 19753

EX 30' OVERLAND FLOWAGE EASEMENT
BK. 2015
PG. 19753

LANDING AT SHADOW CREEK PLAT 2
OUTLOT 'Z'

ST-17

SCALE
0' 10' 20' 40'

LP STA = 154+20.71
LP ELEV = 1018.68
VPI STA = 154+15
VPI ELEV = 1018.54
VC = 80'
K=57.14

STA 154+20.59, 14.50' R (S)
INV = 1015.75
~~INV = 1015.75~~
FL 8" (E) = 1018.31
~~FL 8" (E) = 1018.31~~
FL 30" (W) = 1012.99
FL 18" (SE) = 1013.69
FL 30" (N) = 1012.99

VPT STA = 154+55
VPT ELEV = 1018.78

EXISTING GROUND

STA 155+14.12, 19.50' R (S)
SW-401 48" MH
RIM = 1019.88
~~RIM = 1019.49~~
FL 8" (W) = 1016.09
~~FL 8" (W) = 1014.91~~

0.60%

VPC STA = 156+28
VPC ELEV = 1019.82

HP STA = 156+78.49
HP ELEV = 1019.975
VPI STA = 156+78
VPI ELEV = 1020.12
VC = 100'
K=83.33

VPT STA = 157+28
VPT ELEV = 1019.82

-0.60%

L-17

92 LF OF PERFORATED 8" PVC @ ~~0.60%~~ 2.28%

L-EX1
76 LF OF
EX 30" RCP @ 0.30%

CORE DRILL 8" OPENING IN EXISTING INTAKE AND PROVIDED WATERTIGHT SEAL.

1030 | 1025 | 1020 | 1015 | 1010 | 1005 | 1000

1018.72 1018.72 | 1018.76 1018.76 | 1019.05 1019.05 | 1019.35 1019.35 | 1019.65 1019.65 | 1019.93 1019.93 | 1019.95 1019.95 | 1019.70 1019.70 | 1019.40 1019.40 | 1019.28 1019.10 | 1018.97 1018.80 | 1018.54 1018.50

154+00 | 155+00 | 156+00 | 157+00 | 158+00 | 159+00

SHEET INDEX

REVISIONS	DATE
AS-BUILT SUBMITTAL	12/22/16
REVISED WATERMAIN	08/01/16
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3405 S.E. CROSSROADS DRIVE, SUITE G
GRIMES, IOWA 50111
PHONE: (515) 369-4400 FAX: (515) 369-4410
ENGINEER: EKO | EI: GH

CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4

STORM & SANITARY SEWER PLAN AND PROFILE

WAUKEE, IOWA

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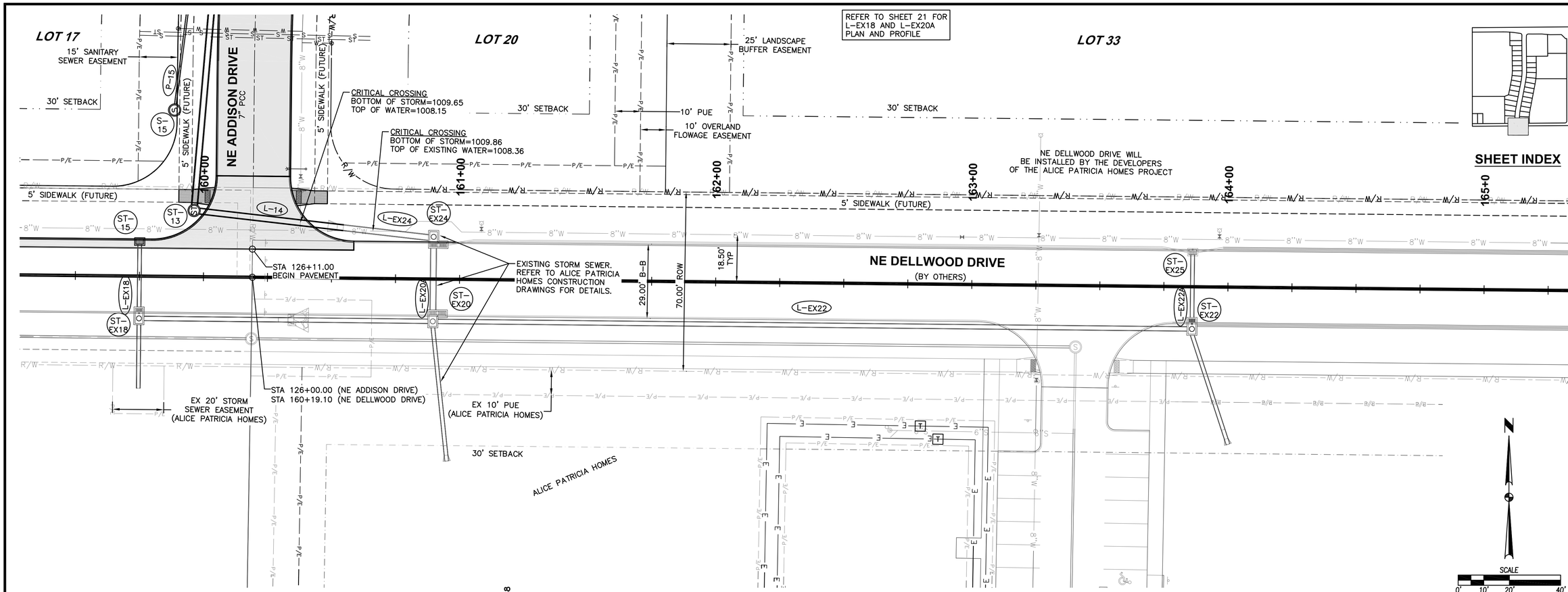

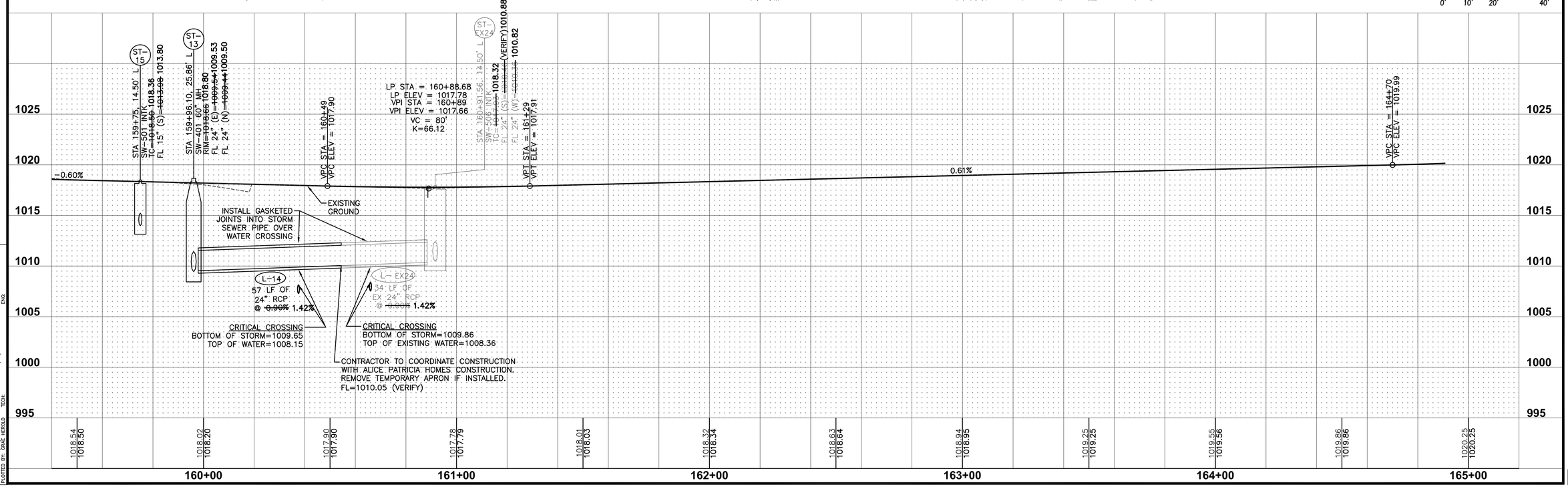

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STORM & SANITARY SEWER PLAN AND PROFILE

WAUKEE, IOWA

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ENG:
TECH:

REFER TO SHEET 26 FOR WATERMAIN PLAN AND PROFILE

REFER TO SHEET 22 FOR L-19, L-21, L-22 AND L-23 PLAN AND PROFILE

SHEET INDEX

319+00 | 320+00 | 321+00 | 322+00 | 323+00 | 324+00

CORE DRILL FL=991.00

WAUKEE CORPORATE LIMITS

Mid 318+74.80

PT 319+61.61

STA 319+66.16 BEGIN PAVEMENT

346 LF OF 6" PERFORATED SUBDRAIN

STREET LIGHT

PLAT BOUNDARY

ST-27 STORM CLEANOUT RIM=998.30 FL=994.80

STREET LIGHT

323 LF OF 6" PERFORATED SUBDRAIN

PC 23+77.37

REMOVE ROAD CLOSURE SIGNS

NE DOUGLAS PARKWAY

9" P.C.C.

371 LF OF 6" PERFORATED SUBDRAIN

FL=994.45

ST-20

60.00' HALF ROW

26.00' B-B

20.00' TYP

L-20

FL=991.72

S-EX1 | P-EX1 | S-1 | P-2 | S-2 | P-3 | P-4 | S-4 | P-5

10' SANITARY SEWER EASEMENT

15' PUE

30' SETBACK

40 LF OF 8" PVC @ 1.0%

S-3

FL=988.00

CRITICAL CROSSING
TOP OF WATER=991.67
TOP OF SANITARY=988.55

25' LANDSCAPE BUFFER EASEMENT

Δ = 9°27'00"
L = 191.98'
R = 1164.00'
CH = 191.77'
CHB = S85°43'40"E

PLAT BOUNDARY

7' SETBACK

LOT 32

180° 90° 90° S-2

175° S-4

SCALE 0' 10' 20' 40'

1010 | 1005 | 1000 | 995 | 990 | 985 | 980

STA 319+65.86, 42.99' R (EX1)
EX SW-301 48" MH
RIM=~~997.27~~ 996.80
FL 10" (E)=~~988.73~~ 986.28

0.60%

VPC STA = 320+74
VPC ELEV = 996.87

VPI STA = 321+24
VPI ELEV = 997.17
VC = 100'
K=163.95

STA 321+60.26, 42.99' R (S2-1)
SW-301 48" MH
RIM=~~998.16~~ 998.23
FL 10" (E)=~~987.60~~ 987.32
FL 8" (S)=~~987.60~~ 987.25
FL 10" (W)=~~987.60~~ 987.22

VPT STA = 321+74
VPT ELEV = 997.77

STA 321+98.95, 26.00' R (S20-1)
SW-506 INTK
TC=~~997.05~~ 997.90
FL 15" (E)=~~993.54~~ 993.57

1.21%

EXISTING GROUND

PROFILE GRADE

VPC STA = 323+28
VPC ELEV = 999.63

STA 323+67.95, 43.00' R (S4-1)
SW-301 48" MH
RIM=~~1000.59~~ 1000.42
FL 8" (E)=~~988.52~~ 988.35
FL 10" (W)=~~988.41~~ 988.20

VPI STA = 323+78
VPI ELEV = 1000.23
VC = 100'
K=1668.73

STA 319+97.85, 42.98' R
SANITARY SEWER CONNECTION (S-1)
FL=986.86 (VERIFY)

P-EX1
32 LF OF
EX 10" PVC @ ~~0.40%~~ 0.49%

P-2
160 LF OF 10" PVC @ ~~0.40%~~ 0.49%

P-4
204 LF OF 10" PVC @ ~~0.40%~~ 0.43%

L-20
292 LF OF 15" RCP @ ~~0.30%~~ 0.32%

996.01 | 996.32 | 996.70 | 996.91 996.42 | 997.04 996.72 | 997.13 997.04 | 997.99 997.50 | 998.24 998.09 | 999.05 998.69 | 999.73 999.30 | 1000.03 999.90 | 1001.00 1000.49

319+00 | 320+00 | 321+00 | 322+00 | 323+00 | 324+00

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CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4

STORM & SANITARY SEWER PLAN AND PROFILE

WAUKEE, IOWA

1505.276

FILE: H:\2013\1505276\DWG\1505276-PNP-AS-BUILT.DWG
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PLOTTED BY: GRAE HERGLD TECH:
COMMENT:
ENG:

REFER TO SHEET 27 FOR WATERMAIN PLAN AND PROFILE.

INSTALL 15 TONS OF CLASS 'E' RIP RAP

ST-28 STORM CLEANOUT RIM=1002.13 FL=998.63

ST-18

325+00

Δ = 9°27'00" L = 191.98' R = 1164.00' CH = 191.77' CHB = S85°43'40"E

Δ = 9°27'00" L = 196.93' R = 1194.00' CH = 196.71' CHB = S85°43'40"E

STREET LIGHT

STREET LIGHT (BY OTHERS)

326+00 327+00 328+00 329+00

323 LF OF 6" PERFORATED SUBDRAIN

Mid 324+73.36

6" SUBDRAIN FL=994.06

PRC 325+69.35

STA 138+88.44 (NE ADDISON DRIVE)
STA 326+66.02 (NE DOUGLAS PARKWAY)

214 LF OF 6" PERFORATED SUBDRAIN

Mid 326+67.82

STA 327+14.00, 2.00' L END 6" SUBDRAIN FL=1000.50

STREET LIGHT (BY OTHERS)

PT 327+66.28

L-19

L-20

ST-19

6" SUBDRAIN FL=998.02

26.00' B-B

20.00' TYP

NE DOUGLAS PARKWAY

9" P.C.C.

212 LF OF 6" PERFORATED SUBDRAIN

COORDINATE NE DOUGLAS PARKWAY CONSTRUCTION WITH CITY OF WAUKEE CONTRACTOR.

