NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

PROJECT BENCHMARK:

SE TAB BOLT ON HYDRANT AT SW CORNER WARRIOR LANE & UNIVERSITY AVENUE

ELEV=1028.39

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CITY, COUNTY AND STATE CODES, ORDINANCES, REGULATIONS AND RULES, INCLUDING THE CITY STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS. WHERE NOT OTHERWISE COVERED BY THE ABOVE, IN THE NOTES BELOW, OR WITHIN THIS PLAN SET, THE 2014 IOWA SUDAS STANDARDS AND SPECIFICATIONS SHALL GOVERN.
2. ALL DEBRIS SPILLED ON THE STREETS OR ADJACENT PROPERTY SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
3. ALL CONSTRUCTION PROCEDURES AND MATERIALS TO MEET OR EXCEED MINIMUM REQUIREMENTS OF THE CITY. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS OR MATERIAL SPECIFICATIONS TO CITY PUBLIC WORKS FOR APPROVAL ON ALL CONSTRUCTION MATERIALS USED PRIOR TO CONSTRUCTION.
4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT OSHA CODES AND STANDARDS. NOTHING INDICATED ON THESE PLANS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY AND ALL APPROPRIATE SAFETY REGULATIONS.
5. THE CONTRACTOR SHALL FURNISH AND PLACE ALL NECESSARY SIGNS AND BARRICADES DURING CONSTRUCTION IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. ALL ROADS SHALL BE BARRICADED UNTIL ACCEPTANCE BY CITY.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR GIVING THE CITY PROPER NOTICE FOR THEIR REQUIRED INSPECTIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL REQUIRED PERMITS FOR PERFORMING THE WORK.
8. WORK SHALL INCLUDE CONNECTION TO EXISTING PUBLIC UTILITIES AND ANY AND ALL FITTINGS, CLEANOUTS AND APPURTENANCES REQUIRED BY CODES.
9. THE CONTRACTOR IS RESPONSIBLE FOR CLEARING & GRUBBING THE SITE, AND REMOVAL & DISPOSAL OF ANY DELETERIOUS AND EXCESS MATERIALS FROM THE SITE.
10. ANY DAMAGE DONE TO THE EXISTING FENCES, YARDS OR OTHER IMPROVEMENTS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THIS SHALL ALSO INCLUDE TEMPORARY PASTURE FENCING AND COORDINATION WITH PASTURE LEASEE. CONTACT OWNER/DEVELOOPER FOR CONTACT INFORMATION.
11. THE CONTRACTOR SHALL PLACE SILT FENCE AROUND ALL STORM SEWER INLET LOCATIONS, STEEP SLOPES, OR AS DIRECTED BY THE CITY. ALL EROSION/SEDIMENTATION CONTROL SHALL BE SET UP PRIOR TO CONSTRUCTION.
12. THE CONTRACTOR SHALL NOTIFY THE CITY PUBLIC WORKS DEPARTMENT 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION, WEEKEND WORK AND HOLIDAY WORK.
13. THE TRAIL/PATH INSTALLATION IS REQUIRED THROUGH THE ADJOINING OPEN SPACE AS IDENTIFIED BY THE PLANS, AND SIDEWALK SHALL BE INSTALLED ADJACENT TO OUTLOTS.
14. THE CONTRACTOR SHALL PROVIDE SUBMITTALS OF CONSTRUCTION MATERIALS PRIOR TO CONSTRUCTION.
15. ALL SANITARY SEWER SHALL BE CLEANED AND TELEVISED.
16. ALL SANITARY SEWER AND WATERMAIN SHALL BE CONSTRUCTED AND TESTED AS SPECIFIED ON IDNR PERMIT APPLICATION.
17. ALL DISTURBED AREAS SHOULD BE RESTORED BY SEEDING OR SODDING. ANY EXISTING ESTABLISHED LAWNS SHALL BE REPLACED WITH SOD. SOD MAINTENANCE PERIOD SHALL BE WHEN SOD IS DEEM ESTABLISHED BY THE CITY, BUT SHALL NOT EXTEND BEYOND 1-YEAR.
18. ALL CONSTRUCTION STAKING TO BE DONE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR.
19. NPDES NOI GENERAL PERMIT HOLDER IDENTIFIED IN CURRENT SWPPP SHALL PROVIDE WRITTEN VERIFICATION TO THE CITY ON COMPLIANCE WITH THE GENERAL PERMIT #2 TOPSOIL REQUIREMENTS UPON COMPLETION OF THE PROJECT.
20. ANY CHANGES TO THE PROPOSED PLAN SHALL BE SUBMITTED TO THE CITY OF WAUKEE ENGINEERING DEPARTMENT IN WRITING PRIOR TO IMPLEMENTATION. CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS ASSOCIATED WITH CHANGES MADE WITHOUT CITY APPROVAL.
21. ANY STORM PIPE LOCATED UNDER PAVEMENT WITH LESS THAN 2-FT OF COVER SHALL PROVIDE 24"x24" REINFORCEMENT ABOVE AND USE CLASS V RCP.
22. SOILS REPORT PREPARED BY TERRACON (DATED FEB. 19, 2004) IS REFERENCED FOR THIS PROJECT. SUBBASE AND SOIL RECOMMENDATIONS SHALL SUPERCEDE ANY CONTRADICTORY NOTES OR DETAILS IN THIS PLAN SET.
23. STORM AND SANITARY SEWER LENGTHS AND LINEWORK ARE SHOWN FROM THE REFERENCE POINT LOCATIONS. CONTRACTOR SHALL LENGTHS DUE TO OPEN AREA OF STRUCTURE AND CONNECTION LOCATIONS.
24. PROVIDE TRACER WIRE FOR ALL PLASTIC STORM SEWER MAINS.

PCC PAVING NOTES:

1. ALL SUBGRADE UNDER SLAB TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY FOR A MINIMUM OF 12". RECOMMENDED MOISTURE CONTENT RANGE 0% TO +4% OF OPTIMUM.
2. MOISTEN SUBGRADE PRIOR TO PLACING CONCRETE.
3. CONCRETE SHALL HAVE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI.
4. AGGREGATE SHALL BE CLASS 4.
5. CONCRETE SURFACES SHALL BE BURLAP FINISH. CHECK SURFACE WITH TEMPLATE. NO DEVIATION OVER 1/8" IN 10' IS PERMITTED. ALL CONCRETE SHALL SLOPE TO DRAIN.
6. ALL CONCRETE SHALL BE CURED WITH AN ASTM C309 TYPE 2, WATER BASED WHITE PIGMENTED CURING COMPOUND PER IDOT SEC. 4105.
7. SAW CUT JOINTS AS SOON AS CONCRETE HAS SET ENOUGH TO PREVENT RAVELING AND PRIOR TO ANY CRACKING.
8. SAW CUTS TO BE 1/8" TO 1/4" WIDE; DEPTH: LONGITUDINAL T/3, TRANSVERSE T/4.
9. LONGITUDINAL JOINT SPACING SHALL NOT BE GREATER THAN 12'. JOINT LAYOUT SHALL BE PER SUDAS, OR AS APPROVED BY THE ENGINEER AND CITY. ADDITIONALLY, TRANSVERSE SPACING SHALL NOT BE GREATER THAN 15'.
10. BARS AT LONGITUDINAL JOINTS TO BE 5/8" (#5) X 30" DEFORMED AT 30" O.C. ALL BARS SHALL BE EPOXY COATED.
11. ALL JOINTS SHALL BE FILLED WITH W-R MEADOWS D-164 HOT POUR RUBBER BASE JOINT SEALER OR APPROVED EQUAL.
12. THE CONTRACTOR TO BARRICADE SLAB FOR 14 DAYS AFTER PLACING.
13. PAVING THICKNESS SHALL BE PER TYPICAL SECTIONS OR NOTED. OTHERWISE 6" DRIVES; 5" PARKING AND TRAILS; 4" SIDEWALKS (WHERE NOT THROUGH DRIVE), 7" DRIVES (INCLUDING SIDEWALK IN DRIVE); PATCHES MATCH EX PAVT SECTION. ALL ROADWAYS SHALL INCLUDE 12" OF SUBGRADE PREPARATION.
14. SUBMIT DESIGN MIX AS DESIGNED BY INDEPENDENT TESTING LABORATORY PRIOR TO PLACING ANY CONCRETE.
15. ALL WORK TO COMPLY WITH CURRENT ACI STANDARDS.
16. FULL DEPTH SAW CUT AND TIE INTO EXISTING PAVEMENT AS REQUIRED.

WATER MAINS

1. The Contractor shall arrange and pay for the required taps to the public water main.
2. Water main shall have a minimum of 6 feet cover.
3. All hydrants shall be 24" minimum from sidewalks or trails.
4. The contractor shall verify before placing F.H.'s that no part of the F.H. shall be closer than 24" to a proposed sidewalk or trail. F.H.'s shall also be placed on the extension of lot lines as shown on the plans. Additional stakes for lot corners, trails and sidewalks shall be set.
5. Any relocated hydrants shall be retrofitted with Storz fittings.

SANITARY SEWERS

1. The sanitary sewer pipe bedding shall be granular encasement.
2. Vertical separation between sanitary sewer and water main and storm sewer shall be 1.50 feet minimum. Horizontal separation between sanitary sewer and water mains shall be 10 feet minimum.

H.C. STALLS, RAMPS AND ADAAG NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING THE PROPOSED SPOT ELEVATIONS, SIDEWALK SLOPES, DROP CURBS, GRADING, STRIPING, SIGNAGE AND RAMP DETAILS TO MEET CURRENT REQUIREMENTS OF SUDAS, MUTCD, DOJ, ADAAG AND PROWAG.
2. THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER THAT THE RAMP, SIDEWALK, AND PARKING AREAS ARE CONSTRUCTED PROPERLY TO MEET STANDARDS.
3. SHOULD DISCREPANCIES OCCUR ON THE PLAN OR WHAT IS REQUIRED BY THE INSPECTOR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
4. PERFORMING THE WORK THE WAY THE CONTRACTOR HAS FOR THE LAST XX YEARS ON OTHER APPROVED PROJECTS WILL NOT BE AN EXCUSE FOR NON-COMPLIANCE WITH THESE REQUIREMENTS.

ABBREVIATIONS

SFE = STORM WATER FLOWAGE EASEMENT
SMF = STORM WATER MANAGEMENT FACILITY
EASE = EASEMENT
TYP. = TYPICAL

CONSTRUCTION PLANS

OF

GLYNN VILLAGE PLAT 8

CITY OF WAUKEE
DALLAS COUNTY, IOWA

FOR

HUBBELL REALTY COMPANY

PROJECT CONTACT
ANDREW HUBBELL
515-221-6656

8" SANITARY	3757	LF
SAN MANHOLE	16	EA
SAN SERVICES	85	EA
8" WATER MAIN	4520	LF
WATER SERVICE	85	EA
8" GATE VALVE	13	EA
FIRE HYD	16	EA
8" FOOTING DRAIN	300	LF
15" RCP	450	LF
18" RCP	1496	LF
24" RCP	426	LF
30" RCP	186	LF
36" RCP	356	LF
SINGLE CURB INTAKE	14	EA
DOUBLE CURB INTAKE	2	EA
AREA INTAKE	2	EA
DITCH INTAKE	3	EA
RIP-RAP	200	TN
STORM SERVICES	12	EA
7" PCC	11180	SY
9" PCC	3886	SY

PREPARED BY:

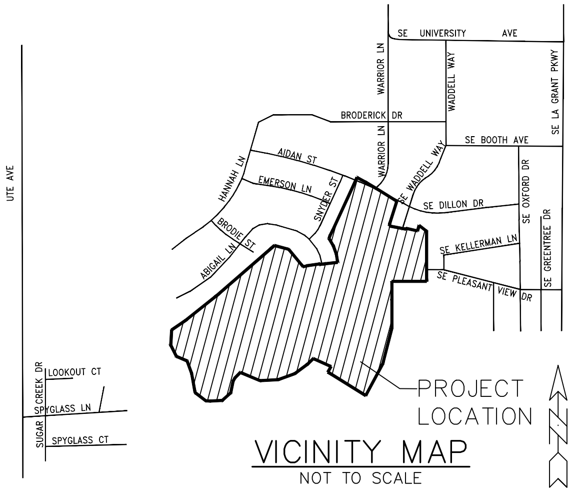
ERG

Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

INDEX OF SHEETS

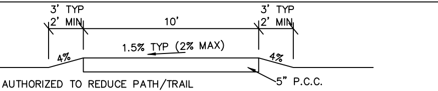
1. COVER
2. PROJECT MAP
3. GRADING PLAN OVERALL
4. GRADING PLAN 1
5. GRADING PLAN 2
6. GRADING PLAN 3
7. GRADING PLAN 4
8. GRADING PLAN 5
9. PLEASANTVIEW DR - SANITARY AND WATER
10. DUNHAM DR - SANITARY AND WATER
11. WADDELL WAY - SANITARY AND WATER
12. WARRIOR LANE - SANITARY AND WATER
13. WARRIOR LANE - SANITARY AND WATER
14. WARRIOR LANE - CONNECTOR UTILITIES
15. WARRIOR LANE - CONNECTOR UTILITIES
16. KIMBALL LANE - SANITARY AND WATER
17. KIMBALL LANE - SANITARY AND WATER
18. BRODIE STREET - OFFSITE SANITARY
19. BRODIE STREET - SANITARY AND WATER
20. BRODIE STREET - SANITARY AND WATER
21. PLEASANTVIEW DR - PAVEMENT & STORM
22. DUNHAM DR - PAVEMENT & STORM
23. WADDELL WAY - PAVEMENT & STORM
24. WARRIOR LANE - PAVEMENT & STORM
25. WARRIOR LANE - PAVEMENT & STORM
26. KIMBALL LANE - PAVEMENT & STORM
27. KIMBALL LANE - PAVEMENT & STORM
28. BRODIE STREET - PAVEMENT & STORM
29. BRODIE STREET - PAVEMENT & STORM
30. WADDELL WAY - GREENBELT STORM
31. WADDELL WAY - GREENBELT STORM
32. WARRIOR LANE - GREENBELT STORM
33. WARRIOR LANE - GREENBELT STORM
34. WARRIOR LANE - GREENBELT STORM
35. KIMBALL LANE - GREENBELT STORM
36. KIMBALL LANE - GREENBELT STORM
37. BRODIE STREET - GREENBELT STORM
38. ABIGAL LANE - GREENBELT STORM
39. ABIGAL LANE - GREENBELT STORM
40. WARRIOR LN - MEDIAN GROUND COVER PLAN
41. DETAILS
42. DETAILS 2
43. DETAILS 3
44. DETAILS 4
45. DETAILS 5
46. DETAILS 6
47. DETAILS 7

1. INITIAL STARTUP SWPPP ECS
2. SWPPP SITE MAP



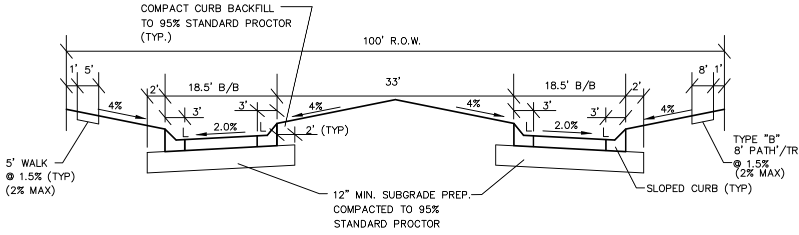
VICINITY MAP
NOT TO SCALE

NOTE: SEE STORM WATER POLLUTION PREVENTION PLAN FOR EROSION CONTROL MEASURES



NOTES:
1. DEVELOPER AUTHORIZED TO REDUCE PATH/TRAIL WIDTH TO 8-FT MIN WHERE NOTED, AND/OR USE 5" ACC PAVEMENT. PROVIDE SHOULDERS AT ALL LOCATIONS.
2. ALL TRAILS/PATHS WITHIN PROPOSED RIGHT-OF-WAY SHALL BE 8-FT IN WIDTH AND CONSTRUCTED WITH PCC PAVEMENT.
3. 6-IN DEPTH TO BE PROVIDED AT ALL DRIVEWAY CROSSINGS.

RECREATION SHARED USE PATH/TRAIL
NO SCALE

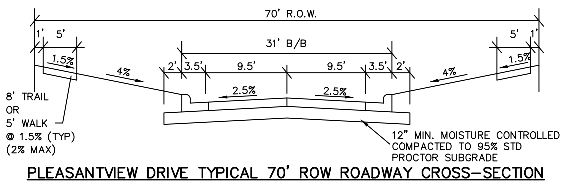


COMPACT CURB BACKFILL TO 95% STANDARD PROCTOR (TYP.)
100' R.O.W.
1'
5'
2'
18.5' B/B
3'
3'
33'
18.5' B/B
2'
8'
1'
4%
4%
4%
4%
2.0%
2.0%
2' (TYP)
5' WALK @ 1.5% (TYP) (2% MAX)
12" MIN. SUBGRADE PREP. COMPACTED TO 95% STANDARD PROCTOR
TYPE "B" 8' PATH'/TRAIL @ 1.5% (2% MAX)
SLOPED CURB (TYP)

WARRIOR LANE TYPICAL STREET CROSS SECTION
(9" NON-REINFORCED PCC PAVEMENT w/ CD BASKETS)

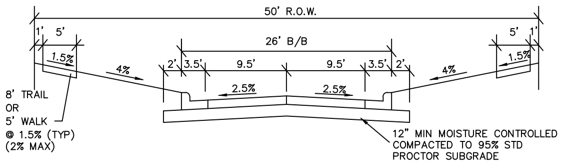
NOT TO SCALE

PLANS APPROVED BY CITY OF WAUKEE
DATE: 2014-04-07



70' R.O.W.
1'
5'
31' B/B
5'
1'
1.5%
4%
2'
3.5'
9.5'
9.5'
3.5'
2'
4%
1.5%
2.5%
2.5%
8' TRAIL OR 5' WALK @ 1.5% (TYP) (2% MAX)
12" MIN. MOISTURE CONTROLLED COMPACTED TO 95% STD PROCTOR SUBGRADE

PLEASANTVIEW DRIVE TYPICAL 70' ROW ROADWAY CROSS-SECTION
(8" NON-REINFORCED PCC PAVEMENT w/ CD BASKETS)
NOT TO SCALE



50' R.O.W.
1'
5'
26' B/B
5'
1'
1.5%
4%
2'
3.5'
9.5'
9.5'
3.5'
2'
4%
1.5%
2.5%
2.5%
8' TRAIL OR 5' WALK @ 1.5% (TYP) (2% MAX)
12" MIN MOISTURE CONTROLLED COMPACTED TO 95% STD PROCTOR SUBGRADE

TYPICAL 50' ROW ROADWAY CROSS-SECTION (7" NON-REINFORCED P.C.C.)
NOT TO SCALE

CHAD J. BILLINGS 19787

ENGINEERING CERTIFICATION

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT, SPECIFICATION OR REPORT 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.

CHAD J. BILLINGS, P.E. #19787
MY REGISTRATION RENEWAL DATE IS DECEMBER 31, 2015

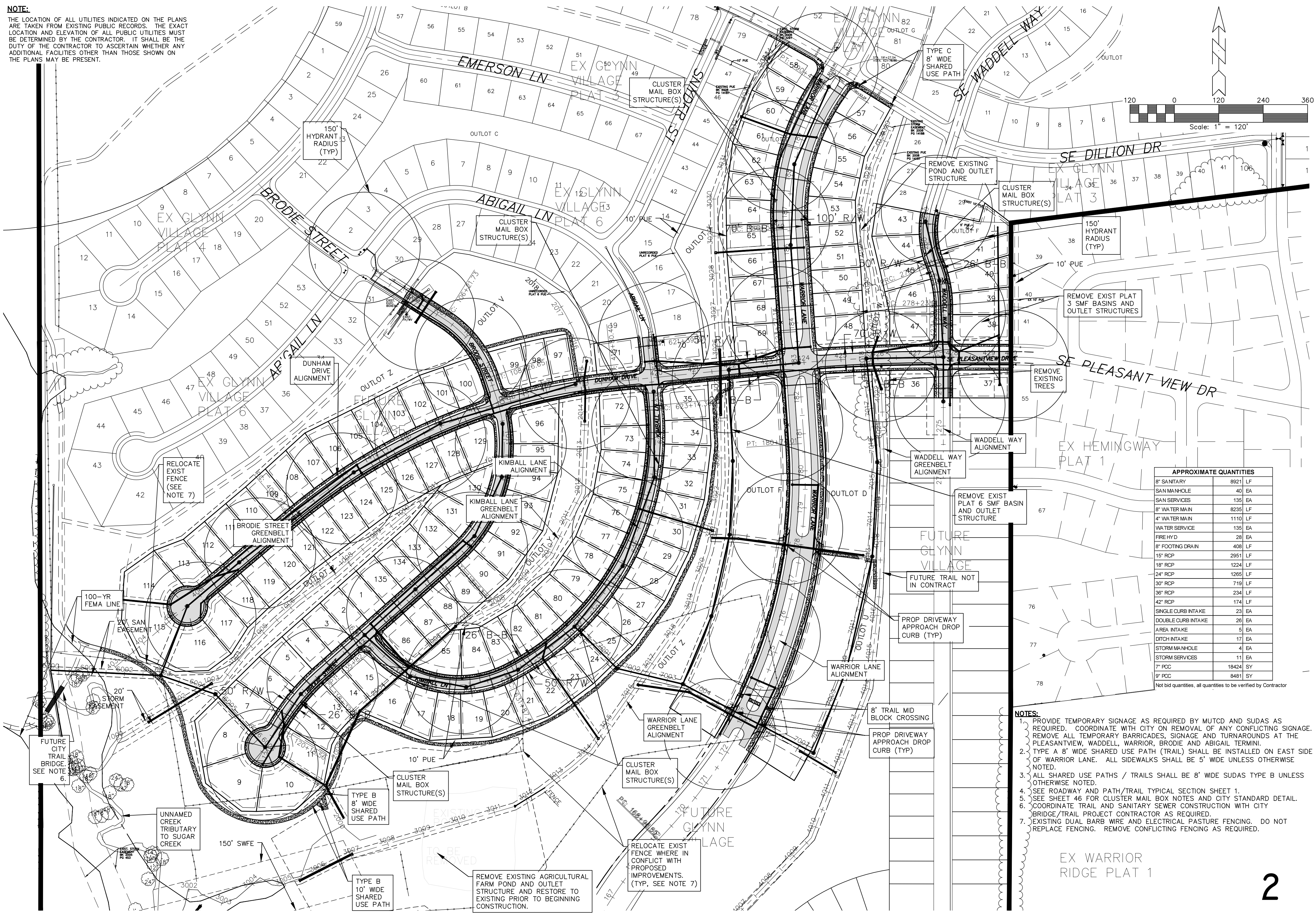
PAGES OR SHEETS COVERED BY THIS SEAL
1-47

DATE: 4/4/2014

GLYNN VILLAGE PLAT 8

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.


EMERSON LN
EX GLYNN VILLAGE PLAT 3
SNIDER ST
SE WADDELL WAY
SE DILLION DR
SE PLEASANT VIEW DR
SE PLEASANTVIEW DRIVE
ABIGAIL LN
BRODIE STREET
EX GLYNN VILLAGE PLAT 4
EX GLYNN VILLAGE PLAT 6
FUTURE GLYNN VILLAGE
EX HEMINGWAY PLAT 1
EX WARRIOR RIDGE PLAT 1
DUNHAM DRIVE
KIMBALL LN
WARRIOR LANE
WADDELL WAY
OUTLOT B
OUTLOT C
OUTLOT F
OUTLOT G
OUTLOT V
OUTLOT Z
OUTLOT Y
OUTLOT D
OUTLOT U
120 0 120 240 360
Scale: 1" = 120'
CLUSTER MAIL BOX STRUCTURE(S)
150' HYDRANT RADIUS (TYP)
TYPE C 8' WIDE SHARED USE PATH
REMOVE EXISTING POND AND OUTLET STRUCTURE
REMOVE EXIST PLAT 3 SMF BASINS AND OUTLET STRUCTURES
REMOVE EXISTING TREES
WADDELL WAY ALIGNMENT
WADDELL WAY GREENBELT ALIGNMENT
REMOVE EXIST PLAT 6 SMF BASIN AND OUTLET STRUCTURE
FUTURE TRAIL NOT IN CONTRACT
PROP DRIVEWAY APPROACH DROP CURB (TYP)
WARRIOR LANE ALIGNMENT
8' TRAIL MID BLOCK CROSSING
WARRIOR LANE GREENBELT ALIGNMENT
RELOCATE EXIST FENCE WHERE IN CONFLICT WITH PROPOSED IMPROVEMENTS. (TYP, SEE NOTE 7)
REMOVE EXISTING AGRICULTURAL FARM POND AND OUTLET STRUCTURE AND RESTORE TO EXISTING PRIOR TO BEGINNING CONSTRUCTION.
TYPE B 10' WIDE SHARED USE PATH
TYPE B 8' WIDE SHARED USE PATH
150' SWFE
UNNAMED CREEK TRIBUTARY TO SUGAR CREEK
FUTURE CITY TRAIL BRIDGE. SEE NOTE 6.
20' STORM EASEMENT
20' SAN EASEMENT
100-YR FEMA LINE
RELOCATE EXIST FENCE (SEE NOTE 7)
BRODIE STREET GREENBELT ALIGNMENT
KIMBALL LANE ALIGNMENT
KIMBALL LANE GREENBELT ALIGNMENT
DUNHAM DRIVE ALIGNMENT
10' PUE
50' R/W
100' R/W
26' B-B
FENCE

APPROXIMATE QUANTITIES		
8" SANITARY	8921	LF
SAN MANHOLE	40	EA
SAN SERVICES	135	EA
8" WATER MAIN	8235	LF
4" WATER MAIN	1110	LF
WATER SERVICE	135	EA
FIRE HYD	28	EA
8" FOOTING DRAIN	408	LF
15" RCP	2951	LF
18" RCP	1224	LF
24" RCP	1265	LF
30" RCP	719	LF
36" RCP	234	LF
42" RCP	174	LF
SINGLE CURB INTAKE	23	EA
DOUBLE CURB INTAKE	26	EA
AREA INTAKE	5	EA
DITCH INTAKE	17	EA
STORM MANHOLE	4	EA
STORM SERVICES	11	EA
7" PCC	18424	SY
9" PCC	8481	SY

Not bid quantities, all quantities to be verified by Contractor

NOTES:

1. PROVIDE TEMPORARY SIGNAGE AS REQUIRED BY MUTCD AND SUDAS AS REQUIRED. COORDINATE WITH CITY ON REMOVAL OF ANY CONFLICTING SIGNAGE. REMOVE ALL TEMPORARY BARRICADES, SIGNAGE AND TURNAROUNDS AT THE PLEASANTVIEW, WADDELL, WARRIOR, BRODIE AND ABIGAIL TERMINI.
2. TYPE A 8' WIDE SHARED USE PATH (TRAIL) SHALL BE INSTALLED ON EAST SIDE OF WARRIOR LANE. ALL SIDEWALKS SHALL BE 5' WIDE UNLESS OTHERWISE NOTED.
3. ALL SHARED USE PATHS / TRAILS SHALL BE 8' WIDE SUDAS TYPE B UNLESS OTHERWISE NOTED.
4. SEE ROADWAY AND PATH/TRAIL TYPICAL SECTION SHEET 1.
5. SEE SHEET 46 FOR CLUSTER MAIL BOX NOTES AND CITY STANDARD DETAIL.
6. COORDINATE TRAIL AND SANITARY SEWER CONSTRUCTION WITH CITY BRIDGE/TRAIL PROJECT CONTRACTOR AS REQUIRED.
7. EXISTING DUAL BARB WIRE AND ELECTRICAL PASTURE FENCING. DO NOT REPLACE FENCING. REMOVE CONFLICTING FENCING AS REQUIRED.

2

GLYNN VILLAGE PLAT 8 - PROJECT MAP

LOCATION:	SCALE: 1" = 120'	DESIGNED BY: CJB	DRAWN BY: PJV
	DWG: 13-028-PRJ.DWG	CHECKED BY: DJS	DATE: 07/12/13
	FIELD BOOK:	SHEET 2 OF 47	FILE NO.: 13-028

FOR:

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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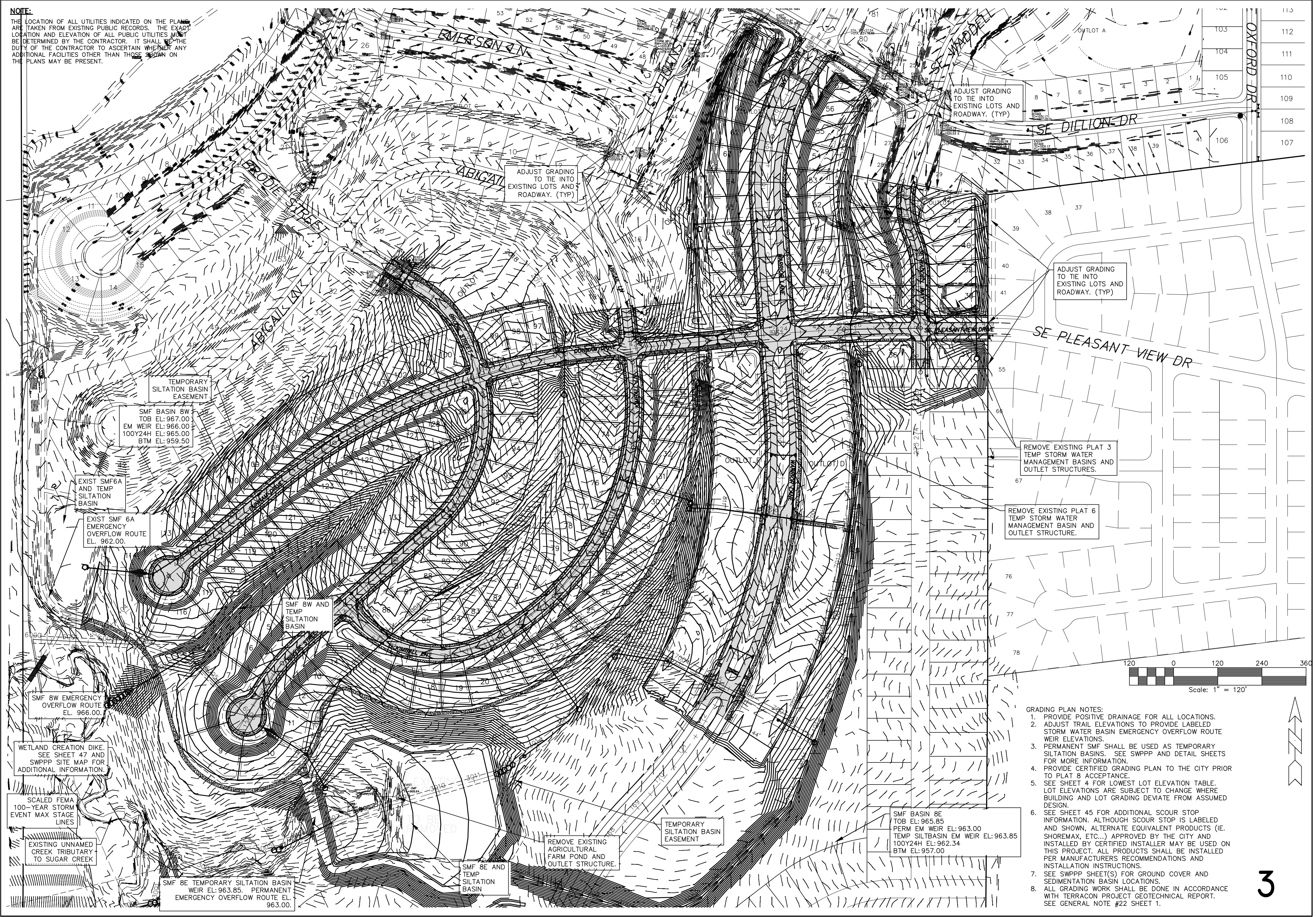
EMERSON LN
SE DILLION DR
OXFORD DR
SE PLEASANT VIEW DR
BRODIE STREET
ABIGAIL LN
OUTLOT A
OUTLOT D
ADJUST GRADING TO TIE INTO EXISTING LOTS AND ROADWAY. (TYP)
ADJUST GRADING TO TIE INTO EXISTING LOTS AND ROADWAY. (TYP)
ADJUST GRADING TO TIE INTO EXISTING LOTS AND ROADWAY. (TYP)
REMOVE EXISTING PLAT 3 TEMP STORM WATER MANAGEMENT BASINS AND OUTLET STRUCTURES.
REMOVE EXISTING PLAT 6 TEMP STORM WATER MANAGEMENT BASIN AND OUTLET STRUCTURE.
TEMPORARY SILTATION BASIN EASEMENT
SMF BASIN 8W
TOB EL: 967.00
EM WEIR EL: 966.00
100Y24H EL: 965.00
BTM EL: 959.50
EXIST SMF6A AND TEMP SILTATION BASIN
EXIST SMF 6A EMERGENCY OVERFLOW ROUTE EL. 962.00.
SMF 8W AND TEMP SILTATION BASIN
SMF 8W EMERGENCY OVERFLOW ROUTE EL. 966.00.
WETLAND CREATION DIKE. SEE SHEET 47 AND SWPPP SITE MAP FOR ADDITIONAL INFORMATION.
SCALED FEMA 100–YEAR STORM EVENT MAX STAGE LINES
EXISTING UNNAMED CREEK TRIBUTARY TO SUGAR CREEK
SMF 8E TEMPORARY SILTATION BASIN WEIR EL: 963.85. PERMANENT EMERGENCY OVERFLOW ROUTE EL. 963.00.
SMF 8E AND TEMP SILTATION BASIN
REMOVE EXISTING AGRICULTURAL FARM POND AND OUTLET STRUCTURE.
TEMPORARY SILTATION BASIN EASEMENT
SMF BASIN 8E
TOB EL: 965.85
PERM EM WEIR EL: 963.00
TEMP SILTBASIN EM WEIR EL: 963.85
100Y24H EL: 962.34
BTM EL: 957.00
120 0 120 240 360
Scale: 1" = 120'

GRADING PLAN NOTES:

1. PROVIDE POSITIVE DRAINAGE FOR ALL LOCATIONS.
2. ADJUST TRAIL ELEVATIONS TO PROVIDE LABELED STORM WATER BASIN EMERGENCY OVERFLOW ROUTE WEIR ELEVATIONS.
3. PERMANENT SMF SHALL BE USED AS TEMPORARY SILTATION BASINS. SEE SWPPP AND DETAIL SHEETS FOR MORE INFORMATION.
4. PROVIDE CERTIFIED GRADING PLAN TO THE CITY PRIOR TO PLAT 8 ACCEPTANCE.
5. SEE SHEET 4 FOR LOWEST LOT ELEVATION TABLE. LOT ELEVATIONS ARE SUBJECT TO CHANGE WHERE BUILDING AND LOT GRADING DEVIATE FROM ASSUMED DESIGN.
6. SEE SHEET 45 FOR ADDITIONAL SCOUR STOP INFORMATION. ALTHOUGH SCOUR STOP IS LABELED AND SHOWN, ALTERNATE EQUIVALENT PRODUCTS (IE. SHOREMAX, ETC...) APPROVED BY THE CITY AND INSTALLED BY CERTIFIED INSTALLER MAY BE USED ON THIS PROJECT. ALL PRODUCTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.
7. SEE SWPPP SHEET(S) FOR GROUND COVER AND SEDIMENTATION BASIN LOCATIONS.
8. ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH TERRACON PROJECT GEOTECHNICAL REPORT. SEE GENERAL NOTE #22 SHEET 1.

3

GLYNN VILLAGE PLAT 8 - GRADING PLAN OVERALL

SCALE: 1" = 120'	DESIGNED BY: CJB	DRAWN BY: PJV	
DWG: 13-028-GRD.DWG	CHECKED BY: DJS	DATE: 07/12/13	
FIELD BOOK:	SHEET 3 OF 47	FILE NO.: 13-028	

LOCATION:

FOR:

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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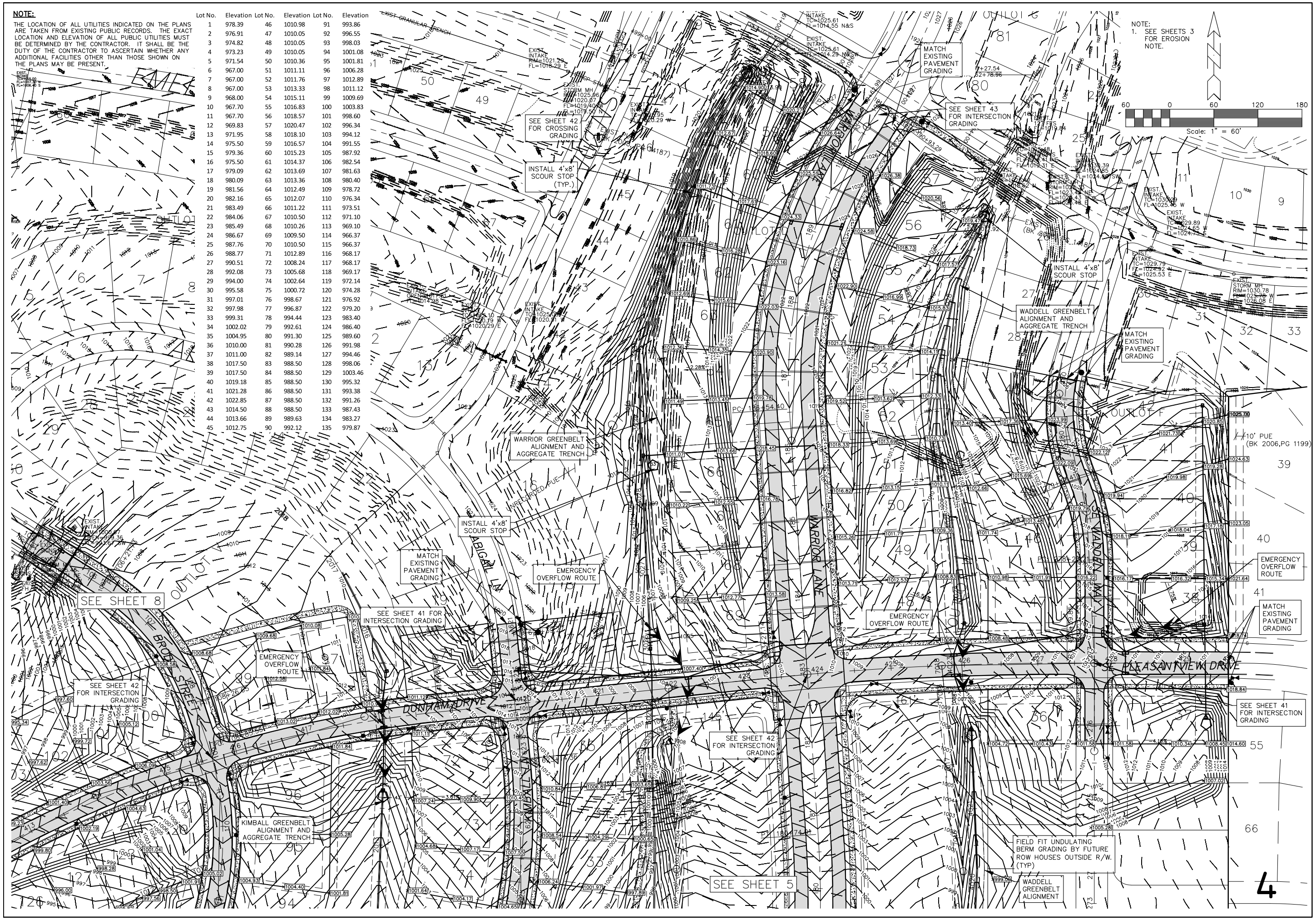
Lot No.	Elevation	Lot No.	Elevation	Lot No.	Elevation
1	978.39	46	1010.98	91	993.86
2	976.91	47	1010.05	92	996.55
3	974.82	48	1010.05	93	998.03
4	973.23	49	1010.05	94	1001.08
5	971.54	50	1010.36	95	1001.81
6	967.00	51	1011.11	96	1006.28
7	967.00	52	1011.76	97	1012.89
8	967.00	53	1013.33	98	1011.12
9	968.00	54	1015.11	99	1009.69
10	967.70	55	1016.83	100	1003.83
11	967.70	56	1018.57	101	998.60
12	969.83	57	1020.47	102	996.34
13	971.95	58	1018.10	103	994.12
14	975.50	59	1016.57	104	991.55
15	979.36	60	1015.23	105	987.92
16	975.50	61	1014.37	106	982.54
17	979.09	62	1013.69	107	981.63
18	980.09	63	1013.36	108	980.40
19	981.56	64	1012.49	109	978.72
20	982.16	65	1012.07	110	976.34
21	983.49	66	1011.22	111	973.51
22	984.06	67	1010.50	112	971.10
23	985.49	68	1010.26	113	969.10
24	986.67	69	1009.50	114	966.37
25	987.76	70	1010.50	115	966.37
26	988.77	71	1012.89	116	968.17
27	990.51	72	1008.24	117	968.17
28	992.08	73	1005.68	118	969.17
29	994.00	74	1002.64	119	972.14
30	995.58	75	1000.72	120	974.28
31	997.01	76	998.67	121	976.92
32	997.98	77	996.87	122	979.20
33	999.31	78	994.44	123	983.40
34	1002.02	79	992.61	124	986.40
35	1004.95	80	991.30	125	989.60
36	1010.00	81	990.28	126	991.98
37	1011.00	82	989.14	127	994.46
38	1017.50	83	988.50	128	998.06
39	1017.50	84	988.50	129	1003.46
40	1019.18	85	988.50	130	995.32
41	1021.28	86	988.50	131	993.38
42	1022.85	87	988.50	132	991.26
43	1014.50	88	988.50	133	987.43
44	1013.66	89	989.63	134	983.27
45	1012.75	90	992.12	135	979.87



SEE SHEET 42 FOR CROSSING GRADING
INSTALL 4'x8' SCOUR STOP (TYP.)
MATCH EXISTING PAVEMENT GRADING
SEE SHEET 43 FOR INTERSECTION GRADING
INSTALL 4'x8' SCOUR STOP
WADDELL GREENBELT ALIGNMENT AND AGGREGATE TRENCH
WARRIOR GREENBELT ALIGNMENT AND AGGREGATE TRENCH
EMERGENCY OVERFLOW ROUTE
SEE SHEET 8
SEE SHEET 41 FOR INTERSECTION GRADING
SEE SHEET 42 FOR INTERSECTION GRADING
KIMBALL GREENBELT ALIGNMENT AND AGGREGATE TRENCH
SEE SHEET 5
FIELD FIT UNDULATING BERM GRADING BY FUTURE ROW HOUSES OUTSIDE R/W. (TYP)
WADDELL GREENBELT ALIGNMENT
10' PUE (BK 2006,PG 1199)
DONAHUE DRIVE
SE PLEASANTVIEW DRIVE
WARRIOR LANE
ABIGAIL LN
KIMBALL LN
BROAD STREET
OUTLOT F
OUTLOT Y
NOTE: 1. SEE SHEETS 3 FOR EROSION NOTE.
60 0 60 120 180
Scale: 1" = 60'

4

GLYNN VILLAGE PLAT 8 - GRADING PLAN I

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 60'
DWG: 13-028-GRD1.DWG
FIELD BOOK:
DESIGNED BY: CJB
CHECKED BY: DJS
SHEET 4 OF 47
DRAWN BY: PJV
DATE: 07/12/13
FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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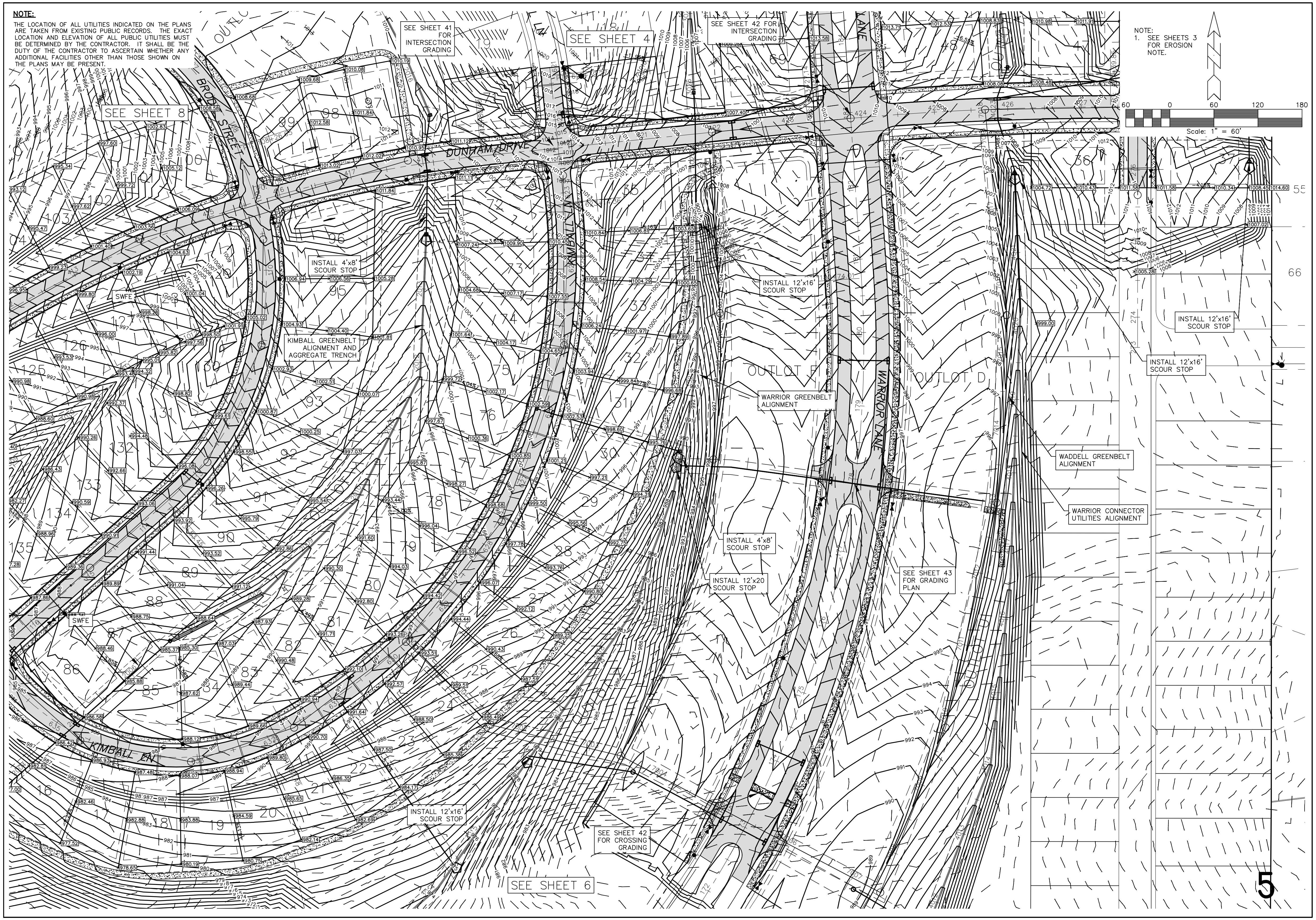

SEE SHEET 41 FOR INTERSECTION GRADING

SEE SHEET 42 FOR INTERSECTION GRADING

INSTALL 4'x8' SCOUR STOP

KIMBALL GREENBELT ALIGNMENT AND AGGREGATE TRENCH

INSTALL 12'x16' SCOUR STOP

WARRIOR GREENBELT ALIGNMENT

INSTALL 4'x8' SCOUR STOP

INSTALL 12'x20 SCOUR STOP

SEE SHEET 43 FOR GRADING PLAN

WADDELL GREENBELT ALIGNMENT

WARRIOR CONNECTOR UTILITIES ALIGNMENT

INSTALL 12'x16' SCOUR STOP

INSTALL 12'x16' SCOUR STOP

INSTALL 12'x16' SCOUR STOP

SEE SHEET 42 FOR CROSSING GRADING

NOTE:
1. SEE SHEETS 3 FOR EROSION NOTE.

GLYNN VILLAGE PLAT 8 - GRADING PLAN 2

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE:	1" = 60'	DESIGNED BY:	CJB	DRAWN BY:	PJV
DWG:	13-028-GRD2.DWG	CHECKED BY:	DJS	DATE:	07/12/13
FIELD BOOK:		SHEET 5 OF 47		FILE NO.:	13-028

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DES MOINES, IOWA 50312
(515) 288-4823

13-028

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NOTE:

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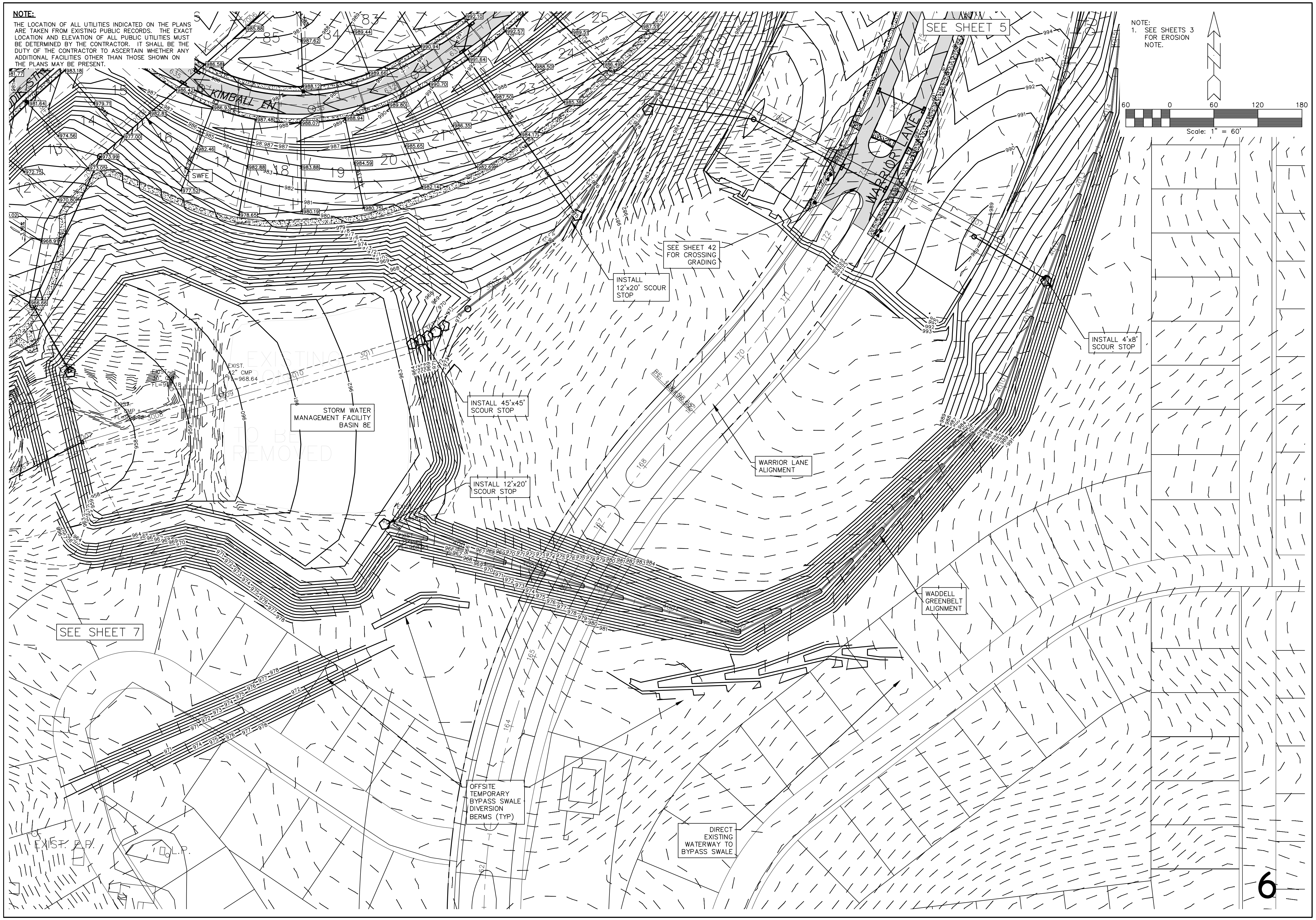
NOTE:
1. SEE SHEETS 3 FOR EROSION NOTE.


SEE SHEET 5
KIMBALL LN
WARRIOR LANE
SWFE
SEE SHEET 42 FOR CROSSING GRADING
INSTALL 12'x20' SCOUR STOP
INSTALL 4'x8' SCOUR STOP
EXIST. 12" CMP FL=968.64
EXISTING ... TO BE REMOVED
STORM WATER MANAGEMENT FACILITY BASIN 8E
INSTALL 45'x45' SCOUR STOP
INSTALL 12'x20' SCOUR STOP
WARRIOR LANE ALIGNMENT
WADDELL GREENBELT ALIGNMENT
SEE SHEET 7
OFFSITE TEMPORARY BYPASS SWALE DIVERSION BERMS (TYP)
DIRECT EXISTING WATERWAY TO BYPASS SWALE
EXIST. D.P.
D.L.P.
60 0 60 120 180
Scale: 1" = 60'

GLYNN VILLAGE PLAT 8 - GRADING PLAN 3

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 60'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-GRD2.DWG	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 6 OF 47	FILE NO.: 13-028

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DES MOINES, IOWA 50312
(515) 288-4823

13-028

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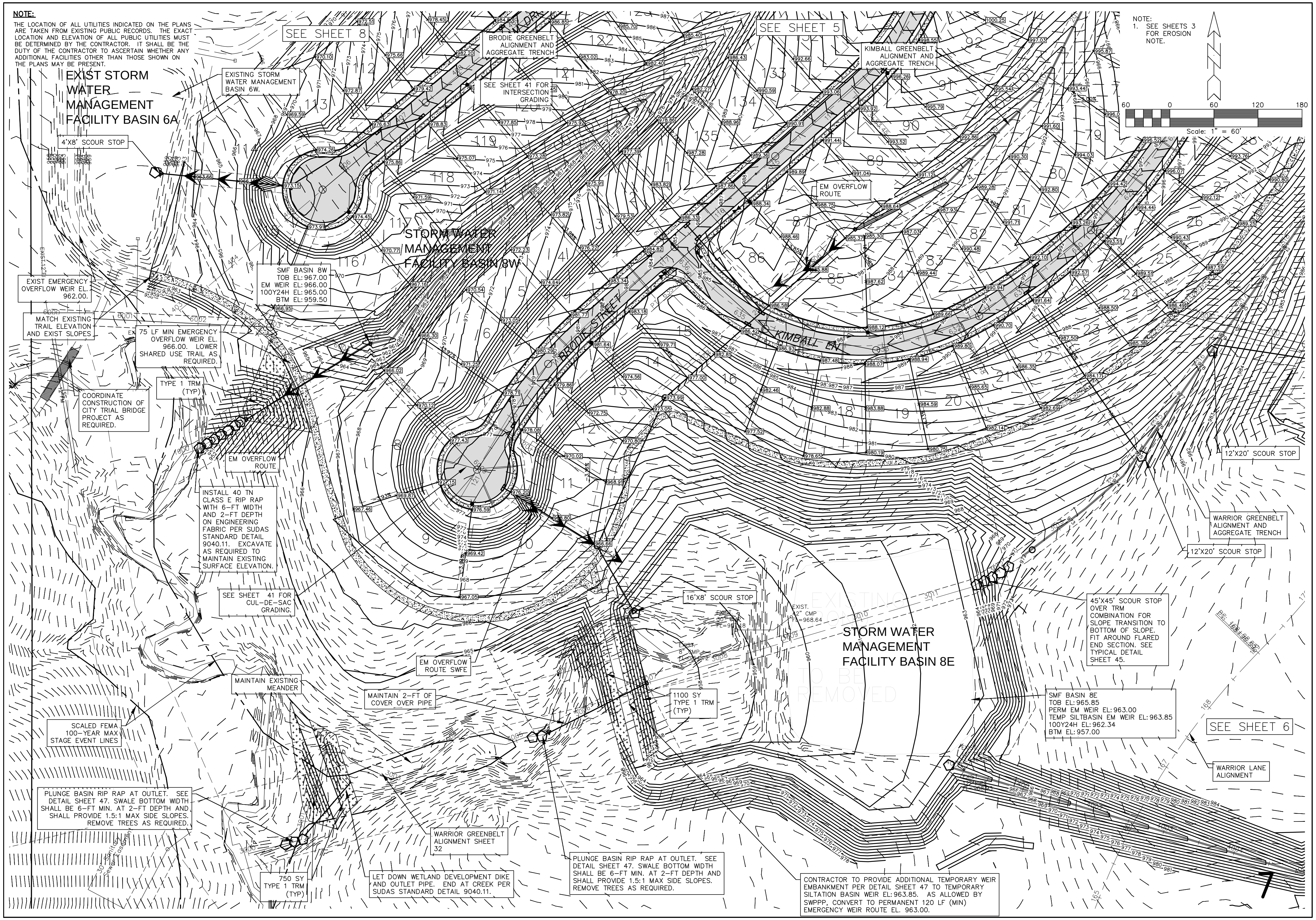
NOTE:
1. SEE SHEETS 3 FOR EROSION NOTE.


