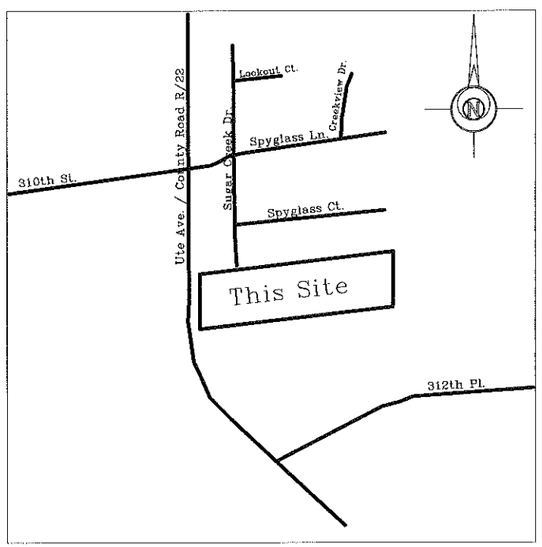
AS-BUILTS
CONSTRUCTION DRAWINGS
SPYGLASS PLAT 2

WAUKEE, IOWA

Spyglass 2, LLC, 1360 NW 121st St, Suite A, Clive, Iowa 50325



VICINITY SKETCH

Not To Scale

Utility Notes:

1) The proposed water service is provided by the City of Waukee (Contact Charles Waske, 515-987-4363, 805 University Ave, Waukee, IA 50263).

2) The proposed sanitary service is provided by the City of Waukee (Contact Charles Waske, 515-987-4363, 805 University Ave, Waukee, IA 50263).

3) The proposed electric service is provided by Mid-American Energy, Phone 1-888-427-5632.

4) The natural gas service is provided by the City of Waukee (Contact Dave Dezeeuw, 515-987-4363, 805 University Ave, Waukee, IA 50263).

IOWA ONE CALL

CALL 48 HOURS BEFORE YOU DIG
1-800-292-8989

DRAWING INDEX

1 Title Sheet
2 Grading and Erosion Control Plan
3 Sugar Creek Drive Sanitary Sewer & Water Main
4 Whistling Court (East) Sanitary Sewer & Water Main
5 Whistling Court Cul-de-sac (West) Sanitary Sewer & Water Main
6 Sanitary Sewer Outfall Plan and Profile
7 Sugar Creek Drive Paving & Storm Sewer
8 Whistling Court (East) Paving & Storm Sewer
9 Whistling Court Cul-de-sac (West) Paving & Storm Sewer
10 South Storm Sewer Plan and Profile
11 Storm Sewer Outfall Plan and Profile
12 Miscellaneous Details, Demolition Plan & Estimated Quantities
13 Miscellaneous Details
14 As-Built Grading Plan

All construction shall be in accordance with the Waukee Standard Specifications.

The City of Waukee Engineering Department shall be notified by the Contractor 48 hours prior to any weekend or holiday work being performed.

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

Mark A. McMurphy 8/4/14

MARK A. MCMURPHY, IOWA LIC. NO. 14674 DATE

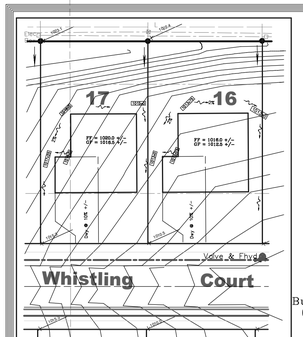
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2014.

ADDITIONAL PAGES COVERED BY THIS SEAL (NONE UNLESS INDICATED HERE): Sheets 1 through 14

MARK A. McMURPHY LICENSED 14674 IOWA PROFESSIONAL ENGINEER

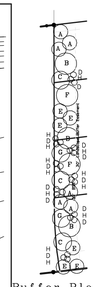
ABACI CONSULTING INC, 101 NE CIRCLE DR, GRIMES, IOWA, 50111

CIVIL ENGINEERING and LAND SURVEYING



TYPICAL REVERSE SLOPE
LOT GRADING SCHEMATIC

Note:
Grades will vary from depiction. This typical shows potential drainage routing only and is not intended to specify particular grades. Rather it indicates the grading patern which will be required to achieve proper drainage from the rear of the homes. Each lot will vary. Each lot will require a unique grading plan. Route runoff along lot lines between homes to the street (typical).



Buffer Plantings
(Half Scale)

Landscaping Buffer Plantings

Symbol	Common Name	Botanical Name	Size	No.
A	Blue Spruce	Picea Pungens var. Glauca	6 ft. B&B	6 ea.
B	Autumn Blaze Maple	Acer Fremanii Jeffersred	8 Ft. B&B	3 ea
C	Common Serviceberry	Amelanchier arborea	6 ft. B&B	3 ea.
O_D	Spring Red Viburnum	viburnum trilobum	5-gallon	12 ea
E	Scotch Pine	Pinus Sylvestrius	6 ft. B&B	6 ea.
P	Pin Oak	Quercus palustris	8 Ft. B&B	2 ea
G	Prairiefire Crabapple	Malus sp. "Prairiefire"	6 ft. B&B	2 ea.
O_H	Burning bush	Euonymus alatus	5-gallon	12 ea

Site Notes:

S1) This project is the development of a residential subdivision. This includes grading, shoring, trenching and pipe installation, paving and building constriction. The site is 10.38 acres of which 9.38 will be disturbed. Additionally, 0.48 acres of off-site will be disturbed. Total area of disturbance is 9.86 acres.
S2) The contractor shall protect adjoining properties from any damage resulting from the movement of soil or debris from the project site.
S3) Preserve any existing vegetation until construction is necessary in that area.
S4) Seed all areas (temporary or permanent) upon completion of final grading as soon as possible.
S5) If construction activity is not planned to occur for at least 21 days in a disturbed area, stabilize with temporary erosion control within 14 days of ceasing work in the area.
S6) The contractor is required to maintain all erosion control measures (temporary and permanent) and keep them in working order. Cleaning of siltation controls shall occur no later than when they have lost 50% of the capacity.
S7) The project and erosion control devices shall be inspected every 7 days. Record the findings of the inspection and take any actions necessary to ensure that the erosion control measures are working properly.
S8) Final stabilization means: the point at which all soil disturbing activities at the site have been completed, and a uniform perrenial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.
S9) Runoff during the initial development will drain the western portion of this site into the proposed detention basin. This will serve as the siltation/sedimentation basin.
S10) Provide additional silt fence, silt basins, earth dikes, ditch checks, and various other control measures as needed.
S11) This site is in Zone X "Areas determined to be outside of the 500-year flood plain" per FEMA FIRM Map Number 19049C0335E with a revision date of December 4, 2007.

TABLE OF ADJACENT PROPERTY OWNERS

PROPERTY OWNER: Key: 1	LEGAL DESCRIPTION:	MAILING ADDRESS:
1 GILLIARD, ARLENE	SPYGLASS LOT 69	520 SPYGLASS CT WAUKEE, IA 50263
2 POTTORFF, STARLA & KEVN	SPYGLASS LOT 68	530 SPYGLASS CT WAUKEE, IA 50263
3 TIEDJE, EHREN & SARA	SPYGLASS LOT 67	540 SPYGLASS CT WAUKEE, IA 50263
4 SCHULTE, BENJAMN & KARYN	SPYGLASS LOT 66	550 SPYGLASS CT WAUKEE, IA 50263
5 GIRARD, EUGENE & STEPHANIE	SPYGLASS LOT 65	865 47TH ST WAUKEE, IA 50263
6 COSE, JEFFREY & AMY	SPYGLASS LOT 64	580 SPYGLASS CT WAUKEE, IA 50263
7 SCHAFFER, PAUL & KRSTN	SPYGLASS LOT 63	590 SPYGLASS CT WAUKEE, IA 50263
8 ROWLAND, BRYAN & KELLY	SPYGLASS LOT 62	27503 307TH WAY ADEL, IA 50003
9 SCHRAUTH, BRANDON & HOLLY	SPYGLASS LOT 61	620 SPYGLASS CT WAUKEE, IA 50263
10 PREMIER HOME NETWORK INC	SPYGLASS LOT 60	9005 ILTIS DR URBANDALE, IA 50322
11 BERMAN, ELI & STEPHANIE	SPYGLASS LOT 59	640 SPYGLASS CT WAUKEE, IA 50263
12 HUBBELL METROPOLITAN DEVELOPMENT FUND L LLC	GOV LOT 11 /EX PUMP STATION/	6900 WESTOWN PARKWAY WEST DES MOINES, IA 50266
13 A & L BEAN FAMILY LIMITED PARTNERSHIP	LOT 2 GOV LOT 12 LYING E OF ROAD	29762 310TH ST WAUKEE,IA 50263
14 A & L BEAN FAMILY LIMITED PARTNERSHIP	PARCEL A LOT 2 GOV LOT 12	29762 310TH ST WAUKEE,IA 50263
	This entry intentionally deleted.	
16 O' MALLEY, SHANE & LISA	SPYGLASS LOT 1	2140 SUGAR CREEK DR WAUKEE, IA 50263

Table Of Minimum Elevations

Lot	MOE/MPE/MGS	Elevation
1	MPE	1017.0
2	MPE	1016.0
3	MPE	1013.0
4	MPE	1010.5
5	MPE	1006.0
6	MPE	999.0
7	MPE	998.0
8	MPE	999.0
9	MPE	1003.0
10	MPE	1005.0
11	MPE	1002.0
12	MGS	1013.2
13	MGS	1012.0
14	MGS	1009.8
15	MGS	1009.8
16	MGS	1011.5
17	MGS	1014.0
18	MGS	1017.9
19	MGS	1022.1
20	MGS	1024.0
21	MGS	1026.0
22	MPE	1031.0
23	MPE	1030.0
24	MPE	1027.5
25	MPE	1023.5

Construction Notes:

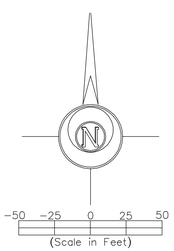
1) The contractor is responsible for the protection of all utilities. Call Iowa One Call before digging 1-800-292-8989.
2) Strip topsoil in excavated and fill areas. Remove all vegetation and organic materials prior to placing and compacting the fill.
3) All cut and fill areas shall be maintained for proper drainage at all times.
4) All fill shall be placed in lifts no greater than 8 inches and compacted to a minimum of 95% of Standard Proctor unless otherwise specified in the construction plans. Obtain required compaction within a soil moisture content range of optimum moisture to 4 percentage points above optimum moisture.
5) The contractor is responsible for any and all materials testing required to assure compliance with the project specifications. This testing shall be incidental to construction.
6) In the event of a discrepancy between these specs. and the detailed construction drawings, the detailed construction drawings shall govern.
7) Any cohesionless soils encountered shall be compacted to 98% of Standard Proctor beneath pavements and critical backfill areas.
8) Proof-roll the pavement subgrade prior to placing pavement. Remove and replace any unsuitable soils to a depth of 2 feet.
9) Maintain moisture content of pavement subgrade soils consisting of clays/silts between 0 and 4 percentage points above optimum until the pavement is placed.
10) Curb backfill shall be compacted and sloped to provide adequate drainage and preventing water from ponding and infiltrating beneath the pavement.
11) Disturb as little area as possible during grading procedures.
12) Stockpile all striped topsoil and all excess cut in the area shown on this plan (or in a suitable location). Strip any available topsoil to a minimum depth of 6", respread (4" min.) available topsoil over all disturbed areas after final grades are reached (except under pavement/building pads)
13) See the Storm Water Pollution Prevention Plan (SWPPP) for the initial erosion control measures.
14) Post development runoff will not adversely effect downstream properties or facilities.
15) It shall be the developer's responsibility to apply for and obtain any storm water discharge permits from the Iowa Department of Natural Resources.
16) Riprap shall be provided by the developer at the storm sewer outlets and at the detention basin outlet.
17) The contractor and subcontractors must maintain proper erosion control throughout the entire project.
18) Site soil material must be retained on site by preventing erosion. This includes soil excavations for foundations on each respective lot.
19) Contractor must proprntly remove all mud, soil and debris tracked onto city streets. Cleaning shall be performed before the end of a work day or prior to a rain event.
20) Overland flowage shall be routed along the lot lines to the street and/or overland flowage easement.
21) Maintain 6.0' minimum cover at all water lines. At sewer crossing maintain 18" minimum clearance.
22) The existing home will be moved off-site. The existing barn will be razed. The existing driveway walks and other improvements appurtenant to the existing home will be removed. The existing well will be capped and plugged per DNR regulations. Refer to Demolition Plan - sheet 12.
23) Maintain a minimum horizontal clearance of 24 inches from the edge of sidewalks to the proposed fire hydrants.
24) The applicant is responsible to provide the City of Waukee with a certified grading plan prior to acceptance of the public improvements.
25) All fire hydrants shall have a Storz fitting.
26) The holder of NPDES General Permit No. 2 shall provide the City of Waukee with a written certification of compliance with the GP No. 2 requirement to provide a minimum topsoil respread of 4 inches across the entire plat prior to acceptance of the public improvements.
27) All construction staking shall be performed under the supervision of an Iowa licensed Professional Engineer.
28) The results of the Geotechnical Report shall be provided to the city and this plan set shall be subject to any changes required by the report.
29) The proposed staging and waste management area shall include any required items such as: waste dumpsters, portable toilets, chemicals, construction materials and other related items.