STA 327+14.00 END PAVEMENT

STA 327+14.00, 28.00' R END 6" SUBDRAIN FL=1000.50

NE DOUGLAS PARKWAY

(BY OTHERS)

STREET LIGHT (BY OTHERS)

15' SANITARY SEWER EASEMENT

L-21

CRITICAL CROSSING BOTTOM OF STORM=992.35 TOP OF WATER=990.85

20' STORM SEWER EASEMENT

ST-21

ST-22

L-22

L-23

ST-23

P-5

S-5

P-6

L-24

L-25

ST-24

ST-25

FL=990.05

FL=990.95

S-6

P-7

S-7

36 LF OF PRIVATE 6" PVC @ 2.0%

FL=990.77

15' SANITARY SEWER EASEMENT

30' SETBACK

25' LANDSCAPE BUFFER EASEMENT

15' PUE

66 LF OF PRIVATE 6" PVC @ 2.0%

P-8

S-8

FL=992.27

20' STORM SEWER EASEMENT

20' STORM SEWER EASEMENT

15' PUE

10' SANITARY SEWER EASEMENT

CRITICAL CROSSING BOTTOM OF STORM=992.55 TOP OF SANITARY=989.69

25' LANDSCAPE BUFFER EASEMENT

LOT 1

CRITICAL CROSSING TOP OF SANITARY=990.51 TOP OF WATER=997.72

LOT 32

25' LANDSCAPE BUFFER EASEMENT

50' DETENTION EASEMENT

7' SETBACK

30' SETBACK

10' PUE

15' SANITARY SEWER EASEMENT

30' SETBACK

P-9

L-26

30' SETBACK

LOT 36

30' SETBACK

S-6

30' SETBACK

SCALE 0' 10' 20' 40'

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LANDING AT SHADOW CREEK PLAT 4

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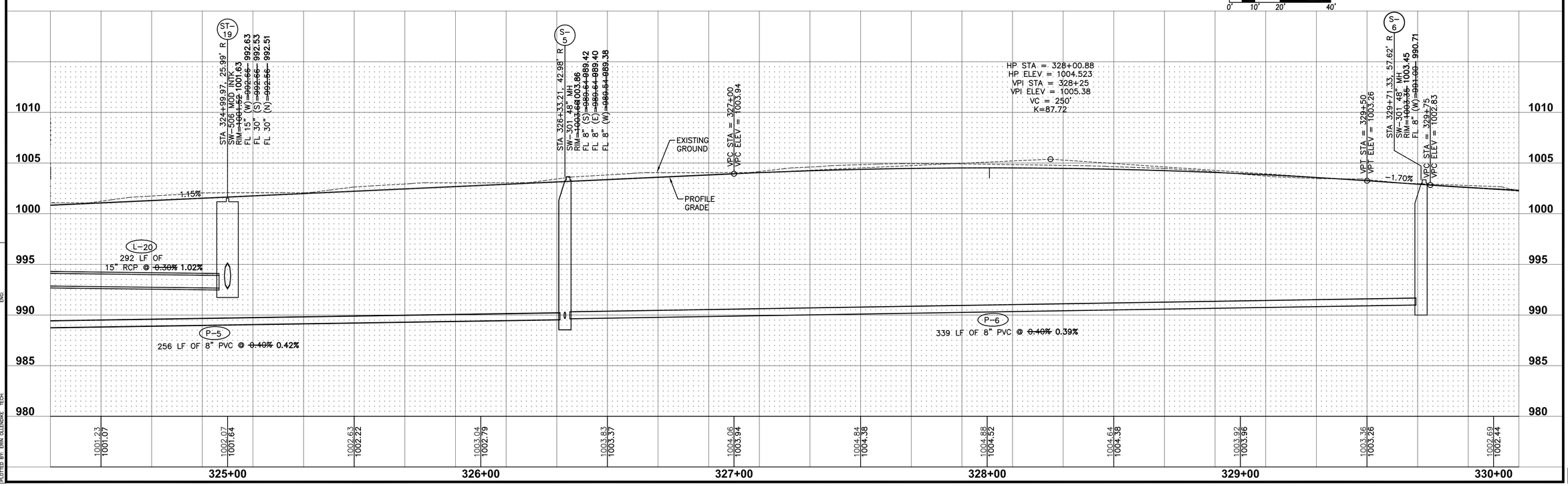
WAUKEE, IOWA



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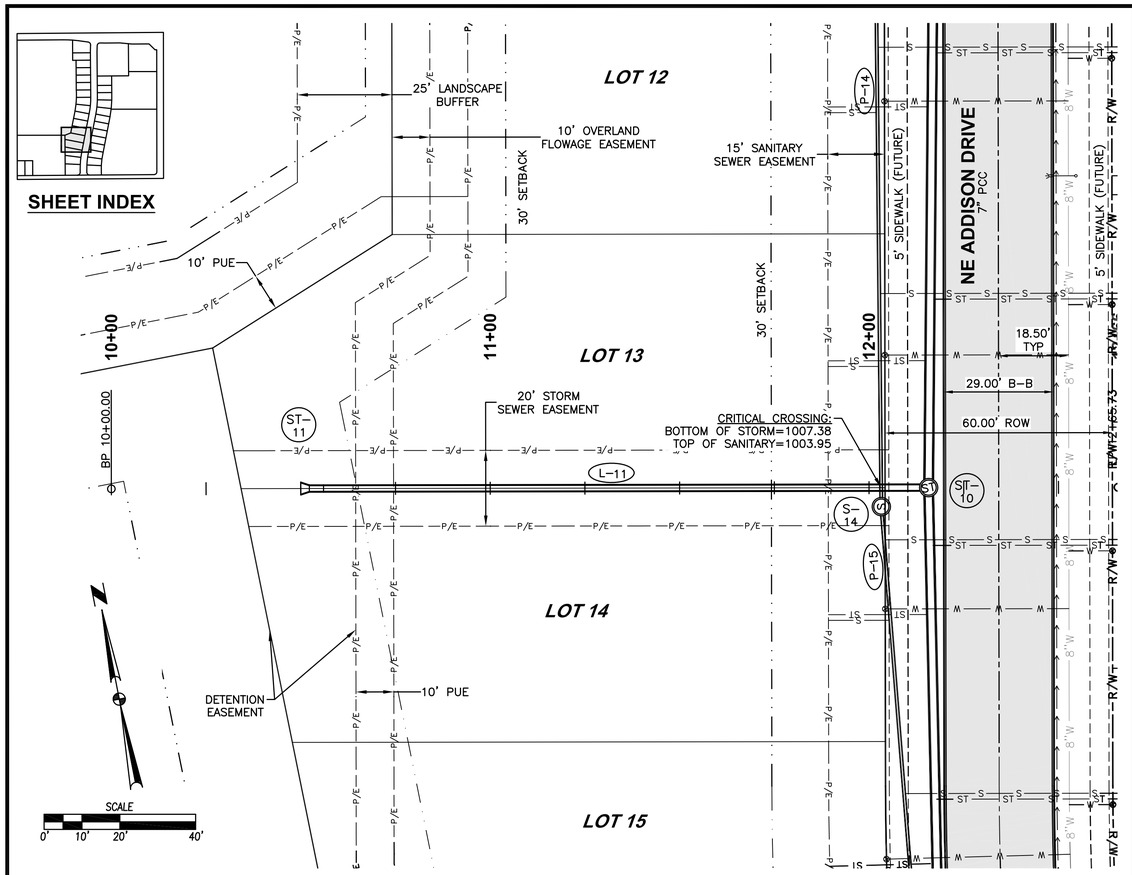