EXIST STORM WATER MANAGEMENT FACILITY BASIN 6A
SEE SHEET 8
SEE SHEET 5
SEE SHEET 6
BRODIE GREENBELT ALIGNMENT AND AGGREGATE TRENCH
KIMBALL GREENBELT ALIGNMENT AND AGGREGATE TRENCH
EXISTING STORM WATER MANAGEMENT BASIN 6W.
SEE SHEET 41 FOR INTERSECTION GRADING
4'X8' SCOUR STOP
STORM WATER MANAGEMENT FACILITY BASIN 8W
SMF BASIN 8W
TOB EL: 967.00
EM WEIR EL: 966.00
100Y24H EL: 965.00
BTM EL: 959.50
EXIST EMERGENCY OVERFLOW WEIR EL. 962.00.
MATCH EXISTING TRAIL ELEVATION AND EXIST SLOPES
75 LF MIN EMERGENCY OVERFLOW WEIR EL. 966.00. LOWER SHARED USE TRAIL AS REQUIRED.
TYPE 1 TRM (TYP)
COORDINATE CONSTRUCTION OF CITY TRIAL BRIDGE PROJECT AS REQUIRED.
EM OVERFLOW ROUTE
INSTALL 40 TN CLASS E RIP RAP WITH 6-FT WIDTH AND 2-FT DEPTH ON ENGINEERING FABRIC PER SUDAS STANDARD DETAIL 9040.11. EXCAVATE AS REQUIRED TO MAINTAIN EXISTING SURFACE ELEVATION.
SEE SHEET 41 FOR CUL-DE-SAC GRADING.
EM OVERFLOW ROUTE
BRODIE ST
KIMBALL LN
EM OVERFLOW ROUTE SWFE
MAINTAIN EXISTING MEANDER
MAINTAIN 2-FT OF COVER OVER PIPE
16'X8' SCOUR STOP
1100 SY TYPE 1 TRM (TYP)
EXIST. 12" CMP FL=968.64
STORM WATER MANAGEMENT FACILITY BASIN 8E
EXISTING TO BE REMOVED
SCALED FEMA 100-YEAR MAX STAGE EVENT LINES
PLUNGE BASIN RIP RAP AT OUTLET. SEE DETAIL SHEET 47. SWALE BOTTOM WIDTH SHALL BE 6-FT MIN. AT 2-FT DEPTH AND SHALL PROVIDE 1.5:1 MAX SIDE SLOPES. REMOVE TREES AS REQUIRED.
WARRIOR GREENBELT ALIGNMENT SHEET 32
750 SY TYPE 1 TRM (TYP)
LET DOWN WETLAND DEVELOPMENT DIKE AND OUTLET PIPE. END AT CREEK PER SUDAS STANDARD DETAIL 9040.11.
PLUNGE BASIN RIP RAP AT OUTLET. SEE DETAIL SHEET 47. SWALE BOTTOM WIDTH SHALL BE 6-FT MIN. AT 2-FT DEPTH AND SHALL PROVIDE 1.5:1 MAX SIDE SLOPES. REMOVE TREES AS REQUIRED.
CONTRACTOR TO PROVIDE ADDITIONAL TEMPORARY WEIR EMBANKMENT PER DETAIL SHEET 47 TO TEMPORARY SILTATION BASIN WEIR EL: 963.85. AS ALLOWED BY SWPPP, CONVERT TO PERMANENT 120 LF (MIN) EMERGENCY WEIR ROUTE EL. 963.00.
SMF BASIN 8E
TOB EL: 965.85
PERM EM WEIR EL: 963.00
TEMP SILTBASIN EM WEIR EL: 963.85
100Y24H EL: 962.34
BTM EL: 957.00
45'X45' SCOUR STOP OVER TRM COMBINATION FOR SLOPE TRANSITION TO BOTTOM OF SLOPE. FIT AROUND FLARED END SECTION. SEE TYPICAL DETAIL SHEET 45.
WARRIOR LANE ALIGNMENT
12'X20' SCOUR STOP
WARRIOR GREENBELT ALIGNMENT AND AGGREGATE TRENCH
12'X20' SCOUR STOP
60 0 60 120 180
Scale: 1" = 60'

GLYNN VILLAGE PLAT 8 - GRADING PLAN 4

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE:	1" = 60'	DESIGNED BY:	CJB
DWG:	13-028-GRD3.DWG	CHECKED BY:	DJS
FIELD BOOK:		SHEET 7 OF 47	
DRAWN BY:	PJV	DATE:	07/12/13
FILE NO.:	13-028		

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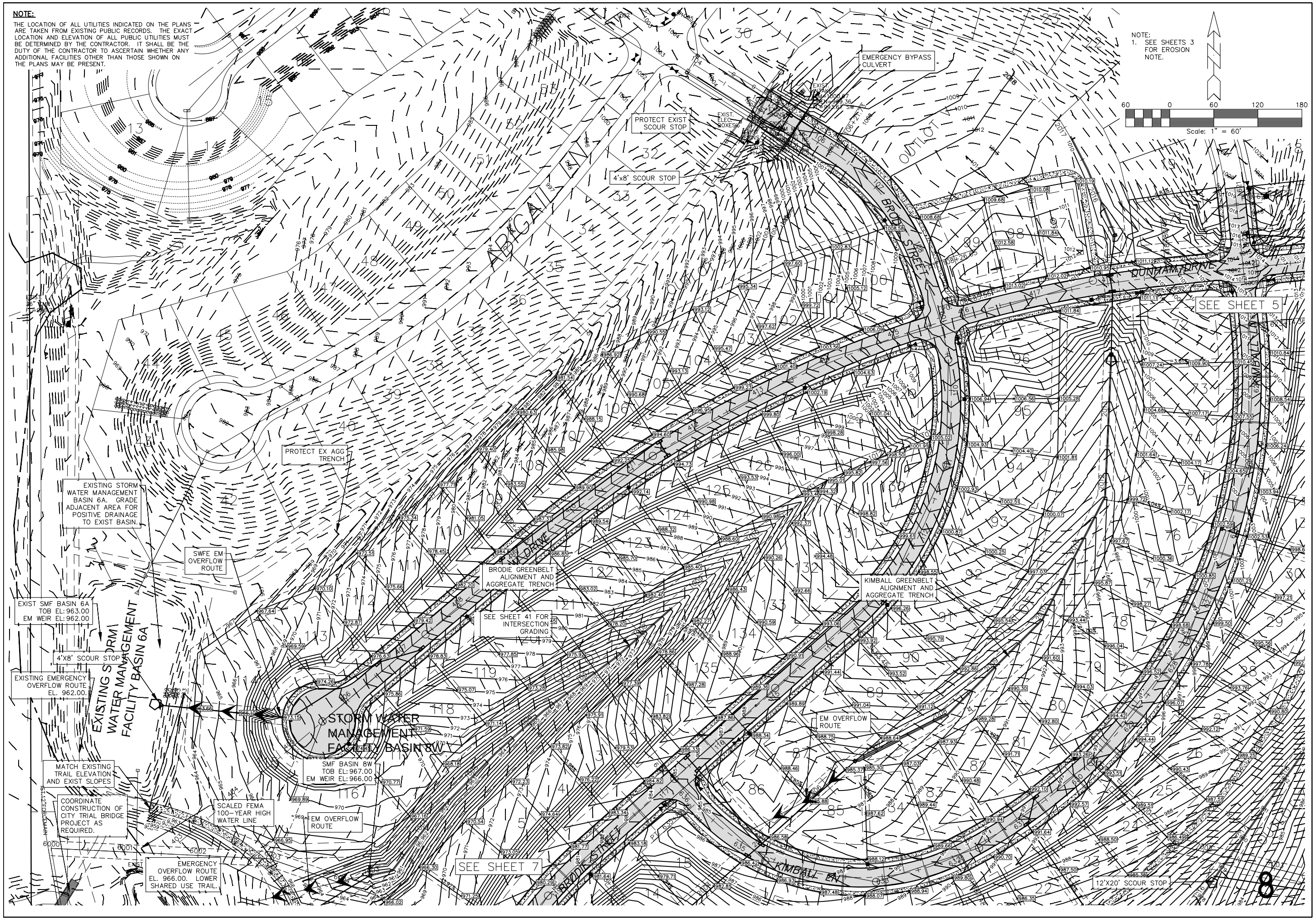
NOTE:
1. SEE SHEETS 3 FOR EROSION NOTE.


60 0 60 120 180
Scale: 1" = 60'
N
EMERGENCY BYPASS CULVERT
PROTECT EXIST SCOUR STOP
4'x8' SCOUR STOP
EXIST ELEC BOXES
BRODIE STREET
DUNHAM DRIVE
KIMBALL LN
KIMBALL LN
BRODIE STREET
OUTLOT
SEE SHEET 5
SEE SHEET 7
PROTECT EX AGG TRENCH
EXISTING STORM WATER MANAGEMENT BASIN 6A. GRADE ADJACENT AREA FOR POSITIVE DRAINAGE TO EXIST BASIN.
SWFE EM OVERFLOW ROUTE
EXIST SMF BASIN 6A
TOB EL: 963.00
EM WEIR EL: 962.00
EXISTING STORM WATER MANAGEMENT FACILITY BASIN 6A
4'X8' SCOUR STOP
EXISTING EMERGENCY OVERFLOW ROUTE EL. 962.00.
BRODIE GREENBELT ALIGNMENT AND AGGREGATE TRENCH
SEE SHEET 41 FOR INTERSECTION GRADING
KIMBALL GREENBELT ALIGNMENT AND AGGREGATE TRENCH
STORM WATER MANAGEMENT FACILITY BASIN 8W
SMF BASIN 8W
TOB EL: 967.00
EM WEIR EL: 966.00
MATCH EXISTING TRAIL ELEVATION AND EXIST SLOPES
COORDINATE CONSTRUCTION OF CITY TRIAL BRIDGE PROJECT AS REQUIRED.
SCALED FEMA 100-YEAR HIGH WATER LINE
EM OVERFLOW ROUTE
EMERGENCY OVERFLOW ROUTE EL. 966.00. LOWER SHARED USE TRAIL.
EM OVERFLOW ROUTE
12'X20' SCOUR STOP
8

GLYNN VILLAGE PLAT 8 - GRADING PLAN 5

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 60'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-GRD4.DWG	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 8 OF 47	FILE NO.: 13-028

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DES MOINES, IOWA 50312
(515) 288-4823

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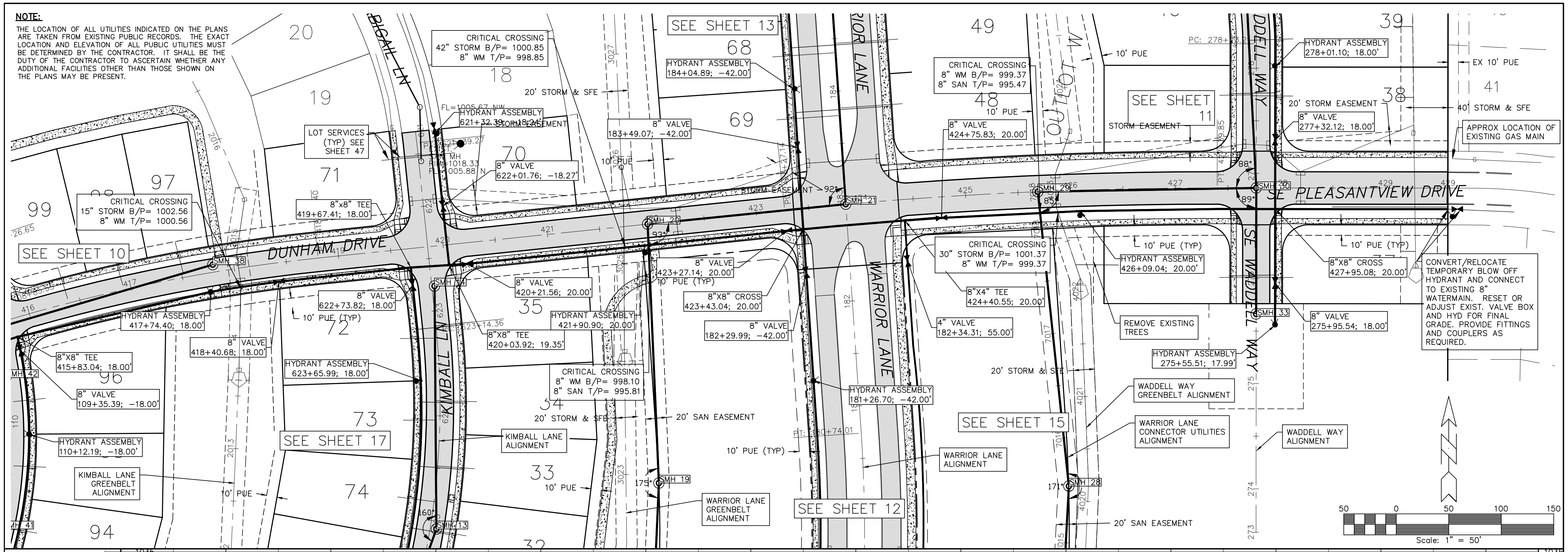
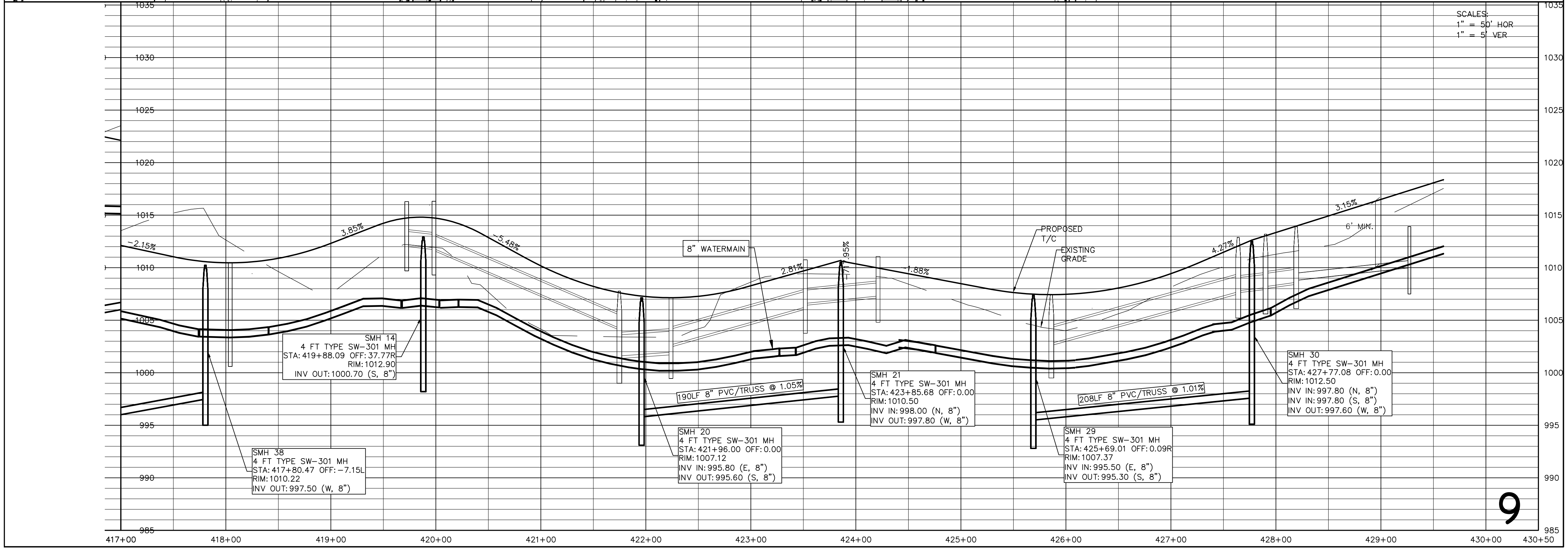


SEE SHEET 13
SEE SHEET 10
SEE SHEET 11
SEE SHEET 17
SEE SHEET 12
SEE SHEET 15
DUNHAM DRIVE
SE PLEASANTVIEW DRIVE
KIMBALL LN
WARRIOR LANE
SE WADDELL WAY
CRITICAL CROSSING 42" STORM B/P= 1000.85 8" WM T/P= 998.85
CRITICAL CROSSING 15" STORM B/P= 1002.56 8" WM T/P= 1000.56
CRITICAL CROSSING 8" WM B/P= 999.37 8" SAN T/P= 995.47
CRITICAL CROSSING 30" STORM B/P= 1001.37 8" WM T/P= 999.37
CRITICAL CROSSING 8" WM B/P= 998.10 8" SAN T/P= 995.81
HYDRANT ASSEMBLY 184+04.89; -42.00'
HYDRANT ASSEMBLY 621+32.39; -18.24'
HYDRANT ASSEMBLY 278+01.10; 18.00'
HYDRANT ASSEMBLY 417+74.40; 18.00'
HYDRANT ASSEMBLY 421+90.90; 20.00'
HYDRANT ASSEMBLY 623+65.99; 18.00'
HYDRANT ASSEMBLY 110+12.19; -18.00'
HYDRANT ASSEMBLY 426+09.04; 20.00'
HYDRANT ASSEMBLY 275+55.51; 17.99'
HYDRANT ASSEMBLY 181+26.70; -42.00'
8" VALVE 183+49.07; -42.00'
8" VALVE 622+01.76; -18.27'
8" VALVE 424+75.83; 20.00'
8" VALVE 277+32.12; 18.00'
8" VALVE 423+27.14; 20.00'
8" VALVE 420+21.56; 20.00'
8" VALVE 622+73.82; 18.00'
8" VALVE 418+40.68; 18.00'
8" VALVE 109+35.39; -18.00'
8" VALVE 182+29.99; -42.00'
8" VALVE 275+95.54; 18.00'
8"x8" TEE 419+67.41; 18.00'
8"X8" TEE 420+03.92; 19.35'
8"X8" TEE 415+83.04; 18.00'
8"X4" TEE 424+40.55; 20.00'
8"X8" CROSS 423+43.04; 20.00'
8"X8" CROSS 427+95.08; 20.00'
4" VALVE 182+34.31; 55.00'
LOT SERVICES (TYP) SEE SHEET 47
CONVERT/RELOCATE TEMPORARY BLOW OFF HYDRANT AND CONNECT TO EXISTING 8" WATERMAIN. RESET OR ADJUST EXIST. VALVE BOX AND HYD FOR FINAL GRADE. PROVIDE FITTINGS AND COUPLERS AS REQUIRED.
APPROX LOCATION OF EXISTING GAS MAIN
REMOVE EXISTING TREES
WADDELL WAY GREENBELT ALIGNMENT
WARRIOR LANE CONNECTOR UTILITIES ALIGNMENT
WADDELL WAY ALIGNMENT
WARRIOR LANE ALIGNMENT
WARRIOR LANE GREENBELT ALIGNMENT
KIMBALL LANE ALIGNMENT
KIMBALL LANE GREENBELT ALIGNMENT
20' STORM & SFE
20' SAN EASEMENT
STORM EASEMENT
20' STORM EASEMENT
40' STORM & SFE
EX 10' PUE
10' PUE
10' PUE (TYP)
SMH 38
SMH 14
SMH 20
SMH 21
SMH 29
SMH 30
SMH 33
SMH 19
SMH 28
SMH 13
SMH 41
SMH 42
OUTLOT W
Scale: 1" = 50'



SCALES:
1" = 50' HOR
1" = 5' VER
-2.15%
3.85%
-5.48%
2.81%
-1.88%
4.27%
3.15%
6' MIN.
8" WATERMAIN
PROPOSED T/C
EXISTING GRADE
190LF 8" PVC/TRUSS @ 1.05%
208LF 8" PVC/TRUSS @ 1.01%
1035
1030
1025
1020
1015
1010
1005
1000
995
990
985
417+00
418+00
419+00
420+00
421+00
422+00
423+00
424+00
425+00
426+00
427+00
428+00
429+00
430+00
430+50

SMH 38
4 FT TYPE SW-301 MH
STA: 417+80.47 OFF: -7.15L
RIM: 1010.22
INV OUT: 997.50 (W, 8")

SMH 14
4 FT TYPE SW-301 MH
STA: 419+88.09 OFF: 37.77R
RIM: 1012.90
INV OUT: 1000.70 (S, 8")

SMH 20
4 FT TYPE SW-301 MH
STA: 421+96.00 OFF: 0.00
RIM: 1007.12
INV IN: 995.80 (E, 8")
INV OUT: 995.60 (S, 8")

SMH 21
4 FT TYPE SW-301 MH
STA: 423+85.68 OFF: 0.00
RIM: 1010.50
INV IN: 998.00 (N, 8")
INV OUT: 997.80 (W, 8")

SMH 29
4 FT TYPE SW-301 MH
STA: 425+69.01 OFF: 0.09R
RIM: 1007.37
INV IN: 995.50 (E, 8")
INV OUT: 995.30 (S, 8")

SMH 30
4 FT TYPE SW-301 MH
STA: 427+77.08 OFF: 0.00
RIM: 1012.50
INV IN: 997.80 (N, 8")
INV IN: 997.80 (S, 8")
INV OUT: 997.60 (W, 8")

GLYNN VILLAGE PLAT 8 - PLEASANTVIEW DR - SANITARY AND WATER

DESIGNED BY: CJB	DRAWN BY: PJV	SCALE: 1" = 50'	DATE: 07/12/13
CHECKED BY: DJS		DWG: 13-028-PP3.DWG	FILE NO.: 13-028
SHEET 9 OF 47		FIELD BOOK:	

LOCATION:

FOR:

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

9

NOTE:

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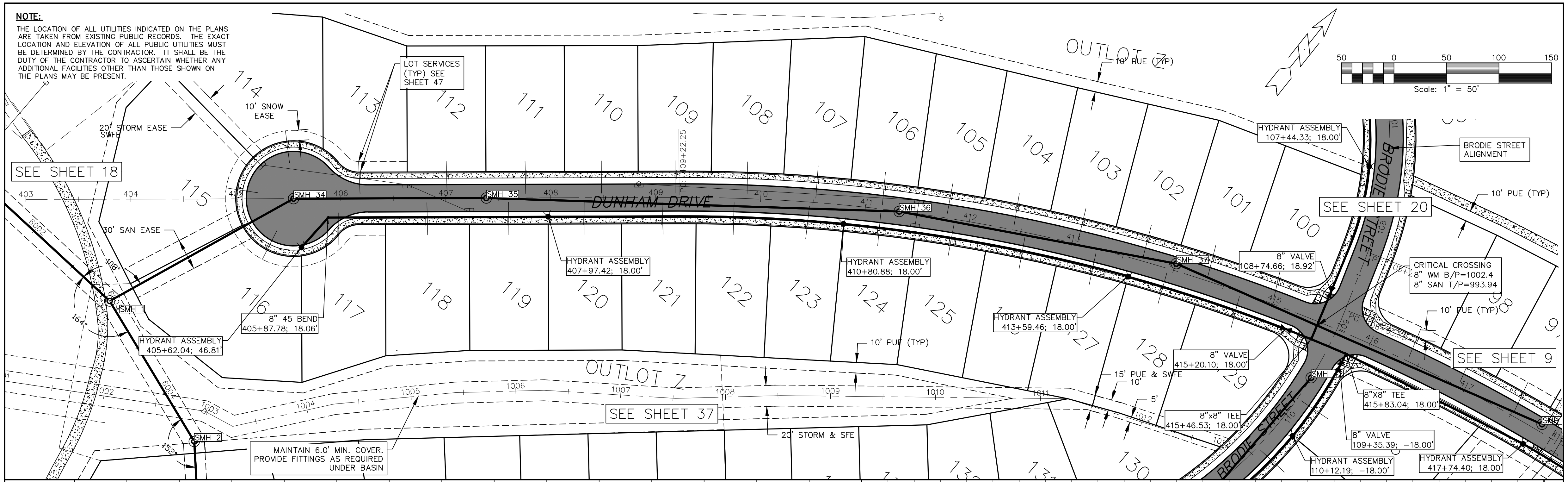
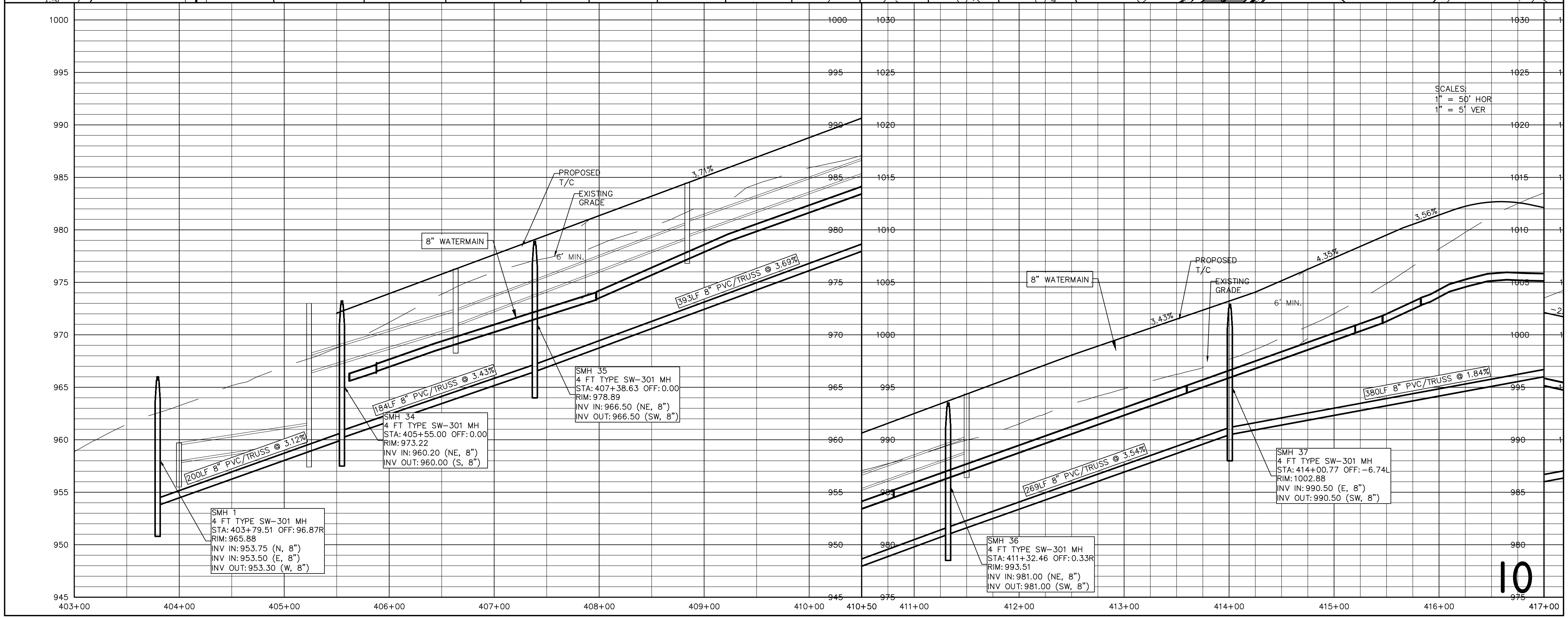

50 0 50 100 150
Scale: 1" = 50'
SEE SHEET 18
SEE SHEET 20
SEE SHEET 9
SEE SHEET 37
OUTLOT Z
OUTLOT Z
DUNHAM DRIVE
BRODIE STREET
BRODIE STREET
10' SNOW EASE
20' STORM EASE SWFE
30' SAN EASE
LOT SERVICES (TYP) SEE SHEET 47
10' PUE (TYP)
10' PUE (TYP)
10' PUE (TYP)
10' PUE (TYP)
15' PUE & SWFE
10'
5'
20' STORM & SFE
BRODIE STREET ALIGNMENT
HYDRANT ASSEMBLY 107+44.33; 18.00'
HYDRANT ASSEMBLY 407+97.42; 18.00'
HYDRANT ASSEMBLY 410+80.88; 18.00'
HYDRANT ASSEMBLY 413+59.46; 18.00'
HYDRANT ASSEMBLY 405+62.04; 46.81'
HYDRANT ASSEMBLY 110+12.19; -18.00'
HYDRANT ASSEMBLY 417+74.40; 18.00'
8" 45 BEND 405+87.78; 18.06'
8" VALVE 108+74.66; 18.92'
8" VALVE 415+20.10; 18.00'
8" VALVE 109+35.39; -18.00'
8"x8" TEE 415+46.53; 18.00'
8"X8" TEE 415+83.04; 18.00'
CRITICAL CROSSING 8" WM B/P=1002.4 8" SAN T/P=993.94
MAINTAIN 6.0' MIN. COVER. PROVIDE FITTINGS AS REQUIRED UNDER BASIN
SMH 1
SMH 2
SMH 34
SMH 35
SMH 36
SMH 37
SMH
SMH
114
113
112
111
110
109
108
107
106
105
104
103
102
101
100
115
116
117
118
119
120
121
122
123
124
125
127
128
129
130
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
109+22.25


1000
995
990
985
980
975
970
965
960
955
950
945
1030
1025
1020
1015
1010
1005
1000
995
990
985
980
975
403+00
404+00
405+00
406+00
407+00
408+00
409+00
410+00
410+50
411+00
412+00
413+00
414+00
415+00
416+00
417+00
SCALES: 1" = 50' HOR 1" = 5' VER
PROPOSED T/C
EXISTING GRADE
8" WATERMAIN
6' MIN.
3.71%
PROPOSED T/C
EXISTING GRADE
8" WATERMAIN
6' MIN.
3.43%
4.35%
3.56%
200LF 8" PVC/TRUSS @ 3.12%
184LF 8" PVC/TRUSS @ 3.43%
393LF 8" PVC/TRUSS @ 3.69%
269LF 8" PVC/TRUSS @ 3.54%
380LF 8" PVC/TRUSS @ 1.84%

SMH 1
4 FT TYPE SW-301 MH
STA: 403+79.51 OFF: 96.87R
RIM: 965.88
INV IN: 953.75 (N, 8")
INV IN: 953.50 (E, 8")
INV OUT: 953.30 (W, 8")

SMH 34
4 FT TYPE SW-301 MH
STA: 405+55.00 OFF: 0.00
RIM: 973.22
INV IN: 960.20 (NE, 8")
INV OUT: 960.00 (S, 8")

SMH 35
4 FT TYPE SW-301 MH
STA: 407+38.63 OFF: 0.00
RIM: 978.89
INV IN: 966.50 (NE, 8")
INV OUT: 966.50 (SW, 8")

SMH 36
4 FT TYPE SW-301 MH
STA: 411+32.46 OFF: 0.33R
RIM: 993.51
INV IN: 981.00 (NE, 8")
INV OUT: 981.00 (SW, 8")

SMH 37
4 FT TYPE SW-301 MH
STA: 414+00.77 OFF: -6.74L
RIM: 1002.88
INV IN: 990.50 (E, 8")
INV OUT: 990.50 (SW, 8")

10

GLYNN VILLAGE PLAT 8 - DUNHAM DR - SANITARY AND WATER

SCALE:	1" = 50'	DESIGNED BY:	CJB	DRAWN BY:	PJV
DWG:	13-028-PP27.DWG	CHECKED BY:	DJS	DATE:	07/12/13
FIELD BOOK:		SHEET 10 OF 47		FILE NO.:	13-028

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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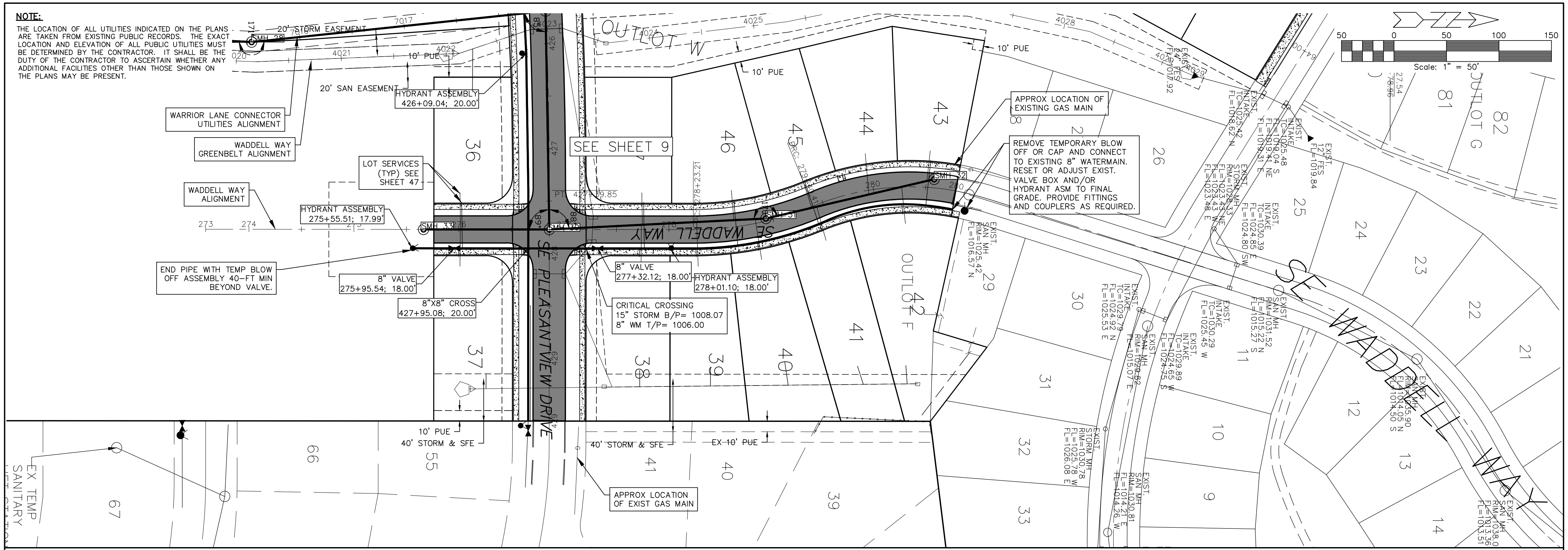
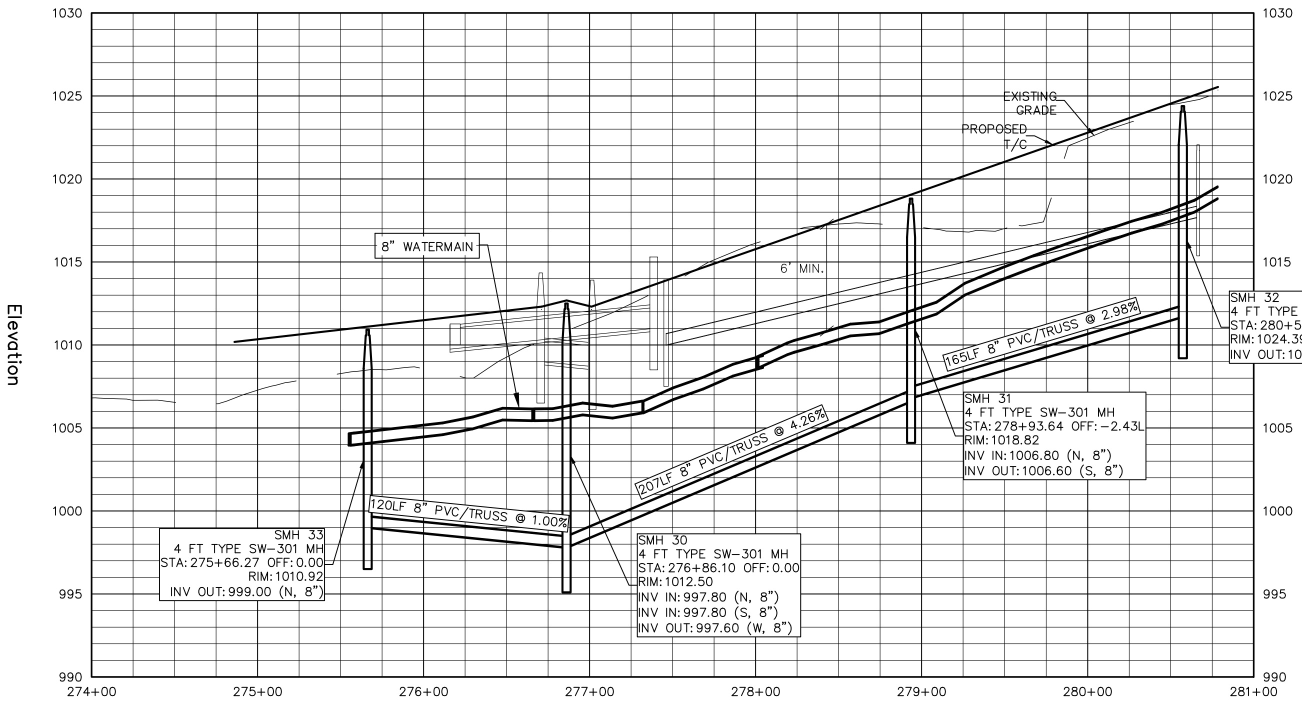

20' STORM EASEMENT
SMH 28
20' SAN EASEMENT
10' PUE
WARRIOR LANE CONNECTOR UTILITIES ALIGNMENT
WADDELL WAY GREENBELT ALIGNMENT
WADDELL WAY ALIGNMENT
LOT SERVICES (TYP) SEE SHEET 47
HYDRANT ASSEMBLY 426+09.04; 20.00'
SEE SHEET 9
HYDRANT ASSEMBLY 275+55.51; 17.99'
SMH 33
SMH 30
SMH 31
SMH 32
END PIPE WITH TEMP BLOW OFF ASSEMBLY 40-FT MIN BEYOND VALVE.
8" VALVE 275+95.54; 18.00'
8"X8" CROSS 427+95.08; 20.00'
8" VALVE 277+32.12; 18.00'
HYDRANT ASSEMBLY 278+01.10; 18.00'
CRITICAL CROSSING 15" STORM B/P= 1008.07 8" WM T/P= 1006.00
SE WADDELL WAY
SE PLEASANTVIEW DRIVE
OUTLOT W
OUTLOT F
OUTLOT G
APPROX LOCATION OF EXISTING GAS MAIN
REMOVE TEMPORARY BLOW OFF OR CAP AND CONNECT TO EXISTING 8" WATERMAIN. RESET OR ADJUST EXIST. VALVE BOX AND/OR HYDRANT ASM TO FINAL GRADE. PROVIDE FITTINGS AND COUPLERS AS REQUIRED.
10' PUE
40' STORM & SFE
40' STORM & SFE
EX 10' PUE
APPROX LOCATION OF EXIST GAS MAIN
EX TEMP SANITARY
36
37
38
39
40
41
42
43
44
45
46
66
55
67
29
30
31
32
33
26
25
24
23
22
21
12
13
14
11
10
9
81
82
SE WADDELL WAY
50
0
50
100
150
Scale: 1" = 50'


Elevation
1030
1025
1020
1015
1010
1005
1000
995
990
274+00
275+00
276+00
277+00
278+00
279+00
280+00
281+00
EXISTING GRADE
PROPOSED T/C
8" WATERMAIN
6' MIN.
120LF 8" PVC/TRUSS @ 1.00%
207LF 8" PVC/TRUSS @ 4.26%
165LF 8" PVC/TRUSS @ 2.98%
SMH 33
4 FT TYPE SW-301 MH
STA: 275+66.27 OFF: 0.00
RIM: 1010.92
INV OUT: 999.00 (N, 8")
SMH 30
4 FT TYPE SW-301 MH
STA: 276+86.10 OFF: 0.00
RIM: 1012.50
INV IN: 997.80 (N, 8")
INV IN: 997.80 (S, 8")
INV OUT: 997.60 (W, 8")
SMH 31
4 FT TYPE SW-301 MH
STA: 278+93.64 OFF: -2.43L
RIM: 1018.82
INV IN: 1006.80 (N, 8")
INV OUT: 1006.60 (S, 8")
SMH 32
4 FT TYPE SW-301 MH
STA: 280+57.33 OFF: -8.19L
RIM: 1024.39
INV OUT: 1011.70 (S, 8")

SCALES:
1" = 50' HOR
1" = 5' VER

11

GLYNN VILLAGE PLAT 8 - WADDELL WAY - SANITARY AND WATER

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG:	13-028-PP2.DWG	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:		SHEET 11 OF 47	FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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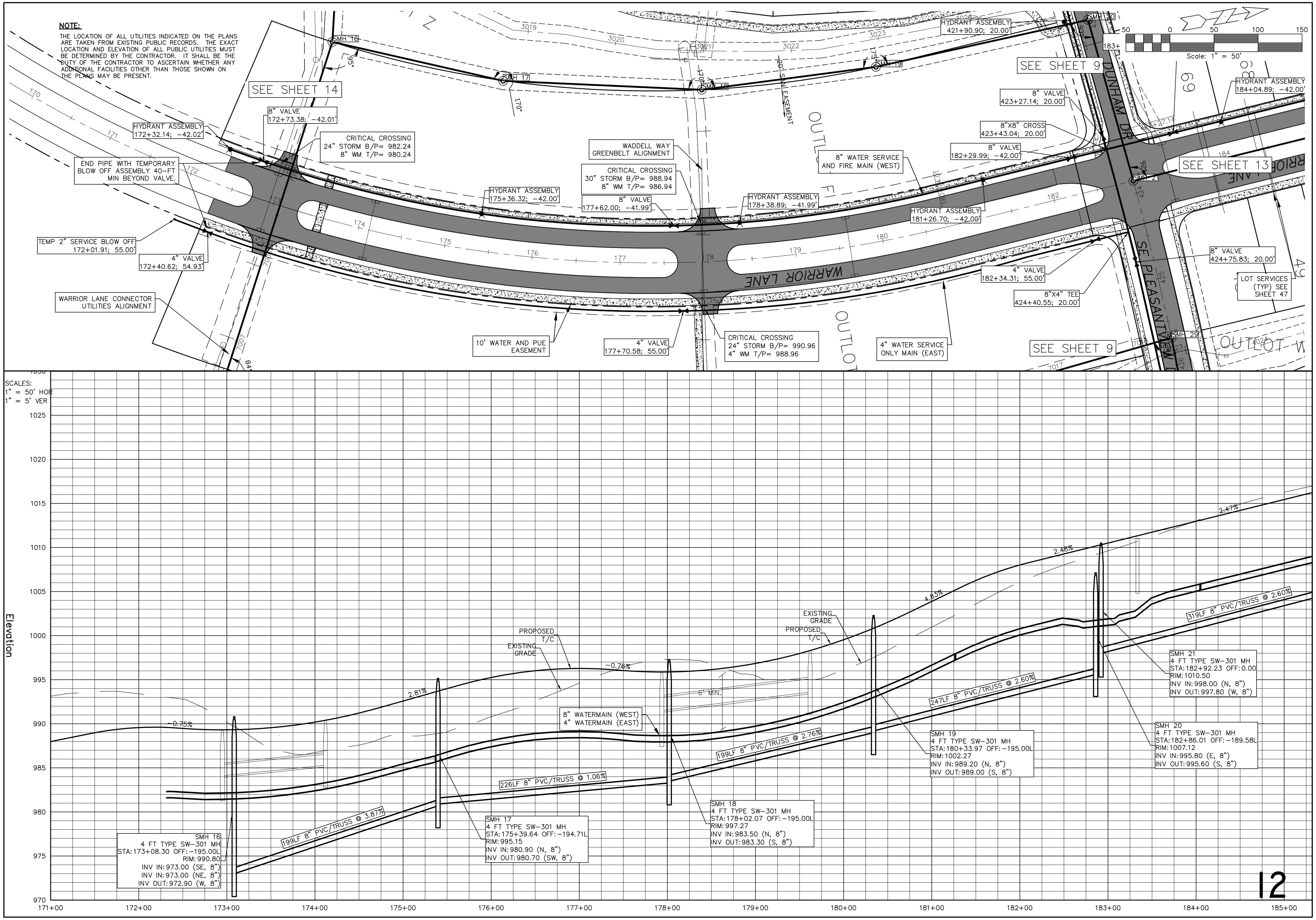
SEE SHEET 14
SEE SHEET 9
SEE SHEET 13
SEE SHEET 9
Scale: 1" = 50'
50 0 50 100 150
SMH 16
SMH 17
SMH 18
SMH 19
SMH 20
SMH 21
HYDRANT ASSEMBLY 421+90.90; 20.00'
HYDRANT ASSEMBLY 172+32.14; -42.02'
8" VALVE 172+73.38; -42.01'
CRITICAL CROSSING 24" STORM B/P= 982.24 8" WM T/P= 980.24
END PIPE WITH TEMPORARY BLOW OFF ASSEMBLY 40-FT MIN BEYOND VALVE.
TEMP 2" SERVICE BLOW OFF 172+01.91; 55.00'
4" VALVE 172+40.62; 54.93'
WARRIOR LANE CONNECTOR UTILITIES ALIGNMENT
HYDRANT ASSEMBLY 175+36.32; -42.00'
WADDELL WAY GREENBELT ALIGNMENT
CRITICAL CROSSING 30" STORM B/P= 988.94 8" WM T/P= 986.94
8" VALVE 177+62.00; -41.99'
20' SAN. EASEMENT
HYDRANT ASSEMBLY 178+38.89; -41.99'
8" WATER SERVICE AND FIRE MAIN (WEST)
HYDRANT ASSEMBLY 181+26.70; -42.00'
8" VALVE 423+27.14; 20.00'
8"X8" CROSS 423+43.04; 20.00'
8" VALVE 182+29.99; -42.00'
HYDRANT ASSEMBLY 184+04.89; -42.00'
8" VALVE 424+75.83; 20.00'
LOT SERVICES (TYP) SEE SHEET 47
4" VALVE 182+34.31; 55.00'
8"X4" TEE 424+40.55; 20.00'
4" WATER SERVICE ONLY MAIN (EAST)
CRITICAL CROSSING 24" STORM B/P= 990.96 4" WM T/P= 988.96
4" VALVE 177+70.58; 55.00'
10' WATER AND PUE EASEMENT
WARRIOR LANE
DUNHAM DR
SE PLEASANTVIEW
OUTLOT
OUTLOT W
3019
3020
3021
3022
3023
69
170
171
172
173
174
175
176
177
178
179
180
181
182
184
423
424
425
426
7017
SCALES: 1" = 50' HOR 1" = 5' VER
Elevation
1025
1020
1015
1010
1005
1000
995
990
985
980
975
970
171+00
172+00
173+00
174+00
175+00
176+00
177+00
178+00
179+00
180+00
181+00
182+00
183+00
184+00
185+00
-0.75%
2.81%
-0.76%
4.83%
2.48%
2.47%
PROPOSED T/C
EXISTING GRADE
EXISTING GRADE
PROPOSED T/C
6' MIN.
8" WATERMAIN (WEST)
4" WATERMAIN (EAST)
199LF 8" PVC/TRUSS @ 3.87%
226LF 8" PVC/TRUSS @ 1.06%
199LF 8" PVC/TRUSS @ 2.76%
247LF 8" PVC/TRUSS @ 2.60%
319LF 8" PVC/TRUSS @ 2.60%
SMH 16
4 FT TYPE SW-301 MH
STA:173+08.30 OFF:-195.00L
RIM: 990.80
INV IN: 973.00 (SE, 8")
INV IN: 973.00 (NE, 8")
INV OUT: 972.90 (W, 8")
SMH 17
4 FT TYPE SW-301 MH
STA:175+39.64 OFF:-194.71L
RIM: 995.15
INV IN: 980.90 (N, 8")
INV OUT: 980.70 (SW, 8")
SMH 18
4 FT TYPE SW-301 MH
STA:178+02.07 OFF:-195.00L
RIM: 997.27
INV IN: 983.50 (N, 8")
INV OUT: 983.30 (S, 8")
SMH 19
4 FT TYPE SW-301 MH
STA:180+33.97 OFF:-195.00L
RIM: 1002.27
INV IN: 989.20 (N, 8")
INV OUT: 989.00 (S, 8")
SMH 20
4 FT TYPE SW-301 MH
STA:182+86.01 OFF:-189.58L
RIM: 1007.12
INV IN: 995.80 (E, 8")
INV OUT: 995.60 (S, 8")
SMH 21
4 FT TYPE SW-301 MH
STA:182+92.23 OFF:0.00
RIM: 1010.50
INV IN: 998.00 (N, 8")
INV OUT: 997.80 (W, 8")

12

GLYNN VILLAGE PLAT 8 - WARRIOR LANE - SANITARY AND WATER

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV	
DWG: 13-028-PP4.DWG	CHECKED BY: DJS	DATE: 07/12/13	
FIELD BOOK:	SHEET 12 OF 47	FILE NO.: 13-028	

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
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DES MOINES, IOWA 50312
(515) 288-4823

13-028

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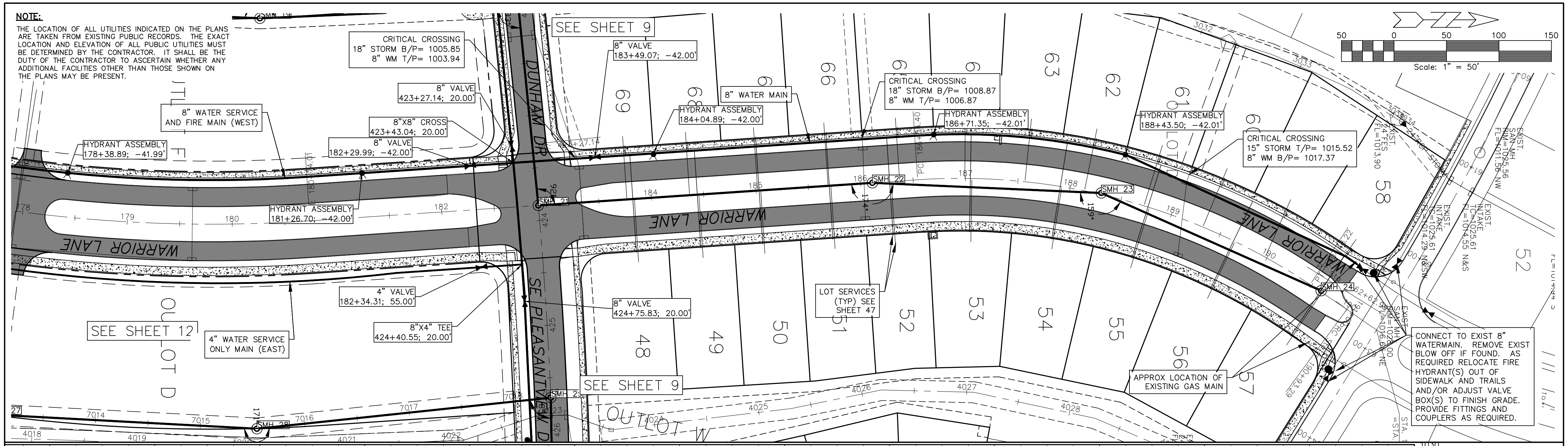
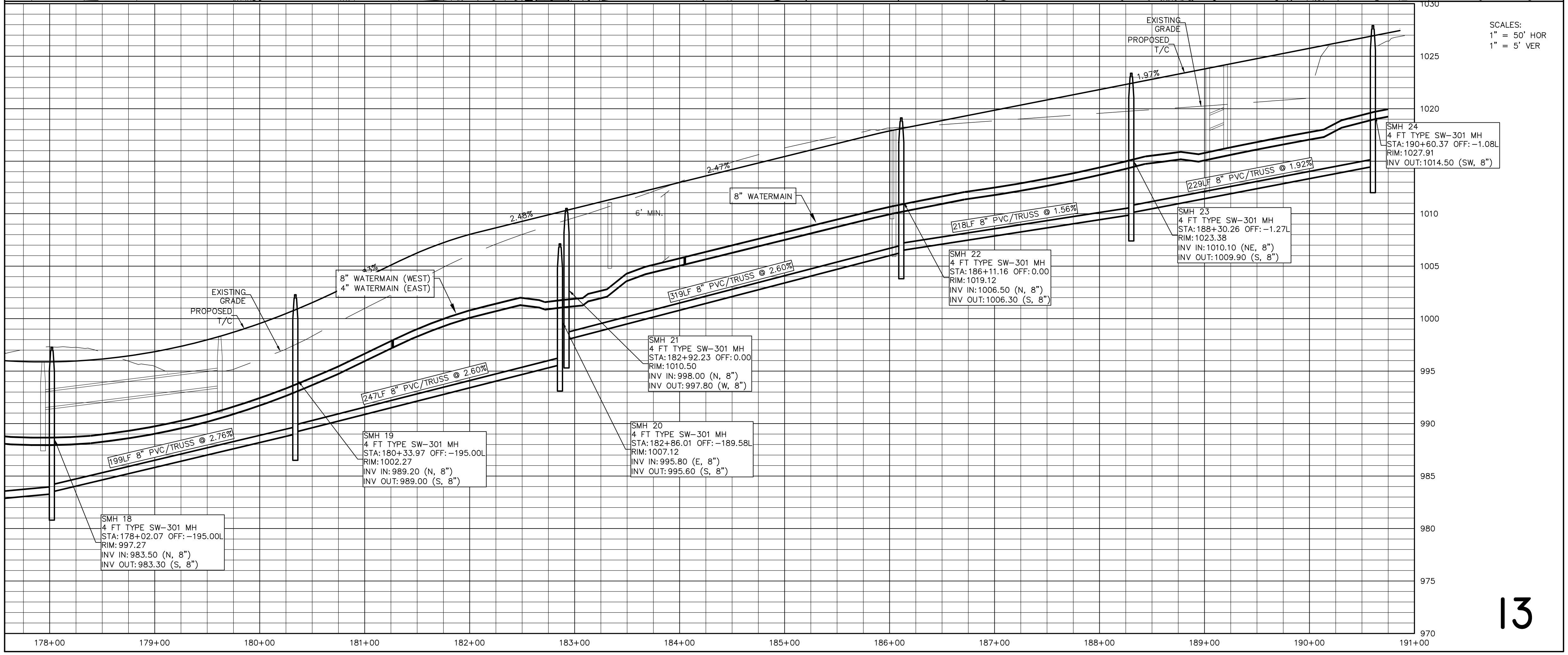

CRITICAL CROSSING
18" STORM B/P= 1005.85
8" WM T/P= 1003.94
SEE SHEET 9
8" VALVE
183+49.07; -42.00'
8" VALVE
423+27.14; 20.00'
8" WATER SERVICE
AND FIRE MAIN (WEST)
8"X8" CROSS
423+43.04; 20.00'
8" VALVE
182+29.99; -42.00'
HYDRANT ASSEMBLY
178+38.89; -41.99'
HYDRANT ASSEMBLY
181+26.70; -42.00'
DUNHAM DR
8" WATER MAIN
HYDRANT ASSEMBLY
184+04.89; -42.00'
CRITICAL CROSSING
18" STORM B/P= 1008.87
8" WM T/P= 1006.87
HYDRANT ASSEMBLY
186+71.35; -42.01'
HYDRANT ASSEMBLY
188+43.50; -42.01'
CRITICAL CROSSING
15" STORM T/P= 1015.52
8" WM B/P= 1017.37
69
68
67
66
65
64
63
62
61
60
58
52
WARRIOR LANE
SMH 21
SMH 22
SMH 23
SMH 24
SMH 25
SMH 26
4" VALVE
182+34.31; 55.00'
8"X4" TEE
424+40.55; 20.00'
8" VALVE
424+75.83; 20.00'
SEE SHEET 12
4" WATER SERVICE
ONLY MAIN (EAST)
SE PLEASANT VIEW DR
SEE SHEET 9
LOT SERVICES
(TYP) SEE
SHEET 47
48
49
50
51
52
53
54
55
56
57
OUTLOT D
OUTLOT W
APPROX LOCATION OF
EXISTING GAS MAIN
EXIST.
INTAKE
TC=1025.61
FL=1014.29 N&SW
EXIST.
INTAKE
TC=1025.61
FL=1014.55 N&S
EXIST
SAN MH
RIM=1028.00
FL=1016.65 NE
190+93.29
CONNECT TO EXIST 8"
WATERMAIN. REMOVE EXIST
BLOW OFF IF FOUND. AS
REQUIRED RELOCATE FIRE
HYDRANT(S) OUT OF
SIDEWALK AND TRAILS
AND/OR ADJUST VALVE
BOX(S) TO FINISH GRADE.
PROVIDE FITTINGS AND
COUPLERS AS REQUIRED.
50
0
50
100
150
Scale: 1" = 50'


SCALES:
1" = 50' HOR
1" = 5' VER
EXISTING
GRADE
PROPOSED
T/C
1.97%
2.47%
2.48%
8" WATERMAIN
6' MIN.
8" WATERMAIN (WEST)
4" WATERMAIN (EAST)
EXISTING
GRADE
PROPOSED
T/C
229LF 8" PVC/TRUSS @ 1.92%
218LF 8" PVC/TRUSS @ 1.56%
319LF 8" PVC/TRUSS @ 2.60%
247LF 8" PVC/TRUSS @ 2.60%
199LF 8" PVC/TRUSS @ 2.76%
SMH 24
4 FT TYPE SW-301 MH
STA:190+60.37 OFF:-1.08L
RIM:1027.91
INV OUT:1014.50 (SW, 8")
SMH 23
4 FT TYPE SW-301 MH
STA:188+30.26 OFF:-1.27L
RIM:1023.38
INV IN:1010.10 (NE, 8")
INV OUT:1009.90 (S, 8")
SMH 22
4 FT TYPE SW-301 MH
STA:186+11.16 OFF:0.00
RIM:1019.12
INV IN:1006.50 (N, 8")
INV OUT:1006.30 (S, 8")
SMH 21
4 FT TYPE SW-301 MH
STA:182+92.23 OFF:0.00
RIM:1010.50
INV IN:998.00 (N, 8")
INV OUT:997.80 (W, 8")
SMH 20
4 FT TYPE SW-301 MH
STA:182+86.01 OFF:-189.58L
RIM:1007.12
INV IN:995.80 (E, 8")
INV OUT:995.60 (S, 8")
SMH 19
4 FT TYPE SW-301 MH
STA:180+33.97 OFF:-195.00L
RIM:1002.27
INV IN:989.20 (N, 8")
INV OUT:989.00 (S, 8")
SMH 18
4 FT TYPE SW-301 MH
STA:178+02.07 OFF:-195.00L
RIM:997.27
INV IN:983.50 (N, 8")
INV OUT:983.30 (S, 8")
1030
1025
1020
1015
1010
1005
1000
995
990
985
980
975
970
178+00
179+00
180+00
181+00
182+00
183+00
184+00
185+00
186+00
187+00
188+00
189+00
190+00
191+00

13

GLYNN VILLAGE PLAT 8 - WARRIOR LANE - SANITARY AND WATER

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY:	CJB	DRAWN BY:	PJV
DWG:	13-028-PP1.DWG	CHECKED BY:	DJS	DATE:	07/12/13
FIELD BOOK:		SHEET 13	OF 47	FILE NO.:	13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
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13-028