Construction Schedule:

1) Install stabilized construction entrance & perimeter silt barrier(s).
2) Clear and grub for earthwork operations.
3) Continue grading operations beginning with stockpiling of any available topsoil. Also, install interior silt barriers.
4) Stabilize denuded areas and stockpiles within 14 days of last construction activity in that area.
7) Install storm sewer and water main. Install inlet protection.
8) Paving.
9) Fine grading.
10) Respread available topsoil 4 inches minimum.
11) Temporary seeding/stabilization on building lots.
12) Building construction.
13) Permanent seeding/stabilization of building lots.
13) Final completion, removal of temporary erosion control measures.

STANDARD SYMBOLS LEGEND:

- IRON ROD FOUND
- 1/2" DIA. x 30" IRON PIN SET w/ #14674 CAP
- SECTION CORNER MONUMENT FOUND
- SECTION CORNER MONUMENT SET
- FENCE LINE
- CLF CHAIN LINK FENCE
- WATER MAIN
- GAS MAIN
- UGE UNDERGROUND ELECTRIC
- OHE OVERHEAD ELECTRIC
- UCT UNDERGROUND TELEPHONE
- +/- MORE OR LESS
- OVERFLOW ROUTE
- FLOW DIRECTION
- SANITARY SEWER
- STORM SEWER
- SILT FENCE
- PROPOSED CONTOUR
- 1027x0 PROPOSED SPOT ELEV (@x)
- OFE Overland Flowage Easement
- CO Clean-out
- FGH Finish Grade @ Hydrant



General Notes:

G1) The contractor shall comply with all erosion control requirements of the Iowa code, the Iowa Department of Natural Resources NPDES permit, the Environmental Protection Agency, and local ordinances.
G2) It is the contractor's responsibility to take all the necessary measures to eliminate erosion from the project site and borrow or fill areas including the controls shown on this plan.
G3) The contractor shall be responsible for any and all claims of any type whatsoever resulting from damages to adjoining properties.
G4) All sediment or debris must be removed from adjoining properties promptly or the Owner will remove the items and deduct the cost from the amount due to the contractor.
G5) The SWPPP and all documents associated with it and the permit shall be kept onsite at all times and be available to present to the Iowa Department of Natural resources upon request.
G6) Upon final completion and stabilization of the site, a notice of discontinuation must be filed by the Owner. The Owner must retain all documents associated with the permit and SWPPP for three years.
G7) The contractor shall provide all documents including the originals and inspection records to the Owner upon issuance of the notice of discontinuation.

ABACI CONSULTING, INC.
CIVIL ENGINEERING - LAND SURVEYING
101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048

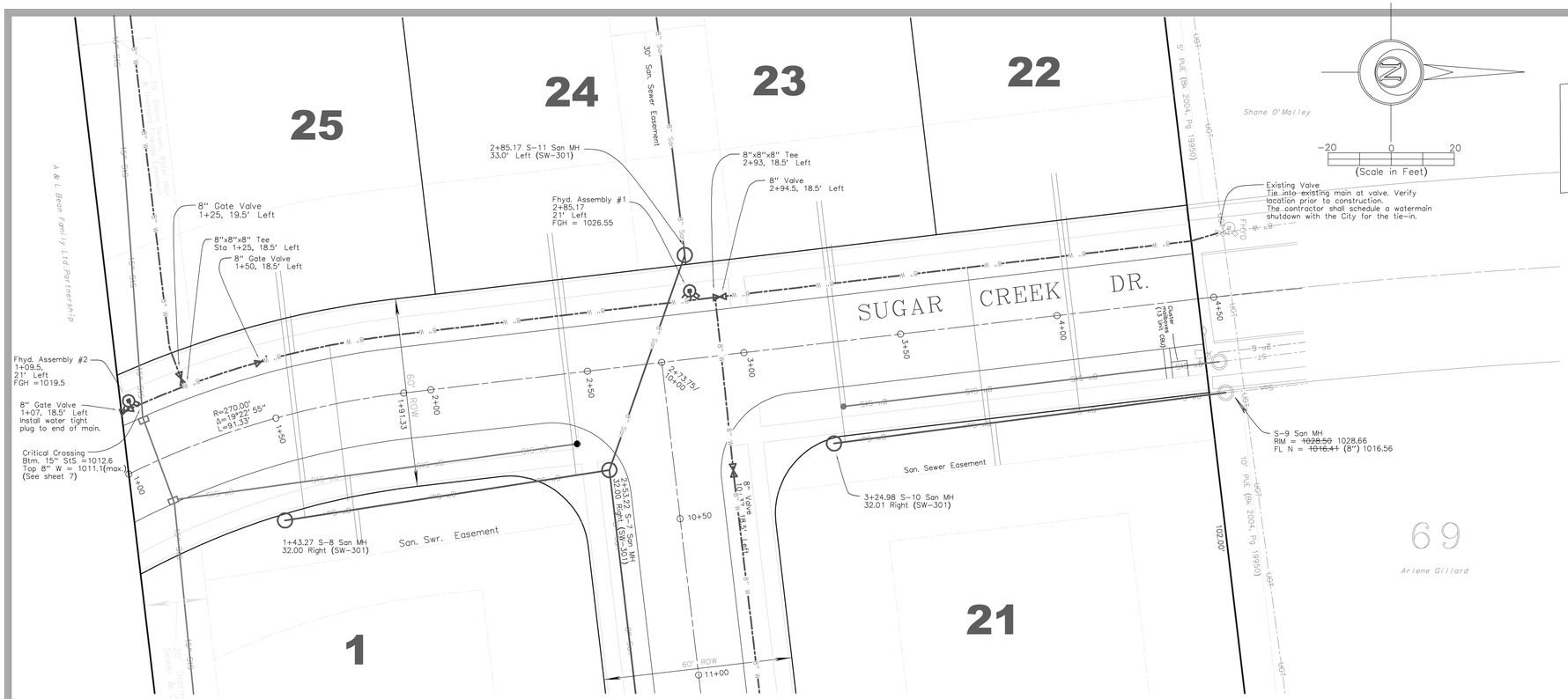
DATE PREPARED: 5-16-13
REVISIONS:
5-16-13: First Submittal
6-17-13: Second Submittal
6-17-13: Third Submittal
7-8-13 & 7-9-13: Comments of 10-24-13: Final Comments of 11-6-13: Per City Review
7-18-14: As-Builts

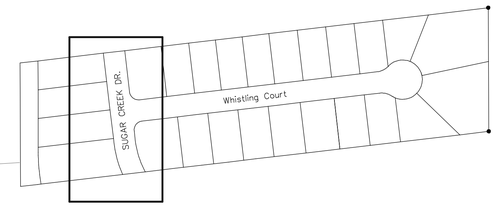
BENCHMARK:
SPIKE IN THIRD POWERPOLE SOUTH OF SOUTHWEST CORNER OF R-22
ELEV = 1029.53

Grading & Erosion Control Plan
Spyglass Plat 2

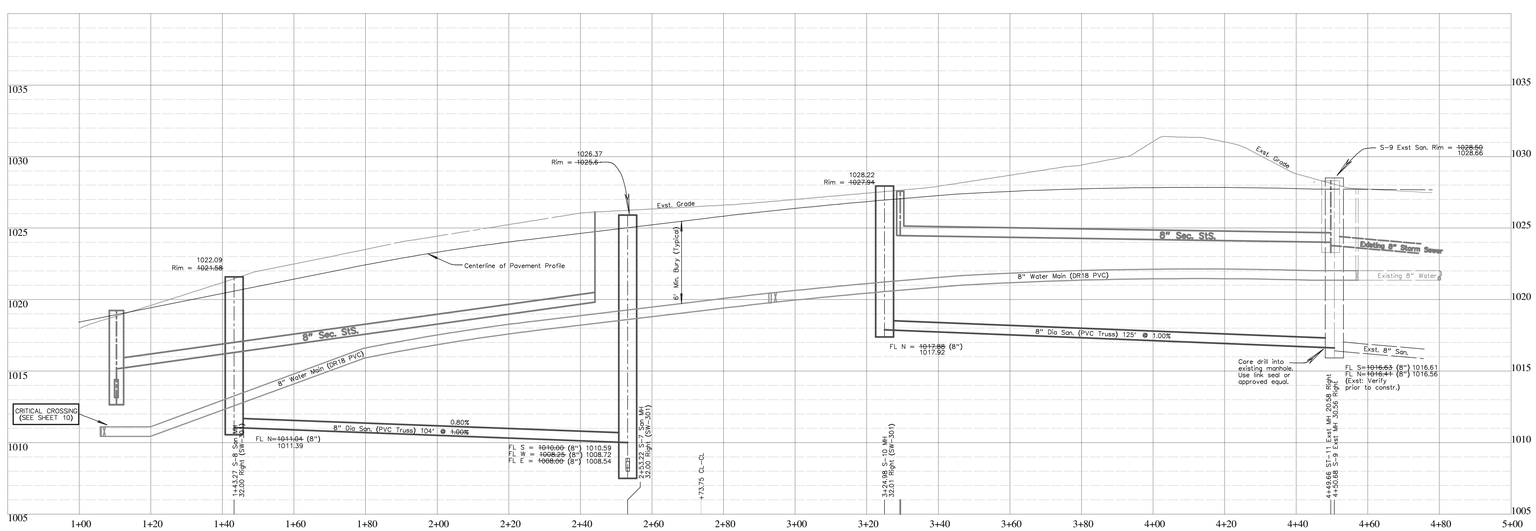
SCALE: (Always check against scale)	DRAWN BY: MM	CHECKED BY: MM	DRAWING: Spyglass Grading & Erosion Control Plan.dwg	PLOT DATE: 06/17/13
1"=50'				

DRAWING NO: 13-00865
SHEET NO: 2 OF 14





SHEET INDEX KEY



STANDARD SYMBOLS LEGEND:

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- △ SECTION CORNER MONUMENT SET
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- CLF CHAIN LINK FENCE
- —W—W— WATER MAIN
- —G—G— GAS MAIN
- —UGE— UNDERGROUND ELECTRIC
- —OHE— OVERHEAD ELECTRIC
- —UCT— UNDERGROUND TELEPHONE
- +/— MORE OR LESS
- OVERFLOW ROUTE
- FLOW DIRECTION
- —S—S— SANITARY SEWER
- —ST—ST— STORM SEWER
- —XX—XX— SILT FENCE
- 1024 PROPOSED CONTOUR
- 1027x0 PROPOSED SPOT ELEV (@x)
- OFE Overland Flowage Easement
- CO Clean-out
- FGH Finish Grade @ Hydrant

ABACI CONSULTING, INC.

CIVIL ENGINEERING - LAND SURVEYING

101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048

DATE PREPARED: 05-16-13

REVISIONS:
5-28-13: First Submittal
6-11-13: Per Supervisor
6-10-13: Per Supervisor Comments
7-23-13: 25 Lots (1-4)
8-20-13: Per City Comments
10-24-13: Conf. Request
11-21-13: Conf. Request
7-18-14: As-Built

BENCHMARK:

Sugar Creek Drive

Sanitary Sewer & Water Main

SCALE: (Always check against barscale) 1"=20'

DRAWN BY: MM

CHECKED BY: MM

DRAWING: 13019 Sugar Creek Drive_PAPlan

PLOT DATE: 06/17/13

DRAWING NO: 13-00865

SHEET NO: 3 OF 14

ABACI CONSULTING, INC.