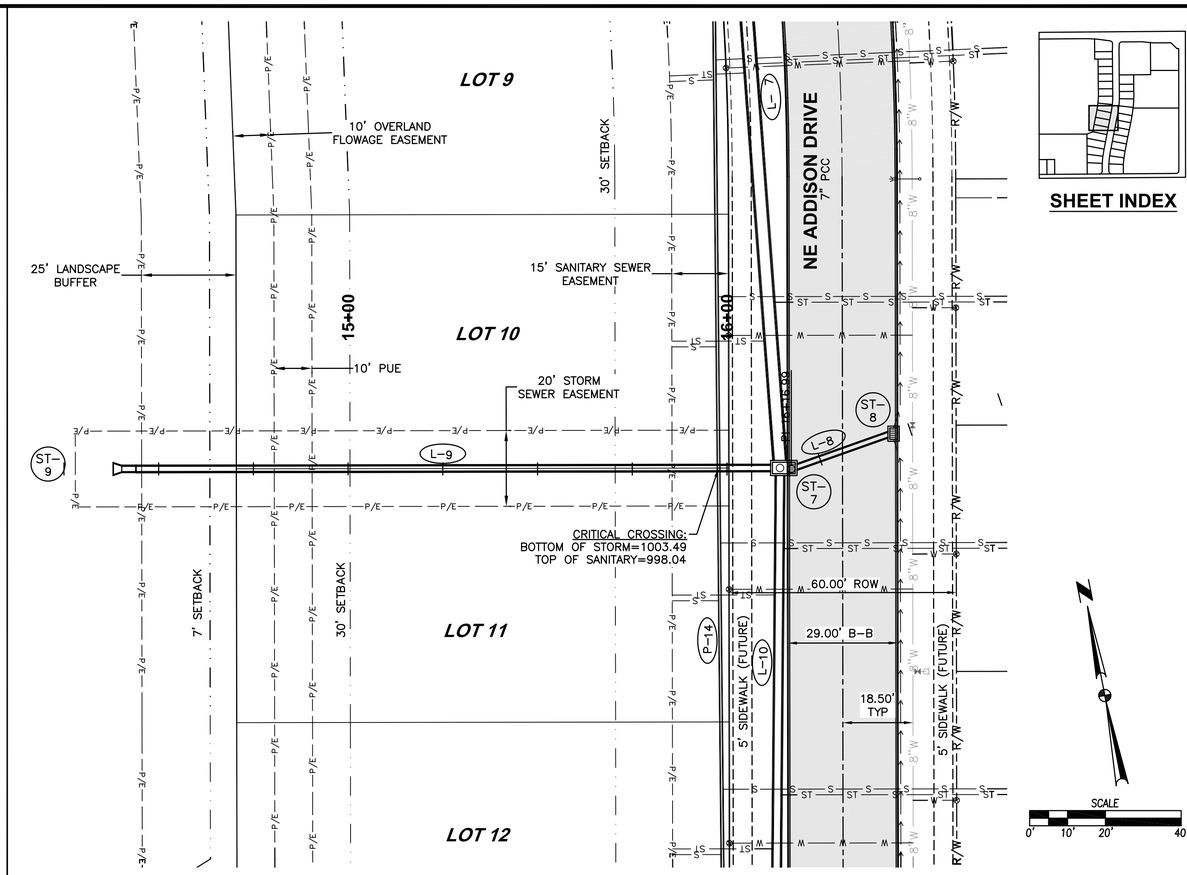

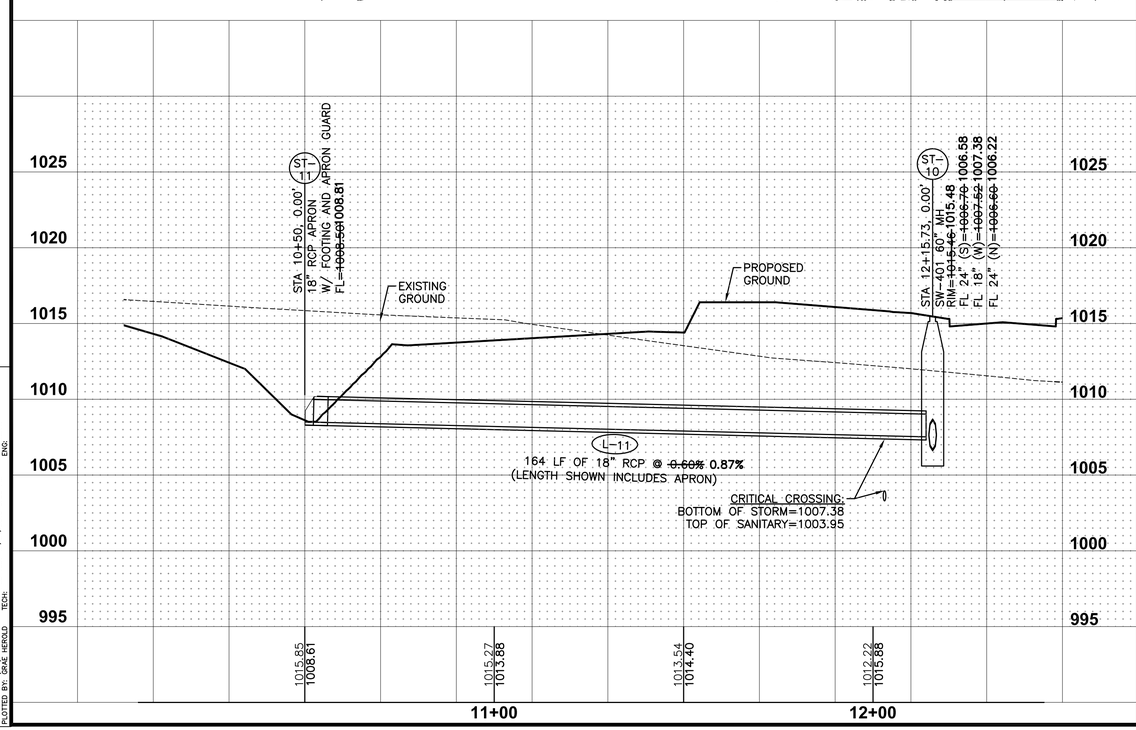

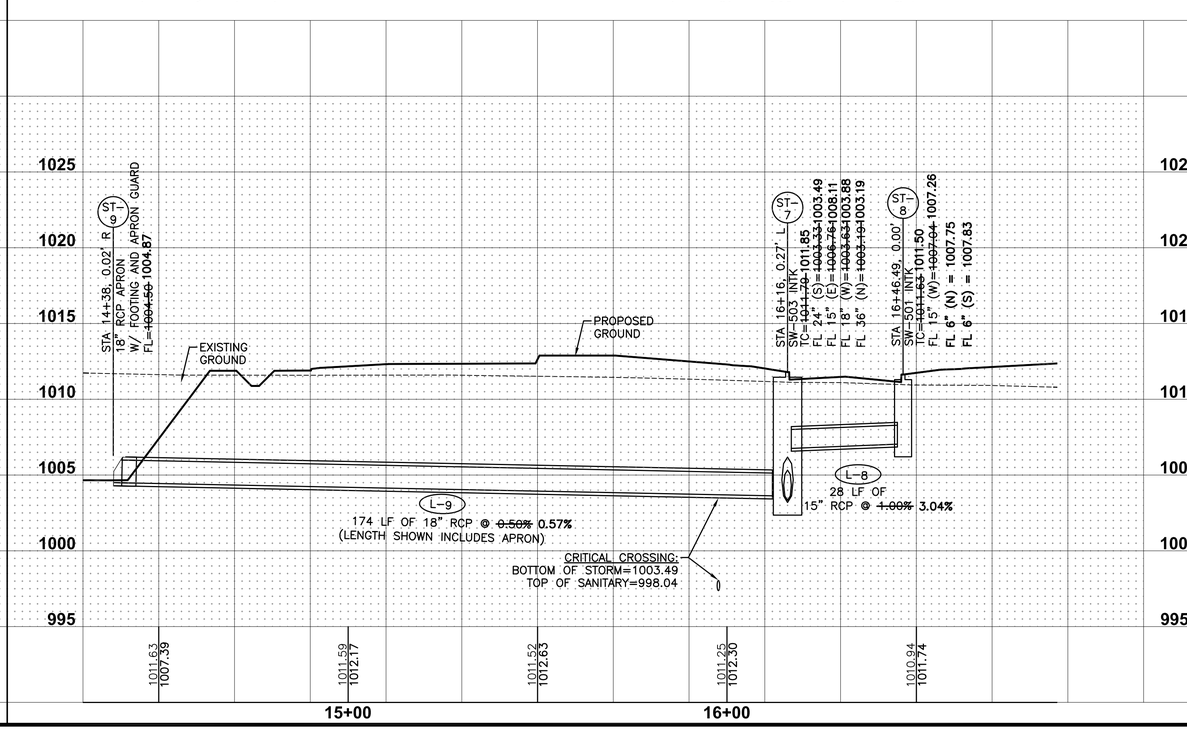

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STORM & SANITARY SEWER PLAN AND PROFILE
WAUKEE, IOWA

FILE: H:\2013\1505276\DWG\1505276-PNP-AS-BUILT.DWG
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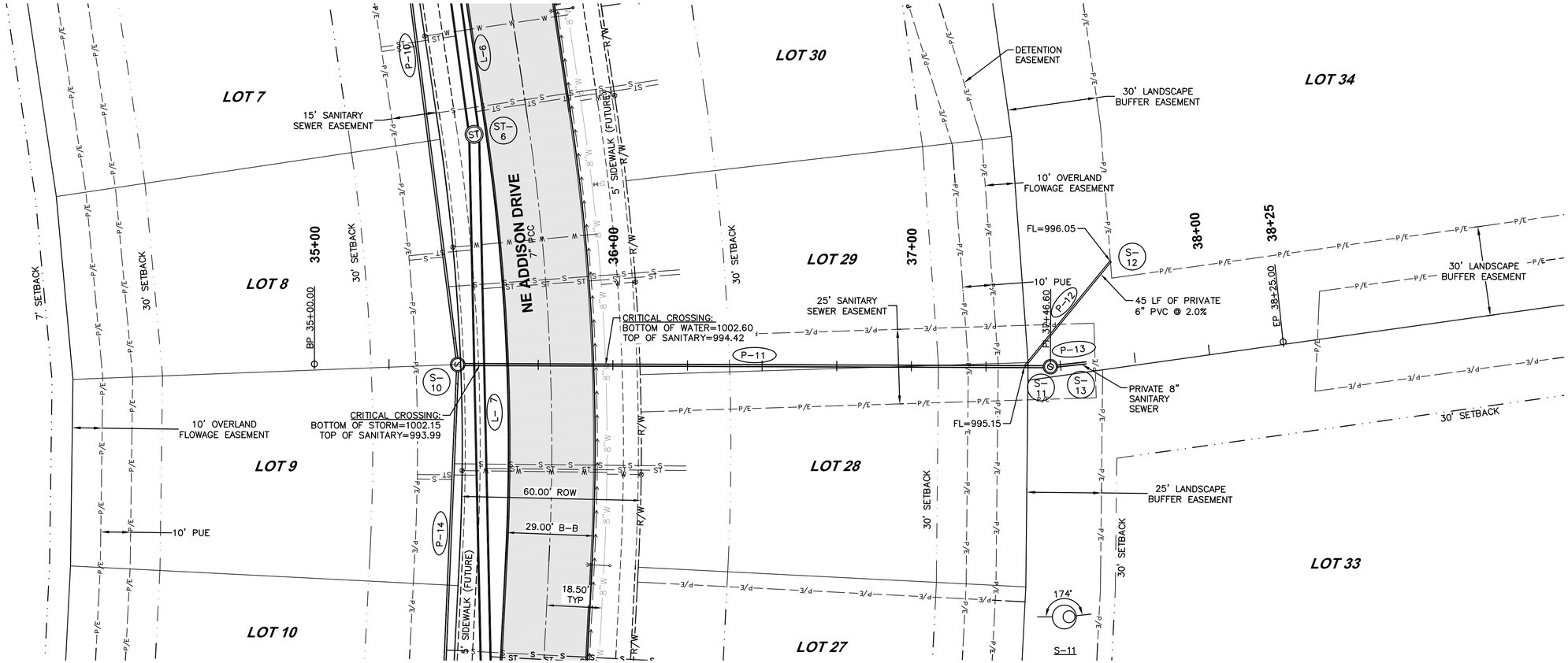

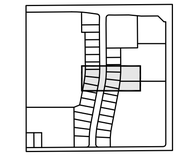

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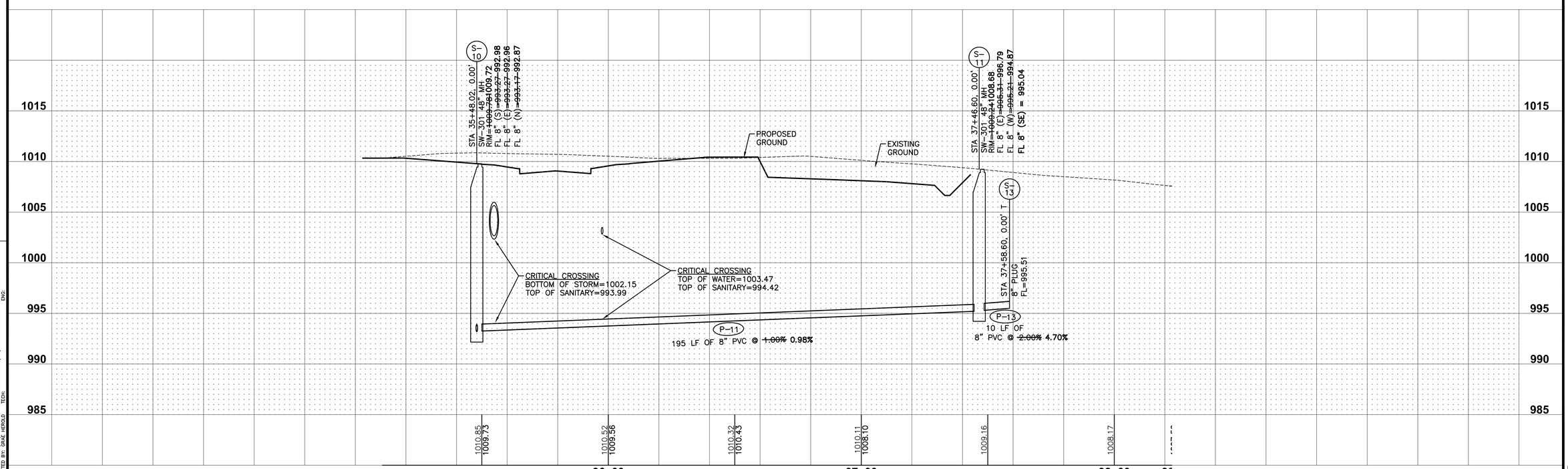

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WAUKEE, IOWA

1505.276

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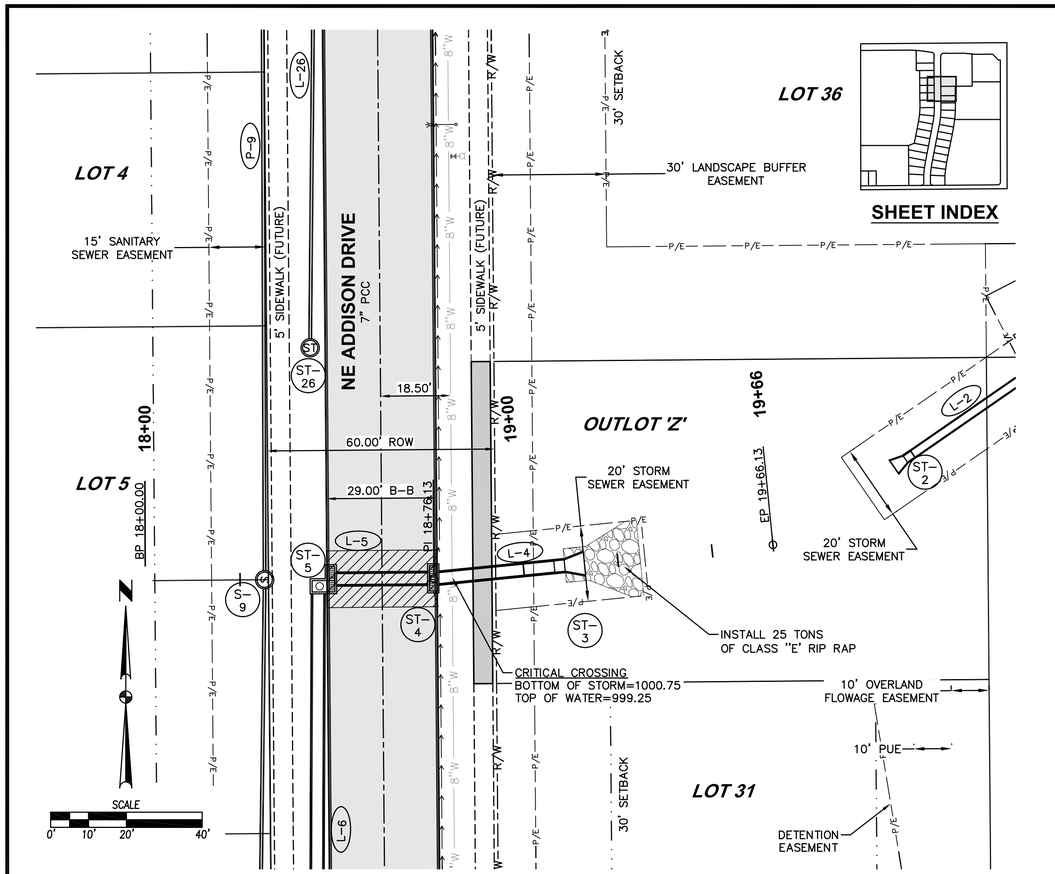

