NOTE:

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PROJECT BENCHMARK:

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

ELEV=1028.39

GENERAL NOTES

1. All work shall comply with applicable city, and county codes, ordinances, regulations and rules. Including Waukee standard specifications for public improvements
2. All debris spilled on the streets or adjacent property shall be removed by the Contractor by the end of the day or prior to a rain event.
3. All construction procedures and materials to meet or exceed minimum requirements of City of Waukee.
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.
6. The Contractor shall be responsible for giving the City of Waukee 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. The Contractor shall place silt fence around all storm sewer inlet locations, steep slopes, or as directed by the City.
11. Any damage done to the existing fences, yards or other structures outside the construction limits shall be repaired at the Contractor's expense.
12. The Contractor is to notify the City of Waukee Engineering Department 48 hours prior to the beginning of construction.
13. The Contractor is to identify and coordinate removal and/or trimming of trees along the west project boundary with the City of Waukee. The Contractor should also identify notification and coordination of the barbwire fence removal with the City of Waukee.
14. The installation of a trail is required through the adjoining open space and City Property as identified on the plans, and sidewalks shall be installed adjacent to proposed outlots.
15. The contractor to provide submittals of construction materials prior to construction.
16. All sanitary and storm sewers shall be cleaned and televised.
17. All construction staking to be done under the direction of a licensed professional engineer or land surveyor.

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 5.5 feet cover.
3. All hydrants shall be 24" minimum from sidewalks.
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. F.H.'s shall also be placed on the extension of lot lines as shown on the plans. Additional stakes for lot corners and sidewalks shall be set.

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.

PCC PAVING

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 tearing of the concrete adjacent to the joint 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 approved by the Engineer.
10. Bars at longitudinal joints to be #5 X 30" deformed at 30" o.c. and 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. Pavement thickness shall be 7-inch non-reinforced, 26' B-B with 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.

CONSTRUCTION PLANS

OF

GLYNN VILLAGE PLAT 6

CITY OF WAUKEE
DALLAS COUNTY, IOWA

FOR

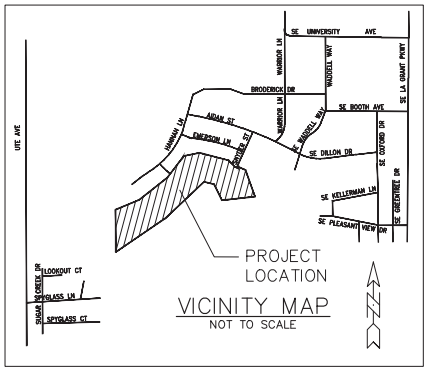
HUBBELL REALTY COMPANY

PREPARED BY:

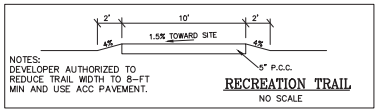
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

PLANS APPROVED BY CITY OF WAUKEE

DATE: _____



VICINITY MAP
NOT TO SCALE



NOTES:
DEVELOPER AUTHORIZED TO REDUCE TRAIL WIDTH TO 8-FT MIN AND USE ACC PAVEMENT.

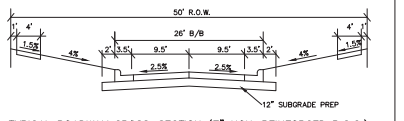
RECREATION TRAIL
NO SCALE

INDEX OF SHEETS

1. COVER SHEET
2. PROJECT MAP
3. GRADING PLAN
4. ABIGAIL LANE - SANITARY & WATER
5. ABIGAIL LANE - SANITARY & WATER
6. BRODIE STREET & SNYDER STREET - SANITARY & WATER
7. ABIGAIL LANE - PAVEMENT & STORM SEWER
8. ABIGAIL LANE - PAVEMENT & STORM SEWER
9. BRODIE STREET & SNYDER STREET - PAVEMENT & STORM SEWER
10. ABIGAIL LANE - REAR YARD STORM SEWER
11. ABIGAIL LANE - REAR YARD STORM SEWER
12. DETAILS
13. DETAILS
14. DETAILS

1. SWPPP EROSION CONTROL
2. SITE MAP FOR STORM WATER CONTROL

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



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

LICENSED PROFESSIONAL ENGINEER
CHAD J. BILLINGS
19787
IOWA

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, 2013

PAGES OR SHEETS COVERED BY THIS SEAL
1-14

GLYNN VILLAGE PLAT 6

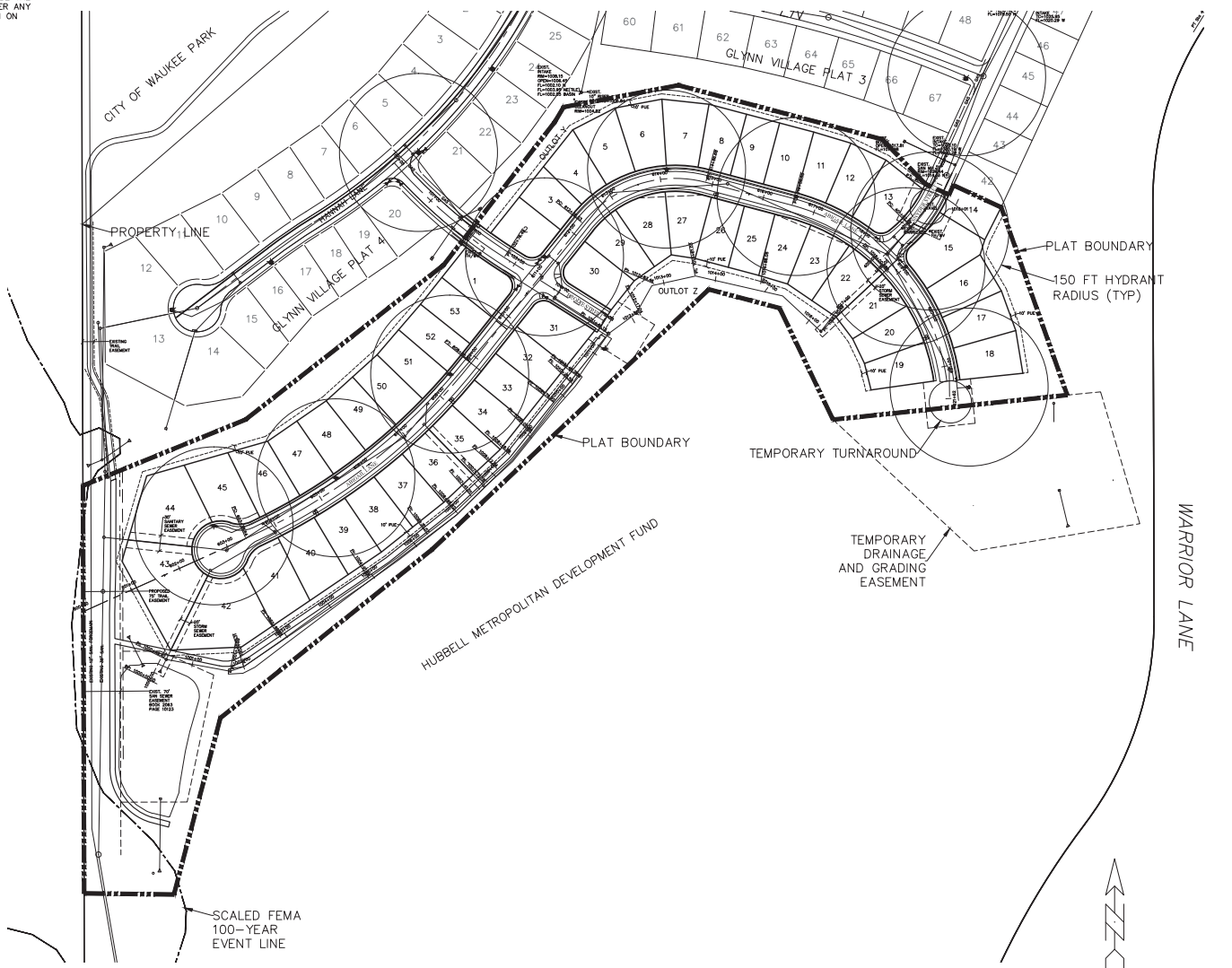
DATE: 11/26/2012

12-152

1

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.



2

GLYNN VILLAGE PLAT 6 - PROJECT MAP

NO.	REVISION	DATE	BY

FOR: HUBBELL REALTY COMPANY

LOCATION:

SCALE:	1" = 100'	DESIGNED BY:	CJB
DWG:	12-152PRJ.DWG	CHECKED BY:	DJS
FIELD BOOK:		SHEET	2 OF 12

DRAWN BY: PJV
DATE: 10/17/12
FILE NO.: 12-152

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

12-152

NOTE:

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2. SCOUR STOP SHALL BE INSTALLED BY A CERTIFIED INSTALLER.
3. ALL RIP–RAP SHALL BE PLACED OVER ENGINEERING FABRIC.
4. ALL DISTURBED AREAS OF EXISTING CHANNELS SHALL BE COVERED WITH RIP–RAP.
5. TEMPORARY SEDIMENT BASINS SHALL BE INSTALLED IN BOTH SMF UNTIL THE COMPLETION OF THE LOT AND INFRASTRUCTURE CONSTRUCTION. SEE SWPPP SHEET(S).
6. TURF GRASS SHALL BE USED FOR THE PERMANENT VEGETATIVE RESTORATION OF ALL ROADWAY RIGHT–OF–WAYS AND ALL RESIDENTIAL LOTS. NATIVE GRASSES SHALL BE USED FOR THE PERMANENT VEGETATIVE RESTORATION OF ALL REAR YARD COMMON AREAS.

SMF GRADING TYPICAL SECTION
N.T.S

3

GLYNN VILLAGE PLAT 6 - GRADING PLAN

NO.	REVISION	DATE	BY

FOR: HUBBELL REALTY COMPANY

LOCATION:

SCALE:	1" = 100'	DESIGNED BY:	CJB
DWG:	12-152GRD.DWG	CHECKED BY:	DJS
FIELD BOOK:		SHEET 3 OF 12	

DRAWN BY: PJV
DATE: 10/17/12
FILE NO: 12-152

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DES MOINES, IOWA 50312
(515) 288-4823

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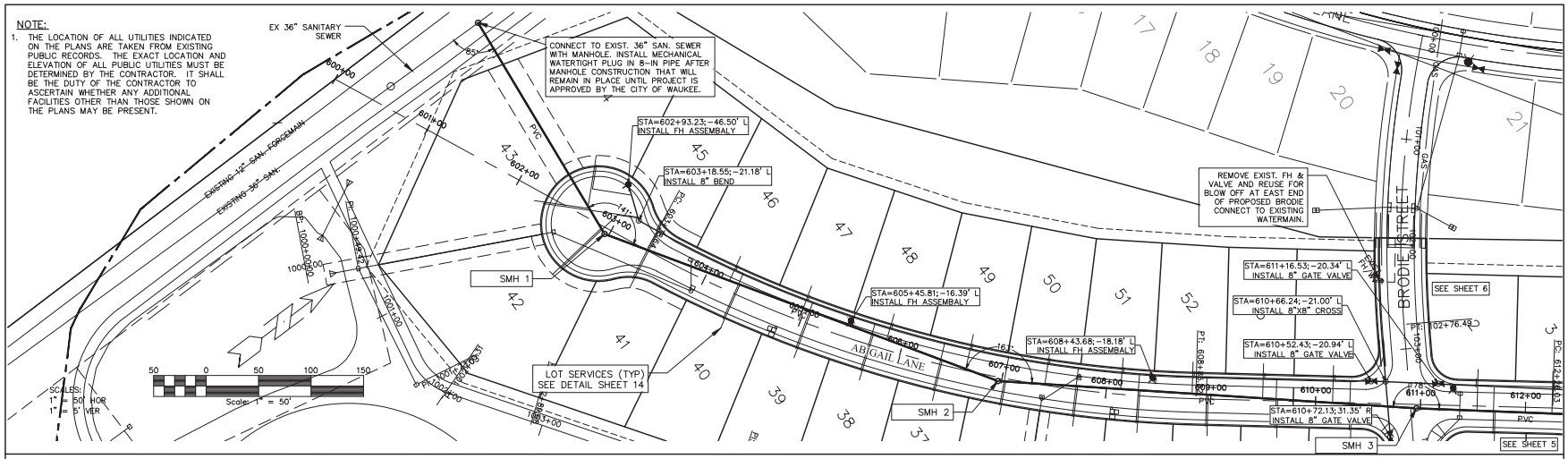
J:\2012 Proj\12-152\DESIGN\12-152GRD.dwg, 11/29/2012 11:38:22 AM, CJB



ABIGAIL LANE - SANITARY AND WATER

NO.	REVISION	DATE:	BY:

FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY:	CJB
DWG:	12-152-PP4.DWG	CHECKED BY:	DJS
FIELD BOOK:		SHEET	4 OF 12
		DRAWN BY:	PJV
		DATE:	10/17/12
		FILE NO.:	12-043

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1360 NW 121st Street
DES MOINES, IOWA 50312
(515) 288-4623

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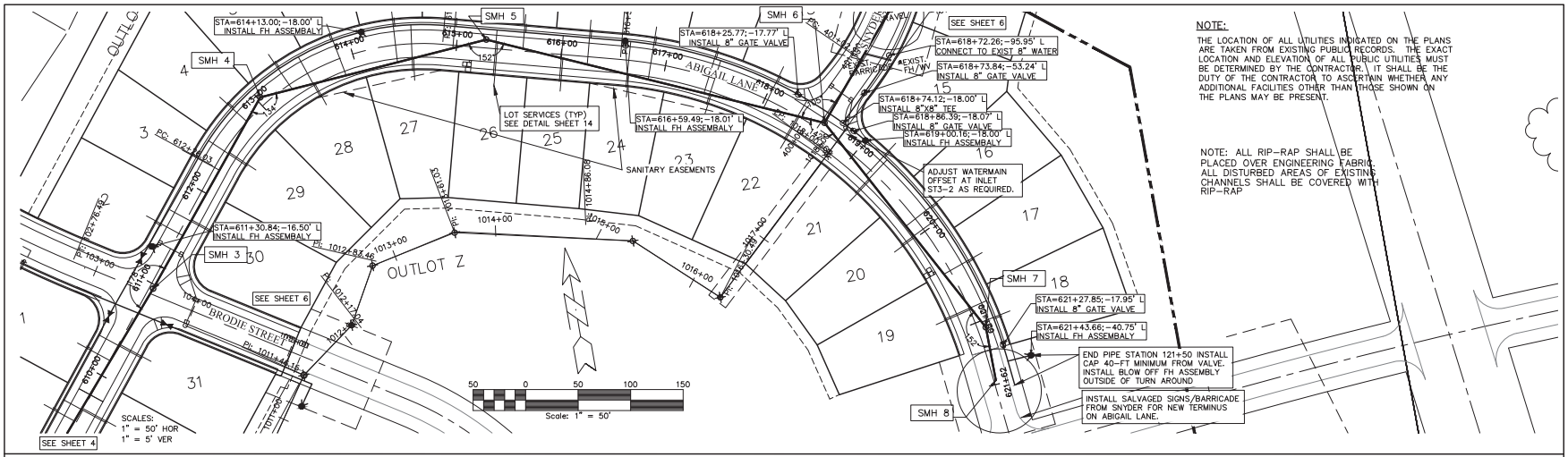
4



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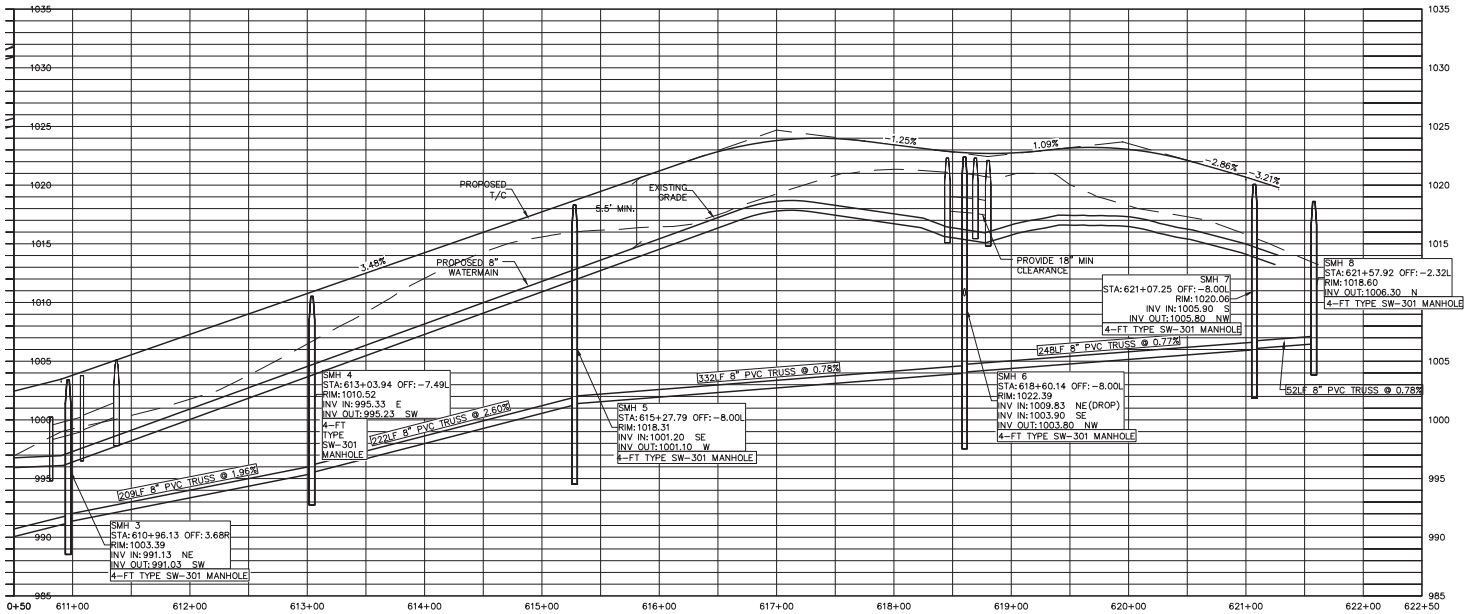