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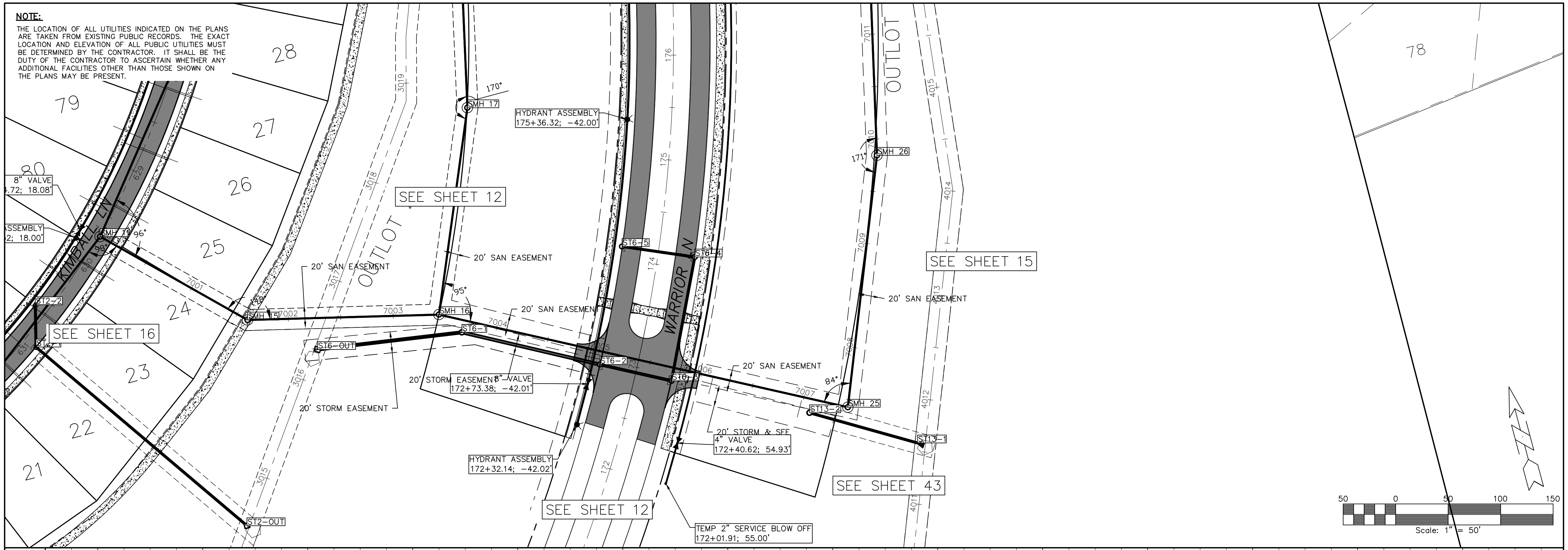
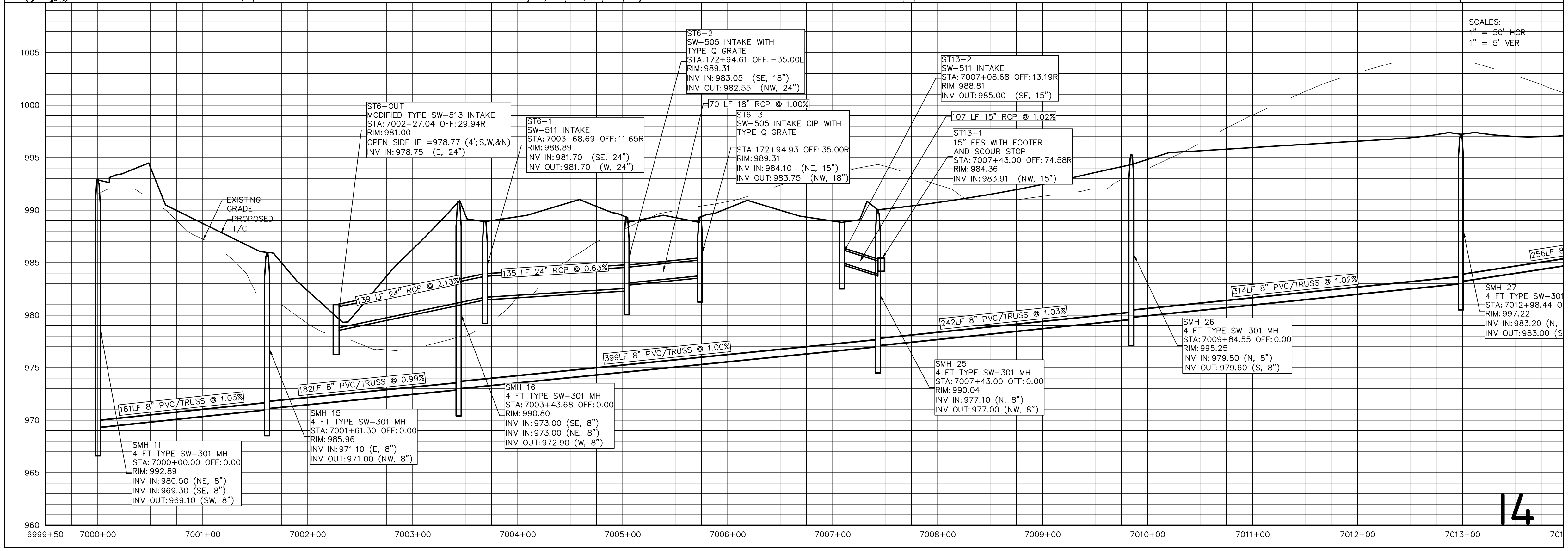

28
79
27
80
26
25
24
23
22
21
78
8" VALVE
.72; 18.08'
ASSEMBLY
2; 18.00'
KIMBALL LN
SMH 11
96°
98°
629
630
631
7001
7002
7003
7004
SMH 15
SMH 16
SMH 17
170°
95°
ST2-2
ST2-1
ST2-OUT
SEE SHEET 16
SEE SHEET 12
SEE SHEET 12
SEE SHEET 15
SEE SHEET 43
OUTLOT
OUTLOT
3015
3016
3017
3018
3019
20' SAN EASEMENT
20' SAN EASEMENT
20' SAN EASEMENT
20' SAN EASEMENT
20' SAN EASEMENT
20' STORM EASEMENT
20' STORM EASEMENT
ST6-OUT
ST6-1
ST6-2
ST6-3
ST6-4
ST6-5
8" VALVE
172+73.38; -42.01'
HYDRANT ASSEMBLY
175+36.32; -42.00'
HYDRANT ASSEMBLY
172+32.14; -42.02'
WARRIOR LN
172
174
175
176
7005
7006
7007
7008
7009
7010
7011
4011
4012
4013
4014
4015
SMH 25
SMH 26
171°
84°
ST13-2
ST13-1
20' STORM & SFE
4" VALVE
172+40.62; 54.93'
TEMP 2" SERVICE BLOW OFF
172+01.91; 55.00'
50
0
50
100
150
Scale: 1" = 50'


SCALES:
1" = 50' HOR
1" = 5' VER
1005
1000
995
990
985
980
975
970
965
960
6999+50
7000+00
7001+00
7002+00
7003+00
7004+00
7005+00
7006+00
7007+00
7008+00
7009+00
7010+00
7011+00
7012+00
7013+00
701
EXISTING GRADE
PROPOSED T/C
ST6-OUT
MODIFIED TYPE SW-513 INTAKE
STA: 7002+27.04 OFF: 29.94R
RIM: 981.00
OPEN SIDE IE =978.77 (4';S,W,&N)
INV IN: 978.75 (E, 24")
ST6-1
SW-511 INTAKE
STA: 7003+68.69 OFF: 11.65R
RIM: 988.89
INV IN: 981.70 (SE, 24")
INV OUT: 981.70 (W, 24")
ST6-2
SW-505 INTAKE WITH
TYPE Q GRATE
STA: 172+94.61 OFF: -35.00L
RIM: 989.31
INV IN: 983.05 (SE, 18")
INV OUT: 982.55 (NW, 24")
70 LF 18" RCP @ 1.00%
ST6-3
SW-505 INTAKE CIP WITH
TYPE Q GRATE
STA: 172+94.93 OFF: 35.00R
RIM: 989.31
INV IN: 984.10 (NE, 15")
INV OUT: 983.75 (NW, 18")
ST13-2
SW-511 INTAKE
STA: 7007+08.68 OFF: 13.19R
RIM: 988.81
INV OUT: 985.00 (SE, 15")
107 LF 15" RCP @ 1.02%
ST13-1
15" FES WITH FOOTER
AND SCOUR STOP
STA: 7007+43.00 OFF: 74.58R
RIM: 984.36
INV IN: 983.91 (NW, 15")
139 LF 24" RCP @ 2.13%
135 LF 24" RCP @ 0.63%
161LF 8" PVC/TRUSS @ 1.05%
182LF 8" PVC/TRUSS @ 0.99%
399LF 8" PVC/TRUSS @ 1.00%
242LF 8" PVC/TRUSS @ 1.03%
314LF 8" PVC/TRUSS @ 1.02%
256LF 8
SMH 11
4 FT TYPE SW-301 MH
STA: 7000+00.00 OFF: 0.00
RIM: 992.89
INV IN: 980.50 (NE, 8")
INV IN: 969.30 (SE, 8")
INV OUT: 969.10 (SW, 8")
SMH 15
4 FT TYPE SW-301 MH
STA: 7001+61.30 OFF: 0.00
RIM: 985.96
INV IN: 971.10 (E, 8")
INV OUT: 971.00 (NW, 8")
SMH 16
4 FT TYPE SW-301 MH
STA: 7003+43.68 OFF: 0.00
RIM: 990.80
INV IN: 973.00 (SE, 8")
INV IN: 973.00 (NE, 8")
INV OUT: 972.90 (W, 8")
SMH 25
4 FT TYPE SW-301 MH
STA: 7007+43.00 OFF: 0.00
RIM: 990.04
INV IN: 977.10 (N, 8")
INV OUT: 977.00 (NW, 8")
SMH 26
4 FT TYPE SW-301 MH
STA: 7009+84.55 OFF: 0.00
RIM: 995.25
INV IN: 979.80 (N, 8")
INV OUT: 979.60 (S, 8")
SMH 27
4 FT TYPE SW-301
STA: 7012+98.44 O
RIM: 997.22
INV IN: 983.20 (N,
INV OUT: 983.00 (S

14

GLYNN VILLAGE PLAT 8 - WARRIOR LANE - CONNECTOR UTILITIES

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-PP OFF SAN EAS	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 14 OF 47	FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:
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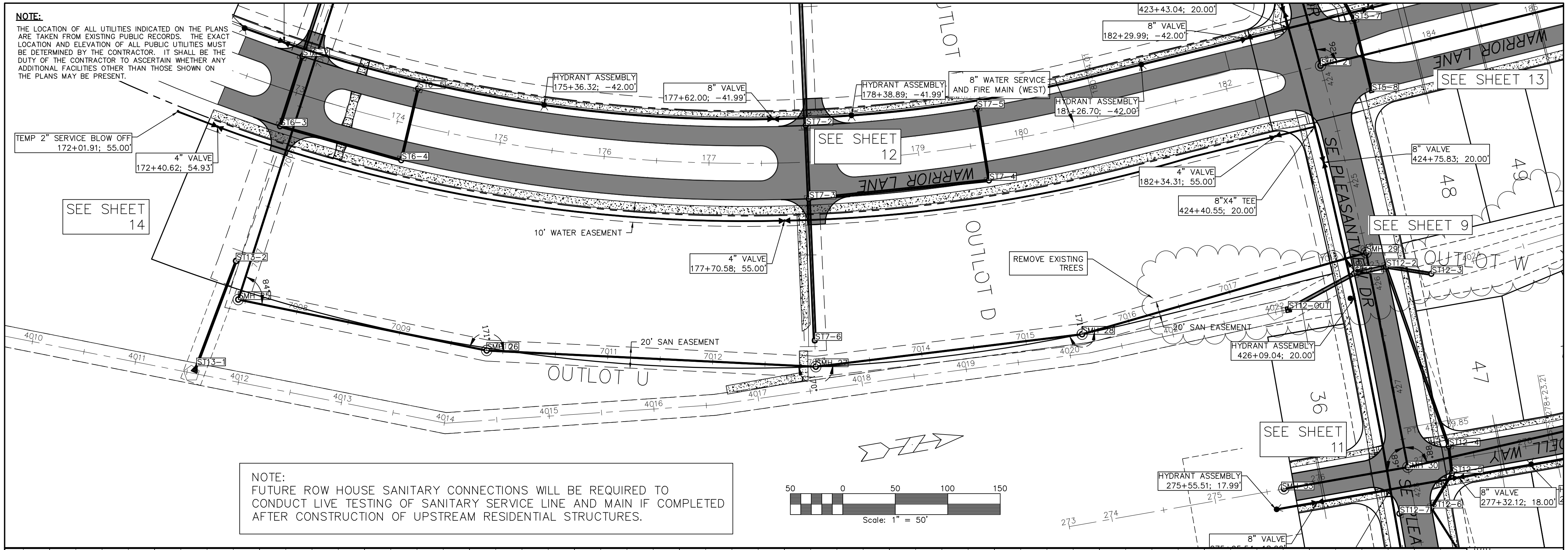
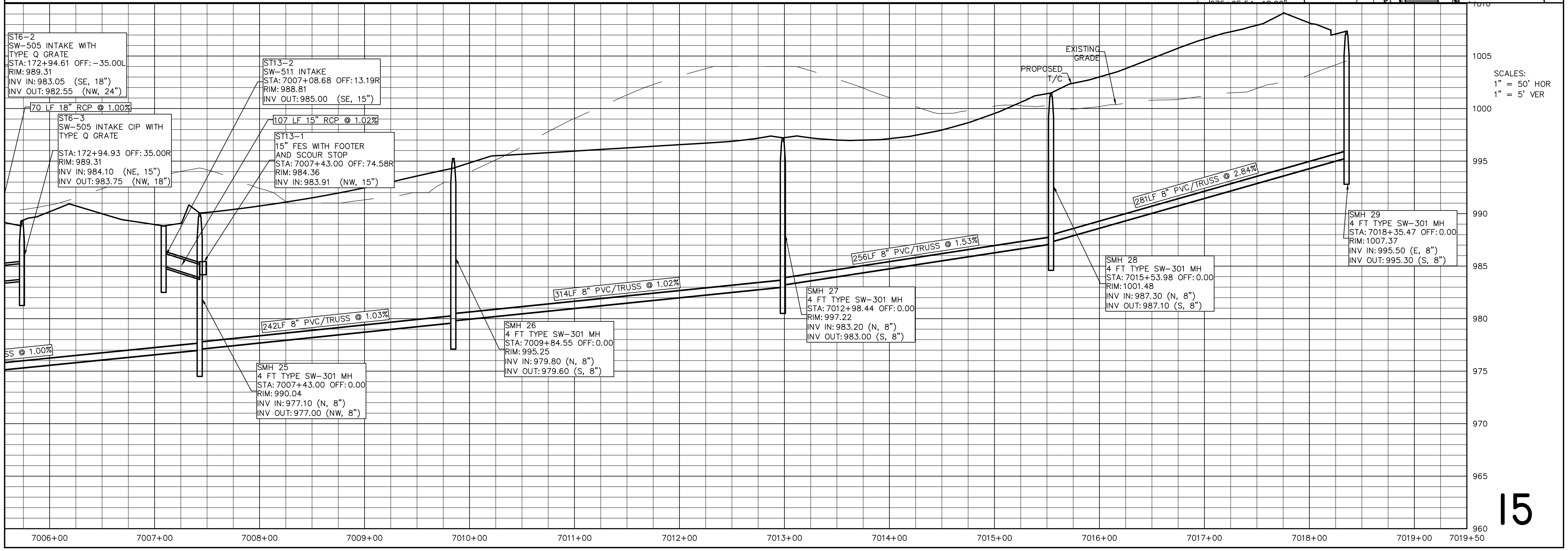

TEMP 2" SERVICE BLOW OFF 172+01.91; 55.00'
4" VALVE 172+40.62; 54.93'
SEE SHEET 14
HYDRANT ASSEMBLY 175+36.32; -42.00'
8" VALVE 177+62.00; -41.99'
HYDRANT ASSEMBLY 178+38.89; -41.99'
8" WATER SERVICE AND FIRE MAIN (WEST)
SEE SHEET 12
WARRIOR LANE
10' WATER EASEMENT
4" VALVE 177+70.58; 55.00'
423+43.04; 20.00'
8" VALVE 182+29.99; -42.00'
HYDRANT ASSEMBLY 181+26.70; -42.00'
4" VALVE 182+34.31; 55.00'
8"X4" TEE 424+40.55; 20.00'
8" VALVE 424+75.83; 20.00'
SEE SHEET 13
SEE SHEET 9
REMOVE EXISTING TREES
OUTLOT D
OUTLOT U
OUTLOT W
SE PLEASANTVIEW DR
20' SAN EASEMENT
HYDRANT ASSEMBLY 426+09.04; 20.00'
SEE SHEET 11
HYDRANT ASSEMBLY 275+55.51; 17.99'
8" VALVE 277+32.12; 18.00'
8" VALVE
ST6-2
ST6-3
ST6-4
ST7-2
ST7-3
ST7-4
ST7-5
ST7-6
ST13-1
ST13-2
SMH 25
SMH 26
SMH 27
SMH 28
SMH 29
SMH 30
SMH 33
ST12-2
ST12-3
ST12-4
ST12-5
ST12-6
ST12-7
ST12-OUT
ST5-7
ST5-8
36
47
48
49
50 0 50 100 150
Scale: 1" = 50'

NOTE:
FUTURE ROW HOUSE SANITARY CONNECTIONS WILL BE REQUIRED TO CONDUCT LIVE TESTING OF SANITARY SERVICE LINE AND MAIN IF COMPLETED AFTER CONSTRUCTION OF UPSTREAM RESIDENTIAL STRUCTURES.


EXISTING GRADE
PROPOSED T/C
70 LF 18" RCP @ 1.00%
107 LF 15" RCP @ 1.02%
SS @ 1.00%
242LF 8" PVC/TRUSS @ 1.03%
314LF 8" PVC/TRUSS @ 1.02%
256LF 8" PVC/TRUSS @ 1.53%
281LF 8" PVC/TRUSS @ 2.84%
1005
1000
995
990
985
980
975
970
965
960
7006+00
7007+00
7008+00
7009+00
7010+00
7011+00
7012+00
7013+00
7014+00
7015+00
7016+00
7017+00
7018+00
7019+00
7019+50

ST6-2
SW-505 INTAKE WITH TYPE Q GRATE
STA: 172+94.61 OFF: -35.00L
RIM: 989.31
INV IN: 983.05 (SE, 18")
INV OUT: 982.55 (NW, 24")

ST6-3
SW-505 INTAKE CIP WITH TYPE Q GRATE
STA: 172+94.93 OFF: 35.00R
RIM: 989.31
INV IN: 984.10 (NE, 15")
INV OUT: 983.75 (NW, 18")

ST13-2
SW-511 INTAKE
STA: 7007+08.68 OFF: 13.19R
RIM: 988.81
INV OUT: 985.00 (SE, 15")

ST13-1
15" FES WITH FOOTER AND SCOUR STOP
STA: 7007+43.00 OFF: 74.58R
RIM: 984.36
INV IN: 983.91 (NW, 15")

SMH 25
4 FT TYPE SW-301 MH
STA: 7007+43.00 OFF: 0.00
RIM: 990.04
INV IN: 977.10 (N, 8")
INV OUT: 977.00 (NW, 8")

SMH 26
4 FT TYPE SW-301 MH
STA: 7009+84.55 OFF: 0.00
RIM: 995.25
INV IN: 979.80 (N, 8")
INV OUT: 979.60 (S, 8")

SMH 27
4 FT TYPE SW-301 MH
STA: 7012+98.44 OFF: 0.00
RIM: 997.22
INV IN: 983.20 (N, 8")
INV OUT: 983.00 (S, 8")

SMH 28
4 FT TYPE SW-301 MH
STA: 7015+53.98 OFF: 0.00
RIM: 1001.48
INV IN: 987.30 (N, 8")
INV OUT: 987.10 (S, 8")

SMH 29
4 FT TYPE SW-301 MH
STA: 7018+35.47 OFF: 0.00
RIM: 1007.37
INV IN: 995.50 (E, 8")
INV OUT: 995.30 (S, 8")

SCALES:
1" = 50' HOR
1" = 5' VER

15

GLYNN VILLAGE PLAT 8 - WARRIOR LANE - CONNECTOR UTILITIES

NO.	REVISION	DATE	BY	FOR:

LOCATION:

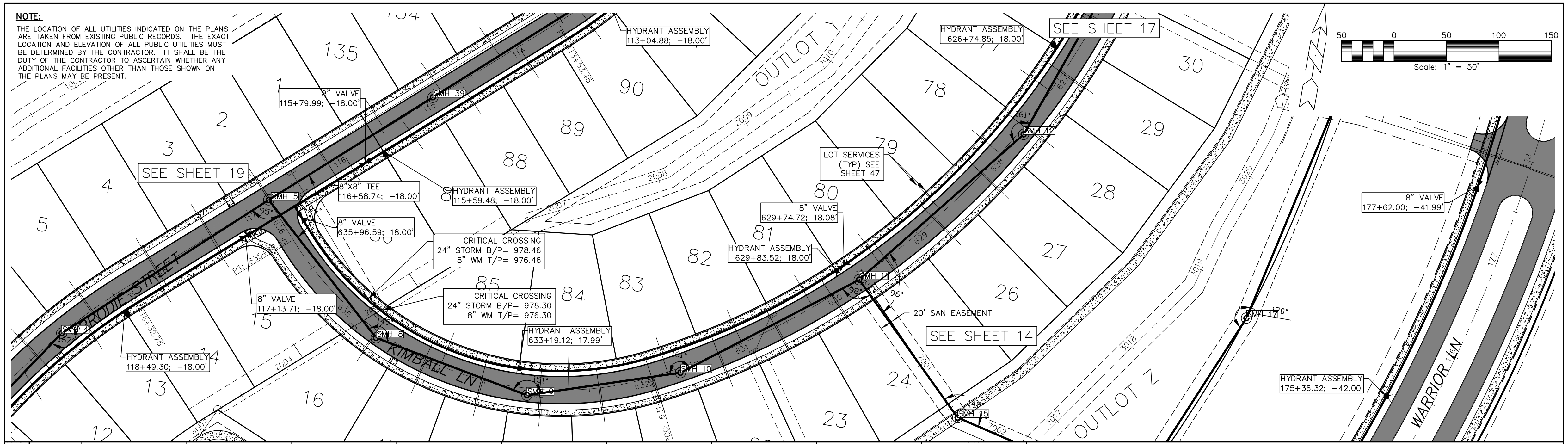
SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-PP OFF SAN EAST2	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 15 OF 47	FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

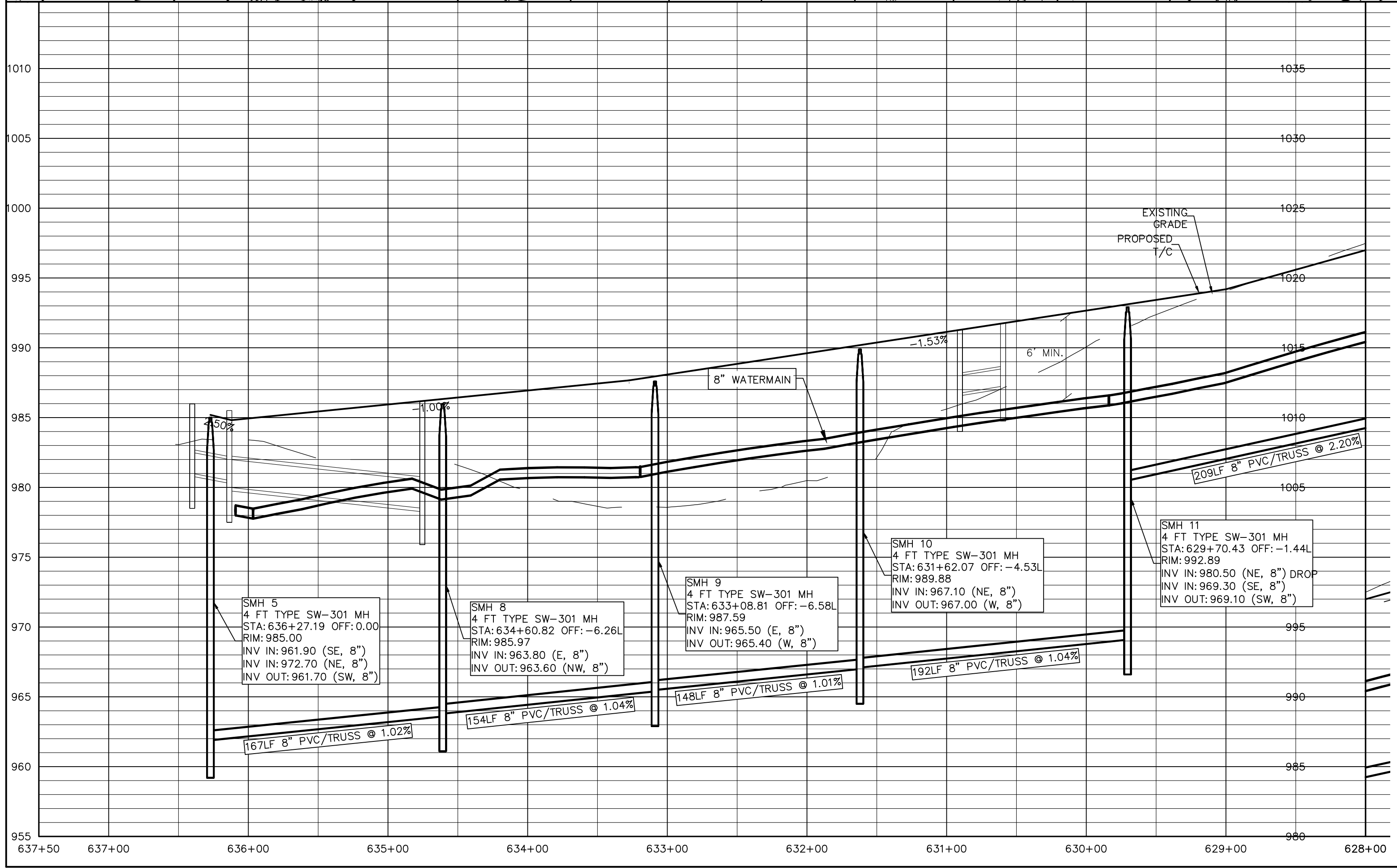
13-028

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



HYDRANT ASSEMBLY 113+04.88; -18.00'
HYDRANT ASSEMBLY 626+74.85; 18.00'
SEE SHEET 17
8" VALVE 115+79.99; -18.00'
SMH 39
SEE SHEET 19
SMH 5
8"X8" TEE 116+58.74; -18.00'
HYDRANT ASSEMBLY 115+59.48; -18.00'
8" VALVE 635+96.59; 18.00'
CRITICAL CROSSING 24" STORM B/P= 978.46 8" WM T/P= 976.46
CRITICAL CROSSING 24" STORM B/P= 978.30 8" WM T/P= 976.30
8" VALVE 117+13.71; -18.00'
HYDRANT ASSEMBLY 118+49.30; -18.00'
HYDRANT ASSEMBLY 633+19.12; 17.99'
SMH 8
SMH 9
SMH 10
SMH 11
SMH 15
SMH 17
SMH 4
LOT SERVICES (TYP) SEE SHEET 47
8" VALVE 629+74.72; 18.08'
HYDRANT ASSEMBLY 629+83.52; 18.00'
20' SAN EASEMENT
SEE SHEET 14
8" VALVE 177+62.00; -41.99'
HYDRANT ASSEMBLY 175+36.32; -42.00'
BRODIE STREET
KIMBALL LN
WARRIOR LN
OUTLOT Y
OUTLOT Z
50 0 50 100 150
Scale: 1" = 50'



SMH 5
4 FT TYPE SW-301 MH
STA: 636+27.19 OFF: 0.00
RIM: 985.00
INV IN: 961.90 (SE, 8")
INV IN: 972.70 (NE, 8")
INV OUT: 961.70 (SW, 8")

SMH 8
4 FT TYPE SW-301 MH
STA: 634+60.82 OFF: -6.26L
RIM: 985.97
INV IN: 963.80 (E, 8")
INV OUT: 963.60 (NW, 8")

SMH 9
4 FT TYPE SW-301 MH
STA: 633+08.81 OFF: -6.58L
RIM: 987.59
INV IN: 965.50 (E, 8")
INV OUT: 965.40 (W, 8")

SMH 10
4 FT TYPE SW-301 MH
STA: 631+62.07 OFF: -4.53L
RIM: 989.88
INV IN: 967.10 (NE, 8")
INV OUT: 967.00 (W, 8")

SMH 11
4 FT TYPE SW-301 MH
STA: 629+70.43 OFF: -1.44L
RIM: 992.89
INV IN: 980.50 (NE, 8") DROP
INV IN: 969.30 (SE, 8")
INV OUT: 969.10 (SW, 8")

SCALES:
1" = 50' HOR
1" = 5' VER

16

GLYNN VILLAGE PLAT 8 - KIMBALL LANE - SANITARY AND WATER

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-PP9.DWG	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 16 OF 47	FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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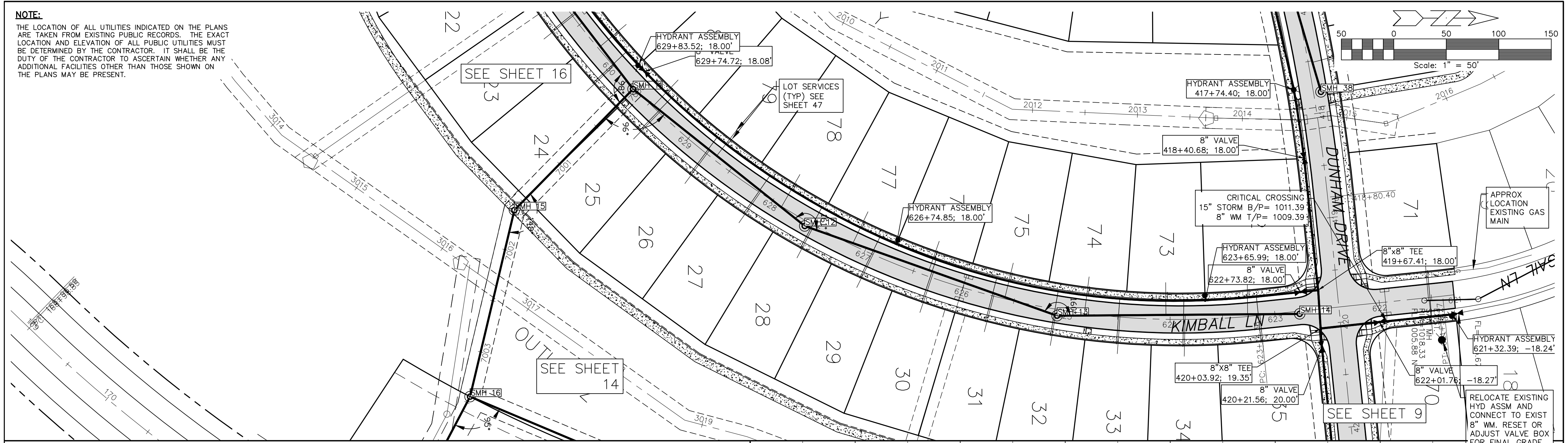
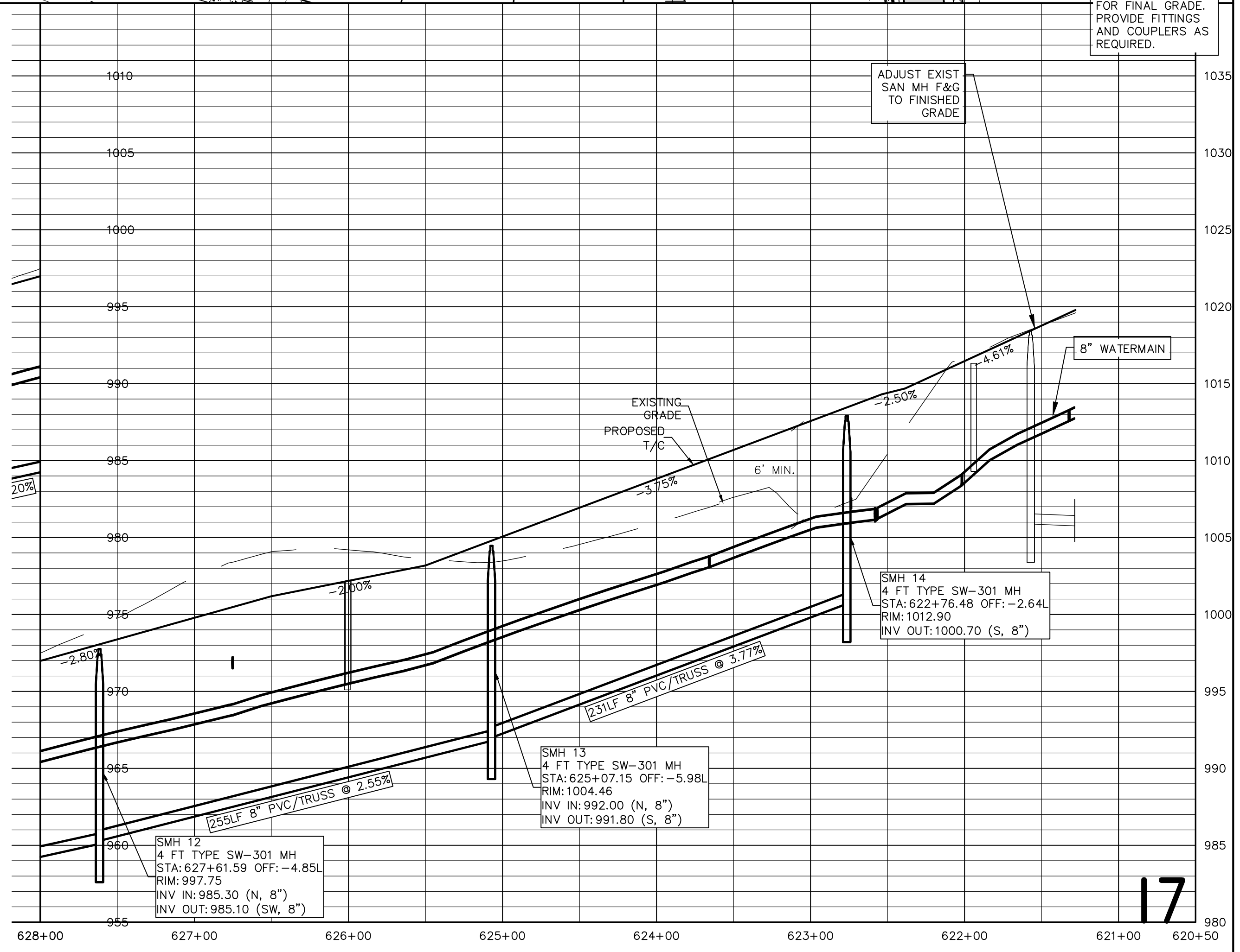

50
0
50
100
150
Scale: 1" = 50'
HYDRANT ASSEMBLY
629+83.52; 18.00'
8" VALVE
629+74.72; 18.08'
LOT SERVICES
(TYP) SEE
SHEET 47
SEE SHEET 16
SMH 11
SMH 12
SMH 13
SMH 14
SMH 15
SMH 16
SMH 38
HYDRANT ASSEMBLY
626+74.85; 18.00'
HYDRANT ASSEMBLY
417+74.40; 18.00'
8" VALVE
418+40.68; 18.00'
CRITICAL CROSSING
15" STORM B/P= 1011.39
8" WM T/P= 1009.39
HYDRANT ASSEMBLY
623+65.99; 18.00'
8" VALVE
622+73.82; 18.00'
8"x8" TEE
419+67.41; 18.00'
APPROX
LOCATION
EXISTING GAS
MAIN
HYDRANT ASSEMBLY
621+32.39; -18.24'
8" VALVE
622+01.76; -18.27'
8"X8" TEE
420+03.92; 19.35'
8" VALVE
420+21.56; 20.00'
SEE SHEET 9
SEE SHEET 14
RELOCATE EXISTING
HYD ASSM AND
CONNECT TO EXIST
8" WM. RESET OR
ADJUST VALVE BOX
FOR FINAL GRADE.
PROVIDE FITTINGS
AND COUPLERS AS
REQUIRED.
KIMBALL LN
DUNHAM DRIVE
418+80.40
22
23
24
25
26
27
28
29
30
31
32
33
34
35
70
71
73
74
75
77
78
79
18
OUT
2010
2011
2012
2013
2014
2015
2016
3014
3015
3016
3017
3019
7001
7002
7003
170
629
628
627
626
625
624
623
622
621
96°

SCALES:
1" = 50' HOR
1" = 5' VER


ADJUST EXIST
SAN MH F&G
TO FINISHED
GRADE
8" WATERMAIN
EXISTING
GRADE
PROPOSED
T/C
6' MIN.
-2.80%
-2.00%
-3.75%
-2.50%
-4.61%
-20%
255LF 8" PVC/TRUSS @ 2.55%
231LF 8" PVC/TRUSS @ 3.77%
SMH 12
4 FT TYPE SW-301 MH
STA: 627+61.59 OFF: -4.85L
RIM: 997.75
INV IN: 985.30 (N, 8")
INV OUT: 985.10 (SW, 8")
SMH 13
4 FT TYPE SW-301 MH
STA: 625+07.15 OFF: -5.98L
RIM: 1004.46
INV IN: 992.00 (N, 8")
INV OUT: 991.80 (S, 8")
SMH 14
4 FT TYPE SW-301 MH
STA: 622+76.48 OFF: -2.64L
RIM: 1012.90
INV OUT: 1000.70 (S, 8")
1010
1005
1000
995
990
985
980
975
970
965
960
955
1035
1030
1025
1020
1015
1010
1005
1000
995
990
985
980
628+00
627+00
626+00
625+00
624+00
623+00
622+00
621+00
620+50

GLYNN VILLAGE PLAT 8 - KIMBALL LANE - SANITARY AND WATER

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV	
DWG: 13-028-PP7.DWG	CHECKED BY: DJS	DATE: 07/12/13	
FIELD BOOK:	SHEET 17 OF 47	FILE NO.: 13-028	

LOCATION:

FOR:

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

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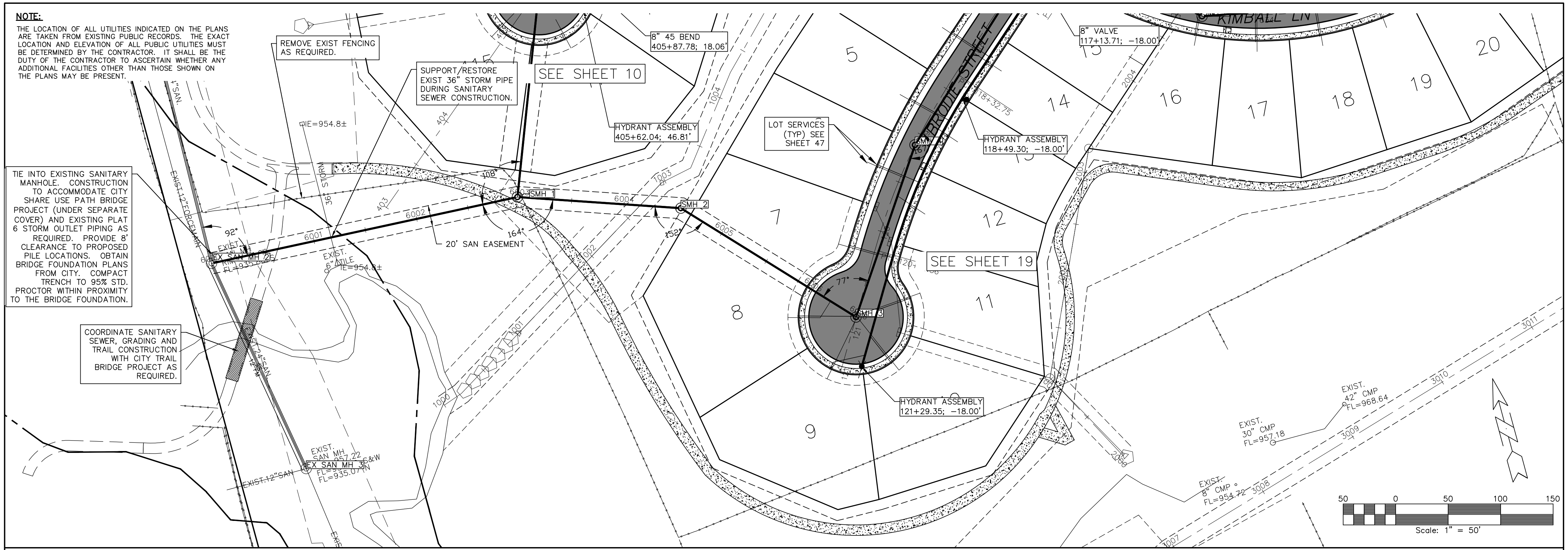
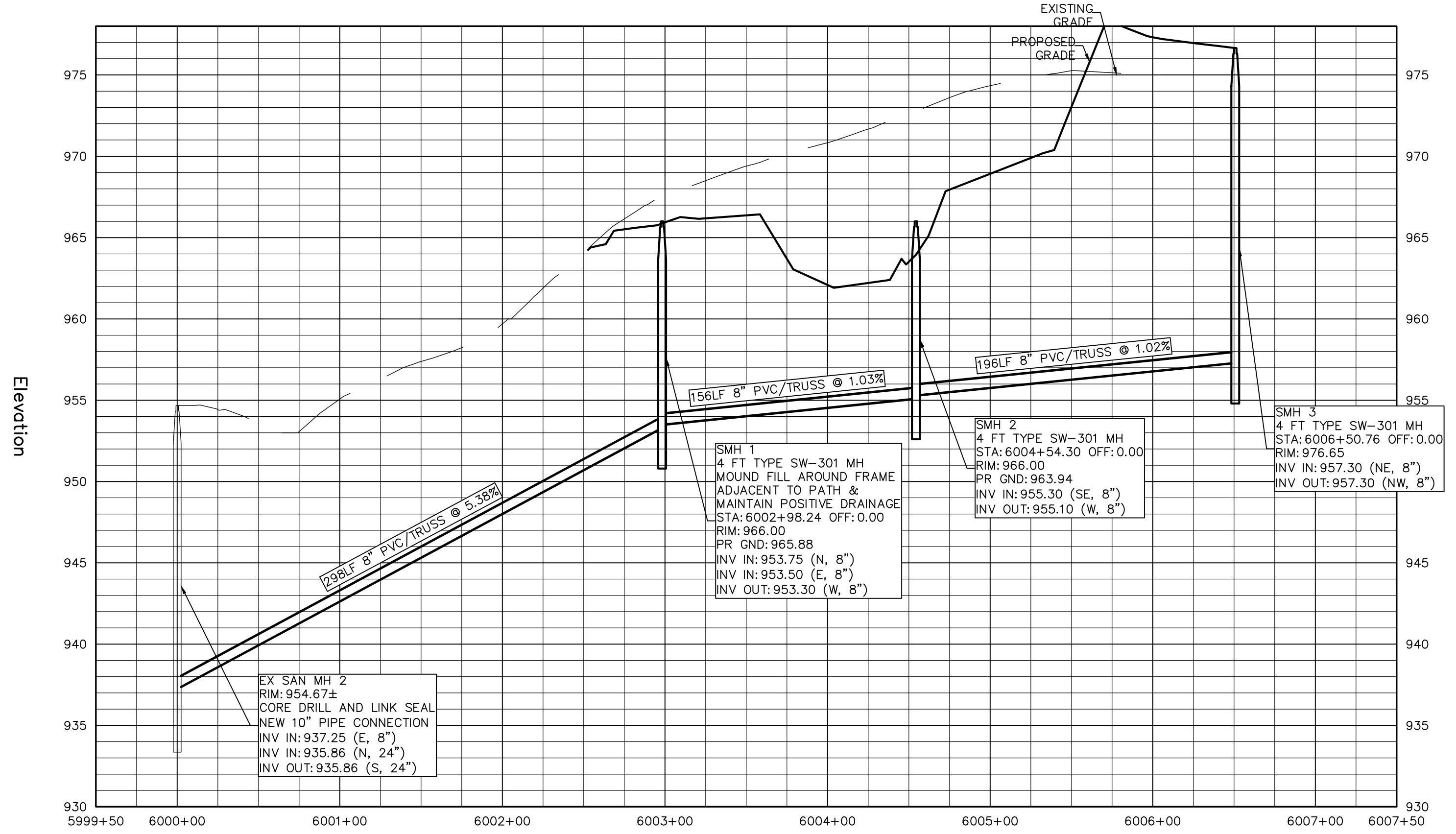

REMOVE EXIST FENCING AS REQUIRED.
SUPPORT/RESTORE EXIST 36" STORM PIPE DURING SANITARY SEWER CONSTRUCTION.
SEE SHEET 10
8" 45 BEND 405+87.78; 18.06'
HYDRANT ASSEMBLY 405+62.04; 46.81'
LOT SERVICES (TYP) SEE SHEET 47
HYDRANT ASSEMBLY 118+49.30; -18.00'
8" VALVE 117+13.71; -18.00'
KIMBALL LN
BRODIE STREET
118+32.75
SEE SHEET 19
HYDRANT ASSEMBLY 121+29.35; -18.00'
TIE INTO EXISTING SANITARY MANHOLE. CONSTRUCTION TO ACCOMMODATE CITY SHARE USE PATH BRIDGE PROJECT (UNDER SEPARATE COVER) AND EXISTING PLAT 6 STORM OUTLET PIPING AS REQUIRED. PROVIDE 8' CLEARANCE TO PROPOSED PILE LOCATIONS. OBTAIN BRIDGE FOUNDATION PLANS FROM CITY. COMPACT TRENCH TO 95% STD. PROCTOR WITHIN PROXIMITY TO THE BRIDGE FOUNDATION.
COORDINATE SANITARY SEWER, GRADING AND TRAIL CONSTRUCTION WITH CITY TRAIL BRIDGE PROJECT AS REQUIRED.
20' SAN EASEMENT
IE=954.8±
EXIST. 6" TILE IE=954.8±
36" STORM
EXIST. 12" FORCEMAIN
EXIST. 24" SAN.
12" FM
EX SAN MH 2
EX SAN MH 3
EXIST. SAN MH 957.22 S&W
FL=935.07 N
EXIST. 12" SAN
SMH 1
SMH 2
SMH 3
SMH 4
92°
108°
164°
152°
77°
6001
6002
6003
6004
6005
6006
403
404
1000
1001
1002
1003
1004
2003
2004
3007
3008
3009
3010
3011
5
7
8
9
11
12
14
15
16
17
18
19
20
EXIST. 30" CMP FL=957.18
EXIST. 42" CMP FL=968.64
EXIST. 8" CMP FL=954.72
50 0 50 100 150
Scale: 1" = 50'

SCALES:
1" = 50' HOR
1" = 5' VER


Elevation
930
935
940
945
950
955
960
965
970
975
5999+50
6000+00
6001+00
6002+00
6003+00
6004+00
6005+00
6006+00
6007+00
6007+50
EXISTING GRADE
PROPOSED GRADE
298LF 8" PVC/TRUSS @ 5.38%
156LF 8" PVC/TRUSS @ 1.03%
196LF 8" PVC/TRUSS @ 1.02%
EX SAN MH 2
RIM: 954.67±
CORE DRILL AND LINK SEAL
NEW 10" PIPE CONNECTION
INV IN: 937.25 (E, 8")
INV IN: 935.86 (N, 24")
INV OUT: 935.86 (S, 24")
SMH 1
4 FT TYPE SW-301 MH
MOUND FILL AROUND FRAME
ADJACENT TO PATH &
MAINTAIN POSITIVE DRAINAGE
STA: 6002+98.24 OFF: 0.00
RIM: 966.00
PR GND: 965.88
INV IN: 953.75 (N, 8")
INV IN: 953.50 (E, 8")
INV OUT: 953.30 (W, 8")
SMH 2
4 FT TYPE SW-301 MH
STA: 6004+54.30 OFF: 0.00
RIM: 966.00
PR GND: 963.94
INV IN: 955.30 (SE, 8")
INV OUT: 955.10 (W, 8")
SMH 3
4 FT TYPE SW-301 MH
STA: 6006+50.76 OFF: 0.00
RIM: 976.65
INV IN: 957.30 (NE, 8")
INV OUT: 957.30 (NW, 8")

18

GLYNN VILLAGE PLAT 8 - BRODIE STREET - OFFSITE SANITARY

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-PP OFF SAN WEST	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 18 OF 47	FILE NO.: 13-028

LOCATION:

NO.	REVISION	DATE	BY	FOR:

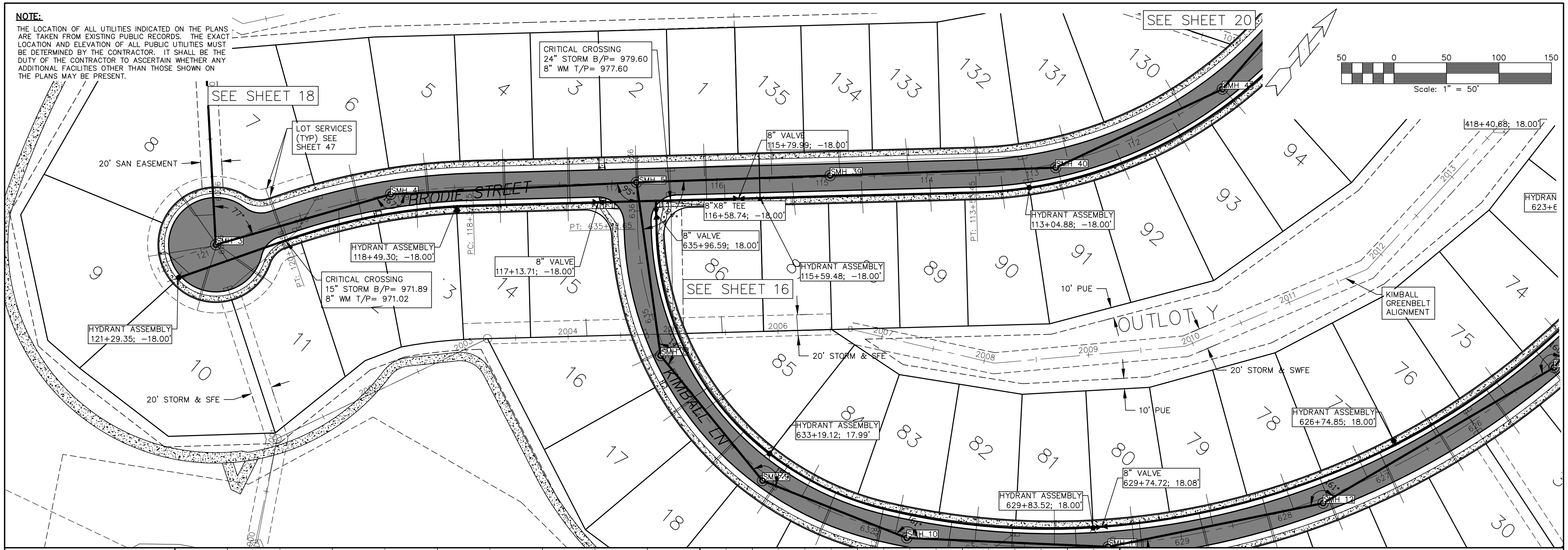
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

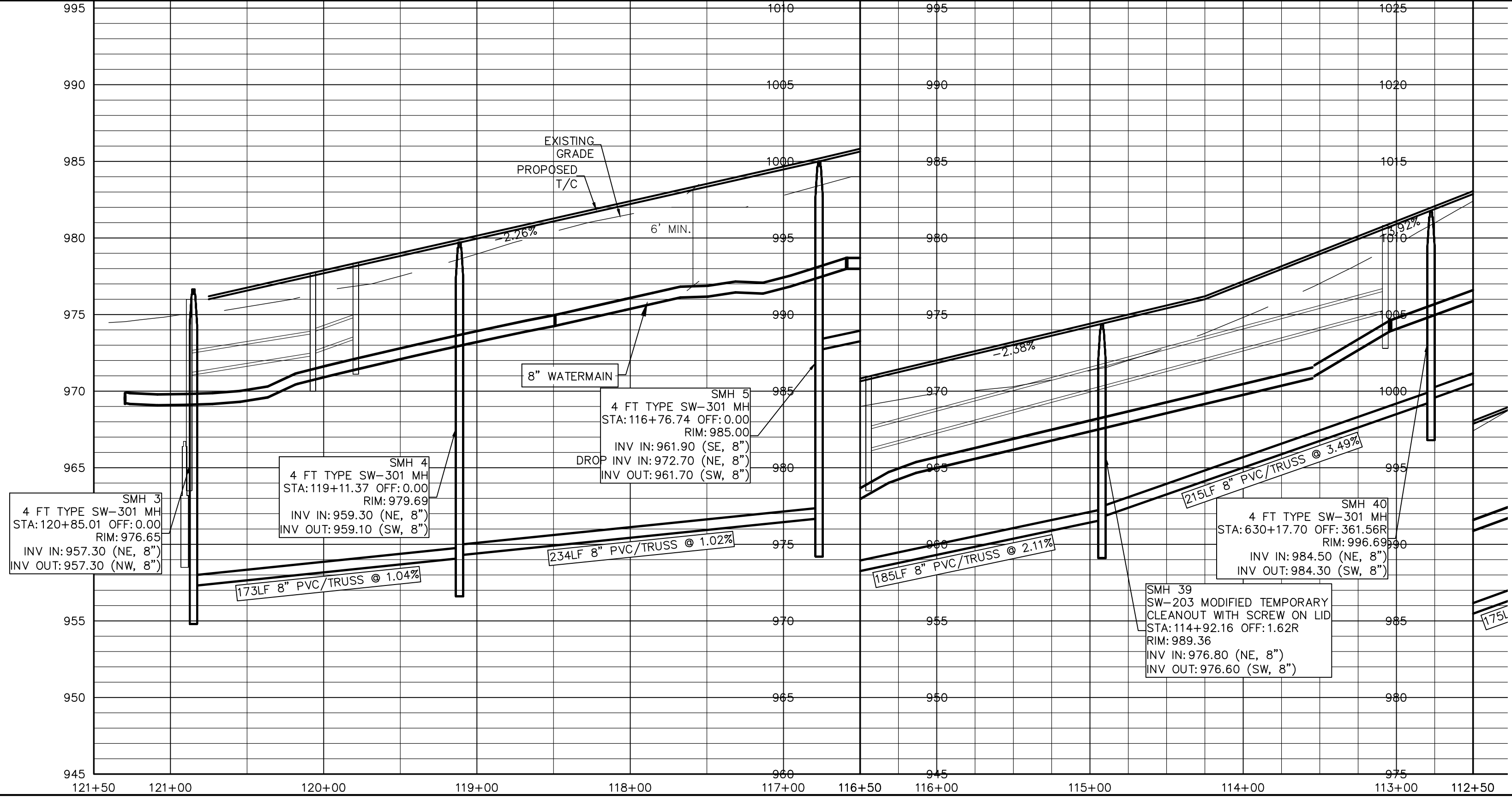
13-028

J:\2013 Proj\13-028\DESIGN\13-028-PP OFF SAN WEST.dwg, 4/4/2014 4:15:10 PM, CJB

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.


SEE SHEET 18
SEE SHEET 20
SEE SHEET 16
CRITICAL CROSSING
24" STORM B/P= 979.60
8" WM T/P= 977.60
LOT SERVICES (TYP) SEE SHEET 47
20' SAN EASEMENT
BRODIE STREET
KIMBALL LN
OUTLOT Y
SMH 3
SMH 4
SMH 5
SMH 39
SMH 40
SMH 41
SMH 9
SMH 10
SMH 11
SMH 12
8" VALVE
115+79.99; -18.00'
8"X8" TEE
116+58.74; -18.00'
8" VALVE
635+96.59; 18.00'
8" VALVE
117+13.71; -18.00'
HYDRANT ASSEMBLY
118+49.30; -18.00'
HYDRANT ASSEMBLY
115+59.48; -18.00'
HYDRANT ASSEMBLY
113+04.88; -18.00'
HYDRANT ASSEMBLY
121+29.35; -18.00'
CRITICAL CROSSING
15" STORM B/P= 971.89
8" WM T/P= 971.02
HYDRANT ASSEMBLY
633+19.12; 17.99'
HYDRANT ASSEMBLY
629+83.52; 18.00'
8" VALVE
629+74.72; 18.08'
HYDRANT ASSEMBLY
626+74.85; 18.00'
418+40.68; 18.00'
HYDRAN
623+6
KIMBALL GREENBELT ALIGNMENT
20' STORM & SFE
20' STORM & SWFE
10' PUE
PT: 635+
PC: 118+
PT: 113+
PT: 120
50 0 50 100 150
Scale: 1" = 50'
1 2 3 4 5 6 7 8 9 10 11 13 14 15 16 17 18 30 74 75 76 78 79 80 81 82 83 84 85 86 89 90 91 92 93 94 130 131 132 133 134 135


EXISTING GRADE
PROPOSED T/C
6' MIN.
-2.26%
-2.38%
-1.32%
8" WATERMAIN
SMH 3
4 FT TYPE SW-301 MH
STA:120+85.01 OFF:0.00
RIM:976.65
INV IN:957.30 (NE, 8")
INV OUT:957.30 (NW, 8")
SMH 4
4 FT TYPE SW-301 MH
STA:119+11.37 OFF:0.00
RIM:979.69
INV IN:959.30 (NE, 8")
INV OUT:959.10 (SW, 8")
SMH 5
4 FT TYPE SW-301 MH
STA:116+76.74 OFF:0.00
RIM:985.00
INV IN:961.90 (SE, 8")
DROP INV IN:972.70 (NE, 8")
INV OUT:961.70 (SW, 8")
SMH 39
SW-203 MODIFIED TEMPORARY CLEANOUT WITH SCREW ON LID
STA:114+92.16 OFF:1.62R
RIM:989.36
INV IN:976.80 (NE, 8")
INV OUT:976.60 (SW, 8")
SMH 40
4 FT TYPE SW-301 MH
STA:630+17.70 OFF:361.56R
RIM:996.69
INV IN:984.50 (NE, 8")
INV OUT:984.30 (SW, 8")
173LF 8" PVC/TRUSS @ 1.04%
234LF 8" PVC/TRUSS @ 1.02%
185LF 8" PVC/TRUSS @ 2.11%
215LF 8" PVC/TRUSS @ 3.49%
175
995 990 985 980 975 970 965 960 955 950 945
1010 1005 1000 995 990 985 980 975 970 965 960
995 990 985 980 975 970 965 960 955 950 945
1025 1020 1015 1010 1005 1000 995 990 985 980 975
121+50 121+00 120+00 119+00 118+00 117+00 116+50
116+00 115+00 114+00 113+00 112+50

SCALES:
1" = 50' HOR
1" = 5' VER

19

GLYNN VILLAGE PLAT 8 - BRODIE STREET - SANITARY AND WATER

NO.	REVISION	DATE	BY	FOR:

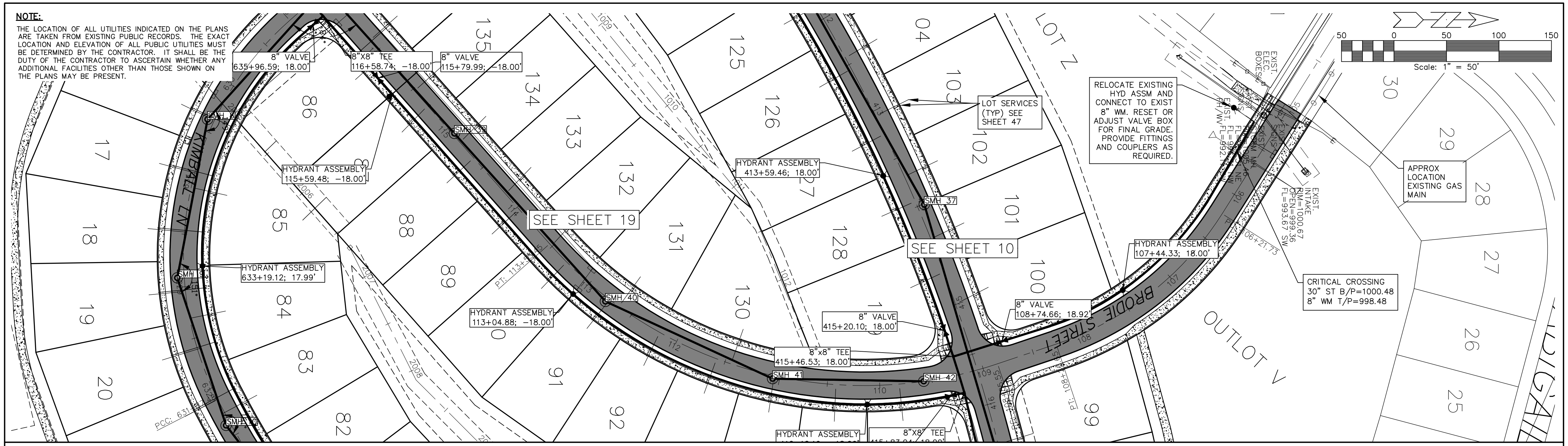
LOCATION:

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-PP8.DWG	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 19 OF 47	FILE NO.: 13-028

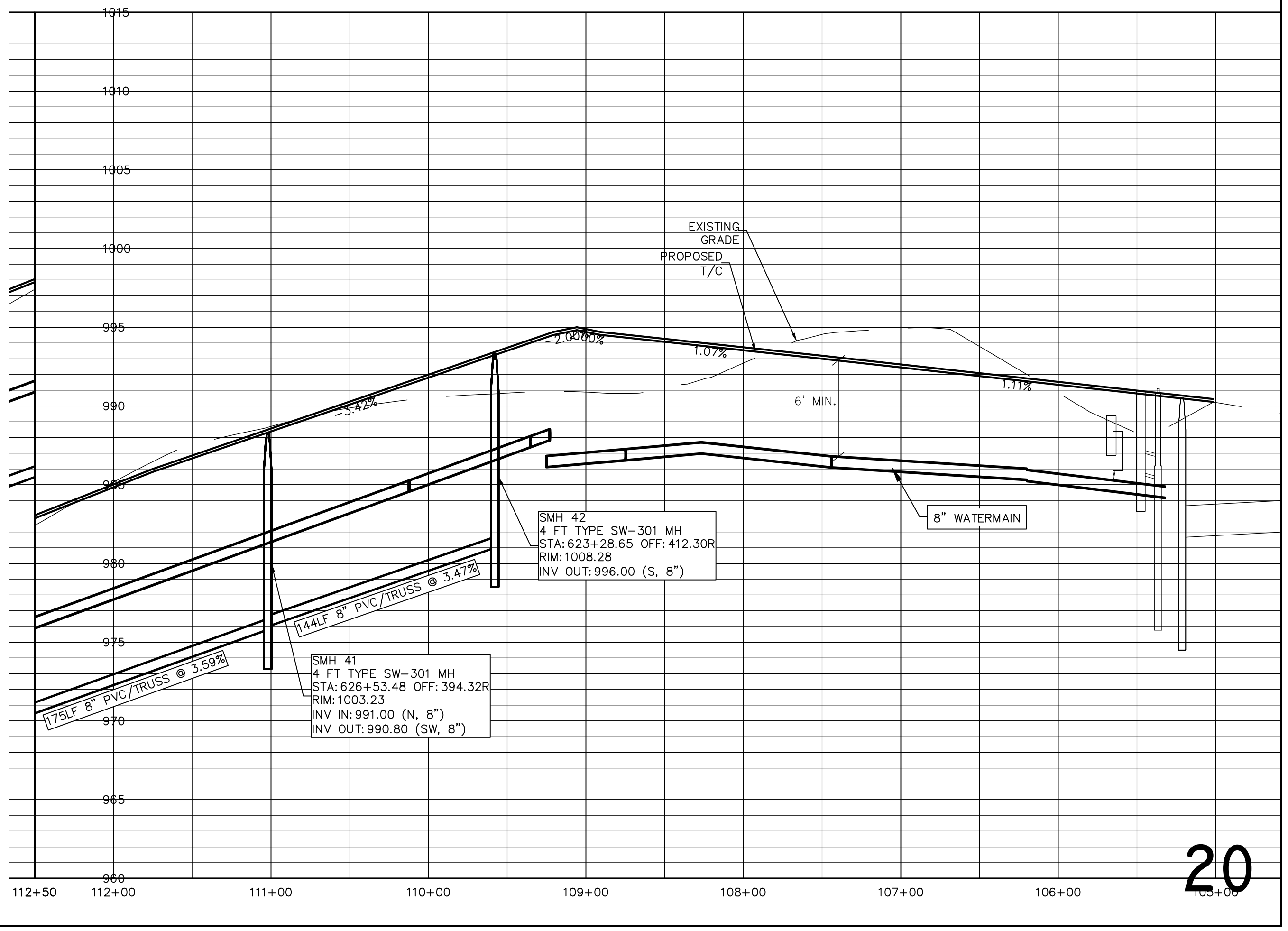
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.