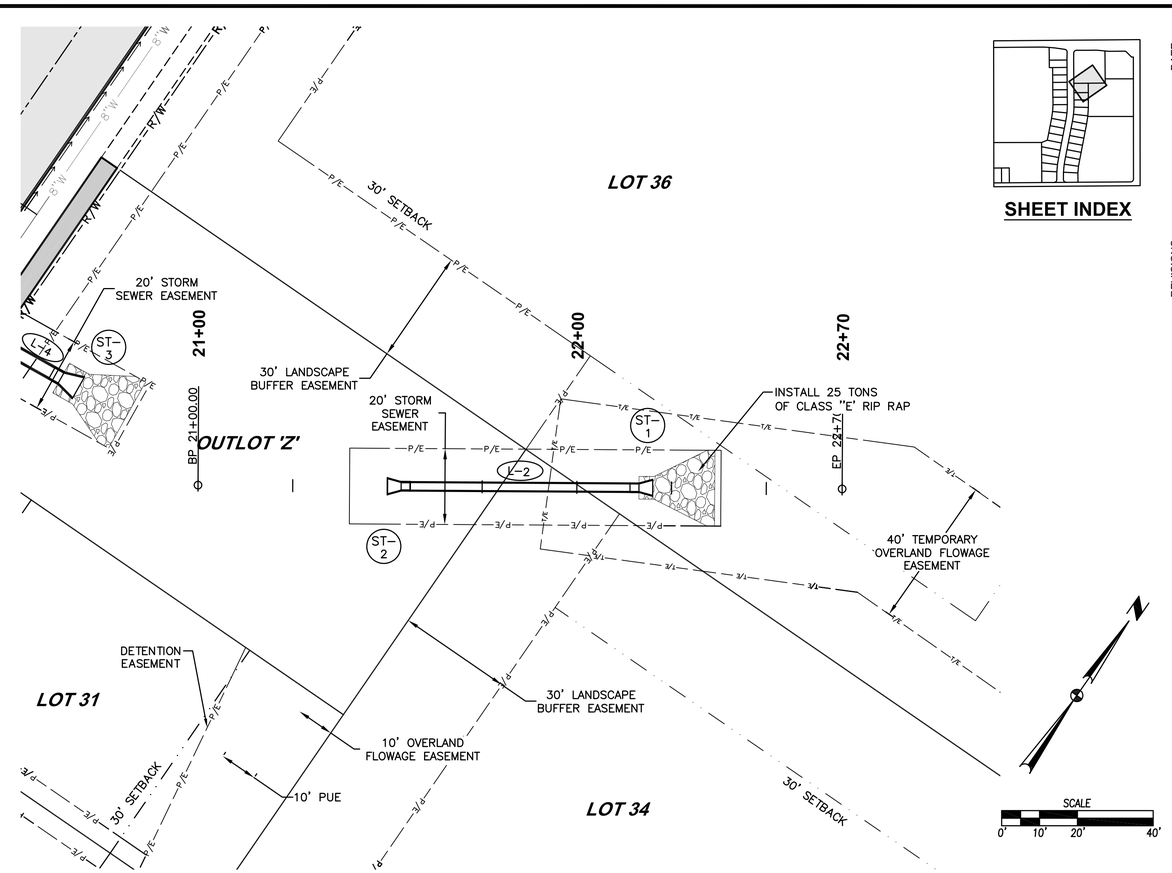

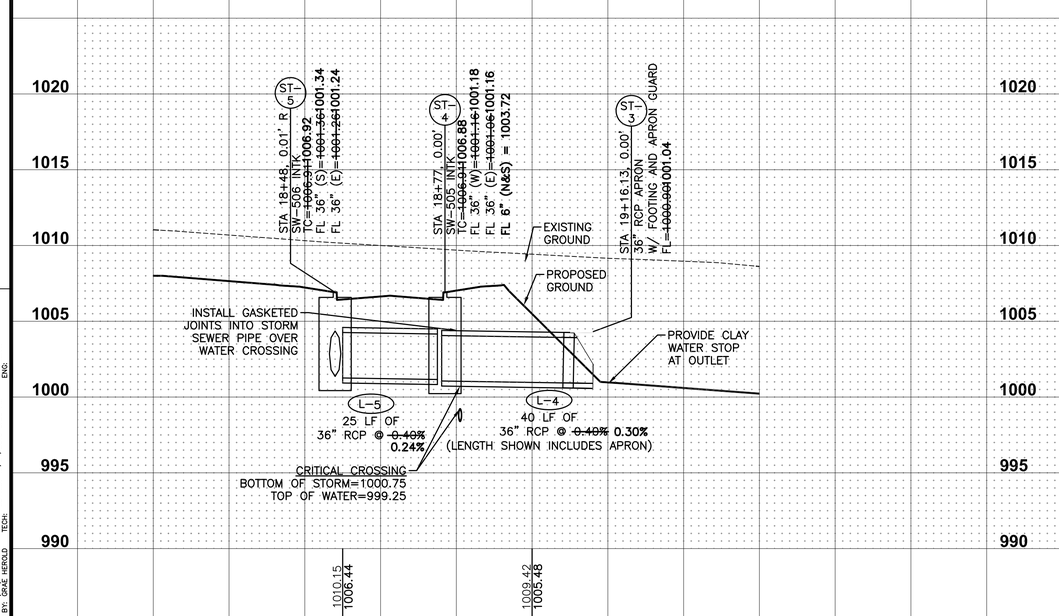

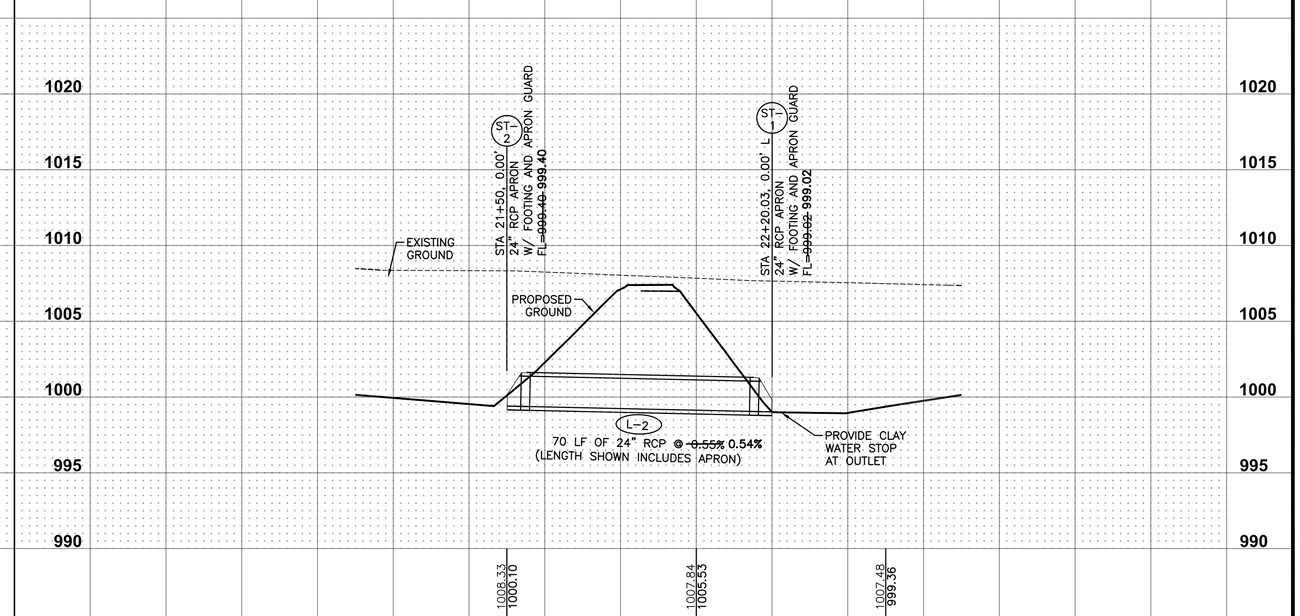

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1505.276

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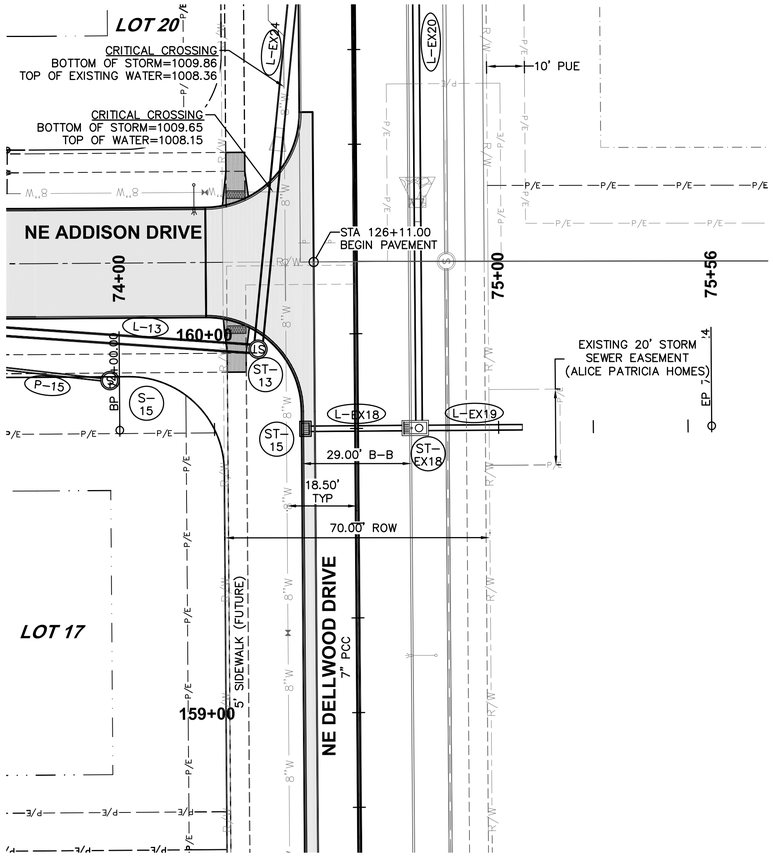

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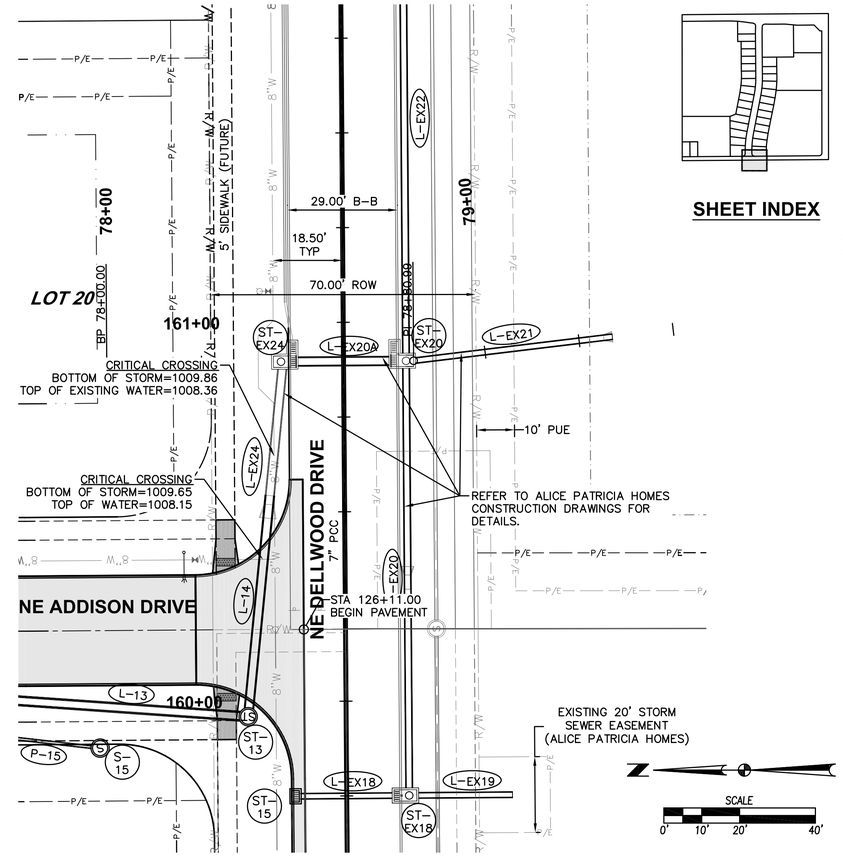

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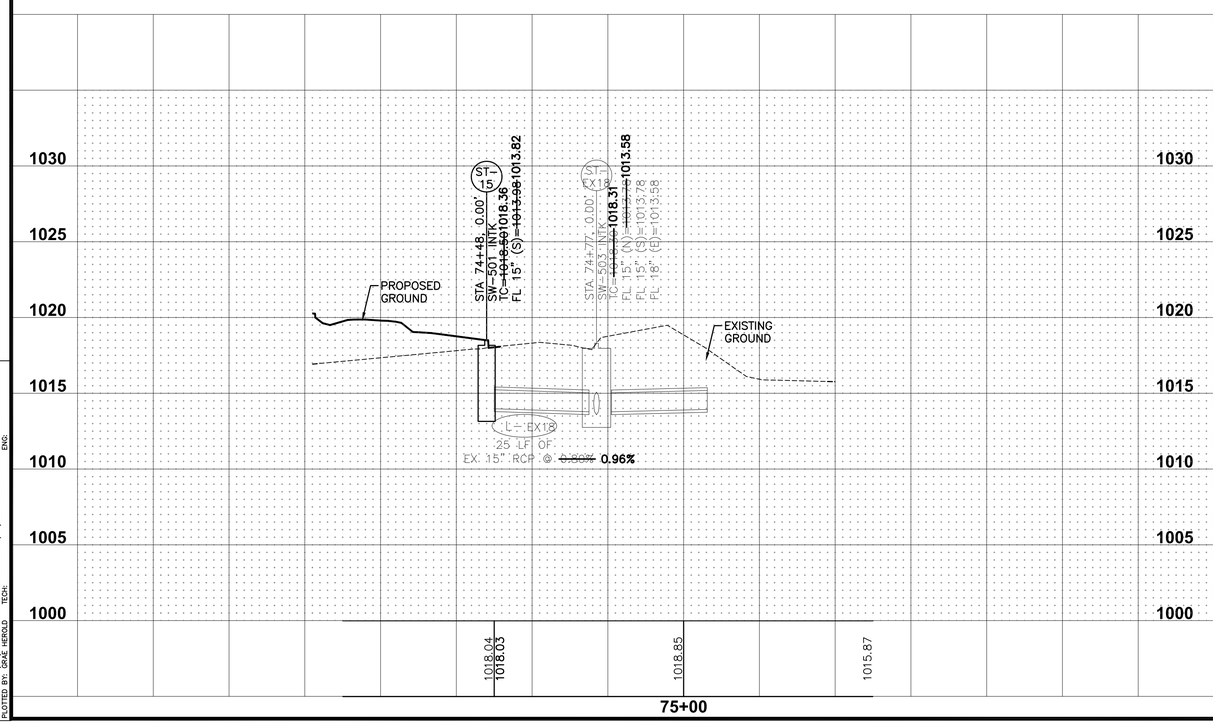

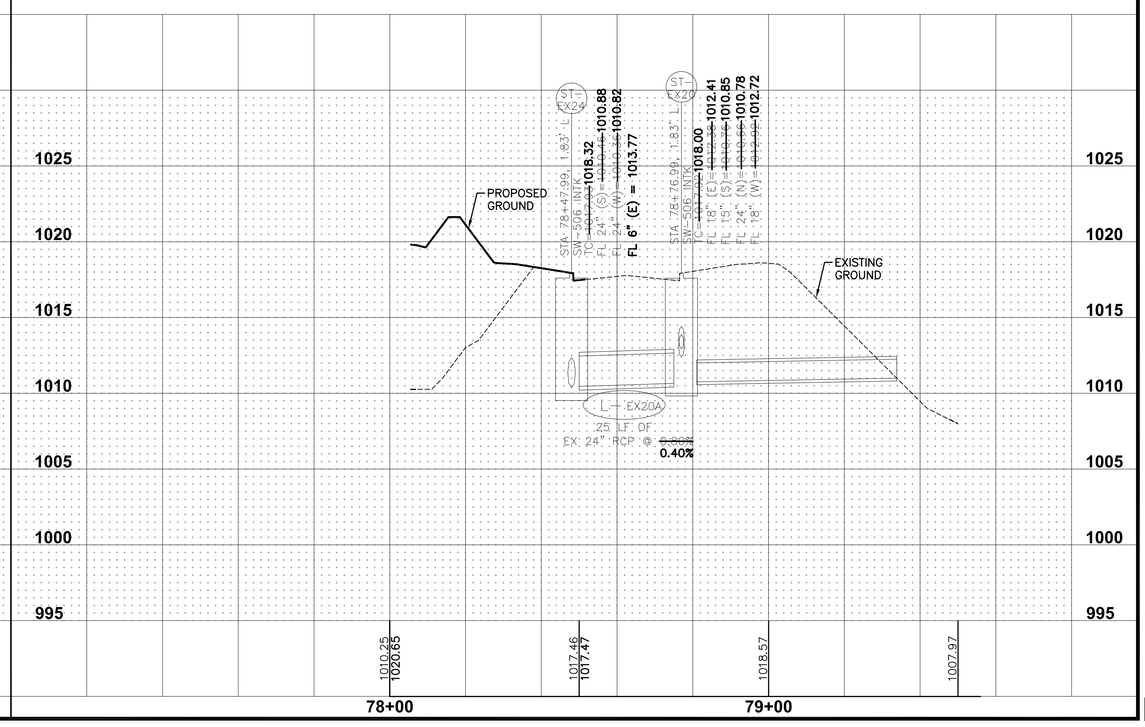

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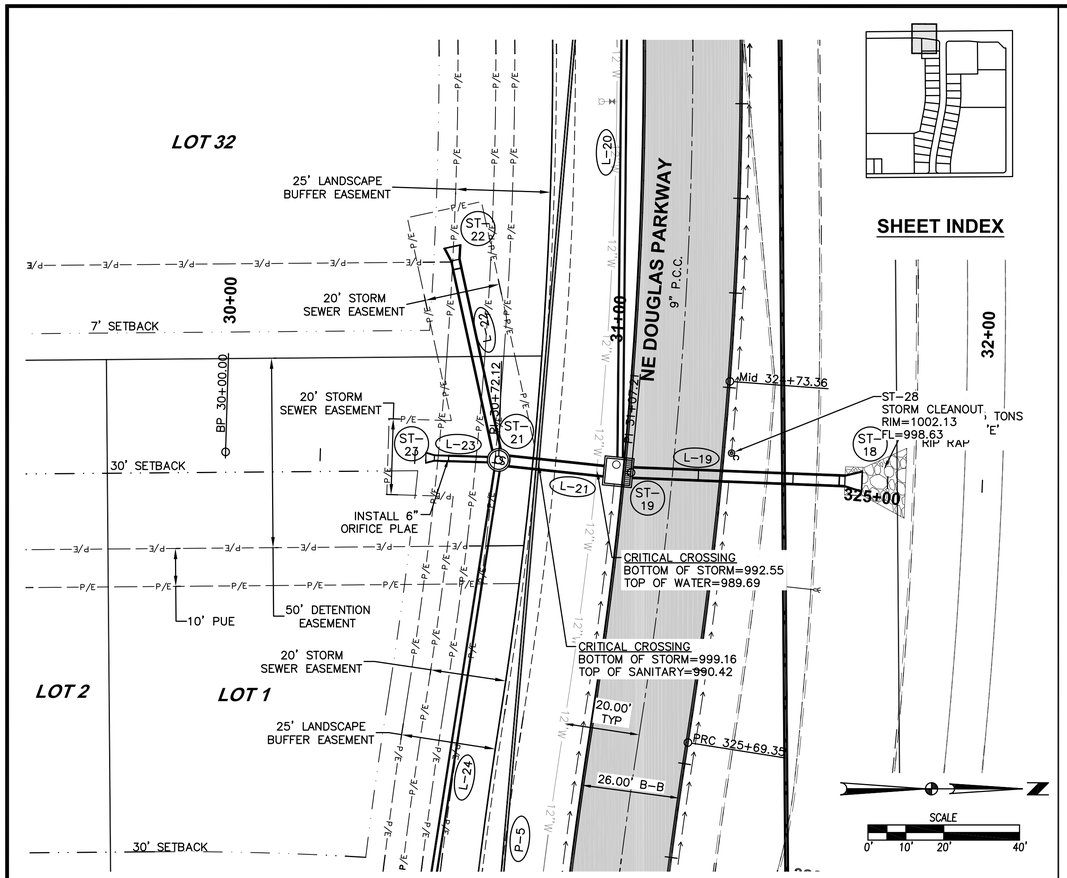