CIVIL ENGINEERING - LAND SURVEYING

101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048

DATE PREPARED: 05-16-13

REVISIONS:
5-16-13: Site Plan Submittal
5-28-13: Site Plan Resubmittal
6-5-13: Final Submittal
6-7-13: Final Submittal
7-8-13: Final Submittal
7-23-13: Sanitary Sewer Profile of Whistling Court
7-31-13: Sanitary Sewer Profile
7-31-13: Sanitary Sewer Profile
7-31-13: Sanitary Sewer Profile
11-06-13: Per City Review
11-06-13: Per City Review
7-08-14: Lot 4 Added

BENCHMARK:

Whistling Court
Sanitary Sewer & Water Main

SCALE (Always check against scale bar): 1" = 20'

DRAWN BY: JWM

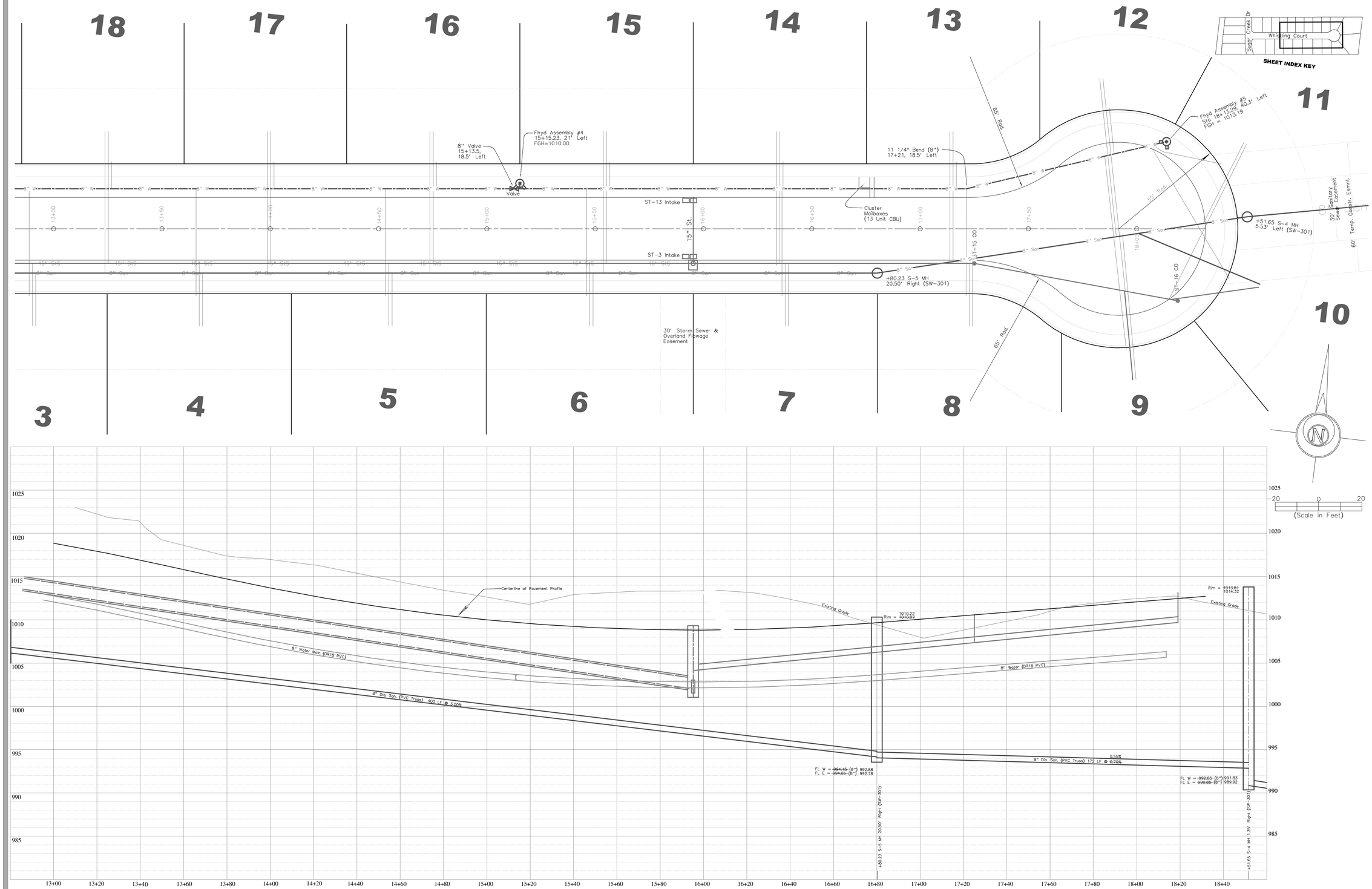
CHECKED BY: MAH

DRAWING: 13039 Whistling Court PM.dwg

PLOT DATE: 06/17/13

DRAWING NO: 13-00865

SHEET NO: 4 OF 13



ABACI CONSULTING, INC.

CIVIL ENGINEERING - LAND SURVEYING

101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048

DATE PREPARED: 05-14-13

REVISIONS:
5-16-13: First Submittal
5-17-13: Per Staff Comments
6-17-13: Final Submittal
7-8-13: Per Staff Comments of 7-8-13 & 7-9-13
7-23-13: Sixth Submittal
10-31-13: Seventh Submittal
11-18-13: Eighth Submittal
11-26-13: Per City Review

BENCHMARK:

Whistling Court Cul-de-Sac

Sanitary Sewer & Water Main

SCALE (Always check against benchmark): 1"=20'

