Peterson, Dana M.

From: Peterson, Dana M.
Sent: Thursday, June 28, 2018 10:54 AM
To: Wolfenbarger, Jeanne
Cc: Roeder, James A.
Subject: RE: JTH Estates #654887

Jeanne/Jim-
The referenced calcs and sheet 61R, stamped 6/26/18 are acceptable to Hydrology.
v/r,
Dana

From: Wolfenbarger, Jeanne
Sent: Tuesday, June 26, 2018 3:52 PM
To: Peterson, Dana M.
Cc: Roeder, James A.
Subject: FW: JTH Estates #654887

Dana, 61 R was attached for JTH Estates, #654887. Do you have any comments for this plan?

Jeanne Wolfenbarger, P.E.
Manager for Design Review & Construction
City of Albuquerque
(505)924-3993

From: Kay Brashear [mailto:kay@goodwinengineers.com]
Sent: Tuesday, June 26, 2018 10:57 AM
To: Wolfenbarger, Jeanne
Cc: Diane Hoelzer
Subject: JTH Estates #654887

Jeanne,

The attached drawings will be delivered to your office this afternoon. Please contact Diane with questions or concerns.

Best Regards,

Kay Brashear
Mark Goodwin & Associates, PA
Office Manager
PO BOX 90606
Albuquerque, NM 87199
(505) 828-2200

New Office Hours:
Monday – Thursday: 7:30 – 5:30
Friday – 7:30 – 11:30

Like us on Facebook! https://www.facebook.com/dmgassociates/

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539

June 18, 2018
Dana Peterson, PE
Hydrology Division, Planning Dept.
Development and Building Services
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103

Re: Juan Tabo Hills Estates-
Revised Sheet 61R
Hydrology File-M21D018; DRB 1005278; CPN 654887

Dana Peterson:

This letter is in response to your email comment letter dated June 8, 2018:

1. The double D inlets have been revised to a cattle guard grate that spans the roadway width. Only the weir equation calculation is necessary for this situation. The weir has almost 2 times the 100 year storm capacity, which should be adequate.
2. Okay.
3. Okay,
4. The final plat has already been revised.

Please call me if you have any questions.

Sincerely,

MARK GOODWIN & ASSOCIATES, P.A.

Diane Hoelzer, PE
Senior Engineer

DLH/dlh
f:\11039 JTH Estates/Hydro_ltr_Sht 61R.docx

Diane Hoelzer

From: Peterson, Dana M. <dpeterson@cabq.gov>
Sent: Friday, June 08, 2018 2:52 PM
To: Wolfenbarger, Jeanne; Diane Hoelzer
Cc: Roeder, James A.; Adeeb, Muhanned W
Subject: RE: Field Revisions for Juan Tabo Hills Subdivision and Glendesto Subdivision

Good Afternoon Diane-
Regarding this change order:

- The revision from two double-A inlets two double-D inlets needs to be supported with calculations demonstrating 2x 100-yr capacity for inlets in a sump using both the orifice and weir calculations.
- The change in inlet type should be noted in the change order request.
- Please put the HGL on the profile on sheet 61R.
- Please note that Easement R will need to be updated on the Final Plat to reflect the new storm drain alignment.

v/r,
Dana

From: Wolfenbarger, Jeanne
Sent: Friday, June 01, 2018 2:18 PM
To: 'Diane Hoelzer'
Cc: Roeder, James A.; Peterson, Dana M.; Adeeb, Muhanned W
Subject: Field Revisions for Juan Tabo Hills Subdivision and Glendesto Subdivision

Jim, Mo, and I have reviewed the sheets. The ABCWUA and Transportation are okay with the changes.

At this point, we need Hydrology's review prior to approval.

Jeanne Wolfenbarger, P.E.
Manager for Design Review & Construction
City of Albuquerque
(505)924-3993

SUMP INLET CALCULATIONS
For
Cattle Guard Grate at Blue Ribbon Road
(Juan Tabo Hills Estates, CPN 654887)

The 100 year flow to the cattle guard grate inlet at the west end of Blue Ribbon Road is 24.9 cfs

Capacity is measured by the weir equation at the lip of the gutter assuming an allowable ponding elevation equal to the lowest adjacent right of way elevation. The length of the cattle guard grate that spans the width of Blue Ribbon road is 28 LF. (This is after subtracting out the 2' gutter pan on either side.

Using depressed curb adjacent to the cattle grate creates a maximum water surface elevation depth at the inlets of 9.5" (8" +1.5"). (Refer to standard depressed curb STD. DTL. 2415A). Using the weir equation:

FOR CATTLE GUARD GRATE:

*Q cap = (3.0) x (28 LF) x (0.7917) **1.5 = 59.17 cfs*

Q100 (from Blue Ribbon road) = 24.9 cfs =➔ Q (2 times) = 49.8 cfs

F:/ 11039/projects/drainage/sump inlet calcs
(DLH 6-11-18)