50
0
50
100
150
Scale: 1" = 50'
8" VALVE 635+96.59; 18.00'
8"X8" TEE 116+58.74; -18.00'
8" VALVE 115+79.99; -18.00'
HYDRANT ASSEMBLY 115+59.48; -18.00'
HYDRANT ASSEMBLY 633+19.12; 17.99'
HYDRANT ASSEMBLY 113+04.88; -18.00'
HYDRANT ASSEMBLY 413+59.46; 18.00'
8" VALVE 415+20.10; 18.00'
8"x8" TEE 415+46.53; 18.00'
HYDRANT ASSEMBLY
8"X8" TEE
HYDRANT ASSEMBLY 107+44.33; 18.00'
8" VALVE 108+74.66; 18.92'
LOT SERVICES (TYP) SEE SHEET 47
RELOCATE EXISTING HYD ASSM AND CONNECT TO EXIST 8" WM. RESET OR ADJUST VALVE BOX FOR FINAL GRADE. PROVIDE FITTINGS AND COUPLERS AS REQUIRED.
APPROX LOCATION EXISTING GAS MAIN
CRITICAL CROSSING 30" ST B/P=1000.48 8" WM T/P=998.48
EXIST. INTAKE RIM=1000.67 FL=993.67 SW
SEE SHEET 19
SEE SHEET 10
SMH 37
SMH 39
SMH 40
SMH 41
SMH 42
KIMBALL LN
BRODIE STREET
LOT Z
OUTLOT V
PCC: 631
17
18
19
20
86
85
84
83
82
88
89
91
92
130
131
132
133
134
135
125
126
127
128
04
103
102
101
100
99
30
29
28
27
26
25

SCALES:
1" = 50' HOR
1" = 5' VER



SMH 42
4 FT TYPE SW-301 MH
STA: 623+28.65 OFF: 412.30R
RIM: 1008.28
INV OUT: 996.00 (S, 8")

SMH 41
4 FT TYPE SW-301 MH
STA: 626+53.48 OFF: 394.32R
RIM: 1003.23
INV IN: 991.00 (N, 8")
INV OUT: 990.80 (SW, 8")

GLYNN VILLAGE PLAT 8 - BRODIE STREET - SANITARY AND WATER

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV	
DWG: 13-028-PP29.DWG	CHECKED BY: DJS	DATE: 07/12/13	
FIELD BOOK:	SHEET 20 OF 47	FILE NO.: 13-028	

LOCATION:

FOR:

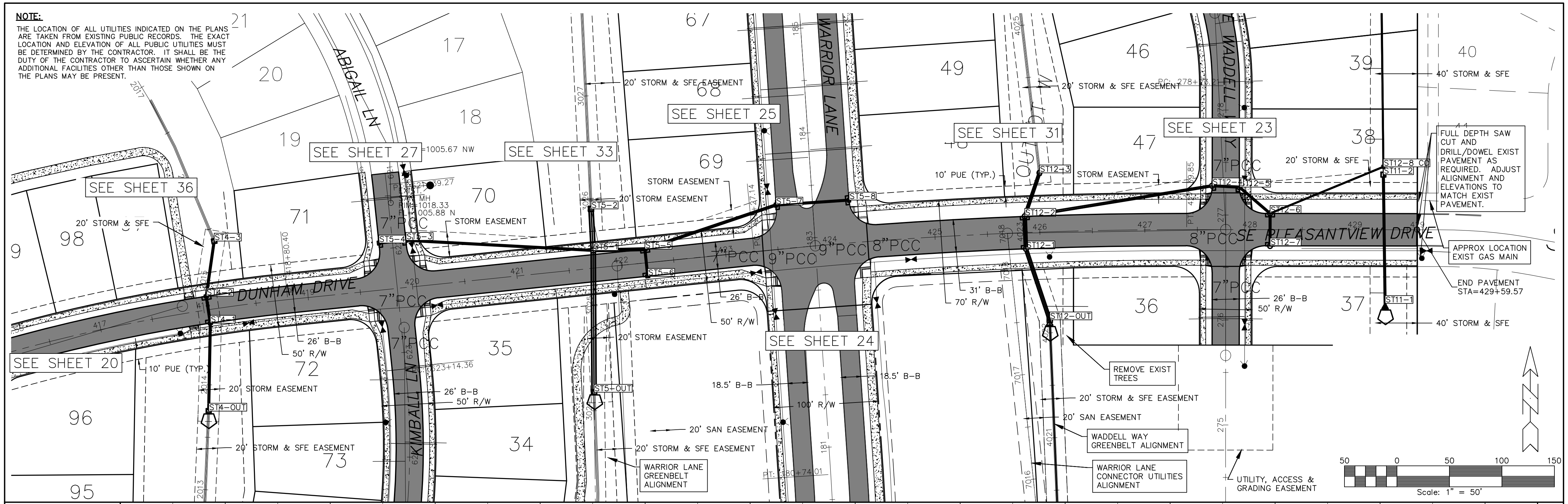
NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

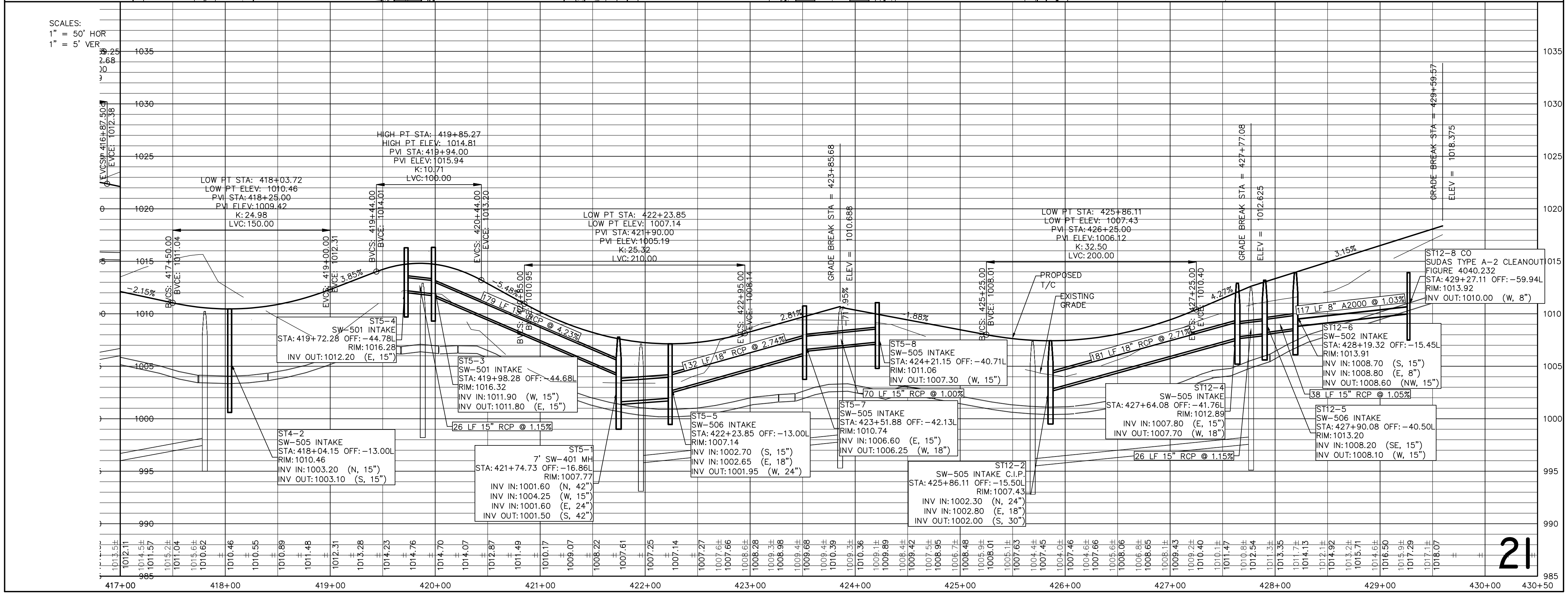
13-028

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SEE SHEET 36
SEE SHEET 27
SEE SHEET 33
SEE SHEET 25
SEE SHEET 31
SEE SHEET 23
SEE SHEET 20
SEE SHEET 24
ABIGAIL LN
DUNHAM DRIVE
KIMBALL LN
WARRIOR LANE
SE PLEASANTVIEW DRIVE
WADDELL WAY
20' STORM & SFE EASEMENT
20' STORM & SFE
STORM EASEMENT
20' STORM EASEMENT
20' SAN EASEMENT
10' PUE (TYP.)
26' B-B
50' R/W
31' B-B
70' R/W
18.5' B-B
100' R/W
7"PCC
8"PCC
9"PCC
40' STORM & SFE
MH
RIM=1018.33
1005.88 N
1005.67 NW
ST4-2
ST4-3
ST4-OUT
ST5-1
ST5-2
ST5-3
ST5-4
ST5-5
ST5-6
ST5-7
ST5-8
ST5-OUT
ST11-1
ST11-2
ST12-1
ST12-2
ST12-3
ST12-5
ST12-6
ST12-7
ST12-8 CO
ST12-OUT
FULL DEPTH SAW CUT AND DRILL/DOWEL EXIST PAVEMENT AS REQUIRED. ADJUST ALIGNMENT AND ELEVATIONS TO MATCH EXIST PAVEMENT.
APPROX LOCATION EXIST GAS MAIN
END PAVEMENT STA=429+59.57
REMOVE EXIST TREES
WADDELL WAY GREENBELT ALIGNMENT
WARRIOR LANE GREENBELT ALIGNMENT
WARRIOR LANE CONNECTOR UTILITIES ALIGNMENT
UTILITY, ACCESS & GRADING EASEMENT
17
18
19
20
21
34
35
36
37
38
39
40
46
47
49
67
68
69
70
71
72
73
95
96
98
417
420
421
422
424
425
426
427
428
429
50
0
50
100
150
Scale: 1" = 50'



GLYNN VILLAGE PLAT 8 - PLEASANTVIEW DR - PAVEMENT & STORM

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV	
DWG: 13-028-PP13.DWG	CHECKED BY: DJS	DATE: 07/12/13	
FIELD BOOK:	SHEET 21 OF 47	FILE NO.: 13-028	

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Engineers and Surveyors
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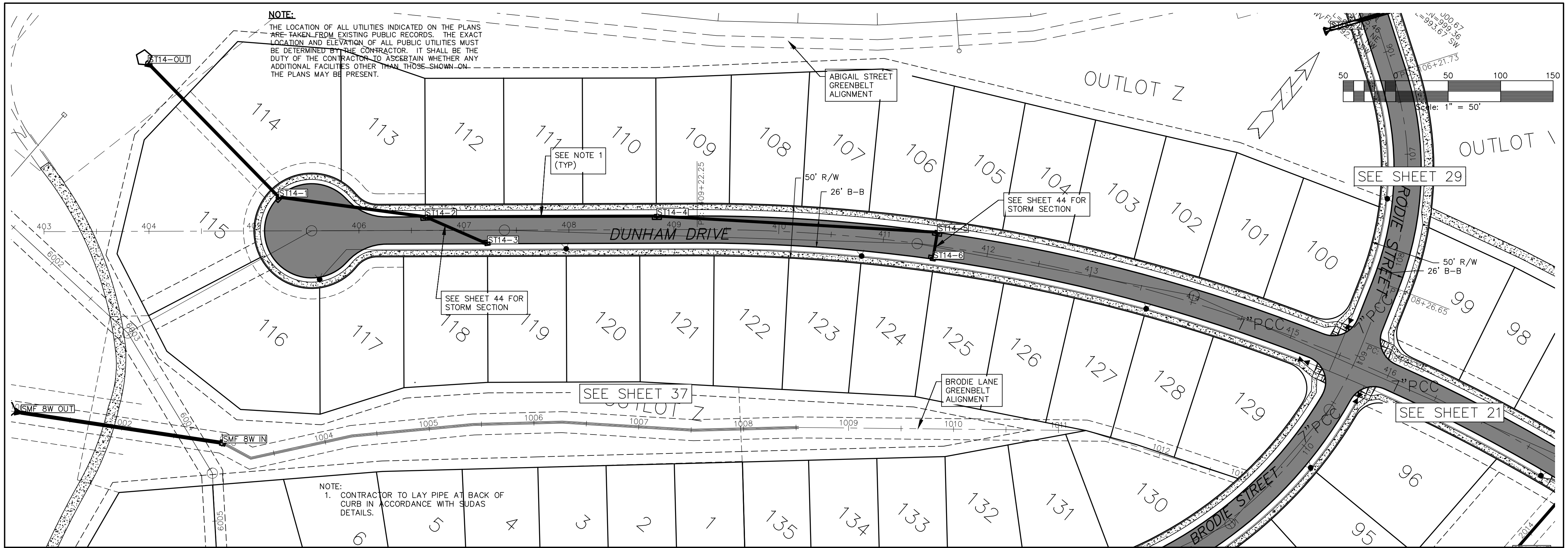
DES MOINES, IOWA 50312
(515) 288-4823

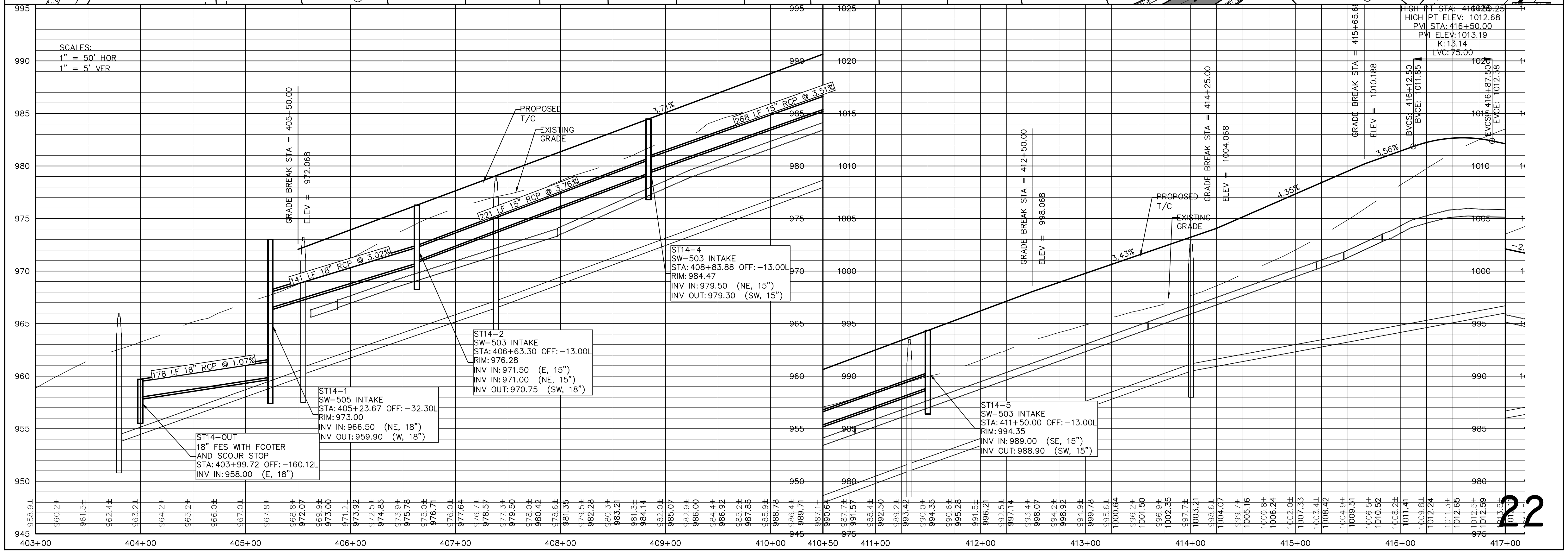
13-028


ST14-OUT
114
113
112
111
110
109
108
107
106
105
104
103
102
101
100
99
98
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
1
2
3
4
5
6
95
96
OUTLOT Z
OUTLOT
ABIGAIL STREET
GREENBELT
ALIGNMENT
SEE NOTE 1
(TYP)
50' R/W
26' B-B
SEE SHEET 44 FOR
STORM SECTION
DUNHAM DRIVE
ST14-1
ST14-2
ST14-3
ST14-4
ST14-5
ST14-6
SEE SHEET 29
SEE SHEET 21
SEE SHEET 37
BRODIE STREET
BRODIE LANE
GREENBELT
ALIGNMENT
7"PCC
SMF 8W OUT
SMF 8W IN
50
0
50
100
150
Scale: 1" = 50'

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

NOTE:
1. CONTRACTOR TO LAY PIPE AT BACK OF CURB IN ACCORDANCE WITH SUDAS DETAILS.


SCALES:
1" = 50' HOR
1" = 5' VER
GRADE BREAK STA = 405+50.00
ELEV = 972.068
PROPOSED
T/C
EXISTING
GRADE
178 LF 18" RCP @ 1.07%
141 LF 18" RCP @ 3.02%
221 LF 15" RCP @ 3.76%
268 LF 15" RCP @ 3.51%
3.71%
GRADE BREAK STA = 412+50.00
ELEV = 998.068
GRADE BREAK STA = 414+25.00
ELEV = 1004.068
GRADE BREAK STA = 415+65.68
ELEV = 1010.188
3.43%
4.35%
3.56%
HIGH PT STA: 416+29.25
HIGH PT ELEV: 1012.68
PVI STA: 416+50.00
PVI ELEV: 1013.19
K: 13.14
LVC: 75.00
BVCS: 416+12.50
BVCE: 1011.85
EVCS: 416+87.50
EVCE: 1012.38
403+00
404+00
405+00
406+00
407+00
408+00
409+00
410+00
410+50
411+00
412+00
413+00
414+00
415+00
416+00
417+00

ST14-OUT
18" FES WITH FOOTER
AND SCOUR STOP
STA: 403+99.72 OFF: -160.12L
INV IN: 958.00 (E, 18")

ST14-1
SW-505 INTAKE
STA: 405+23.67 OFF: -32.30L
RIM: 973.00
INV IN: 966.50 (NE, 18")
INV OUT: 959.90 (W, 18")

ST14-2
SW-503 INTAKE
STA: 406+63.30 OFF: -13.00L
RIM: 976.28
INV IN: 971.50 (E, 15")
INV IN: 971.00 (NE, 15")
INV OUT: 970.75 (SW, 18")

ST14-4
SW-503 INTAKE
STA: 408+83.88 OFF: -13.00L
RIM: 984.47
INV IN: 979.50 (NE, 15")
INV OUT: 979.30 (SW, 15")

ST14-5
SW-503 INTAKE
STA: 411+50.00 OFF: -13.00L
RIM: 994.35
INV IN: 989.00 (SE, 15")
INV OUT: 988.90 (SW, 15")

22

GLYNN VILLAGE PLAT 8 - DUNHAM DR - PAVEMENT & STORM

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 50'
DWG: 13-028-PP28.DWG
FIELD BOOK:
DESIGNED BY: CJB
CHECKED BY: DJS
SHEET 22 OF 47
DRAWN BY: PJV
DATE: 07/12/13
FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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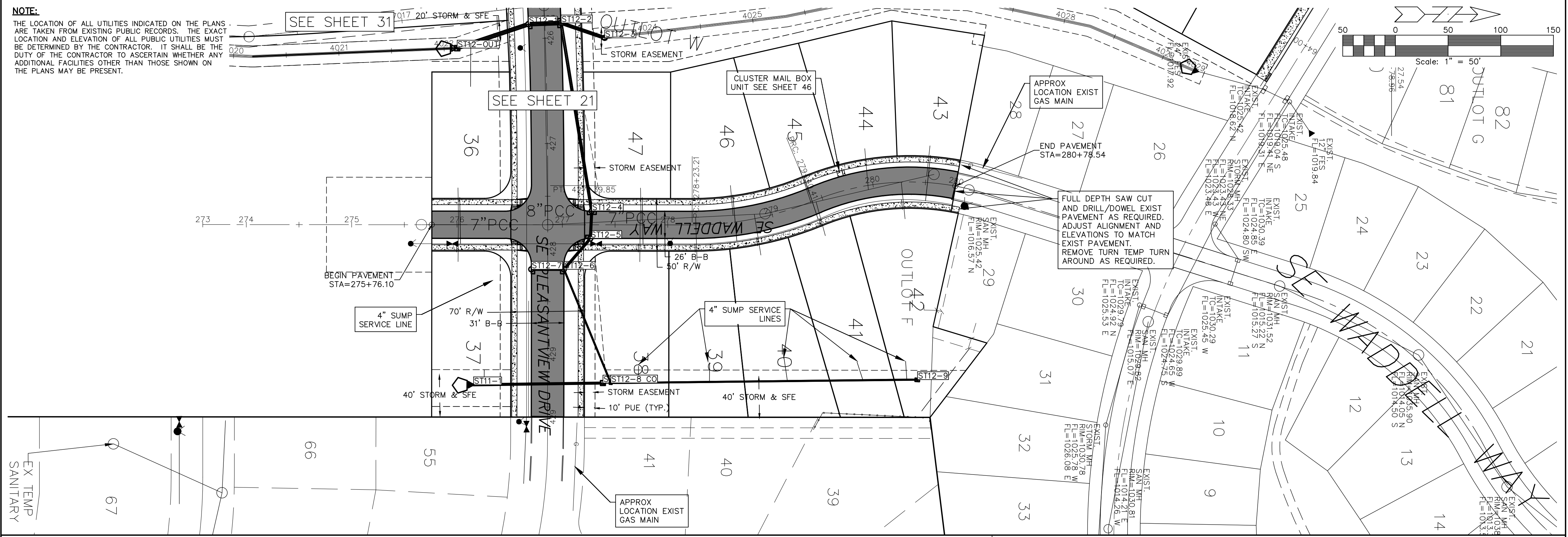
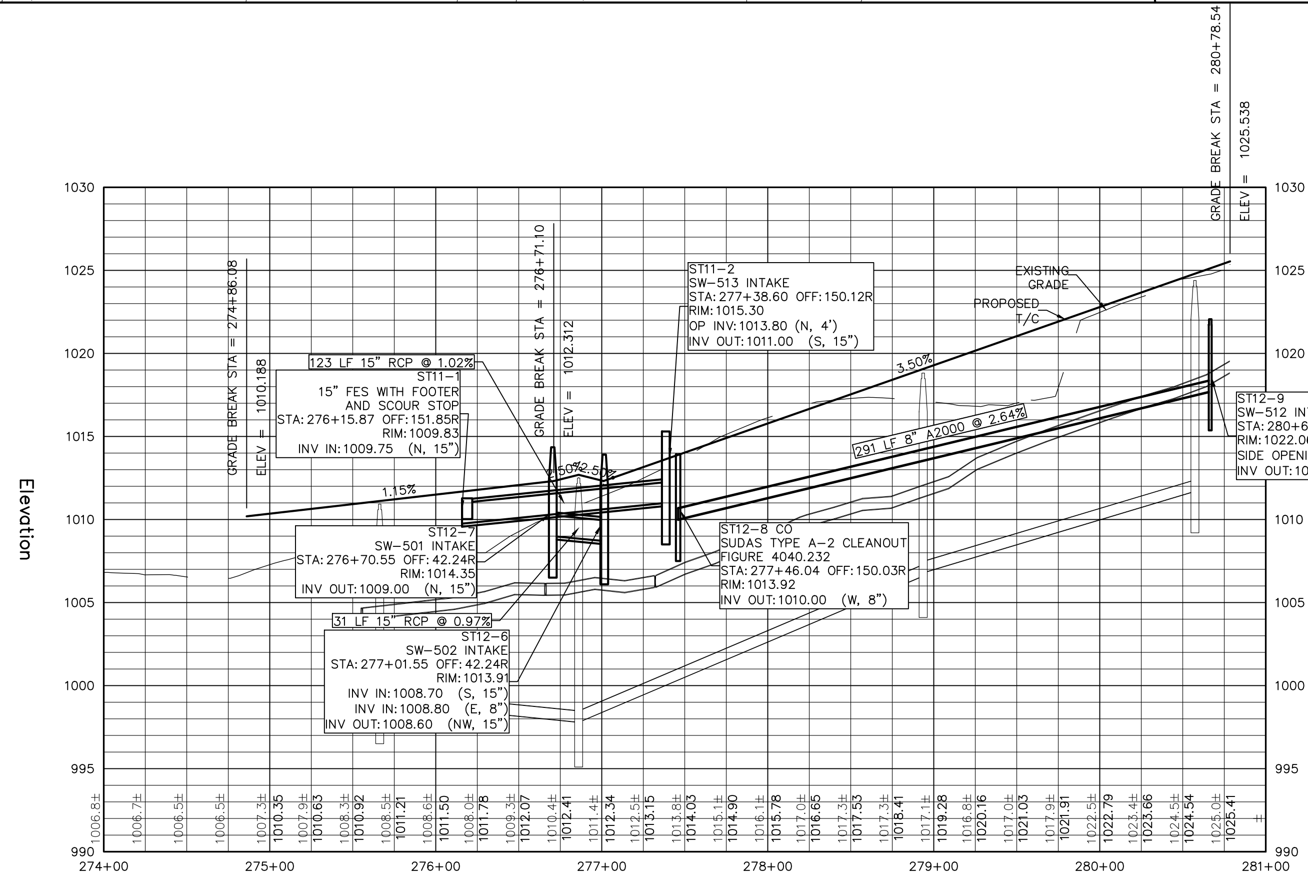

SEE SHEET 31
20' STORM & SFE
ST12-1
ST12-2
ST12-3
ST12-OUT
OUTLOT W
STORM EASEMENT
SEE SHEET 21
4021
4025
4028
36
47
46
45
44
43
28
27
26
25
24
23
22
21
CLUSTER MAIL BOX UNIT SEE SHEET 46
APPROX LOCATION EXIST GAS MAIN
END PAVEMENT STA=280+78.54
FULL DEPTH SAW CUT AND DRILL/DOWEL EXIST PAVEMENT AS REQUIRED. ADJUST ALIGNMENT AND ELEVATIONS TO MATCH EXIST PAVEMENT. REMOVE TURN TEMP TURN AROUND AS REQUIRED.
8"PCC
7"PCC
SE WADDELL WAY
SE PLEASANTVIEW DRIVE
ST12-4
ST12-5
ST12-6
ST12-7
26' B-B
50' R/W
70' R/W
31' B-B
BEGIN PAVEMENT STA=275+76.10
4" SUMP SERVICE LINE
4" SUMP SERVICE LINES
ST11-1
ST12-8 CO
ST12-9
40' STORM & SFE
STORM EASEMENT
10' PUE (TYP.)
37
38
39
40
41
42
OUTLOT F
29
30
31
32
33
EXIST. SAN MH RIM=1025.42 FL=1016.57 N
66
55
67
41
40
39
EX TEMP SANITARY
APPROX LOCATION EXIST GAS MAIN
OUTLOT G
81
82
12
13
14
11
10
9
SE WADDELL WAY
EXIST. 127 FES FL=1019.84
EXIST. INTAKE TC=1025.48 FL=1019.04 S FL=1019.41 NE FL=1019.31 E
EXIST. INTAKE TC=1025.42 FL=1018.62 N
EXIST. STORM MH RIM=1028.33 FL=1023.43 NE FL=1023.43 W FL=1023.48 E
EXIST. INTAKE TC=1030.39 FL=1024.85 E FL=1024.80 SW
EXIST. SAN MH RIM=1031.52 FL=1015.22 N FL=1015.27 S
EXIST. INTAKE TC=1030.29 FL=1025.45 W
EXIST. INTAKE TC=1029.89 FL=1024.65 W FL=1024.75 S
EXIST. SAN MH RIM=1029.82 FL=1015.07 E
EXIST. INTAKE TC=1029.79 FL=1024.92 N FL=1025.53 E
EXIST. STORM MH RIM=1030.78 FL=1025.78 W FL=1026.08 E
EXIST. SAN MH RIM=1030.81 FL=1014.21 E FL=1014.26 W
EXIST. SAN MH RIM=1035.90 FL=1014.05 N FL=1014.50 S
EXIST. 24" FES FL=1017.92
50 0 50 100 150
Scale: 1" = 50'



23

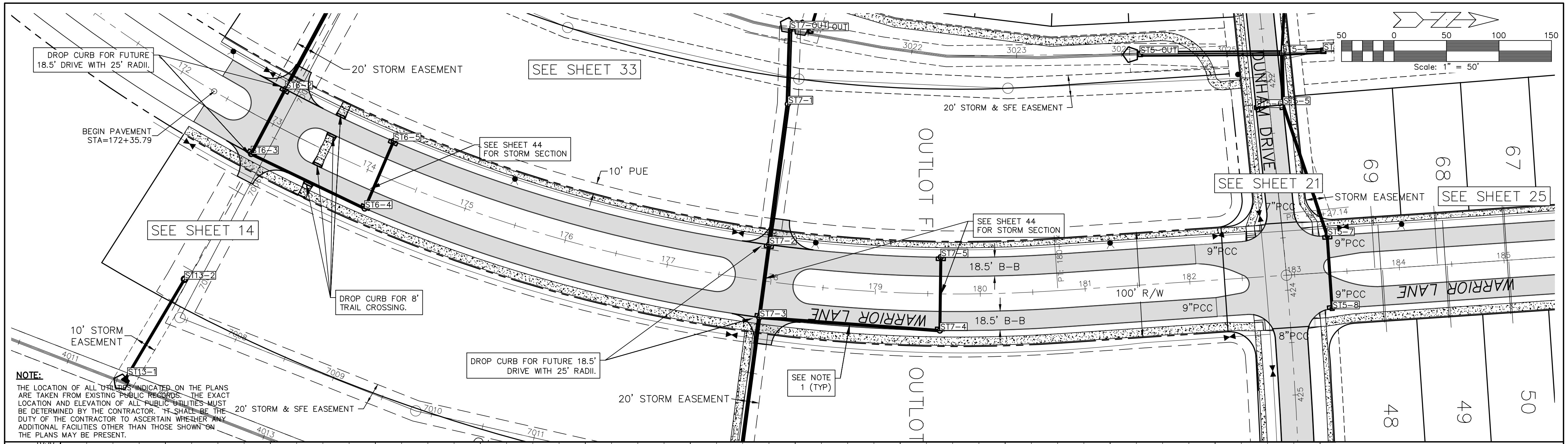
GLYNN VILLAGE PLAT 8 - WADDELL WAY - PAVEMENT & STORM

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV	LOCATION:
DWG: 13-028-PP12.DWG	CHECKED BY: DJS	DATE: 07/12/13	
FIELD BOOK:	SHEET 23 OF 47	FILE NO.: 13-028	

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028


DROP CURB FOR FUTURE 18.5' DRIVE WITH 25' RADII.
20' STORM EASEMENT
SEE SHEET 33
BEGIN PAVEMENT STA=172+35.79
SEE SHEET 44 FOR STORM SECTION
10' PUE
SEE SHEET 14
DROP CURB FOR 8' TRAIL CROSSING.
10' STORM EASEMENT
20' STORM & SFE EASEMENT
DROP CURB FOR FUTURE 18.5' DRIVE WITH 25' RADII.
20' STORM EASEMENT
SEE NOTE 1 (TYP)
OUTLOT F
OUTLOT
WARRIOR LANE
18.5' B-B
100' R/W
9"PCC
8"PCC
7"PCC
DUNHAM DRIVE
SEE SHEET 21
STORM EASEMENT
SEE SHEET 25
ST6-1
ST6-2
ST6-3
ST6-4
ST6-5
ST7-OUT
ST7-1
ST7-2
ST7-3
ST7-4
ST7-5
ST5-OUT
ST5-1
ST5-5
ST5-7
ST5-8
ST13-1
ST13-2
69
68
67
48
49
50
Scale: 1" = 50'
50 0 50 100 150

NOTE:
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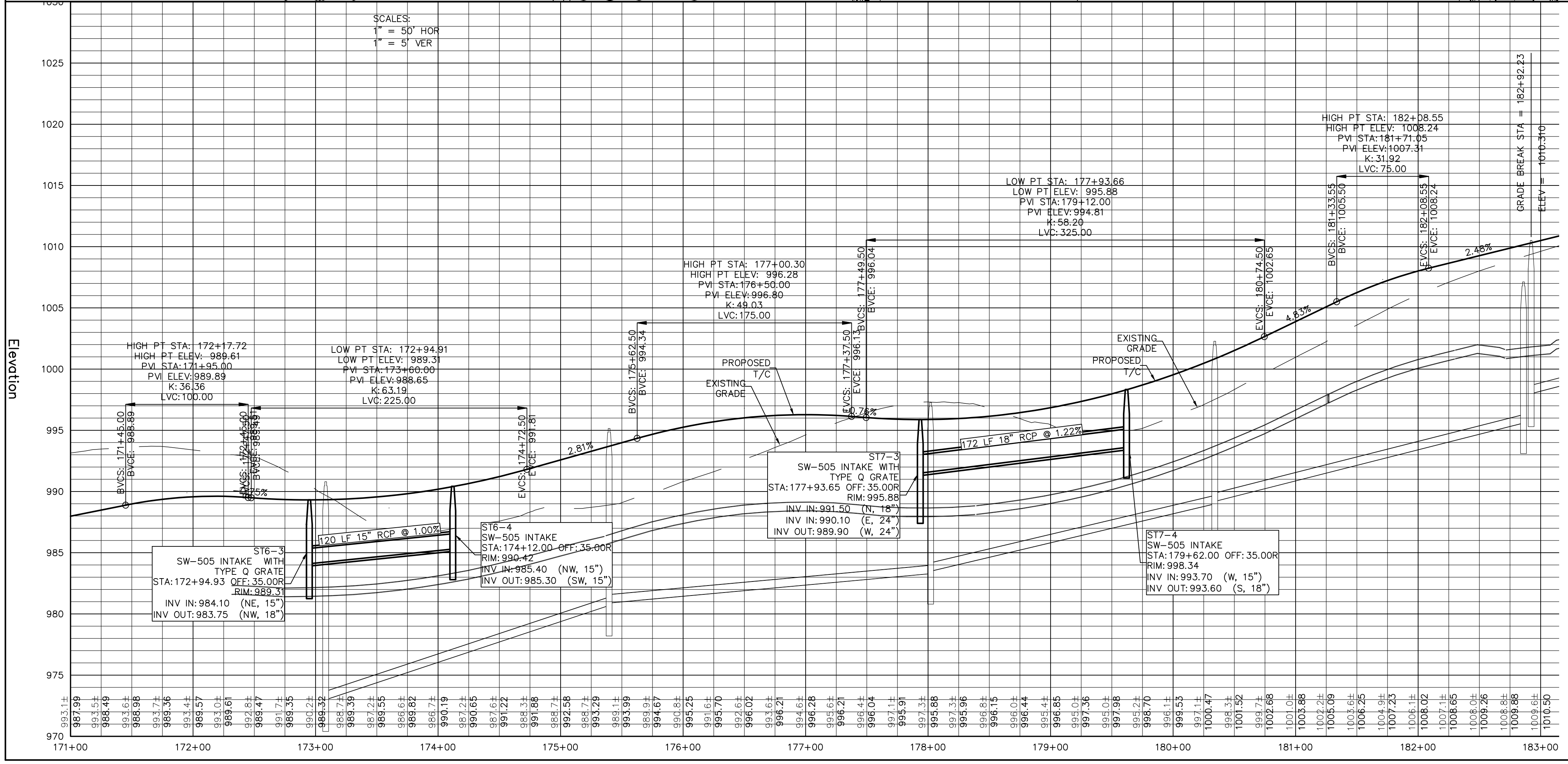
SCALES:
1" = 50' HOR
1" = 5' VER
Elevation
HIGH PT STA: 172+17.72
HIGH PT ELEV: 989.61
PVI STA: 171+95.00
PVI ELEV: 989.89
K: 36.36
LVC: 100.00
LOW PT STA: 172+94.91
LOW PT ELEV: 989.31
PVI STA: 173+60.00
PVI ELEV: 988.65
K: 63.19
LVC: 225.00
HIGH PT STA: 177+00.30
HIGH PT ELEV: 996.28
PVI STA: 176+50.00
PVI ELEV: 996.80
K: 49.03
LVC: 175.00
LOW PT STA: 177+93.66
LOW PT ELEV: 995.88
PVI STA: 179+12.00
PVI ELEV: 994.81
K: 58.20
LVC: 325.00
HIGH PT STA: 182+08.55
HIGH PT ELEV: 1008.24
PVI STA: 181+71.05
PVI ELEV: 1007.31
K: 31.92
LVC: 75.00
GRADE BREAK STA = 182+92.23
ELEV = 1010.310
BVCS: 171+45.00 BVCE: 988.89
BVCS: 174+72.50 EVCE: 991.81
BVCS: 175+62.50 BVCE: 994.34
EVCS: 177+37.50 EVCE: 996.1
EVCS: 177+49.50 BVCE: 996.04
EVCS: 180+74.50 EVCE: 1002.65
BVCS: 181+33.55 BVCE: 1005.50
EVCS: 182+08.55 EVCE: 1008.24
2.81%
-0.76%
4.83%
2.48%
PROPOSED T/C
EXISTING GRADE
120 LF 15" RCP @ 1.00%
172 LF 18" RCP @ 1.22%
ST6-3
SW-505 INTAKE WITH TYPE Q GRATE
STA: 172+94.93 OFF: 35.00R
RIM: 989.31
INV IN: 984.10 (NE, 15")
INV OUT: 983.75 (NW, 18")
ST6-4
SW-505 INTAKE
STA: 174+12.00 OFF: 35.00R
RIM: 990.42
INV IN: 985.40 (NW, 15")
INV OUT: 985.30 (SW, 15")
ST7-3
SW-505 INTAKE WITH TYPE Q GRATE
STA: 177+93.65 OFF: 35.00R
RIM: 995.88
INV IN: 991.50 (N, 18")
INV IN: 990.10 (E, 24")
INV OUT: 989.90 (W, 24")
ST7-4
SW-505 INTAKE
STA: 179+62.00 OFF: 35.00R
RIM: 998.34
INV IN: 993.70 (W, 15")
INV OUT: 993.60 (S, 18")
1025
1020
1015
1010
1005
1000
995
990
985
980
975
970
171+00
172+00
173+00
174+00
175+00
176+00
177+00
178+00
179+00
180+00
181+00
182+00
183+00

NOTE:
1. CONTRACTOR TO LAY PIPE AT BACK OF CURB IN ACCORDANCE WITH SUDAS DETAILS.

GLYNN VILLAGE PLAT 8 - WARRIOR LANE - PAVEMENT & STORM

SCALE:	1" = 50'
DWG:	13-028-PP14.DWG
FIELD BOOK:	
DESIGNED BY:	CJB
CHECKED BY:	DJS
SHEET	24 OF 47
DRAWN BY:	PJV
DATE:	07/12/13
FILE NO.:	13-028

LOCATION:

FOR:

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

NOTE:

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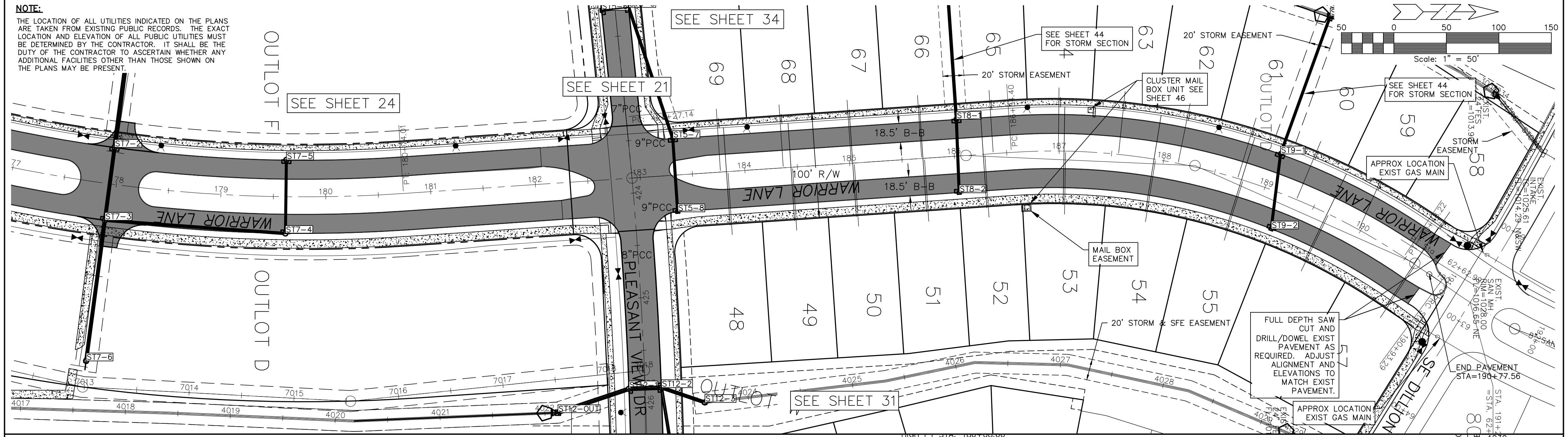
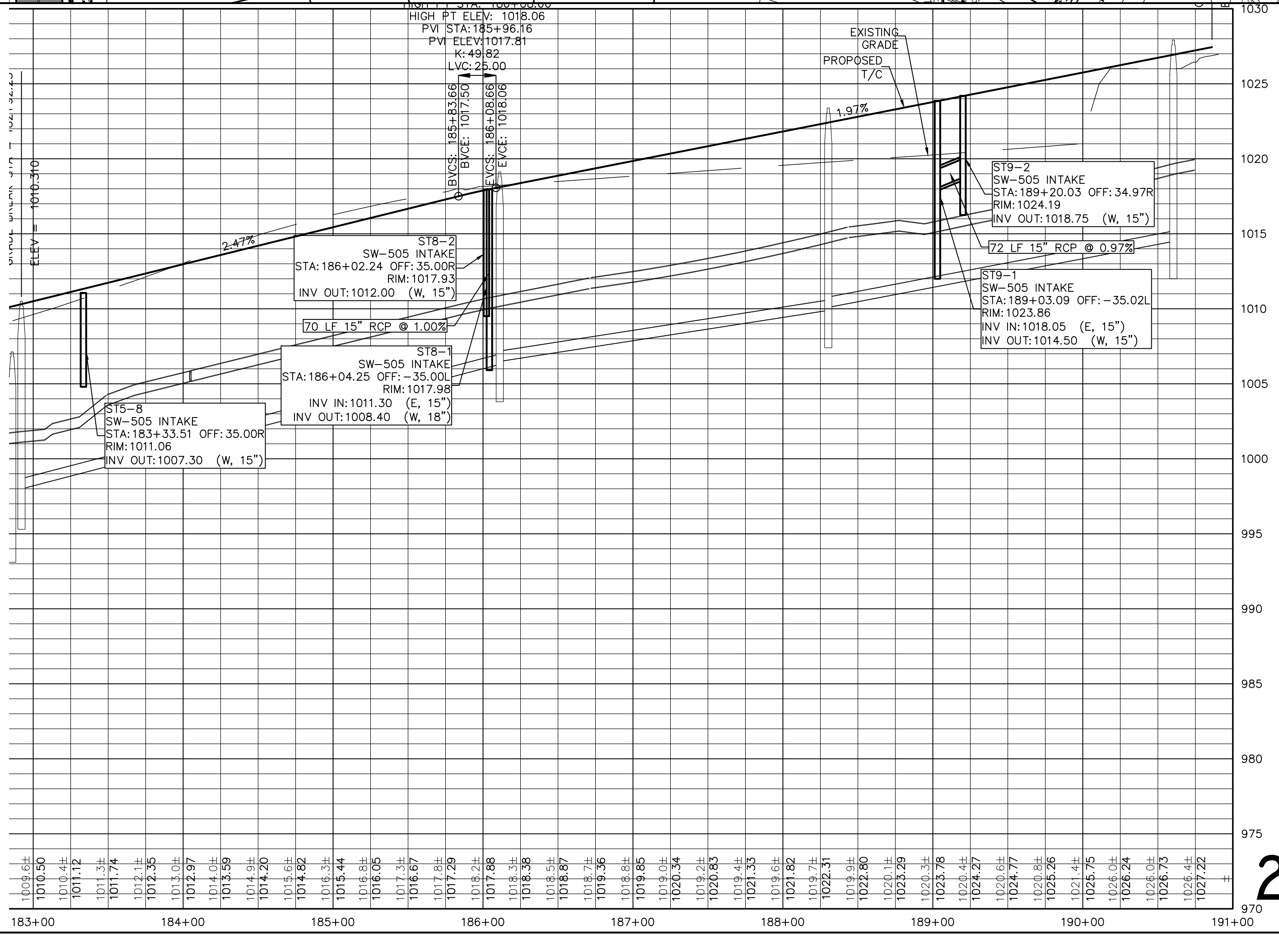

SEE SHEET 34
SEE SHEET 21
SEE SHEET 24
SEE SHEET 31
OUTLOT F
OUTLOT D
OUTLOT
69
68
67
66
65
64
63
62
61
60
59
58
57
48
49
50
51
52
53
54
55
SEE SHEET 44 FOR STORM SECTION
20' STORM EASEMENT
CLUSTER MAIL BOX UNIT SEE SHEET 46
MAIL BOX EASEMENT
20' STORM & SFE EASEMENT
STORM EASEMENT
APPROX LOCATION EXIST GAS MAIN
FULL DEPTH SAW CUT AND DRILL/DOWEL EXIST PAVEMENT AS REQUIRED. ADJUST ALIGNMENT AND ELEVATIONS TO MATCH EXIST PAVEMENT.
END PAVEMENT STA=190+77.56
18.5' B-B
100' R/W
WARRIOR LANE
PLEASANT VIEW DR
SE DILLON
7"PCC
9"PCC
8"PCC
ST7-2
ST7-3
ST7-4
ST7-5
ST7-6
ST5-7
ST5-8
ST8-1
ST8-2
ST9-1
ST9-2
ST12-1
ST12-2
ST12-3
ST12-OUT
179
180
181
182
183
184
185
186
187
188
189
190
Scale: 1" = 50'
50
0
50
100
150

SCALES:
1" = 50' HOR
1" = 5' VER


HIGH PT STA: 186+08.66
HIGH PT ELEV: 1018.06
PVI STA: 185+96.16
PVI ELEV: 1017.81
K: 49.82
LVC: 25.00
BVCS: 185+83.66
BVCE: 1017.50
EVCS: 186+08.66
EVCE: 1018.06
ELEV = 1010.310
2.47%
1.97%
EXISTING GRADE
PROPOSED T/C
ST8-2
SW-505 INTAKE
STA: 186+02.24 OFF: 35.00R
RIM: 1017.93
INV OUT: 1012.00 (W, 15")
70 LF 15" RCP @ 1.00%
ST8-1
SW-505 INTAKE
STA: 186+04.25 OFF: -35.00L
RIM: 1017.98
INV IN: 1011.30 (E, 15")
INV OUT: 1008.40 (W, 18")
ST5-8
SW-505 INTAKE
STA: 183+33.51 OFF: 35.00R
RIM: 1011.06
INV OUT: 1007.30 (W, 15")
ST9-2
SW-505 INTAKE
STA: 189+20.03 OFF: 34.97R
RIM: 1024.19
INV OUT: 1018.75 (W, 15")
72 LF 15" RCP @ 0.97%
ST9-1
SW-505 INTAKE
STA: 189+03.09 OFF: -35.02L
RIM: 1023.86
INV IN: 1018.05 (E, 15")
INV OUT: 1014.50 (W, 15")
1030
1025
1020
1015
1010
1005
1000
995
990
985
980
975
970
183+00
184+00
185+00
186+00
187+00
188+00
189+00
190+00
191+00

GLYNN VILLAGE PLAT 8 - WARRIOR LANE - PAVEMENT & STORM

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-PP10.DWG	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 25 OF 47	FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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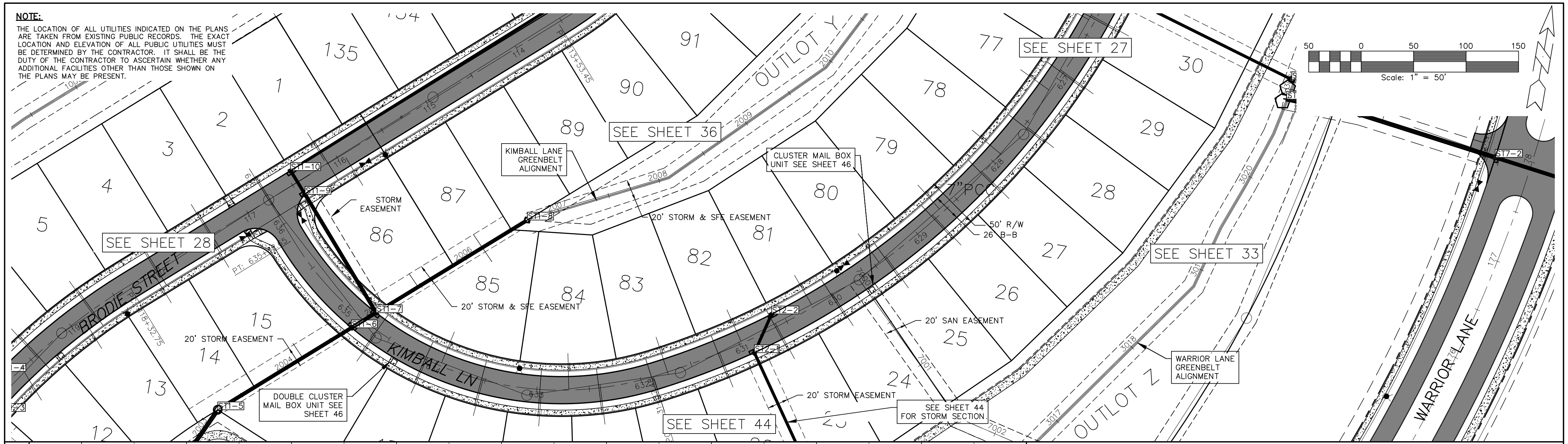
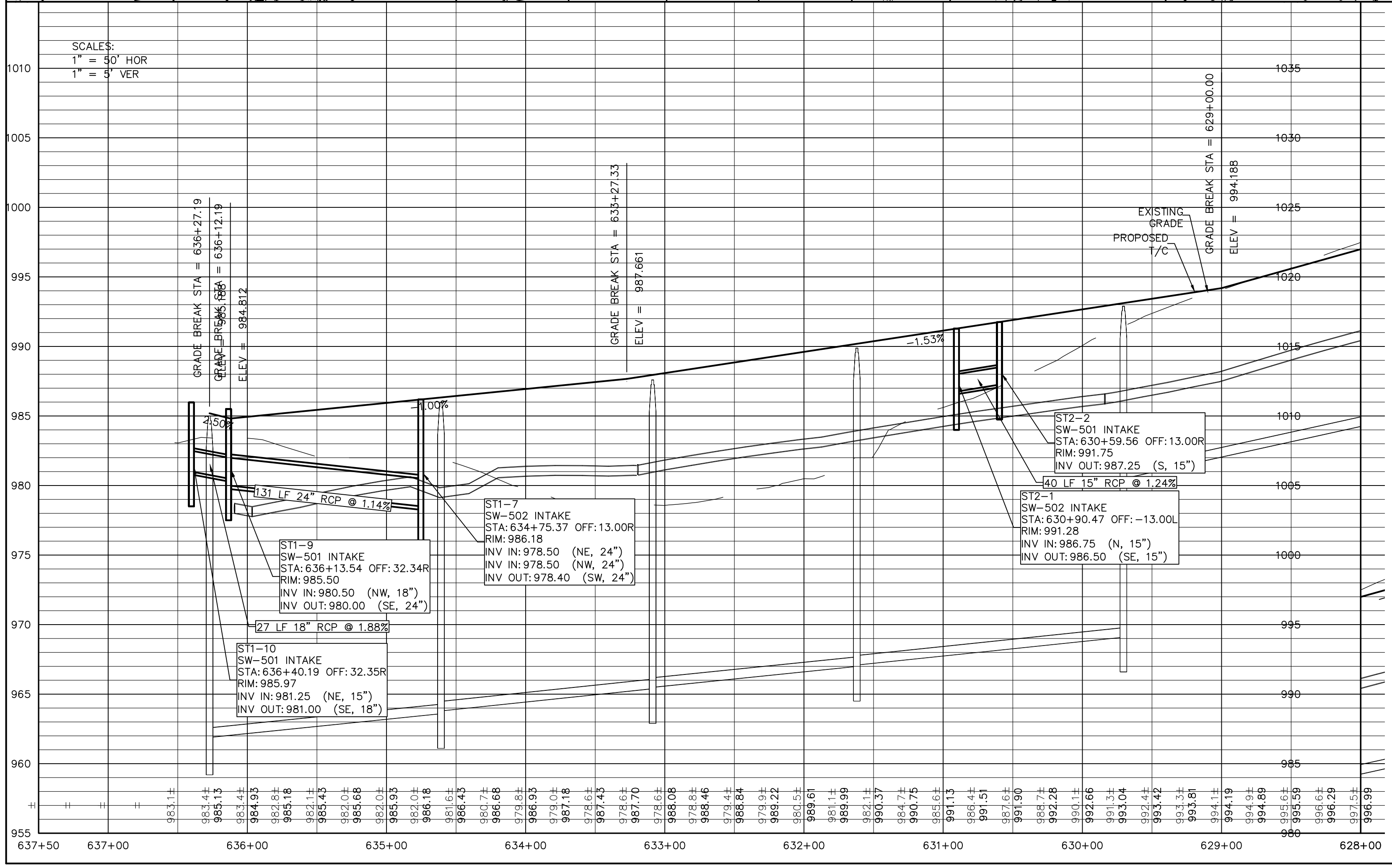

SEE SHEET 28
SEE SHEET 36
SEE SHEET 27
SEE SHEET 33
SEE SHEET 44
SEE SHEET 44 FOR STORM SECTION
BRODIE STREET
KIMBALL LN
WARRIOR LANE
OUTLOT Y
OUTLOT Z
KIMBALL LANE GREENBELT ALIGNMENT
WARRIOR LANE GREENBELT ALIGNMENT
CLUSTER MAIL BOX UNIT SEE SHEET 46
DOUBLE CLUSTER MAIL BOX UNIT SEE SHEET 46
STORM EASEMENT
20' STORM EASEMENT
20' STORM & SFE EASEMENT
20' SAN EASEMENT
50' R/W
26 B-B
7" PCC
ST1-4
ST1-5
ST1-6
ST1-7
ST1-8
ST1-9
ST1-10
ST2-1
ST2-2
ST7-2
135
1
2
3
4
5
12
13
14
15
24
25
26
27
28
29
30
77
78
79
80
81
82
83
84
85
86
87
89
90
91
50
0
50
100
150
Scale: 1" = 50'