ABIGAIL LANE - SANITARY AND WATER

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'
DWG: 12-152-PP5.DWG
FIELD BOOK:

DESIGNED BY: CJB
CHECKED BY: DJS
SHEET 5 OF 12

DRAWN BY: PJV
DATE: 10/17/12
FILE NO.: 12-043

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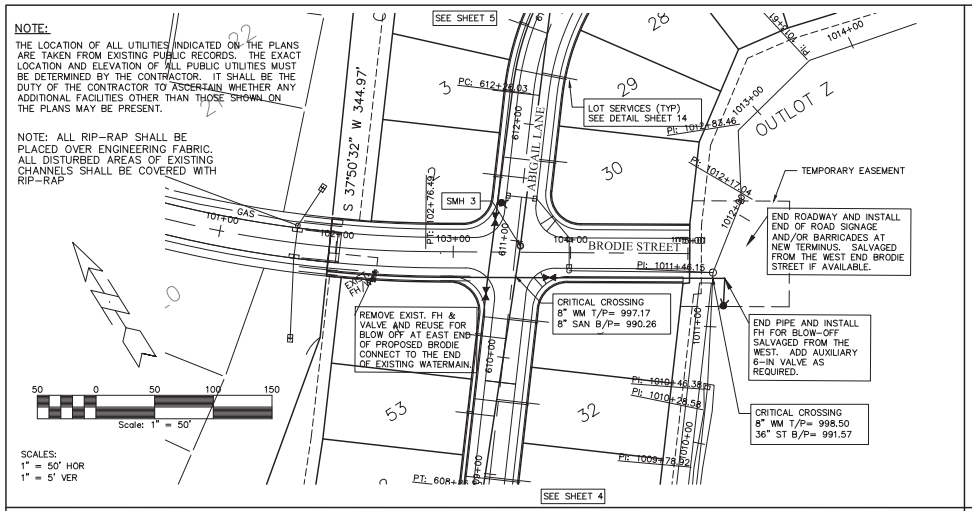
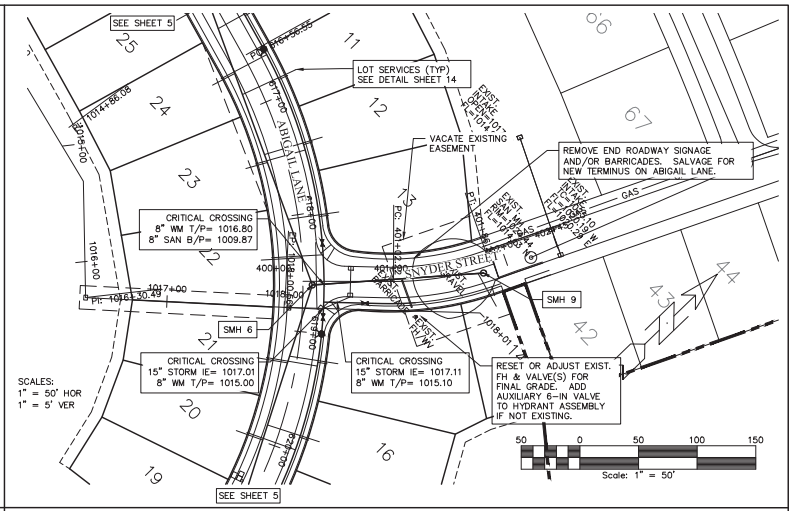
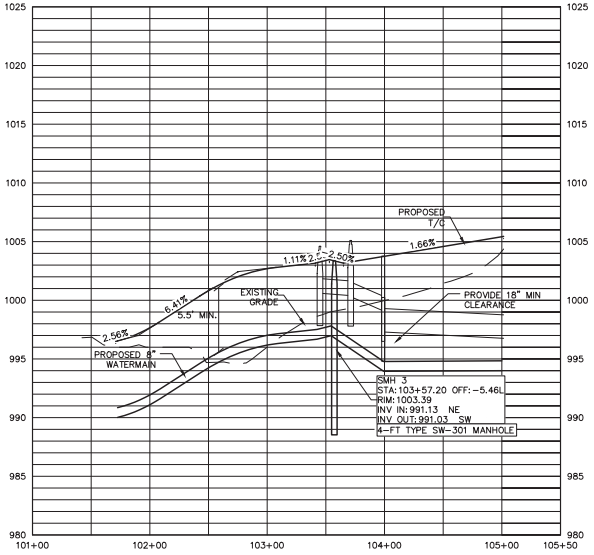
Engineers and Surveyors
1417 N. 3rd Street, Suite 1
DES MOINES, IOWA 50312
(515) 288-4623

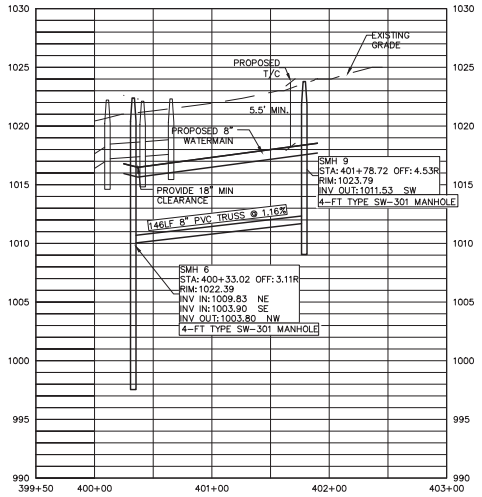
12-152

5









6

BRODIE ST. & SNYDER ST. - SANITARY AND WATER

NO.	REVISION	DATE:	BY	FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY:	CJB
DWG:	12-152-PP6.DWG	CHECKED BY:	DJS
FIELD BOOK:		SHEET	6 OF 12

DRAWN BY:	PJV
DATE:	10/17/12
FILE NO.:	12-043

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Engineers and Surveyors
1400 16th Avenue
DES MOINES, IOWA 50312
(515) 288-4623

12-152

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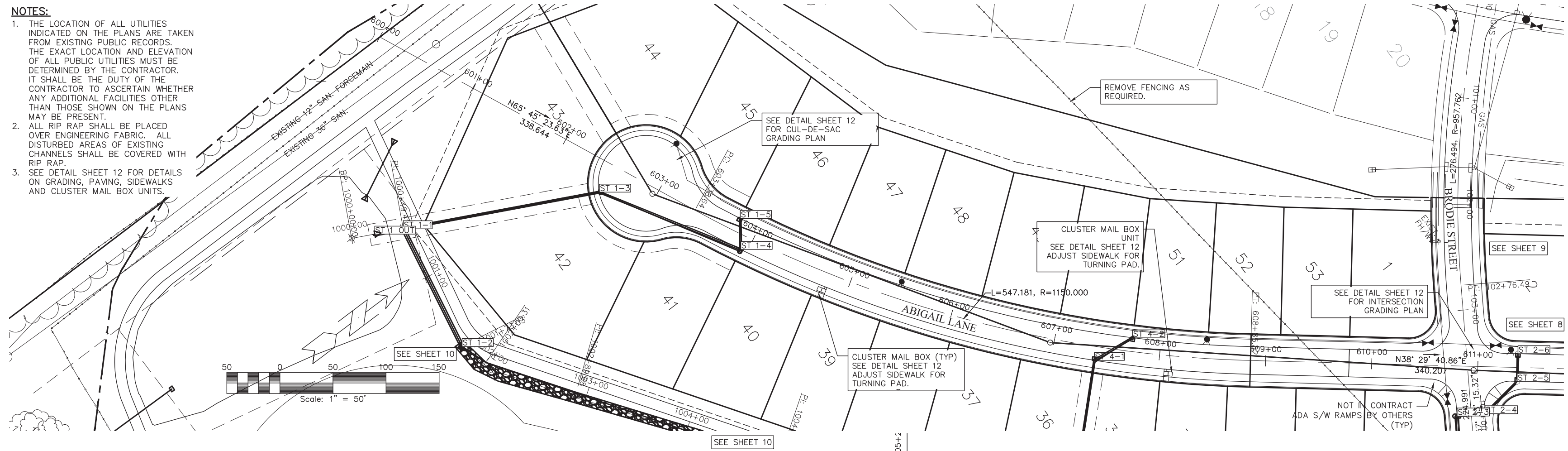
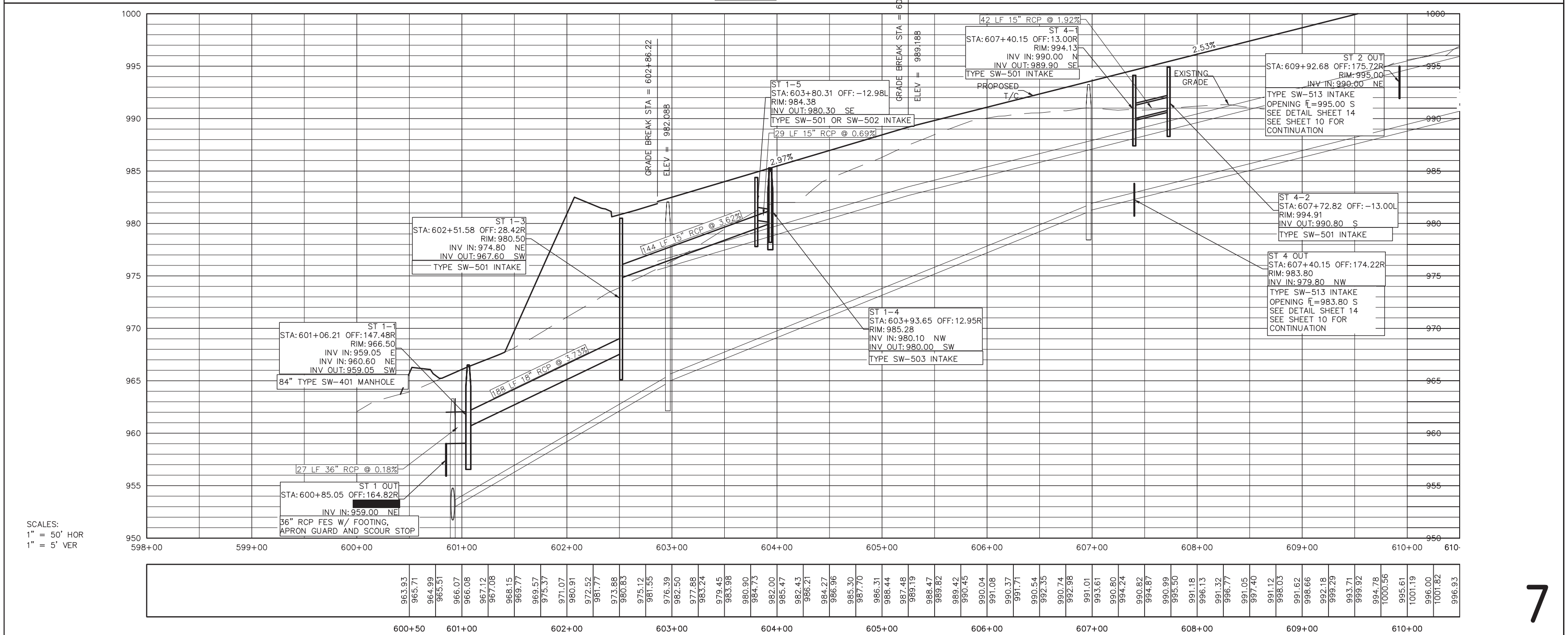
3. SEE DETAIL SHEET 12 FOR DETAILS ON GRADING, PAVING, SIDEWALKS AND CLUSTER MAIL BOX UNITS.



EXISTING 12" SAN. FORCEMAIN
EXISTING 36" SAN.
N65° 45' 23.63"E
338.644
SEE DETAIL SHEET 12
FOR CUL-DE-SAC
GRADING PLAN
REMOVE FENCING AS
REQUIRED.
CLUSTER MAIL BOX
UNIT
SEE DETAIL SHEET 12
ADJUST SIDEWALK FOR
TURNING PAD.
L=547.181, R=1150.000
ABIGAIL LANE
BRODIE STREET
SEE SHEET 9
SEE SHEET 8
SEE SHEET 10
SEE DETAIL SHEET 12
FOR INTERSECTION
GRADING PLAN
N38° 29' 40.86"E
340.207
CLUSTER MAIL BOX (TYP)
SEE DETAIL SHEET 12
ADJUST SIDEWALK FOR
TURNING PAD.
NOT IN CONTRACT
ADA S/W RAMPS BY OTHERS
(TYP)
ST 1 OUT
ST 1-1
ST 1-3
ST 1-4
ST 1-5
ST 4-1
ST 4-2
ST 2-4
ST 2-5
ST 2-6
Scale: 1" = 50'



ST 1 OUT
STA: 600+85.05 OFF: 164.82R
INV IN: 959.00 NE
36" RCP FES W/ FOOTING,
APRON GUARD AND SCOUR STOP
27 LF 36" RCP @ 0.18%
ST 1-1
STA: 601+06.21 OFF: 147.48R
RIM: 966.50
INV IN: 959.05 E
INV IN: 960.60 NE
INV OUT: 959.05 SW
84" TYPE SW-401 MANHOLE
188 LF 18" RCP @ 3.73%
ST 1-3
STA: 602+51.58 OFF: 28.42R
RIM: 980.50
INV IN: 974.80 NE
INV OUT: 967.60 SW
TYPE SW-501 INTAKE
144 LF 15" RCP @ 3.62%
GRADE BREAK STA = 602+86.22
ELEV = 982.088
ST 1-5
STA: 603+80.31 OFF: -12.98L
RIM: 984.38
INV OUT: 980.30 SE
TYPE SW-501 OR SW-502 INTAKE
29 LF 15" RCP @ 0.69%
2.97%
ST 1-4
STA: 603+93.65 OFF: 12.95R
RIM: 985.28
INV IN: 980.10 NW
INV OUT: 980.00 SW
TYPE SW-503 INTAKE
GRADE BREAK STA = 605+2
ELEV = 989.188
42 LF 15" RCP @ 1.92%
ST 4-1
STA: 607+40.15 OFF: 13.00R
RIM: 994.13
INV IN: 990.00 N
INV OUT: 989.90 SE
TYPE SW-501 INTAKE
PROPOSED
T/C
EXISTING
GRADE
2.53%
ST 2 OUT
STA: 609+92.68 OFF: 175.72R
RIM: 995.00
INV IN: 990.00 NE
TYPE SW-513 INTAKE
OPENING ℄=995.00 S
SEE DETAIL SHEET 14
SEE SHEET 10 FOR
CONTINUATION
ST 4-2
STA: 607+72.82 OFF: -13.00L
RIM: 994.91
INV OUT: 990.80 S
TYPE SW-501 INTAKE
ST 4 OUT
STA: 607+40.15 OFF: 174.22R
RIM: 983.80
INV IN: 979.80 NW
TYPE SW-513 INTAKE
OPENING ℄=983.80 S
SEE DETAIL SHEET 14
SEE SHEET 10 FOR
CONTINUATION

