SET NO.

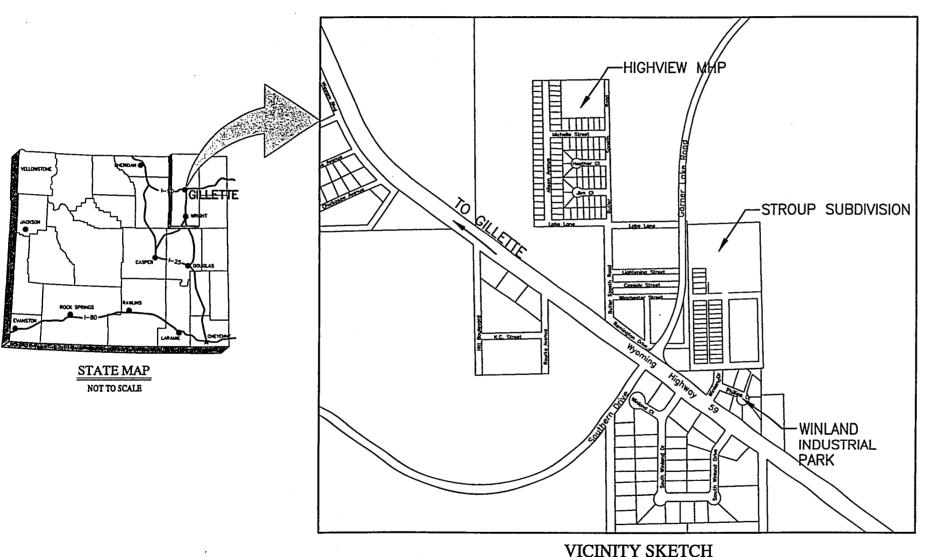
DRAWINGS OF CONSTRUCTION RECORD FOR

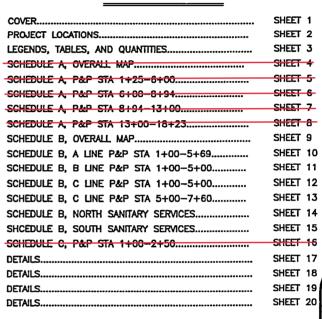
SOUTH DOUGLAS HIGHWAY REGIONAL SEWER SYSTEM PHASE 1A.

SCHEDULE A - HIGHVIEW MHP SANITARY SEWER MAIN SCHEDULE B - STROUP SUBDIVISION SANITARY SEWER COLLECTION SYSTEM SCHEDULE C - WINLAND INDUSTRIAL PARK SANITARY SEWER MAIN OCTOBER, 2004

Sanitary Sewer Mains to be Located as part of this agreement are shown on Sheet 10, 11 and 12 and identified with a red "cloud". - MC, 7/17/2018

INDEX





VICINITY SKETCH NOT TO SCALE

> I THOMAS A. SYLTE CERTIFY THAT CONSTRUCTION INSPECTION AND "DRAWINGS OF CONSTRUCTION RECORD" PLAN PREPARATION WERE PREFORMED BY ME OR UNDER MY DIRECT CONTROL AND SUPERVISION. THE CONSTRUCTION DETAILS AS SHOWN ON THESE "DRAWINGS OF CONSTRUCTION RECORD" ARE ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SDHW&SD

P.O. BOX 2245 GILLETTE, WYOMING 82717-2245 (307) 687-0510

Design by: CS Date: 2/2004 Reviewed by: RPS Date: 2/04; 10/0 Revised: CS 10/2004 P.C.A. Project Number: 032900.00 city_femp.dwg xCER PR Trunk.dwa

Main.DWG Plot Date: Sep 27, 2005 - 10:39an SOUTH DOUGLAS HIGHWAY REGIONAL SEWER SYSTEM