SCALES:
1" = 50' HOR
1" = 5' VER
GRADE BREAK STA = 636+27.19
ELEV = 985.188
GRADE BREAK STA = 636+12.19
ELEV = 984.812
GRADE BREAK STA = 633+27.33
ELEV = 987.661
GRADE BREAK STA = 629+00.00
ELEV = 994.188
EXISTING GRADE
PROPOSED T/C
2.50%
-1.00%
-1.53%
131 LF 24" RCP @ 1.14%
27 LF 18" RCP @ 1.88%
40 LF 15" RCP @ 1.24%
ST1-9
SW-501 INTAKE
STA: 636+13.54 OFF: 32.34R
RIM: 985.50
INV IN: 980.50 (NW, 18")
INV OUT: 980.00 (SE, 24")
ST1-10
SW-501 INTAKE
STA: 636+40.19 OFF: 32.35R
RIM: 985.97
INV IN: 981.25 (NE, 15")
INV OUT: 981.00 (SE, 18")
ST1-7
SW-502 INTAKE
STA: 634+75.37 OFF: 13.00R
RIM: 986.18
INV IN: 978.50 (NE, 24")
INV IN: 978.50 (NW, 24")
INV OUT: 978.40 (SW, 24")
ST2-2
SW-501 INTAKE
STA: 630+59.56 OFF: 13.00R
RIM: 991.75
INV OUT: 987.25 (S, 15")
ST2-1
SW-502 INTAKE
STA: 630+90.47 OFF: -13.00L
RIM: 991.28
INV IN: 986.75 (N, 15")
INV OUT: 986.50 (SE, 15")
1010
1005
1000
995
990
985
980
975
970
965
960
955
1035
1030
1025
1020
1015
1010
1005
1000
995
990
985
980
983.1±
983.4± 985.13
983.4± 984.93
982.8± 985.18
982.1± 985.43
982.0± 985.68
982.0± 985.93
982.0± 986.18
981.6± 986.43
980.7± 986.68
979.8± 986.93
979.0± 987.18
978.6± 987.43
978.6± 987.70
978.6± 988.08
978.8± 988.46
979.4± 988.84
979.9± 989.22
980.5± 989.61
981.1± 989.99
982.1± 990.37
984.7± 990.75
985.6± 991.13
986.4± 991.51
987.6± 991.90
988.7± 992.28
990.1± 992.66
991.3± 993.04
992.4± 993.42
993.3± 993.81
994.1± 994.19
994.9± 994.89
995.6± 995.59
996.6± 996.29
997.5± 996.99
637+50
637+00
636+00
635+00
634+00
633+00
632+00
631+00
630+00
629+00
628+00

26

GLYNN VILLAGE PLAT 8 - KIMBALL LANE - PAVEMENT & STORM

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 50'
DWG: 13-028-PP19.DWG
FIELD BOOK:
DESIGNED BY: CJB
CHECKED BY: DJS
SHEET 26 OF 47
DRAWN BY: PJV
DATE: 07/12/13
FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

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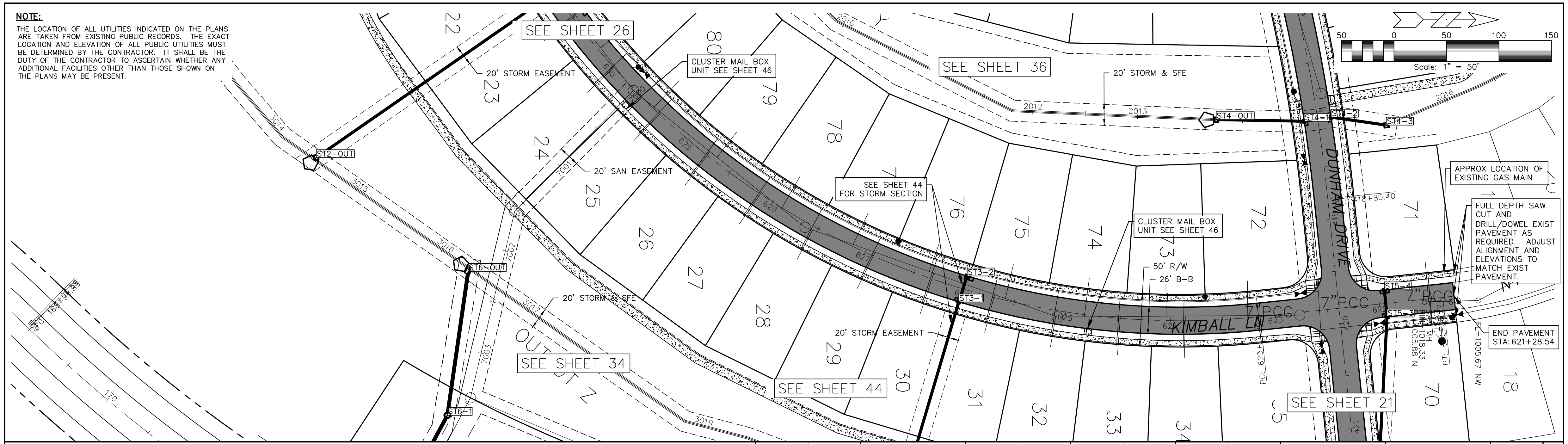
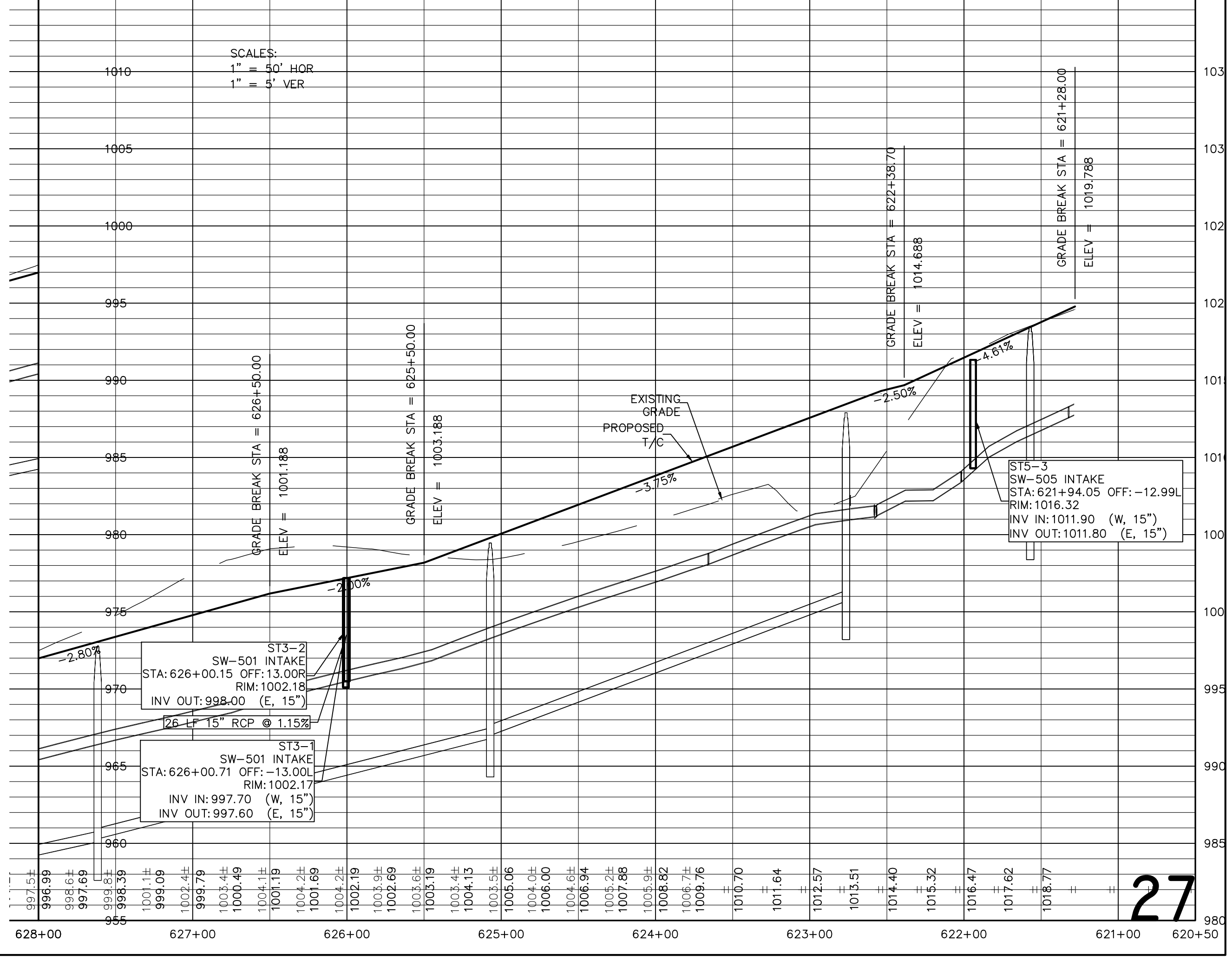

SEE SHEET 26
CLUSTER MAIL BOX UNIT SEE SHEET 46
SEE SHEET 36
20' STORM & SFE
20' STORM EASEMENT
ST2-OUT
20' SAN EASEMENT
SEE SHEET 44 FOR STORM SECTION
ST3-2
ST3-1
ST4-OUT
ST4-1
ST4-2
ST4-3
ST5-4
ST5-3
ST6-OUT
ST6-1
DUNHAM DRIVE
KIMBALL LN
7"PCC
418+80.40
50' R/W
26' B-B
20' STORM & SFE
20' STORM EASEMENT
SEE SHEET 34
SEE SHEET 44
SEE SHEET 21
OUTLOT Z
APPROX LOCATION OF EXISTING GAS MAIN
FULL DEPTH SAW CUT AND DRILL/DOWEL EXIST PAVEMENT AS REQUIRED. ADJUST ALIGNMENT AND ELEVATIONS TO MATCH EXIST PAVEMENT.
END PAVEMENT STA: 621+28.54
PC: 623+
FL=1005.67 NW
Scale: 1" = 50'
50 0 50 100 150
22 23 24 25 26 27 28 29 30 31 32 33 34 70 71 72 73 74 75 76 78 79 80 18


SCALES:
1" = 50' HOR
1" = 5' VER
GRADE BREAK STA = 626+50.00
ELEV = 1001.188
GRADE BREAK STA = 625+50.00
ELEV = 1003.188
GRADE BREAK STA = 622+38.70
ELEV = 1014.688
GRADE BREAK STA = 621+28.00
ELEV = 1019.788
EXISTING GRADE
PROPOSED T/C
-2.80%
-2.00%
-3.75%
-2.50%
-4.61%
628+00
627+00
626+00
625+00
624+00
623+00
622+00
621+00
620+50
955 960 965 970 975 980 985 990 995 1000 1005 1010

ST3-2
SW-501 INTAKE
STA: 626+00.15 OFF: 13.00R
RIM: 1002.18
INV OUT: 998.00 (E, 15")

26 LF 15" RCP @ 1.15%

ST3-1
SW-501 INTAKE
STA: 626+00.71 OFF: -13.00L
RIM: 1002.17
INV IN: 997.70 (W, 15")
INV OUT: 997.60 (E, 15")

ST5-3
SW-505 INTAKE
STA: 621+94.05 OFF: -12.99L
RIM: 1016.32
INV IN: 1011.90 (W, 15")
INV OUT: 1011.80 (E, 15")

997.5± 996.99 998.6± 997.69 999.8± 998.39 1001.1± 999.09 1002.4± 999.79 1003.4± 1000.49 1004.1± 1001.19 1004.2± 1001.69 1004.2± 1002.19 1003.9± 1002.69 1003.6± 1003.19 1003.4± 1004.13 1003.5± 1005.06 1004.0± 1006.00 1004.6± 1006.94 1005.2± 1007.88 1005.9± 1008.82 1006.7± 1009.76 1010.70 1011.64 1012.57 1013.51 1014.40 1015.32 1016.47 1017.62 1018.77

GLYNN VILLAGE PLAT 8 - KIMBALL LANE - PAVEMENT & STORM

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 50'
DWG: 13-028-PP17.DWG
FIELD BOOK:
DESIGNED BY: CJB
CHECKED BY: DJS
SHEET 27 OF 47
DRAWN BY: PJV
DATE: 07/12/13
FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

J:\2013 Proj\13-028\DESIGN\13-028-PP17.dwg, 4/4/2014 4:19:28 PM, CJB

NOTE:

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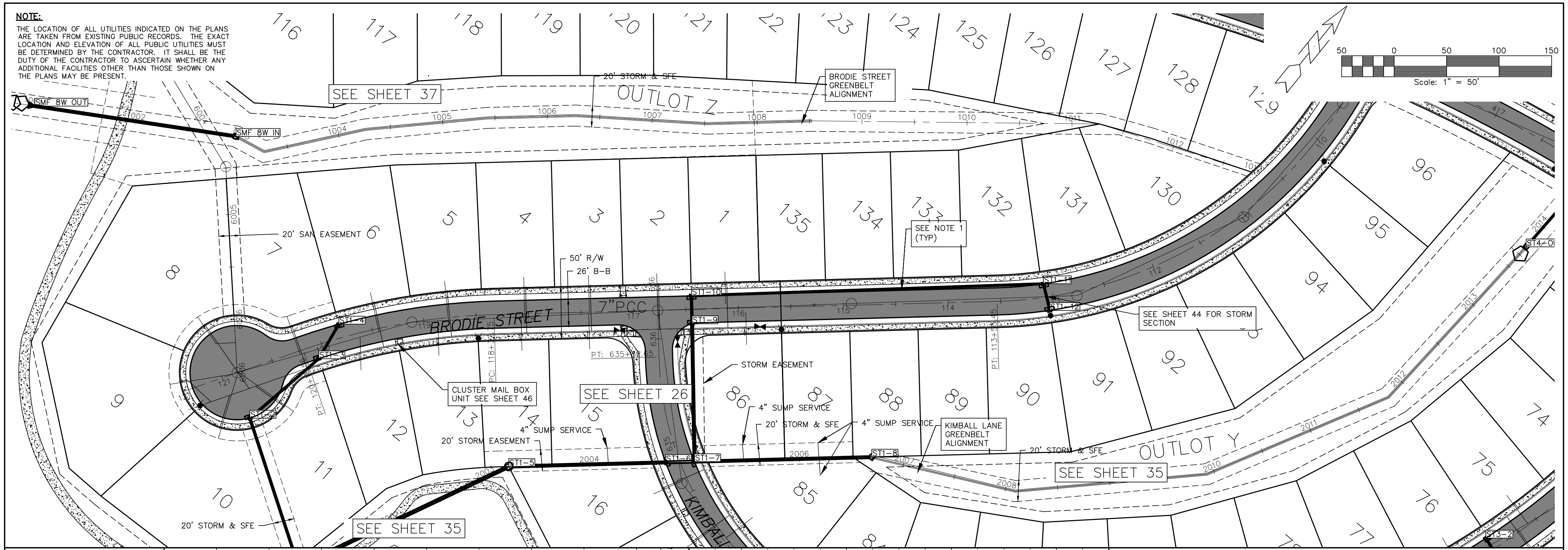
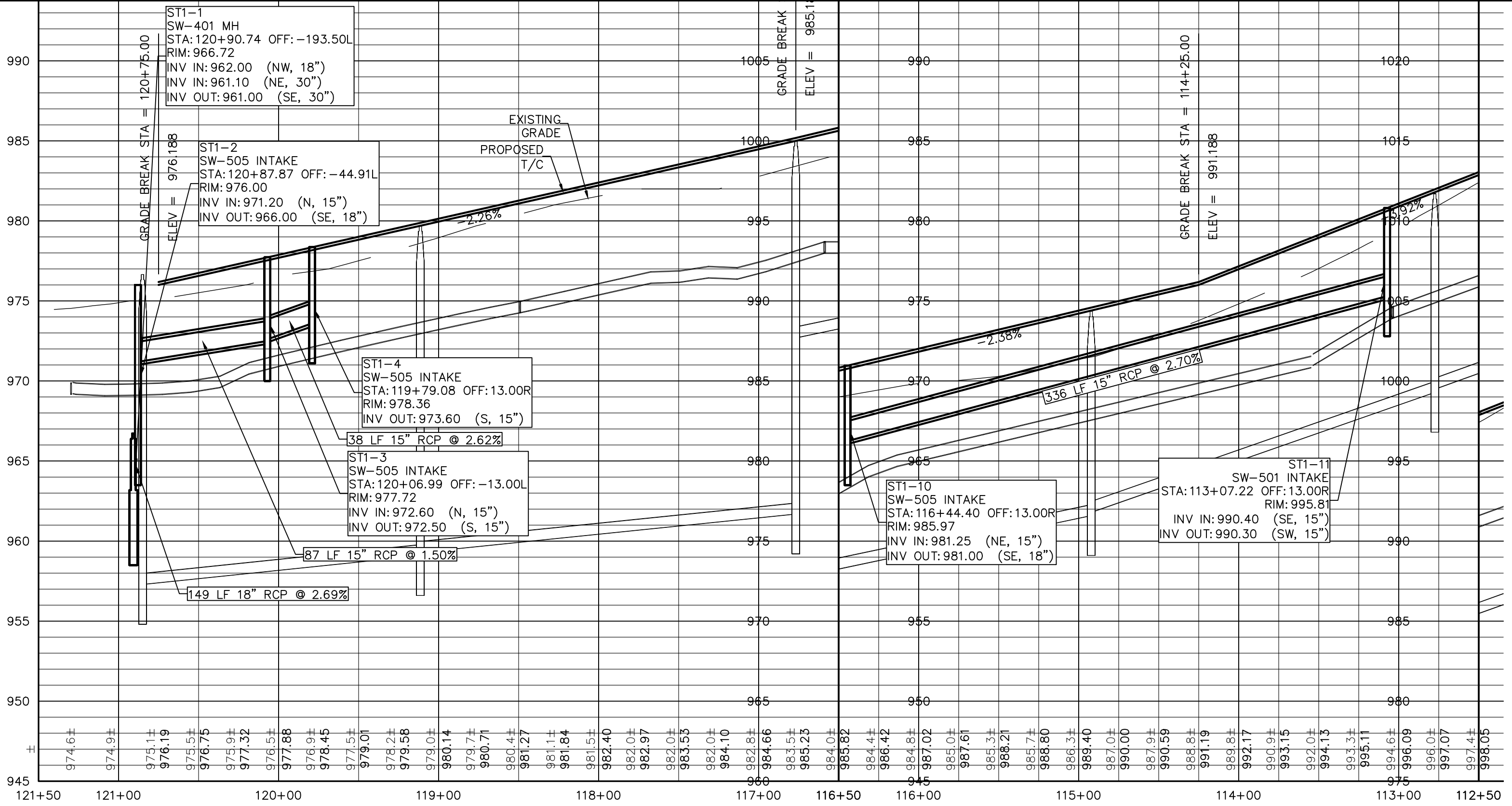

SMF 8W OUT
SMF 8W IN
SEE SHEET 37
20' STORM & SFE
OUTLOT Z
BRODIE STREET GREENBELT ALIGNMENT
20' SAN EASEMENT
50' R/W
26' B-B
7" PCC
BRODIE STREET
SEE NOTE 1 (TYP)
SEE SHEET 44 FOR STORM SECTION
CLUSTER MAIL BOX UNIT SEE SHEET 46
SEE SHEET 26
STORM EASEMENT
4" SUMP SERVICE
20' STORM EASEMENT
20' STORM & SFE
KIMBALL LANE GREENBELT ALIGNMENT
OUTLOT Y
SEE SHEET 35
KIMBALL
ST1-1
ST1-2
ST1-3
ST1-4
ST1-5
ST1-6
ST1-7
ST1-8
ST1-9
ST1-10
ST1-11
ST1-12
ST3-2
ST4-01
PT: 635+14.65
PC: 118+
PT: 113+
50 0 50 100 150
Scale: 1" = 50'
N


ST1-1
SW-401 MH
STA: 120+90.74 OFF: -193.50L
RIM: 966.72
INV IN: 962.00 (NW, 18")
INV IN: 961.10 (NE, 30")
INV OUT: 961.00 (SE, 30")
GRADE BREAK STA = 120+75.00
ELEV = 976.188
ST1-2
SW-505 INTAKE
STA: 120+87.87 OFF: -44.91L
RIM: 976.00
INV IN: 971.20 (N, 15")
INV OUT: 966.00 (SE, 18")
EXISTING GRADE
PROPOSED T/C
-2.26%
ST1-4
SW-505 INTAKE
STA: 119+79.08 OFF: 13.00R
RIM: 978.36
INV OUT: 973.60 (S, 15")
38 LF 15" RCP @ 2.62%
ST1-3
SW-505 INTAKE
STA: 120+06.99 OFF: -13.00L
RIM: 977.72
INV IN: 972.60 (N, 15")
INV OUT: 972.50 (S, 15")
87 LF 15" RCP @ 1.50%
149 LF 18" RCP @ 2.69%
GRADE BREAK
ELEV = 985.1
GRADE BREAK STA = 114+25.00
ELEV = 991.188
-2.38%
336 LF 15" RCP @ 2.70%
ST1-10
SW-505 INTAKE
STA: 116+44.40 OFF: 13.00R
RIM: 985.97
INV IN: 981.25 (NE, 15")
INV OUT: 981.00 (SE, 18")
ST1-11
SW-501 INTAKE
STA: 113+07.22 OFF: 13.00R
RIM: 995.81
INV IN: 990.40 (SE, 15")
INV OUT: 990.30 (SW, 15")
-1.92%
990
985
980
975
970
965
960
955
950
945
1005
1000
995
990
985
980
975
970
965
960
1020
1015
1010
1005
1000
995
990
985
980
975
121+50
121+00
120+00
119+00
118+00
117+00
116+50
116+00
115+00
114+00
113+00
112+50

NOTE:
1. CONTRACTOR TO LAY PIPE AT BACK OF CURB IN ACCORDANCE WITH SUDAS DETAILS.

SCALES:
1" = 50' HOR
1" = 5' VER

28

GLYNN VILLAGE PLAT 8 - BRODIE STREET - PAVEMENT & STORM

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY:	CJB	DRAWN BY:	PJV
DWG:	13-028-PP18.DWG	CHECKED BY:	DJS	DATE:	07/12/13
FIELD BOOK:		SHEET 28 OF 47		FILE NO.:	13-028

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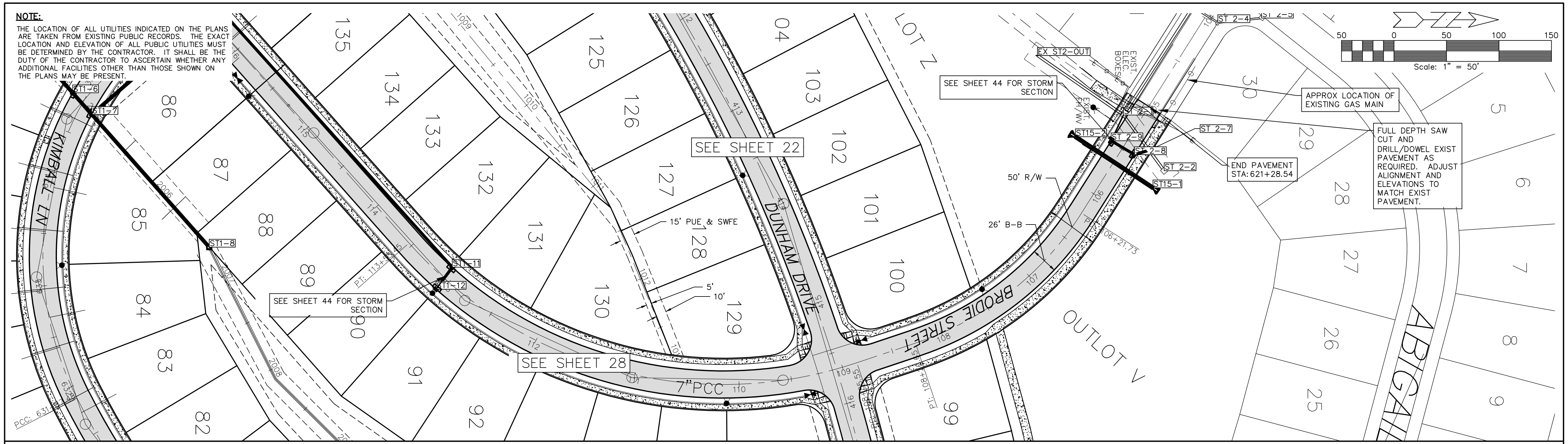
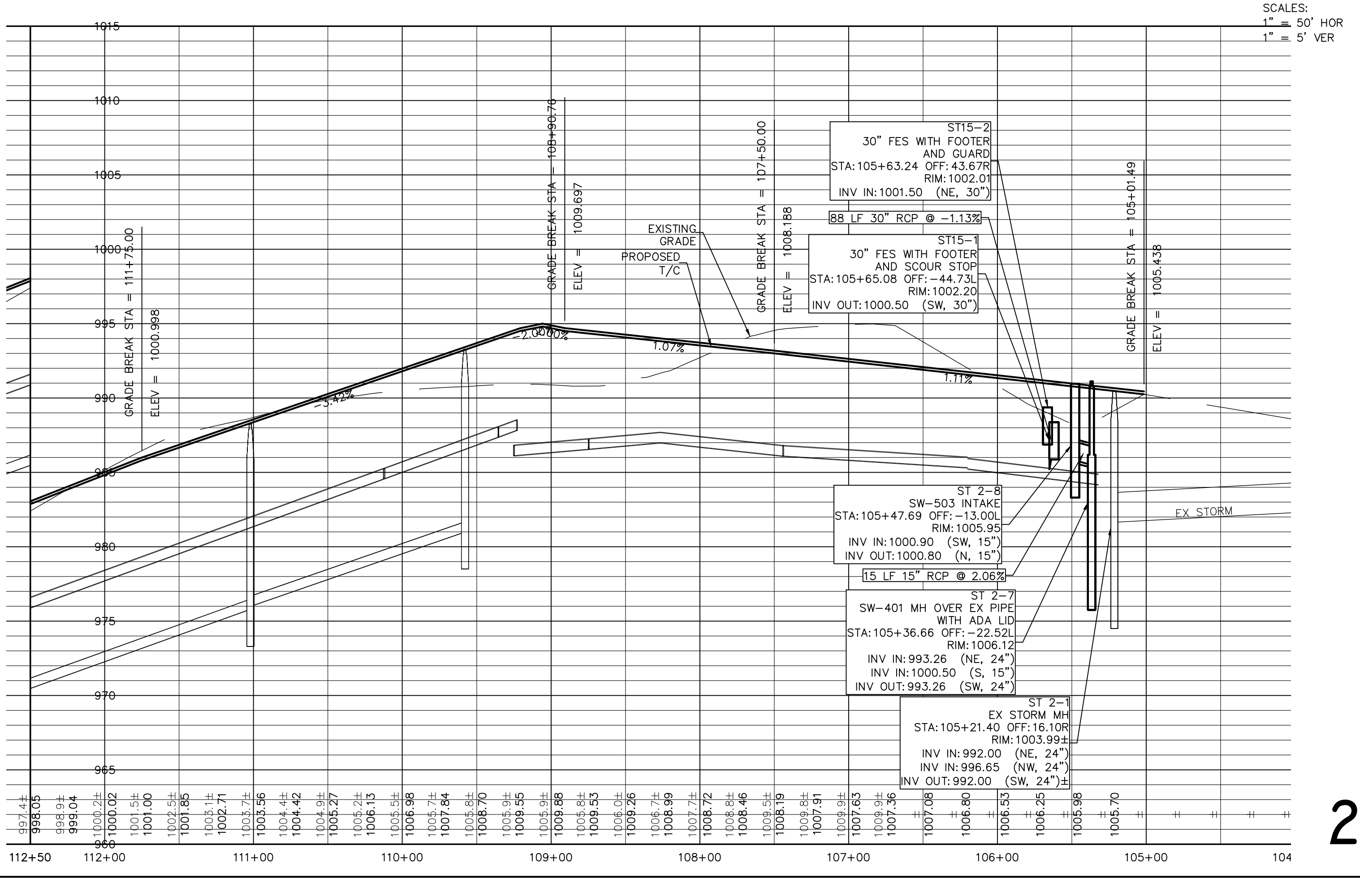


KIMBALL LN
DUNHAM DRIVE
BRODIE STREET
ABIGAIL
ST1-6
ST1-7
ST1-8
ST1-11
ST1-12
ST 2-4
ST 2-5
EX ST2-OUT
ST15-2
ST 2-9
ST 2-8
ST 2-7
ST 2-2
ST15-1
SEE SHEET 22
SEE SHEET 28
SEE SHEET 44 FOR STORM SECTION
SEE SHEET 44 FOR STORM SECTION
APPROX LOCATION OF EXISTING GAS MAIN
FULL DEPTH SAW CUT AND DRILL/DOWEL EXIST PAVEMENT AS REQUIRED. ADJUST ALIGNMENT AND ELEVATIONS TO MATCH EXIST PAVEMENT.
END PAVEMENT STA:621+28.54
EXIST. ELEC. BOXES
50' R/W
26' B-B
15' PUE & SWFE
5'
10'
7"PCC
PCC: 631+26
PT: 113+
PT: 106+
106+21.73
LOT 2
OUTLOT V
82
83
84
85
86
87
88
89
90
91
92
99
100
101
102
103
104
125
126
127
128
129
130
131
132
133
134
135
5
6
7
8
9
25
26
27
28
29
30
106
107
108
109
110
112
113
114
115
116
50
0
50
100
150
Scale: 1" = 50'

SCALES:
1" = 50' HOR
1" = 5' VER



1015
1010
1005
1000
995
990
985
980
975
970
965
960
GRADE BREAK STA = 111+75.00
ELEV = 1000.998
GRADE BREAK STA = 108+90.76
ELEV = 1009.697
GRADE BREAK STA = 107+50.00
ELEV = 1008.188
GRADE BREAK STA = 105+01.49
ELEV = 1005.438
EXISTING GRADE
PROPOSED T/C
3.42%
2.0000%
1.07%
1.11%
EX STORM
997.4±
998.05
998.9±
999.04
1000.2±
1000.02
1001.5±
1001.00
1002.5±
1001.85
1003.1±
1002.71
1003.7±
1003.56
1004.4±
1004.42
1004.9±
1005.27
1005.2±
1006.13
1005.5±
1006.98
1005.7±
1007.84
1005.8±
1008.70
1005.9±
1009.55
1005.9±
1009.88
1005.8±
1009.53
1006.0±
1009.26
1006.7±
1008.99
1007.7±
1008.72
1008.8±
1008.46
1009.5±
1008.19
1009.8±
1007.91
1009.9±
1007.63
1009.9±
1007.36
1007.08
1006.80
1006.53
1006.25
1005.98
1005.70
112+50
112+00
111+00
110+00
109+00
108+00
107+00
106+00
105+00
104

ST15-2
30" FES WITH FOOTER
AND GUARD
STA: 105+63.24 OFF: 43.67R
RIM: 1002.01
INV IN: 1001.50 (NE, 30")

88 LF 30" RCP @ -1.13%

ST15-1
30" FES WITH FOOTER
AND SCOUR STOP
STA: 105+65.08 OFF: -44.73L
RIM: 1002.20
INV OUT: 1000.50 (SW, 30")

ST 2-8
SW-503 INTAKE
STA: 105+47.69 OFF: -13.00L
RIM: 1005.95
INV IN: 1000.90 (SW, 15")
INV OUT: 1000.80 (N, 15")

15 LF 15" RCP @ 2.06%

ST 2-7
SW-401 MH OVER EX PIPE
WITH ADA LID
STA: 105+36.66 OFF: -22.52L
RIM: 1006.12
INV IN: 993.26 (NE, 24")
INV IN: 1000.50 (S, 15")
INV OUT: 993.26 (SW, 24")

ST 2-1
EX STORM MH
STA: 105+21.40 OFF: 16.10R
RIM: 1003.99±
INV IN: 992.00 (NE, 24")
INV IN: 996.65 (NW, 24")
INV OUT: 992.00 (SW, 24")±

29

GLYNN VILLAGE PLAT 8 - BRODIE STREET - PAVEMENT & STORM

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-PP17.DWG	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 27 OF 47	FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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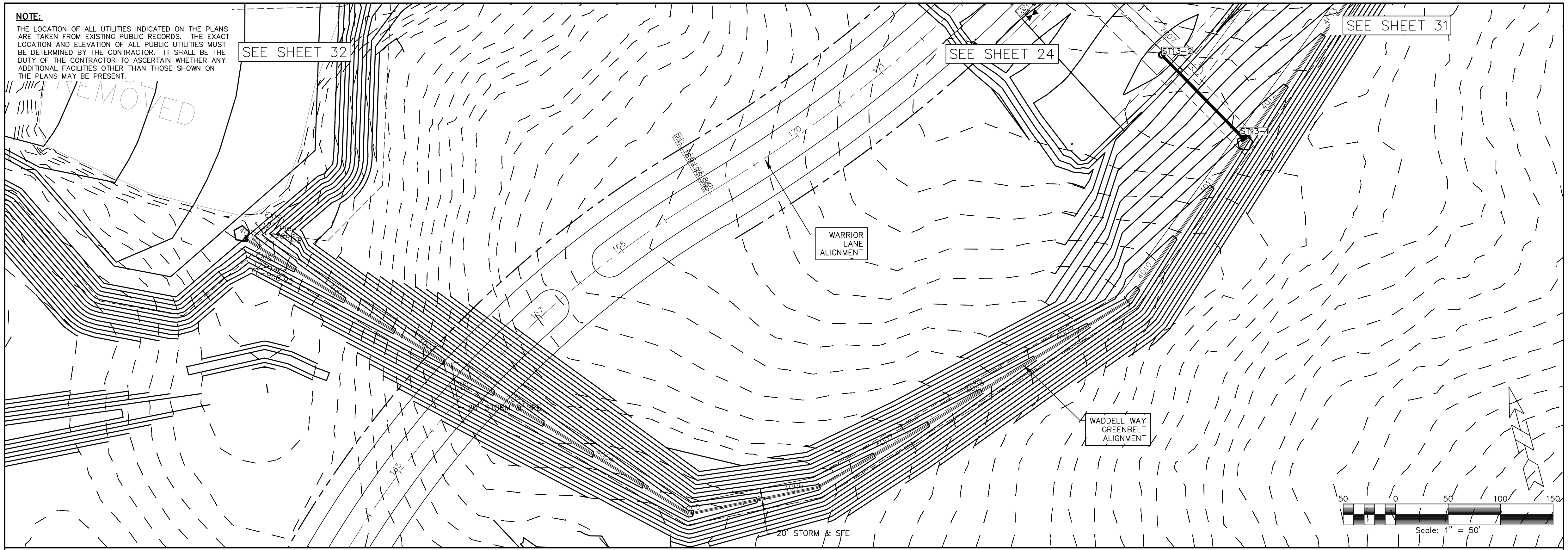
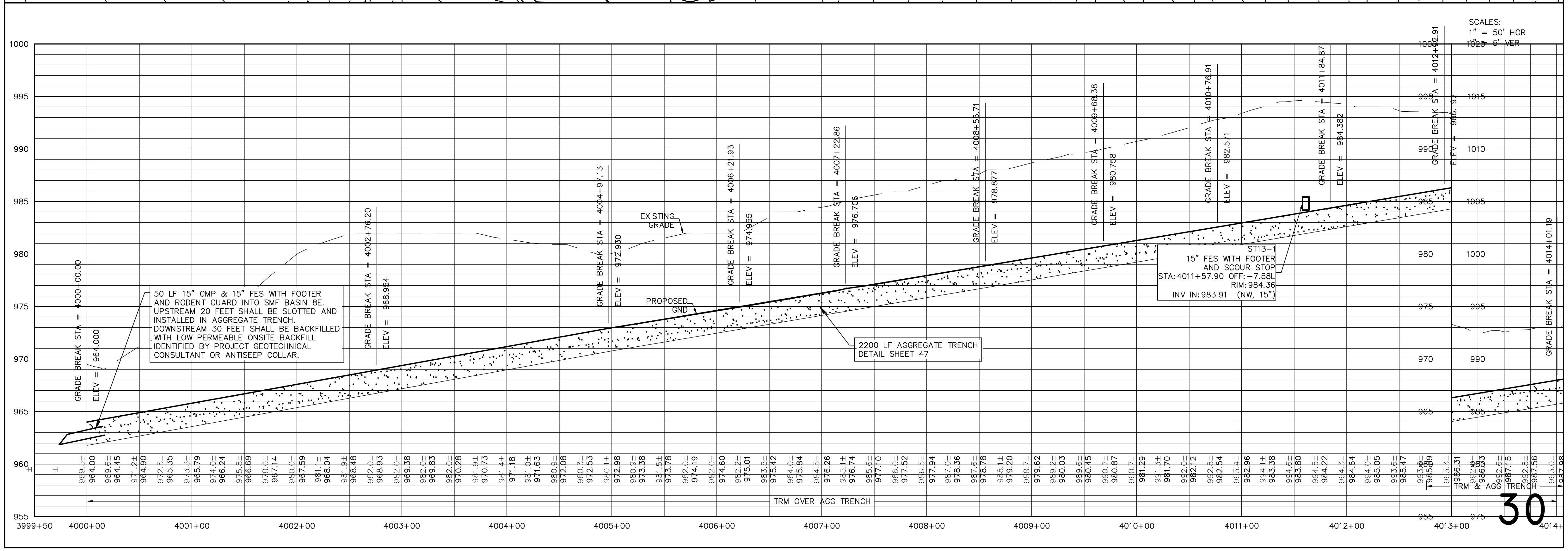

SEE SHEET 32
SEE SHEET 24
SEE SHEET 31
REMOVED
ST13-2
ST13-1
WARRIOR LANE ALIGNMENT
WADDELL WAY GREENBELT ALIGNMENT
20' STORM & SFE
168
167
170
4006
4010
4012
50
0
50
100
150
Scale: 1" = 50'


SCALES:
1" = 50' HOR
1" = 5' VER
GRADE BREAK STA = 4000+00.00
ELEV = 964.000
GRADE BREAK STA = 4002+76.20
ELEV = 968.954
GRADE BREAK STA = 4004+97.13
ELEV = 972.930
GRADE BREAK STA = 4006+21.93
ELEV = 974.955
GRADE BREAK STA = 4007+22.86
ELEV = 976.706
GRADE BREAK STA = 4008+55.71
ELEV = 978.877
GRADE BREAK STA = 4009+68.38
ELEV = 980.758
GRADE BREAK STA = 4010+76.91
ELEV = 982.571
GRADE BREAK STA = 4011+84.87
ELEV = 984.382
GRADE BREAK STA = 4012+92.91
ELEV = 986.192
GRADE BREAK STA = 4014+01.19
EXISTING GRADE
PROPOSED GND
TRM OVER AGG TRENCH
TRM & AGG TRENCH
1000
995
990
985
980
975
970
965
960
955
1020
1015
1010
1005
1000
995
990
985
975
3999+50
4000+00
4001+00
4002+00
4003+00
4004+00
4005+00
4006+00
4007+00
4008+00
4009+00
4010+00
4011+00
4012+00
4013+00
4014+

50 LF 15" CMP & 15" FES WITH FOOTER AND RODENT GUARD INTO SMF BASIN 8E. UPSTREAM 20 FEET SHALL BE SLOTTED AND INSTALLED IN AGGREGATE TRENCH. DOWNSTREAM 30 FEET SHALL BE BACKFILLED WITH LOW PERMEABLE ONSITE BACKFILL IDENTIFIED BY PROJECT GEOTECHNICAL CONSULTANT OR ANTISEEP COLLAR.

2200 LF AGGREGATE TRENCH
DETAIL SHEET 47

ST13-1
15" FES WITH FOOTER
AND SCOUR STOP
STA: 4011+57.90 OFF: -7.58L
RIM: 984.36
INV IN: 983.91 (NW, 15")

GLYNN VILLAGE PLAT 8 - WADDELL WAY - GREENBELT STORM

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV	
DWG: 13-028-PPOFFSANEAST	CHECKED BY: DJS	DATE: 07/12/13	
FIELD BOOK:	SHEET 30 OF 47	FILE NO.: 13-028	

LOCATION:

FOR:

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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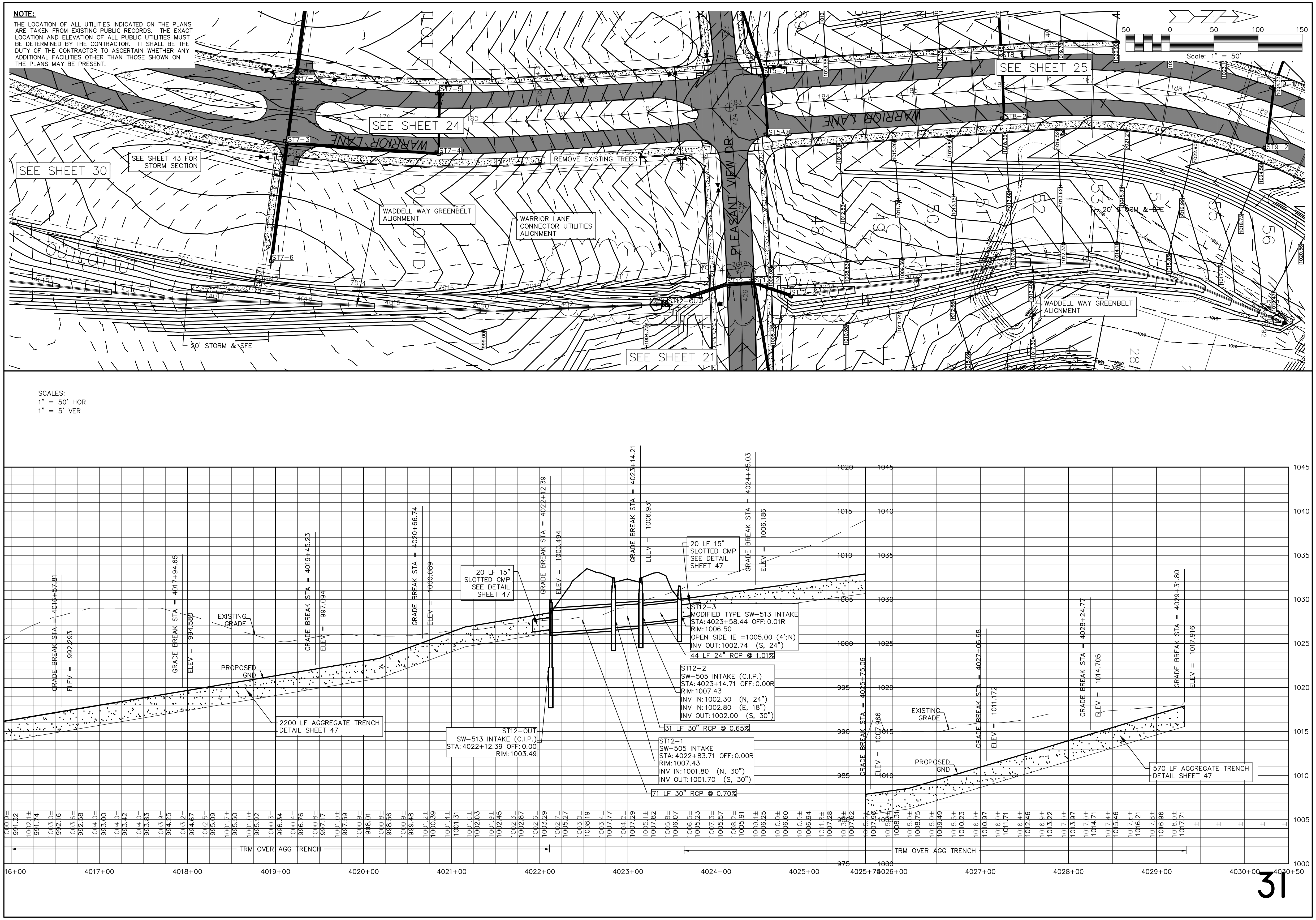
50 0 50 100 150
Scale: 1" = 50'
SEE SHEET 30
SEE SHEET 24
SEE SHEET 25
SEE SHEET 21
SEE SHEET 43 FOR STORM SECTION
REMOVE EXISTING TREES
WARRIOR LANE
PLEASANT VIEW DR
WADDELL WAY GREENBELT ALIGNMENT
WARRIOR LANE CONNECTOR UTILITIES ALIGNMENT
20' STORM & SFE
20' STORM & SFE
ST7-2
ST7-3
ST7-4
ST7-5
ST7-6
ST5-7
ST5-8
ST8-1
ST8-2
ST9-1
ST9-2
ST12-OUT
ST12-1
ST12-2
SCALES:
1" = 50' HOR
1" = 5' VER
GRADE BREAK STA = 4016+57.81
ELEV = 992.293
GRADE BREAK STA = 4017+94.65
ELEV = 994.580
GRADE BREAK STA = 4019+45.23
ELEV = 997.094
GRADE BREAK STA = 4020+66.74
ELEV = 1000.089
GRADE BREAK STA = 4022+12.39
ELEV = 1003.494
GRADE BREAK STA = 4023+14.21
ELEV = 1006.931
GRADE BREAK STA = 4024+45.03
ELEV = 1006.186
GRADE BREAK STA = 4025+75.06
ELEV = 1007.966
GRADE BREAK STA = 4027+06.68
ELEV = 1011.172
GRADE BREAK STA = 4028+24.77
ELEV = 1014.705
GRADE BREAK STA = 4029+31.80
ELEV = 1017.916
EXISTING GRADE
PROPOSED GND
20 LF 15" SLOTTED CMP SEE DETAIL SHEET 47
20 LF 15" SLOTTED CMP SEE DETAIL SHEET 47
ST12-3
MODIFIED TYPE SW-513 INTAKE
STA: 4023+58.44 OFF: 0.01R
RIM: 1006.50
OPEN SIDE IE =1005.00 (4';N)
INV OUT: 1002.74 (S, 24")
44 LF 24" RCP @ 1.01%
ST12-2
SW-505 INTAKE (C.I.P.)
STA: 4023+14.71 OFF: 0.00R
RIM: 1007.43
INV IN: 1002.30 (N, 24")
INV IN: 1002.80 (E, 18")
INV OUT: 1002.00 (S, 30")
31 LF 30" RCP @ 0.65%
ST12-OUT
SW-513 INTAKE (C.I.P.)
STA: 4022+12.39 OFF: 0.00
RIM: 1003.49
ST12-1
SW-505 INTAKE
STA: 4022+83.71 OFF: 0.00R
RIM: 1007.43
INV IN: 1001.80 (N, 30")
INV OUT: 1001.70 (S, 30")
71 LF 30" RCP @ 0.70%
2200 LF AGGREGATE TRENCH DETAIL SHEET 47
570 LF AGGREGATE TRENCH DETAIL SHEET 47
TRM OVER AGG TRENCH
TRM OVER AGG TRENCH
16+00
4017+00
4018+00
4019+00
4020+00
4021+00
4022+00
4023+00
4024+00
4025+00
4025+70
4026+00
4027+00
4028+00
4029+00
4030+00
4030+50
1045
1040
1035
1030
1025
1020
1015
1010
1005
1000

GLYNN VILLAGE PLAT 8 - WADDELL WAY - GREENBELT STORM

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'
DWG: 13-028-PP25 GREEN
FIELD BOOK:
DESIGNED BY: CJB
CHECKED BY: DJS
SHEET 31 OF 47
DRAWN BY: PJV
DATE: 07/12/13
FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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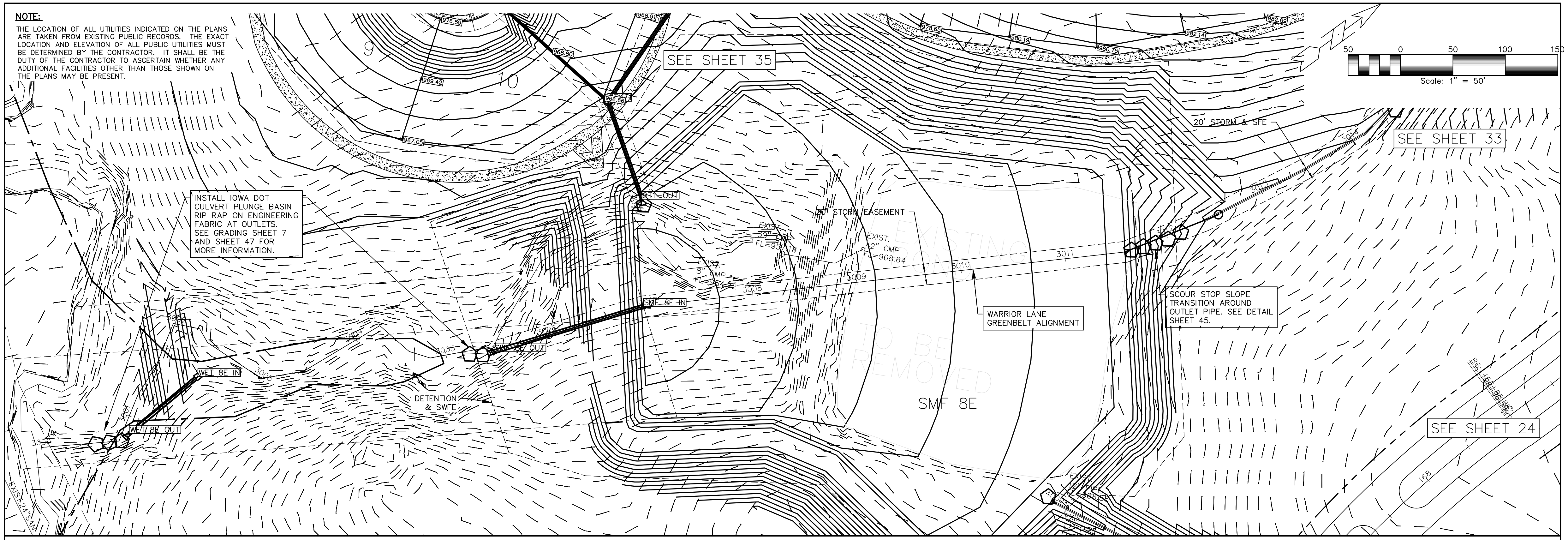
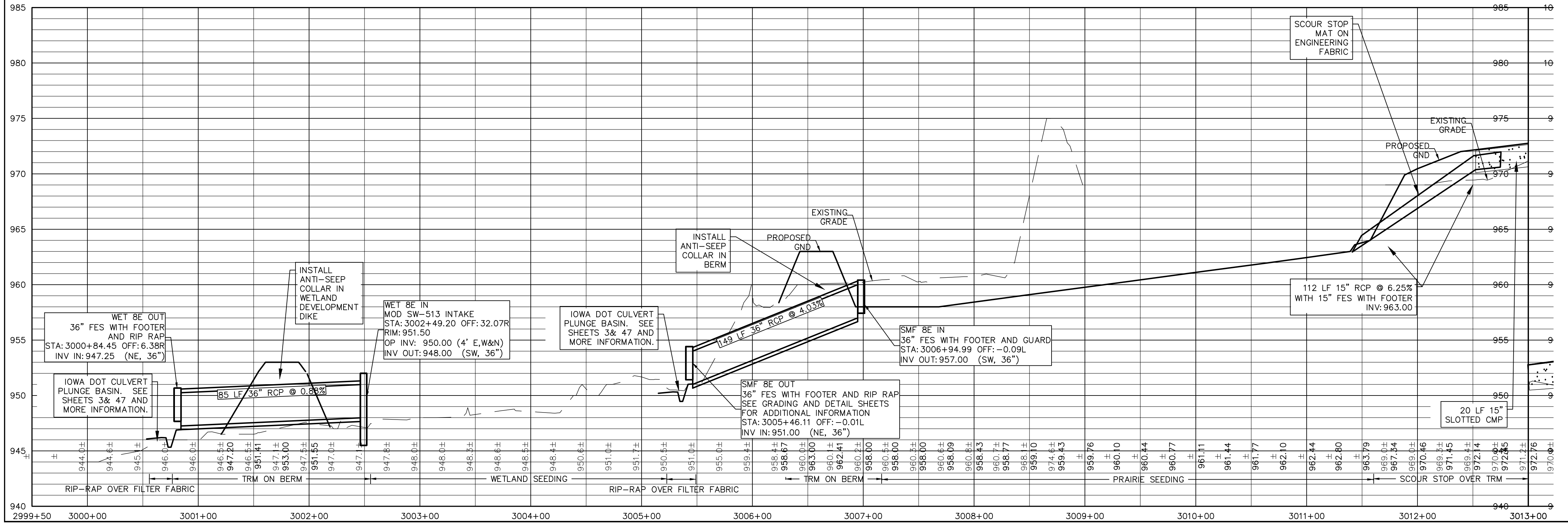

SEE SHEET 35
SEE SHEET 33
SEE SHEET 24
50 0 50 100 150
Scale: 1" = 50'
20' STORM & SFE
INSTALL IOWA DOT CULVERT PLUNGE BASIN RIP RAP ON ENGINEERING FABRIC AT OUTLETS. SEE GRADING SHEET 7 AND SHEET 47 FOR MORE INFORMATION.
20' STORM EASEMENT
EXIST. 12" CMP FL=968.64
WARRIOR LANE GREENBELT ALIGNMENT
SCOUR STOP SLOPE TRANSITION AROUND OUTLET PIPE. SEE DETAIL SHEET 45.
EXISTING TO BE REMOVED
SMF 8E
SMF 8E IN
SMF 8E OUT
WET 8E IN
WET 8E OUT
DETENTION & SWFE
3009
3010
3011
168

SCALES:
1" = 50' HOR
1" = 5' VER


WET 8E OUT
36" FES WITH FOOTER AND RIP RAP
STA: 3000+84.45 OFF: 6.38R
INV IN: 947.25 (NE, 36")
IOWA DOT CULVERT PLUNGE BASIN. SEE SHEETS 3& 47 AND MORE INFORMATION.
INSTALL ANTI-SEEP COLLAR IN WETLAND DEVELOPMENT DIKE
85 LF 36" RCP @ 0.88%
WET 8E IN
MOD SW-513 INTAKE
STA: 3002+49.20 OFF: 32.07R
RIM: 951.50
OP INV: 950.00 (4' E,W&N)
INV OUT: 948.00 (SW, 36")
IOWA DOT CULVERT PLUNGE BASIN. SEE SHEETS 3& 47 AND MORE INFORMATION.
INSTALL ANTI-SEEP COLLAR IN BERM
PROPOSED GND
EXISTING GRADE
149 LF 36" RCP @ 4.03%
SMF 8E OUT
36" FES WITH FOOTER AND RIP RAP
SEE GRADING AND DETAIL SHEETS FOR ADDITIONAL INFORMATION
STA: 3005+46.11 OFF: -0.01L
INV IN: 951.00 (NE, 36")
SMF 8E IN
36" FES WITH FOOTER AND GUARD
STA: 3006+94.99 OFF: -0.09L
INV OUT: 957.00 (SW, 36")
SCOUR STOP MAT ON ENGINEERING FABRIC
EXISTING GRADE
PROPOSED GND
112 LF 15" RCP @ 6.25% WITH 15" FES WITH FOOTER INV: 963.00
20 LF 15" SLOTTED CMP
RIP-RAP OVER FILTER FABRIC
TRM ON BERM
WETLAND SEEDING
RIP-RAP OVER FILTER FABRIC
TRM ON BERM
PRAIRIE SEEDING
SCOUR STOP OVER TRM
985
980
975
970
965
960
955
950
945
940
2999+50
3000+00
3001+00
3002+00
3003+00
3004+00
3005+00
3006+00
3007+00
3008+00
3009+00
3010+00
3011+00
3012+00
3013+00
944.0±
944.6±
945.1±
946.0±
946.0±
946.5± 947.20
946.5± 951.41
947.1± 953.00
947.5± 951.55
947.0±
947.1±
947.8±
948.0±
948.0±
948.3±
948.6±
948.5±
948.4±
950.6±
951.0±
951.7±
950.5±
951.0±
955.0±
959.4±
958.4± 958.67
960.0± 963.00
960.1± 962.41
960.2± 958.00
960.5± 958.00
960.3± 958.00
960.6± 958.09
960.8± 958.43
960.7± 958.77
968.1± 959.10
974.6± 959.43
959.76
960.10
960.44
960.77
961.11
961.44
961.77
962.10
962.44
962.80
963.79
969.0± 967.34
969.0± 970.46
969.3± 971.45
969.4± 972.14
970.9± 972.45
971.2±
972.76
970.9±

32

GLYNN VILLAGE PLAT 8 - WARRIOR LANE - GREENBELT STORM

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG:	13-028-PP21A GREEN	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:		SHEET 32 OF 47	FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
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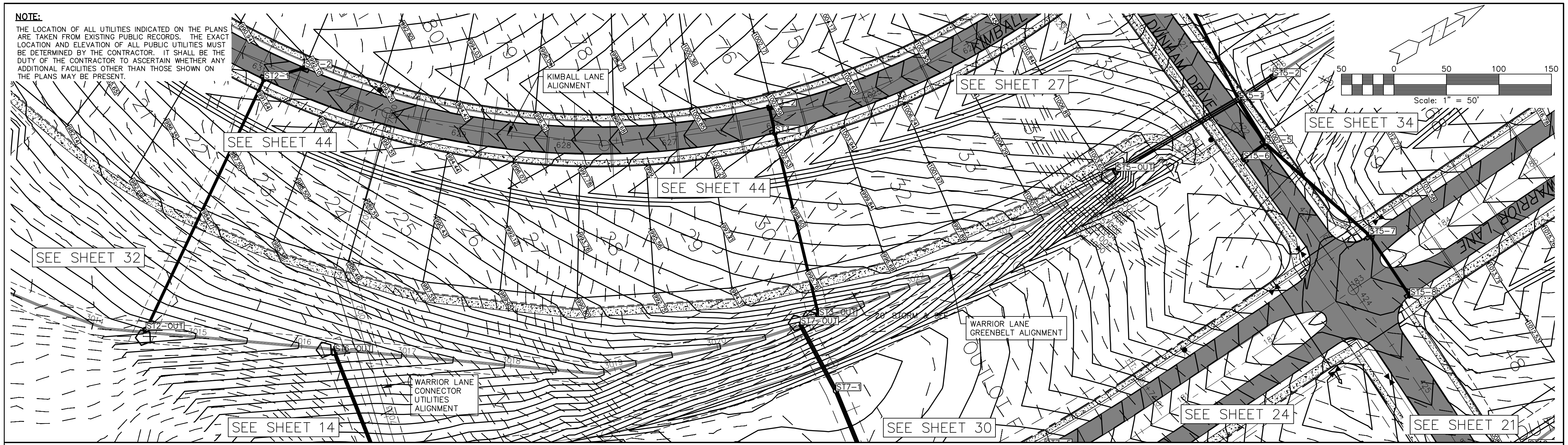
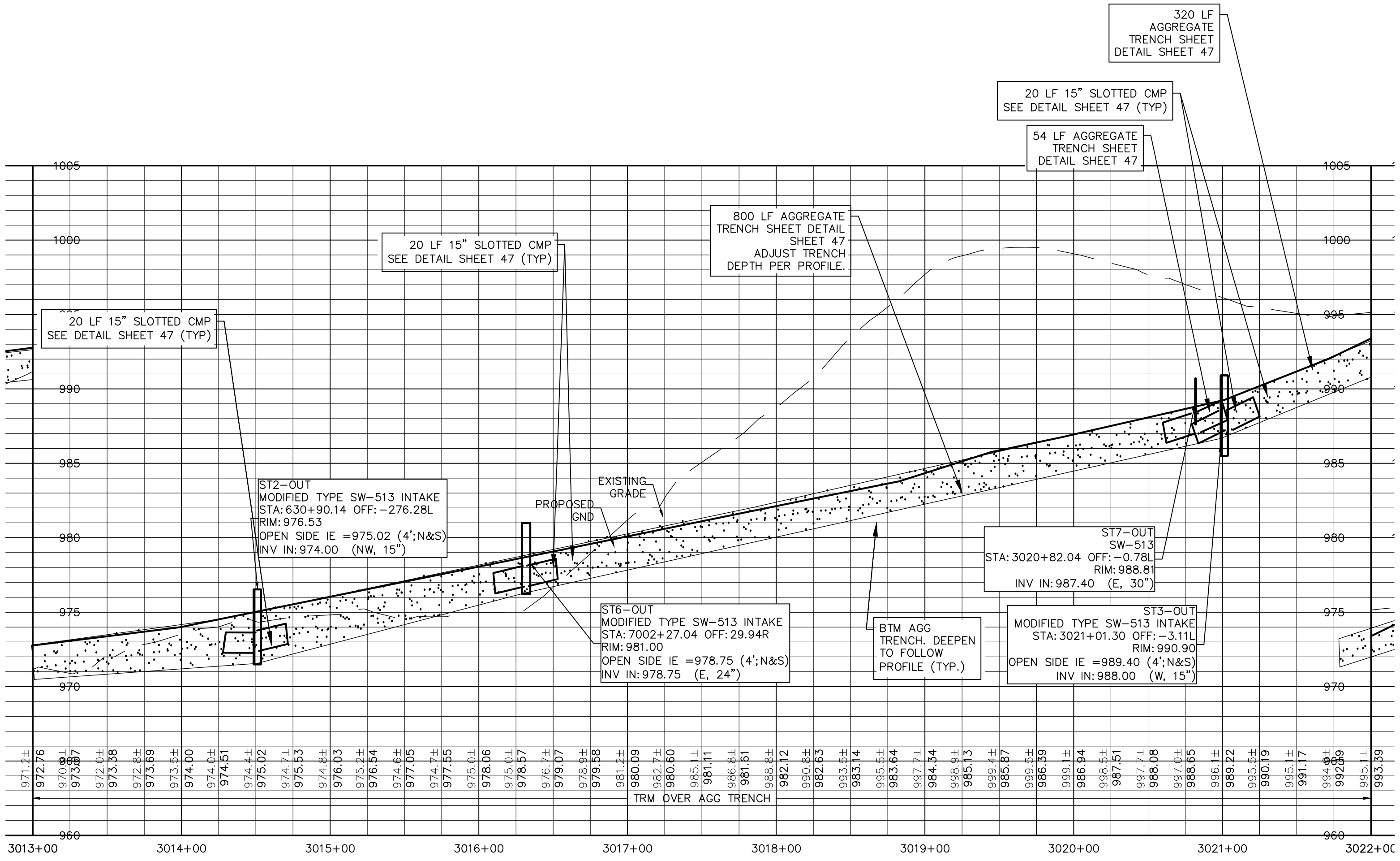