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Jun 11 2018

JTH Estates - Blue Ribbon Cattle Guard Grate

Rectangular

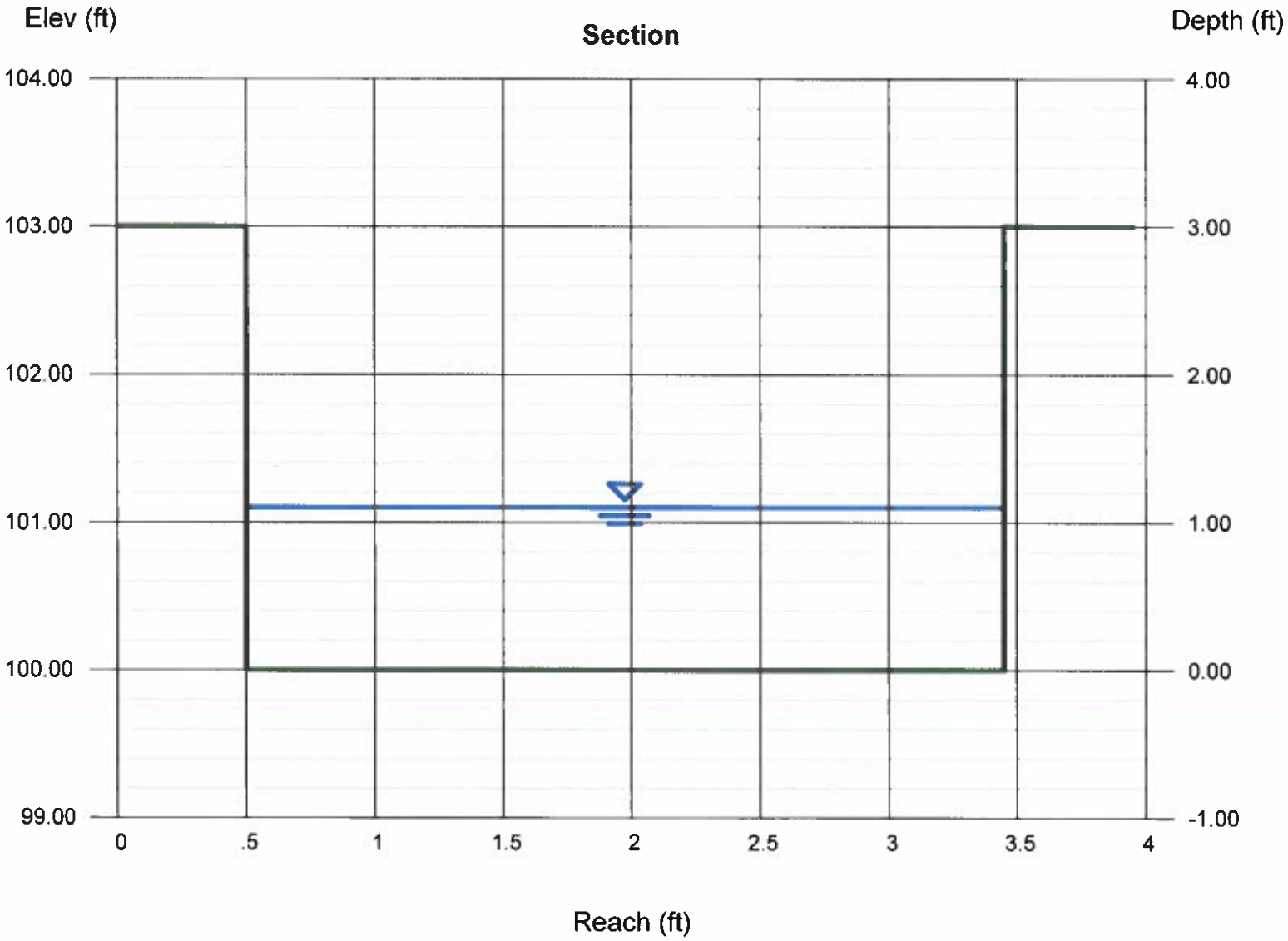
Bottom Width (ft)	= 2.95
Total Depth (ft)	= 3.00
Invert Elev (ft)	= 100.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 26.95

Highlighted

Depth (ft)	= 1.10
Q (cfs)	= 26.95
Area (sqft)	= 3.24
Velocity (ft/s)	= 8.31
Wetted Perim (ft)	= 5.15
Crit Depth, Yc (ft)	= 1.38
Top Width (ft)	= 2.95
EGL (ft)	= 2.17



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Jun 18 2018

JTH Estates - Blue Ribbon Cattle Guard Grate (w/ twice 100 year Discharge = 49.8 cfs)