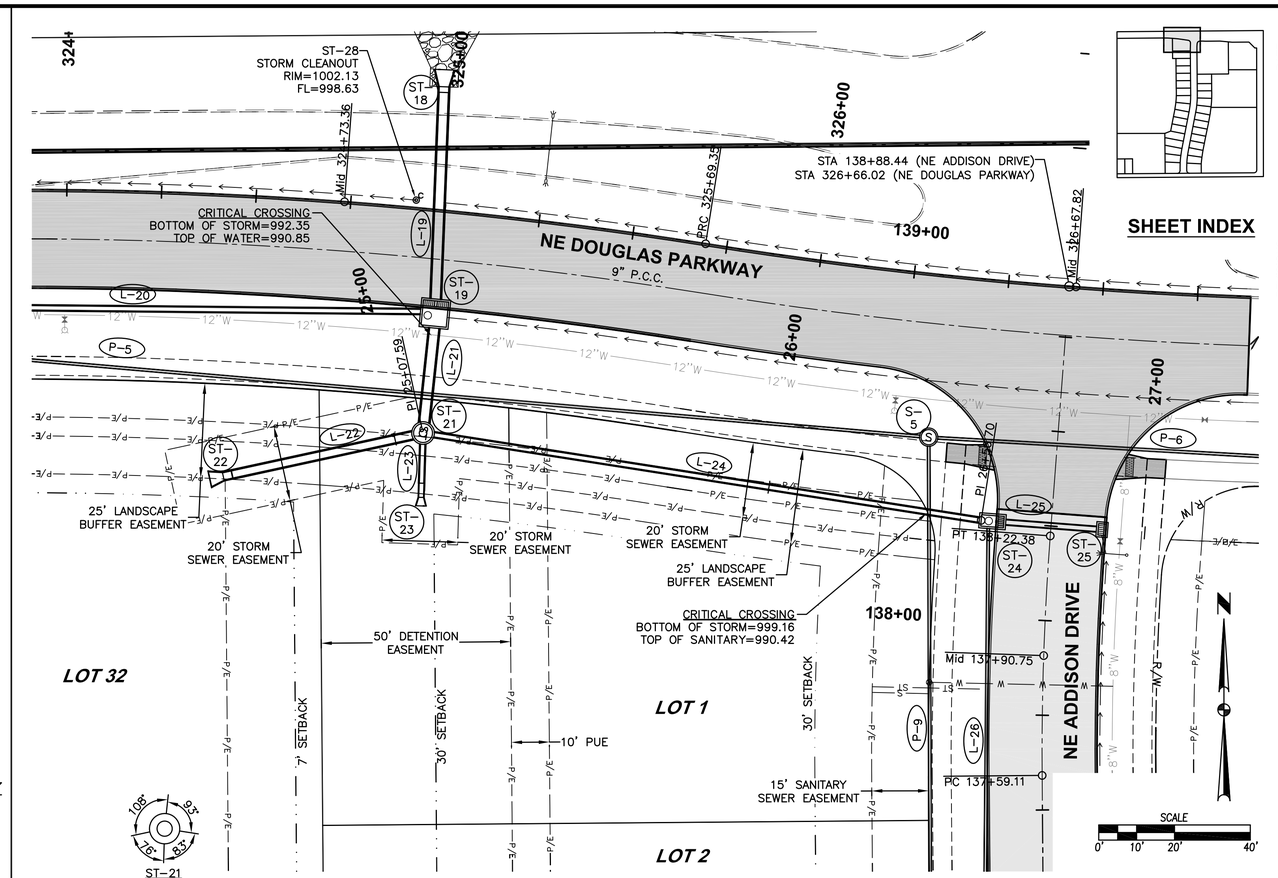

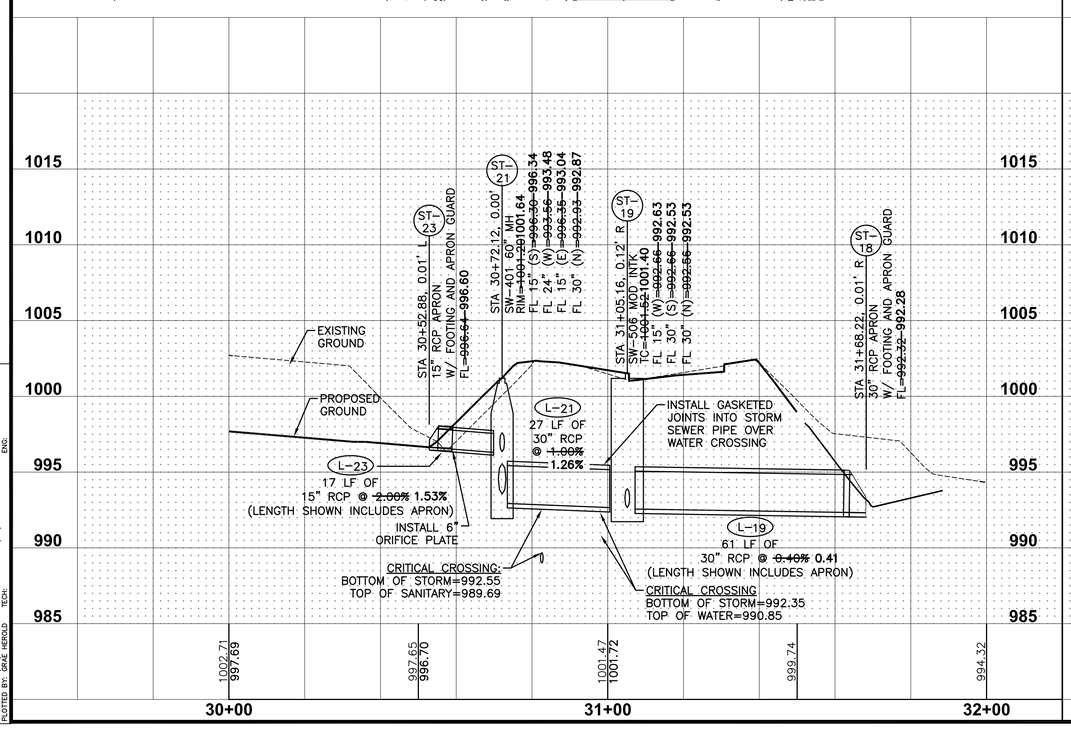

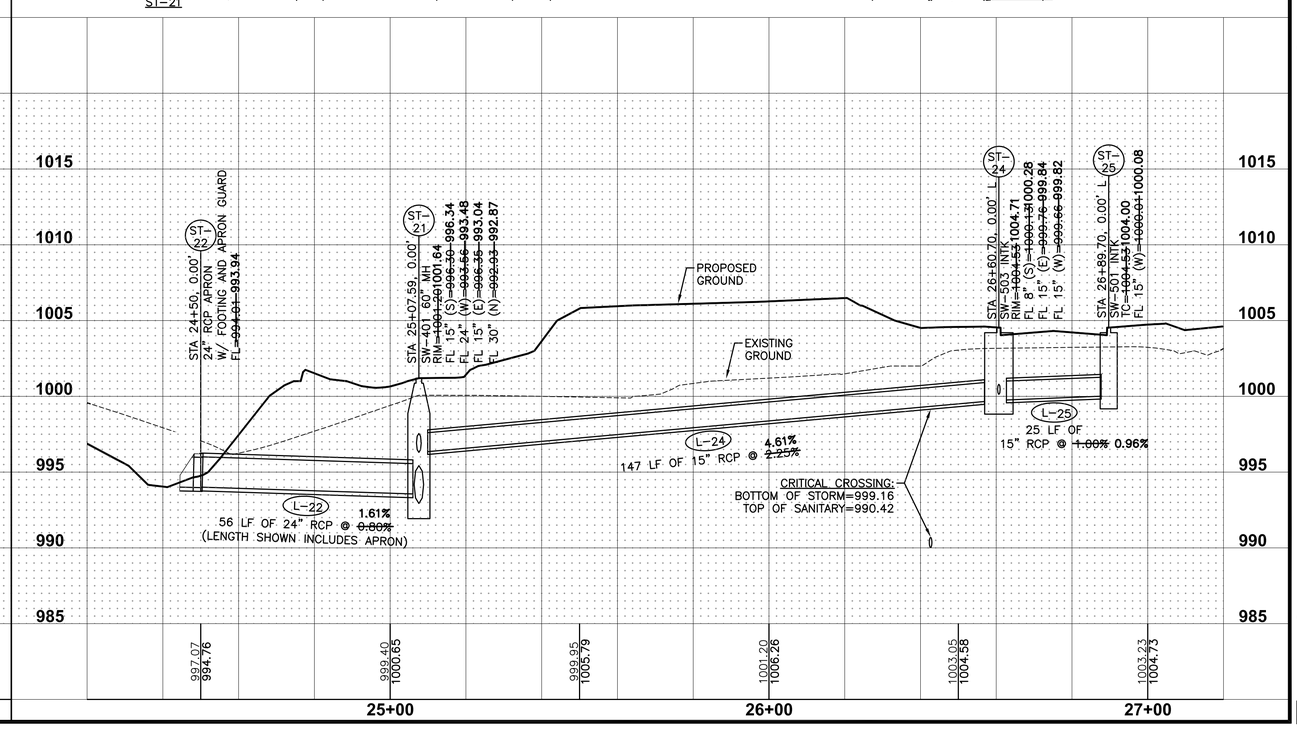

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EI: GH
CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4

STORM & SANITARY SEWER PLAN AND PROFILE

WAUKEE, IOWA

1505.276

FILE: H:\2015\1505276\DWG\1505276-PNP-AS-BUILT.DWG
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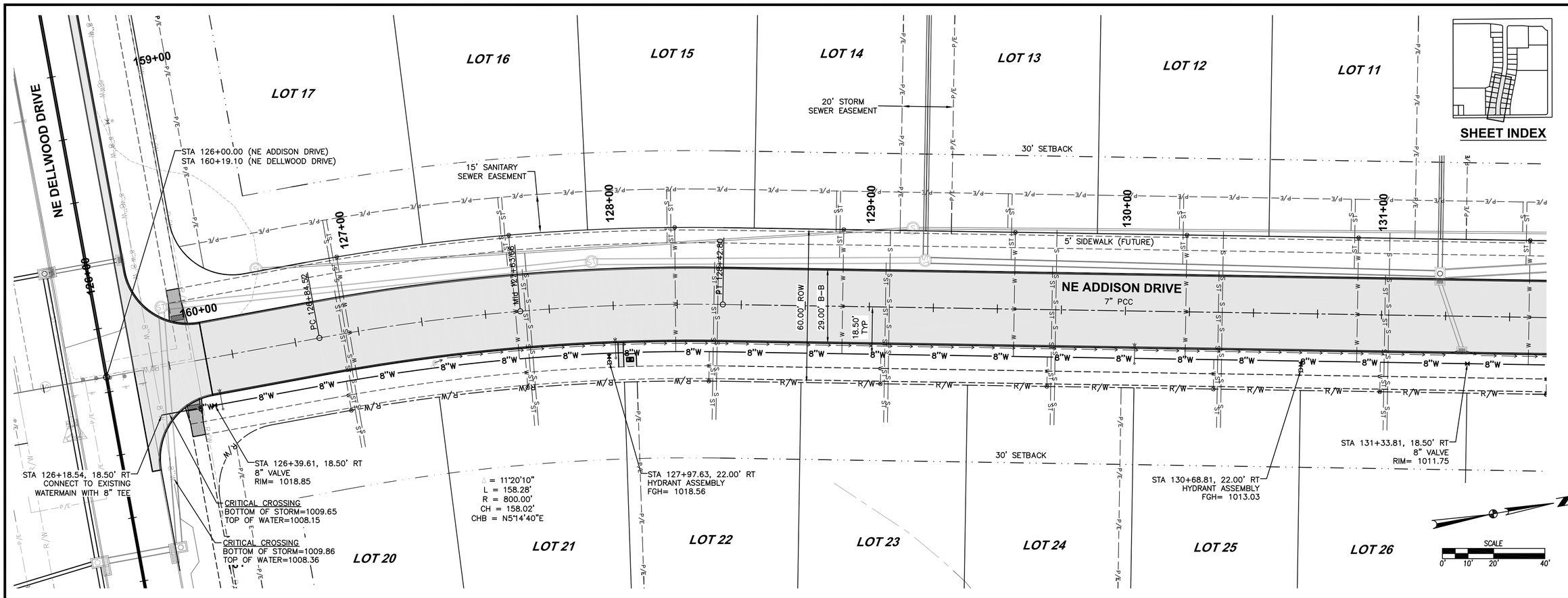

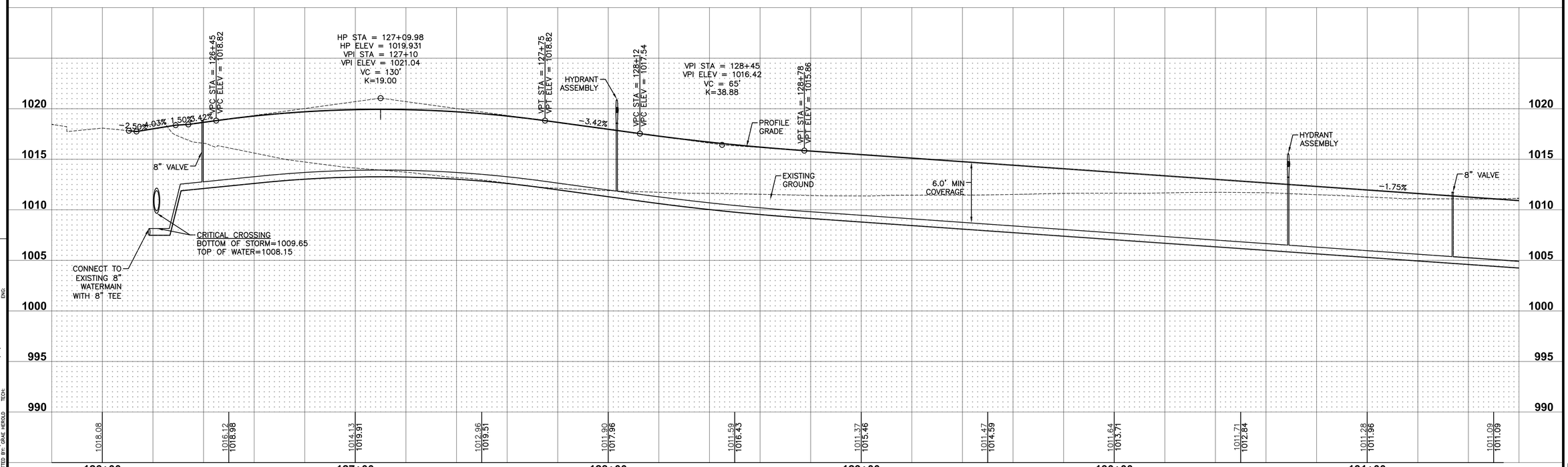

REVISIONS	DATE
AS-BUILT SUBMITTAL	12/22/16
REVISED WATERMAIN	08/01/16
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FIRST SUBMITTAL	02/22/16