KIMBALL LANE ALIGNMENT
SEE SHEET 44
SEE SHEET 27
SEE SHEET 34
SEE SHEET 32
SEE SHEET 44
ST2-OUT
ST6-OUT
ST3-OUT
ST7-OUT
ST7-1
ST5-OUT
ST5-7
ST5-8
20" STORM @ 1.50%
WARRIOR LANE GREENBELT ALIGNMENT
WARRIOR LANE CONNECTOR UTILITIES ALIGNMENT
WARRIOR LANE
DUNHAM DRIVE
KIMBALL
SEE SHEET 14
SEE SHEET 30
SEE SHEET 24
SEE SHEET 21
50 0 50 100 150
Scale: 1" = 50'

SCALES:
1" = 50' HOR
1" = 5' VER


320 LF AGGREGATE TRENCH SHEET DETAIL SHEET 47
20 LF 15" SLOTTED CMP SEE DETAIL SHEET 47 (TYP)
54 LF AGGREGATE TRENCH SHEET DETAIL SHEET 47
800 LF AGGREGATE TRENCH SHEET DETAIL SHEET 47 ADJUST TRENCH DEPTH PER PROFILE.
20 LF 15" SLOTTED CMP SEE DETAIL SHEET 47 (TYP)
20 LF 15" SLOTTED CMP SEE DETAIL SHEET 47 (TYP)
ST2-OUT
MODIFIED TYPE SW-513 INTAKE
STA: 630+90.14 OFF: -276.28L
RIM: 976.53
OPEN SIDE IE =975.02 (4';N&S)
INV IN: 974.00 (NW, 15")
EXISTING GRADE
PROPOSED GND
ST6-OUT
MODIFIED TYPE SW-513 INTAKE
STA: 7002+27.04 OFF: 29.94R
RIM: 981.00
OPEN SIDE IE =978.75 (4';N&S)
INV IN: 978.75 (E, 24")
BTM AGG TRENCH. DEEPEN TO FOLLOW PROFILE (TYP.)
ST7-OUT
SW-513
STA: 3020+82.04 OFF: -0.78L
RIM: 988.81
INV IN: 987.40 (E, 30")
ST3-OUT
MODIFIED TYPE SW-513 INTAKE
STA: 3021+01.30 OFF: -3.11L
RIM: 990.90
OPEN SIDE IE =989.40 (4';N&S)
INV IN: 988.00 (W, 15")
TRM OVER AGG TRENCH
1005
1000
995
990
985
980
975
970
960
3013+00
3014+00
3015+00
3016+00
3017+00
3018+00
3019+00
3020+00
3021+00
3022+00

GLYNN VILLAGE PLAT 8 - WARRIOR LANE - GREENBELT STORM

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-PP21 GREEN	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 33 OF 47	FILE NO.: 13-028

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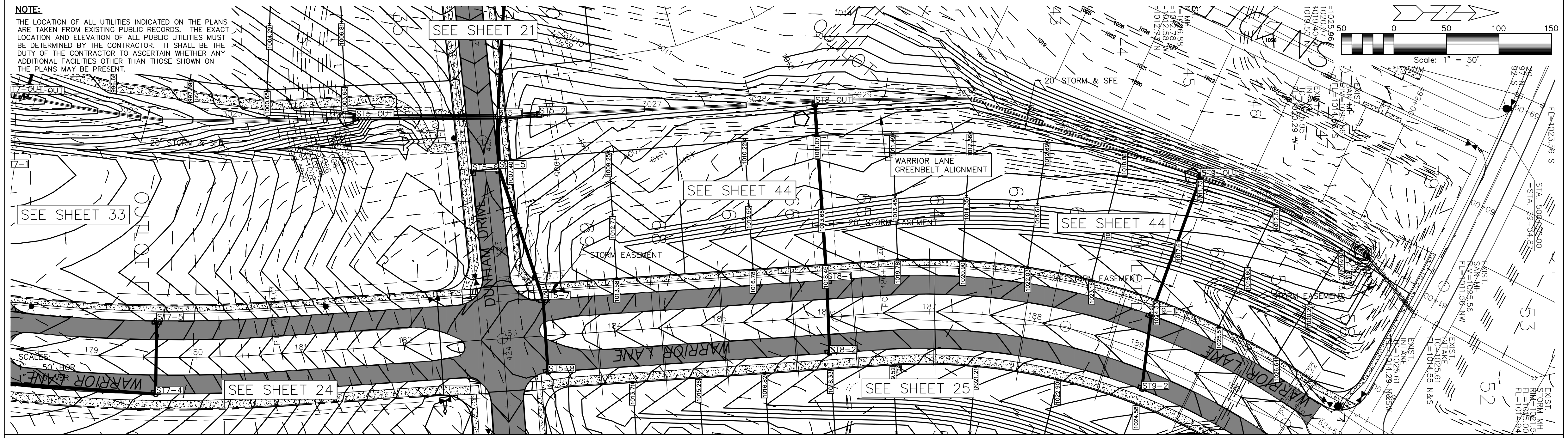
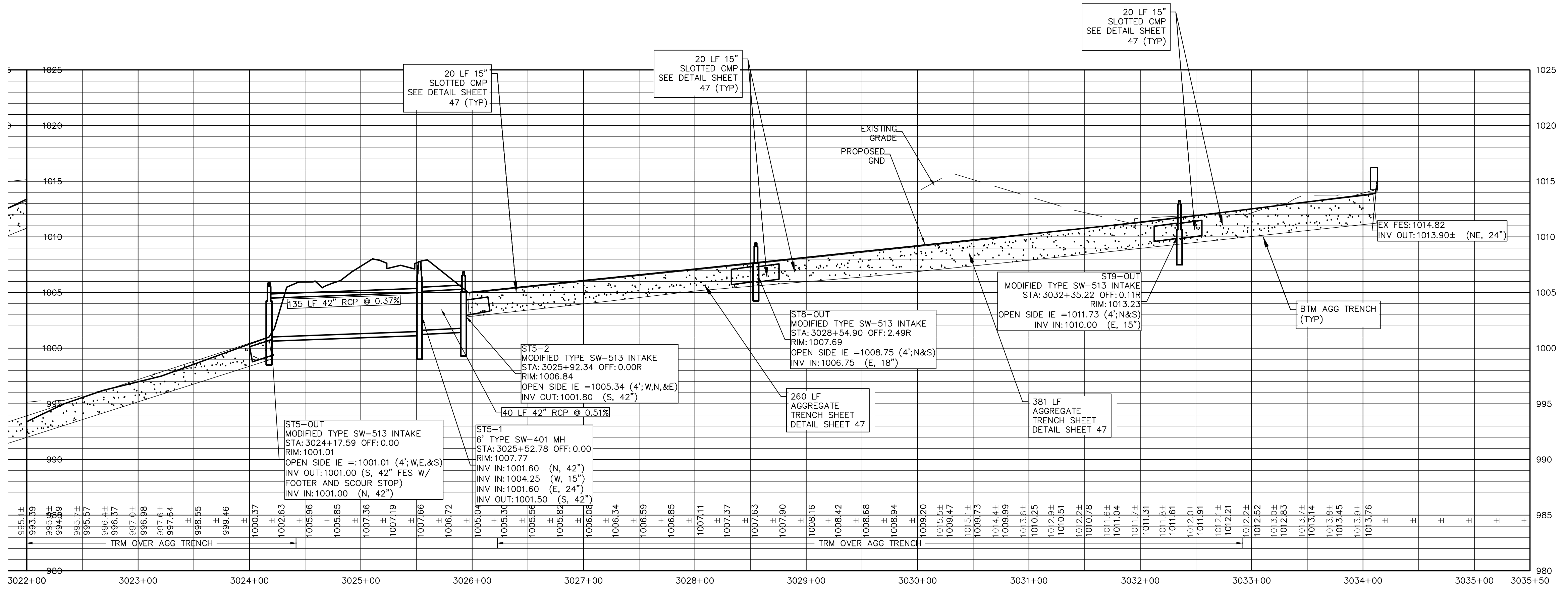

SEE SHEET 21
SEE SHEET 33
SEE SHEET 44
SEE SHEET 44
SEE SHEET 24
SEE SHEET 25
T7-OUT
ST5-OUT
ST5-2
ST5-1
ST5-7
ST5-8
ST7-4
ST7-5
ST8-OUT
ST8-1
ST8-2
ST9-OUT
ST9-1
ST9-2
20' STORM & SFE
WARRIOR LANE GREENBELT ALIGNMENT
20' STORM EASEMENT
STORM EASEMENT
DUNHAM DRIVE
WARRIOR LANE
SCALES: 1" = 50' HOR
Scale: 1" = 50'
50
0
50
100
150
EXIST. STORM MH
EXIST. INTAKE
EXIST. MH


20 LF 15" SLOTTED CMP SEE DETAIL SHEET 47 (TYP)
20 LF 15" SLOTTED CMP SEE DETAIL SHEET 47 (TYP)
20 LF 15" SLOTTED CMP SEE DETAIL SHEET 47 (TYP)
EXISTING GRADE
PROPOSED GND
135 LF 42" RCP @ 0.37%
40 LF 42" RCP @ 0.51%
ST5-OUT
MODIFIED TYPE SW-513 INTAKE
STA: 3024+17.59 OFF: 0.00
RIM: 1001.01
OPEN SIDE IE =: 1001.01 (4'; W,E,&S)
INV OUT: 1001.00 (S, 42" FES W/ FOOTER AND SCOUR STOP)
INV IN: 1001.00 (N, 42")
ST5-1
6' TYPE SW-401 MH
STA: 3025+52.78 OFF: 0.00
RIM: 1007.77
INV IN: 1001.60 (N, 42")
INV IN: 1004.25 (W, 15")
INV IN: 1001.60 (E, 24")
INV OUT: 1001.50 (S, 42")
ST5-2
MODIFIED TYPE SW-513 INTAKE
STA: 3025+92.34 OFF: 0.00R
RIM: 1006.84
OPEN SIDE IE =1005.34 (4'; W,N,&E)
INV OUT: 1001.80 (S, 42")
ST8-OUT
MODIFIED TYPE SW-513 INTAKE
STA: 3028+54.90 OFF: 2.49R
RIM: 1007.69
OPEN SIDE IE =1008.75 (4'; N&S)
INV IN: 1006.75 (E, 18")
260 LF AGGREGATE TRENCH SHEET DETAIL SHEET 47
381 LF AGGREGATE TRENCH SHEET DETAIL SHEET 47
ST9-OUT
MODIFIED TYPE SW-513 INTAKE
STA: 3032+35.22 OFF: 0.11R
RIM: 1013.23
OPEN SIDE IE =1011.73 (4'; N&S)
INV IN: 1010.00 (E, 15")
BTM AGG TRENCH (TYP)
EX FES: 1014.82
INV OUT: 1013.90± (NE, 24")
TRM OVER AGG TRENCH
TRM OVER AGG TRENCH
1025
1020
1015
1010
1005
1000
995
990
985
980
3022+00
3023+00
3024+00
3025+00
3026+00
3027+00
3028+00
3029+00
3030+00
3031+00
3032+00
3033+00
3034+00
3035+00
3035+50

GLYNN VILLAGE PLAT 8 - WARRIOR LANE - GREENBELT STORM

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-PP22 GREEN	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 34 OF 47	FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
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(515) 288-4823

13-028

34

NOTE:

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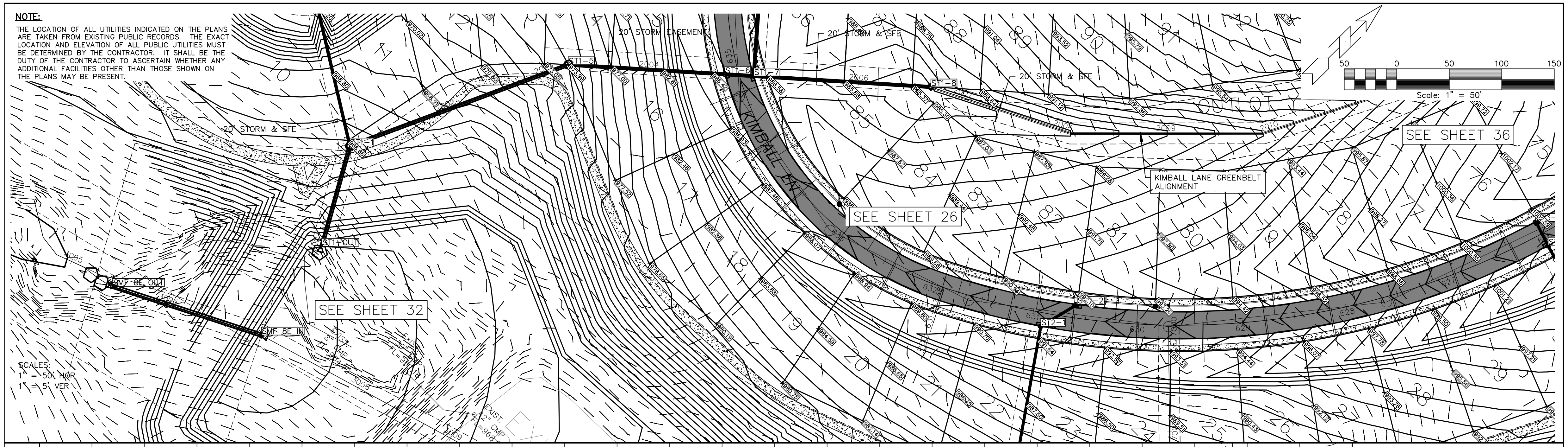
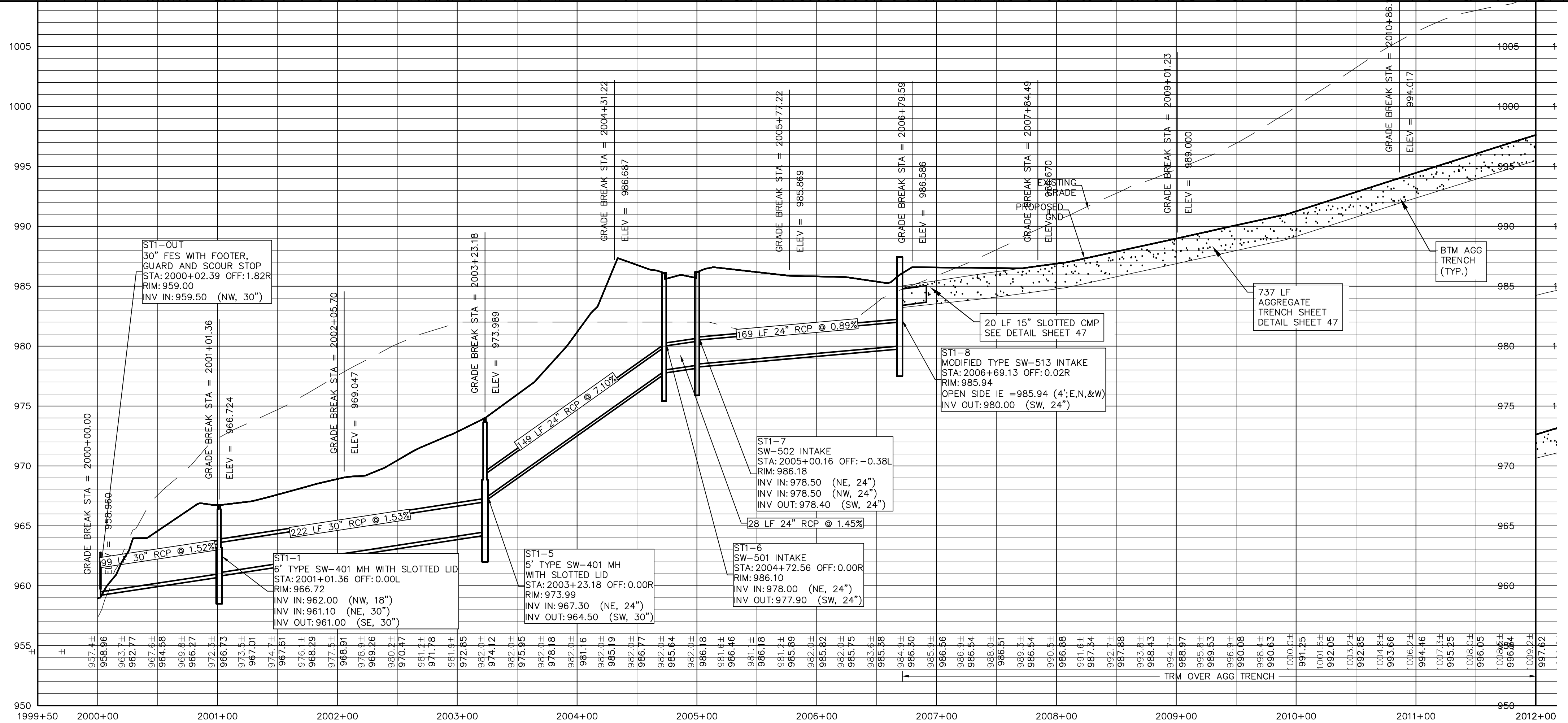

20' STORM EASEMENT
20' STORM & SFE
20' STORM & SFE
20' STORM & SFE
ST1-1
ST1-5
ST1-6
ST1-7
ST1-8
ST1-OUT
ST2-1
SMF 8E OUT
SMF 8E IN
KIMBALL LN
SEE SHEET 26
SEE SHEET 32
SEE SHEET 36
KIMBALL LANE GREENBELT ALIGNMENT
EXIST. CMP
50 0 50 100 150
Scale: 1" = 50'
SCALES:
1" = 50' HOR
1" = 5' VER


1005
1000
995
990
985
980
975
970
965
960
955
950
1999+50
2000+00
2001+00
2002+00
2003+00
2004+00
2005+00
2006+00
2007+00
2008+00
2009+00
2010+00
2011+00
2012+00
GRADE BREAK STA = 2000+00.00
ELEV = 958.960
GRADE BREAK STA = 2001+01.36
ELEV = 966.724
GRADE BREAK STA = 2002+05.70
ELEV = 969.047
GRADE BREAK STA = 2003+23.18
ELEV = 973.989
GRADE BREAK STA = 2004+31.22
ELEV = 986.687
GRADE BREAK STA = 2005+77.22
ELEV = 985.869
GRADE BREAK STA = 2006+79.59
ELEV = 986.586
GRADE BREAK STA = 2007+84.49
ELEV = 986.670
GRADE BREAK STA = 2009+01.23
ELEV = 989.000
GRADE BREAK STA = 2010+86
ELEV = 994.017
EXISTING GRADE
PROPOSED GND
99 LF 30" RCP @ 1.52%
222 LF 30" RCP @ 1.53%
149 LF 24" RCP @ 7.10%
169 LF 24" RCP @ 0.89%
TRM OVER AGG TRENCH

ST1-OUT
30" FES WITH FOOTER, GUARD AND SCOUR STOP
STA: 2000+02.39 OFF: 1.82R
RIM: 959.00
INV IN: 959.50 (NW, 30")

ST1-1
6' TYPE SW-401 MH WITH SLOTTED LID
STA: 2001+01.36 OFF: 0.00L
RIM: 966.72
INV IN: 962.00 (NW, 18")
INV IN: 961.10 (NE, 30")
INV OUT: 961.00 (SE, 30")

ST1-5
5' TYPE SW-401 MH WITH SLOTTED LID
STA: 2003+23.18 OFF: 0.00R
RIM: 973.99
INV IN: 967.30 (NE, 24")
INV OUT: 964.50 (SW, 30")

ST1-6
SW-501 INTAKE
STA: 2004+72.56 OFF: 0.00R
RIM: 986.10
INV IN: 978.00 (NE, 24")
INV OUT: 977.90 (SW, 24")

28 LF 24" RCP @ 1.45%

ST1-7
SW-502 INTAKE
STA: 2005+00.16 OFF: -0.38L
RIM: 986.18
INV IN: 978.50 (NE, 24")
INV IN: 978.50 (NW, 24")
INV OUT: 978.40 (SW, 24")

ST1-8
MODIFIED TYPE SW-513 INTAKE
STA: 2006+69.13 OFF: 0.02R
RIM: 985.94
OPEN SIDE IE =985.94 (4';E,N,&W)
INV OUT: 980.00 (SW, 24")

20 LF 15" SLOTTED CMP
SEE DETAIL SHEET 47

737 LF AGGREGATE TRENCH SHEET DETAIL SHEET 47

BTM AGG TRENCH (TYP.)

GLYNN VILLAGE PLAT 8 - KIMBALL LANE - GREENBELT STORM

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 50'
DWG: 13-028-PP23 GREEN
FIELD BOOK:
DESIGNED BY: CJB
CHECKED BY: DJS
SHEET 35 OF 47
DRAWN BY: PJV
DATE: 07/12/13
FILE NO.: 13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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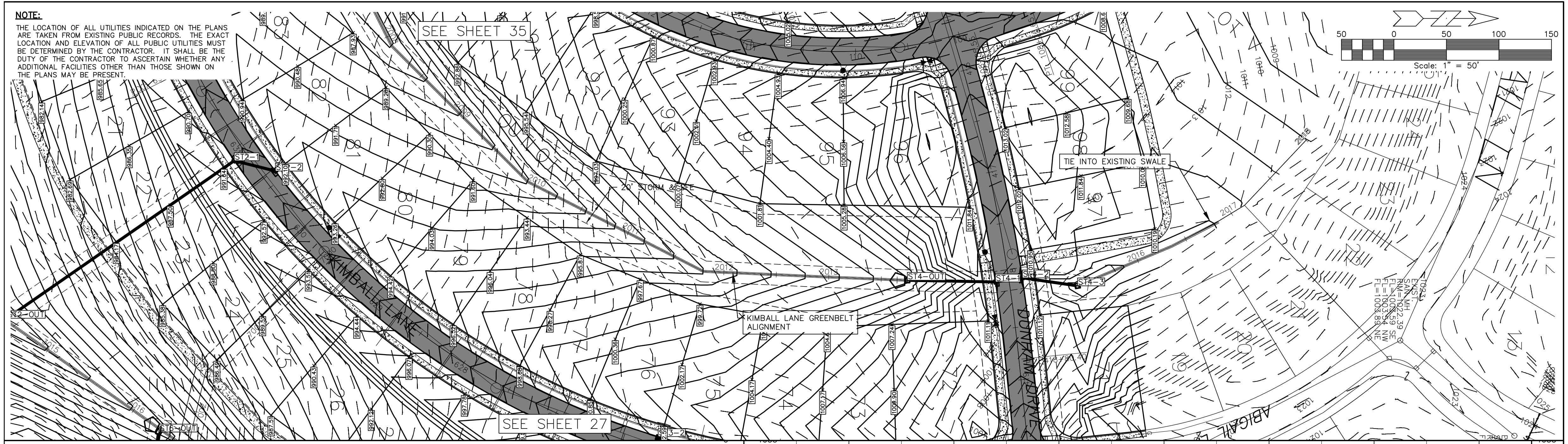
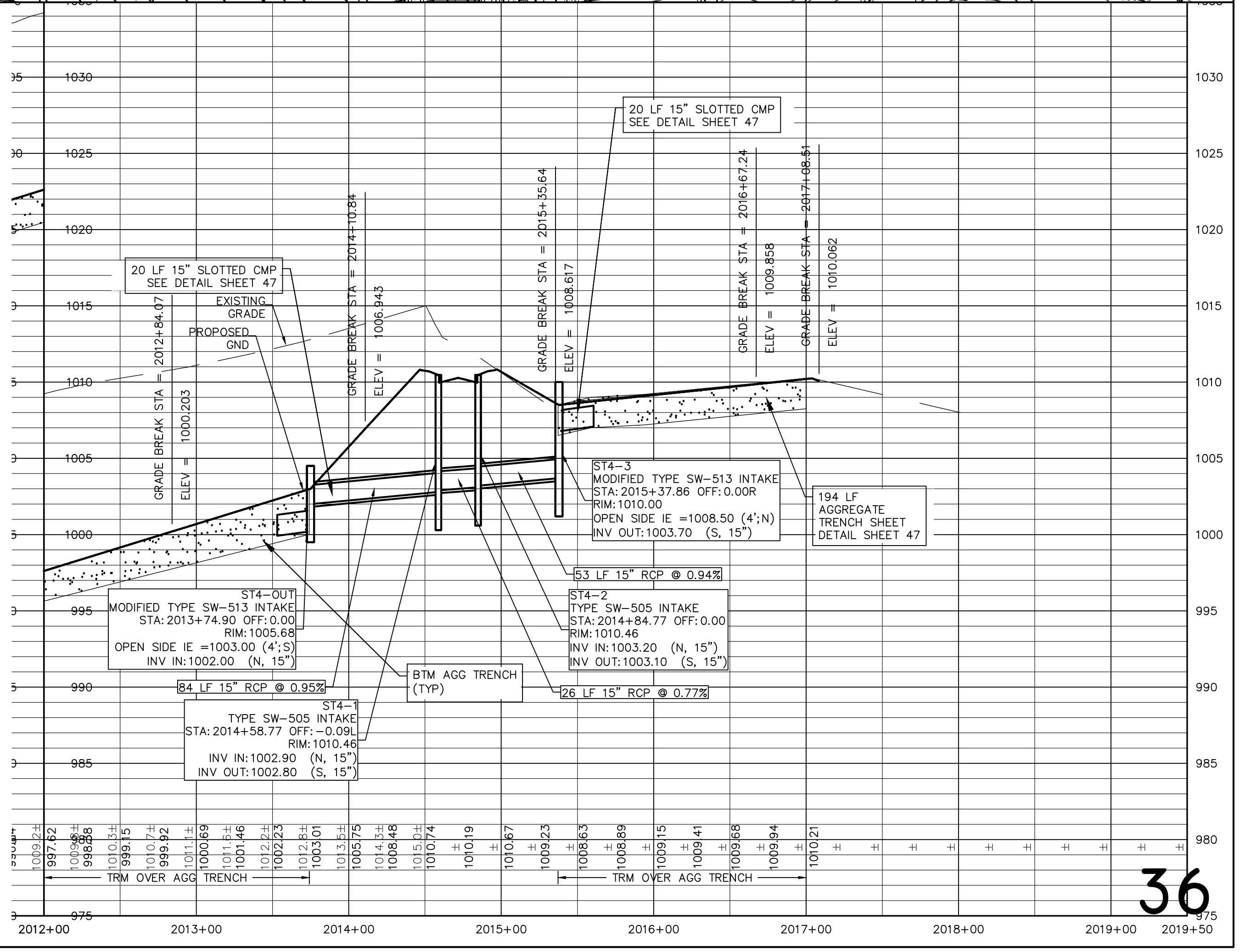

SEE SHEET 35
SEE SHEET 27
ST2-1
ST2-2
ST2-OUT
ST6-OUT
KIMBALL LANE
20' STORM & SFE
ST4-OUT
ST4-1
ST4-2
ST4-3
KIMBALL LANE GREENBELT ALIGNMENT
TIE INTO EXISTING SWALE
DUNHAM DRIVE
ABIGAIL
EXIST. SAN. MH
RIM=1022.39
FL=1003.59 SE
FL=1003.54 NW
FL=1003.89 NE
2012
2013
2016
2017
Scale: 1" = 50'
50 0 50 100 150

SCALES:
1" = 50' HOR
1" = 5' VER


20 LF 15" SLOTTED CMP
SEE DETAIL SHEET 47
EXISTING GRADE
PROPOSED GND
GRADE BREAK STA = 2012+84.07
ELEV = 1000.203
GRADE BREAK STA = 2014+10.84
ELEV = 1006.943
GRADE BREAK STA = 2015+35.64
ELEV = 1008.617
GRADE BREAK STA = 2016+67.24
ELEV = 1009.858
GRADE BREAK STA = 2017+08.51
ELEV = 1010.062
20 LF 15" SLOTTED CMP
SEE DETAIL SHEET 47
ST4-3
MODIFIED TYPE SW-513 INTAKE
STA: 2015+37.86 OFF: 0.00R
RIM: 1010.00
OPEN SIDE IE =1008.50 (4';N)
INV OUT: 1003.70 (S, 15")
194 LF
AGGREGATE
TRENCH SHEET
DETAIL SHEET 47
53 LF 15" RCP @ 0.94%
ST4-OUT
MODIFIED TYPE SW-513 INTAKE
STA: 2013+74.90 OFF: 0.00
RIM: 1005.68
OPEN SIDE IE =1003.00 (4';S)
INV IN: 1002.00 (N, 15")
ST4-2
TYPE SW-505 INTAKE
STA: 2014+84.77 OFF: 0.00
RIM: 1010.46
INV IN: 1003.20 (N, 15")
INV OUT: 1003.10 (S, 15")
BTM AGG TRENCH
(TYP)
84 LF 15" RCP @ 0.95%
26 LF 15" RCP @ 0.77%
ST4-1
TYPE SW-505 INTAKE
STA: 2014+58.77 OFF: -0.09L
RIM: 1010.46
INV IN: 1002.90 (N, 15")
INV OUT: 1002.80 (S, 15")
TRM OVER AGG TRENCH
TRM OVER AGG TRENCH
1030
1025
1020
1015
1010
1005
1000
995
990
985
980
975
1009.2±
997.62
1009.8±
998.58
1010.3±
999.15
1010.7±
999.92
1011.1±
1000.69
1011.6±
1001.46
1012.2±
1002.23
1012.8±
1003.01
1013.5±
1005.75
1014.3±
1008.48
1015.0±
1010.74
1010.19
1010.67
1009.23
1008.63
1008.89
1009.15
1009.41
1009.68
1009.94
1010.21
2012+00
2013+00
2014+00
2015+00
2016+00
2017+00
2018+00
2019+00
2019+50

GLYNN VILLAGE PLAT 8 - KIMBALL LANE - GREENBELT STORM

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY:	CJB	DRAWN BY:	PJV
DWG:	13-028-PP24 GREEN	CHECKED BY:	DJS	DATE:	07/12/13
FIELD BOOK:		SHEET 36	OF 47	FILE NO.:	13-028

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028

NOTE:

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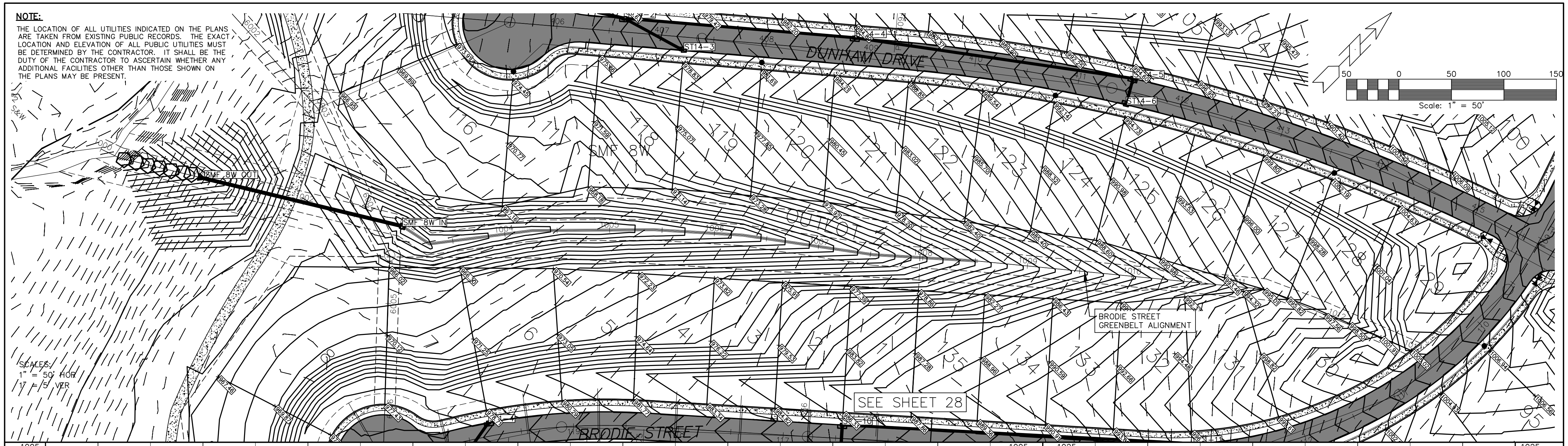
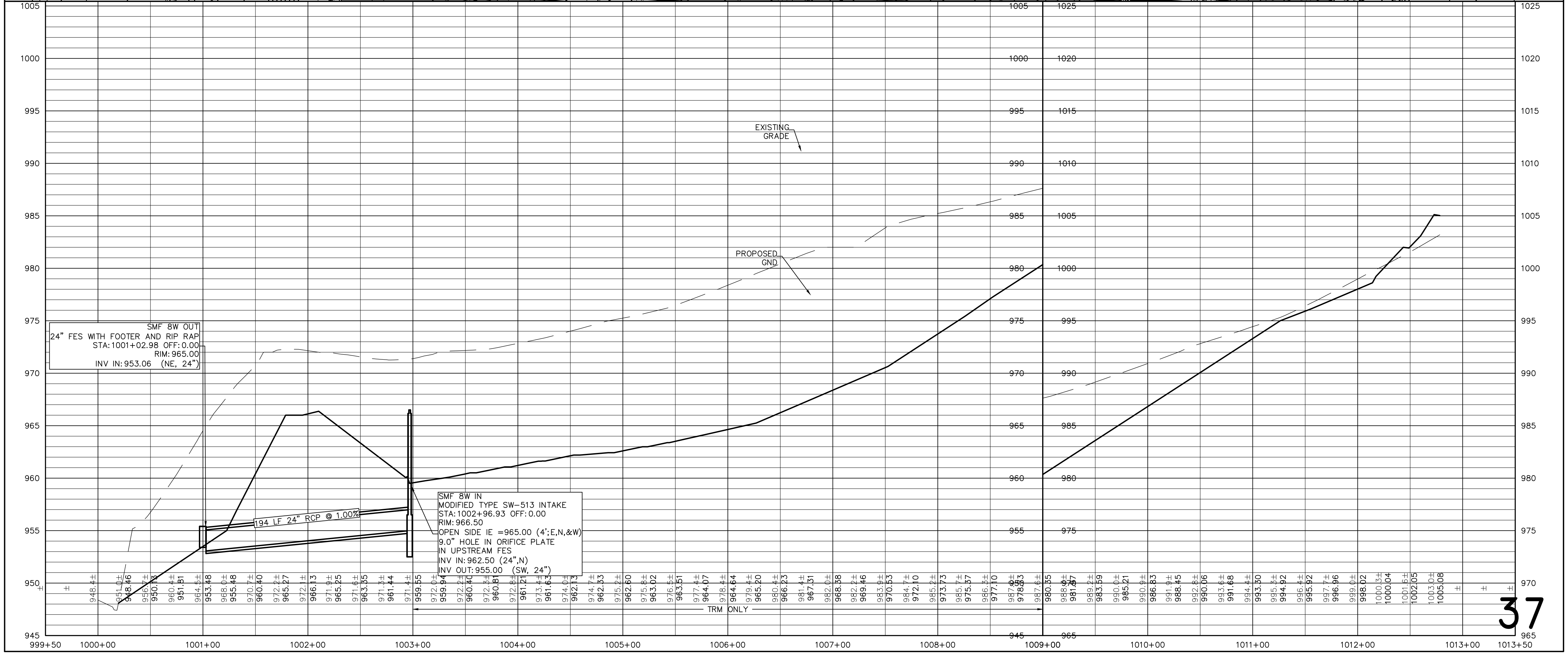

DUNHAM DRIVE
BRODIE STREET
ST14-3
ST14-5
ST14-6
SMF 8W
SMF 8W OUT
SMF 8W IN
BRODIE STREET GREENBELT ALIGNMENT
SEE SHEET 28
SCALES:
1" = 50' HOR
1" = 5' VER
50 0 50 100 150
Scale: 1" = 50'
116
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
1004
1005
1006
1007
1008
1009
1010



SMF 8W OUT
24" FES WITH FOOTER AND RIP RAP
STA: 1001+02.98 OFF: 0.00
RIM: 965.00
INV IN: 953.06 (NE, 24")

SMF 8W IN
MODIFIED TYPE SW-513 INTAKE
STA: 1002+96.93 OFF: 0.00
RIM: 966.50
OPEN SIDE IE =965.00 (4';E,N,&W)
9.0" HOLE IN ORIFICE PLATE
IN UPSTREAM FES
INV IN: 962.50 (24",N)
INV OUT: 955.00 (SW, 24")

37

GLYNN VILLAGE PLAT 8 - BRODIE STREET - GREENBELT STORM

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY:	CJB	DRAWN BY:	PJV
DWG:	13-028-PP20 GREEN	CHECKED BY:	DJS	DATE:	07/12/13
FIELD BOOK:		SHEET 37	OF 47	FILE NO.:	13-028

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(515) 288-4823

13-028

NOTES:

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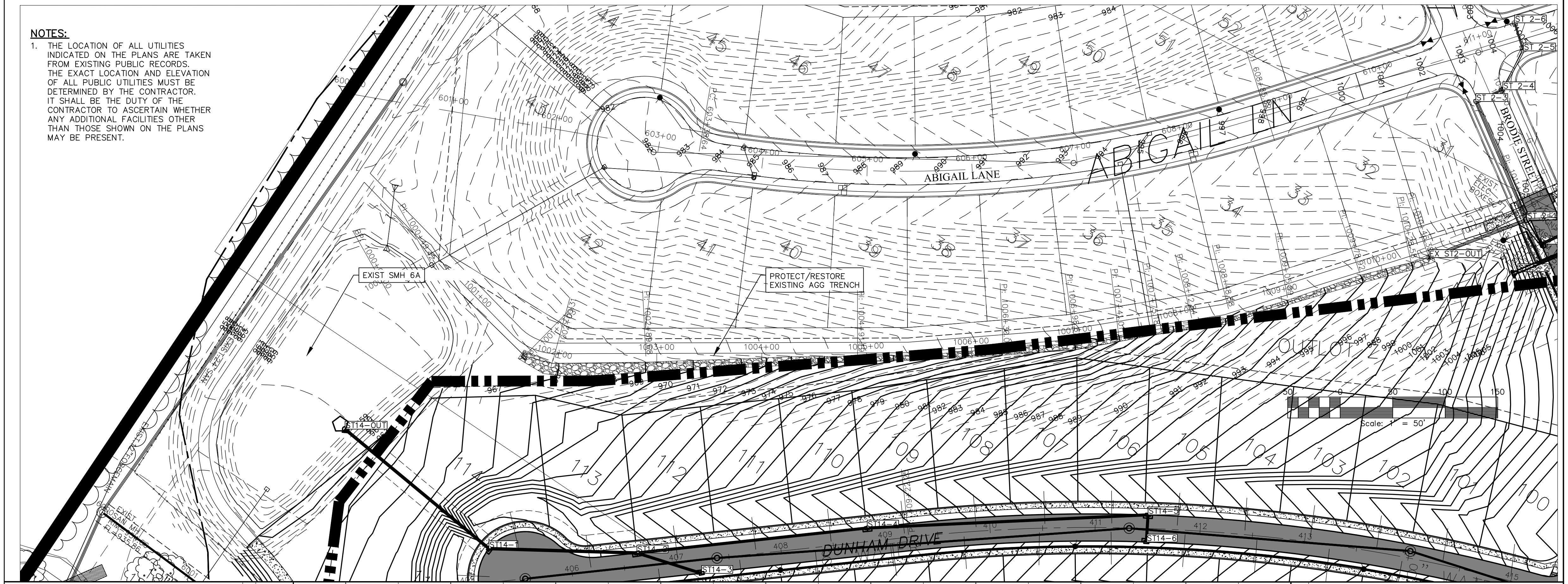
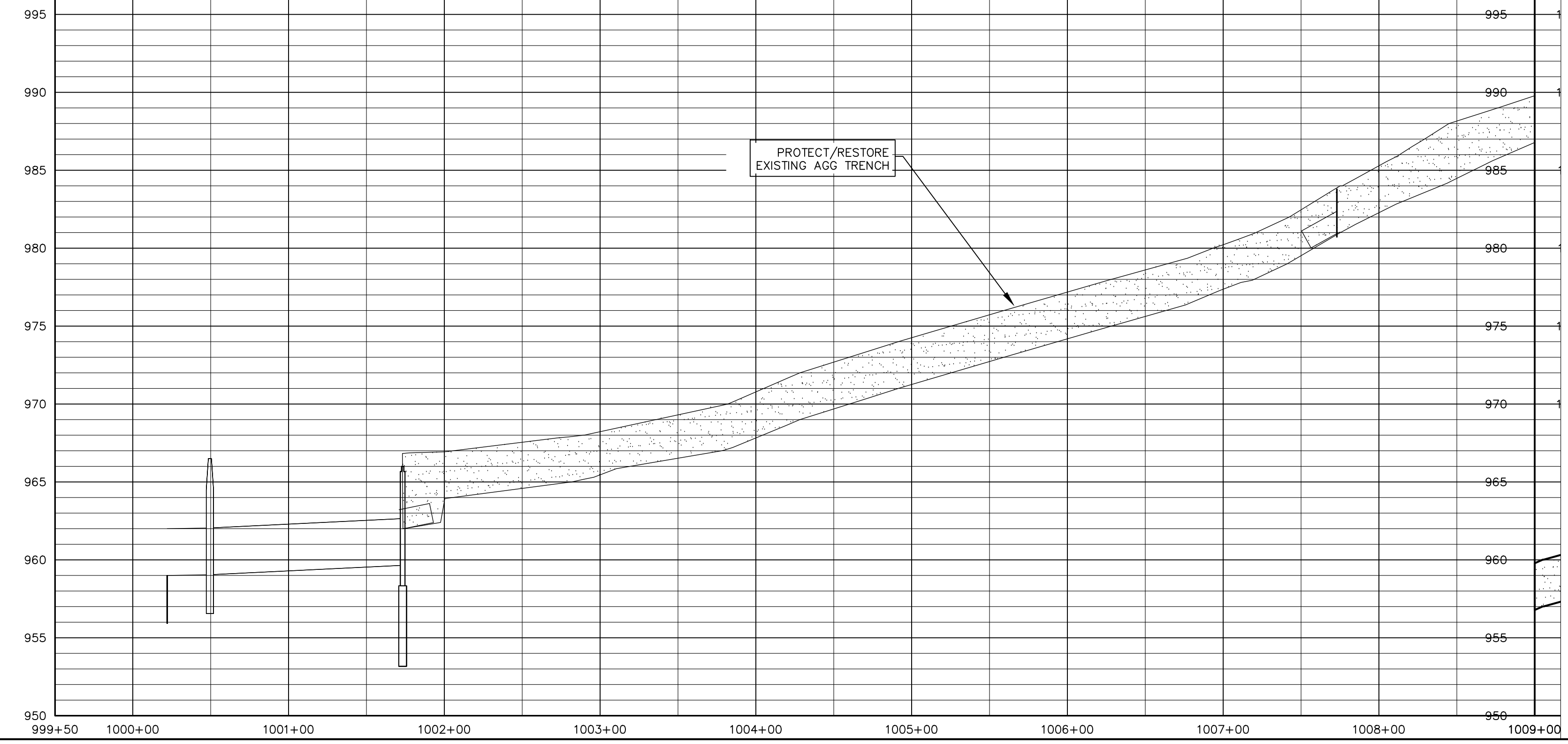

ABIGAIL LN
ABIGAIL LANE
BRODIE STREET
DUNHAM DRIVE
OUTLOT
EXIST SMH 6A
PROTECT/RESTORE EXISTING AGG TRENCH
ST14-OUT
ST14-1
ST14-2
ST14-3
ST14-4
ST14-5
ST14-6
ST 2-3
ST 2-4
ST 2-5
ST 2-6
EX ST2-OUT
EXIST. SAN MH
1000+00
1001+00
1002+00
1003+00
1004+00
1005+00
1006+00
1007+00
1008+00
1009+00
1010+00
601+00
602+00
603+00
604+00
605+00
606+00
607+00
608+00
609+00
610+00
611+00
406
407
408
409
410
411
412
413
415
41
42
43
44
45
46
47
48
49
50
51
52
31
32
33
34
35
36
37
38
39
40
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
50 0 50 100 150
Scale: 1" = 50'


PROTECT/RESTORE EXISTING AGG TRENCH
995
990
985
980
975
970
965
960
955
950
999+50
1000+00
1001+00
1002+00
1003+00
1004+00
1005+00
1006+00
1007+00
1008+00
1009+00

SCALES:
1" = 50' HOR
1" = 5' VER

38

ABIGAIL LANE REAR YARD STORM SEWER

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY:	CJB	DRAWN BY:	PJV
DWG:	12-152-PP10.DWG	CHECKED BY:	DJS	DATE:	10/17/12
FIELD BOOK:		SHEET 38 OF 47		FILE NO.:	13-028

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2413 GRAND AVENUE
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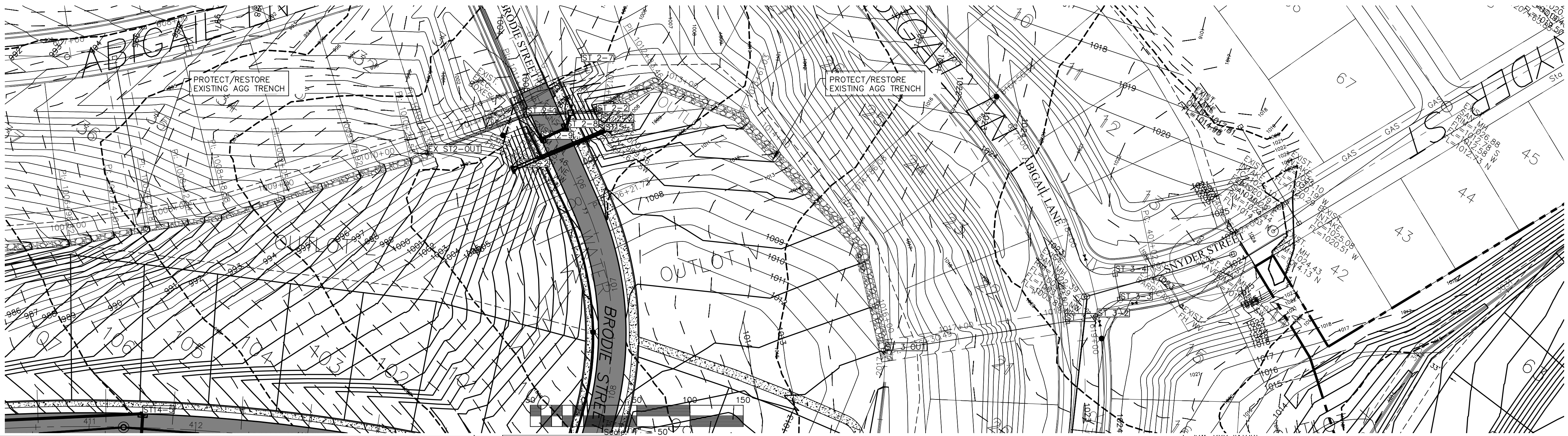
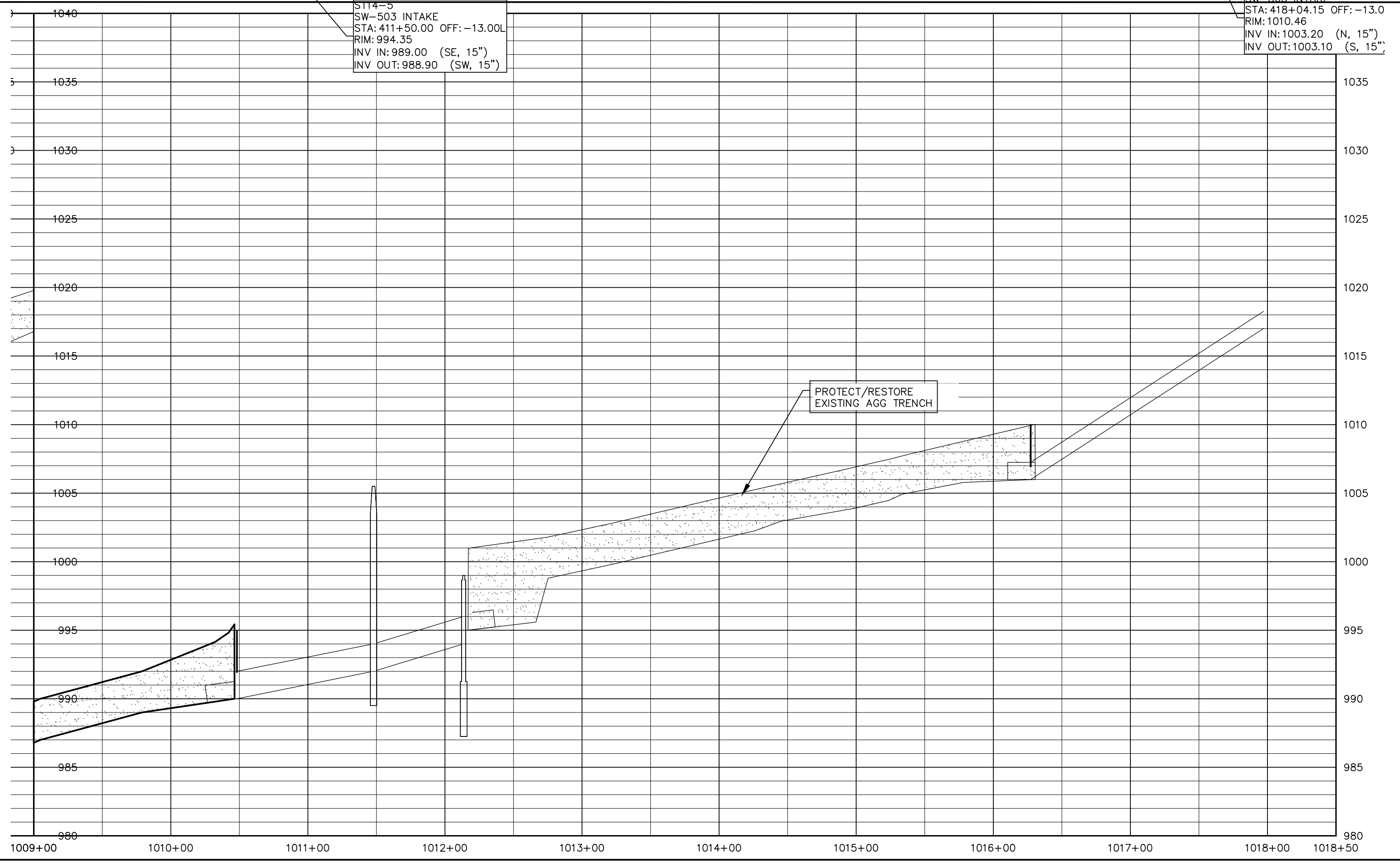
(515) 288-4823

13-028


ABIGAIL LN
PROTECT/RESTORE
EXISTING AGG TRENCH
PROTECT/RESTORE
EXISTING AGG TRENCH
BRODIE STREET
ST 2-7
EX ST2-OUT
OUTLOT
ST14-5
ST 3-OUT
ABIGAIL LANE
SNYDER STREET
ST 3-4
ST 3-3
ST 3-2
GAS
50
100
150
Scale: 1" = 50'


1040
1035
1030
1025
1020
1015
1010
1005
1000
995
990
985
980
1009+00
1010+00
1011+00
1012+00
1013+00
1014+00
1015+00
1016+00
1017+00
1018+00
1018+50
PROTECT/RESTORE
EXISTING AGG TRENCH

ST14-5
SW-503 INTAKE
STA: 411+50.00 OFF: -13.00L
RIM: 994.35
INV IN: 989.00 (SE, 15")
INV OUT: 988.90 (SW, 15")

STA: 418+04.15 OFF: -13.0
RIM: 1010.46
INV IN: 1003.20 (N, 15")
INV OUT: 1003.10 (S, 15")

NOTES:

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SCALES:
1" = 50' HOR
1" = 5' VER

ABIGAIL LANE REAR YARD STORM SEWER

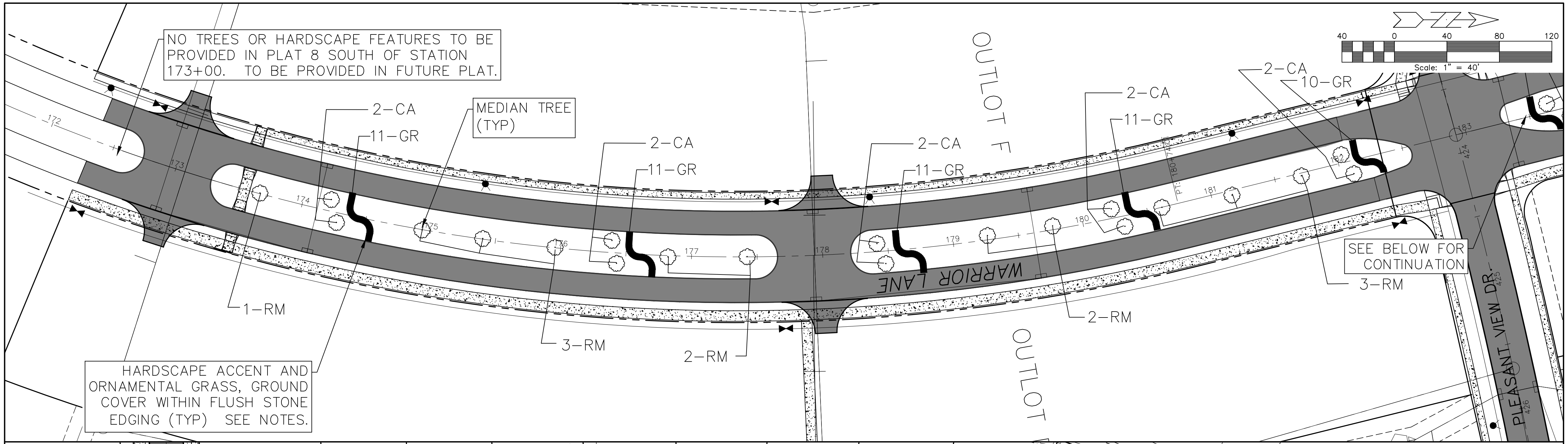
LOCATION:	SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV
	DWG: 12-152-PP11.DWG	CHECKED BY: DJS	DATE: 10/17/12
	FIELD BOOK:	SHEET 39 OF 47	FILE NO.: 13-028

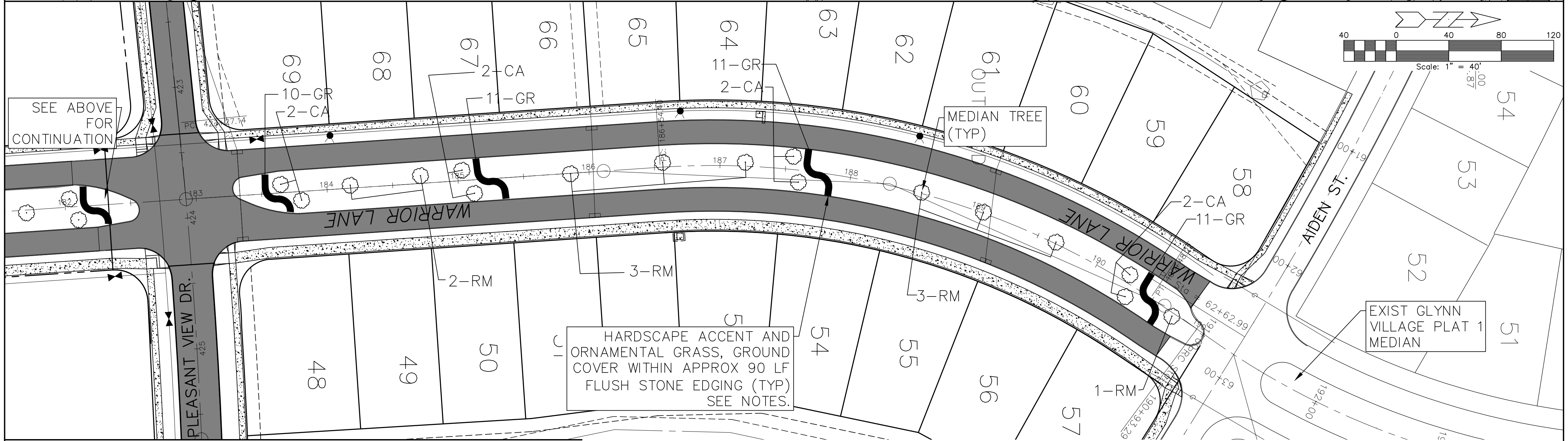
FOR:

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028


NO TREES OR HARDSCAPE FEATURES TO BE PROVIDED IN PLAT 8 SOUTH OF STATION 173+00. TO BE PROVIDED IN FUTURE PLAT.
MEDIAN TREE (TYP)
2-CA
11-GR
1-RM
3-RM
2-RM
10-GR
HARDSCAPE ACCENT AND ORNAMENTAL GRASS, GROUND COVER WITHIN FLUSH STONE EDGING (TYP) SEE NOTES.
OUTLOT F
OUTLOT
WARRIOR LANE
PLEASANT VIEW DR.
SEE BELOW FOR CONTINUATION
172
173
174
175
176
177
178
179
180
181
182
183
40 0 40 80 120
Scale: 1" = 40'


SEE ABOVE FOR CONTINUATION
10-GR
2-CA
11-GR
2-RM
3-RM
1-RM
MEDIAN TREE (TYP)
HARDSCAPE ACCENT AND ORNAMENTAL GRASS, GROUND COVER WITHIN APPROX 90 LF FLUSH STONE EDGING (TYP) SEE NOTES.
EXIST GLYNN VILLAGE PLAT 1 MEDIAN
WARRIOR LANE
PLEASANT VIEW DR.
AIDEN ST.
48
49
50
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
51
52
53
62+62.99
190+93.29
192+00
40 0 40 80 120
Scale: 1" = 40'

NOTE:

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PLANT SCHEDULE:

Code	Common Name	Quantity	Planting Size
Deciduous Trees			
RM	Red Sunset Maple	21	1 1/2" B&B
CA	Ornamental Crabb Apple	18	1 1/2" B&B
Grass			
GR	Feather Reedgrass	97	2 gal. cont.