DRAWN BY: JS

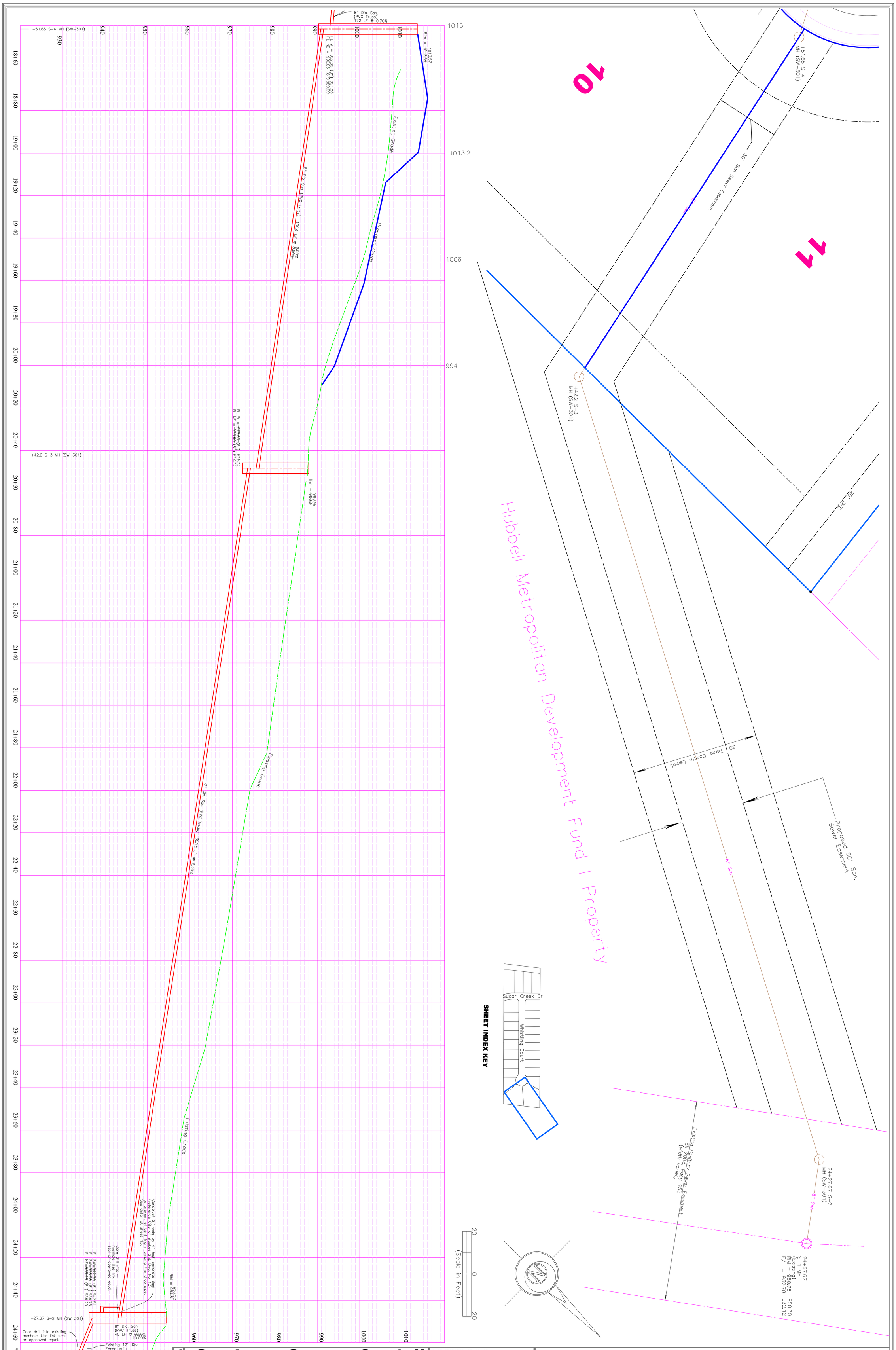
CHECKED BY: MM

DRAWING: 1005 Whistling Court Cul-de-Sac.dwg

PLOT DATE: 06/17/13

DRAWING NO: 13-00865

SHEET NO: 5 OF 14



SHEET NO. 6 OF 14

DRAWING NO: 13-00865

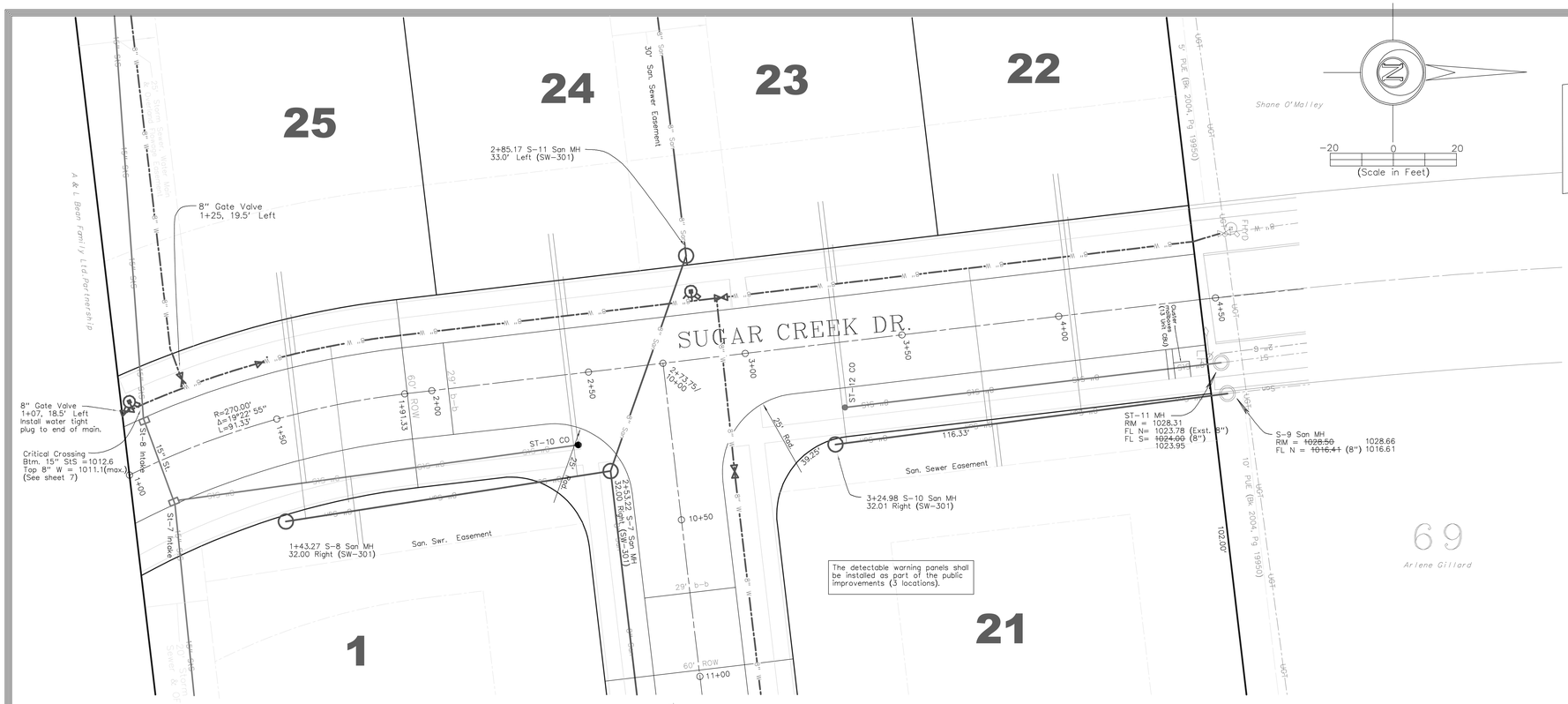
Sanitary Sewer Outfall Plan & Profile

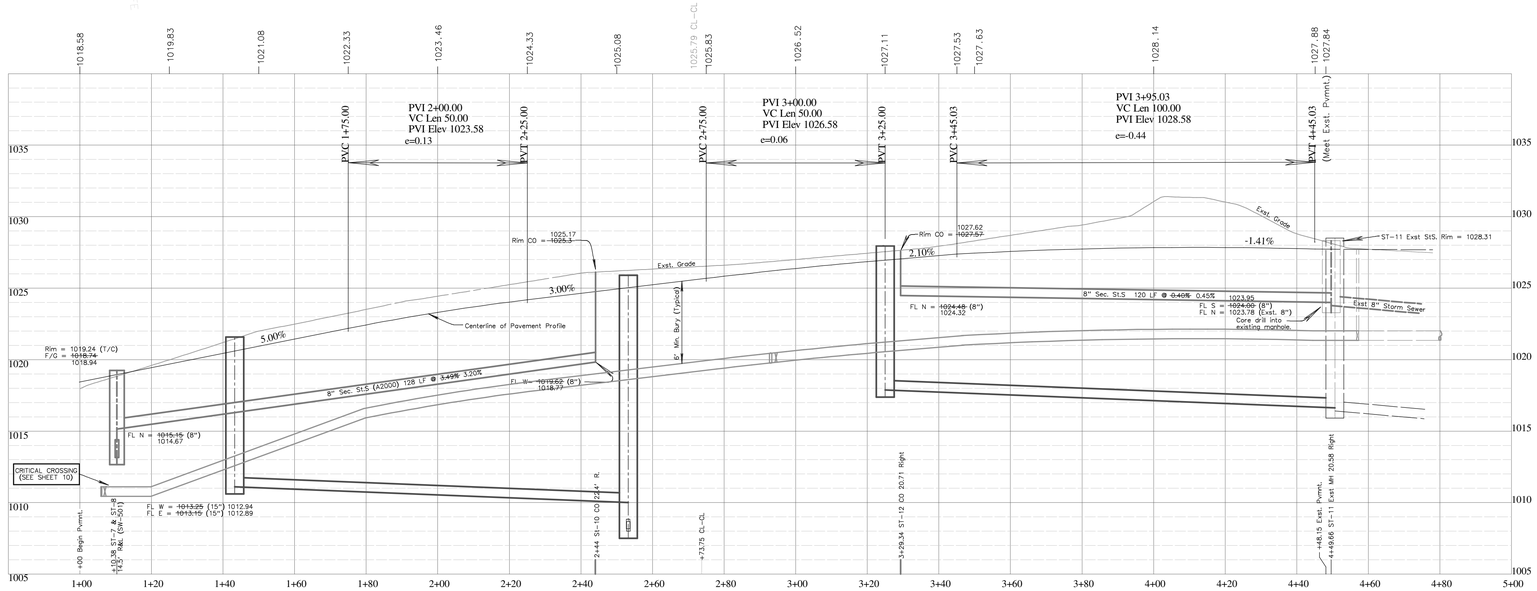
SCALE: 1"=20' | DRAWN BY: MM | CHECKED BY: MM | DRAWING: San Sewer Outfall.scj | PLOT DATE: 05/28/13

DATE PREPARED: 05-16-13

REVISIONS:
5-16-13: First Submittal
5-28-13: Second Submittal
6-17-13: Third Submittal
7-10-13: Per City comments of 7-8-13 & 7-9-13
7-23-13: 25 Lots (1-6)
7-31-13: Sixth Submittal
10-24-13: Client Request
11-06-13: Per City Review
7-18-14: As-Builts

ABACI CONSULTING, INC.
CIVIL ENGINEERING - LAND SURVEYING
101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048





STANDARD SYMBOLS LEGEND:

- ● IRON ROD FOUND
- ○ 1/2" DIA. x 30" IRON PIN SET w/ #14674 CAP
- ▲ SECTION CORNER MONUMENT FOUND
- △ SECTION CORNER MONUMENT SET
- FENCE LINE
- CLF CHAIN LINK FENCE
- W WATER MAIN
- G GAS MAIN
- UGE UNDERGROUND ELECTRIC
- OHE OVERHEAD ELECTRIC
- UCT UNDERGROUND TELEPHONE
- +/- MORE OR LESS
- OVERFLOW ROUTE
- FLOW DIRECTION
- S SANITARY SEWER
- ST STORM SEWER
- XX SILT FENCE
- 1024 PROPOSED CONTOUR
- 1027x0 PROPOSED SPOT ELEV (@x)
- OFE Overland Flowage Easement
- CO Clean-out
- FGH Finish Grade @ Hydrant

ABACI CONSULTING, INC.

CIVIL ENGINEERING - LAND SURVEYING

101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048

DATE PREPARED: 05-16-13

REVISIONS: 1-08-13: Sanitary
5-28-13: Second Submittal
6-28-13: Per City Comments
7-10-13: Per City Comments of 7-1-13 & Per Plan Review 7-5-13
7-23-13: 25 Lots (1-6)
8-12-13: Final Submittal
10-7-13: Client Request
10-18-13: Per Plan Review
7-18-14: As-Built

BENCHMARK:

Sugar Creek Drive
Paving & Storm Sewer

SCALE: (always check against barscale) 1"=20'

DRAWN BY: MM

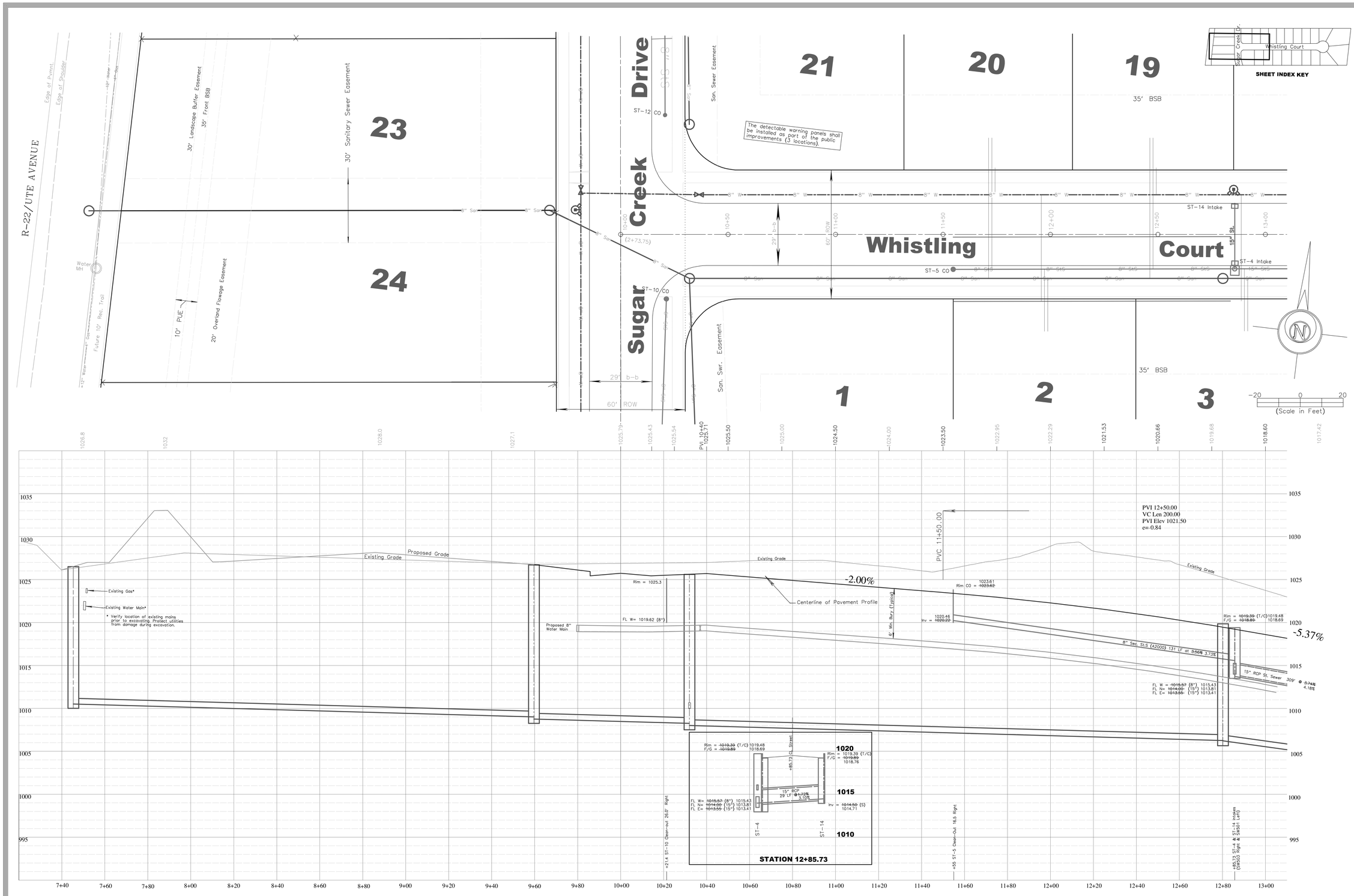
CHECKED BY: MM

DRAWING: 13019 Sugar Creek Drive.PWPlan

PLOT DATE: 06/17/13

DRAWING NO: 13-00865

SHEET NO: 7 OF 14



ABACI CONSULTING, INC.

CIVIL ENGINEERING - LAND SURVEYING

101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048

DATE PREPARED: 05-16-13

REVISIONS:
R.V. 1: 5-24-13 Supervisor
R.V. 2: 5-28-13 Second Submittal
R.V. 3: 6-11-13 Per City Comments
R.V. 4: 7-10-13 Per City Comments of 7-3-13 & 7-8-13
R.V. 5: 7-31-13 Per Lot 8 Comments
R.V. 6: 8-13-13 Per Lot 8 Comments
R.V. 7: 10-24-13 Client Request
R.V. 8: 11-13-13 Per City Review
R.V. 9: 7-18-14 As-Built

BENCHMARK:

Whistling Court
Paving & Storm Sewer

SCALE: (Always check against barscale) 1"=20'

DRAWN BY: JS

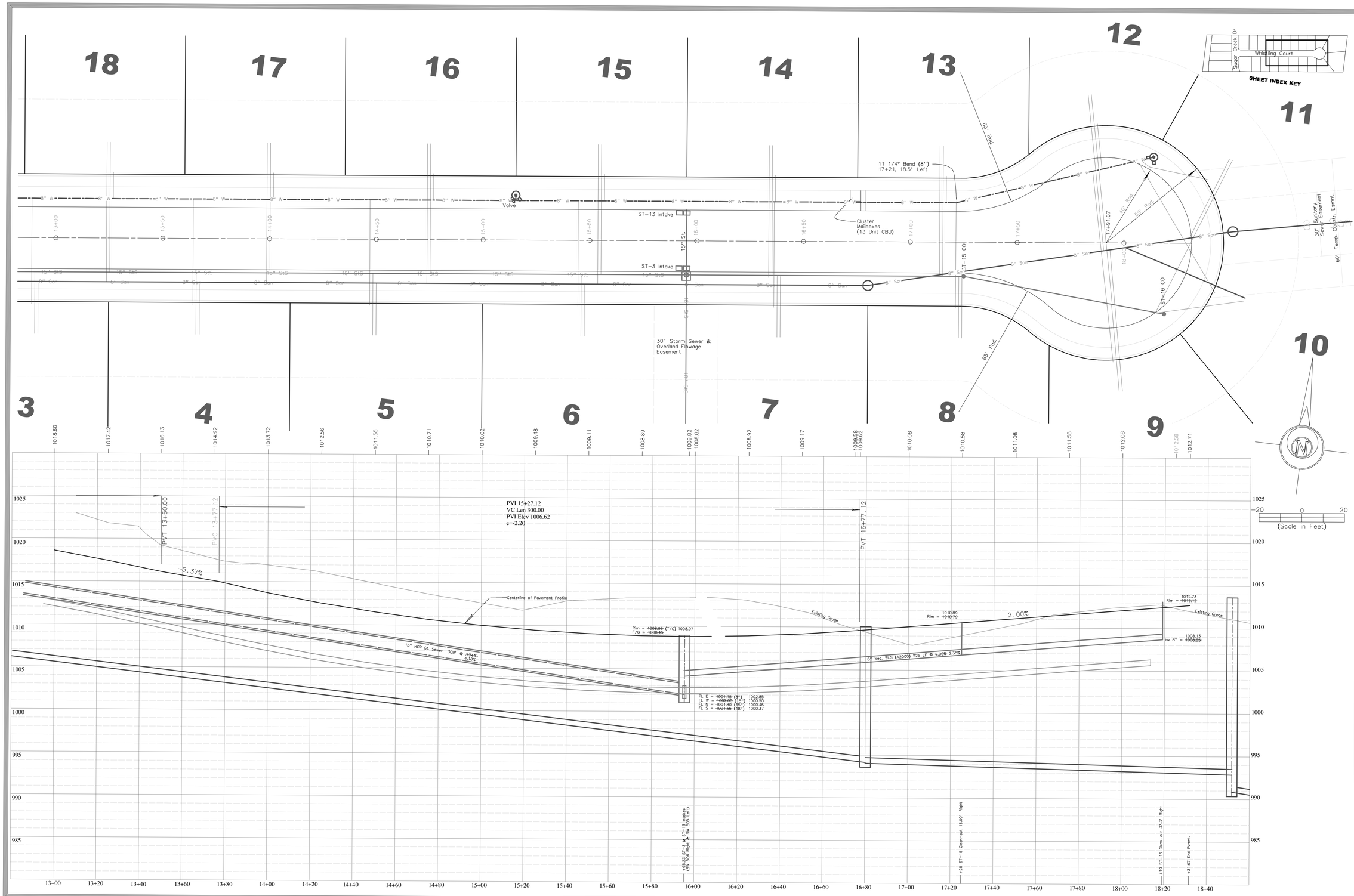
CHECKED BY: MM

DRAWING: 1301B Whistling Court (NAP.dwg)

PLOT DATE: 06/17/13

DRAWING NO: 13-00865

SHEET NO: 8 OF 14



ABACI CONSULTING, INC.