3405 S.E. CROSSROADS DRIVE, SUITE G
GRIMES, IOWA 50111
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ENGINEER: EKO
EI: GH
CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4
WATERMAIN PLAN & PROFILE
WAUKEE, IOWA

1505.276

FILE: H:\2015\1505276\DWG\1505276-PNP WATERMAIN.DWG
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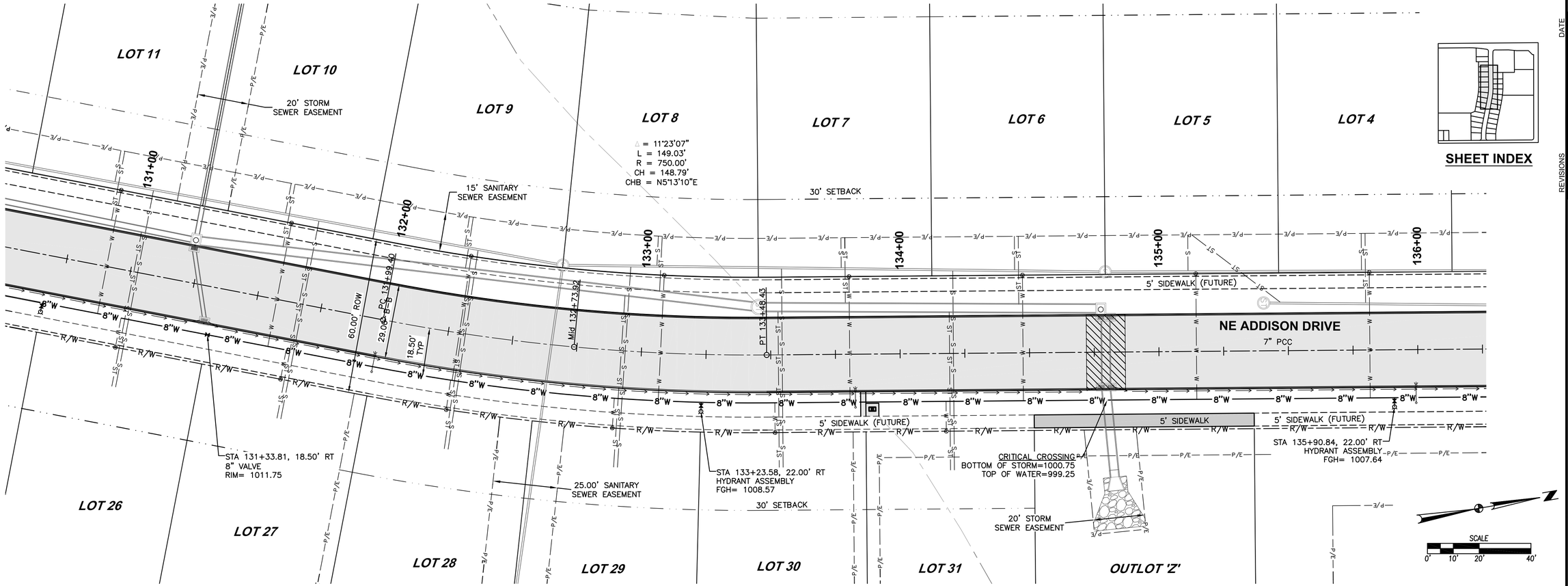

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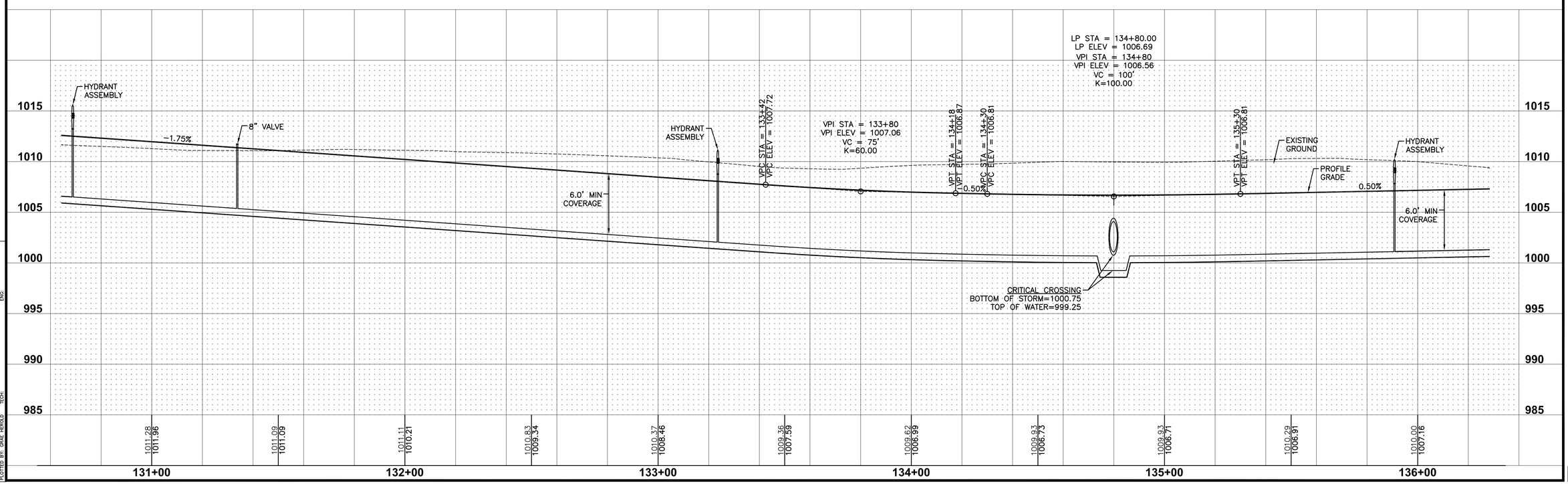

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CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4

WATERMAIN PLAN & PROFILE

WAUKEE, IOWA

1505.276

FILE: H:\2015\1505276\DWG\1505276-PHP WATERMAIN.DWG
LAYOUT: WM PLAN & PROFILE PLOTTED: 12/27/2016 5:41 PM
PLOTTED BY: GRAE HERGOLD TECH:
COMMENT: ENG:

LOT 6
LOT 5
LOT 4
LOT 3
LOT 2
LOT 1

Δ = 4°50'00"
L = 63.27'
R = 750.00'
CH = 63.25'
CHB = N1°56'40"E

30' SETBACK
15' SANITARY SEWER EASEMENT
5' SIDEWALK (FUTURE)
NE ADDISON DRIVE
7" PCC
60.00' ROW
29.00' B-B
18.50' TYP
PC 137+59.11
Mid 137+90.75
PT 138+22.38
25' LANDSCAPE BUFFER
20' STORM SEWER EASEMENT
NE DOUGLAS PARKWAY
7" PCC
PRC 325+69.39
STA 138+75.44 (NE ADDISON DRIVE)
STA 326+66.02 (NE DOUGLAS PARKWAY)
Mid 326+67.82
5' SIDEWALK
CRITICAL CROSSING
BOTTOM OF STORM=1000.75
TOP OF WATER=999.25
20' STORM SEWER EASEMENT
OUTLOT 'Z'
STA 135+90.84, 22.00' RT
HYDRANT ASSEMBLY
FGH= 1007.64
STA 138+22.38, 18.50' RT
8" VALVE
RIM= 1004.70
CRITICAL CROSSING
TOP OF SANITARY=990.51
TOP OF WATER=997.72
STA 138+55.57, 18.50' RT
12"X8" TEE
15' SANITARY SEWER EASEMENT
30' LANDSCAPE BUFFER
135+00
136+00
137+00
138+00
139+00
326+00
327+00
SCALE
0' 10' 20' 40'

SHEET INDEX

LP STA = 134+80.00
LP ELEV = 1006.69
VPI STA = 134+80
VPI ELEV = 1006.56
VC = 100'
K=100.00

HP STA = 136+47.14
HP ELEV = 1007.361
VPI STA = 136+70
VPI ELEV = 1007.51
VC = 75'
K=29.27

VPT STA = 134+18
VPT ELEV = 1006.87
VPC STA = 134+30
VPC ELEV = 1006.81
VPT STA = 135+30
VPT ELEV = 1006.81
VPC STA = 136+32
VPC ELEV = 1007.32
VPT STA = 137+08
VPT ELEV = 1006.74

EXISTING GROUND
PROFILE GRADE
HYDRANT ASSEMBLY
0.50%
0.50%
-2.06%
6.0' MIN COVERAGE
8" VALVE
12"X8" TEE
CRITICAL CROSSING
BOTTOM OF STORM=1000.75
TOP OF WATER=999.25

1015
1010
1005
1000
995
990
985

1009.93 1006.73
1009.93 1006.71
1010.29 1006.91
1010.00 1007.16
1008.64 1007.36
1007.42 1006.88
1005.71 1005.86
1004.20 1004.83
1003.88
1003.50
1000.06
999.06

135+00
136+00
137+00
138+00
139+00
140+00

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WATERMAIN PLAN & PROFILE
WAUKEE, IOWA

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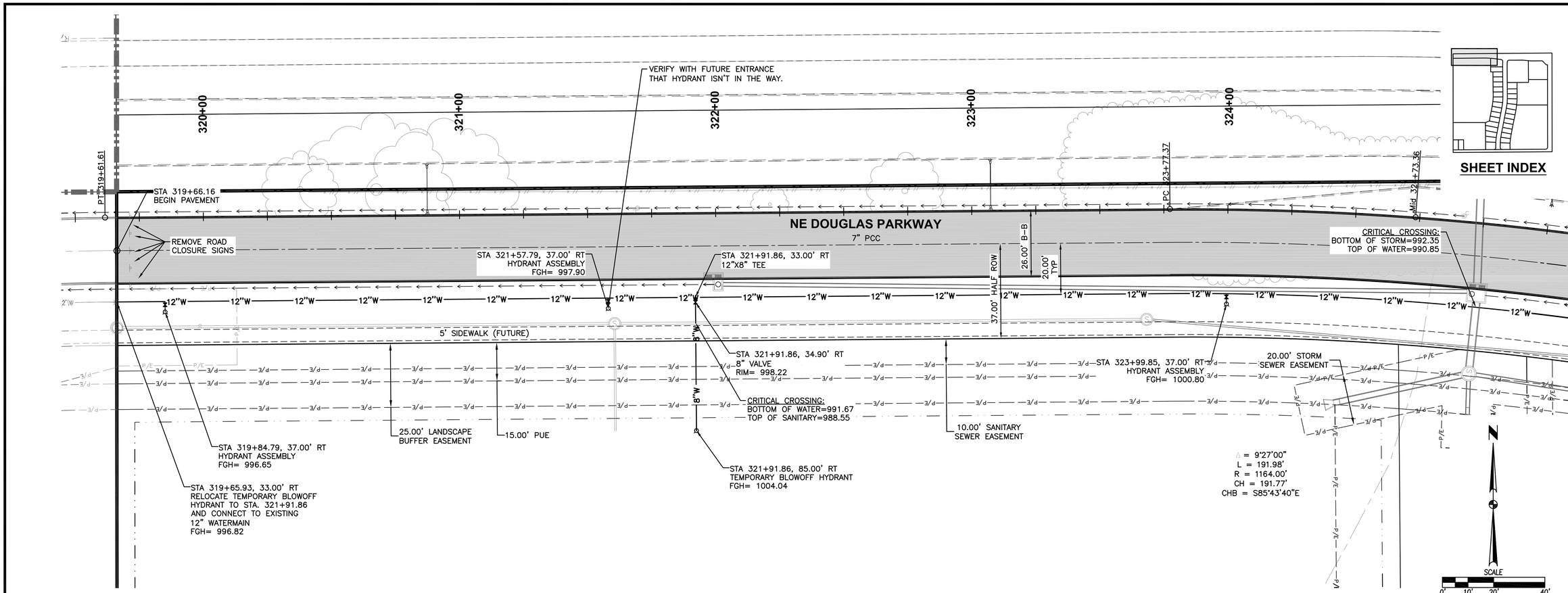

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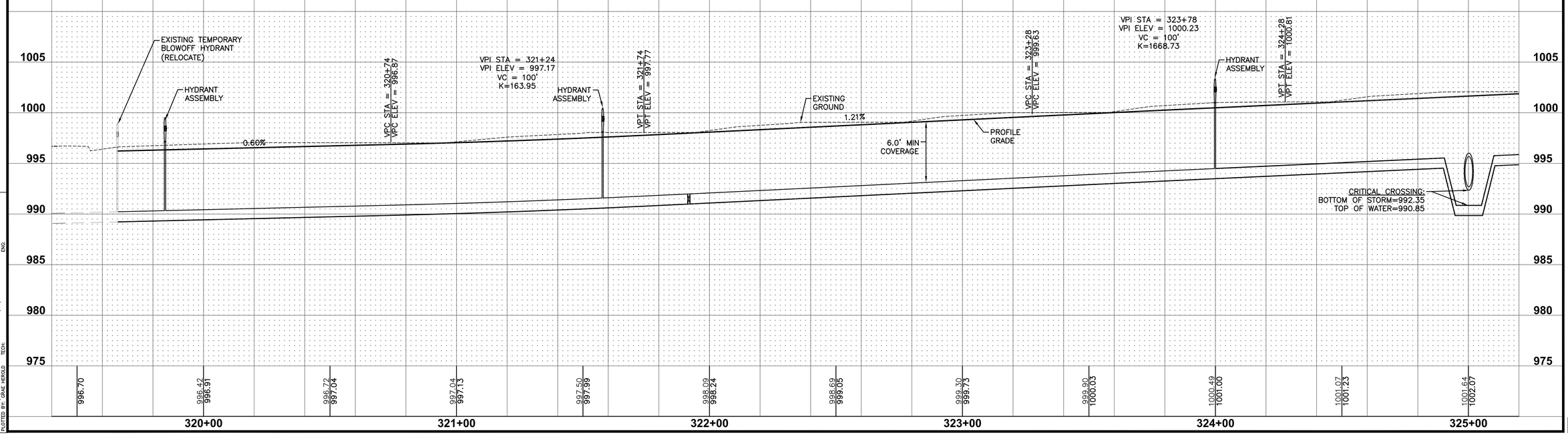