Rectangular

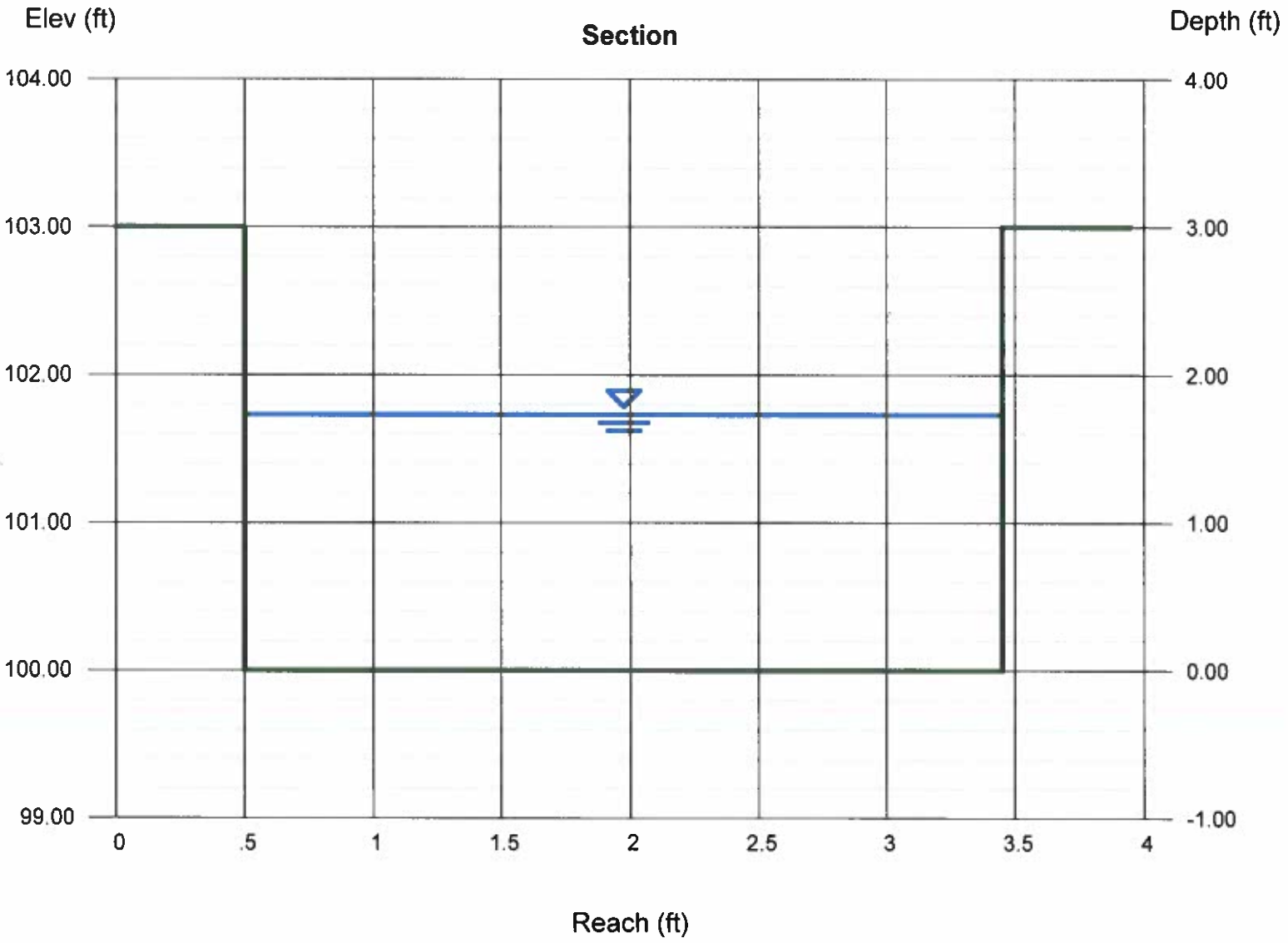
Bottom Width (ft)	= 2.95
Total Depth (ft)	= 3.00
Invert Elev (ft)	= 100.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 49.80

Highlighted

Depth (ft)	= 1.73
Q (cfs)	= 49.80
Area (sqft)	= 5.10
Velocity (ft/s)	= 9.76
Wetted Perim (ft)	= 6.41
Crit Depth, Yc (ft)	= 2.07
Top Width (ft)	= 2.95
EGL (ft)	= 3.21



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Jun 18 2018

JTH Estates - 25.99% Steep Slope

Circular

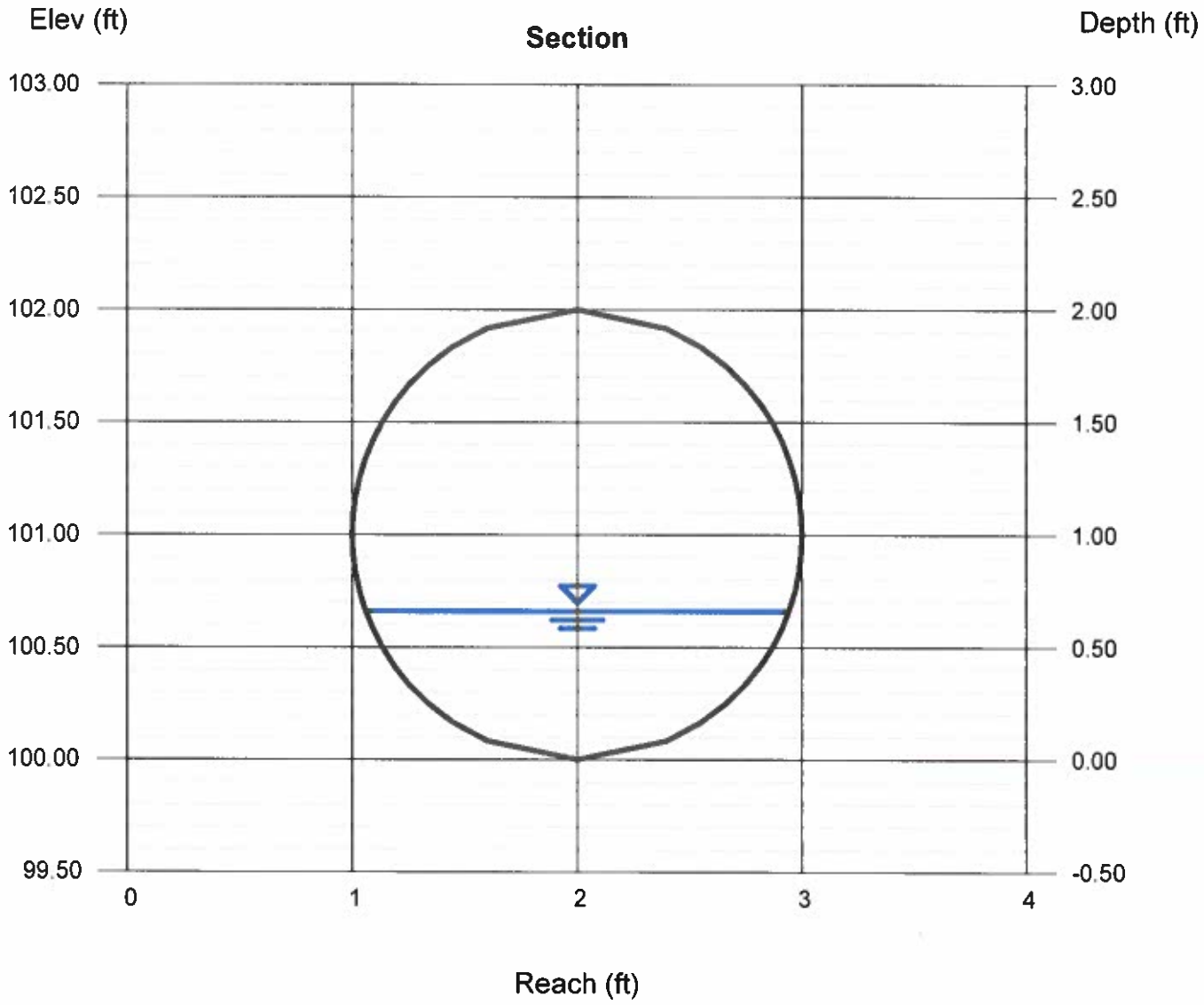
Diameter (ft)	= 2.00
Invert Elev (ft)	= 100.00
Slope (%)	= 26.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 26.95