PHASE 1A SCHEDULE A SCHEDULE B SCHEDULE C

DRAWINGS OF CONSTRUCTION RECORD

COVER

SHEET 1 OF 20

SOUTH DOUGLAS HIGHWAY REGIONAL SEWER SYSTEM PHASE 1A

LEGENDS, TABLES, AND QUANTITIES

ABBREVIATION LEGEND				
EA	EACH	TAN	TANGENT	
LF	LINEAL FOOT	RAD	RADIUS	
VF	VERTICAL FOOT	FES	FLARED END SECTION	
SF	SQUARE FOOT	ROW	RIGHT-OF-WAY	
SY	SQUARE YARD	SW	SIDEWALK	
CY	CUBIC YARD	DW	DRIVEWAY	
CFS	CUBIC FEET PER SECOND	VG	VALLEY GUTTER	
TN	TON	FIL	FILLET	
AC	ACRE	C&G	CURB & GUTTER	
LS	LUMP SUM	LT	LEFT	
INS	INSTALL(ED)	RT	RIGHT	
REM	REMOVE(D)	EX	EXISTING	
R&R	REMOVE & REPLACE/REINSTALL	PCC	PORTLAND CEMENT CONCRETE	
ADJ	ADJUST	AC	ASPHALTIC CONCRETE	
		SA	SANITARY SEWER	

LEGEND						
EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION	
9	0	TREE			TELEPHONE LINE (UNDERGROUND)	
0	0	BUSH	6	C	CABLE TV J-BOX	
com	œ 3 3	ROCK WALL			CABLE TV LINE (UNDERGROUND)	
نـــــن		CONCRETE RETAINING WALL	©	6	GAS RISER	
		BLOCK WALL			GAS LINE (UNDERGROUND)	
-ċ-	ф	FIRE HYDRANT			CULVERTS	
1:1	н	WATER VALVE			CHAIN LINK FENCE	
♠	◉	WATER METER PIT / MANHOLE	l		WOOD PICKET FENCE	
		WATER LINE	//-		WOOD RAIL FENCE	
	_=	WATER SERVICE			SEMI-PRIVATE VINYL FENCE	
0	0	SANITARY SEWER MANHOLE			TWO RAIL VINYL FENCE	
.بو		SANITARY SEWER MAIN			TEMPORARY SAFETY FENCE	
>		SANITARY SEWER SERVICE		- =	SIGN	
-	=	STORM DRAIN INLET			RIGHT OF WAY	
	0	STORM DRAIN MANHOLE			ROADWAYS	
	— F —	STORM DRAIN			CONSTRUCTION EASEMENT	
2.23	(E)	ELECTRICAL TRANSFORMER			DRAINAGE EASEMENT	
		POWER LINE (UNDERGROUND)			BORE HOLE (W/ NUMBER)	
- ☆	≎	LIGHT POLE			ROTOMILL END TAPERS	
ĺò	Ö	UTILITY POLE	1	$\mathbb{X}\mathbb{X}$	AC PAVEMENT REMOVAL	
		OVERHEAD UTILITIES	-22 SA		AC PAVEMENT	
Œ		TELEPHONE J-BOX	923		PCC PAVEMENT	

SCHEDULE A-HIGHVIEW MOBILE HOME PARK SANITARY SEWER MAIN (032900.00) ESTIMATED QUANTITY SUMMARY				
ITEM	ITEM	UNIT	QUANTITY	ESTIMATED
NO.	DESCRIPTION		FOR BID	QUANTITY
201-4	Underground Facility Locates	EA.	3	3.0
401-1-8	Install 8" PVC Sanitary Sewer Pipe	LF.	1725	1718.0
401-3-A	Install Basic Sanitary Sewer Manhole (5)	EA.	5	5.0
401-3-8	Install Additional Sanitary Sewer Manhole Depth	V.F.	32	31.5
401-3-E	Install Sanitary Sewer Drop to New Manhole	EA.	1	1.0
401-4-8	Install 8° Sanitary Sewer End-of-Line plug	EA.	2	2.0
401-5-B	Connect to Sanitary Sewer Main	EA.	1	1.0
601-2	Excavation Below Subgrade	C.Y.	50	50.0
601-3	Rejected Material Disposal	C.Y.	50	50.0
601-4	Imported Borrow	C.Y.	50	50.0
601-10	Instali Geogrid	S.Y.	50	50.0
601-12	Install Fabric (Filter)	S.Y.	1925	1907.0
601-15	NPDES (Sedimentation) Control	L.S.	1	1.0
602-1	Remove and Replace Topsoil	C.Y.	960	954.4
606-3-A	Removal of Existing Fence	L.F.	50	50.0
604-1	Removal of Existing Asphalt Pavement	S.Y.	25	25.0
606-4W	Install Fence (Wire)	L.F.	50	50.0
606-25	Remove and Replace Autogate	EA.	1	1.0
607-A-2	Drain Gravel Grading B	C.Y.	450	433.3
609-2-5	5° Asphaltic Concrete Paving	S.Y.	25	25.0
1001-5	Seeding	ACRE	2	2.0
1001-7-A	Straw Mulch	ACRE	2	2.0
1001-9	Install Gravel for Driveways	TON	20	20.0
	Install Carsonite Utility Marker	EA.	5	5.0
614-1	Construction Signing & Traffic Control	L.S.	1	1.0
	Contract Bond	L.S.	1	1.0
1001-3	Mobilization	L.S.	1	1.0