GROUND COVER NOTES:

1. DURING THE CONSTRUCTION STAGE OF DEVELOPMENT, THE APPLICANT SHALL PREVENT THE CLEANING OF EQUIPMENT OR MATERIAL OR THE STORAGE AND DISPOSAL OF WASTE MATERIAL SUCH AS PAINTS, OILS, SOLVENTS, ASPHALT, CONCRETE, MOTOR OIL OR ANY OTHER MATERIAL HARMFUL TO THE LIFE OF VEGETATION WITHIN THE FINAL MEDIAN AREA. ALL WIRE, TWINE AND BURLAP SHALL BE REMOVED FROM THE ROOTBALL OF STREET TREES PRIOR TO PLANTING
2. NO STAKING OF TREES IS ALLOWED
3. ALL DISTURBED MEDIAN AREAS NOT COVERED WITH BY TREES AND OTHER PERMANENT COVERINGS SHALL BE RESTORED WITH 4" MIN TOP SOIL AND SEED/MULCH OR SOD. ALL DISTURBED AREAS PREVIOUSLY COVERED WITH ESTABLISHED GRASS SHALL BE SODDED.
4. ALL NON PAVED AREAS DISTURBED BY CONSTRUCTION, OR REQUIRED TO STABILIZE THE SITE SHALL BE RESTORED BY SEED AND MULCH. TEMPORARY STABILIZATION SHALL BE WITH THE SUDAS STABILIZATION MIX. FINAL STABILIZATION SHALL BE A SUDAS URBAN GRASS MIX ON A MINIMUM OF 4-INCHES OF TOP SOIL. PERMANENT STABILIZATION SHALL BE LIMITED TO THE SMF AND WARRIOR LANE MEDIAN.
5. ALL MEDIAN TREES SHALL BE AN OVERHEAD DECIDUOUS VARIETY WITH A 1.5" B&B, SINGLE STRAIGHT LEADER, MATCHED. TREES SHALL BE SPACED AT APPROXIMATELY 60 FT SPACING, BUT MAINTAIN A 10FT BUFFER FROM ALL SANITARY OR STORM SEWERS, LIGHT POLES AND SIDEWALKS.
6. HARDSCAPING ACCENTS, EDGING, GROUND COVER AND PLANTINGS SHALL BE OF A SIMILAR MATERIALS AND CONSTRUCTION AS PROVIDE IN GLYNN VILLAGE PLAT 1 PORTION OF WARRIOR LANE (LOCATED IMMEDIATELY TO THE NORTH OF THE PROPOSED IMPROVEMENTS.) PLANTING BED SHALL BE 4-FT WIDE AND GRASS SHALL BE PLANTED AT APPROXIMATELY 4-FT SPACING. 6-8 IN WIDE CONTINUOUS STONE EDGING BETWEEN THE BACK OF CURBS SHALL BE LAID FLUSH WITH FINISHED GRADE AND PLACED ON EITHER SIDE OF PLANTING BED AND SHALL UTILIZE AN APPROXIMATELY 9-FT RADIUS FOR LAYOUT.
7. TREE PLANTING SUBSTITUTIONS – THE DEVELOPER MAY SUBSTITUTE TREE SPECIES TO ADD VARIETY AND PROVIDE MORE DISEASE AND PEST RESISTANCE.
   - 7.1. DEVELOPER MAY SUBSTITUTE OVERSTORY TREES WITH THE FOLLOWING:
     - 7.1.1. SKYLINE AND IMPERIAL LOCUST
     - 7.1.2. HOMESTEAD
     - 7.1.3. PATRIOT
     - 7.1.4. PROSPECTOR ELM
   - 7.2. DEVELOPER MAY SUBSTITUTE UNDERSTORY TREES WITH THE FOLLOWING:
     - 7.2.1. THORNLESS COCKSPUR
     - 7.2.2. WINTERKING HAWTHORN
     - 7.2.3. CHANTICLEER
     - 7.2.4. CLEVELAND SELECT
     - 7.2.5. ARISTOCRAT PEAR

40

GLYNN VILLAGE PLAT 8-WARRIOR LN - MEDIAN GROUND COVER PLAN

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 40'
DWG: 13-028-PLANTINGS.DWG
FIELD BOOK:
DESIGNED BY: CJB
CHECKED BY: DJS
SHEET 40 OF 47
DRAWN BY: PJV
DATE: 07/12/13
FILE NO.: 13-028

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Engineering Resource Group, Inc.
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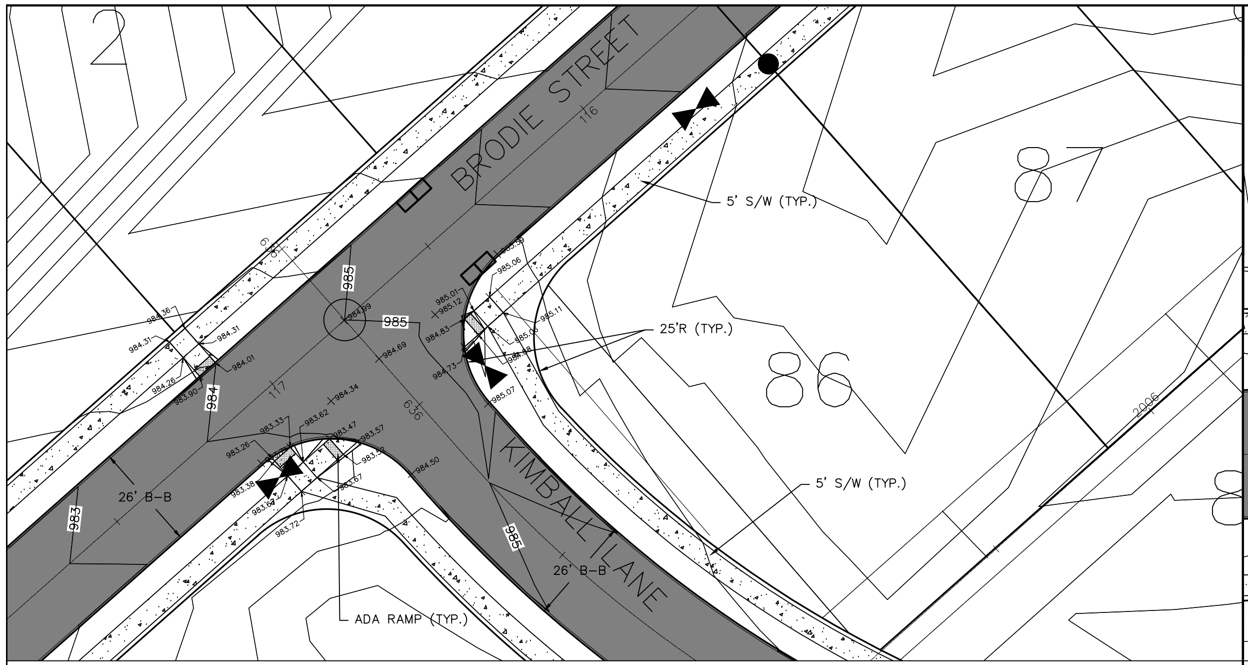
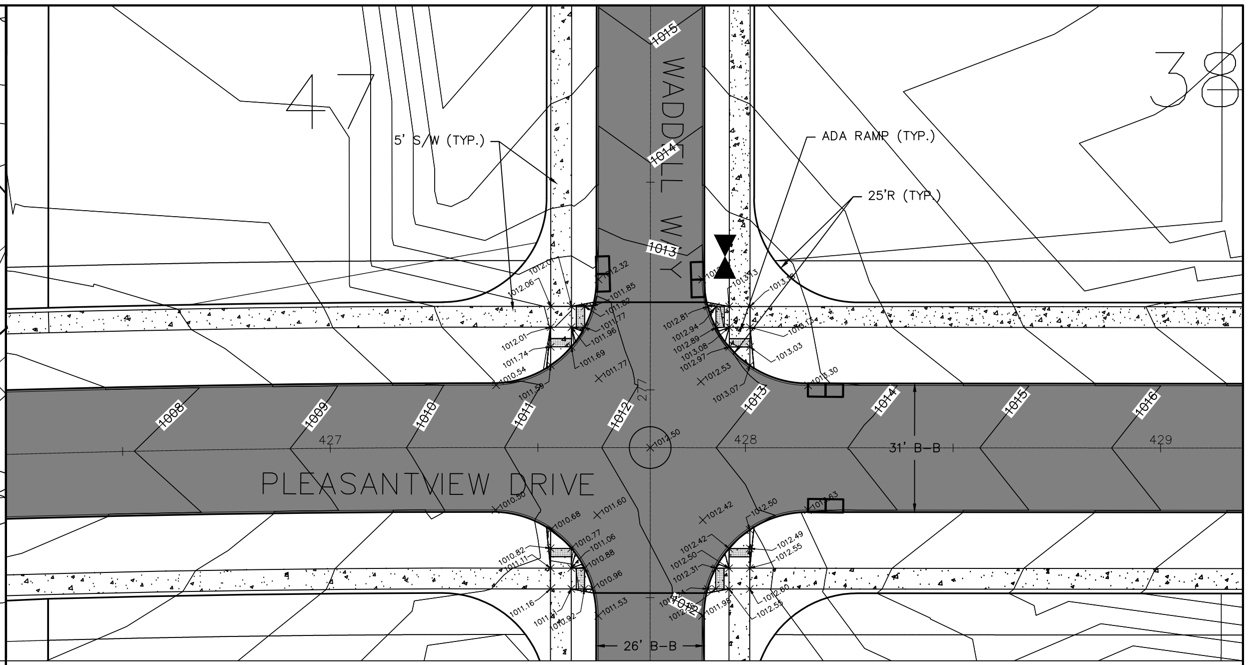
13-028


BRODIE STREET
KIMBALL LANE
5' S/W (TYP.)
25'R (TYP.)
ADA RAMP (TYP.)
26' B-B
985
984
983
86
87
2

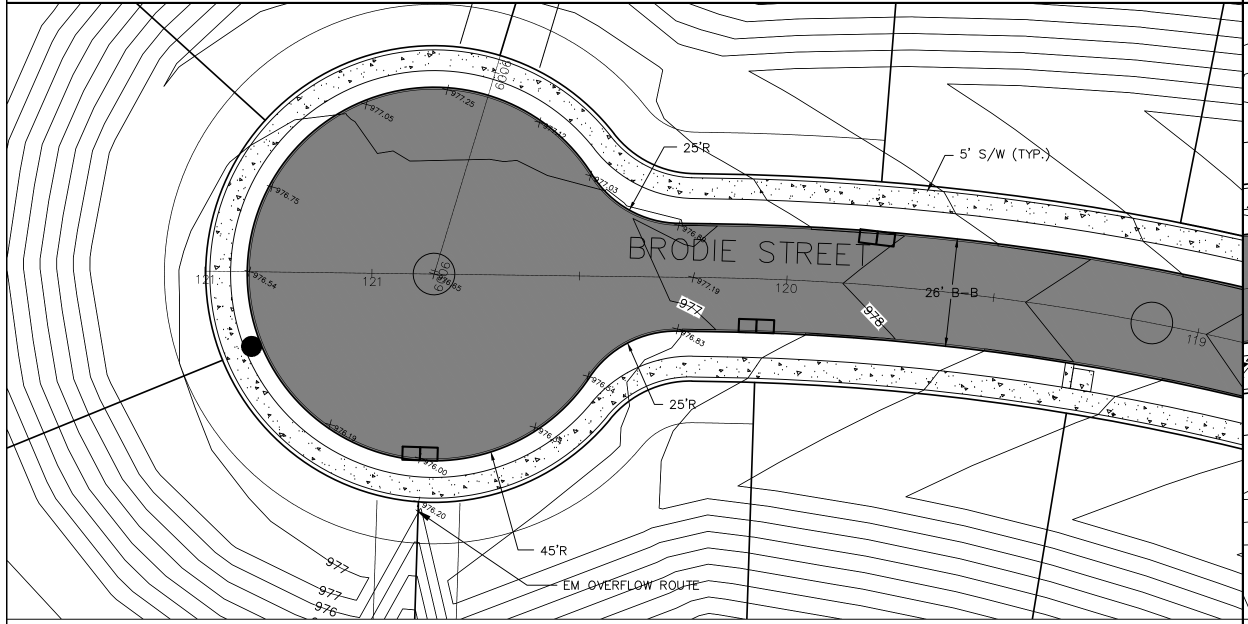
BRODIE / KIMBALL INTERSECTION GRADING

20 0 20 40 60
Scale: 1" = 20'


WADDELL WAY
PLEASANTVIEW DRIVE
5' S/W (TYP.)
ADA RAMP (TYP.)
25'R (TYP.)
31' B-B
26' B-B
427
428
429
47
38
1008
1009
1010
1011
1012
1013
1014
1015
1016

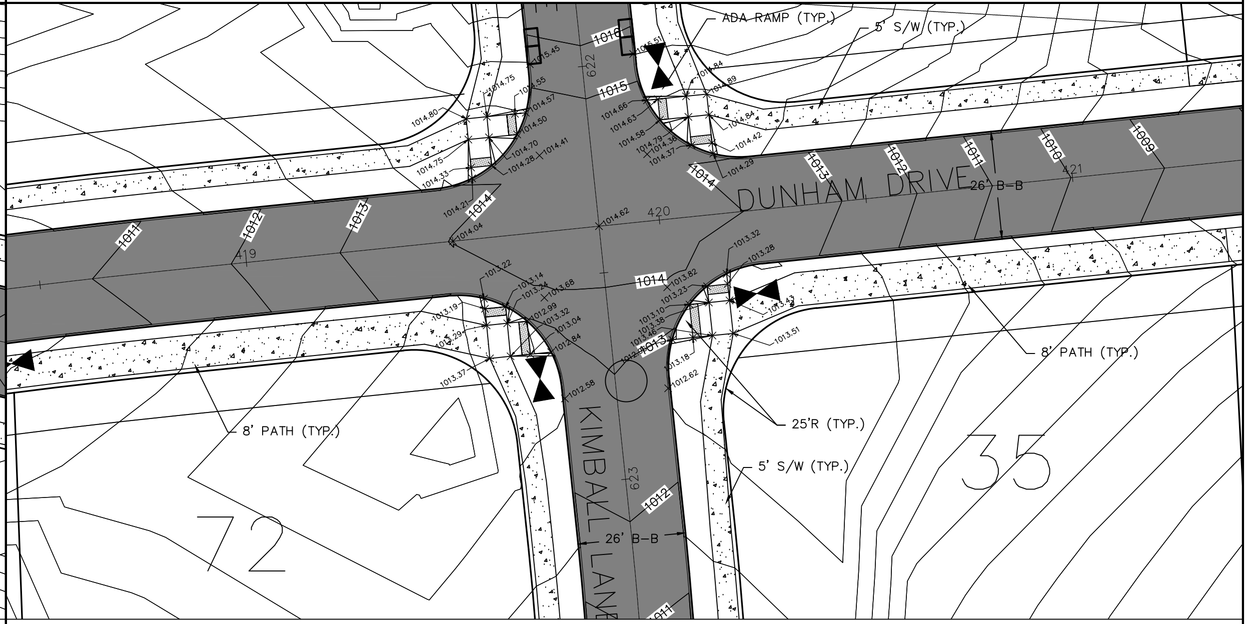
PLEASANTVIEW / WADDELL INTERSECTION GRADING

20 0 20 40 60
Scale: 1" = 20'


BRODIE STREET
25'R
5' S/W (TYP.)
26' B-B
45'R
EM OVERFLOW ROUTE
121
120
119
976
977
978

BRODIE CUL-DE-SAC GRADING

20 0 20 40 60
Scale: 1" = 20'


DUNHAM DRIVE
KIMBALL LANE
ADA RAMP (TYP.)
5' S/W (TYP.)
8' PATH (TYP.)
25'R (TYP.)
26' B-B
419
420
421
35
72
1009
1010
1011
1012
1013
1014
1015

DUNHAM / KIMBALL INTERSECTION GRADING

20 0 20 40 60
Scale: 1" = 20'

GLYNN VILLAGE PLAT 8 - DETAILS

NO.	REVISION	DATE	BY

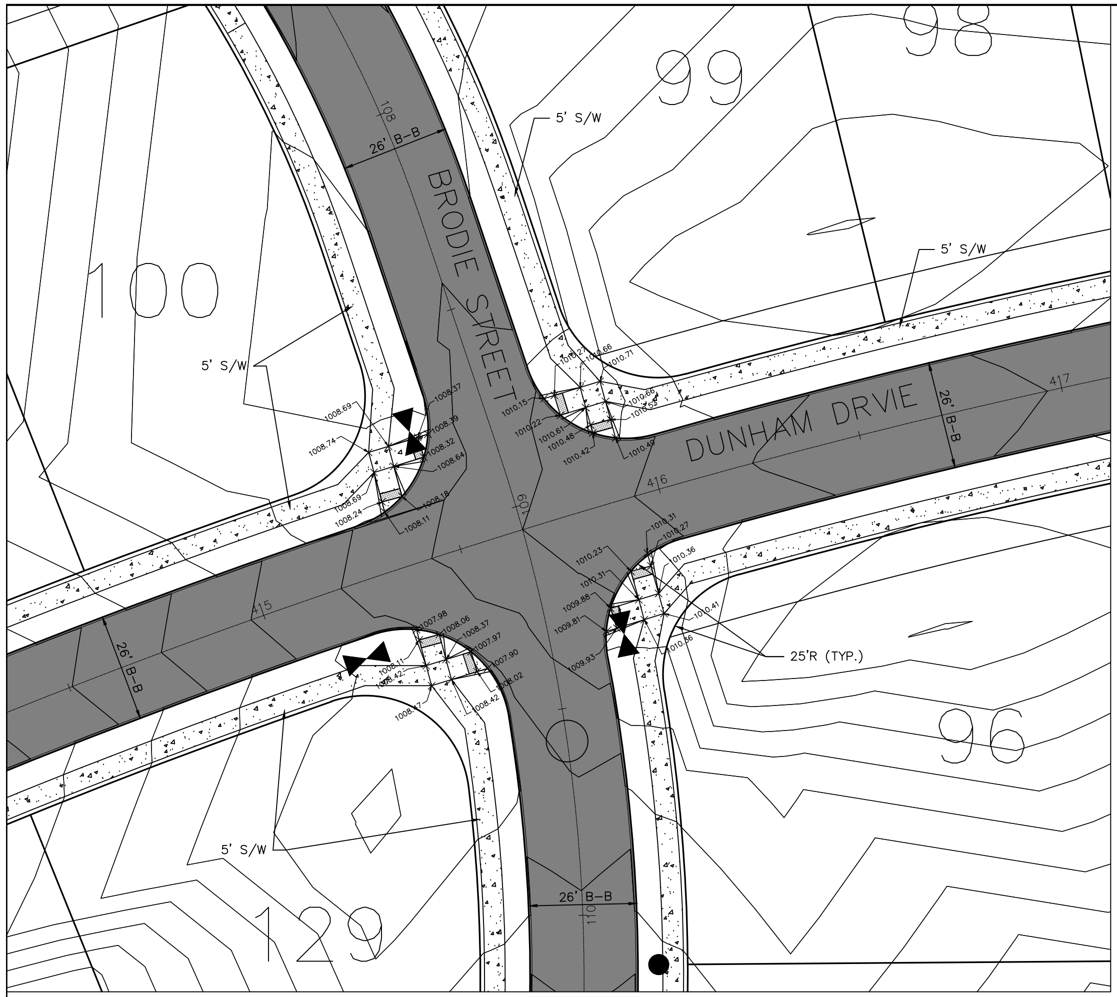
FOR:

LOCATION:

SCALE:	AS SHOWN	DESIGNED BY:	CJB	DRAWN BY:	PJV
DWG:	13-028-DTL.DWG	CHECKED BY:	DJS	DATE:	07/12/13
FIELD BOOK:		SHEET 41 OF 47		FILE NO.:	13-028

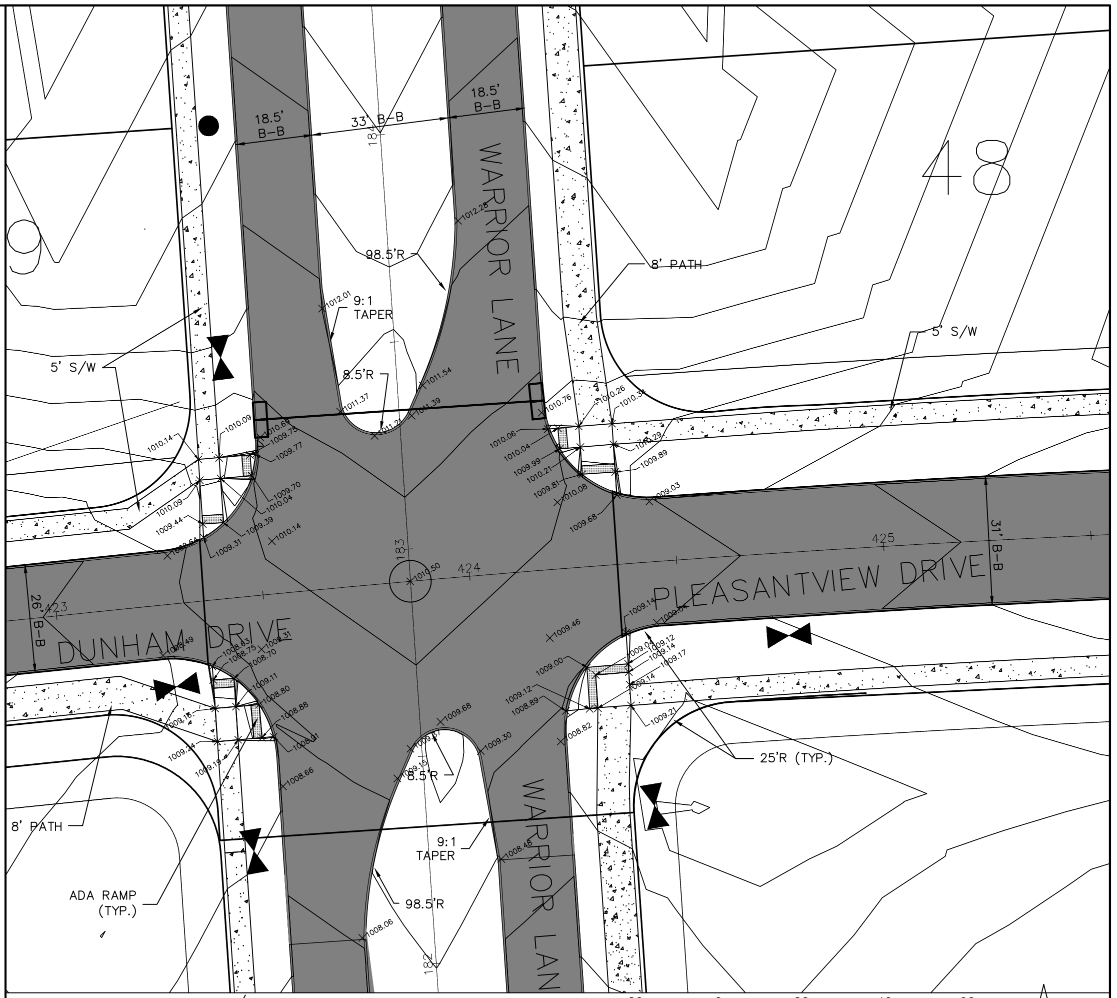
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

13-028


BRODIE STREET
DUNHAM DRVIE
26' B-B
26' B-B
26' B-B
26' B-B
5' S/W
5' S/W
5' S/W
5' S/W
25'R (TYP.)
100
99
98
96
129
415
416
417

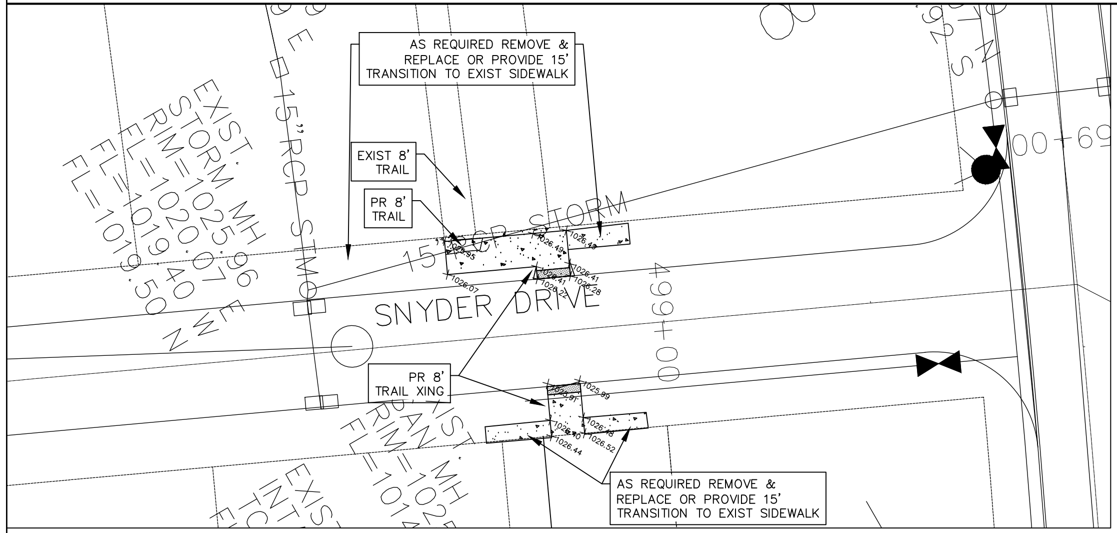
BRODIE/ DUNHAM INTERSECTION GRADING

20 0 20 40 60
Scale: 1" = 20'


WARRIOR LANE
WARRIOR LANE
DUNHAM DRIVE
PLEASANTVIEW DRIVE
18.5' B-B
33' B-B
18.5' B-B
31' B-B
26' B-B
98.5'R
9:1 TAPER
8.5'R
8.5'R
9:1 TAPER
98.5'R
8' PATH
5' S/W
5' S/W
8' PATH
ADA RAMP (TYP.)
25'R (TYP.)
48
423
424
425

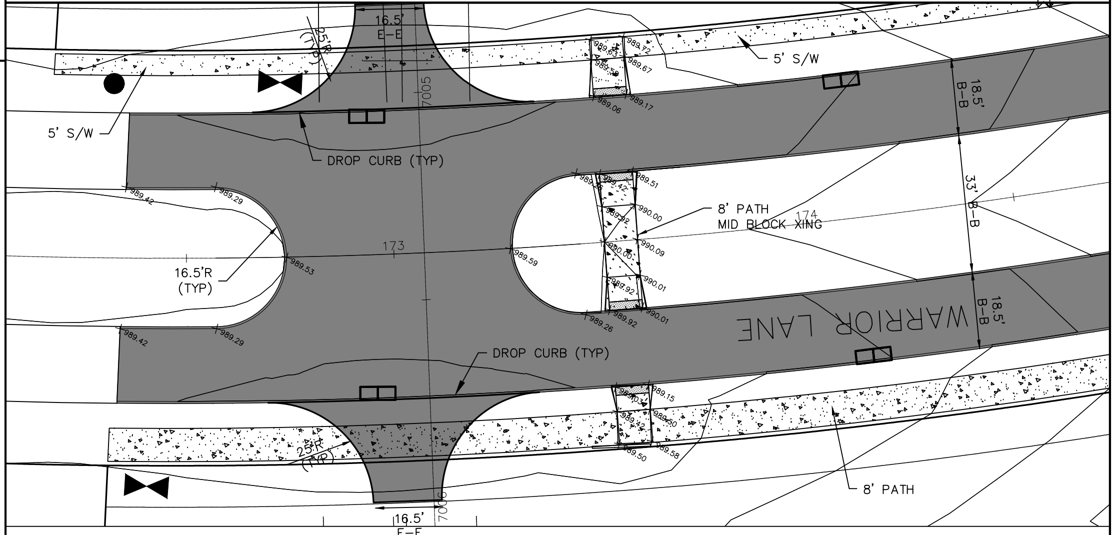
WARRIOR/ DUNHAM INTERSECTION GRADING

20 0 20 40 60
Scale: 1" = 20'


AS REQUIRED REMOVE & REPLACE OR PROVIDE 15' TRANSITION TO EXIST SIDEWALK
EXIST 8' TRAIL
PR 8' TRAIL
PR 8' TRAIL XING
AS REQUIRED REMOVE & REPLACE OR PROVIDE 15' TRANSITION TO EXIST SIDEWALK
SNYDER DRIVE
15" RCP STORM
EXIST. STORM MH
RIM=1025.96
FL=1020.07 E
FL=1019.40 W
FL=1019.50 N
499+00
500+69

SNYDER DRIVE TRAIL CROSSING

20 0 20 40 60
Scale: 1" = 20'


16.5' E-E
5' S/W
5' S/W
DROP CURB (TYP)
18.5' B-B
33' B-B
18.5' B-B
8' PATH MID BLOCK XING
16.5'R (TYP)
173
174
WARRIOR LANE
DROP CURB (TYP)
8' PATH
16.5' E-E

STA 173+00 WARRIOR LANE MEDIAN OPENING GRADING

20 0 20 40 60
Scale: 1" = 20'

42

GLYNN VILLAGE PLAT 8 - DETAILS 2

SCALE: AS SHOWN	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-DTL.DWG	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 42 OF 47	FILE NO.: 13-028

LOCATION:

NO.	REVISION	DATE	BY	FOR:

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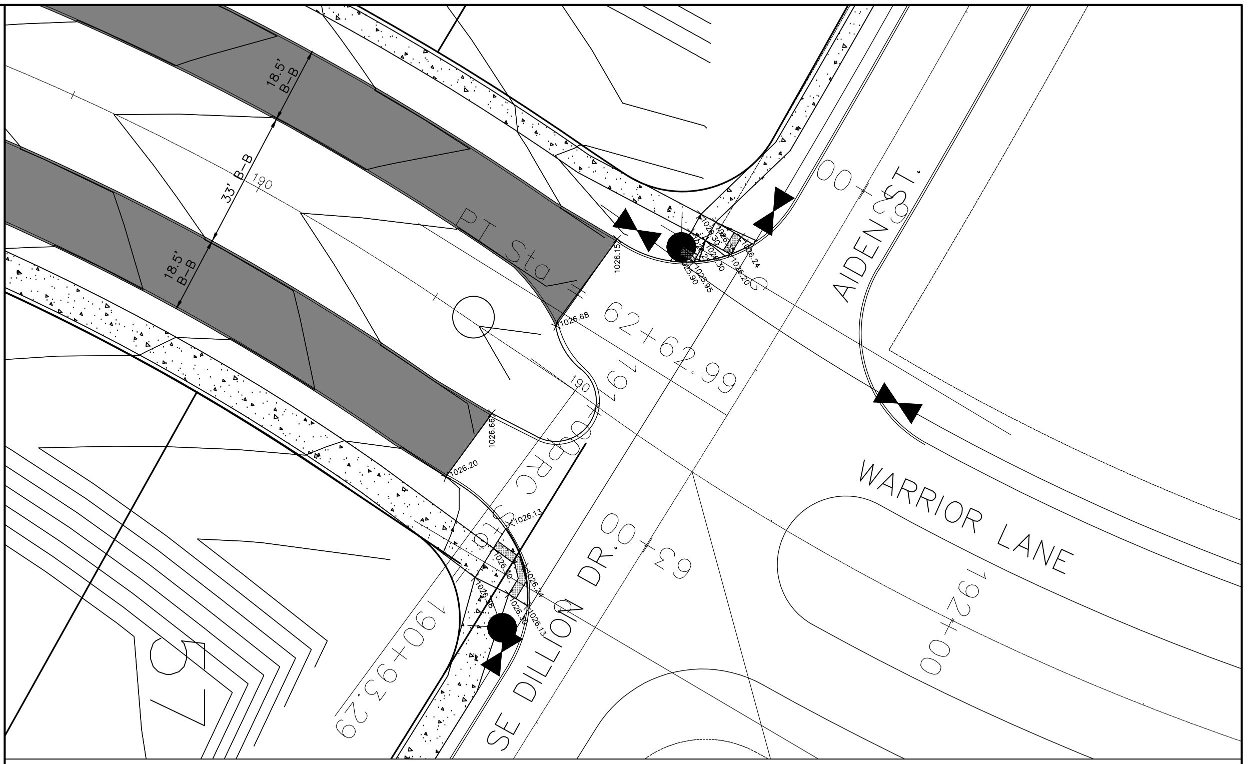
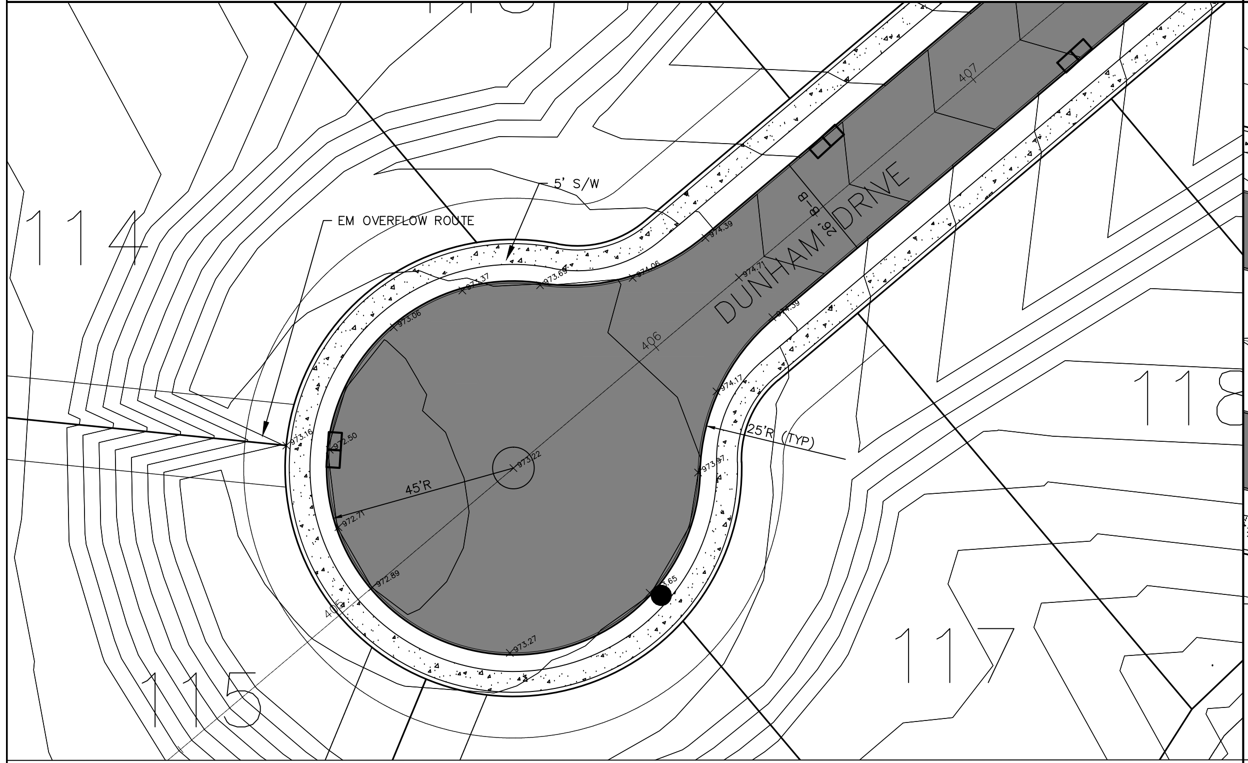
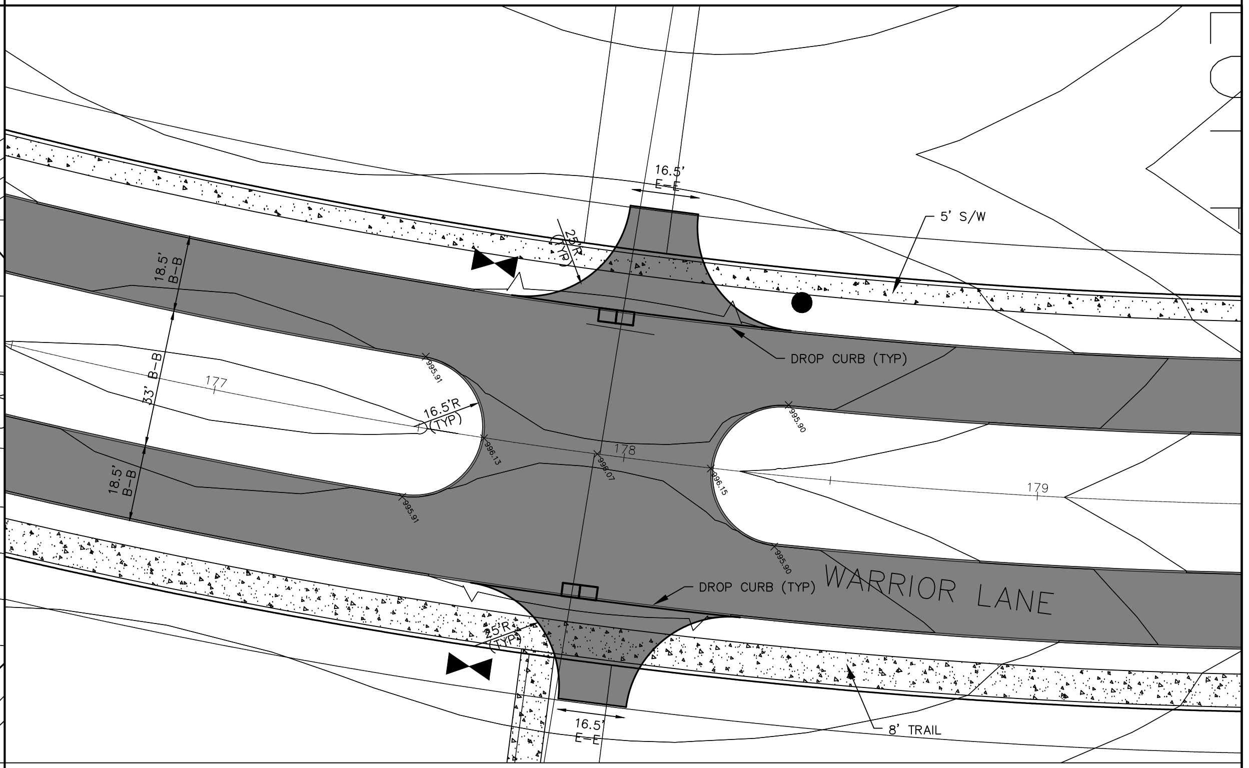
13-028


18.5' B-B
33' B-B
18.5' B-B
190
PT Sta 62+62.99
AIDEN ST.
6+00
WARRIOR LANE
192+00
191
PRC
SE DILLION DR.
63+00
190+93.29
20 0 20 40 60
Scale: 1" = 20'

STA 191+00 WARRIOR LANE GRADING


114
115
117
118
EM OVERFLOW ROUTE
5' S/W
DUNHAM DRIVE
28' B-B
406
407
45'R
25'R (TYP)
20 0 20 40 60
Scale: 1" = 20'

DUNHAM CUL-DE-SAC GRADING


16.5' E-E
25'R
5' S/W
18.5' B-B
33' B-B
18.5' B-B
177
178
179
16.5'R (TYP)
DROP CURB (TYP)
DROP CURB (TYP)
WARRIOR LANE
25'R
16.5' E-E
8' TRAIL
20 0 20 40 60
Scale: 1" = 20'

STA 178+00 WARRIOR LANE MEDIAN OPENING GRADING

GLYNN VILLAGE PLAT 8 - DETAILS 3

LOCATION:	SCALE: AS SHOWN	DESIGNED BY: CJB	DRAWN BY: PJV
	DWG: 13-028-DTL.DWG	CHECKED BY: DJS	DATE: 07/12/13
	FIELD BOOK:	SHEET 44 OF 47	FILE NO.: 13-028

NO.	REVISION	DATE	BY	FOR:

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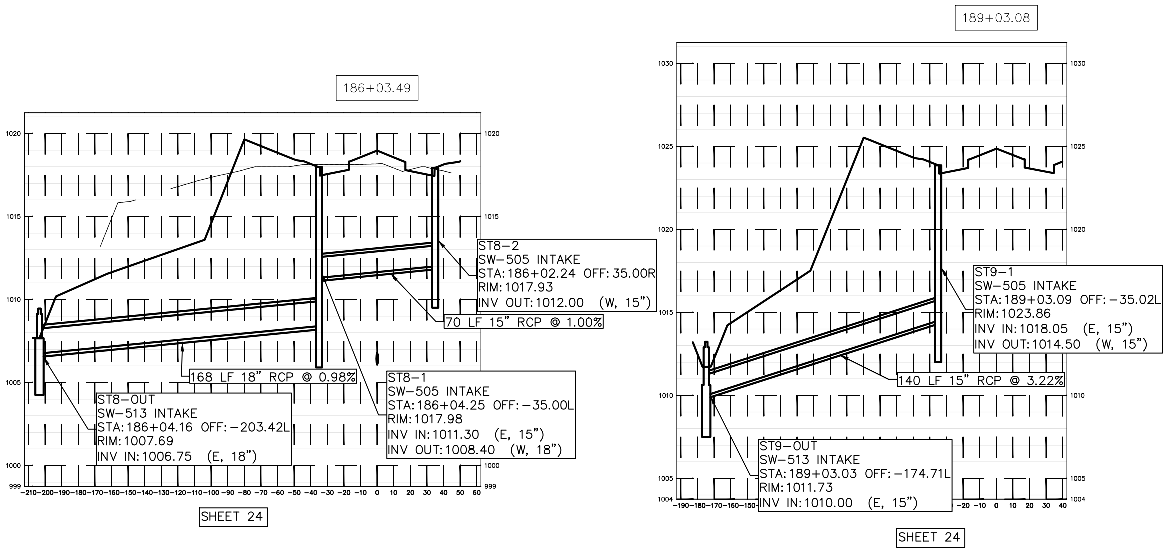
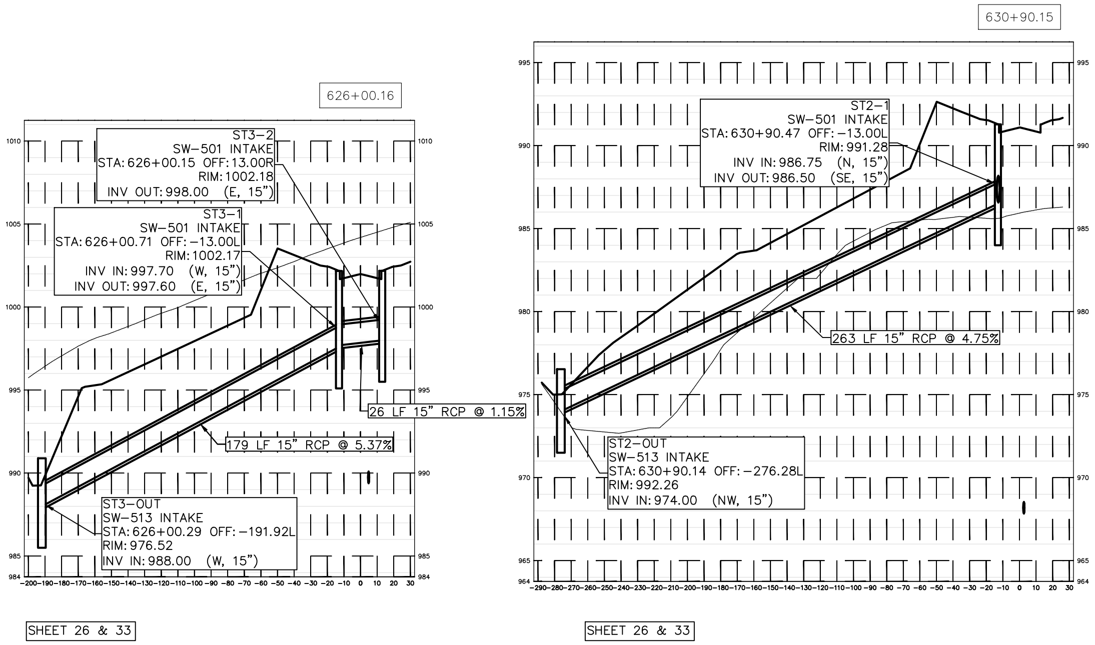
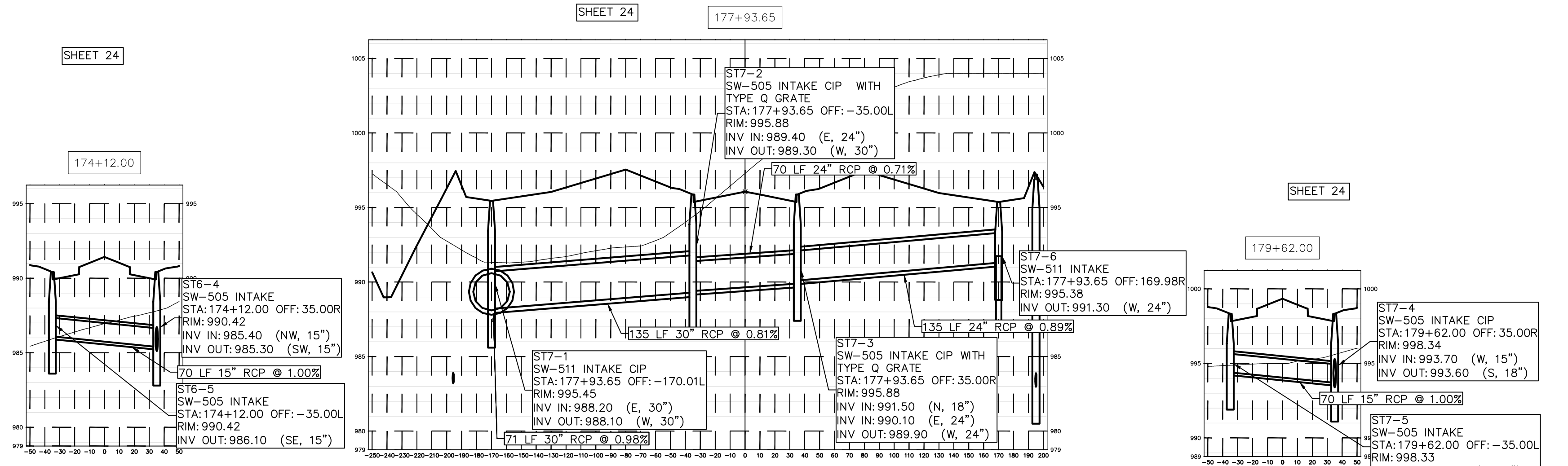
13-028


186+03.49
1020
1015
1010
1005
1000
999
-210 -200 -190 -180 -170 -160 -150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60
ST8-2
SW-505 INTAKE
STA: 186+02.24 OFF: 35.00R
RIM: 1017.93
INV OUT: 1012.00 (W, 15")
70 LF 15" RCP @ 1.00%
168 LF 18" RCP @ 0.98%
ST8-1
SW-505 INTAKE
STA: 186+04.25 OFF: -35.00L
RIM: 1017.98
INV IN: 1011.30 (E, 15")
INV OUT: 1008.40 (W, 18")
ST8-OUT
SW-513 INTAKE
STA: 186+04.16 OFF: -203.42L
RIM: 1007.69
INV IN: 1006.75 (E, 18")
SHEET 24
189+03.08
1030
1025
1020
1015
1010
1005
1004
-190 -180 -170 -160 -150 -20 -10 0 10 20 30 40
ST9-1
SW-505 INTAKE
STA: 189+03.09 OFF: -35.02L
RIM: 1023.86
INV IN: 1018.05 (E, 15")
INV OUT: 1014.50 (W, 15")
140 LF 15" RCP @ 3.22%
ST9-OUT
SW-513 INTAKE
STA: 189+03.03 OFF: -174.71L
RIM: 1011.73
INV IN: 1010.00 (E, 15")
SHEET 24

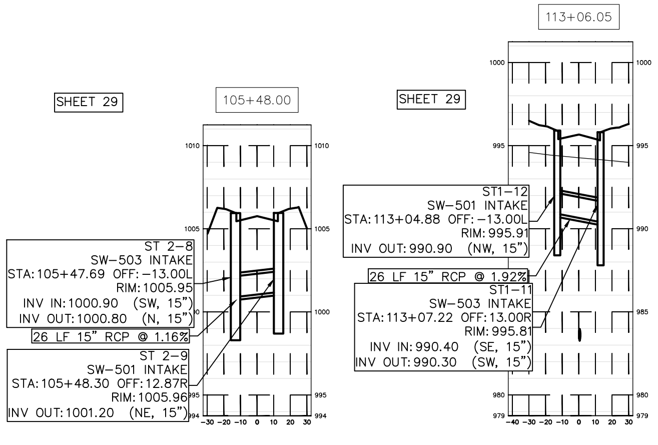
WARRIOR LANE STORM SECTIONS


626+00.16
1010
1005
1000
995
990
985
984
-200 -190 -180 -170 -160 -150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30
ST3-2
SW-501 INTAKE
STA: 626+00.15 OFF: 13.00R
RIM: 1002.18
INV OUT: 998.00 (E, 15")
ST3-1
SW-501 INTAKE
STA: 626+00.71 OFF: -13.00L
RIM: 1002.17
INV IN: 997.70 (W, 15")
INV OUT: 997.60 (E, 15")
26 LF 15" RCP @ 1.15%
179 LF 15" RCP @ 5.37%
ST3-OUT
SW-513 INTAKE
STA: 626+00.29 OFF: -191.92L
RIM: 976.52
INV IN: 988.00 (W, 15")
SHEET 26 & 33
630+90.15
995
990
985
980
975
970
965
964
-290 -280 -270 -260 -250 -240 -230 -220 -210 -200 -190 -180 -170 -160 -150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30
ST2-1
SW-501 INTAKE
STA: 630+90.47 OFF: -13.00L
RIM: 991.28
INV IN: 986.75 (N, 15")
INV OUT: 986.50 (SE, 15")
263 LF 15" RCP @ 4.75%
ST2-OUT
SW-513 INTAKE
STA: 630+90.14 OFF: -276.28L
RIM: 992.26
INV IN: 974.00 (NW, 15")
SHEET 26 & 33

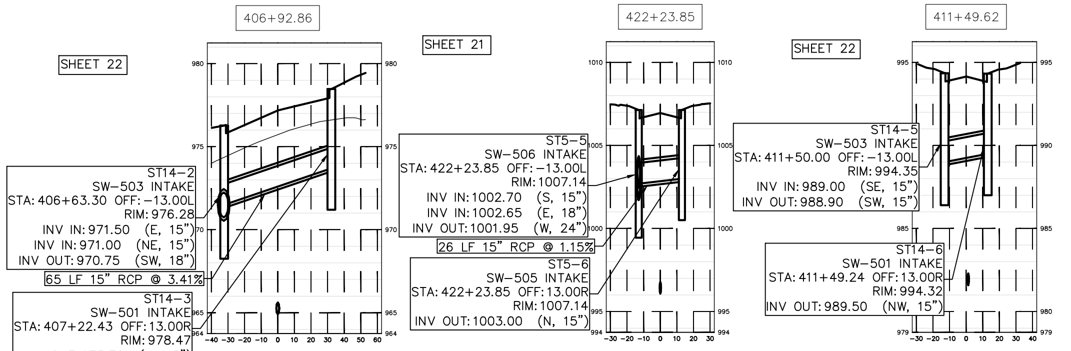
KIMBALL STORM SECTIONS


SHEET 24
174+12.00
995
990
985
980
979
-50 -40 -30 -20 -10 0 10 20 30 40 50
ST6-4
SW-505 INTAKE
STA: 174+12.00 OFF: 35.00R
RIM: 990.42
INV IN: 985.40 (NW, 15")
INV OUT: 985.30 (SW, 15")
70 LF 15" RCP @ 1.00%
ST6-5
SW-505 INTAKE
STA: 174+12.00 OFF: -35.00L
RIM: 990.42
INV OUT: 986.10 (SE, 15")
SHEET 24
177+93.65
1005
1000
995
990
985
980
979
-250 -240 -230 -220 -210 -200 -190 -180 -170 -160 -150 -140 -130 -120 -110 -100 -90 -80 -70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200
ST7-2
SW-505 INTAKE CIP WITH
TYPE Q GRATE
STA: 177+93.65 OFF: -35.00L
RIM: 995.88
INV IN: 989.40 (E, 24")
INV OUT: 989.30 (W, 30")
70 LF 24" RCP @ 0.71%
ST7-6
SW-511 INTAKE
STA: 177+93.65 OFF: 169.98R
RIM: 995.38
INV OUT: 991.30 (W, 24")
135 LF 30" RCP @ 0.81%
135 LF 24" RCP @ 0.89%
ST7-1
SW-511 INTAKE CIP
STA: 177+93.65 OFF: -170.01L
RIM: 995.45
INV IN: 988.20 (E, 30")
INV OUT: 988.10 (W, 30")
71 LF 30" RCP @ 0.98%
ST7-3
SW-505 INTAKE CIP WITH
TYPE Q GRATE
STA: 177+93.65 OFF: 35.00R
RIM: 995.88
INV IN: 991.50 (N, 18")
INV IN: 990.10 (E, 24")
INV OUT: 989.90 (W, 24")
SHEET 24
179+62.00
1000
995
990
989
-50 -40 -30 -20 -10 0 10 20 30 40 50
ST7-4
SW-505 INTAKE CIP
STA: 179+62.00 OFF: 35.00R
RIM: 998.34
INV IN: 993.70 (W, 15")
INV OUT: 993.60 (S, 18")
70 LF 15" RCP @ 1.00%
ST7-5
SW-505 INTAKE
STA: 179+62.00 OFF: -35.00L
RIM: 998.33
INV OUT: 994.40 (E, 15")

WARRIOR LANE STORM SECTIONS


SHEET 29
105+48.00
1010
1005
1000
995
994
-30 -20 -10 0 10 20 30
ST 2-8
SW-503 INTAKE
STA: 105+47.69 OFF: -13.00L
RIM: 1005.95
INV IN: 1000.90 (SW, 15")
INV OUT: 1000.80 (N, 15")
26 LF 15" RCP @ 1.16%
ST 2-9
SW-501 INTAKE
STA: 105+48.30 OFF: 12.87R
RIM: 1005.96
INV OUT: 1001.20 (NE, 15")
SHEET 29
113+06.05
1000
995
990
985
980
979
-40 -30 -20 -10 0 10 20 30
ST1-12
SW-501 INTAKE
STA: 113+04.88 OFF: -13.00L
RIM: 995.91
INV OUT: 990.90 (NW, 15")
26 LF 15" RCP @ 1.92%
ST1-11
SW-503 INTAKE
STA: 113+07.22 OFF: 13.00R
RIM: 995.81
INV IN: 990.40 (SE, 15")
INV OUT: 990.30 (SW, 15")

BRODIE STREET STORM SECTIONS


SHEET 22
406+92.86
980
975
970
965
964
-40 -30 -20 -10 0 10 20 30 40 50 60
ST14-2
SW-503 INTAKE
STA: 406+63.30 OFF: -13.00L
RIM: 976.28
INV IN: 971.50 (E, 15")
INV IN: 971.00 (NE, 15")
INV OUT: 970.75 (SW, 18")
65 LF 15" RCP @ 3.41%
ST14-3
SW-501 INTAKE
STA: 407+22.43 OFF: 13.00R
RIM: 978.47
INV OUT: 973.70 (W, 15")
SHEET 21
422+23.85
1010
1005
1000
995
994
-30 -20 -10 0 10 20 30
ST5-5
SW-506 INTAKE
STA: 422+23.85 OFF: -13.00L
RIM: 1007.14
INV IN: 1002.70 (S, 15")
INV IN: 1002.65 (E, 18")
INV OUT: 1001.95 (W, 24")
26 LF 15" RCP @ 1.15%
ST5-6
SW-505 INTAKE
STA: 422+23.85 OFF: 13.00R
RIM: 1007.14
INV OUT: 1003.00 (N, 15")
SHEET 22
411+49.62
995
990
985
980
979
-30 -20 -10 0 10 20 30 40
ST14-5
SW-503 INTAKE
STA: 411+50.00 OFF: -13.00L
RIM: 994.35
INV IN: 989.00 (SE, 15")
INV OUT: 988.90 (SW, 15")
ST14-6
SW-501 INTAKE
STA: 411+49.24 OFF: 13.00R
RIM: 994.32
INV OUT: 989.50 (NW, 15")

DUNHAM DRIVE STORM SECTIONS

GLYNN VILLAGE PLAT 8 - DETAILS 4

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE:	AS SHOWN	DESIGNED BY:	CJB	DRAWN BY:	PJV
DWG:	13-028-DTL.DWG	CHECKED BY:	DJS	DATE:	07/12/13
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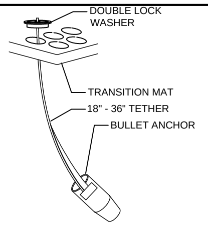
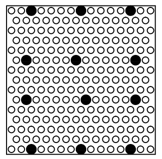
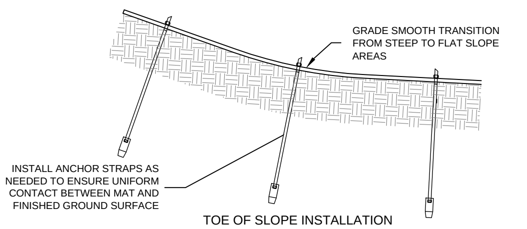

DOUBLE LOCK WASHER
TRANSITION MAT
18" - 36" TETHER
BULLET ANCHOR

PIPE DIAMETER	DISCHARGE (CFS)	SCOURSTOP WIDTHxLENGTH
12"	8	4' x 4'
24"	30	4' x 8'
36"	75	8' x 12'
48"	100	12' x 16'
60"	150	12' x 20'
72"+		SEE DETAILS

SHORELINE PROTECTION:



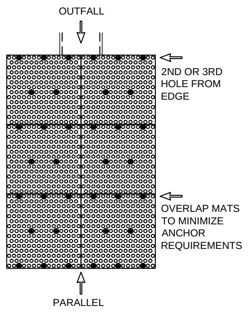
ANCHOR CONFIGURATION FOR SLOPES STEEPER THAN 5:1; TRANSITION MATS OVER A MIN. 8 OZ. GEOTEXTILE

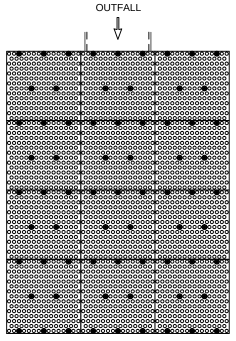

GRADE SMOOTH TRANSITION FROM STEEP TO FLAT SLOPE AREAS
INSTALL ANCHOR STRAPS AS NEEDED TO ENSURE UNIFORM CONTACT BETWEEN MAT AND FINISHED GROUND SURFACE

TOE OF SLOPE INSTALLATION

SCALE 1" = 1'

ADD EXTRA ANCHORS IF NECESSARY TO ENSURE CONSISTENT CONTACT WITH SOIL, OR IMPROVE SOIL SURFACE SMOOTHNESS.