CIVIL ENGINEERING - LAND SURVEYING

101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048

DATE PREPARED: 05-16-13

REVISIONS:
5-16-13: Preliminary Submittal
5-28-13: Second Submittal
6-13-13: Second Submittal
7-23-13: Per City Comments of 7-8
7-31-13: Sp. Lots (L1-10)
7-31-13: Sp. Lots (L11-18)
10-24-13: Client Request
7-18-14: As-Built Plan Review

BENCHMARK:

Whistling Court Cul-de-Sac

Paving & Storm Sewer

SCALE: Always check against benchmark 1"=20'

DRAWN BY: JS

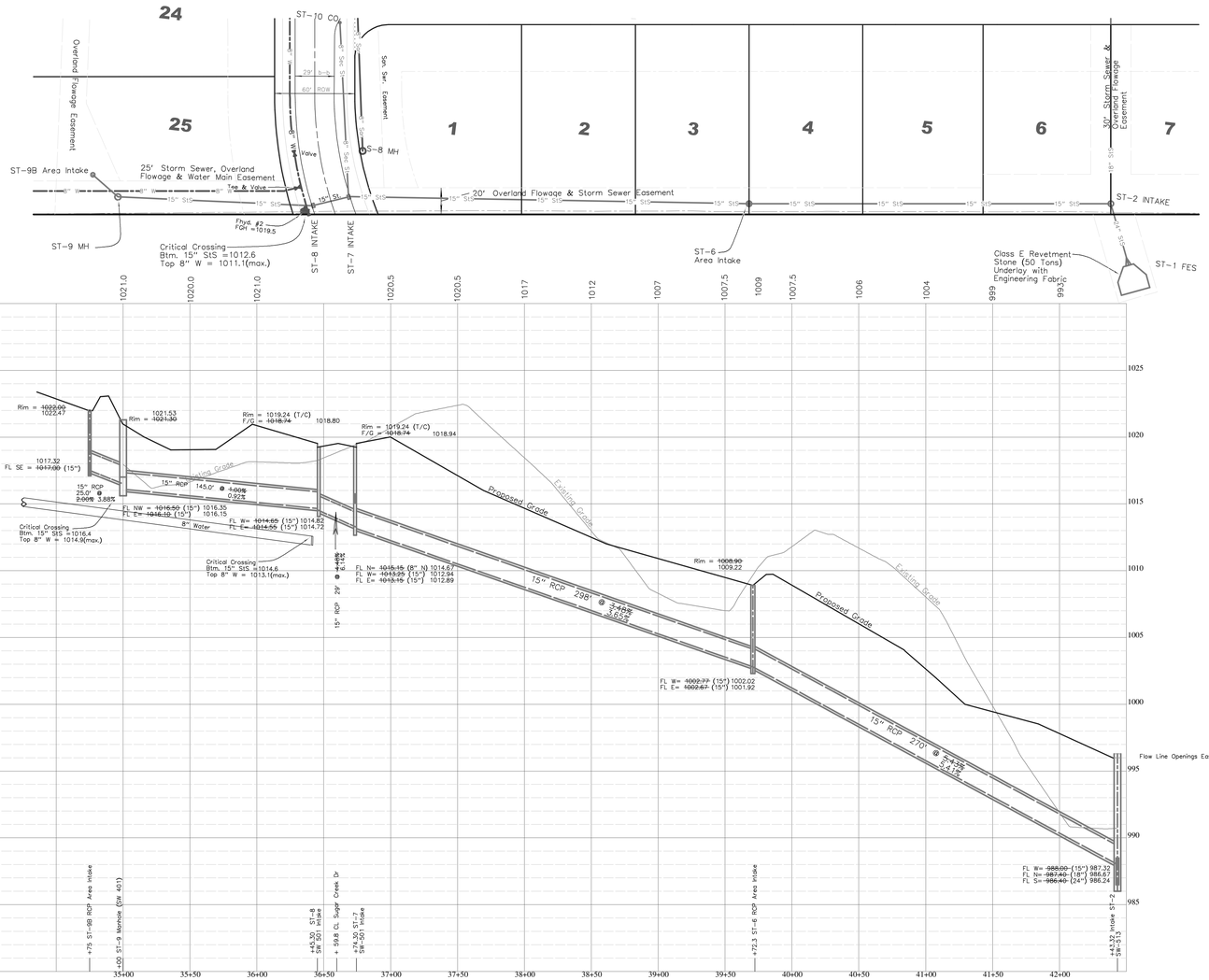
CHECKED BY: MM

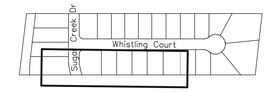
DRAWING: [FILENAME] Cul-de-Sac.dwg

PLOT DATE: 06/17/13

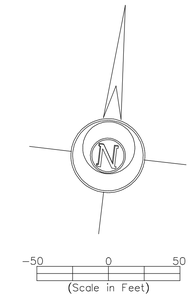
DRAWING NO: 13-00865

SHEET NO: 9 OF 14





SHEET INDEX KEY



NOTE: SCALE IS VARIED FROM OTHER SHEETS.

STANDARD SYMBOLS LEGEND:

- ● IRON ROD FOUND
- ○ 1/2" DIA. x 30" IRON PIN SET w/ #14674 CAP
- ▲ SECTION CORNER MONUMENT FOUND
- △ SECTION CORNER MONUMENT SET
- —X—X— FENCE LINE
- CLF CHAIN LINK FENCE
- —W—W— WATER MAIN
- —G—G— GAS MAIN
- —UGE— UNDERGROUND ELECTRIC
- —OHE— OVERHEAD ELECTRIC
- —UGT— UNDERGROUND TELEPHONE
- +/- MORE OR LESS
- OVERFLOW ROUTE
- FLOW DIRECTION
- —S—S— SANITARY SEWER
- —ST—ST— STORM SEWER
- —XX—XX— SILT FENCE
- 1024 PROPOSED CONTOUR
- 1027x0
- OFE Overland Flowage Easement
- CO Clean-out
- FGH Finish Grade @ Hydrant

ABACI CONSULTING, INC.

CIVIL ENGINEERING - LAND SURVEYING

101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048

DATE PREPARED: 05-16-13

REVISIONS:
1-5-13 - First Submittal
2-15-13 - Revised Preliminary
6-17-13 - Final Submittal
7-2-13 - Revised per comments of City Staff
7-8-13 - Final Submittal
7-23-13 - Final Submittal
10-24-13 - Plan Submittal
11-18-13 - Final Plan
7-18-14 - Per City Review

BENCHMARK:

South Storm Sewer Plan & Profile

SCALE: (Always check against horizontal) 1"=50'

DRAWN BY: MM

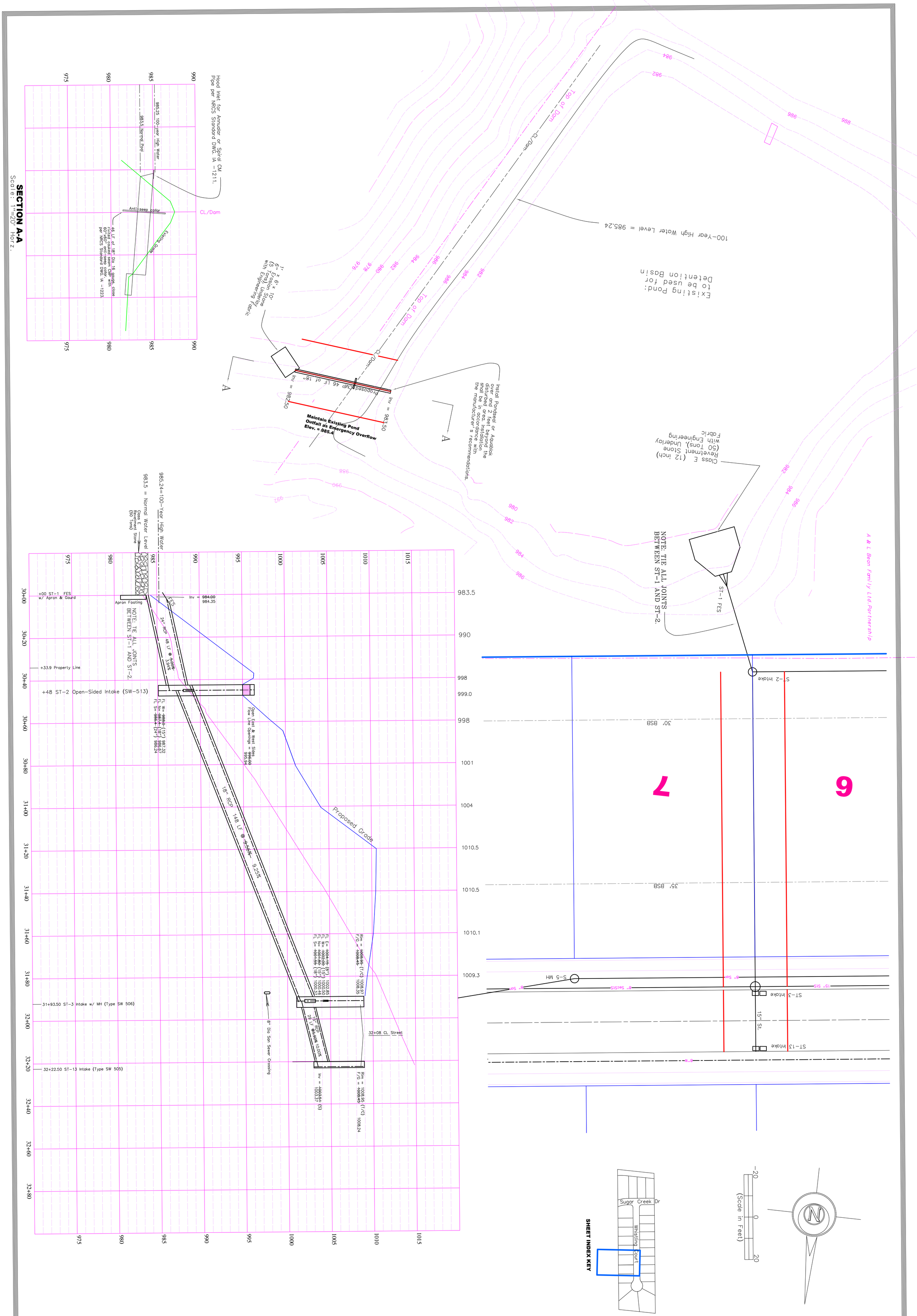
CHECKED BY: MM

DRAWING: South Storm Sewer Page 10 Scale.dwg

R.O.T. DATE: 06/17/13

DRAWING NO: 13-00865

SHEET NO: 10 OF 14



Storm Outfall Plan & Profile

SCALE: (Always check against barscale.) 1"=20'	DRAWN BY: MM	CHECKED BY: MM	DRAWING: Storm Outfall P&P.scj	PLOT DATE: 05/16/13

DRAWING NO: 13-00865

SHEET NO: 11 OF 14

BENCHMARK:

DATE PREPARED: 05-16-13

REVISIONS:
5-16-13: First Submittal
5-28-13: Second Submittal
6-17-13: Third Submittal
7-23-13: 25 Lots (1-6)
7-31-13: Sixth Submittal
10-24-13: Client Request
11-06-13: Per City Review
7-18-14: As-Builts