1001-4 Force Account

Note: As constructed quantities are not summarized in these tables.

See plan sheets for actual quantities.

L.S. 1 1.0

ITEM	ITEM	UNIT	QUANTITY	ESTIMATED
NO.	DESCRIPTION		FOR BID	QUANTITY
201-4	Underground Facility Locates	EA.	10	5.0
201-5-A	Water Line Crossing	EA.	2	2.0
201-5-C	Power Line Crossing	EA.	1	1.0
201-5-D	Telephone Line Crossing	ĒA.	2	2.0
401-1-6	Install 6' PVC Sanitary Sewer Pipe	L.F.	150	144.0
401-1-8	Install 8° PVC Sanitary Sewer Pipe	L.F.	1300	1289.0
401-1-12	Install 12" PVC Sanitary Sewer Pipe	LF.	285	280.0
401-3-A	Install Basic Sanitary Sewer Manhole (5')	EA.	5	5.0
401-3-B	Install Additional Sanitary Sewer Manhole Depth	V.F.	20	20.0
401-4-4	Install 4" Sanitary Sewer End-of-Line plug	EA.	4	4.0
401-4-8	Install 8" Sanitary Sewer End-of-Line plug	EA.	3	3.0
401-4-12	Install 12" Sanitary Sewer End-of-Line plug	EA.	1	1.0
401-5-B	Connect to Sanitary Sewer Main	EA.	2	2.0
401-8-22.5	Install 6" 22.5 Degree Bend (PVC)	EA.	1	1.0
401-9-886	Install 8"x8"x6" Wye (PVC)	EA.	1	1.0
402-1-4A	4" PVC Extended & Reconnect San Sew Service	EA.	4	4.0
402-2A	Install 6" PVC Sanitary Sewer Service	ĒA.	1	1.0
402-2-4	Install 4° PVC Sanitary Sewer Cleanout	EA.	3	3.0
402-2-6	Install 6" PVC Sanitary Sewer Cleanout	EA.	2	2.0
402-6	Abandon Septic Tank in Place	EA.	1	1.0
402-6P	Plumb Through, Around, or Remove Septic Tank	EA.	5	5.0
402-7	Disassemble Lift Station & Modify Existing Manhole	EA.	1	1.0
503-5-6	Install Misc. Concrete	S.F.	120	120.0
601-2	Excavation Below Subgrade	C.Y.	50	50.0
601-3	Rejected Material Disposal	C.Y.	50	50.0
601-4	Imported Borrow	C.Y.	50	50.0
501-10	Install Geogrid	S.Y.	50	50.0
501-12	Install Fabric (Filter)	S.Y.	1775	1772.4
501-15	NPDES (Sedimentation) Control	LS.	1	1.0
501-17-A	Install Silt Fence	L.F.	260	250.0
602-1	Remove and Replace Topsoil	C.Y.	820	813.7
606-3-A	Removal of Existing Fence	L.F.	45	40.0
606-4W	Install Fence (Wire)	L.F.	45	40.0
607-A-2	Drain Gravel Grading B	C.Y.	425	412.8
507C-1-3T	3° Aggregate Base (Ton)	Ton	90	84.5
507C-1-6T	6* Aggregate Base (Ton)	Ton	355	349.4
1001-5	Seeding	ACRE	1.5	1.3
1001-7-A	Straw Mulch	ACRE	1.5	1.3
1001-9	Install Gravel for Driveways	TON	150	150.0
514-1	Construction Signing & Traffic Control	LS.	1	1.0
1001-1	Contract Bond	LS.	1	1.0
1001-3	Mobilization	LS.	1	1.0
1001-4	Force Account	LS.	1	1.0