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

ABIGAIL LANE - PAVEMENT & STORM SEWER

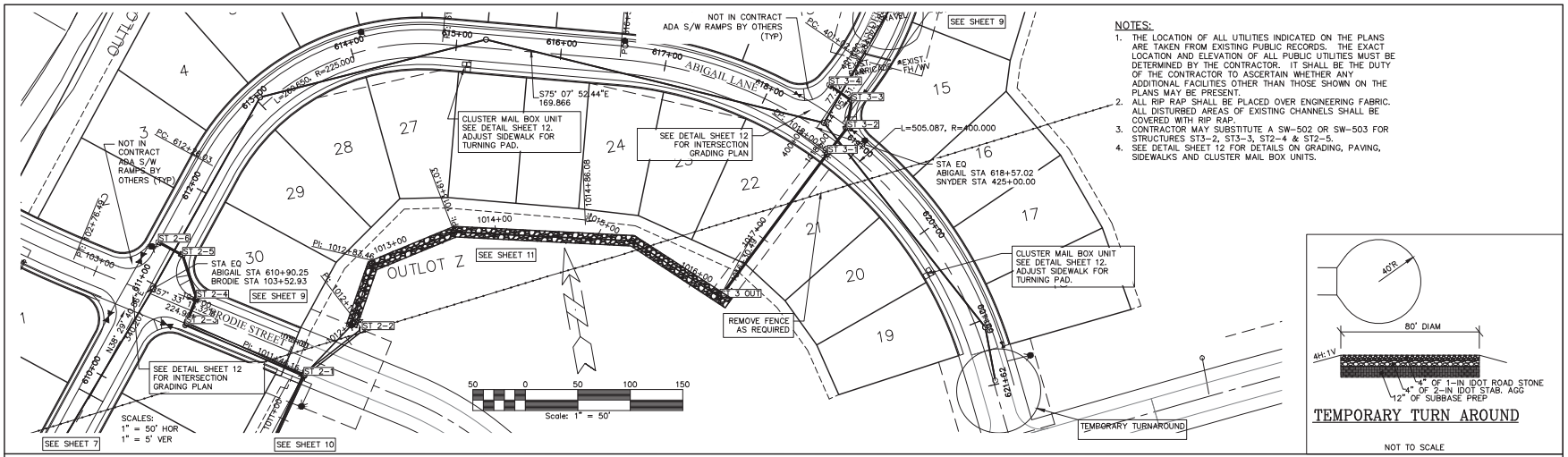
SCALE: 1" = 50'	DESIGNED BY: CJB	DRAWN BY: PJV	
DWG: 12-152-PP7.DWG	CHECKED BY: DJS	DATE: 10/17/12	
FIELD BOOK:	SHEET 7 OF 12	FILE NO.: 12-043	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

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

12-152



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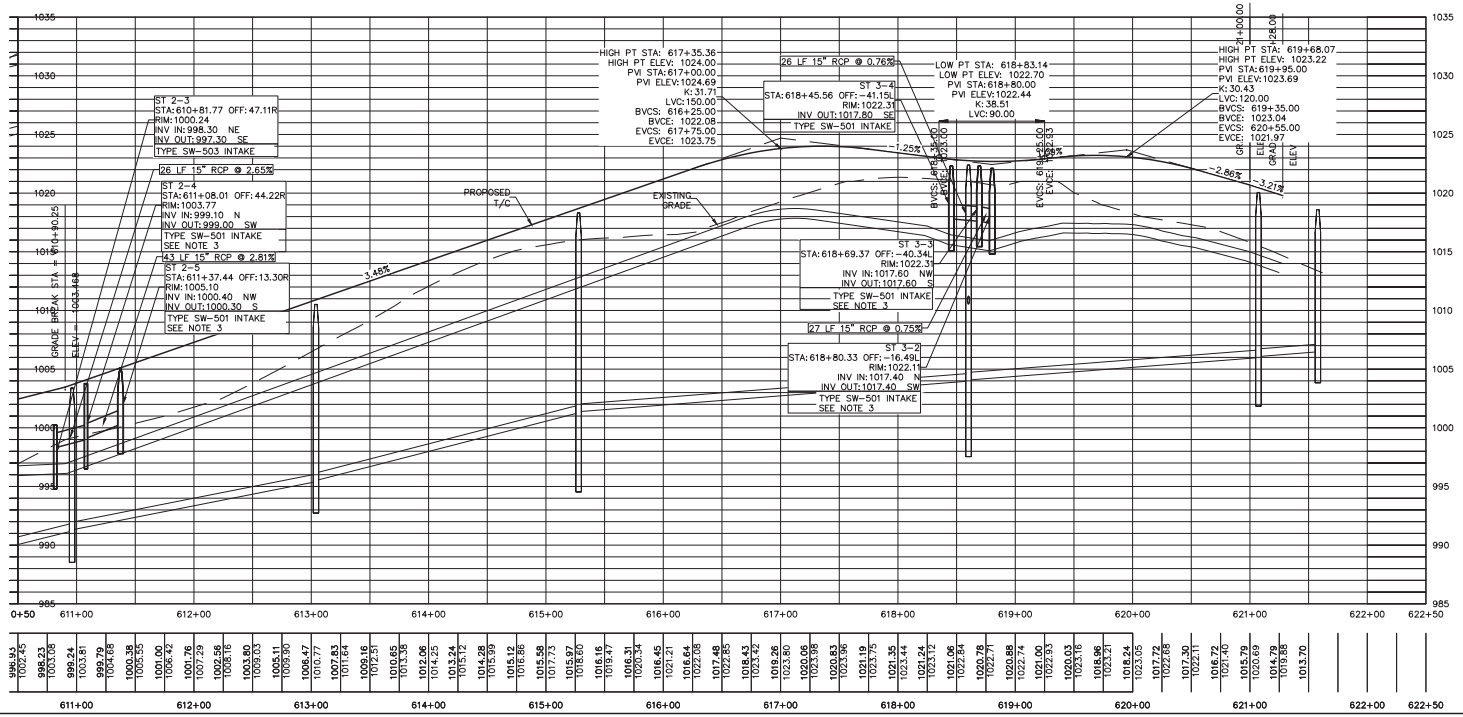
3. CONTRACTOR MAY SUBSTITUTE A SW-502 OR SW-503 FOR STRUCTURES ST3-2, ST3-3, ST2-4 & ST2-5.
4. SEE DETAIL SHEET 12 FOR DETAILS ON GRADING, PAVING, SIDEWALKS AND CLUSTER MAIL BOX UNITS.

TEMPORARY TURN AROUND

NOT TO SCALE



8

ABIGAIL LANE - PAVEMENT & STORM SEWER

NO.	REVISION	DATE	BY

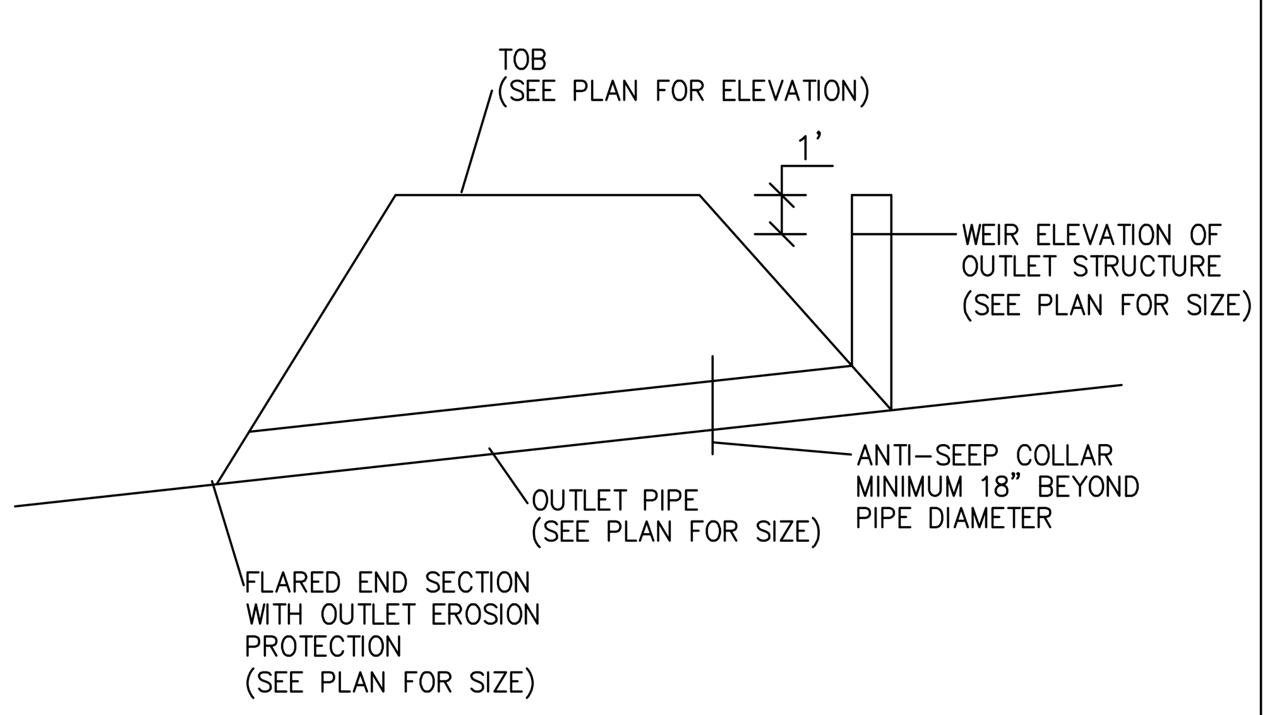
FOR:

LOCATION:

SCALE:	1" = 50'
DWG:	12-152-PP8.DWG
FIELD BOOK:	
DESIGNED BY:	CJB
CHECKED BY:	DJS
SHEET	8 OF 12
DRAWN BY:	PJV
DATE:	10/17/12
FILE NO.:	12-043

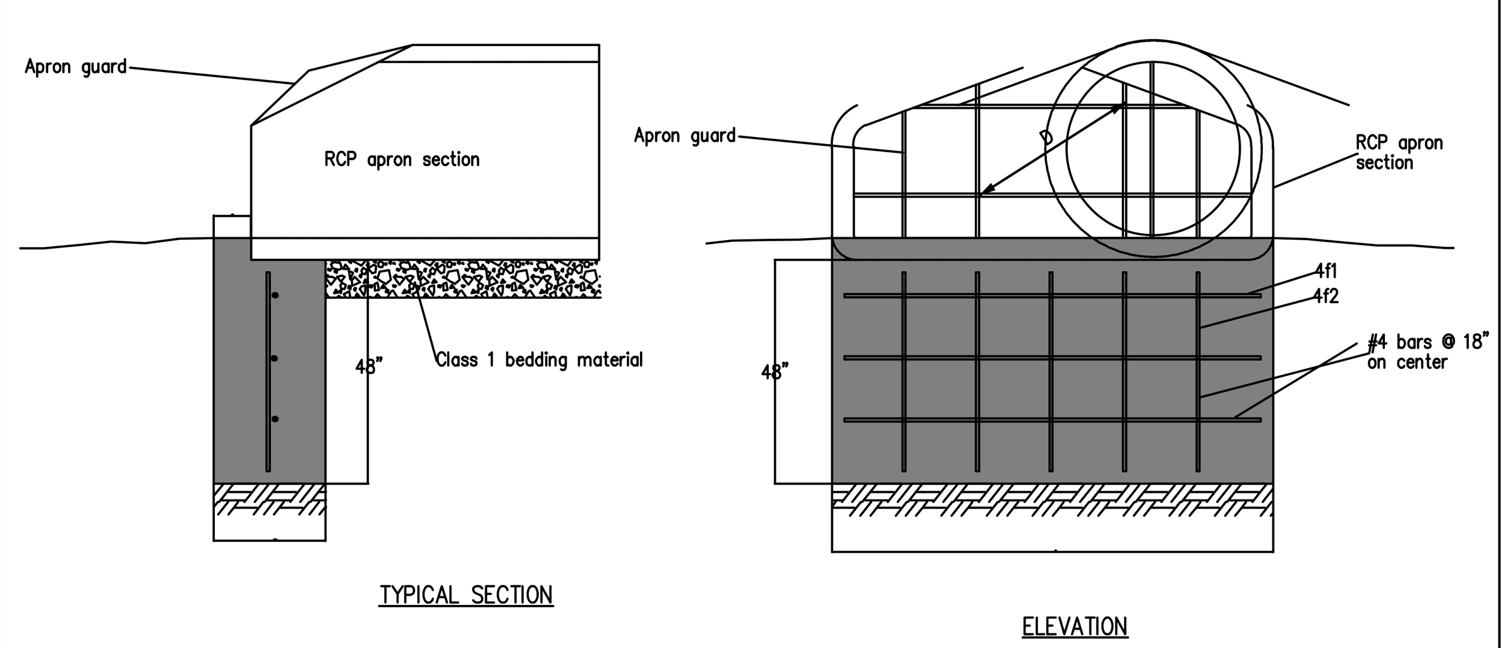
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
1417 NORTH UNION
DES MOINES, IOWA 50312
(515) 288-4623

12-152



SMF OUTLET PIPE AND BERM TYPICAL

NTS



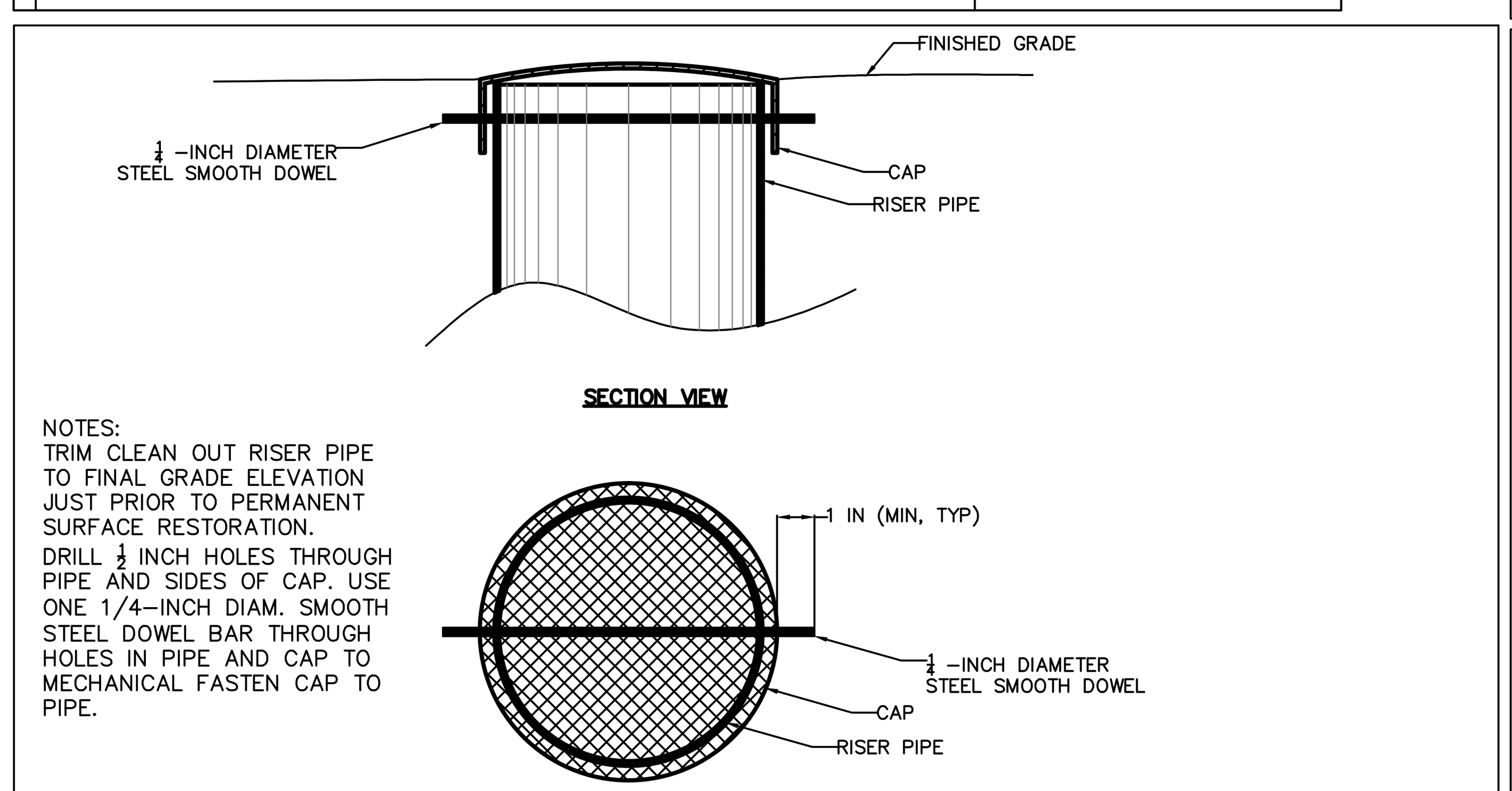
REINFORCING BAR LIST

D	W	Mark	Size	Length	Count	D	W	Mark	Size	Length	Count
12"	2'-4"	4f1	4	2'-0"	3	48"	7'-10"	4f1	4	7'-6"	3
		4f2	4	3'-8"	2			4f2	4	3'-8"	6
15"	2'-10½"	4f1	4	2'-6 ½"	3	54"	8'-5"	4f1	4	8'-1"	3
		4f2	4	3'-8"	2			4f2	4	3'-8"	6
18"	3'-5"	4f1	4	3'-1"	3	60"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	3			4f2	4	3'-8"	6
24"	4'-6"	4f1	4	4'-2"	3	66"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	3			4f2	4	3'-8"	6
30"	5'-7"	4f1	4	5'-3"	3	72"	10'-0"	4f1	4	9'-8"	3
		4f2	4	3'-8"	4			4f2	4	3'-8"	7
36"	6'-8"	4f1	4	6'-4"	3	78"	10'-7"	4f1	4	10'-3"	3
		4f2	4	3'-8"	5			4f2	4	3'-8"	7
42"	7'-3"	4f1	4	6'-11"	3	84"	11'-1"	4f1	4	10'-9"	3
		4f2	4	3'-8"	5			4f2	4	3'-8"	8