Highlighted

Depth (ft)	= 0.66
Q (cfs)	= 26.95
Area (sqft)	= 0.91
Velocity (ft/s)	= 29.74
Wetted Perim (ft)	= 2.45
Crit Depth, Yc (ft)	= 1.81
Top Width (ft)	= 1.88
EGL (ft)	= 14.41



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Monday, Jun 18 2018

JTH Estates - Inlet 73 to Inlet 72

Circular

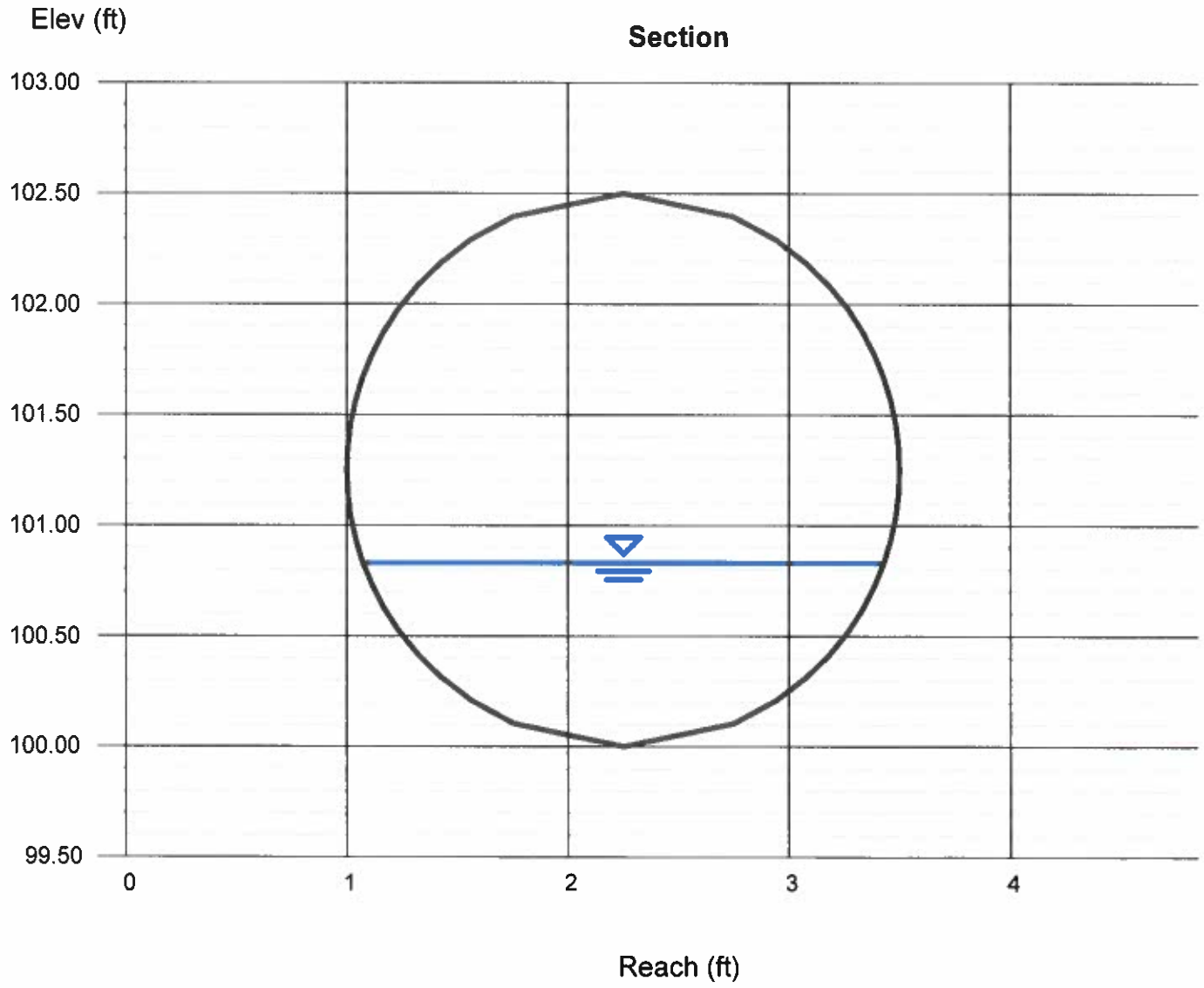
Diameter (ft)	= 2.50
Invert Elev (ft)	= 100.00
Slope (%)	= 16.80
N-Value	= 0.013