SCHEDULE B-STROUP SUBDIVISION SANITARY

		SCHEDULE C-WINLAND INDUSTRIAL PARK SANITARY			
	SEWER MAIN (032928.0	.00)		,	
	ESTIMATED QUANTITY SUM		ť	,	
ITEM	ПЕМ		-	STIMATED	
NO.	DESCRIPTION			QUANTITY	
201-4	Underground Facility Locates	EA.	4	1.0	
201-5-D	Telephone Line Crossing	EA.	1	1.0	
401-1-8	Install 8" PVC Sanitary Sewer Pipe	LF.	55	51.0	
401-1-12	Install 12" PVC Sanitary Sewer Pipe	L.F.	75	72.0	
401-3-A	Install Basic Sanitary Sewer Manhole (5')	EA.	1	1.0	
401-3-B	Install Additional Sanitary Sewer Manhole Depth	V.F.	9	9.0	
401-5	Connect to Sanitary Sewer Manhole	EA.	1	1.0	
402-7	Disassemble Lift Station and Modify Existing Manhole		1	1.0	
503-5-6	Install Misc. Concrete	S.F.	24	24.0	
601-2	Excavation Below Subgrade	C.Y.	50	50.0	
601-3	Rejected Material Disposal	C.Y.	50	50.0	
601-4	Imported Borrow	C.Y.	50	50.0	
601-10	Install Geogrid	S.Y.	50	50.0	
601-12	Install Fabric (Filter)	S.Y.	150	144.5	
601-15	NPDES (Sedimentation) Control	LS.	1	1.0	
601-17-A	Install Silt Fence	LF.	100	90.0	
602-1	Remove and Replace Topsoil	C.Y.	75	68.3	
606-3-A	Removal of Existing Fence	LF.	100	80.0	
606-4-CL	Install Fence (Chain Link)	L.F.	50	40.0	
606-4W	Instali Fence (Wire)	L.F.	50	40.0	
607-A-2	Drain Gravel Grading B	Ton	40	35.8	
	3" Aggregate Base (Ton)	Ton	25	22.8	
		ACRE	0.3	0.1	
		ACRE	0.3	0.1	
614-1	Construction Signing & Traffic Control	LS.	1	1.0	
	Contract Bond	LS.	1	1.0	
	Mobilization	LS.	1	1.0	
1001-4	Force Account	LS.	1	1.0	

Prepared for: SDHW&SD

P.O. BOX 2245 GILLETTE, WYOMING 82717-2245 (307) 687-3510



 Drawn by:
 CS
 Date:
 2/04

 Design by:
 CS
 Date:
 2/04

 Reviewed by:
 RPS
 Date:
 2/04;
 10/04

 Revised:
 CS
 10/2004

P.C.A. Project Number: 032900.00
G:\Projects\03290000\ABDwgs\Details\
Details.dwg
X-Ref: ... city_temp.dwg
xCER PR Trunk.dwg

Main.DWG

Plot Date: Sep 22, 2005 - 1:48pm

SOUTH DOUGLAS
HIGHWAY REGIONAL
SEWER SYSTEM
PHASE 1A

SCHEDULE A SCHEDULE B SCHEDULE C

DRAWINGS OF CONSTRUCTION RECORD

LEGENDS, TABLES, AND QUANTITIES

SHEET 3 OF 20

GENERAL NOTES:

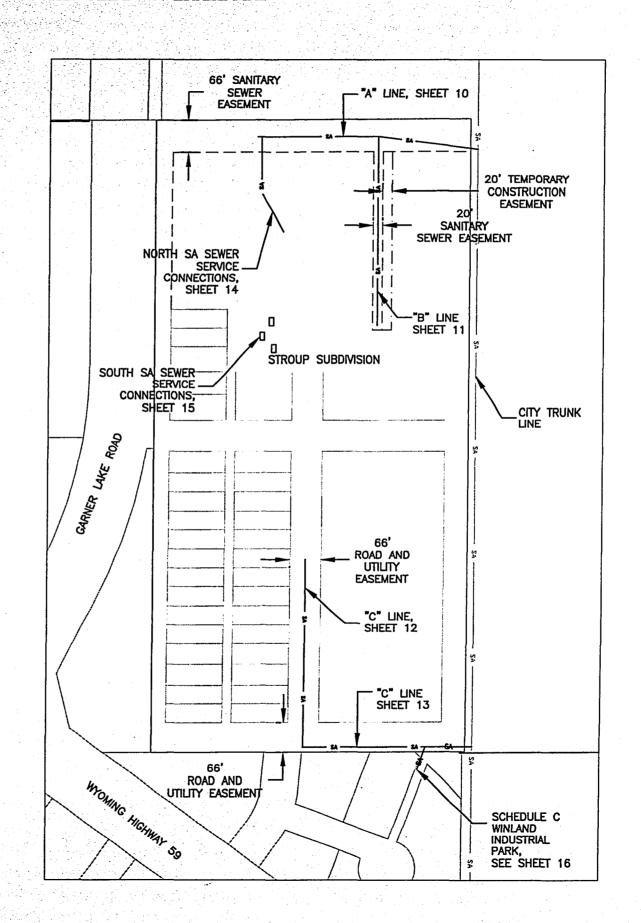
- 1. SDHW&SD SOUTH DOUGLAS HIGHWAY WATER AND SEWER DISTRICT.
- 2. ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE CITY OF GILLETTE STANDARD CONSTRUCTION SPECIFICATIONS. AMENDED IN FEBRUARY 1998.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING UTILITY LOCATES AND VERIFYING ALL UTILITY LOCATIONS PRIOR TO THE COMMENCEMENT OF WORK.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL REQUIRED CONSTRUCTION PERMITS NECESSARY FOR THIS PROJECT.
- 5. THE CONTRACTOR SHALL PROVIDE PROOF OF INSURANCE.
- 6. ALL CONCRETE USED FOR THIS PROJECT SHALL BE CITY OF GILLETTE CLASS B AND ALL REINFORCING BAR SHALL BE GRADE 60.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CONSTRUCTION SIGNAGE AND SAFETY REQUIREMENTS TO PROTECT ALL PRIVATE AND PUBLIC PROPERTY AND INDIVIDUALS.
- 8. ANY DISTURBED PROPERTY OR SECTION CORNERS ARE TO BE RESET BY A PROFESSIONAL LAND SURVEYOR, LICENSED IN THE STATE OF WYOMING, AT THE CONTRACTOR'S EXPENSE.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL WORK FROM DAMAGE BY ANY PERSON.
- 10. EXISTING PIPES OR STRUCTURES TO BE CONNECTED INTO SHALL BE EXPOSED BEFORE CONSTRUCTION TO VERIFY ELEVATIONS.
- 11. RIM ELEVATIONS EQUAL CENTER OF MANHOLE LID ELEVATION.
- 12. PIPE LENGTHS ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
- 13. PIPE SLOPES ARE MEASURED FROM INSIDE WALL TO INSIDE WALL

(1)

SOUTH DOUGLAS HIGHWAY REGIONAL SEWER SYSTEM PHASE 1A

SCHEDULE B - OVERALL MAP

	SHEET 9 OF 20 - SCHEDULE B, OVERALL MAP	10000	16 27 20 4 4
ITEM	ITEM	UNIT	ESTIMATED
NO.	DESCRIPTION	0.00	QUANTITY
601-2	Excavation Below Subgrade	C.Y.	50
601-3	Rejected Material Disposal	C.Y.	50
601-4	Imported Borrow	C.Y.	50
601-10	Install Geogrid	S.Y.	50
601-15	NPDES (Sedimentation) Control	L.S.	1
614-1	Construction Signing & Traffic Control	L.S.	1
1001-1	Contract Bond	L.S.	1
1001-3	Mobilization	L.S.	1
1001-4	Force Account	1.5	1





<mark>en in Britania de la compositor de la c</mark>

SCALE: 1" = 100"