FIGURE 4030.221 SHEET 1 OF 1

REVISION NEW 10/21/08 FIGURE 4030.221 SHEET 1 OF 1

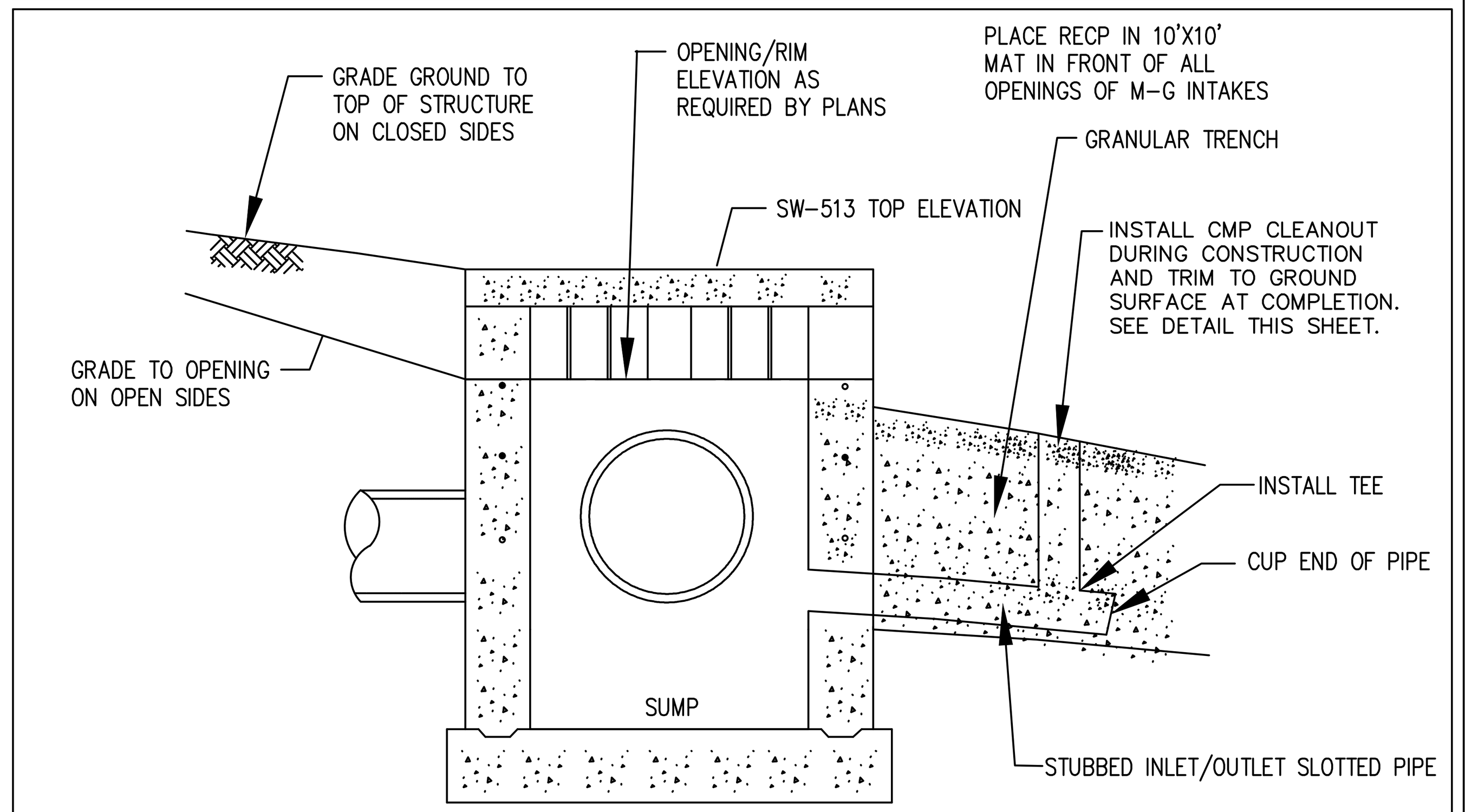
RCP APRON SECTION FOOTING



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.

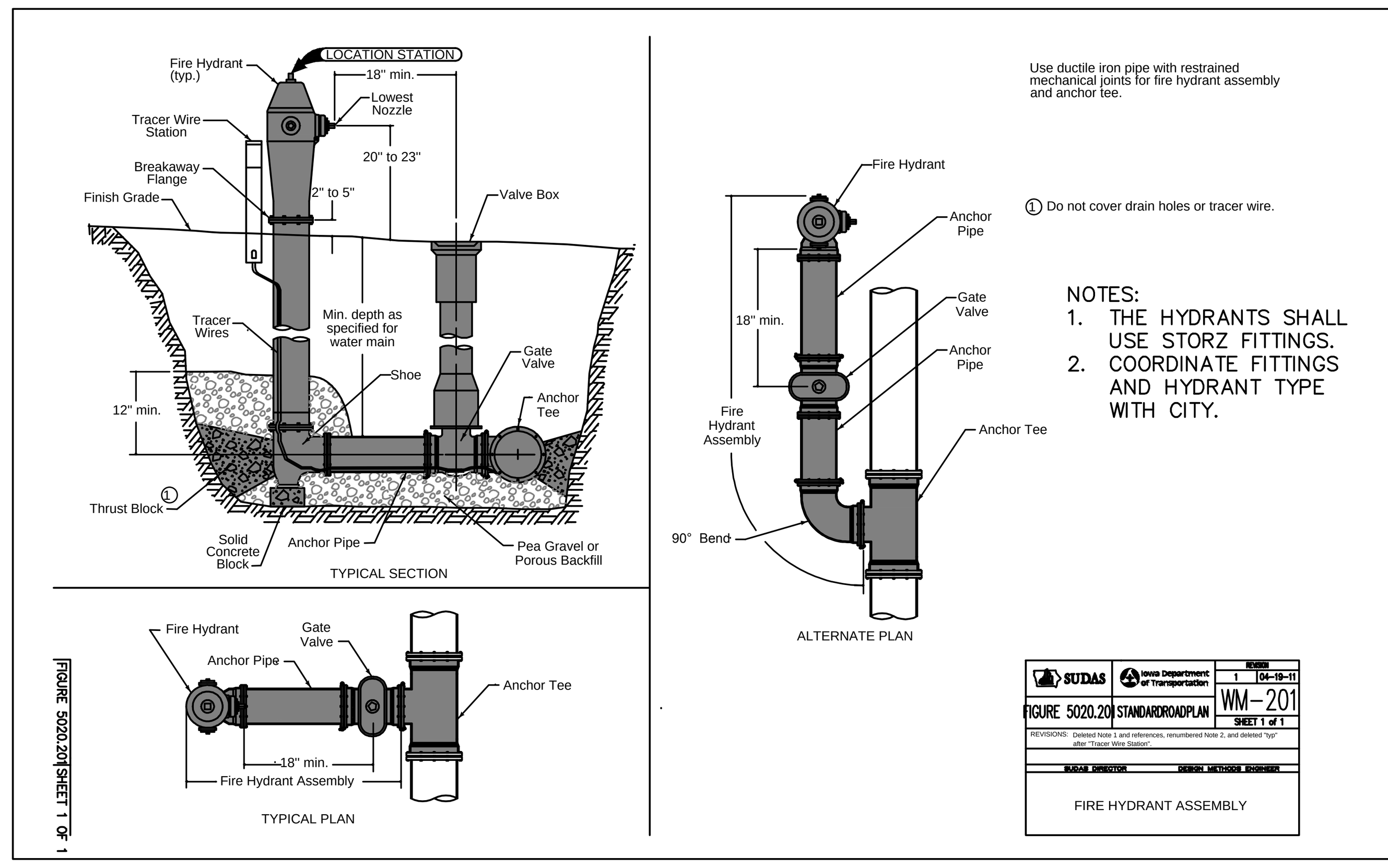
CMP CLEANOUT

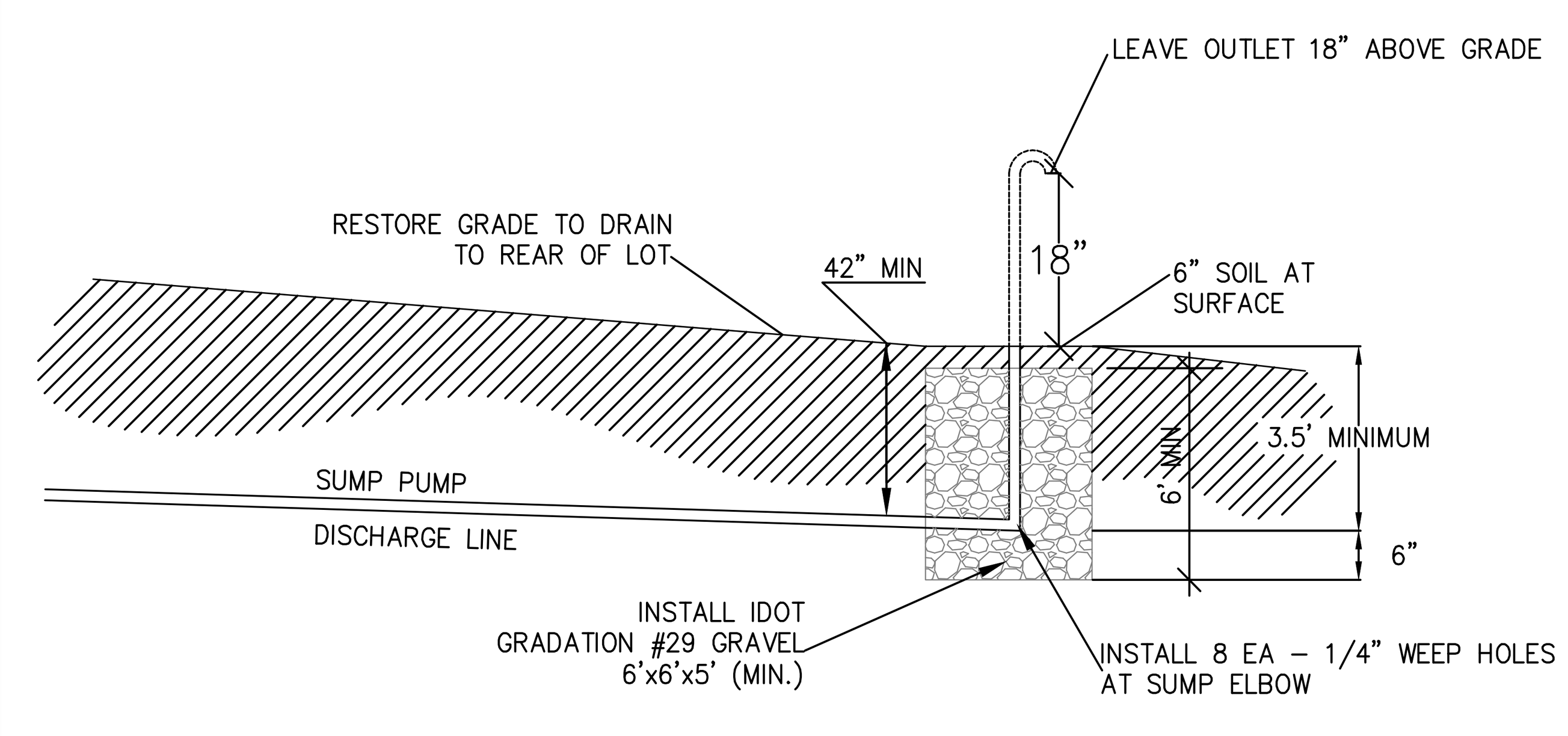
NOT TO SCALE


GRADE GROUND TO TOP OF STRUCTURE ON CLOSED SIDES
OPENING/RIM ELEVATION AS REQUIRED BY PLANS
PLACE RECP IN 10'X10' MAT IN FRONT OF ALL OPENINGS OF M-G INTAKES
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
STUBBED INLET/OUTLET SLOTTED PIPE