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WATERMAIN PLAN & PROFILE

WAUKEE, IOWA

1505.276

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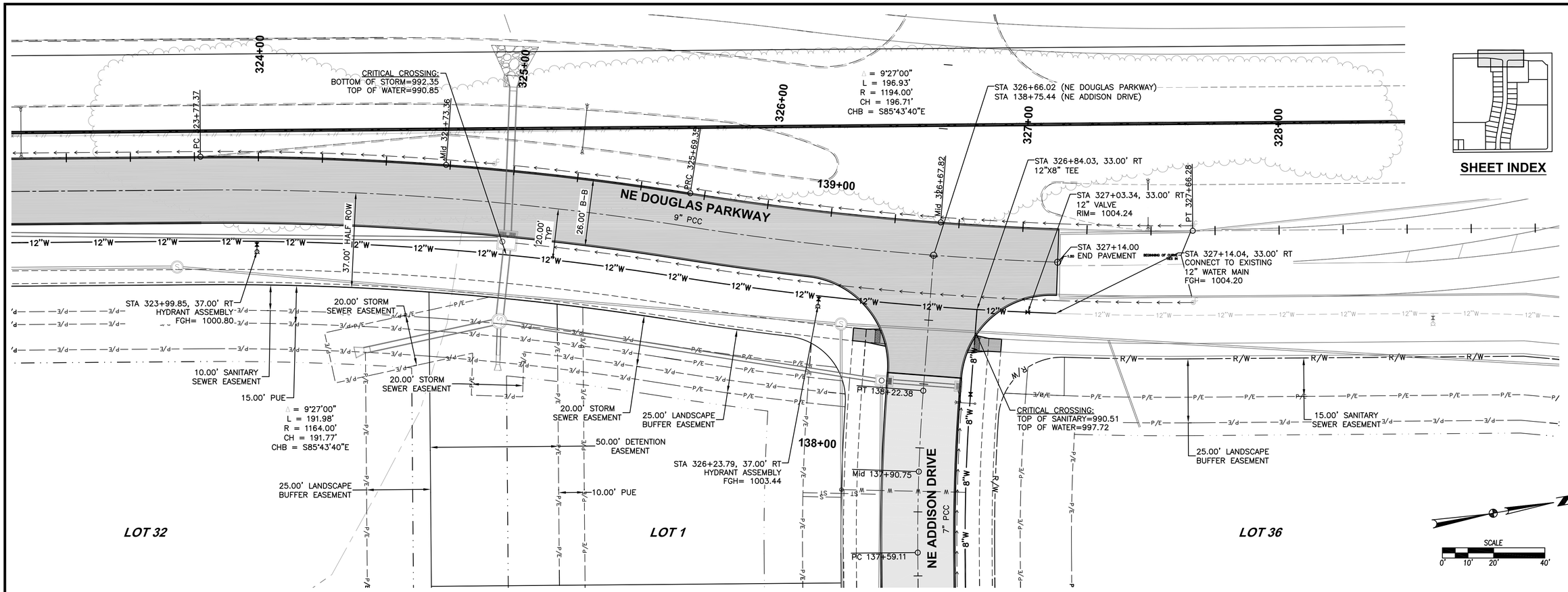

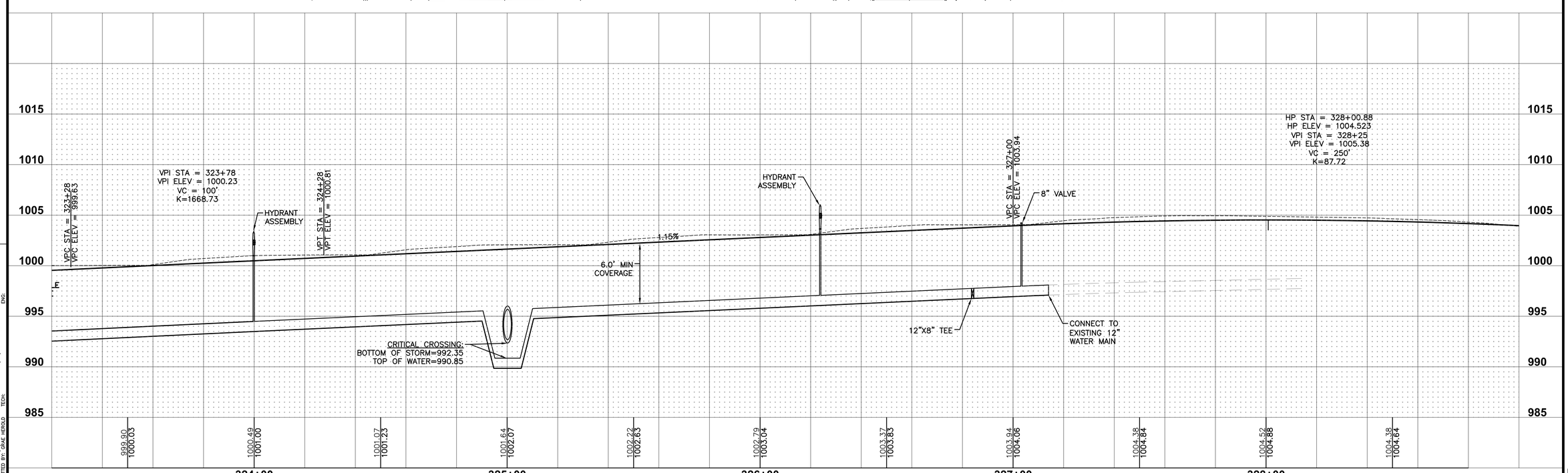

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WATERMAIN PLAN & PROFILE

WAUKEE, IOWA

1505.276

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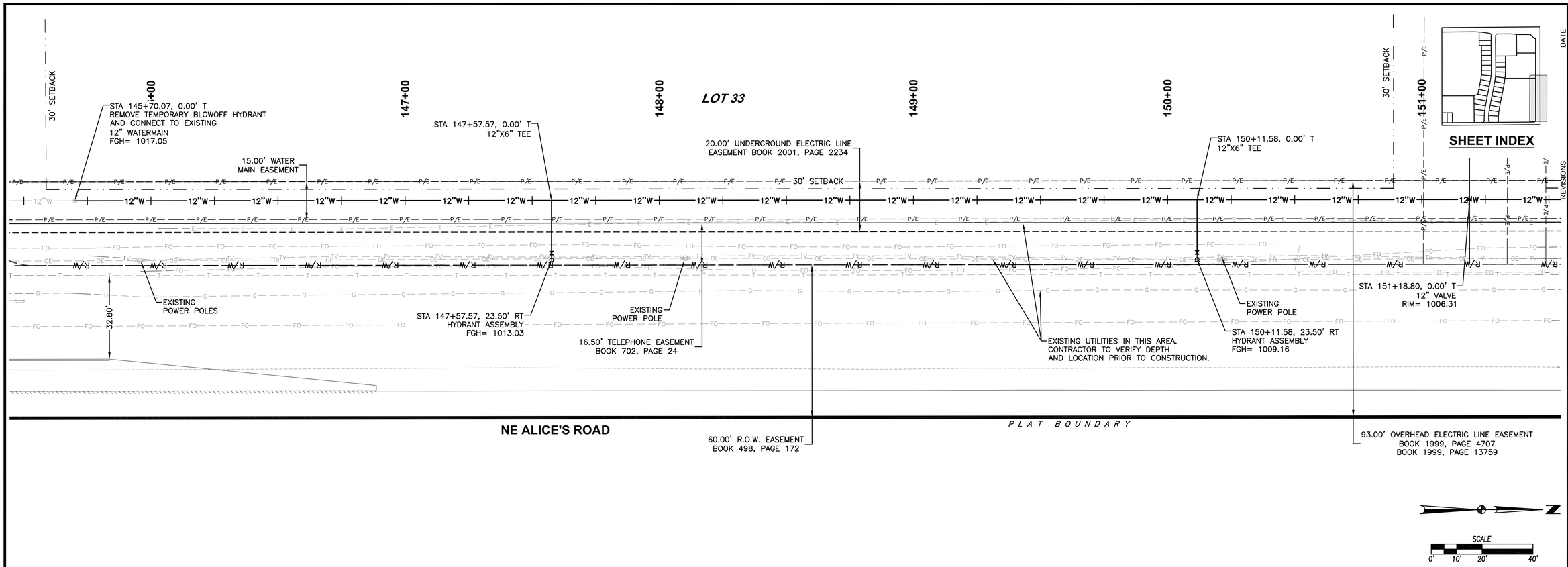

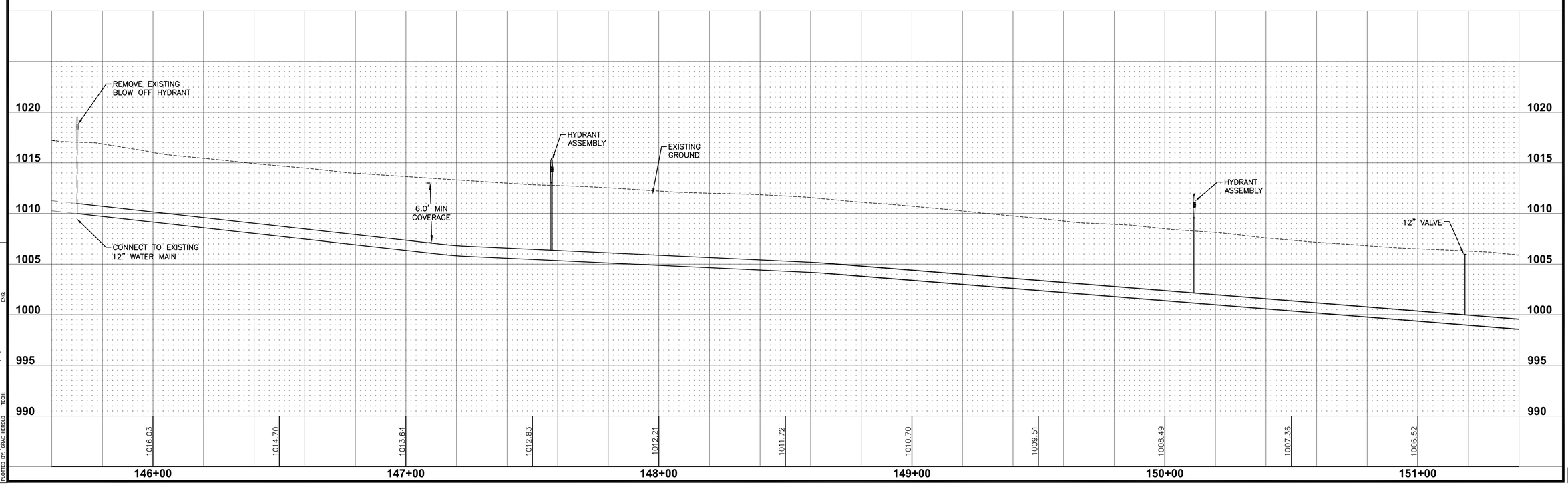

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FILE: H:\2015\1505276\DWG\1505276-PNP_WATERMAIN.DWG
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PLOTTED BY: GRAE HEROLD
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TECH:

152+00
LOT 34
53+00
154+00
155+00
LOT 35
156+00
157+00

15.00' WATER MAIN EASEMENT

STA 152+65.58, 0.00' T
12"X6" TEE

20.00' UNDERGROUND ELECTRIC LINE EASEMENT BOOK 2001, PAGE 2234

30' SETBACK

40.00' TEMPORARY OVERLAND FLOWAGE EASEMENT

STA 155+19.29, 0.00' T
12"X6" TEE

25.00' LANDSCAPE BUFFER EASEMENT

SHEET INDEX

EXISTING POWER POLE

STA 152+65.58, 23.50' RT
HYDRANT ASSEMBLY
FGH= 1004.50

16.50' TELEPHONE EASEMENT
BOOK 702, PAGE 24

EXISTING POWER POLE

STA 155+19.29, 23.50' RT
HYDRANT ASSEMBLY
FGH= 1001.83

EXISTING POWER POLE

STA 157+13.11, 0.00' T
12" VALVE
RIM= 1002.11

EXISTING UTILITIES ARE MAP.
CONTRACTOR TO VERIFY DEPTH
AND LOCATION PRIOR TO CONSTRUCTION.

STA 157+17.11, 0.00' T
CONNECT TO EXISTING
12" WATERMAIN

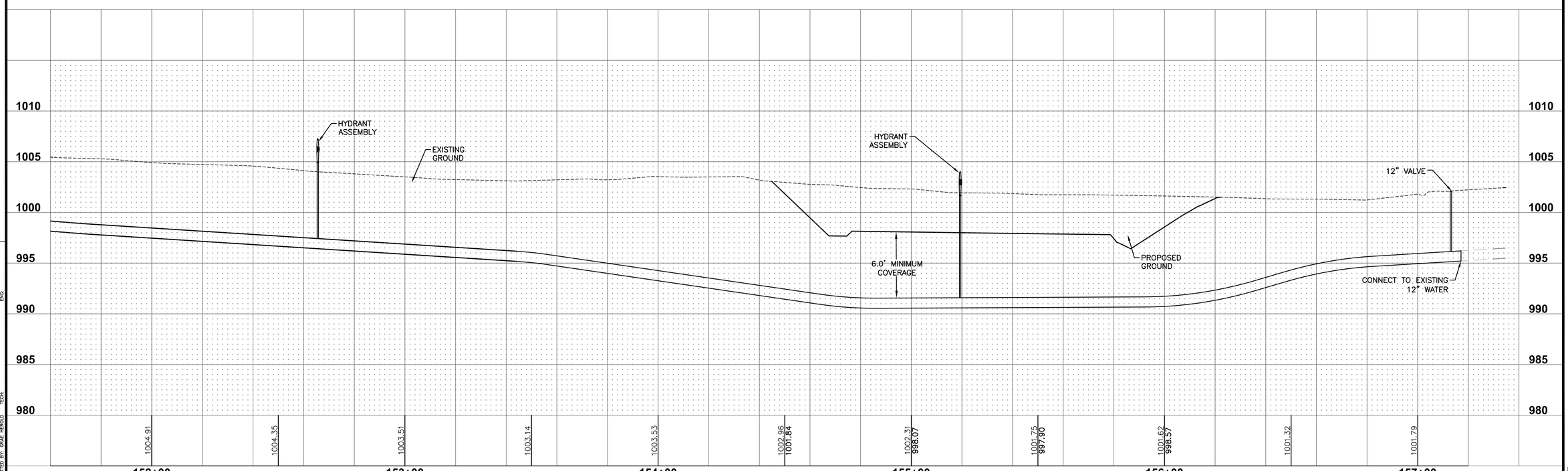
PLAT BOUNDARY

93.00' OVERHEAD ELECTRIC LINE EASEMENT
BOOK 1999, PAGE 4707
BOOK 1999, PAGE 13759

NE ALICE'S ROAD

60.00' R.O.W. EASEMENT
BOOK 498, PAGE 172

SCALE
0' 10' 20' 40'