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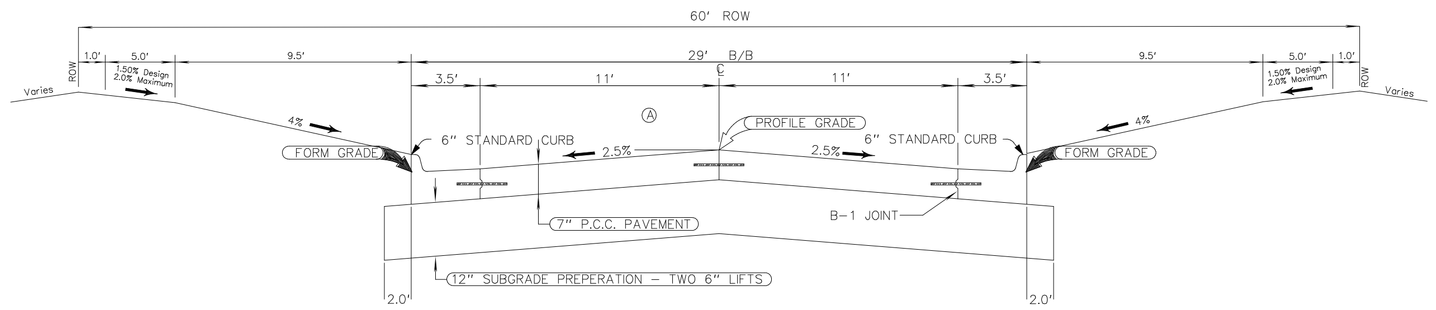
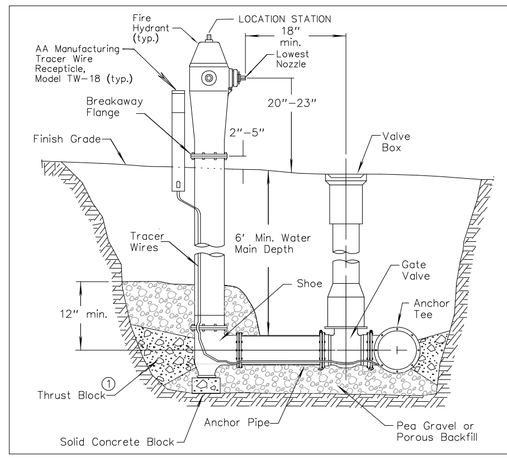
101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048



TYPICAL CROSS SECTION
Not to Scale

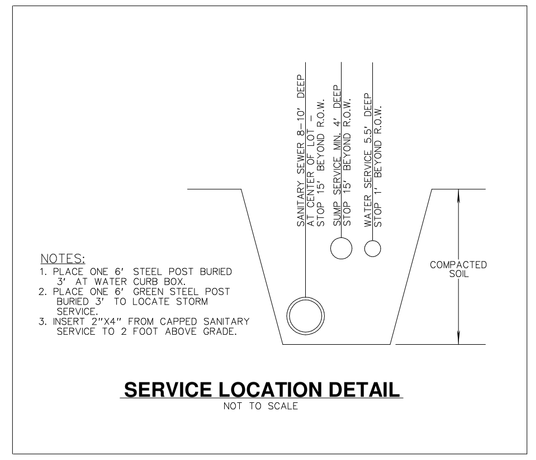


Note:
Each Fire Hydrant shall have a Starz Nozzle per City of Waukee requirements.

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

1 Do not cover drain holes or tracer wire.

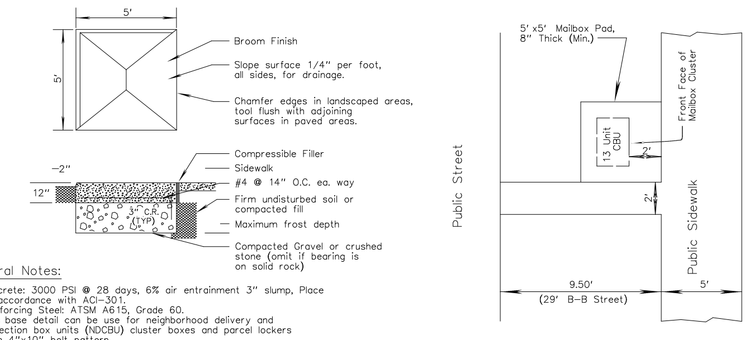
HYDRANT ASSEMBLY DETAIL
Not to Scale



NOTES:
1. PLACE ONE 6' STEEL POST BURED 3' AT WATER CURB BOX.
2. PLACE ONE 6' GREEN STEEL POST BURED 3' TO LOCATE STORM SERVICE.
3. INSERT 2"X4" FROM CAPPED SANITARY SERVICE TO 2 FOOT ABOVE GRADE.

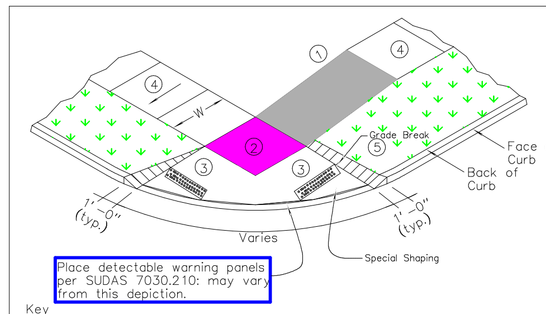
SERVICE LOCATION DETAIL
NOT TO SCALE

Whistling Court (Cul-De-Sac) Joint Detail
Scale 1"=20'



General Notes:
1. Concrete: 3000 PSI @ 28 days, 6% air entrainment 3" slump, Place in accordance with AC-301.
2. Reinforcing Steel: ATSM A615, Grade 60.
3. This base detail can be use for neighborhood delivery and colection box units (NDCBU) cluster boxes and parcel lockers with 4"x10" bolt pattern.
4. Required expansion bolt capacity, based on calculated design load = 3100 lbs tension, 2000 lbs shear.
5. Mailbox pads to be installed be developer.

MAILBOX PAD DETAIL
Not to Scale



1. Parallel Curb Ramp: If normal sidewalk elevation cannot be achieved with the perpendicular ramp between the street and landing due to limited ramp length, provide a parallel ramp to make up the elevation difference between the landing and the standard sidewalk.

   The length of the parallel ramp is not required to exceed 15 feet, regardless of the resulting slope. Do not exceed 8.33% slope for parallel ramps shorter than 15 feet.

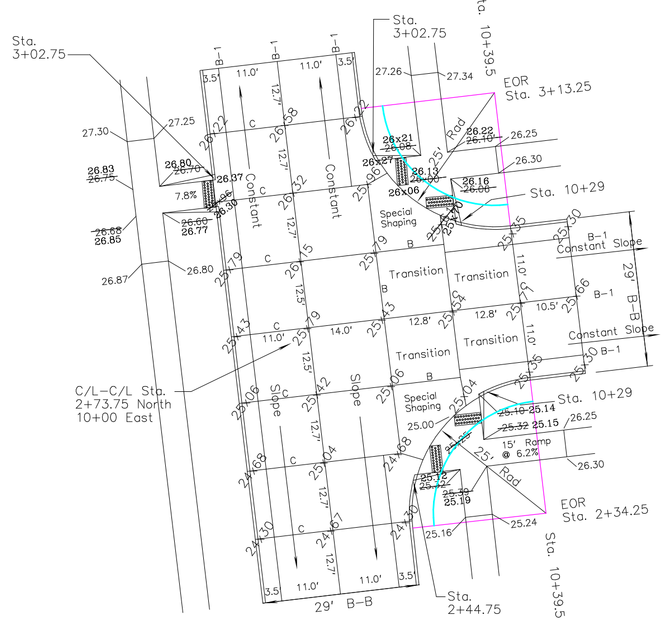
2. Turning Space: Target Slope of 1.5% with maximum slope perpendicular to the direction of travel of 2.0%. Minimum 4 feet by 4 feet.
3. Perpendicular Curb Ramp: Target running slope of 6.35% with maximum running slope of 8.3%
4. Target cross slope of 1.5% with a maximum cross slope of 2.0%.
5. Match pedestrian street crossing cross-slope or flatter

CURB RAMP DETAIL
Not to Scale

SUDAS DETAIL REFERENCES*

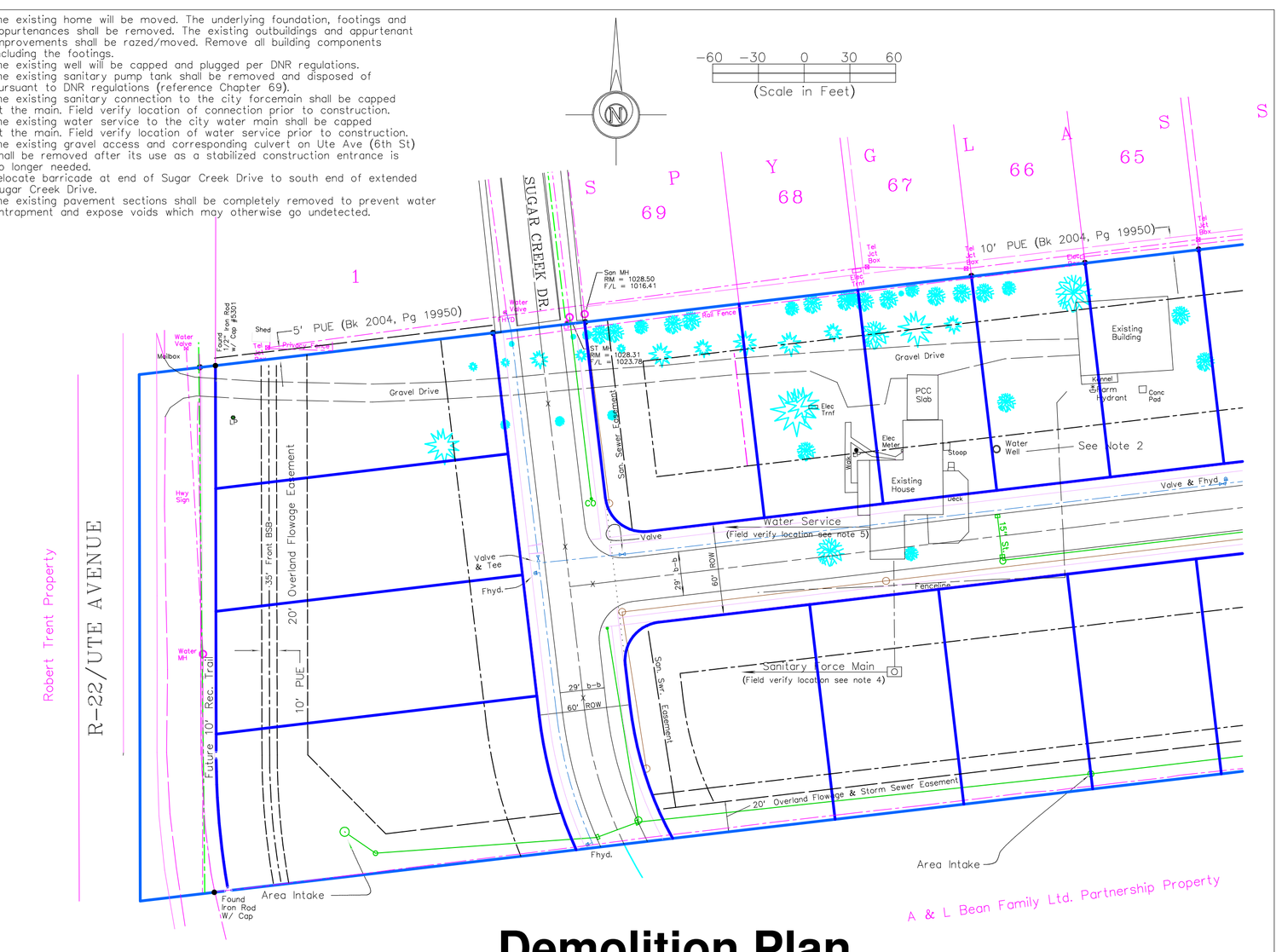
Figure		Title
		Paving
7010.904	PV 101	Typical Jointing Layout
7010.102	PV 102	PCC Curb Details
		Storm Sewer
6010.501	SW 501	Single Grate Intake
6010.503	SW 503	Single Grate Intake with Manhole
6010.505	SW 505	Double Grate Intake
6010.506	SW 506	Double Grate Intake with Manhole
6010.602	SW 602	Castings for Storm Sewer Manholes
6010.603	SW 603	Castings for Grate Intakes
6010.514	SW 514	Box-outs for Grate Intakes
6010.401	SW 401	Circular Storm Sewer Manhole
4040.232		Subdrain Clean-outs
4040.233		Subdrain Outlets
4030.221		RCP Apron Section Footing
		Sanitary Sewer
6010.301	SW 301	Circular Sanitary Manhole (48" Dia.)
6010.306	SW 306	
4010.201	SW-201	Sanitary Sewer Service Stub
6010.601	SW-601	Castings for Sanitary Sewer Manholes

* This list is neither exclusive nor all inclusive.