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

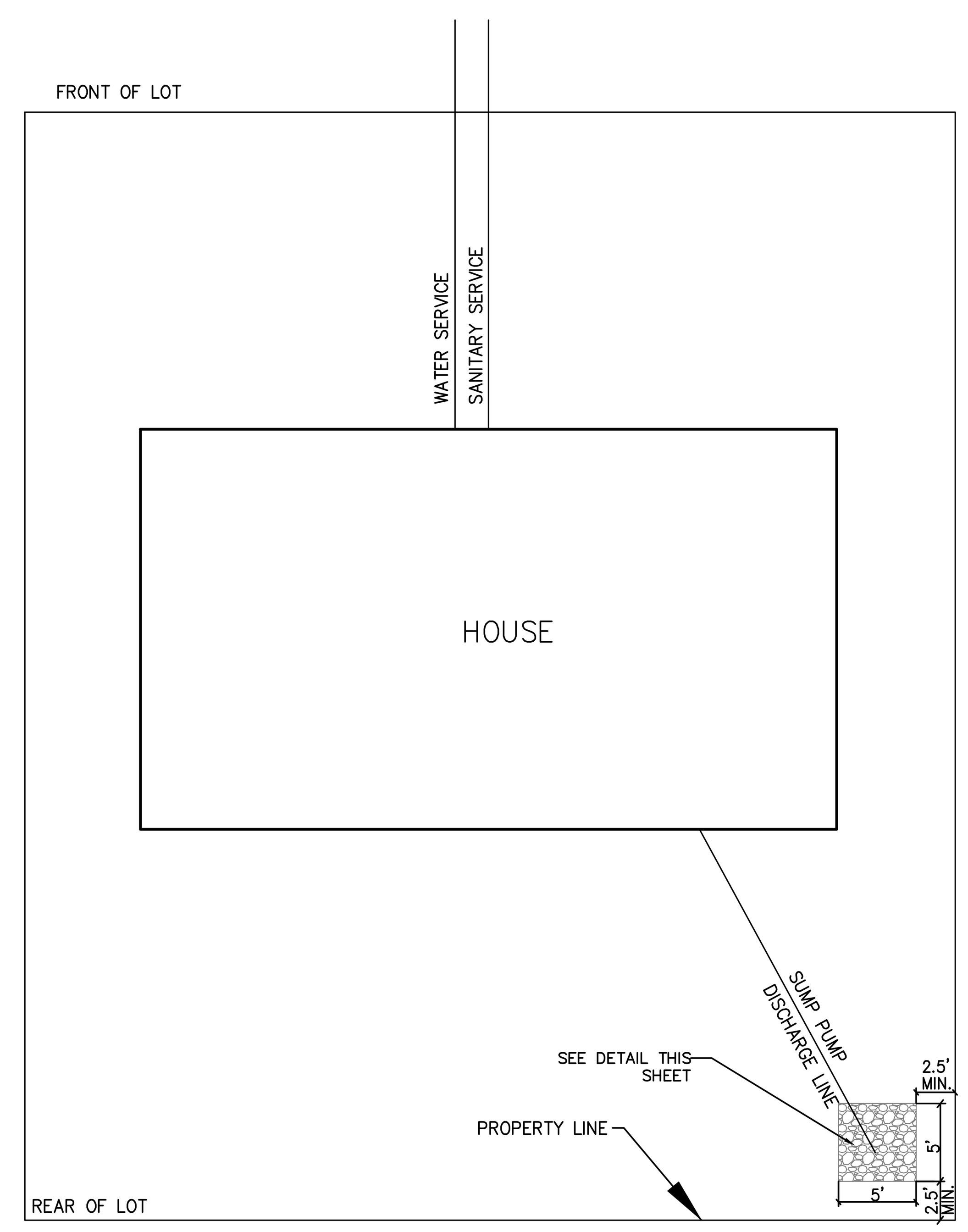
NOT TO SCALE





TYPICAL LOT SUMP SERVICE PROFILE DETAIL

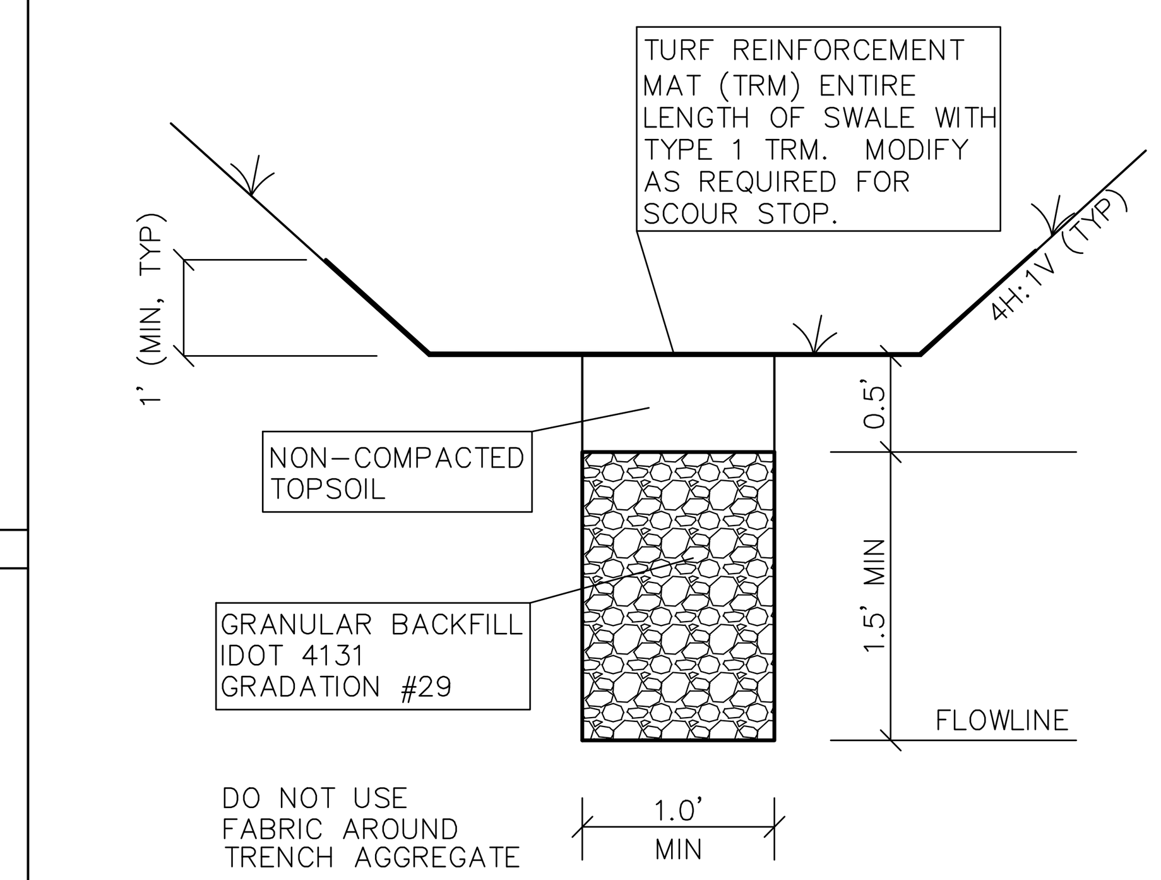
NOT TO SCALE



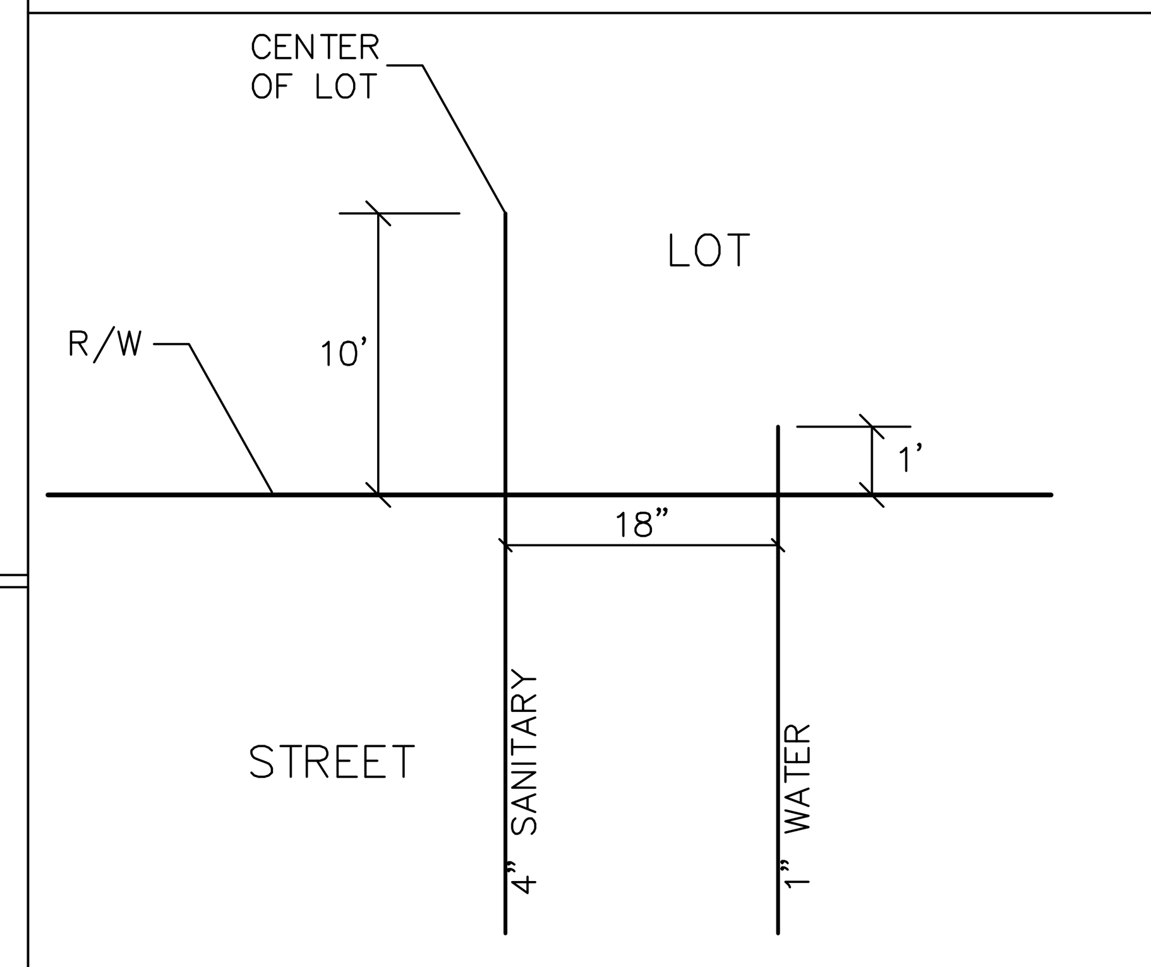
NOTE: SUMP PITS TO BE INSTALLED BY INDIVIDUAL HOMEBUILDER. PIT SHALL BE LOCATED A MINIMUM OF 1' OUTSIDE OF ANY REAR OR SIDE YARD EASEMENTS. SUMP PITS SHALL BE LOCATED ON THE LOW SIDE OF THE LOT.

TYPICAL LOT SUMP SERVICE PLAN DETAIL

NOT TO SCALE

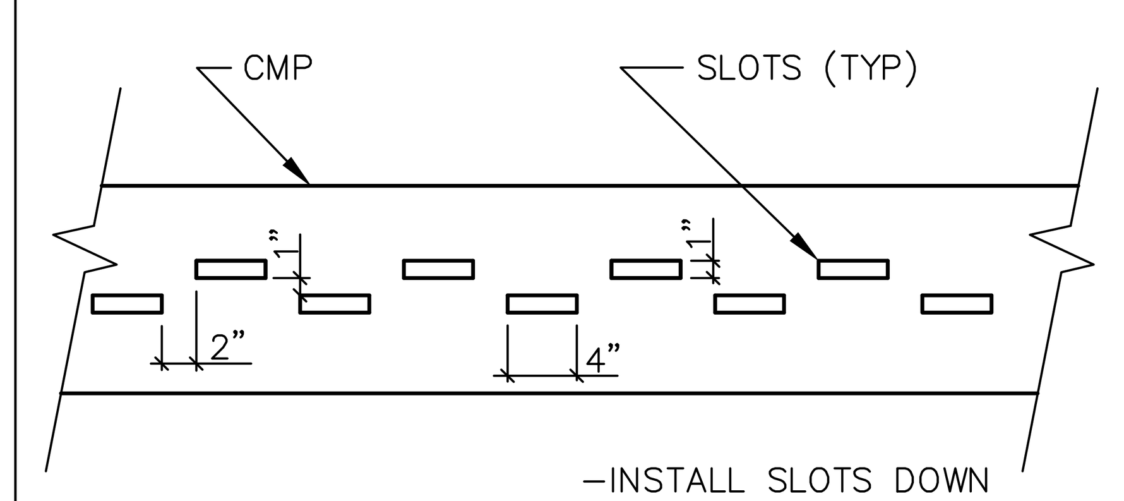

TURF REINFORCEMENT MAT (TRM) ENTIRE LENGTH OF SWALE WITH TYPE 1 TRM. MODIFY AS REQUIRED FOR SCOUR STOP.
1' (MIN, TYP)
4H:1V (TYP)
NON-COMPACTED TOPSOIL
0.5'
1.5' MIN
GRANULAR BACKFILL IDOT 4131 GRADATION #29
FLOWLINE
DO NOT USE FABRIC AROUND TRENCH AGGREGATE
1.0' MIN