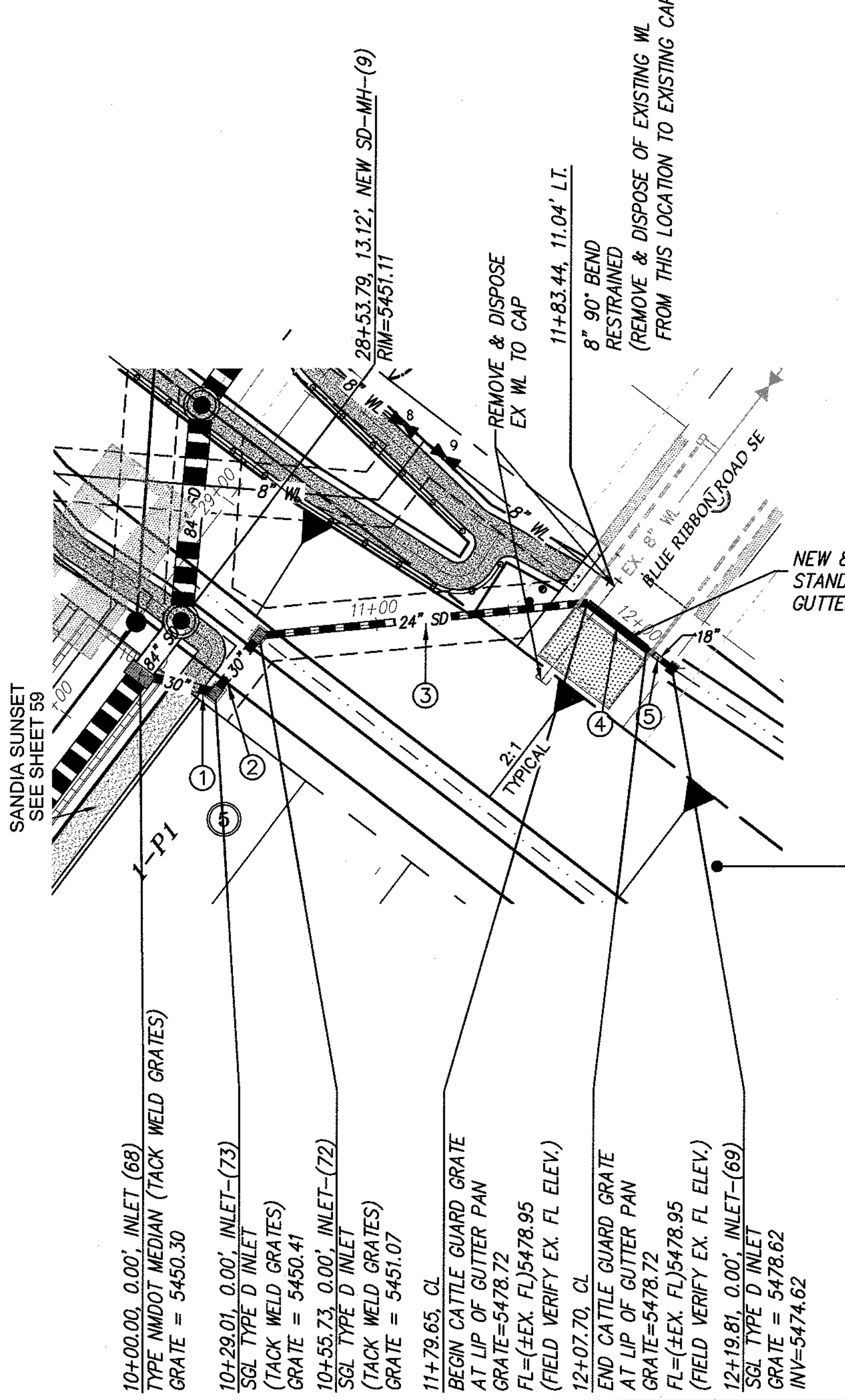
Calculations

Compute by:	Known Q
Known Q (cfs)	= 39.95

Highlighted

Depth (ft)	= 0.83
Q (cfs)	= 39.95
Area (sqft)	= 1.43
Velocity (ft/s)	= 27.94
Wetted Perim (ft)	= 3.07
Crit Depth, Yc (ft)	= 2.13
Top Width (ft)	= 2.36
EGL (ft)	= 12.97





STORMDRAIN DESCRIPTION			
	PIP SIZE	BEARING	DISTANCE
①	30"	S23°23'10"E	29.01
②	30"	S89°23'53"E	26.72
③	24"	S42°22'25"E	124.79'
④	24"	S00°40'26"W	25.65'
⑤	18"	S00°40'26"W	13.33'