Prepared for: SDHW&SD

P.O. BOX 2245 GILLETTE, WYOMING 82717-2245 (307) 687-0510

4506 Wigworn Blvd, P.O. Box 2185 Glieffe, yoponing 82718 307-087-9060 ENGINEERING, INC

P.C.A. Project Number: 032900.00
G:\Projects\03290000\ABDwgs\Details\
Details.dwg
X-Ref: ... city_temp.dwg

xCER PR Truñk.dwg Main.DWG Piot Date: Sep 22, 2005 — 1:48pm

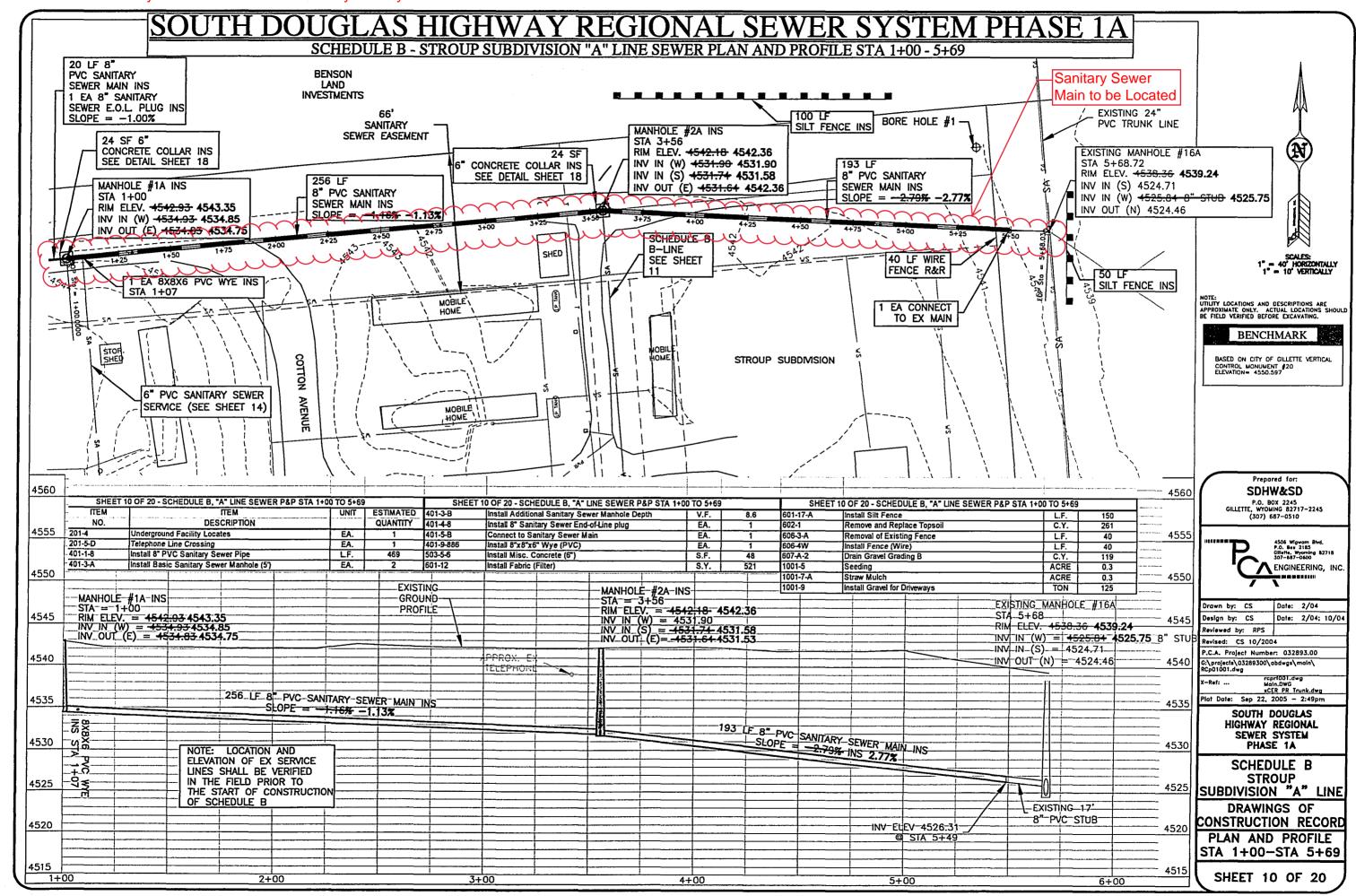
SOUTH DOUGLAS HIGHWAY REGIONAL SEWER SYSTEM PHASE 1A