GRANULAR TRENCH TYPICAL SECTION



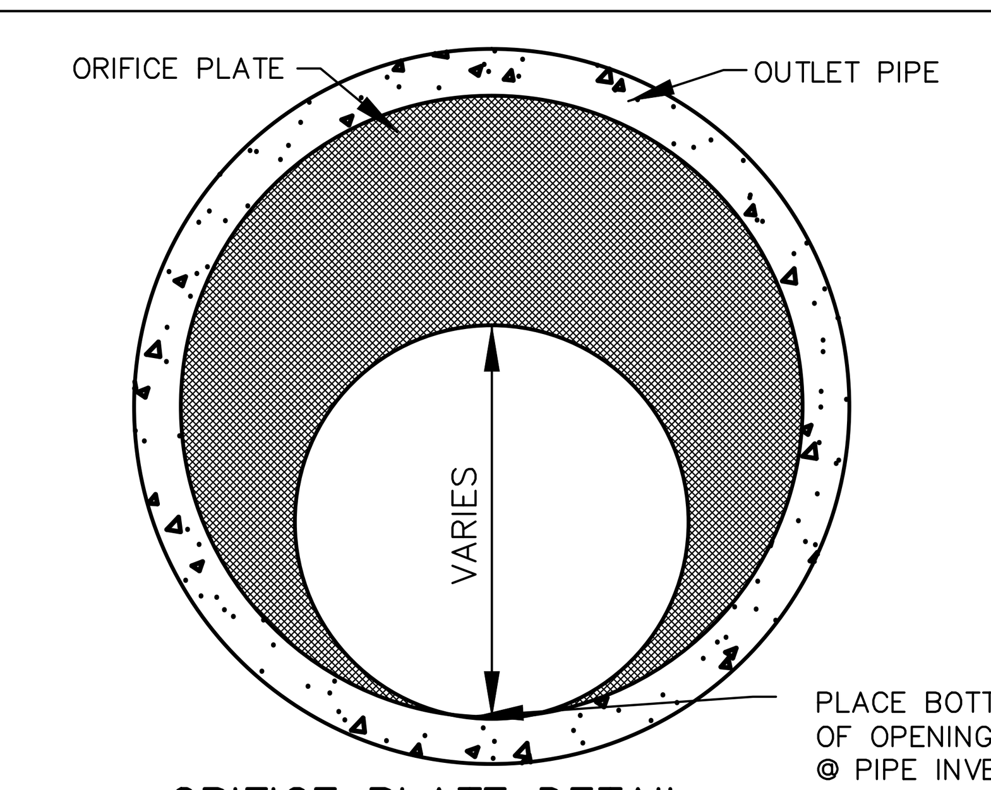
TYPICAL SERVICE LOCATIONS

NOT TO SCALE



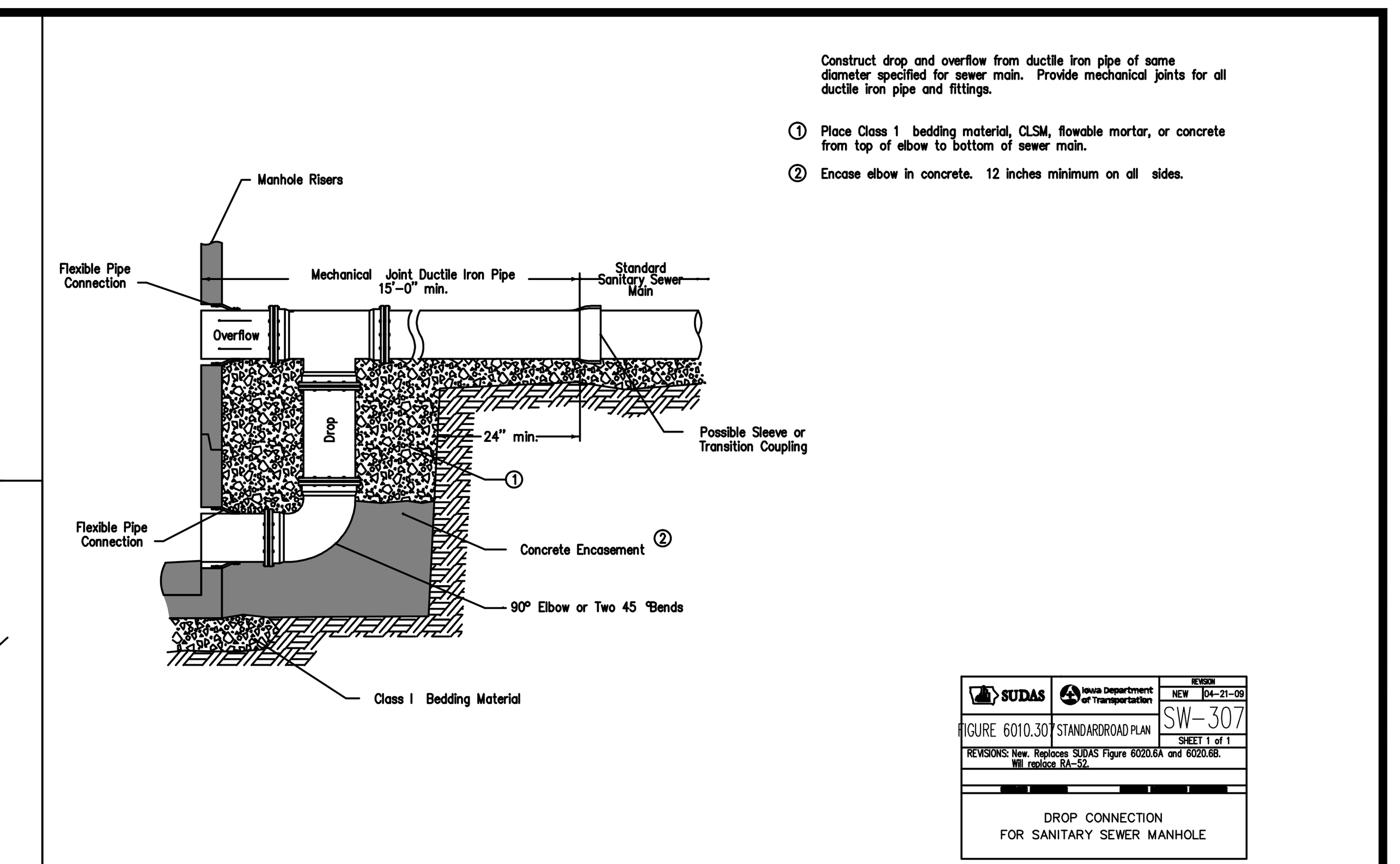
SLOTTED PIPE DETAIL

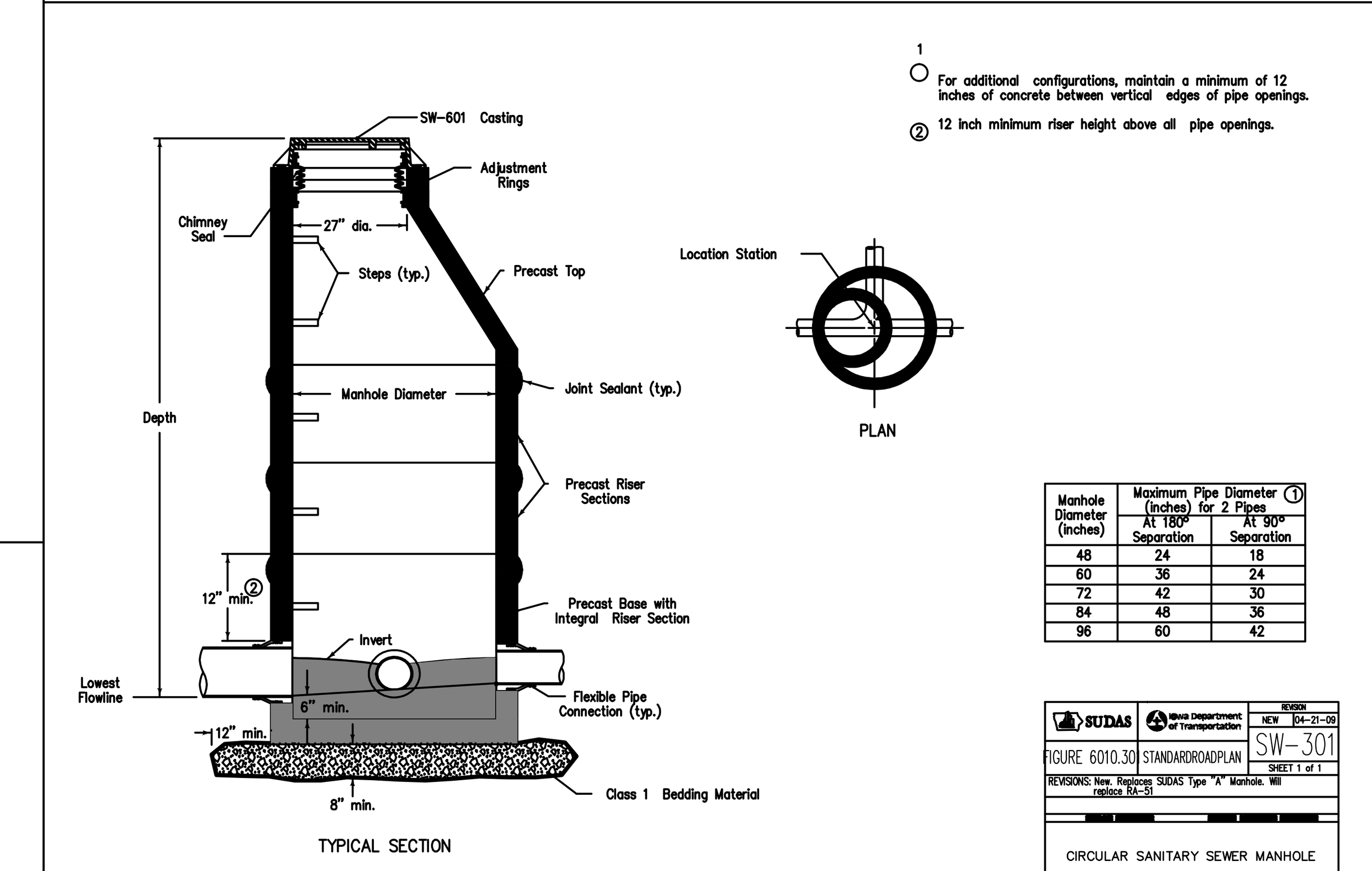
NOT TO SCALE

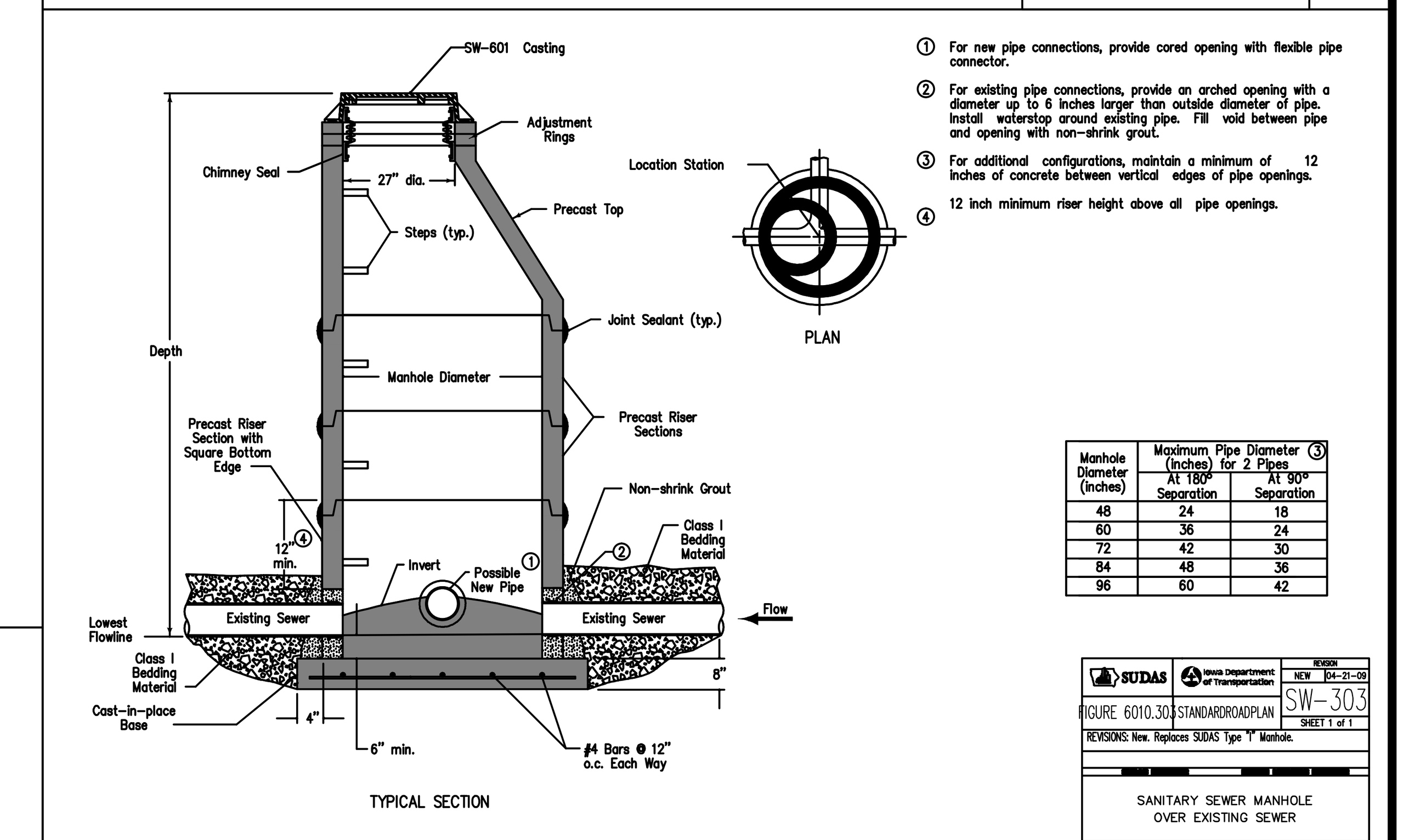


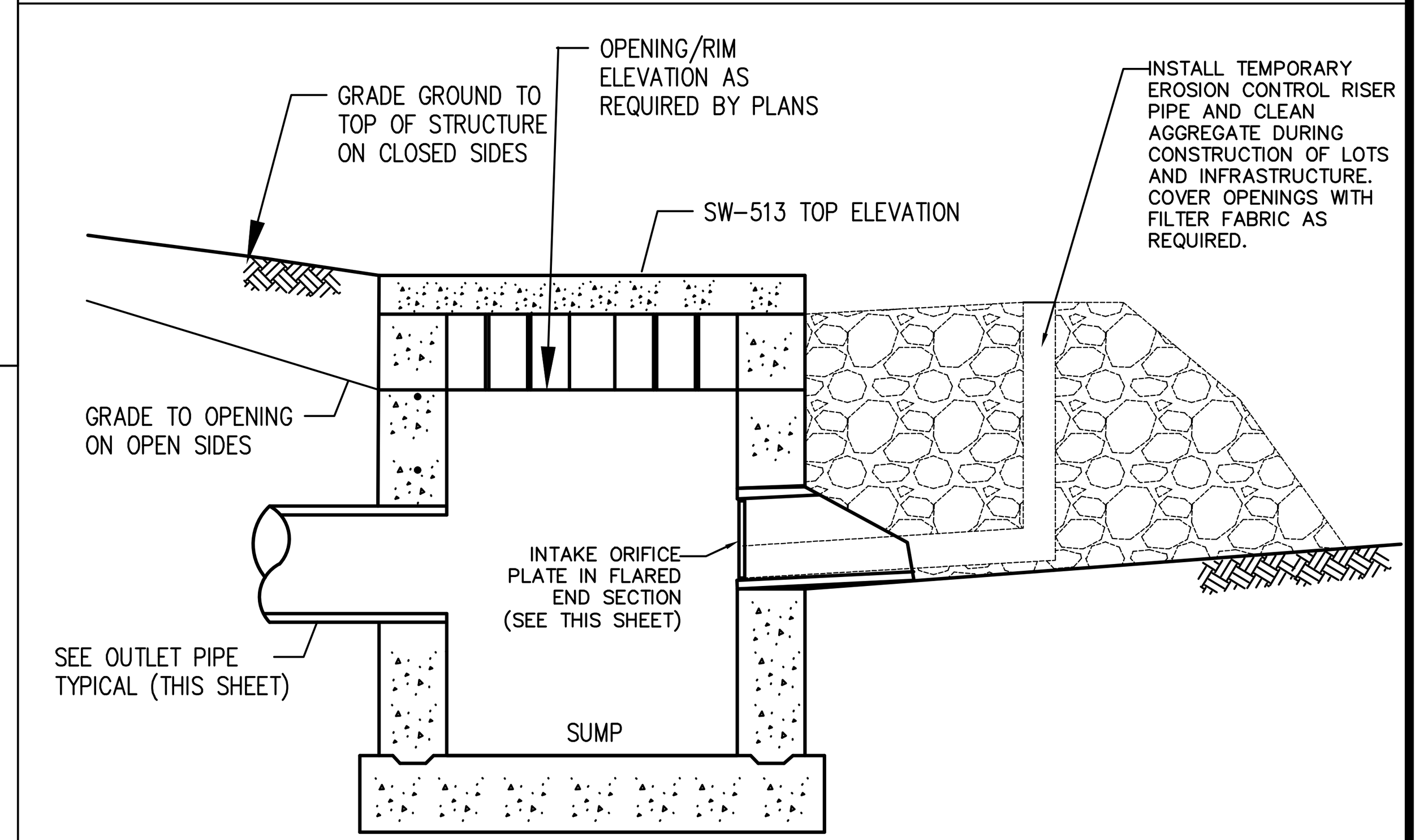
ORIFICE PLATE DETAIL

NOT TO SCALE








GRADE GROUND TO TOP OF STRUCTURE ON CLOSED SIDES
OPENING/RIM ELEVATION AS REQUIRED BY PLANS
SW-513 TOP ELEVATION
INSTALL TEMPORARY EROSION CONTROL RISER PIPE AND CLEAN AGGREGATE DURING CONSTRUCTION OF LOTS AND INFRASTRUCTURE. COVER OPENINGS WITH FILTER FABRIC AS REQUIRED.
GRADE TO OPENING ON OPEN SIDES
INTAKE ORIFICE PLATE IN FLARED END SECTION (SEE THIS SHEET)
SEE OUTLET PIPE TYPICAL (THIS SHEET)
SUMP

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

NOT TO SCALE

14

GLYNN VILLAGE PLAT 6 - DETAILS

SCALE: 1" = 20'	DESIGNED BY: CJB	DRAWN BY: PJV	LOCATION:
DWG: 12-152DTL.DWG	CHECKED BY: DJS	DATE: 10/17/12	FOR: HUBBELL REALTY COMPANY
FIELD BOOK:	SHEET 12 OF 12	FILE NO.: 12-152	

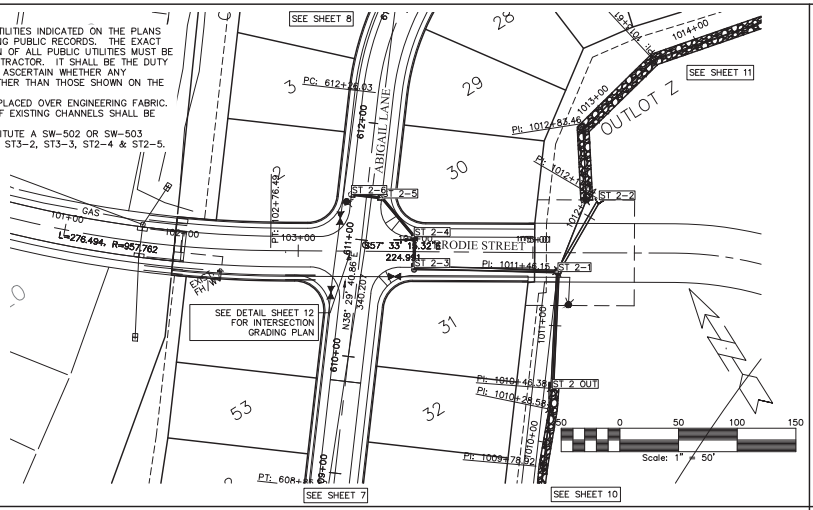
NO.	REVISION	DATE	BY

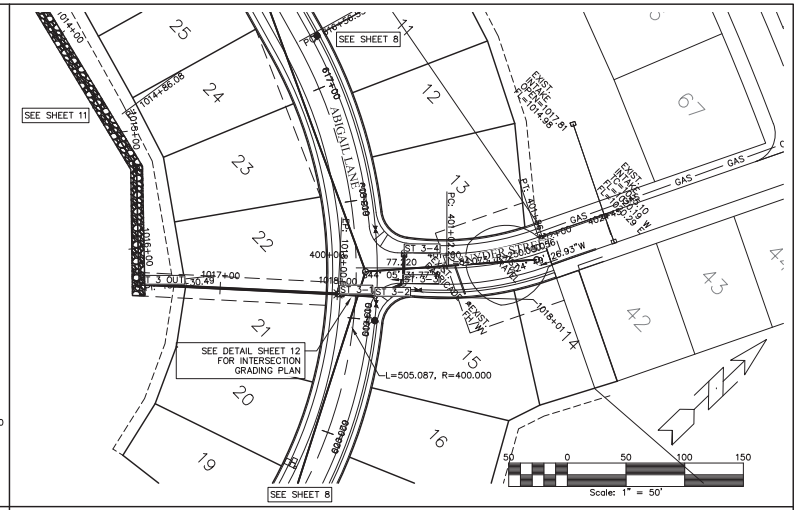
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

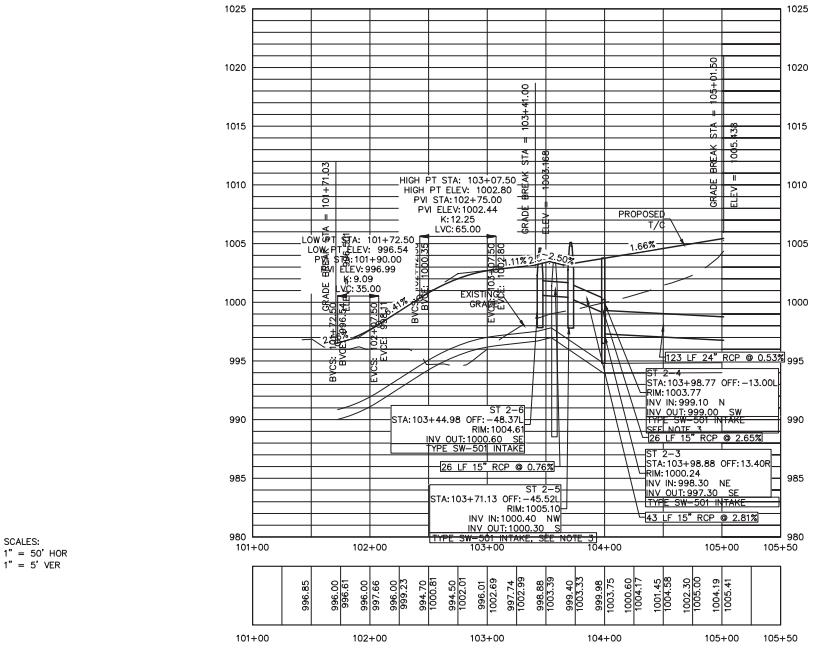
12-152

NOTES:

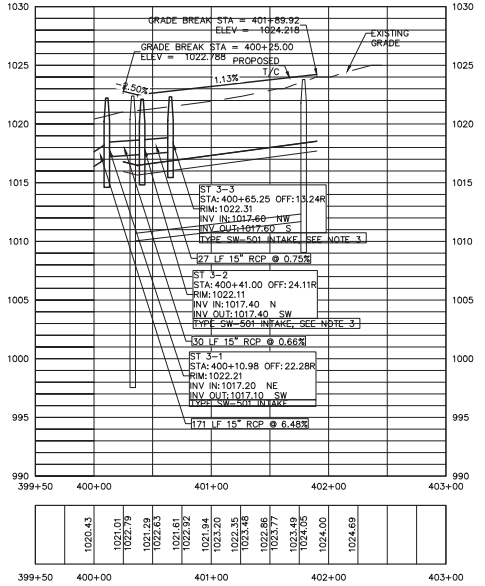
1. THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.
2. ALL RIP RAP SHALL BE PLACED OVER ENGINEERING FABRIC. ALL DISTURBED AREAS OF EXISTING CHANNELS SHALL BE COVERED WITH RIP RAP.
3. CONTRACTOR MAY SUBSTITUTE A SW-502 OR SW-503 INTAKE FOR STRUCTURES ST3-2, ST3-3, ST2-4 & ST2-5.