STORMDRAIN NOTES

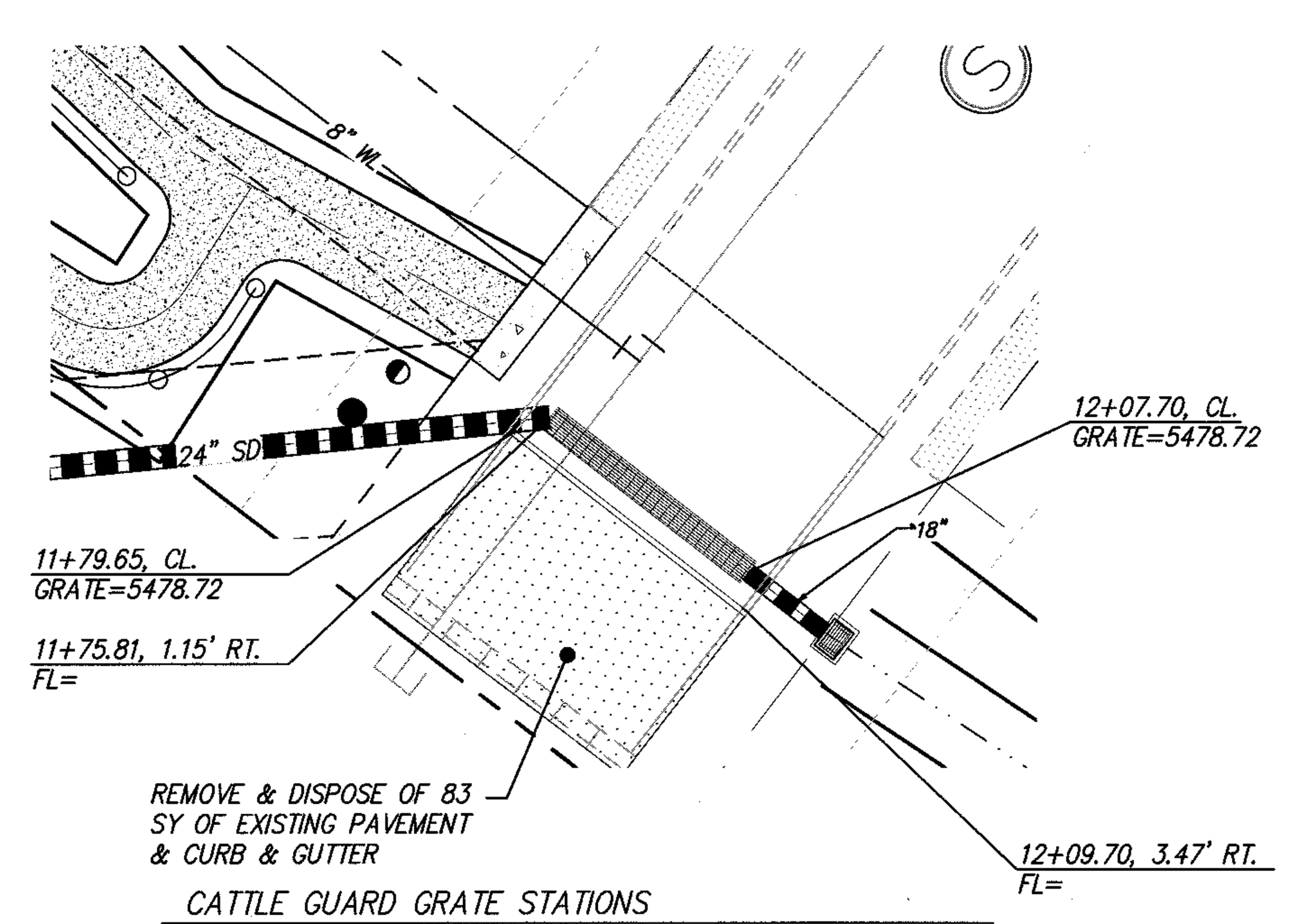
BUILD NEW CATTLE GUARD INLET PER COA STD. DTLS. 2271 AND 2272 WITH FOLLOWING MODIFICATIONS:

1. NO CROWN IN GRATE.
2. DEPRESSED CURB & GUTTER ALONG WEST SIDE OF CATTLE GUARD INLET.
3. CONNECT 18" RCP AT SOUTH END.
4. CONNECT NW END TO 24" RCP.
5. CATTLE GUARD INVERT SLOPE = 1.0% SOUTH TO NORTH.

ALL DISTURBED AREAS IN TRACT J AND O MUST BE REVEGETATED TO 70% PRE-DEVELOPMENT GROUND COVER DENSITY PRIOR TO RELEASE OF FINANCIAL GUARANTEE. NATIVE SEED AND MULCH SHALL BE APPLIED IN ACCORDANCE WITH SECTION 1012 (COA-STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION) AND WILL INCLUDE FERTILIZER AND SUPPLEMENTAL WATER. FOR ADDITIONAL INFORMATION REFER TO THE APPROVED GRADING AND DRAINAGE PLAN.

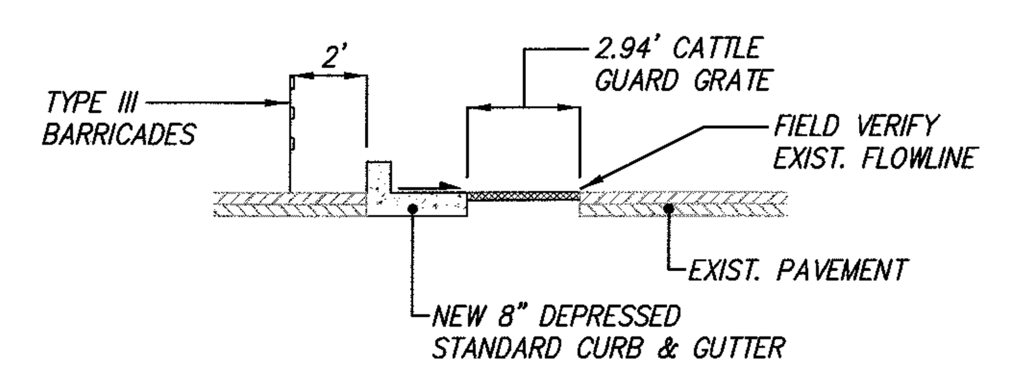
SANITARY SEWER SERVICES						
LOT	STATION AT ROW	INV. ELEV. AT ROW	LENGTH AT ROW	GPS X AS-BUILT	GPS Y AS-BUILT	GPS ELEV AS-BUILT
1-P1	11+40.41	5457.75	19.50'			
2-P1	10+90.41	5456.75	19.50'			
3-P1	10+45.43	5456.00	17.20			