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WATERMAIN PLAN & PROFILE

WAUKEE, IOWA

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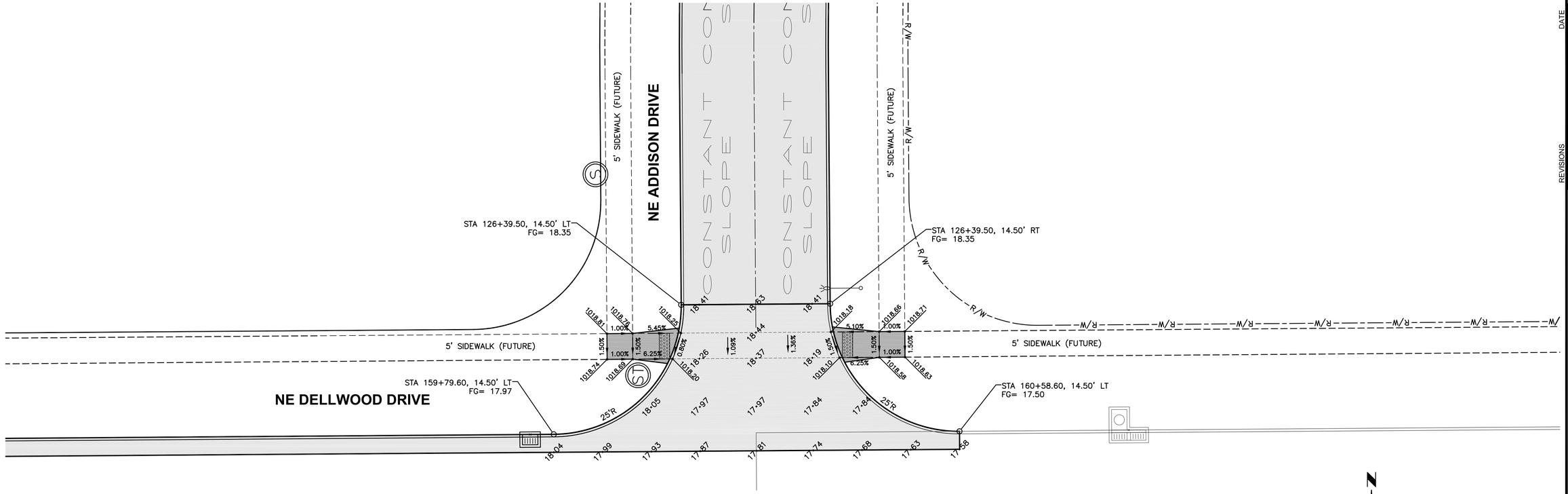
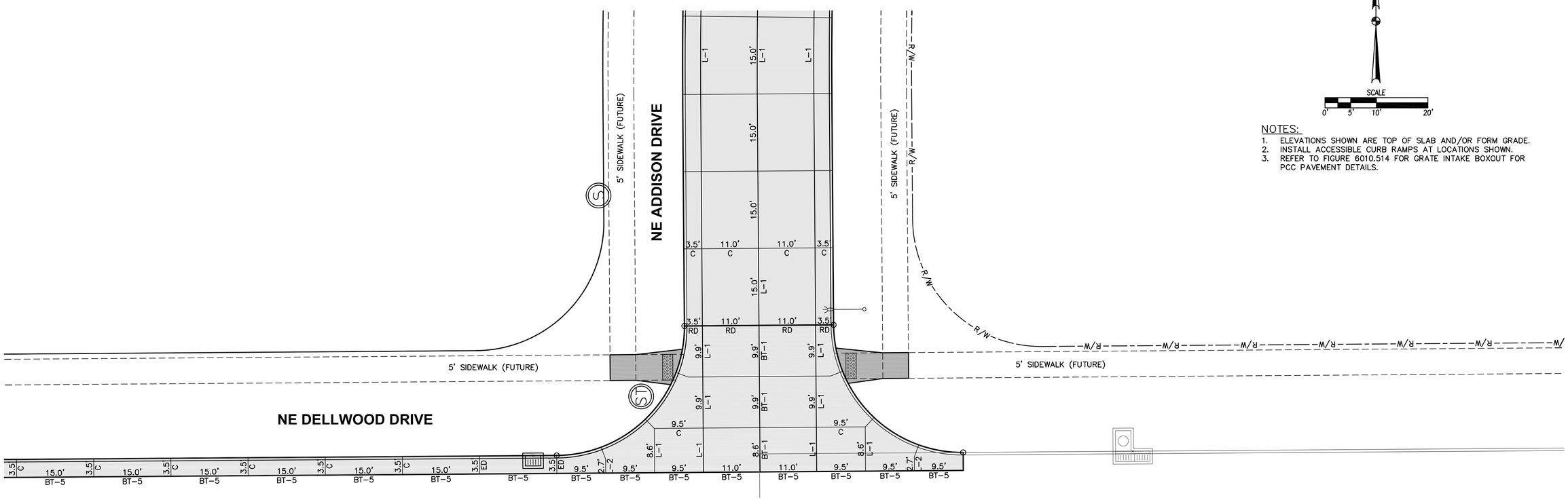


GEOMETRICS AND STAKING LAYOUT



JOINTING LAYOUT

SCALE
0' 5' 10' 20'

NOTES:
1. ELEVATIONS SHOWN ARE TOP OF SLAB AND/OR FORM GRADE.
2. INSTALL ACCESSIBLE CURB RAMPS AT LOCATIONS SHOWN.
3. REFER TO FIGURE 6010.514 FOR GRATE INTAKE BOXOUT FOR PCC PAVEMENT DETAILS.

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CIVIL DESIGN ADVANTAGE

LANDING AT SHADOW CREEK PLAT 4
INTERSECTION DETAILS

WAUKEE, IOWA

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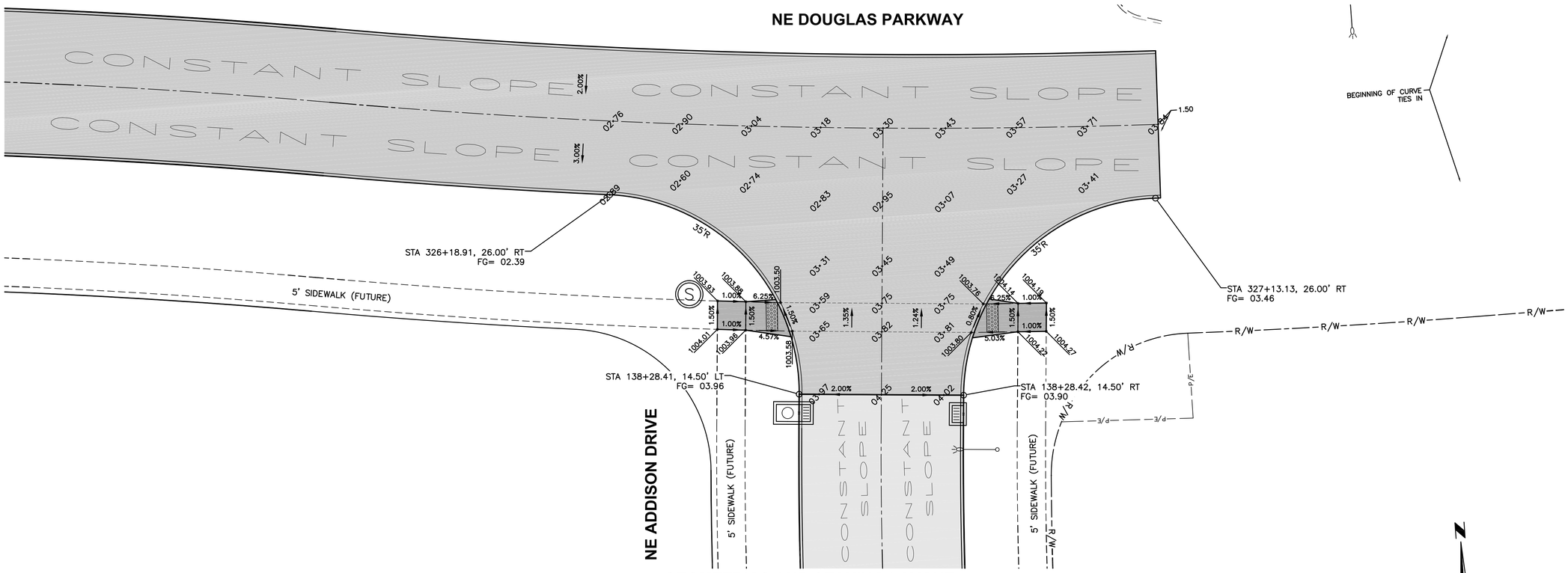
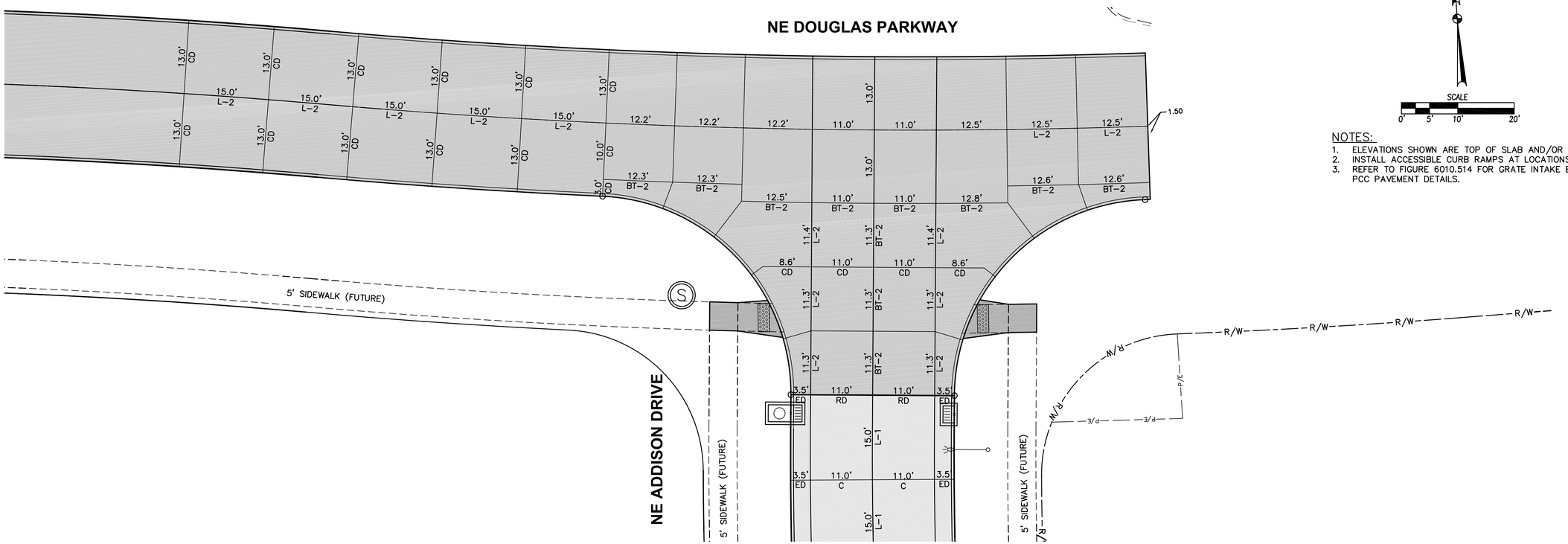


GEOMETRICS AND STAKING LAYOUT



JOINTING LAYOUT

SCALE
0' 5' 10' 20'

NOTES:

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WAUKEE, IOWA

1505.276

FILE: H:\2015\1505276\DWG\1505276-INTERSECTIONS.DWG
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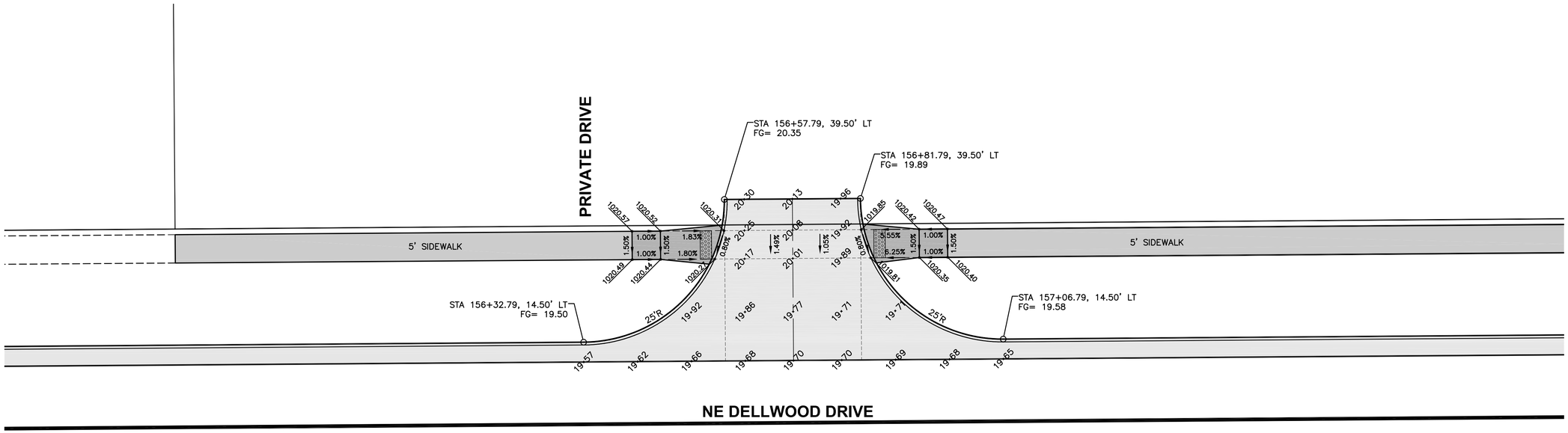

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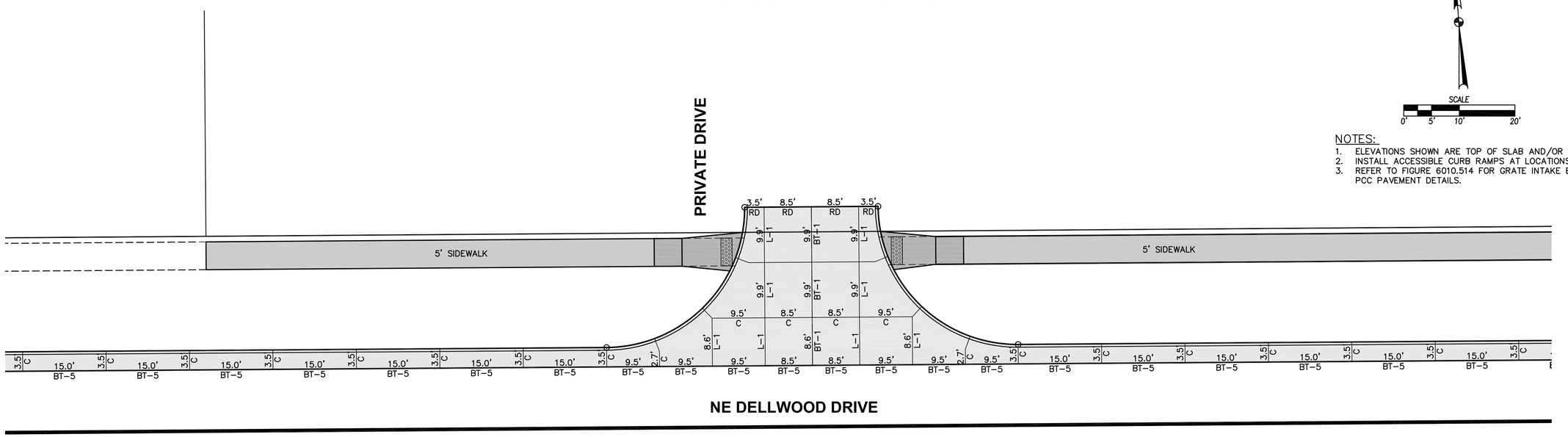

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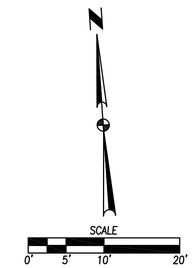

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