Sugar Creek Drive & Whistling Court Intersection Joint Detail
Scale 1"=20'

1) The existing home will be moved. The underlying foundation, footings and appurtenances shall be removed. The existing outbuildings and appurtenant improvements shall be razed/moved. Remove all building components including the footings.
2) The existing well will be capped and plugged per DNR regulations.
3) The existing sanitary pump tank shall be removed and disposed of pursuant to DNR regulations (reference Chapter 69).
4) The existing sanitary connection to the city forcemain shall be capped at the main. Field verify location of connection prior to construction.
5) The existing water service to the city water main shall be capped at the main. Field verify location of water service prior to construction.
6) The existing gravel access and corresponding culvert on Ute Ave (6th St) shall be removed after its use as a stabilized construction entrance is no longer needed.
7) Relocate barricade at end of Sugar Creek Drive to south end of extended Sugar Creek Drive.
8) The existing pavement sections shall be completely removed to prevent water entrapment and expose voids which may otherwise go undetected.



Demolition Plan

Estimated Quantities*

Earthwork	34,000 CY	
Pavement		
7" PCC w/ Curb & Gutter	4,115 SY	
6" PCC Sidewalk Approaches	26 SY	
Detectable Warning Panels	5 SY	
Cluster Mailbox Pads, Walks & CBUs	2 Each	
Barricade relocation	1 Each	
Sanitary Sewer		
Manholes (48" Dia.)	~~8~~ EA	10 EA
Outside Drop Connection	1 EA	
4" Dia. Service Laterals (SDR 23.5)	25 EA	
8" Gravity Sewer (PVC Truss)	~~1,669~~ LF	1,952 LF
Storm Sewer		
15" RCP Storm Sewer	~~1,112~~ LF	1,134 LF
18" RCP Storm Sewer	148 LF	
24" RCP Storm Sewer	~~42~~ LF**	48 LF
24" Flared End Sections	1 EA	
18" Dia. Corrugated Metal Pipe w/ FES & Collars	46 LF	
RCP Area Intake w/ flat grate	2 EA	
SW 401 Storm Sewer Manhole	1 EA	
SW 501 Single Grate Intake	3 EA	
SW 503 Single Grate Intake with Manhole	1 EA	
SW 505 Double Grate Intake	1 EA	
SW 506 Double Grate Intake with Manhole	1 EA	
SW 513 Open Sided Intake	1 EA	
8" Secondary Storm Sewer(perforated) Contech A2000 (or equal)	~~714~~ LF	605 LF
8" Clean-out	5 EA	
4" Dia (SDR 23.5) Sump Service Laterals	25 EA	
** Length excludes Flared End Sections		
Water		
8" DR18 PVC Water Main* (C900)	~~1,480~~ LF	1,447 LF
8" Gate Valve	6 EA	
Fire Hydrant Assemblies	5 EA	
12" x 8" Tapping Valve & Sleeve	1 EA	
Service Laterals	25 EA	
8"x8"x8" Tee	~~2 EA~~	4 EA
* All bends and fittings are incidental to main construction.		
Erosion Control		
CLASS E REVETMENT STONE	50 Ton	
EROSION STONE	5 Ton	
SILT FENCE	2,555 LF	
INLET PROTECTION DEVICE	7 EA	

* In the event of a discrepancy between these estimated quantities and the detailed construction drawings, the detailed construction shall govern.

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DATE PREPARED: 05-16-13
DATE REVISED:
5-16-13 City Submittal
6-28-13 SUDAS City Comments
8-2-13 Revised per comments of 7-31-13
7-25-13 Final Submittal
7-8-13 & 7-31-13
7-31-13 Sign Submittal
8-12-13 Final Submittal
11-06-13 For City Review
1-16-14 Final

BENCHMARK:

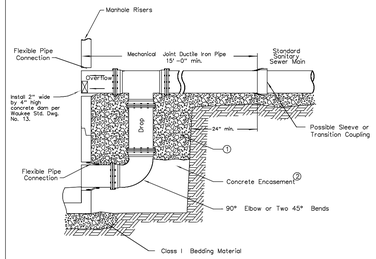
Typical Sections and Details

SCALE (Always check against scrscale) | DRAWN BY: | CHECKED BY: | DRAWING NAME: Plat 2 Details.scr | PLOT DATE: 07/23/13

DRAWING NO: 13-00865

SHEET NO: 12 OF 14

SW-307



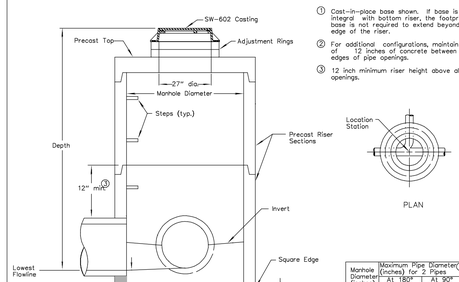
Construct drop and overflow from ductile iron pipe of same diameter specified for sewer main. Provide mechanical joints for all ductile iron pipe and fittings.

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.

DROP CONNECTION
FOR SANITARY SEWER MANHOLE

SUDAS FIGURE 6010.307

SW-401



TYPICAL SECTION

1. Cast-in-place base shown. If base is precast integral with bottom riser, the footprint of the base is not required to extend beyond the outer edge of the riser.
2. For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
3. 12 inch minimum riser height above all pipe openings.

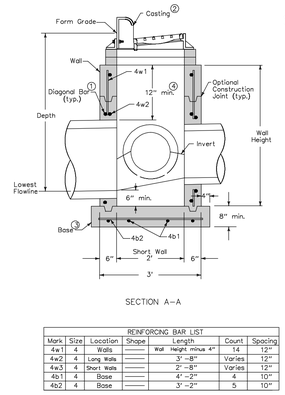
PLAN

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

CIRCULAR STORM SEWER MANHOLE

SUDAS FIGURE 6010.401

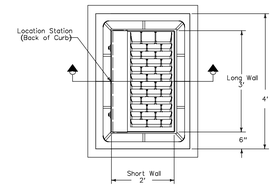
SW-501



SECTION A-A

Refer to SW-514 for boxout details.

1. Install four #4 diagonal bars at all pipe openings.
2. SW-603 Type R unless Type Q is specified in the contract documents.
3. Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
4. 12 inch minimum wall height above all pipes.



PLAN

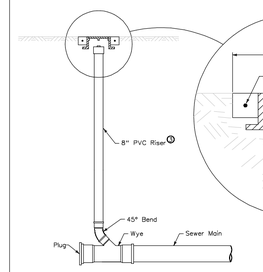
REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4w1	4	Walls		Wall Height minus 4"	14	12"
4w2	4	Long Walls		3' -8"	Varies	12"
4w3	4	Short Walls		2' -8"	Varies	12"
4b1	4	Base		4' -2"	4	10"
4b2	4	Base		3' -2"	5	10"

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	24"	30"

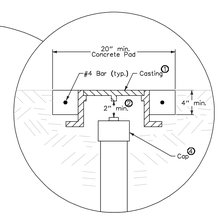
SINGLE GRATE INTAKE

SUDAS FIGURE 6010.501

SW-203

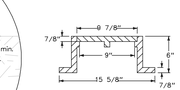


CLEANOUT



STORM SEWER CLEANOUT

1. Standard duty casting complying with AASHTO M 306. Mark lid with "Storm" or "Storm C.O."
2. Do not allow casting to bear on top of riser pipe.
3. 8-inch PVC Service Pipe
4. Threaded PVC cap or iron body ferrule with brass screw plug



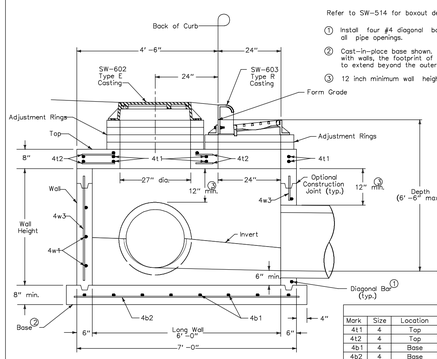
CASTING 1
(Dimensions are nominal)

SUDAS FIGURE 4010.203

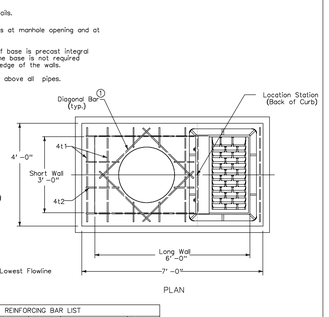
SW-503

Refer to SW-514 for boxout details.

1. Install four #4 diagonal bars at manhole opening and at all pipe openings.
2. Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
3. 12 inch minimum wall height above all pipes.



SINGLE GRATE INTAKE
WITH MANHOLE



PLAN

REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Top		12	3' -8"	12"
4t2	4	Top		8	4' -2"	12"
4b1	4	Base		7	4' -2"	13"
4b2	4	Base		5	7' -2"	10"
4w1	4	Short Walls		Varies	3' -8"	12"
4w2	4	Long Walls		Varies	6' -8"	12"
4w3	4	Walls		18	Wall Height minus 4"	13"

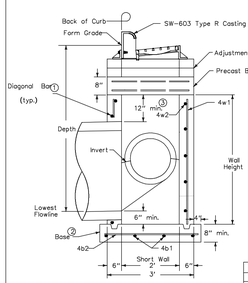
MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	24"	30"
Long Wall	30"	36"

SUDAS FIGURE 6010.503

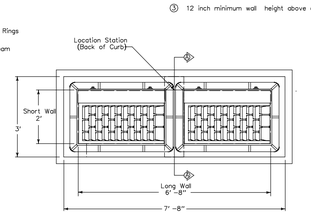
SW-505

Refer to SW-514 for boxout details.

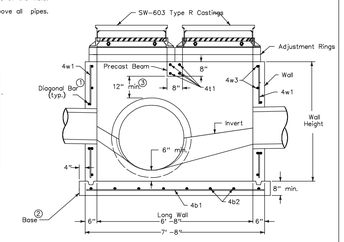
1. Install four #4 diagonal bars at all pipe openings.
2. Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
3. 12 inch minimum wall height above all pipes.



SECTION A-A



PLAN



TYPICAL SECTION

REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Beam		4	2' -8"	4"
4b1	4	Base		4	7' -10"	10"
4b2	4	Base		8	3' -2"	12"
4w1	4	Walls		20	Wall Height minus 4	12"
4w2	4	Long Walls		Varies	7' -4"	12"
4w3	4	Short Walls		Varies	2' -8"	12"

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	60"	66"

DOUBLE GRATE INTAKE

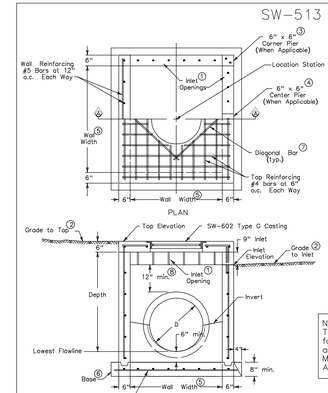
SUDAS FIGURE 6010.505

SW-513

Structure may be built with openings on any or all sides. Provide openings and orientation as specified in the contract documents.

Adjacent walls may have different widths based upon pipe configuration, but structure must be rectangular.

1. Construct inlet openings with 15-inch #4 epoxy-coated bars at 8 inches on center. Embed bars a minimum of 3 inches into walls and top at all openings.
2. Grade to inlet elevation on open sides. Grade to top elevation on closed sides.
3. Corner pier required between openings of two adjacent walls. Extend wall reinforcing vertically through pier. Install one additional 15-inch #5 bar in pier.
4. Center pier required at center of any inlet opening with length of 5 feet or greater. Extend wall reinforcing vertically through pier. Install one additional 15-inch #5 bar in pier.
5. Wall widths vary with pipe diameter. Provide 6 inches of wall width (minimum) each side of pipe opening. Minimum wall width is 36 inches. Maximum wall width is 72 inches.
6. Cast-in-place base shown. If base is precast integral with walls, the footprint of base is not required to extend beyond the outer edge of the walls.
7. Install four #5 diagonal bars at all pipe openings.
8. 12" minimum wall height above all pipes.