OUTFALL
2ND OR 3RD HOLE FROM EDGE
OVERLAP MATS TO MINIMIZE ANCHOR REQUIREMENTS
PARALLEL



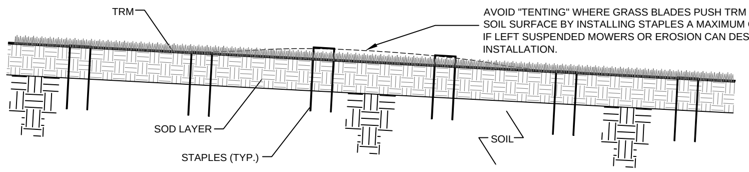
POSITION ANCHORS TO SECURE SCOURSTOP MATS FLUSH WITH SOIL SURFACE. MINIMIZE GAPS OR BRIDGING.

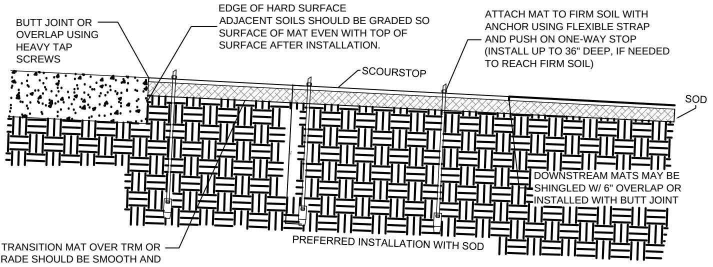
ANCHOR REQUIREMENTS*:
FIRST ROW OF SCOURSTOP MATS
- MINIMUM OF 8 ANCHORS
SECOND ROW OF SCOURSTOP MATS
- MINIMUM OF 5 ANCHORS

*TO ACHIEVE CONSISTENT CONTACT WITH THE SOIL, EXCEED THE MINIMUM ANCHOR REQUIREMENT AT INSTALLATION.

TURF REINFORCEMENT MAT INSTALLED OVER SOD:
- TRIM INSTALLED SOD TO 1" HEIGHT. INSTALL TRM OVER INSTALLED SOD. STRETCH TRM TIGHTLY ACROSS INSTALLATION SURFACE AREA. INSTALL STAPLES AT MAX. OF 18" APART (450 MM). IRRIGATE SOD AS NEEDED AFTER INSTALLATION TO AID IN ESTABLISHMENT OF VEGETATION.
- SOD DOWNSTREAM OF MAT INSTALLATION AREA DOES NOT NEED TRIMMED BEFORE MAT INSTALLATION.
- TO HOLD SOD IN PLACE DOWNSTREAM OF TM'S, INSTALL WIRE STAPLES AT 8" 0.C. WITHIN 4" OF UPSTREAM EDGE OF SOD, AND AT A RATE OF ONE STAPLE PER SQUARE FOOT STAGGERED THROUGHOUT.

==> FOR DESIGN INFORMATION, REFER TO "DESIGN METHODOLOGY" DOCUMENT AVAILABLE AT www.scourstop.com.


TRM
AVOID "TENTING" WHERE GRASS BLADES PUSH TRM AWAY FROM SOIL SURFACE BY INSTALLING STAPLES A MAXIMUM OF 18" APART. IF LEFT SUSPENDED MOWERS OR EROSION CAN DESTROY THE INSTALLATION.
SOD LAYER
SOIL
STAPLES (TYP.)


BUTT JOINT OR OVERLAP USING HEAVY TAP SCREWS
EDGE OF HARD SURFACE
ADJACENT SOILS SHOULD BE GRADED SO SURFACE OF MAT EVEN WITH TOP OF SURFACE AFTER INSTALLATION.
ATTACH MAT TO FIRM SOIL WITH ANCHOR USING FLEXIBLE STRAP AND PUSH ON ONE-WAY STOP (INSTALL UP TO 36" DEEP, IF NEEDED TO REACH FIRM SOIL)
SCOURSTOP
SOD
DOWNSTREAM MATS MAY BE SHINGLED W/ 6" OVERLAP OR INSTALLED WITH BUTT JOINT
INSTALL TRANSITION MAT OVER TRM OR SOD. GRADE SHOULD BE SMOOTH AND UNIFORM. GRADE OUT ANY RILLS FOR CONSISTENT SOIL STRUCTURE PRIOR TO INSTALLATION.

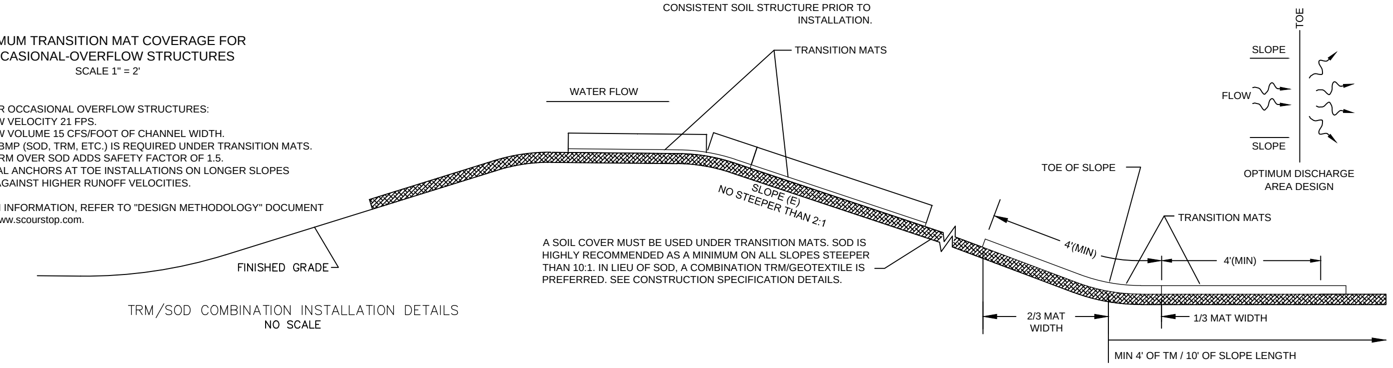
PREFERRED INSTALLATION WITH SOD

MINIMUM TRANSITION MAT COVERAGE FOR OCCASIONAL-OVERFLOW STRUCTURES

SCALE 1" = 2'

LIMITATIONS FOR OCCASIONAL OVERFLOW STRUCTURES:
- MAXIMUM FLOW VELOCITY 21 FPS.
- MAXIMUM FLOW VOLUME 15 CFS/FOOT OF CHANNEL WIDTH.
- A SOIL COVER BMP (SOD, TRM, ETC.) IS REQUIRED UNDER TRANSITION MATS.
- ADDITION OF TRM OVER SOD ADDS SAFETY FACTOR OF 1.5.
- ADD ADDITIONAL ANCHORS AT TOE INSTALLATIONS ON LONGER SLOPES TO PROTECT AGAINST HIGHER RUNOFF VELOCITIES.

==> FOR DESIGN INFORMATION, REFER TO "DESIGN METHODOLOGY" DOCUMENT AVAILABLE AT www.scourstop.com.

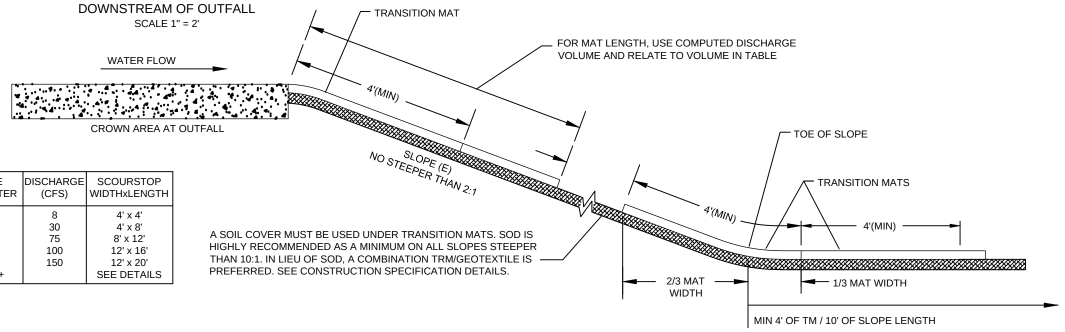

TRANSITION MATS
WATER FLOW
SLOPE (E)
NO STEEPER THAN 2:1
FINISHED GRADE
A SOIL COVER MUST BE USED UNDER TRANSITION MATS. SOD IS HIGHLY RECOMMENDED AS A MINIMUM ON ALL SLOPES STEEPER THAN 10:1. IN LIEU OF SOD, A COMBINATION TRM/GEOTEXTILE IS PREFERRED. SEE CONSTRUCTION SPECIFICATION DETAILS.
TOE
SLOPE
FLOW
SLOPE
OPTIMUM DISCHARGE AREA DESIGN
TOE OF SLOPE
TRANSITION MATS
4'(MIN)
4'(MIN)
2/3 MAT WIDTH
1/3 MAT WIDTH
MIN 4' OF TM / 10' OF SLOPE LENGTH

TRM/SOD COMBINATION INSTALLATION DETAILS

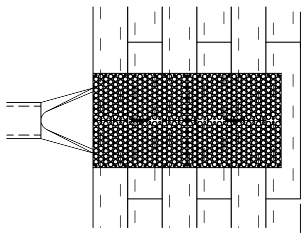
NO SCALE

MINIMUM TRANSITION MAT COVERAGE FOR SLOPES DOWNSTREAM OF OUTFALL

SCALE 1" = 2'


TRANSITION MAT
FOR MAT LENGTH, USE COMPUTED DISCHARGE VOLUME AND RELATE TO VOLUME IN TABLE
WATER FLOW
4'(MIN)
CROWN AREA AT OUTFALL
SLOPE (E)
NO STEEPER THAN 2:1
TOE OF SLOPE
TRANSITION MATS
4'(MIN)
4'(MIN)
A SOIL COVER MUST BE USED UNDER TRANSITION MATS. SOD IS HIGHLY RECOMMENDED AS A MINIMUM ON ALL SLOPES STEEPER THAN 10:1. IN LIEU OF SOD, A COMBINATION TRM/GEOTEXTILE IS PREFERRED. SEE CONSTRUCTION SPECIFICATION DETAILS.
2/3 MAT WIDTH
1/3 MAT WIDTH
MIN 4' OF TM / 10' OF SLOPE LENGTH

PIPE DIAMETER	DISCHARGE (CFS)	SCOURSTOP WIDTHxLENGTH
12"	8	4' x 4'
24"	30	4' x 8'
36"	75	8' x 12'
48"	100	12' x 16'
60"	150	12' x 20'
72"+		SEE DETAILS



STAPLE SOD EVERY 10 INCHES WITHIN 4 INCHES OF LEADING EDGE AND RANDOMLY THROUGHOUT

STAPLED SOD DETAILS

NO SCALE

NOT TO SCALE

SCOURSTOP TRANSITION MAT APPLICATIONS

1. INTENDED AS AN BIOTECHNICAL REPLACEMENT FOR RIP-RAP. THIS IS AN ENGINEERED SYSTEM. UTILIZE PROPER DESIGN PRACTICES FOR LONG-TERM EFFECTIVE PERFORMANCE.
2. CAN BE PLACED ON DOWNSTREAM OUTLET SIDE OF CURB CUTS, OVERFLOW STRUCTURES, ENDS OF CONCRETE FLUMES OR PIPE FIXTURES; AS STREAM BANK AND SHORELINE PROTECTION.
3. SCOURSTOP STANDARD SIZE IS 4' X 4' X ½" SHEET WITH MULTIPLE VOIDS FOR VEGETATION GROWTH, PROVIDING SOIL PROTECTION FOR: 1) THE SUSCEPTIBLE, EROSIVE AREA DIRECTLY BELOW OUTFALLS 2) ANY HIGHLY EROSIVE AREA; 3) SHORELINE AND STREAMBANKS.
4. PRIMARY BENEFITS OVER RIP-RAP ARE: UTILIZATION OF VEGETATION, LOWER INSTALLATION COSTS, LOWER LONG TERM MAINTENANCE, AESTHETICALLY PLEASING, AND IMPROVED SAFETY.

PREFERRED INSTALLATION SPECIFICATIONS

1. READ AND UNDERSTAND INSTALLATION GUIDE.
2. FOR EACH INSTALLATION, COMPLETE INSTALLER'S CHECKLIST AND PROVIDE TO GENERAL CONTRACTOR FOR PAYMENT.
3. FOR VEGETATION, INSTALL APPROPRIATE SOIL UNDER THESE INSTALLATIONS TO IMPROVE THE GROWING ENVIRONMENT.
4. MINIMUM APPLICATION IS 4 FOOT LENGTH. UTILIZE DESIGNER CHECKLIST FOR PROPER DESIGN AND INSTALLATION MODE.
5. REMOVE AND REPLACE SATURATED SOILS FOR A SOLID BASE. USE SUB-SURFACE DRAIN FOR TRICKLE FLOWS.
6. CAN BE INSTALLED AS A BUTT JOINT, OR PERMANENTLY ATTACHED TO THE HARD SURFACE.
7. AVOID EROSIVE IMPACT CONDITIONS AT SCOUR AREA.
8. ENSURE LOCATION HAS ADEQUATE SUNLIGHT FOR HEALTHY VEGETATION, OTHERWISE UTILIZE THE HP-TRM INSTALLATION.
9. SCOURSTOP SHALL NOT BE INSTALLED OVER BARE SOIL. OPTIONAL SOIL COVERS ARE SOD, TRM'S, AND GEOTEXTILES. SOIL COVERS MAY NEED TO EXTEND DOWNSTREAM OF SCOURSTOP INSTALLATION IN AREAS OF HIGHER VELOCITY OR SHEAR (CHECK WITH DESIGNER PRIOR TO INSTALLATION).
10. WHERE EXCESS CONCRETE FROM THE END SECTION FOOTINGS EXTENDS BEYOND THE END SECTION, INSERT A FILLER MATERIAL (LIKE A HIGH-PERFORMANCE TRM OR HEAVY GEOTEXTILE) BETWEEN THE TRANSITION MAT AND THE EXCESS CONCRETE SURFACE TO FILL THE AREA TOO SHALLOW (<4 INCHES) TO SUPPORT SOIL AND VEGETATION GROWTH.
11. CONSTRUCT DOWNSTREAM CHANNEL AT LEAST TWICE THE WIDTH OF THE OUTLET. CONSTRUCT WIDTH AS FLAT AND LEVEL AS POSSIBLE FOR PROPER DRAINAGE.
12. SOIL ANCHORS SHALL BE DRIVEN AT LEAST 18" DEEP, OR DEEPER AS NEEDED INTO FIRM SOIL. USE FLEXIBLE STRAPPING AND DOUBLE-LOCK WASHERS TO ATTACH THE TRANSITION MAT INSTALLATION INTO THE SOIL. FIRMLY PULL STRAP TO SNUG THE TRANSITION MAT DOWN AGAINST THE SOIL WITH THE WASHER AND ONE-WAY STOP. A 3-2-3 ANCHOR CONFIGURATION IS THE MINIMUM ANCHOR QUANTITY.
13. PER NPDES PHASE II, THE DOWNSTREAM CHANNEL (D.C.) MUST BE PROTECTED FOR ITS ENTIRE LENGTH. THIS D.C. IS PART OF THE TRANSITION MAT ENGINEERED SYSTEM. USE SOD TO PROTECT THE D.C. WHEN POSSIBLE. SEE DETAILS PAGE FOR PROPER INSTALLATION. TURF REINFORCEMENT MATS (TRM'S) ARE ACCEPTABLE. TRM'S HAVE LOW PERFORMANCE RATINGS WHEN UNVEGETATED - DESIGN APPROPRIATELY.
14. ON AREAS OF SLOPE TRANSITION, UTILIZE ANCHORS TO MAINTAIN SOIL CONTACT ACROSS ENTIRE MAT LENGTH. ANCHORS CAN BE USED TO PROVIDE UP TO 14" OF DEFLECTION AT CENTER OF MAT FROM ENDS.
15. TYPE "A" INSTALLATION INSTRUCTIONS
(DESIGN OUTLET VELOCITY < 21 FPS AND DOWNSTREAM SCOUR AREA FLATTER THAN 10%, OR 10:1)
SOD IS THE SOIL COVER PRACTICE UNDER THE TRANSITION MATS - WIDTH AND LENGTH OF TM'S SPECIFIED BY DESIGNER. SOD ELIMINATES GERMINATION RISK, AND IS GREAT PROTECTION FOR SOIL.
16. TYPE "B" INSTALLATION INSTRUCTIONS
(DESIGN OUTLET VELOCITY < 21 FPS AND DOWNSTREAM SCOUR AREA STEEPER THAN 10%, OR 10:1)
SOD TRIMMED AND COVERED BY AN OPEN-WEAVE TRM IS THE SOIL COVER PRACTICE UNDER THE TRANSITION MATS - WIDTH AND LENGTH OF TM'S TO BE SPECIFIED BY DESIGNER. ADDITIONAL TRANSITION MATS ARE REQUIRED AT THE TOE OF THE SLOPE. SEE DETAILS.
- TRIM INSTALLED SOD TO 1-2" HEIGHT. INSTALL TRM OVER INSTALLED SOD AND STRETCH TIGHTLY BEFORE STAPLING. IRRIGATE SOD AS NEEDED AFTER INSTALLATION TO AID IN ESTABLISHMENT OF VEGETATION.
- ANCHOR SOD/TRM COMBINATION WITH 8-INCH STAPLES A MAXIMUM OF 18 INCHES APART.
17. TYPE "C" INSTALLATION INSTRUCTIONS
(DESIGN OUTLET VELOCITY < 8 FPS AND DOWNSTREAM SCOUR AREA FLATTER THAN 4%, OR 25:1)
A TRM IS THE SOIL COVER PRACTICE UNDER THE TRANSITION MATS. THE WIDTH AND LENGTH OF THE TM'S TO BE SPECIFIED BY DESIGNER. TRM'S OVER BARE SOIL HAVE LOW-PERFORMANCE UNTIL VEGETATED.
18. TYPE "D" INSTALLATION INSTRUCTIONS
(DESIGN APPLICATIONS: ALL OUTFALLS; LOW SUNLIGHT AREAS; SEMI-ARID REGIONS; WHERE VEGETATION MAY BE SLOW TO ESTABLISH.)
A 3 OZ. GEOTEXTILE COVERED WITH A HIGH-PERFORMANCE TRM IS THE PREFERRED SOIL COVER PRACTICE. THE WIDTH AND LENGTH OF THE TM'S TO BE SPECIFIED BY DESIGNER. THE GEOTEXTILE PROTECTS THE SOIL FROM EROSION, AND THE HP-TRM PROVIDES LONG TERM STABILITY. THIS INSTALLATION CAN BE SOIL-FILLED AND SEEDED, OR LEFT TO FILL-IN WITH SEDIMENTS AND NATIVE VEGETATION. MECHANICALLY-BONDED FIBER MATRIX (MBFM) HYDROMULCH HAS ALSO SHOWN TO BE AN EFFECTIVE FILLER/SEED BASE. FOR INSTALLATIONS ON OUTFALLS > 60 INCHES WITH HIGH VELOCITY FLOWS, AN ADDITIONAL LAYER OF TM'S ADJACENT TO THE OUTFALL PROVIDES GREATER PROTECTION.
19. TYPE "E" INSTALLATION INSTRUCTIONS
(DESIGN APPLICATIONS: STREAMBANK AND SHORELINE; MAX. 1.5H:1V SLOPE.)
A 8-12 OZ. GEOTEXTILE IS THE SOIL COVER PRACTICE UNDER THE TRANSITION MATS WHICH ARE GENERALLY INSTALLED 3 FT BELOW AND MINIMUM 8 INCHES ABOVE THE NORMAL WATER LEVEL. TYPES A, B, AND D MAY BE UTILIZED ABOVE THE GEOTEXTILE/TM PROTECTED AREA. REQUIRES DIFFERENT ANCHOR CONFIGURATION AND DEPTH.
==> FOR DESIGN INFORMATION, REFER TO "DESIGN METHODOLOGY" DOCUMENT AVAILABLE AT www.scourstop.com.

SEE GRADING SHEETS 3 TO 7 FOR SIZES AND LOCATIONS

45

GLYNN VILLAGE PLAT 8 - DETAILS 5

NO.	REVISION	DATE	BY

FOR:
LOCATION:

SCALE:	AS SHOWN	DESIGNED BY:	CJB	DRAWN BY:	PJV
DWG:	13-028-DTL.DWG	CHECKED BY:	DJS	DATE:	07/12/13
FIELD BOOK:		SHEET 45 OF 47		FILE NO.:	13-028

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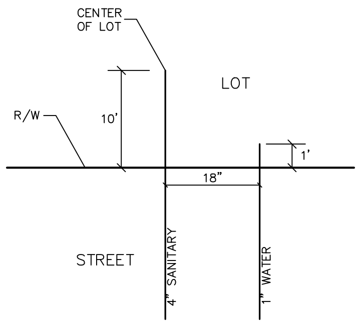
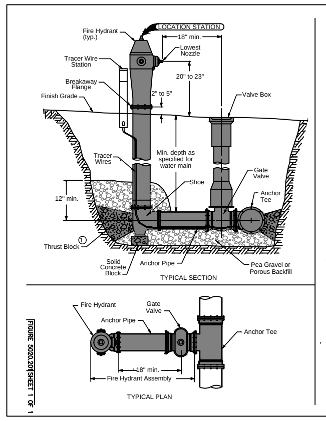
13-028

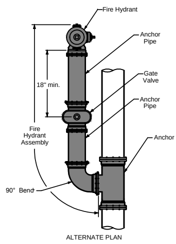

CENTER OF LOT
LOT
R/W
10'
1'
18"
STREET
4" SANITARY
1" WATER

TYPICAL SERVICE LOCATIONS

NOT TO SCALE

NOTES:
1. INSTALL 6' STEEL POST AT WATER BOX (BLUE PAINT) BURIED 3' DEEP.
2. INSTALL 2"x4" FROM SAN SERVICE CAP TO TWO FEET ABOVE GRADE (GREEN PAINT)
3. WHEN REQUIRED, ONE 6' STEEL POST AT STORM SERVICE (GREEN PAINT) BURIED 3' DEEP.


LOCATION STATION
Fire Hydrant (typ.)
18" min.
Lowest Nozzle
Tracer Wire Station
20" to 23"
Breakaway Flange
2" to 5"
Finish Grade
Valve Box
Tracer Wires
Min. depth as specified for water main
Shoe
Gate Valve
Anchor Tee
12" min.
Thrust Block ①
Solid Concrete Block
Anchor Pipe
Pea Gravel or Porous Backfill
TYPICAL SECTION
Fire Hydrant
Gate Valve
Anchor Pipe
Anchor Tee
18" min.
Fire Hydrant Assembly
TYPICAL PLAN
FIGURE 5020.201 SHEET 1 OF 1


Fire Hydrant
Anchor Pipe
Gate Valve
Anchor Pipe
Anchor Tee
18" min.
Fire Hydrant Assembly
90° Bend
ALTERNATE PLAN

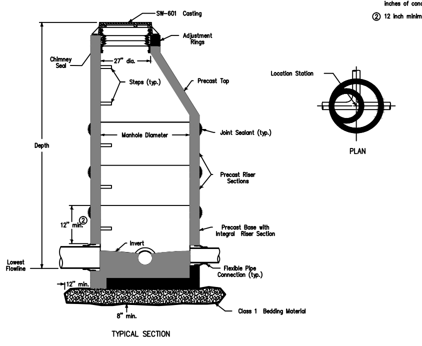
Use ductile iron pipe with restrained mechanical joints for fire hydrant assembly and anchor tee.

① Do not cover drain holes or tracer wire.

NOTES:
1. THE HYDRANTS SHALL USE STORZ FITTINGS.
2. COORDINATE FITTINGS AND HYDRANT TYPE WITH CITY.
3. UTILIZE CITY STANDARD LOCATOR BOX.

SUDAS | Iowa Department of Transportation | REVISION 1 04-19-11
FIGURE 5020.201 | STANDARDROADPLAN | WM-201 | SHEET 1 of 1
REVISIONS: Deleted Note 1 and references, renumbered Note 2, and deleted "typ" after "Tracer Wire Station".
SUDAS DIRECTOR | DESIGN METHODS ENGINEER

FIRE HYDRANT ASSEMBLY


SW-601 Casting
Adjustment Rings
Chimney Seal
27" dia.
Steps (typ.)
Precast Top
Location Station
Manhole Diameter
Joint Sealant (typ.)
Depth
Precast Riser Sections
12" min. ②
Precast Base with Integral Riser Section
Invert
Lowest Flowline
Flexible Pipe Connection (typ.)
12" min.
8" min.
Class 1 Bedding Material
PLAN
TYPICAL SECTION

① For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.

② 12 inch minimum riser height above all pipe openings.

Manhole Diameter (inches)	Maximum Pipe Diameter ① (inches) for 2 Pipes At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

SUDAS | Iowa Department of Transportation | REVISION NEW 04-21-09
FIGURE 6010.301 | STANDARDROADPLAN | SW-301 | SHEET 1 of 1
REVISIONS: New. Replaces SUDAS Type "A" Manhole. Will replace RA-51

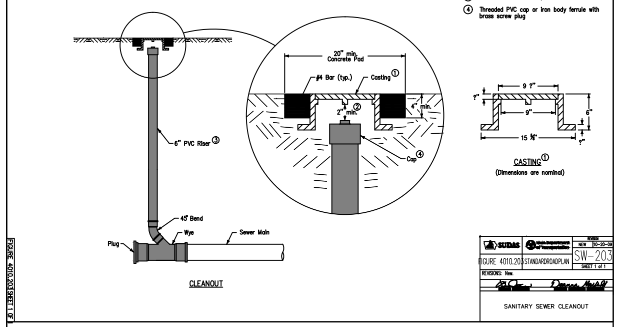
CIRCULAR SANITARY SEWER MANHOLE

① Standard duty casting complying with AASHTO M 306. Mark lid with "Sanitary" or "Sanitary C.O."

② Do not allow casting to bear on top of riser pipe.

③ 6-inch PVC Service Pipe

④ Threaded PVC cap or iron body ferrule with brass screw plug


20" min. Concrete Pad
#4 Bar (typ.)
Casting ①
2" min. ②
4" min.
Cap ④
6" PVC Riser ③
45° Bend
Wye
Sewer Main
Plug
9 ?"
?"
9"
6"
15 5/8"
?"
FIGURE 4010.203 SHEET 1 OF 1

CLEANOUT

CASTING①
(Dimensions are nominal)

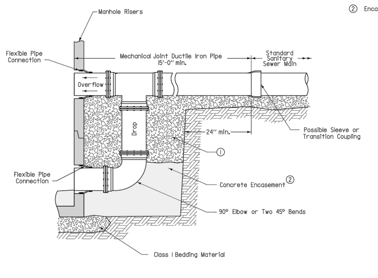
SUDAS | Iowa Department of Transportation | REVISION NEW 10-20-09
FIGURE 4010.203 | STANDARDROADPLAN | SW-203 | SHEET 1 of 1
REVISIONS: New.
Deanna Maifield

SANITARY SEWER CLEANOUT

Construct drop and overflow from ductile iron pipe of same diameter specified for sewer main. Provide mechanical joints for all ductile iron pipe and fittings.

① Place Class I bedding material, CLSM, flowable mortar, or concrete from top of elbow to bottom of sewer main.

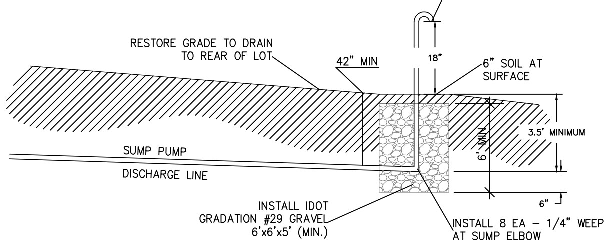
② Encase elbow in concrete. 12 inches minimum on all sides.


Manhole Risers
Flexible Pipe Connection
Mechanical Joint Ductile Iron Pipe 15'-0" min.
Standard Sanitary Sewer Main
Overflow
Drop
24" min.
Possible Sleeve or Transition Coupling
①
Concrete Encasement ②
Flexible Pipe Connection
90° Elbow or Two 45° Bends
Class I Bedding Material
FIGURE 6010.307 SHEET 1 OF 1

SUDAS | Iowa Department of Transportation | REVISION NEW 04-21-09
FIGURE 6010.307 | STANDARD ROAD PLAN | SW-307 | SHEET 1 of 1
REVISIONS: New. Replaces SUDAS Figure 6020.6A and 6020.6B. Will replace RA-52.
Deanna Maifield
SUDAS DIRECTOR | DESIGN METHODS ENGINEER

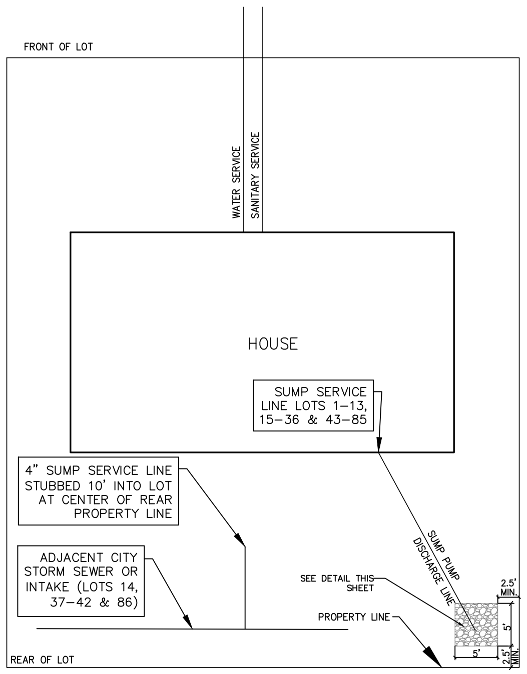
DROP CONNECTION FOR SANITARY SEWER MANHOLE

NOTE:
ALL LOTS EXCEPT 37-42
SHALL USE THIS DETAIL.


LEAVE OUTLET 18" ABOVE GRADE
RESTORE GRADE TO DRAIN TO REAR OF LOT
42" MIN
18"
6" SOIL AT SURFACE
3.5' MINIMUM
6' MIN
6"
SUMP PUMP
DISCHARGE LINE
INSTALL IDOT GRADATION #29 GRAVEL 6'x6'x5' (MIN.)
INSTALL 8 EA – 1/4" WEEP HOLES AT SUMP ELBOW

TYPICAL LOT SUMP SERVICE PROFILE DETAIL

NOT TO SCALE


FRONT OF LOT
WATER SERVICE
SANITARY SERVICE
HOUSE
SEE DETAIL THIS SHEET
PROPERTY LINE
SUMP PUMP DISCHARGE LINE
2.5' MIN.
5'
5'
2.5' MIN.
REAR OF LOT

SUMP SERVICE LINE LOTS 1-13, 15-36 & 43-85

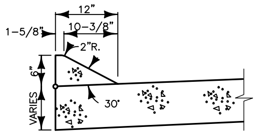
4" SUMP SERVICE LINE STUBBED 10' INTO LOT AT CENTER OF REAR PROPERTY LINE

ADJACENT CITY STORM SEWER OR INTAKE (LOTS 14, 37-42 & 86)

NOTE: SUMP PITS TO BE INSTALLED BY INDIVIDUAL HOMEBUILDER. PIT SHALL BE LOCATED A MINIMUM OF 1' OUTSIDE OF ANY REAR OR SIDE YARD EASEMENTS. SUMP PITS SHALL BE LOCATED ON THE LOW SIDE OF THE LOT.

TYPICAL LOT SUMP SERVICE PLAN DETAIL

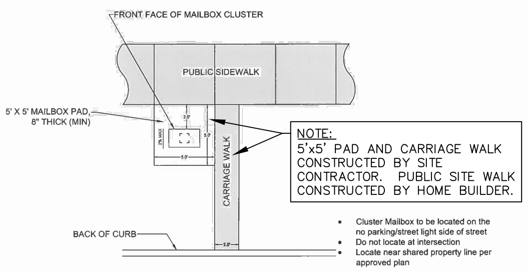
NOT TO SCALE


12"
1-5/8"
10-3/8"
2"R.
6"
VARIES
30°

INTEGRAL 6" SLOPED CURB

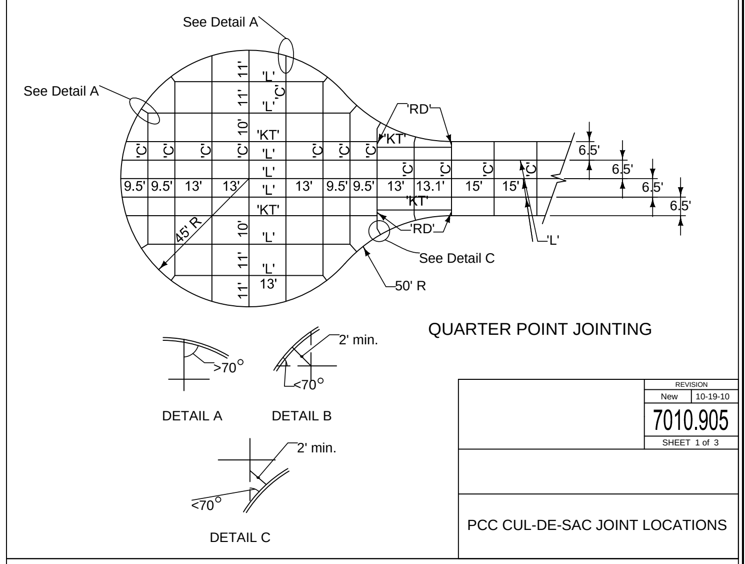
NOT TO SCALE

WAUKEE STANDARD CLUSTER MAILBOX PAD DETAIL


FRONT FACE OF MAILBOX CLUSTER
PUBLIC SIDEWALK
5' X 5' MAILBOX PAD, 8" THICK (MIN)
2.0'
5.0'
2% MAX
5.0'
CARRIAGE WALK
BACK OF CURB
2.0'

NOTE:
5'x5' PAD AND CARRIAGE WALK CONSTRUCTED BY SITE CONTRACTOR. PUBLIC SITE WALK CONSTRUCTED BY HOME BUILDER.

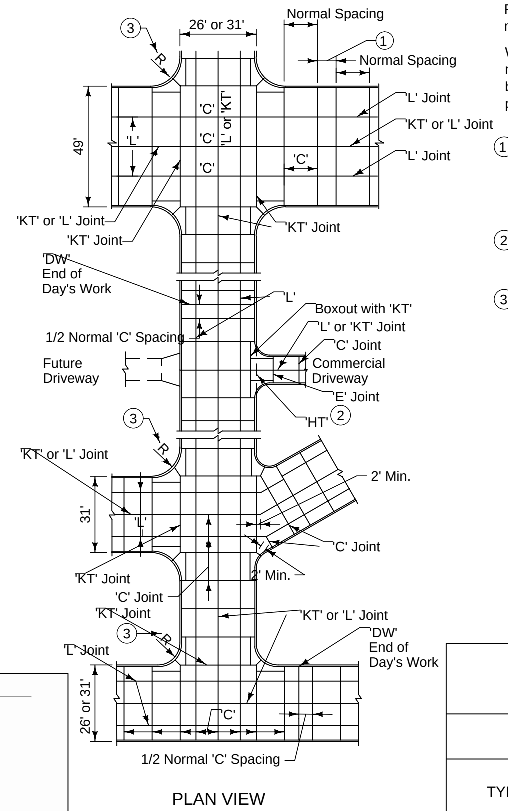
- Cluster Mailbox to be located on the no parking/street light side of street
- Do not locate at intersection
- Locate near shared property line per approved plan


See Detail A
See Detail A
'L'
'L'
'C'
'KT'
'C'
'L'
'RD'
'KT'
11'
11'
10'
10'
11'
11'
9.5'
9.5'
13'
13'
13'
9.5'
9.5'
13'
13.1'
15'
15'
6.5'
6.5'
6.5'
6.5'
'KT'
'RD'
'L'
45' R
See Detail C
50' R
13'
>70°
2' min.
<70°
DETAIL A
DETAIL B
2' min.
<70°
DETAIL C

QUARTER POINT JOINTING

REVISION New 10-19-10
7010.905
SHEET 1 of 3

PCC CUL-DE-SAC JOINT LOCATIONS


③
R
26' or 31'
Normal Spacing
①
Normal Spacing
'L' Joint
'KT' or 'L' Joint
'L' Joint
49'
'L'
'C'
'C'
'C'
'L' or 'KT'
'C'
'KT' or 'L' Joint
'KT' Joint
'KT' Joint
'DW' End of Day's Work
'L'
Boxout with 'KT'
'L' or 'KT' Joint
'C' Joint
1/2 Normal 'C' Spacing
Future Driveway
Commercial Driveway
'E' Joint
'HT' ②
③
R
'KT' or 'L' Joint
2' Min.
31'
'L'
'C' Joint
'KT' Joint
2' Min.
'C' Joint
'KT' Joint
'KT' or 'L' Joint
③
R
'DW' End of Day's Work
'L' Joint
26' or 31'
'C'
1/2 Normal 'C' Spacing

PLAN VIEW

Refer to Figure 7010.901 for maximum transverse joint spacing.

Where new and existing pavements meet, and no existing dowels, tie bars, or keyed joints are present, provide a 'BT', 'RT', or 'RD' joint.

① Shorten jointing pattern on either side of openings to allow joints to intersect round castings and fall at the edges of intake boxouts.

② Where pavement abuts an unimproved street, terminate with a type 'HT' joint.

③ When radius exceed 20 feet, add one additional 'C' joint at radius intersections. (TYP RADIUS 25')

REVISION New 10-19-10
7010.904
SHEET 1 of 1

TYPICAL JOINTING LAYOUT

CLUSTER MAIL BOX (CMU) NOTES:
1. CMU SHALL BE A 16 MAIL BOX AND 2 PARCEL BOX UNIT MOUNTED ON PCC PAD FOR A SINGLE UNIT.
2. CMU SHALL BE LOCATED ON THE SIDE OF THE LOT (PROPERTY) LINE WITH A HIGHER ELEVATION UNLESS OTHERWISE NOTED. DOORS OF CMU SHALL FACE SOUTH OR EAST TO LIMIT IMPACTS OF SNOW AND ICE DURING WINTER WHERE POSSIBLE. MIRROR OR SHIFT TYPICAL LAYOUT AS REQUIRED.
3. ADJUST SLOPE OF ADJACENT 4-FT SIDEWALK PARALLEL TO ROADWAY AT MAIL BOX LOCATIONS TO PROVIDE AN ADA COMPLIANT TURNING AREA AND CMU PAD AT 1.5% DESIGN SLOPE IN ALL DIRECTIONS.
4. DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL CONSTRUCTION REQUIRED FOR PROPER CMU INSTALLATION.

GLYNN VILLAGE PLAT 8 - DETAILS 6

NO.	REVISION	DATE	BY

FOR:
LOCATION:

SCALE: AS SHOWN	DESIGNED BY: CJB	DRAWN BY: PJV
DWG: 13-028-DTL.DWG	CHECKED BY: DJS	DATE: 07/12/13
FIELD BOOK:	SHEET 47 OF 47	FILE NO.: 13-028

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13-028

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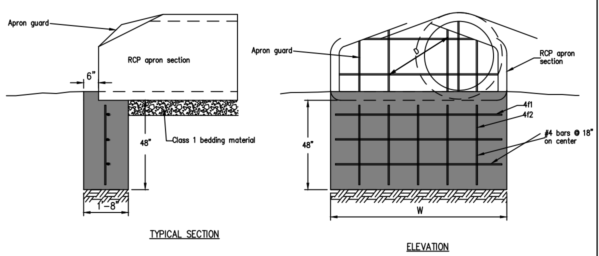

Apron guard
RCP apron section
6"
Class 1 bedding material
48"
1'-8"
Apron guard
D
RCP apron section
4f1
4f2
#4 bars @ 18" on center
48"
W

TYPICAL SECTION

ELEVATION

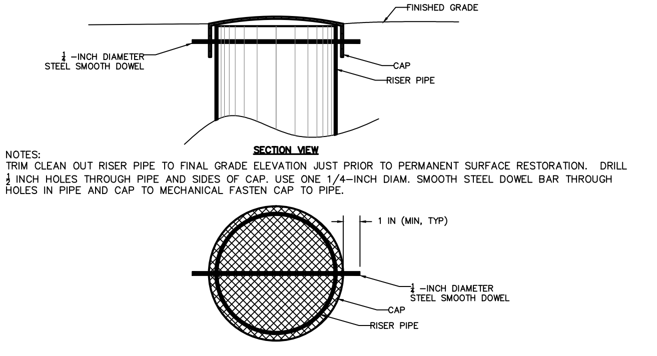
REINFORCING BAR LIST

D	W	Mark	Size	Length	Count
12"	2'-4"	4f1	4	2'-0"	3
		4f2	4	3'-8"	2
15"	2'-10½"	4f1	4	2'-6 ½"	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

D	W	Mark	Size	Length	Count
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

REVISION
NEW 10/21/08
FIGURE 4030.221
SHEET 1 OF 1
RCP APRON SECTION FOOTING

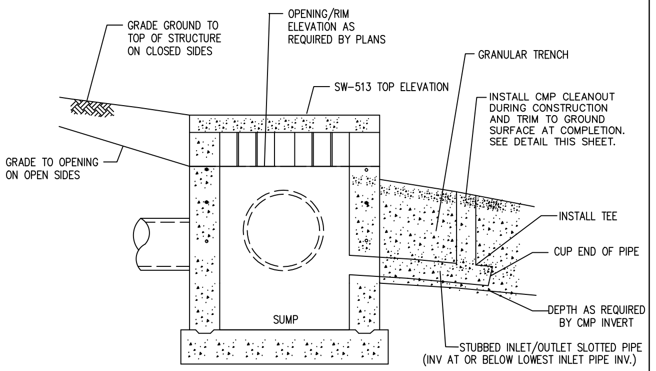
FIGURE 4030.221 SHEET 1 OF 1


FINISHED GRADE
¼ -INCH DIAMETER STEEL SMOOTH DOWEL
CAP
RISER PIPE
SECTION VIEW
1 IN (MIN, TYP)
¼ -INCH DIAMETER STEEL SMOOTH DOWEL
CAP
RISER PIPE
PLAN VIEW

NOTES:
TRIM CLEAN OUT RISER PIPE TO FINAL GRADE ELEVATION JUST PRIOR TO PERMANENT SURFACE RESTORATION. DRILL ½ INCH HOLES THROUGH PIPE AND SIDES OF CAP. USE ONE 1/4-INCH DIAM. SMOOTH STEEL DOWEL BAR THROUGH HOLES IN PIPE AND CAP TO MECHANICAL FASTEN CAP TO PIPE.

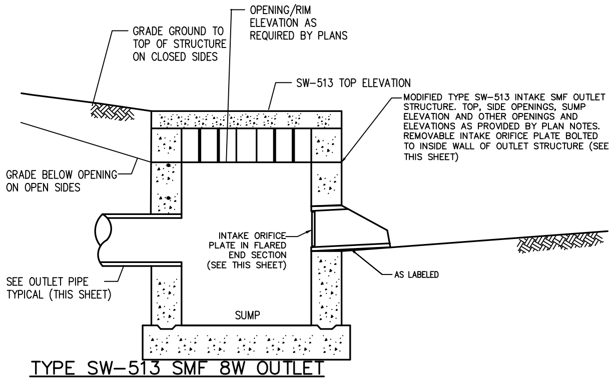
CMP CLEANOUT

NOT TO SCALE


GRADE GROUND TO TOP OF STRUCTURE ON CLOSED SIDES
OPENING/RIM ELEVATION AS REQUIRED BY PLANS
GRANULAR TRENCH
SW-513 TOP ELEVATION
INSTALL CMP CLEANOUT DURING CONSTRUCTION AND TRIM TO GROUND SURFACE AT COMPLETION. SEE DETAIL THIS SHEET.
GRADE TO OPENING ON OPEN SIDES
INSTALL TEE
CUP END OF PIPE
SUMP
DEPTH AS REQUIRED BY CMP INVERT
STUBBED INLET/OUTLET SLOTTED PIPE (INV AT OR BELOW LOWEST INLET PIPE INV.)

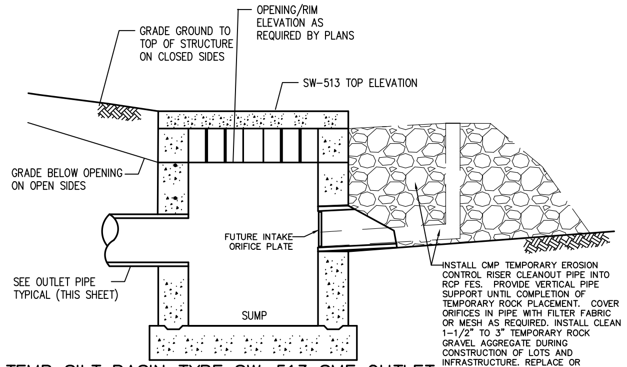
MODIFIED TYPE SW-513 AGGREGATE TRENCH OUTLET (F.K.A. AREA TYPE "M-G" OUTLET)

NOT TO SCALE


GRADE GROUND TO TOP OF STRUCTURE ON CLOSED SIDES
OPENING/RIM ELEVATION AS REQUIRED BY PLANS
SW-513 TOP ELEVATION
MODIFIED TYPE SW-513 INTAKE SMF OUTLET STRUCTURE. TOP, SIDE OPENINGS, SUMP ELEVATION AND OTHER OPENINGS AND ELEVATIONS AS PROVIDED BY PLAN NOTES. REMOVABLE INTAKE ORIFICE PLATE BOLTED TO INSIDE WALL OF OUTLET STRUCTURE (SEE THIS SHEET)
GRADE BELOW OPENING ON OPEN SIDES
INTAKE ORIFICE PLATE IN FLARED END SECTION (SEE THIS SHEET)
AS LABELED
SEE OUTLET PIPE TYPICAL (THIS SHEET)
SUMP

TYPE SW-513 SMF 8W OUTLET (F.K.A. AREA TYPE "M-G" OUTLET)

NOT TO SCALE

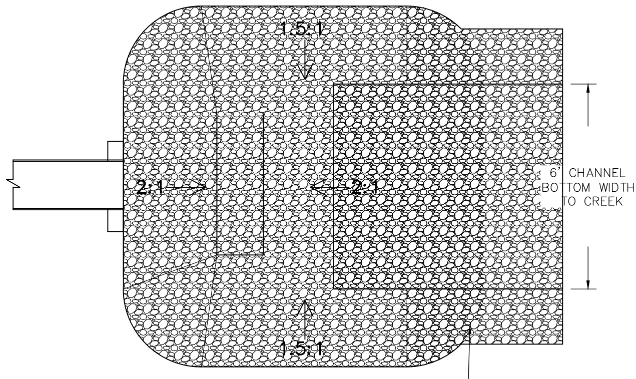

GRADE GROUND TO TOP OF STRUCTURE ON CLOSED SIDES
OPENING/RIM ELEVATION AS REQUIRED BY PLANS
SW-513 TOP ELEVATION
GRADE BELOW OPENING ON OPEN SIDES
FUTURE INTAKE ORIFICE PLATE
SEE OUTLET PIPE TYPICAL (THIS SHEET)
SUMP

INSTALL CMP TEMPORARY EROSION CONTROL RISER CLEANOUT PIPE INTO RCP FES. PROVIDE VERTICAL PIPE SUPPORT UNTIL COMPLETION OF TEMPORARY ROCK PLACEMENT. COVER ORIFICES IN PIPE WITH FILTER FABRIC OR MESH AS REQUIRED. INSTALL CLEAN 1-1/2" TO 3" TEMPORARY ROCK GRAVEL AGGREGATE DURING CONSTRUCTION OF LOTS AND INFRASTRUCTURE. REPLACE OR RESTORE ROCK AND TEMPORARY PIPE AS REQUIRED DURING CONSTRUCTION. REMOVE GRAVEL AND CMP TEMPORARY EROSION CONTROL RISER PIPE AT COMPLETION OF ALL RESIDENTIAL STRUCTURE CONSTRUCTION.

TEMP SILT BASIN TYPE SW-513 SMF OUTLET (F.K.A. AREA TYPE "M-G" OUTLET)

NOT TO SCALE

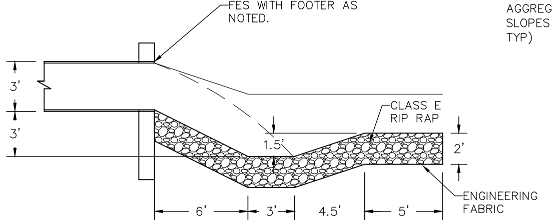
SEE GRADING SHEETS 3 TO 7 FOR SIZES AND LOCATIONS


1.5:1
2:1
2:1
1.5:1
6' CHANNEL BOTTOM WIDTH TO CREEK

SMF 8E PLUNGE BASIN PLAN

NOT TO SCALE

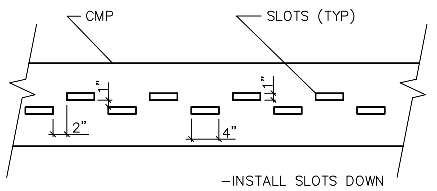
PLACE LARGER AGGREGATE ON SLOPES (1.5:1 MAX, TYP)


FES WITH FOOTER AS NOTED.
3'
3'
CLASS E RIP RAP
1.5'
2'
ENGINEERING FABRIC
6'
3'
4.5'
5'

SMF 8E PLUNGE BASIN SECTION

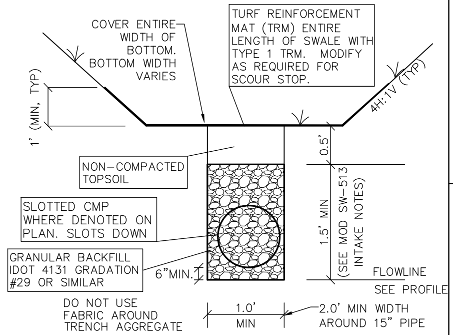
NOT TO SCALE

NOTE:
ALL DISTURBED AREAS SHALL BE COVERED IN RIP RAP.

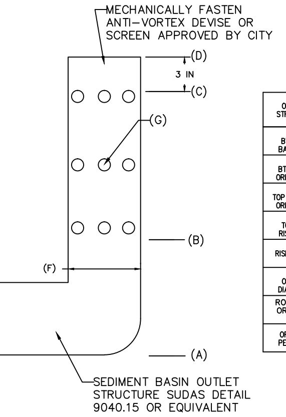

CMP
SLOTS (TYP)
2"
4"
-INSTALL SLOTS DOWN

SLOTTED PIPE DETAIL

NOT TO SCALE


COVER ENTIRE WIDTH OF BOTTOM. BOTTOM WIDTH VARIES
TURF REINFORCEMENT MAT (TRM) ENTIRE LENGTH OF SWALE WITH TYPE 1 TRM. MODIFY AS REQUIRED FOR SCOUR STOP.
1' (MIN, TYP)
4H:1V (TYP)
NON-COMPACTED TOPSOIL
0.5'
SLOTTED CMP WHERE DENOTED ON PLAN. SLOTS DOWN
1.5' MIN
(SEE MOD SW-513 INTAKE NOTES)
GRANULAR BACKFILL IDOT 4131 GRADATION #29 OR SIMILAR
6"MIN.
FLOWLINE
SEE PROFILE
DO NOT USE FABRIC AROUND TRENCH AGGREGATE
1.0' MIN
2.0' MIN WIDTH AROUND 15" PIPE

GRANULAR SUBDRAIN TRENCH TYPICAL SECTION

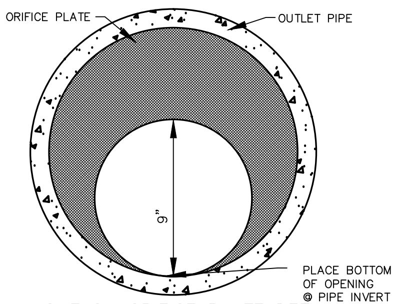

MECHANICALLY FASTEN ANTI-VORTEX DEVISE OR SCREEN APPROVED BY CITY
(D)
3 IN
(C)
(G)
(B)
(F)
(A)
SEDIMENT BASIN OUTLET STRUCTURE SUDAS DETAIL 9040.15 OR EQUIVALENT

SEDIMENTATION BASIN TEMPORARY OUTLET STRUCTURE TABLE

OUTLET STRICTURE	SMF 8W BASIN	SMF 8E SMF
(A) BTM OF BASIN EL	959.50	957.00
(B) BTM ROW ORIFICE EL	963.85	961.40
(C) TOP ROW OF ORIFICE EL	965.00	962.75
(D) TOP OF RISER EL	965.25	963.00
(F) RISER DIAM [IN]	30"	60"
(G) ORIFICE DIAM [IN]	2"	3"
ROWS OF ORIFICES	3	2
ORIFICES PER ROW	3	26

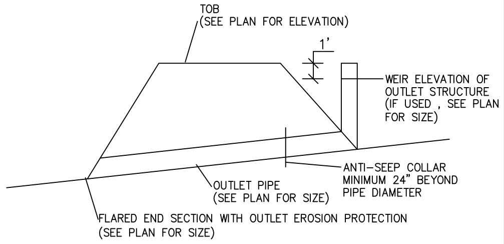
TYPICAL CMP TEMPORARY EROSION CONTROL RISER CLEANOUT PIPE

NOT TO SCALE


ORIFICE PLATE
OUTLET PIPE
9"
PLACE BOTTOM OF OPENING @ PIPE INVERT

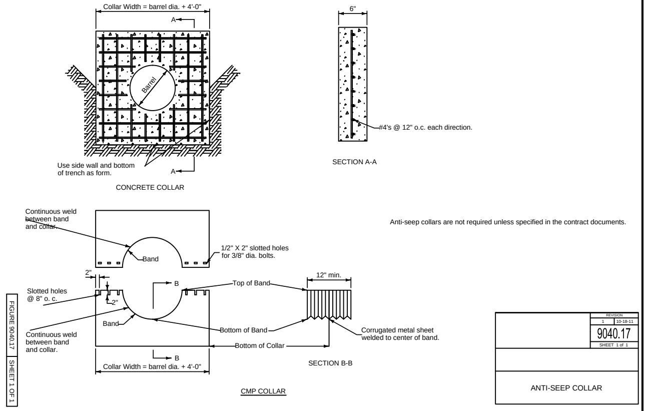
SMF 8W ORIFICE PLATE DETAIL

NOT TO SCALE


TOB (SEE PLAN FOR ELEVATION)
1'
WEIR ELEVATION OF OUTLET STRUCTURE (IF USED , SEE PLAN FOR SIZE)
ANTI-SEEP COLLAR MINIMUM 24" BEYOND PIPE DIAMETER
OUTLET PIPE (SEE PLAN FOR SIZE)
FLARED END SECTION WITH OUTLET EROSION PROTECTION (SEE PLAN FOR SIZE)

SMF OUTLET PIPE AND BERM TYPICAL

NTS

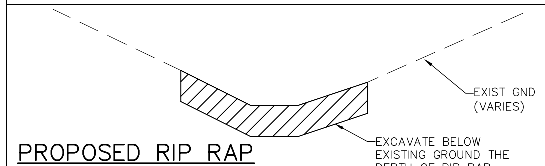

Collar Width = barrel dia. + 4'-0"
A
Barrel
Use side wall and bottom of trench as form.
A
CONCRETE COLLAR
6"
#4's @ 12" o.c. each direction.
SECTION A-A
Continuous weld between band and collar.
Band
1/2" X 2" slotted holes for 3/8" dia. bolts.
2"
Slotted holes @ 8" o. c.
2"
B
Top of Band
12" min.
Band
Continuous weld between band and collar.
Bottom of Band
Corrugated metal sheet welded to center of band.
Bottom of Collar
B
Collar Width = barrel dia. + 4'-0"
SECTION B-B
CMP COLLAR
FIGURE 9040.17 SHEET 1 OF 1

Anti-seep collars are not required unless specified in the contract documents.

REVISION
1 10-18-11
9040.17
SHEET 1 of 1
ANTI-SEEP COLLAR

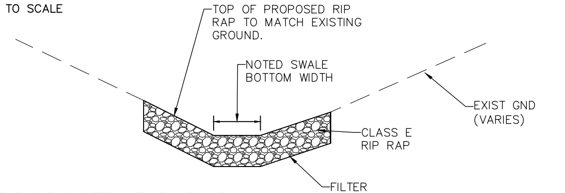
ANTI-SEEP COLLAR

NTS


EXIST GND (VARIES)
EXCAVATE BELOW EXISTING GROUND THE DEPTH OF RIP RAP

PROPOSED RIP RAP TYP EXCAVATION SECTION

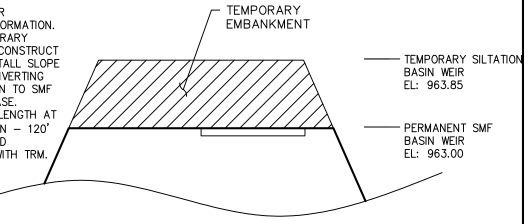
NOT TO SCALE


TOP OF PROPOSED RIP RAP TO MATCH EXISTING GROUND.
NOTED SWALE BOTTOM WIDTH
EXIST GND (VARIES)
CLASS E RIP RAP
FILTER FABRIC

PROPOSED RIP RAP TYP PLACEMENT SECTION

NOT TO SCALE

NOTES:
1. SEE SWPPP FOR ADDITIONAL INFORMATION.
2. REMOVE TEMPORARY EMBANKMENT, CONSTRUCT TRAIL AND INSTALL SLOPE TRM WHEN CONVERTING SILTATION BASIN TO SMF IN FUTURE PHASE.
3. MINIMUM WEIR LENGTH AT EACH ELEVATION - 120'
4. COVER UNPAVED EMBANKMENT WITH TRM.


TEMPORARY EMBANKMENT
TEMPORARY SILTATION BASIN WEIR EL: 963.85
PERMANENT SMF BASIN WEIR EL: 963.00

SMF 8E TEMP WEIR EMBANKMENT SECTION

NOT TO SCALE

GLYNN VILLAGE PLAT 8 - DETAILS 7

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: AS SHOWN
DWG: 13-028-DTL.DWG
FIELD BOOK:
DESIGNED BY: CJB
CHECKED BY: DJS
SHEET 47 OF 47
DRAWN BY: PJV
DATE: 07/12/13
FILE NO.: 13-028

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13-028