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



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

9

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
1917 S. Duff Ave., Suite A
Ames, IOWA 50010
DES MOINES, IOWA 50312
(515) 288-4823

12-152

NO.	REVISION	DATE:	BY	FOR:

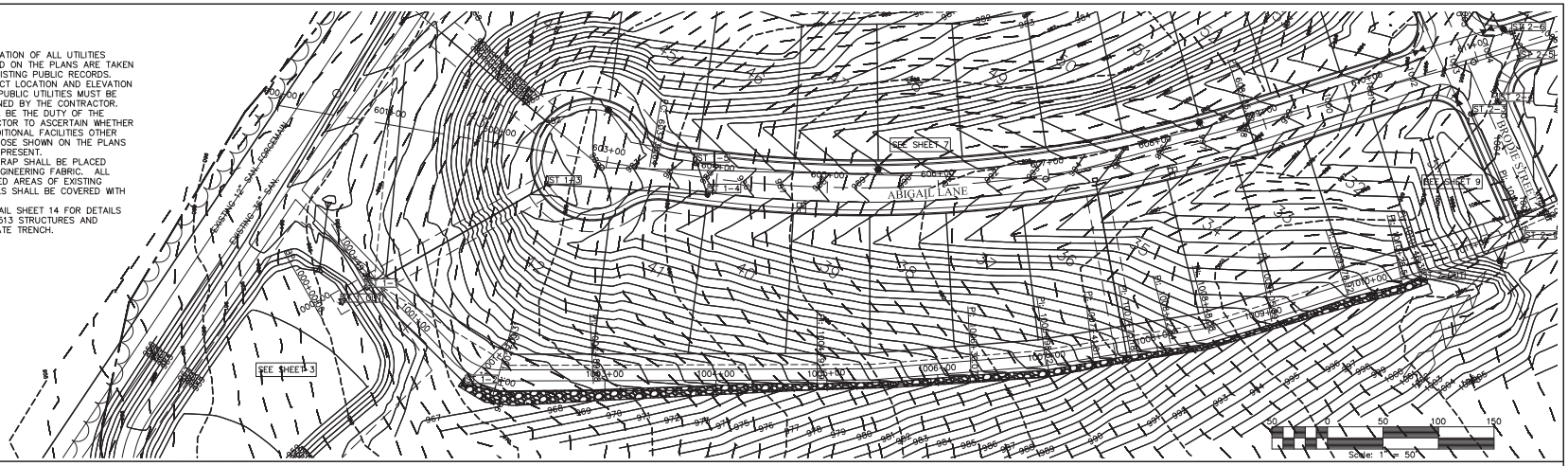
BRODIE ST. & SNYDER ST. - PAVEMENT & STORM SEWER

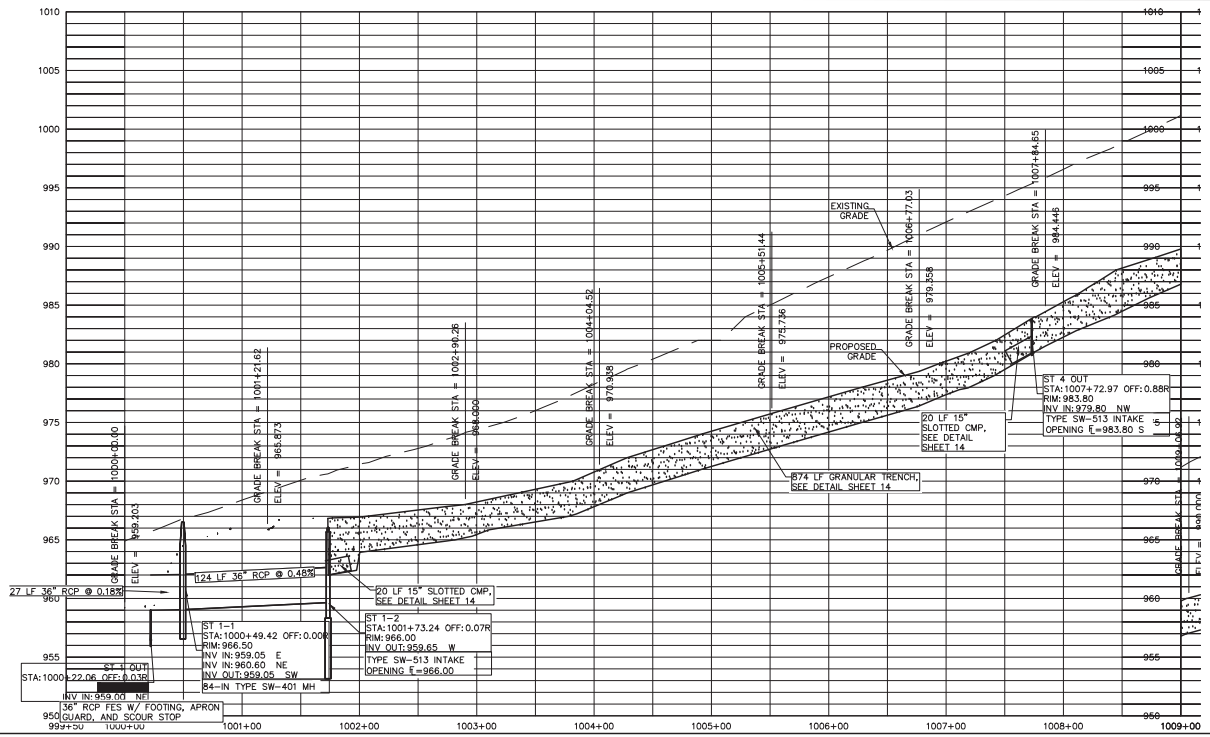
LOCATION:

SCALE:	1" = 50'	DESIGNED BY:	CJB
DWG:	12-152-PP9.DWG	CHECKED BY:	DJS
FIELD BOOK:		SHEET	9 OF 12
		DRAWN BY:	PJV
		DATE:	10/17/12
		FILE NO.:	12-043

NOTES:

1. 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.
2. ALL RIP RAP SHALL BE PLACED OVER ENGINEERING FABRIC. ALL DISTURBED AREAS OF EXISTING CHANNELS SHALL BE COVERED WITH RIP RAP.
3. SEE DETAIL SHEET 14 FOR DETAILS ON SW-513 STRUCTURES AND AGGREGATE TRENCH.





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

10

ABIGAIL LANE REAR YARD STORM SEWER

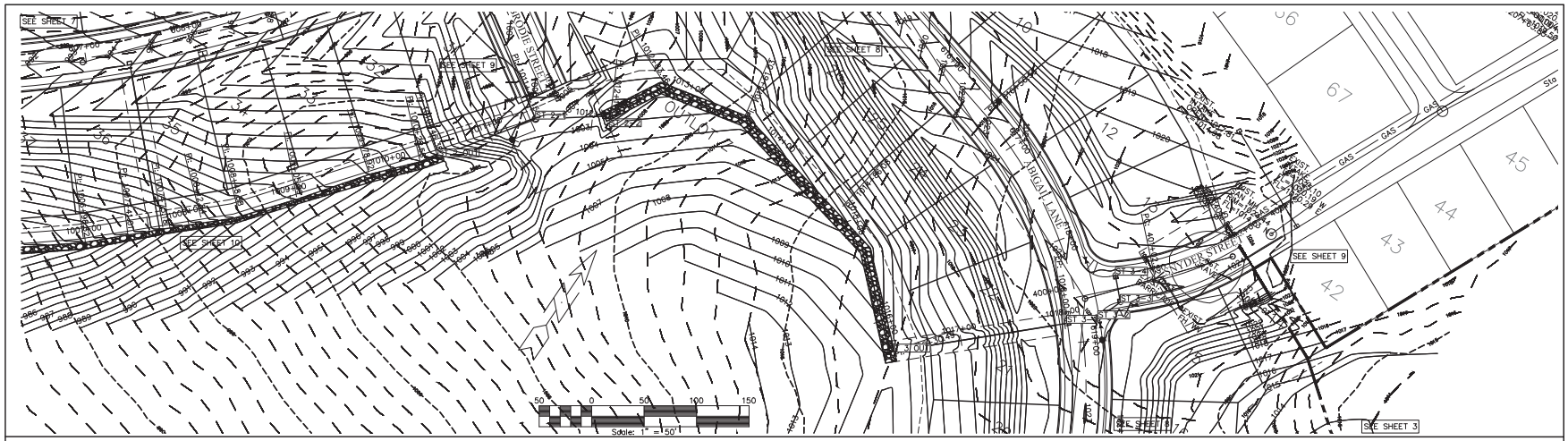
NO.	REVISION	DATE:	BY	FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY:	CJB
DWG:	12-152-PP10.DWG	CHECKED BY:	DJS
FIELD BOOK:		SHEET 10 OF 12	
DRAWN BY:	PJV		
DATE:	10/17/12		
FILE NO.:	12-043		

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
1501 42nd Street, Suite 300
DES MOINES, IOWA 50312
(515) 288-4623

12-152



NOTES:

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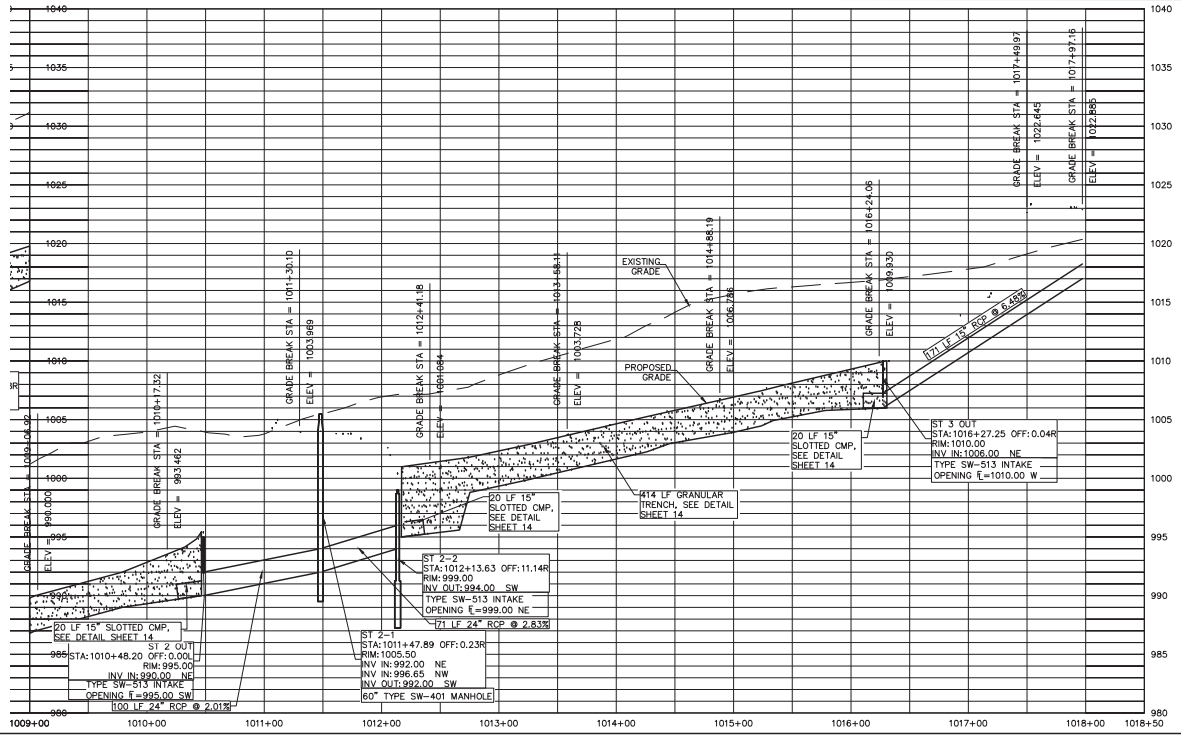
2. ALL RIP RAP SHALL BE PLACED OVER ENGINEERING FABRIC. ALL DISTURBED AREAS OF EXISTING CHANNELS SHALL BE COVERED WITH RIP RAP.
3. SEE DETAIL SHEET 14 FOR DETAILS ON SW-513 STRUCTURES AND AGGREGATE TRENCH.

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



ABIGAIL LANE REAR YARD STORM SEWER

NO.	REVISION	DATE:	BY	FOR:

LOCATION:

SCALE:	1" = 50'	DESIGNED BY:	CJB
DWG:	12-152-PP11.DWG	CHECKED BY:	DJS
FIELD BOOK:		SHEET 11 OF 12	

DRAWN BY: PJV
DATE: 10/17/12
FILE NO.: 12-043

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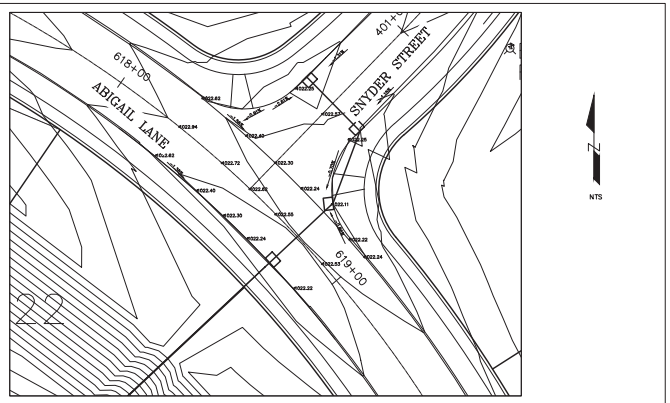
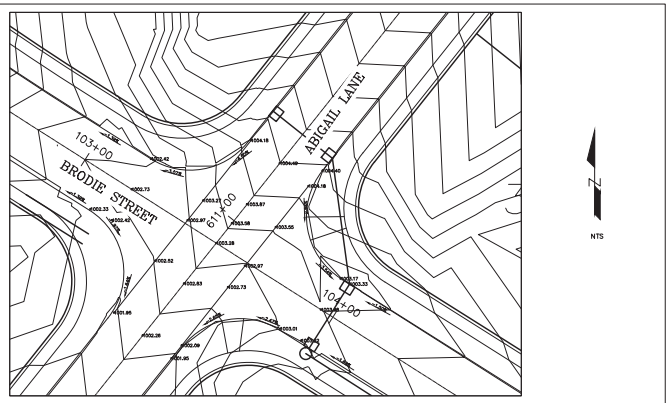
Engineering Resource Group, Inc.
Engineers and Surveyors
1417 NORTH UNION
DES MOINES, IOWA 50312
(515) 288-4623

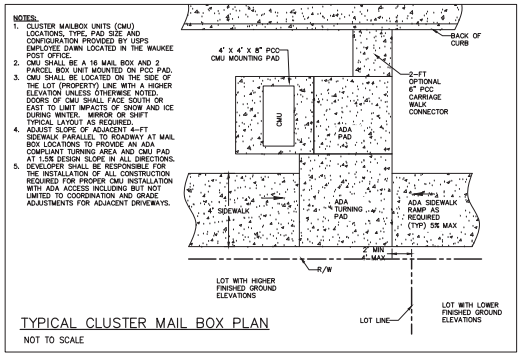
12-152



SNYDER / ABIGAIL INTERSECTION GRADING PLAN

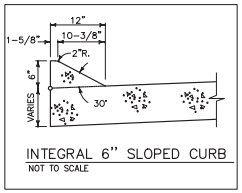


BRODIE / ABIGAIL INTERSECTION GRADING PLAN



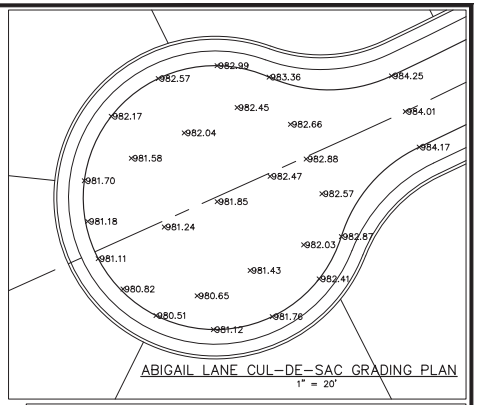
TYPICAL CLUSTER MAIL BOX PLAN

NOT TO SCALE



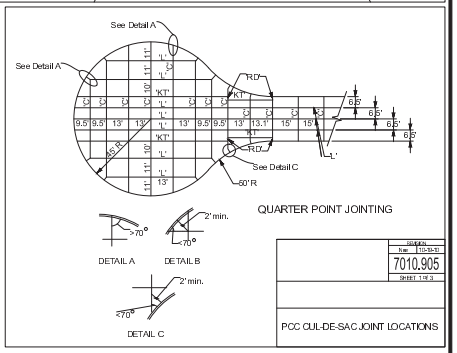
INTEGRAL 6" SLOPED CURB

NOT TO SCALE

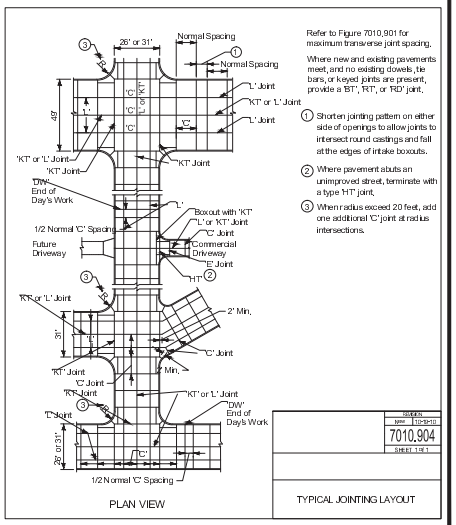


ABIGAIL LANE CUL-DE-SAC GRADING PLAN

1" = 20'



PCC CUL-DE-SAC JOINT LOCATIONS



PLAN VIEW

TYPICAL JOINTING LAYOUT

IOWA DOT 7010.905 SHEET 1 OF 3

IOWA DOT 7010.904 SHEET 1 OF 1

12

GLYNN VILLAGE PLAT 6 - DETAILS

NO.	REVISION	DATE	BY

FOR: HUBBELL REALTY COMPANY
LOCATION:

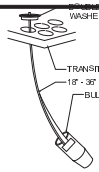
SCALE: 1" = 20'
DWG: 12-152DTL.DWG
FIELD BOOK:

DESIGNED BY: CJB
CHECKED BY: DJS
SHEET 12 OF 12

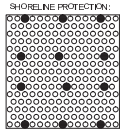
DRAWN BY: PJV
DATE: 10/17/12
FILE NO.: 12-152

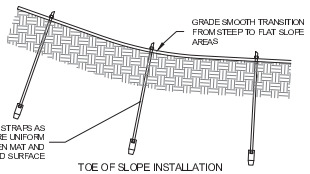
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

12-152



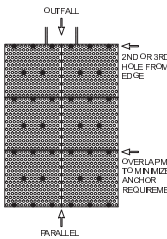
PIPE DIAMETER	DISCHARGE (CFS)	SCOURSTOP WIDTHxLENGTH
12"	8	4'x 4'
24"	30	4'x 8'
36"	75	8' x 12'
48"	100	12'x 16'
60"	150	12' x 20'
72"+		SEE DETAILS

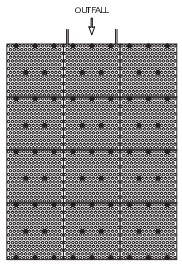




TOE OF SLOPE INSTALLATION
SCALE 1" = 1'

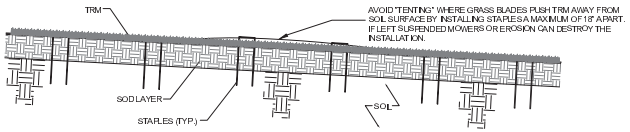
ADD EXTRA ANCHORS IF NECESSARY TO ENSURE CONSISTENT CONTACT WITH SOIL, OR IMPROVE SOIL SURFACE SMOOTHNESS.