PLAN

SECTION A-A

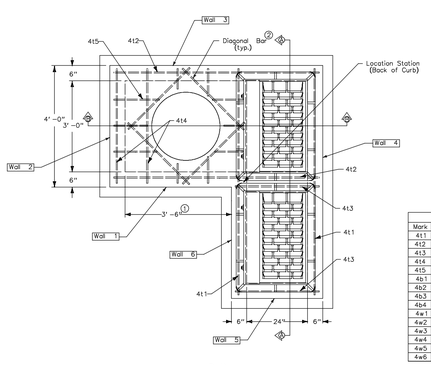
Note:
This SUDAS standard detail will be modified for increased depth. The rebar in the base and sides shall be #5 in lieu of #4.
Mark McMurphy, PE
Abaci Consulting, Inc.

SUDAS FIGURE 6010.513

SW-506

Refer to SW-514 for boxout details.

1. 36 inch pipe may be used when wall dimension is increased to 4 feet.
2. Install four #4 diagonal bars at manhole opening and at all pipe openings.
3. Cast-in-place base shown. If base is precast integral with walls, the footprint of base is not required to extend beyond the outer edge of the walls.
4. 12 inch minimum wall height above all pipes.

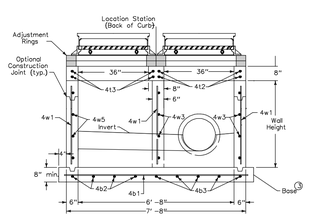


PLAN

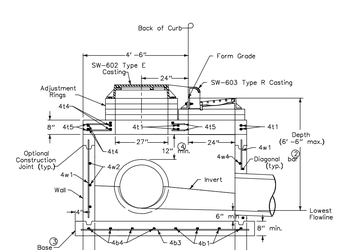
MAXIMUM PIPE DIAMETERS	
Wall	Max. Dia.
1	30" 1
2	24"
3	36"
4	48"

REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Top		4	7' -4"	See Detail
4t2	4	Top		4	6' -8"	See Detail
4t3	4	Top		4	2' -8"	See Detail
4t4	4	Top		8	3' -8"	12"
4t5	4	Top		6	4' -2"	12"
4b1	4	Base		4	7' -10"	12"
4b2	4	Base		4	3' -2"	12"
4b3	4	Base		5	7' -2"	12"
4b4	4	Base		4	4' -2"	12"
4w1	4	Walls		29	Wall Height minus 4"	12"
4w2	4	Wall 2		Varies	3' -8"	12"
4w3	4	Walls 1 and 3		Varies	6' -8"	12"
4w4	4	Wall 4		Varies	7' -4"	12"
4w5	4	Wall 5		Varies	2' -8"	12"
4w6	4	Wall 6		Varies	3' -10"	12"

DOUBLE GRATE INTAKE WITH MANHOLE



SECTION A-A

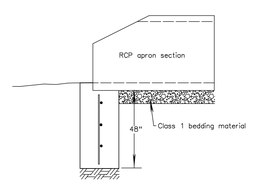


SECTION B-B

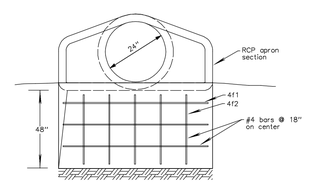
SUDAS FIGURE 6010.506

SW-221

Note:
The last 3 joints of the storm sewer shall be tied.



TYPICAL SECTION



ELEVATION

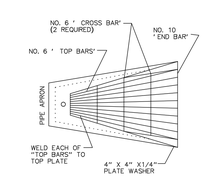
REINFORCING BAR LIST

D	W	Mark	Size	Length	Count
12"	2' -4"	4f1	4	2' -0"	3
		4f2	4	3' -8"	2
15"	2' -10"	4f1	4	2' -6"	3
		4f2	4	3' -8"	2
18"	3' -5"	4f1	4	3' -1"	3
		4f2	4	3' -8"	3
24"	4' -6"	4f1	4	4' -2"	3
		4f2	4	3' -8"	3
30"	5' -7"	4f1	4	5' -3"	3
		4f2	4	3' -8"	4
36"	6' -8"	4f1	4	6' -4"	3
		4f2	4	3' -8"	5
42"	7' -3"	4f1	4	6' -11"	3
		4f2	4	3' -8"	5

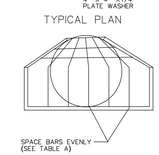
D	W	Mark	Size	Length	Count
48"	7' -10"	4f1	4	7' -6"	3
		4f2	4	3' -8"	6
54"	8' -5"	4f1	4	8' -1"	3
		4f2	4	3' -8"	6
60"	8' -11"	4f1	4	8' -7"	3
		4f2	4	3' -8"	6
66"	8' -11"	4f1	4	8' -7"	3
		4f2	4	3' -8"	6
72"	10' -0"	4f1	4	9' -8"	3
		4f2	4	3' -8"	7
78"	10' -7"	4f1	4	10' -3"	3
		4f2	4	3' -8"	7
84"	11' -1"	4f1	4	10' -9"	3
		4f2	4	3' -8"	8

RCP APRON SECTION FOOTING

SUDAS FIGURE 4030.221



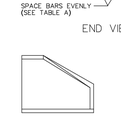
TYPICAL PLAN



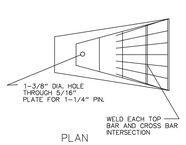
END VIEW

TABLE A
NO. 6 TOP BARS

15" PIPE APRON	5 EA.
18" PIPE APRON	6 EA.
24" PIPE APRON	8 EA.
30" PIPE APRON	10 EA.
36" PIPE APRON	12 EA.



SECTION



PLAN

FLARED END SECTION APRON GUARD

ABACI CONSULTING, INC.

CIVIL ENGINEERING - LAND SURVEYING
101 NE CIRCLE DR., GRIMES, IOWA 50111, PH. (515)986-5048

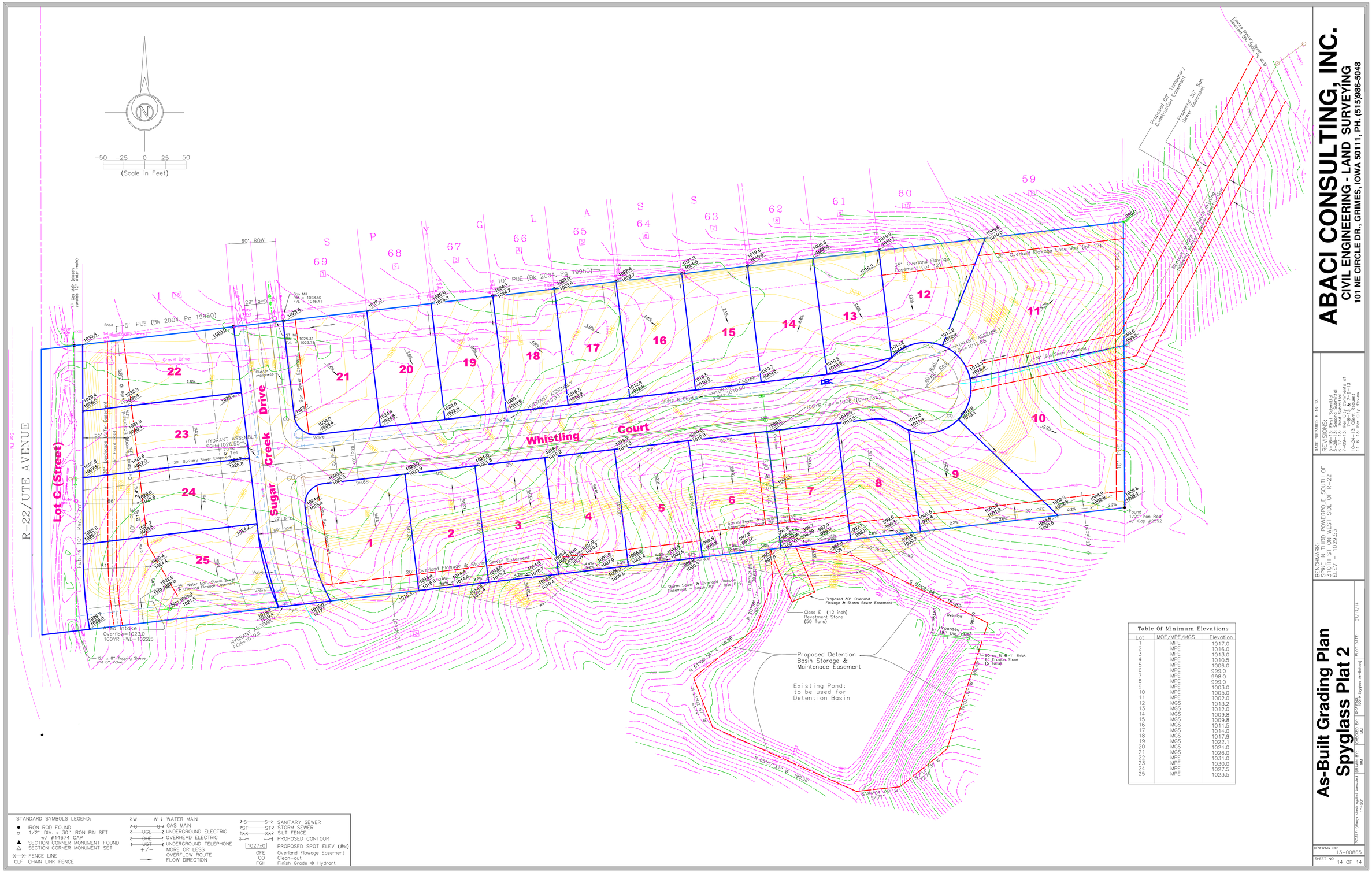
DATE	REVISIONS
5-14-13:	First Submittal
5-28-13:	Second Submittal
6-17-13:	Per City Comments
7-10-13:	Per City Comments of 6-17-13
7-31-13:	Sixth Submittal
10-24-13:	No Changes
7-17-14:	Add Flared End Apron to this sheet
7-18-14:	As-Builts

BENCHMARK:

Typical Sections and Details

PLOT DATE: 06/17/13
DRAWING: Spyglass Plat 2 Details.dwg
CHECKED BY: MM
DRAWN BY: KS
SCALE: (always check against barscale)

DRAWING NO: 13-00865
SHEET NO: 13 OF 14


(Scale in Feet)
R-22/UTE AVENUE
Lot C (Street)
Sugar Creek Drive
Whistling Court
SPYGLASS
Gravel Drive
Cluster mailboxes
HYDRANT ASSEMBLY FGH=1026.55
HYDRANT ASSEMBLY FGH=1019.33
HYDRANT ASSEMBLY FGH=1010.60
HYDRANT ASSEMBLY FGH=1019.5
HYDRANT ASSEMBLY FGH=1013.48
Area Intake
Overflow= 1023.0
100YR HWL=1022.5
12" x 8" Tapping Sleeve and 8" Valve
100YR Elev.=1006.1(Overflow)
Proposed 30' Overland Flowage & Storm Sewer Easement
Class E (12 inch) Revetment Stone (50 Tons)
Proposed Detention Basin Storage & Maintenace Easement
Existing Pond: to be used for Detention Basin
Proposed 18" Dia. CMP
90 sq ft @ 1' thick 6" Erosion Stone (5 Tons)
Found 1/2" Iron Rod w/ Cap #2692
Proposed 30' Overland Flowage Easement (lot 12)
35' Overland Flowage Easement (lot 12)
Proposed 30' Sanitary Sewer Easement
Proposed 60' Temporary Construction Easement
Proposed 30' Con. Sewer Easement
Existing Sanitary Sewer Easement (Bk 2004, Pg 19951)
Rough grade to match existing ground elevations along property line
10' PUE (Bk 2004, Pg 19950)
5' PUE (Bk 2004, Pg 19950)
20' Overland Flowage & Storm Sewer Easement
Storm Sewer & Overland Flowage Easement (south 30' of lots 5-8)
Storm Sewer & Overland Flowage Easement
Sanitary Sewer Easement
Water Main, Storm Sewer & Overland Flowage Easement
Future 10' Rec. Trail
Wall Fence
Chain Link Fence
Shed
Sign
Valve
Fhyd.
Tee
Cleanout
Manhole
Sanitary Sewer Manhole
Storm Sewer Manhole
Water Shut Off
Gas Meter
Electric Meter
Telephone Pedestal
Cable TV Pedestal
Overflow
Found Iron Pipe
Found Iron Rod
Found Iron Rod w/ Cap
Found Iron Rod w/ Illegible Cap
Found Iron Rod w/ Illegible Cap (Bent)
Found Iron Rod w/ Illegible Cap (Bent Over)
Found Iron Rod w/ Illegible Cap (Bent Over) (Illegible)
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