WATER METER SERVICES – GPS AS-BUILT			
LOT	GPS X AS-BUILT	GPS Y AS-BUILT	GPS ELEV AS-BUILT
1-P1			
2-P1			
3-P1			



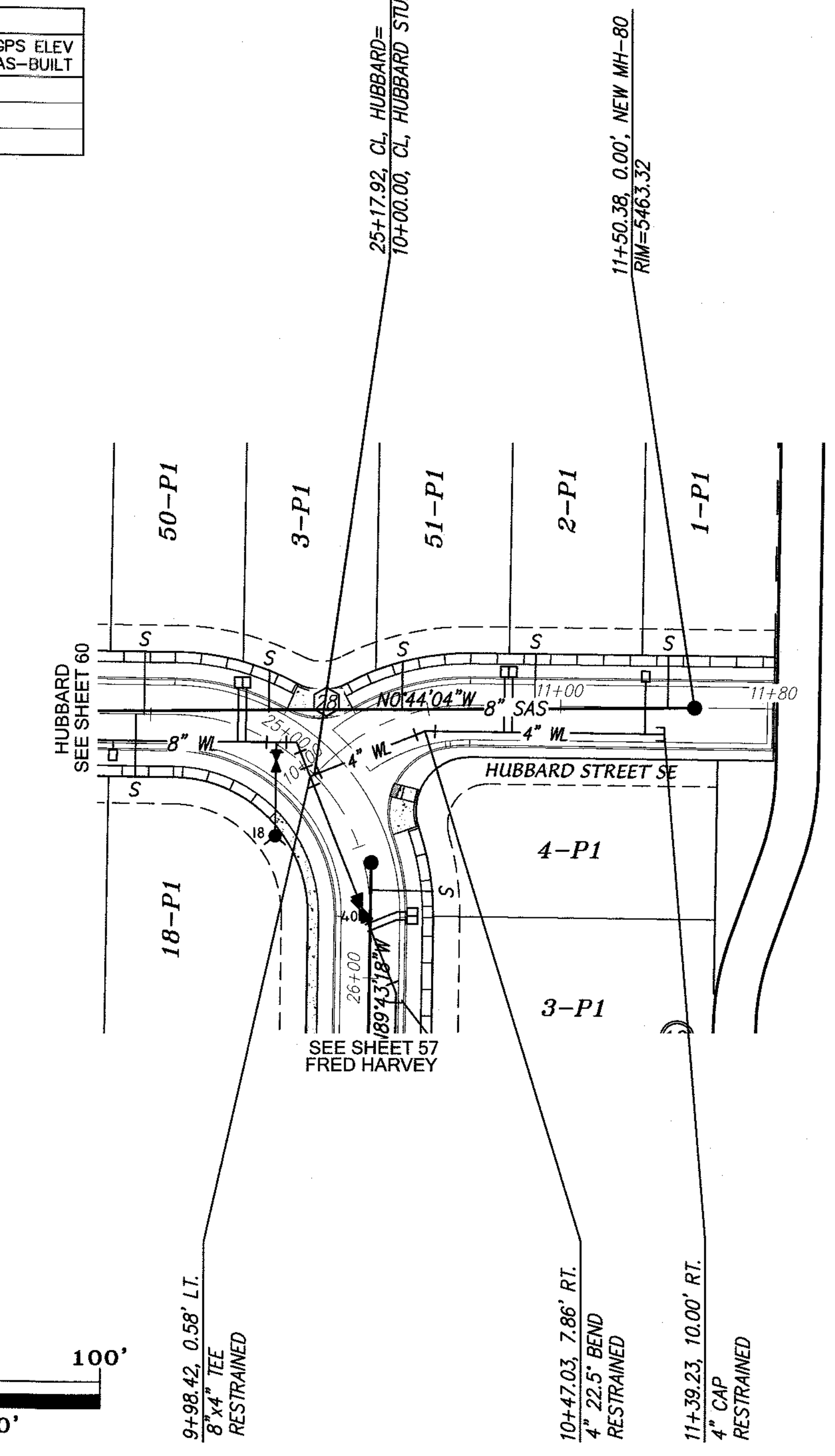
CATTLE GUARD GRATE STATIONS

SCALE: 1"=20'



CATTLE GUARD GRATE DETAIL

SCALE: 1"=5'



SCALE: 1" = 50'

NOTES

1. THIS PROJECT SITE LIES WITHIN THE 4ER ZONE FOR PADS ≤ 5480.0
2. ALL FIRE HYDRANTS ARE ABCWUA STD. DWG 2340 AND 4' BURY UNLESS OTHERWISE SPECIFIED.
3. ALL METER BOXES ADJACENT TO MOUNTABLE CURB SHALL HAVE DUCTILE IRON METER BOX COVER & LID PER ABCWUA STD. DWG 2368; WATER METER BOX PER ABCWUA STD. DWG #2366; WATER SERVICE PER ABCWUA STD. DWG #2362.
4. ALL FIRE HYDRANTS TO HAVE A 6" GATE VALVE ON LEG & BOX PER ABCWUA STD. DWG #2326.
5. CONTRACTOR TO USE POLY COATED CMP FOR VALVE BOXES.
6. CONTRACTOR IS NOT TO INSTALL THE STEPS IN THE SAS MANHOLES.
7. ALL SANITARY SEWER MANHOLES PER ABCWUA TYPE 'C' STD. DWG #2101, OR TYPE 'E' STD DWG AND #2102, #2107 AND #2109.
8. ALL WATER LINES SHALL BE C-900, DR-18, PVC.
9. ALL SEWER LINES SHALL BE SDR-35, PVC.
10. ALL GATE VALVES & VALVES BOXES PER DWG 2326.
11. ALL SEWER SERVICES PER DWG 2125.
12. ALL WATER AND SEWER MAINS AND SERVICE LINES SHALL HAVE TRACER WIRE OVER THE TOP OF PIPE.