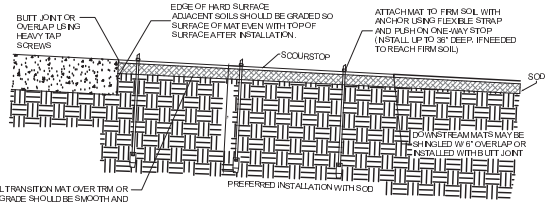




TURF REINFORCEMENT MAT INSTALLED OVER SOD:
- TRIM INSTALLED SOD TO 1" HEIGHT. INSTALL TRM OVER INSTALLED SOD. STRETCH TRM TIGHTLY ACROSS INSTALLATION SURFACE AREA. INSTALL STAPLES AT MAX. OF 18" APART (450 MM). IRRIGATE SOD AS NEEDED AFTER INSTALLATION TO AID IN ESTABLISHMENT OF VEGETATION.
- SOD DOWNSTREAM 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' O.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.



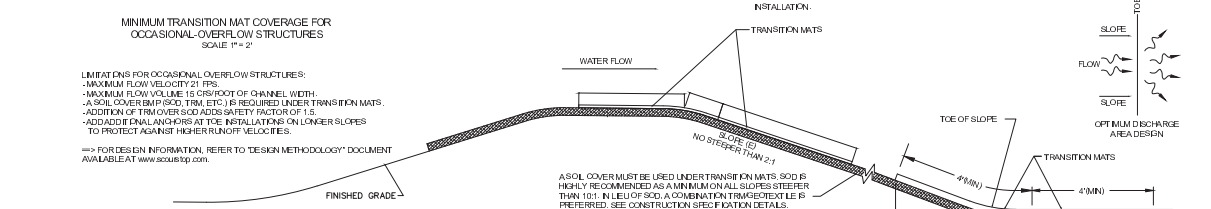


INSTALL TRANSITION MAT OVER TRM OR SOD. GRADE SHOULD BE SMOOTH AND UNIFORM. GRADE OUT ANY RILLS FOR CONSISTENT SOIL STRUCTURE PRIOR TO INSTALLATION.

MINIMUM TRANSITION MAT COVERAGE FOR OCCASIONAL-OVERFLOW STRUCTURES
SCALE 1" = 2'

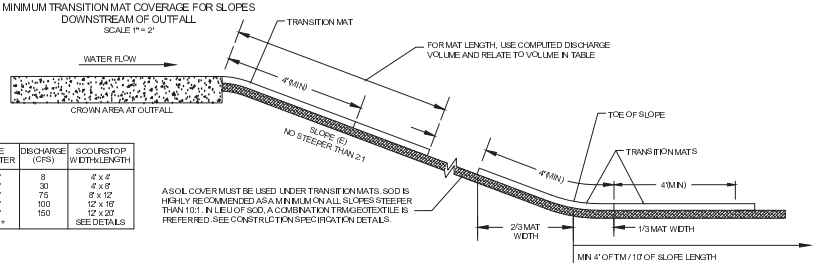
LIMITATIONS FOR OCCASIONAL OVERFLOW STRUCTURES:
- MAXIMUM FLOW VELOCITY 21 FPS.
- MAXIMUM FLOW VOLUME 15 CFS/FOOT OF CHANNEL WIDTH.
- A SOIL COVER BMP (SOD, TRM, ETC.) IS REQUIRED UNDER TRANSITION MATS.
- ADDITION OF TRM OVER SOD ADDS SAFETY FACTOR OF 1.5.
- ADD ADDITIONAL ANCHORS AT TOE INSTALLATIONS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

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



TRM/SOD COMBINATION INSTALLATION DETAILS
NO SCALE

MINIMUM TRANSITION MAT COVERAGE FOR SLOPES DOWNSTREAM OF OUTFALL
SCALE 1" = 2'



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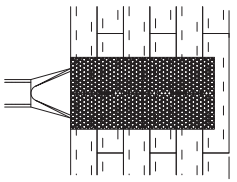

STAPLED SOD DETAILS
NO SCALE

SCOUR STOP INSTALLATION TYPICAL
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 MODE.
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 EROSIVE FLOWS, 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.

13

GLYNN VILLAGE PLAT 6 - DETAILS

NO.	REVISION	DATE	BY

FOR: HUBBELL REALTY COMPANY
LOCATION:

SCALE:	1" = 20'	DESIGNED BY:	CJB
DWG:	12-152DTL.DWG	CHECKED BY:	DJS
FIELD BOOK:		SHEET 12 OF 12	

DRAWN BY: PJV
DATE: 10/17/12
FILE NO.: 12-152

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

12-152

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.

NOTICE:

ALL CONTRACTORS AND SUB-CONTRACTORS MUST SIGN THE NPDES CERTIFICATION STATEMENT PRIOR TO PERFORMING ANY WORK ON SITE. BY SIGNING THE CERTIFICATION STATEMENT, THE CONTRACTOR AND/OR SUBCONTRACTOR AGREES TO BECOME A CO-PERMITTEE WITH THE OWNER AND OTHER CO-PERMITTEES. AS A CO-PERMITTEE, YOU AND YOUR COMPANY ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE CODE OF IOWA TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN DEVELOPED UNDER THE NPDES PERMIT. SIGNIFICANT PENALTIES MAY BE IMPOSED BY THE EPA AND/OR THE IDNR SHOULD A PERMITTEE OR CO-PERMITTEE VIOLATE NPDES PERMIT REQUIREMENTS.

PLACE SILT FENCE OR FILTER SOCK AROUND INTAKE AFTER CONSTRUCTED. INSTALL BELOW GRADE INLET PROTECTION DEVICE IN INTAKES AFTER PAVEMENT IS PLACED.

NOTE: ALL RIP-RAP SHALL BE PLACED OVER ENGINEERING FABRIC. ALL DISTURBED AREAS OF EXISTING CHANNELS SHALL BE COVERED WITH RIP-RAP

153 DENOTES EXIST. CONTOUR
155 DENOTES PROPOSED CONTOUR
X 56.85 DENOTES PROPOSED SPOT ELEVATION
T/W DENOTES TOP OF WALL ELEVATION
B/W DENOTES BOTTOM OF WALL ELEVATION

EXISTING TEMPORARY BERM ALONG BOUNDARY. SLOPE TRAIL BERM EMBANKMENT TO TOP OF TEMPORARY BERM OR PROVIDE FOR TEMPORARY BERM REMOVAL AFTER CONSTRUCTION OF TRAIL BERM EMBANKMENT TO PREVENT PONDING.

4502 LF SILT FENCE

GRADE EMERGENCY BY PASS DRAINAGE SWALE

INSTALL 18" FES WITH FOOTING AND APRON GUARD IE=963.00 S (SEE DETAIL SHEET 14)

INSTALL 63LF 18" RCP @ 5.40%

INSTALL 18" FES WITH FOOTING AND APRON GUARD IE=959.60 N WITH SCOUR STOP (SEE DETAIL SHEET 14)

SCALED FEMA 100-YEAR EVENT LINE

SMF PLAT 6 EAST
TOB=963.00
WEIR=962.00
100Y24H=961.19
BTM=957.00

INSTALL 36" FES WITH FOOTING AND APRON GUARD IE=959.00 NE WITH SCOUR STOP (SEE DETAIL SHEET 14)

INSTALL SW-513 INTAKE CONTROL STRUCTURE SEE DETAIL SHEET 14 SIDE OPENING E=962.00 N IE =957.00 N (21" ORIFICE ON UPSTREAM SIDE OF STRUCTURE) IE=955.00 S (36")

CONSTRUCT TEMPORARY STOCKPILE AT PLAT 6 END OF TRAIL. RELOCATE SIGNAGE FROM CONNECTION AT NORTH.

INSTALL 139 LF 36" RCP @ 3.60%

INSTALL 36" FES WITH FOOTING AND APRON GUARD IE=950.00 N WITH 60 TN RIP RAP (SEE DETAIL SHEET 14)

100 0 100 200 300
Scale: 1" = 100'

PLAT BOUNDARY

EMERSON LN

GRAVEL STABILIZED ENTRANCE

APPROX. AREA OF DISTURBANCE

SILT FENCE

PORTA-POTTY

EQUIPMENT AND MATERIAL STORAGE AREA

GRAVEL STABILIZED ENTRANCE

CONCRETE WASHOUT AREA

GRADE EMERGENCY BY PASS DRAINAGE SWALE

TEMPORARY CHECK DAMS (TYP. SPACING TO MEET SUDAS SPECIFICATIONS)

INSTALL 161 LF 15" RCP @ 6.26%

INSTALL 2099 SF OF 10-FT RECREATIONAL TRAIL

SMF PLAT 6 EAST
TOB=1006.00
WEIR=1005.00
100Y24H=1004.68
BTM=1000.25

INSTALL 71 LF 36" RCP @ 1.41%

INSTALL SW-513 INTAKE CONTROL STRUCTURE SEE DETAIL SHEET 14 SIDE OPENING E=1005.00 N,E,W IE =1000.25 N (21" ORIFICE ON UPSTREAM SIDE OF STRUCTURE) IE=999.25 S (36")

RIP-RAP OR VELOCITY DISSIPATION DEVISE

INSTALL 36" FES WITH FOOTING AND APRON GUARD IE=998.25 N WITH 60 TN RIP RAP (SEE DETAIL SHEET 14)

TEMP SILT BASIN

HUDSON METROPOLITAN DEVELOPMENT ROAD

PROJECT LOCATION

VICINITY MAP
NOT TO SCALE

E UNIVERSITY AVE

V AVE

312TH PL

R22

GLYNN VILLAGE PLAT 6 - EROSION CONTROL PLAN

STORM WATER POLLUTION PREVENTION PLAN

DISTANCE FROM SITE TO RECEIVING WATERS OF UNNAMED TRIBUTARY TO SUGAR CREEK: 160 FEET

NO.	REVISION	DATE

NOTE:

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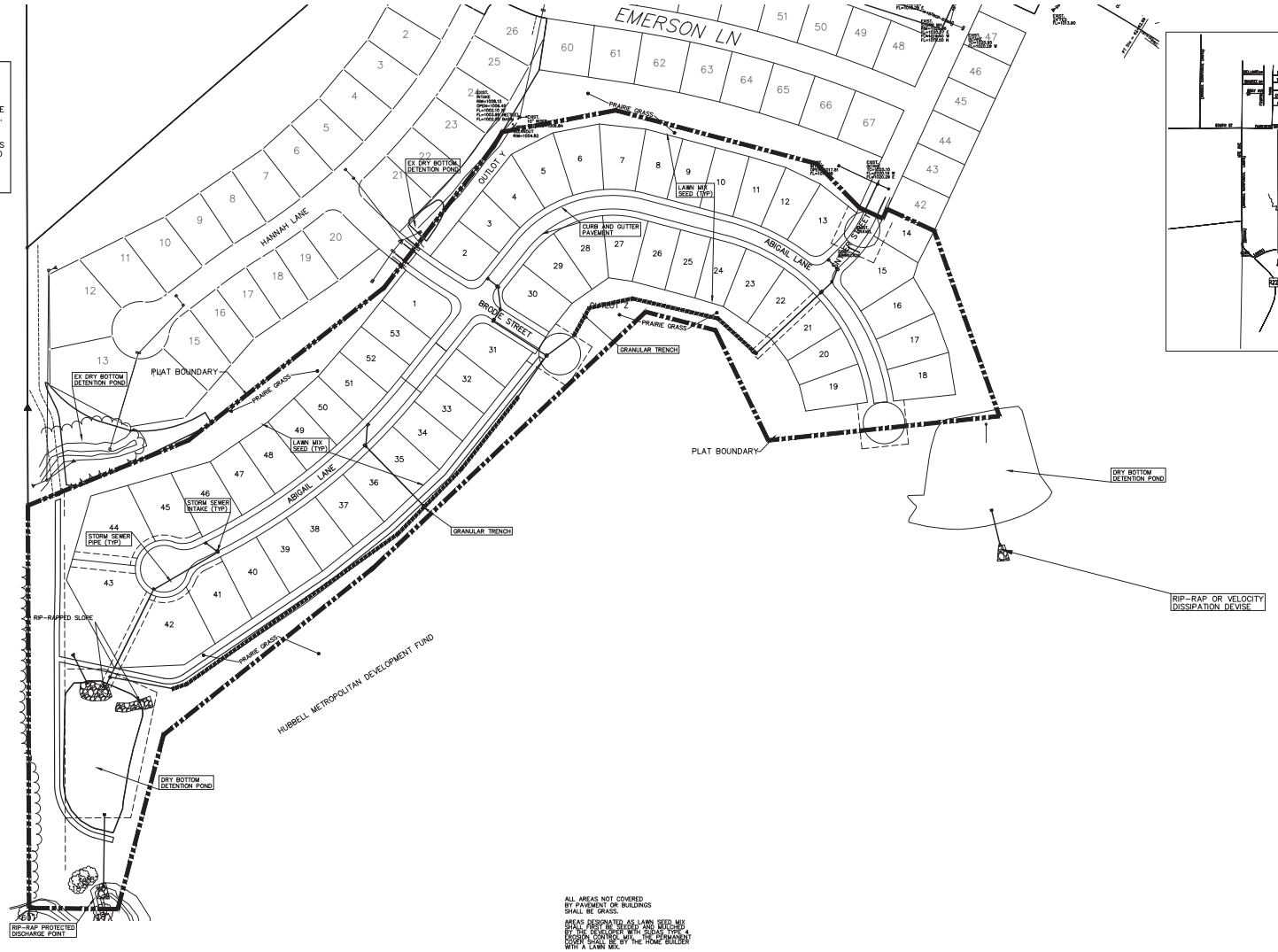
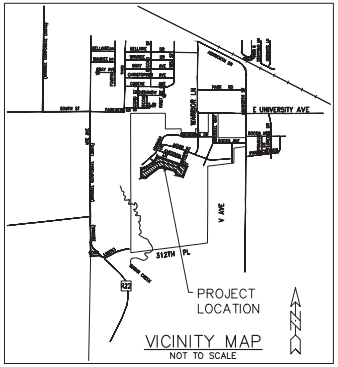
155	DENOTES PROPOSED CONTOUR
X 56.85	DENOTES PROPOSED SPOT ELEVATION
T/W	DENOTES TOP OF WALL ELEVATION
B/W	DENOTES BOTTOM OF WALL ELEVATION

4502 LF SILT FENCE

100 0 100 200 300

Scale: 1" = 100'





GLYNN VILLAGE PLAT 6 - SITE MAP