FIRE HYDRANT – GPS AS-BUILT			
FIRE HYDRANT #	GPS X AS-BUILT	GPS Y AS-BUILT	GPS ELEV AS-BUILT

GATE VALVE – GPS AS-BUILT			
GATE VALVE #	GPS X AS-BUILT	GPS Y AS-BUILT	GPS ELEV AS-BUILT

AS BUILT INFORMATION

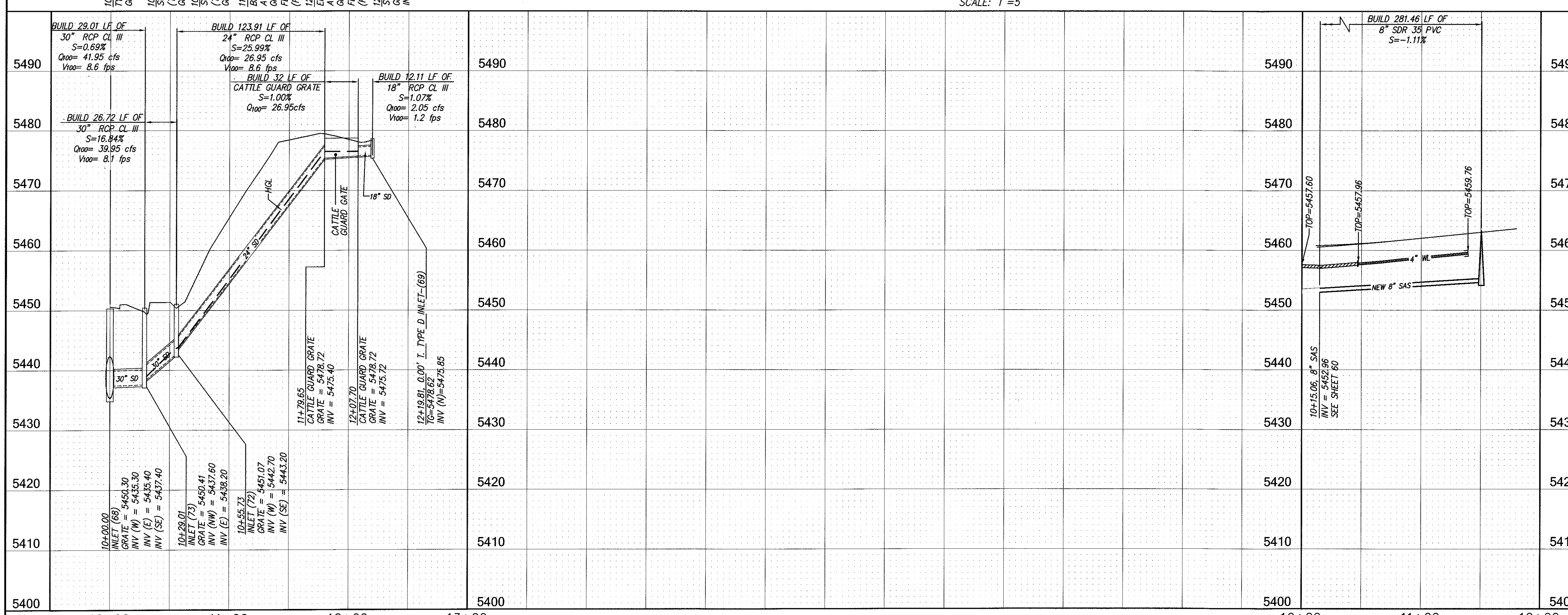
BENCH MARKS

STATION "5-M22" IS LOCATED 8.7 MI. SE OF DOWNTOWN ALBUQUERQUE ON THE EAST SIDE OF THE MUNICIPAL LIMITS LINE IN THE FOUR HILLS SUBDIVISION AREA. STATION IS 600 FT. EAST OF MUNICIPAL LIMITS LINE, 77.9' SE OF POWER POLE #SE37 & 186.0' NW OF POWER POLE #60. STATION IS A STANDARD ACS BRASS DISK SET IN A CONCRETE MONUMENT IN THE GROUND. STATION IS STAMPED "5-M22". X= 1,564,263.207, Y= 1,475,762.595, (NAD 83), Z= 5597.219 (NAVD 1988)

SURVEY INFORMATION

ENGINEER'S SEAL

CERTIFICATE OF SUBSTANTIAL COMPLIANCE



NO.	DATE	REMARKS		
REVISIONS		DESIGN		
DESIGNED BY	JDH	DATE	02/17	
DRAWN BY	SPS	DATE	02/17	
CHECKED BY	DMG	DATE	02/17	

MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
OFFICE (505) 828-2200, FAX (505) 797-9539

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

TITLE: JUAN TABO HILLS ESTATES
HUBBARD STREET S.E. & OFFSITE BLUE RIBBON
UTILITY PLAN & PROFILE

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO.	ZONE MAP NO.	SHEET OF
654887	M-21	61R 77

F:\A11JOBS\A11039 JTH West – PPlat\PLANS\UTILITIES\Hubbard-R1.dwg, Last saved by: Chris, 5/29/18