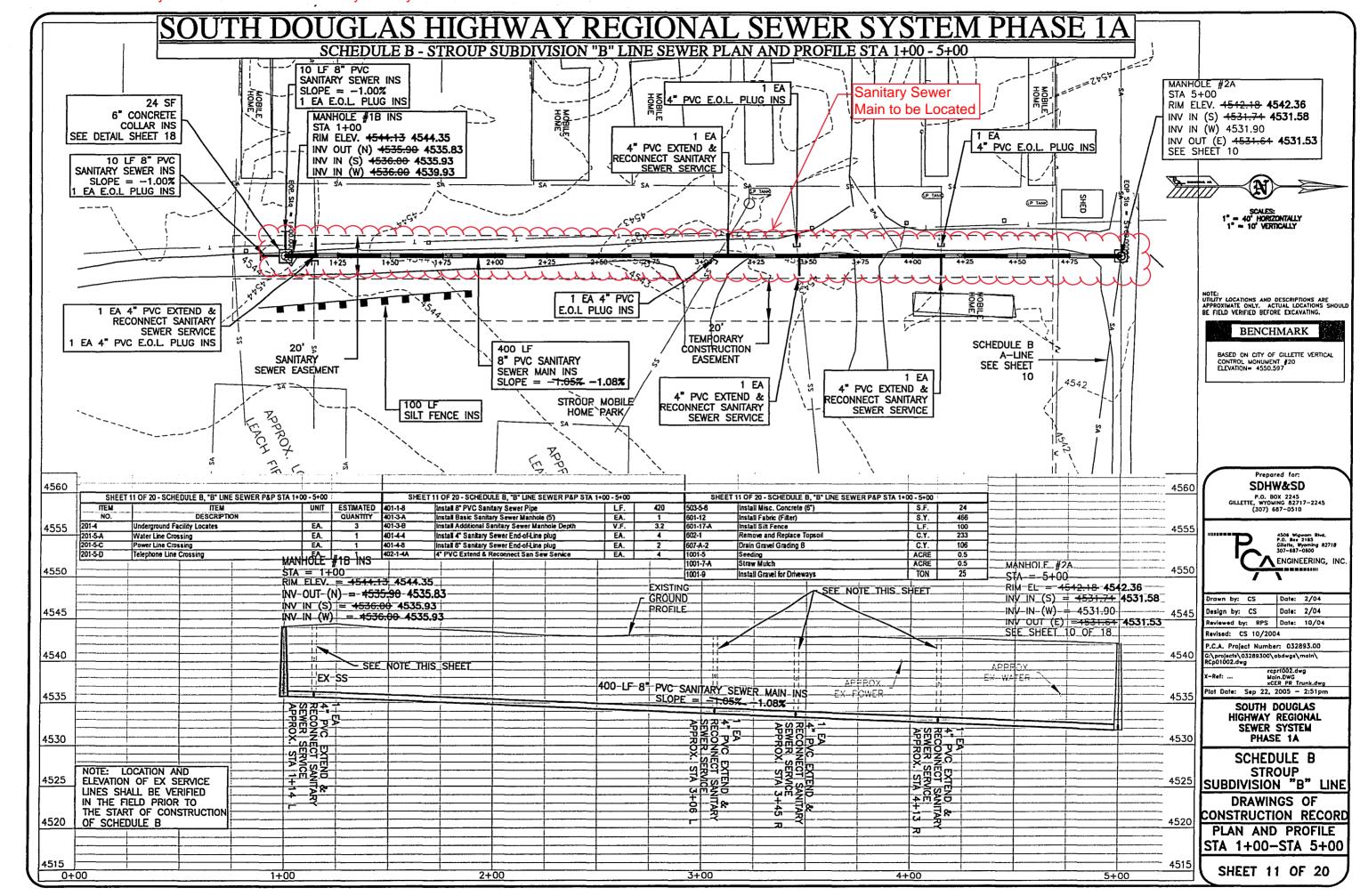
SCHEDULE B STROUP SUBDVISION

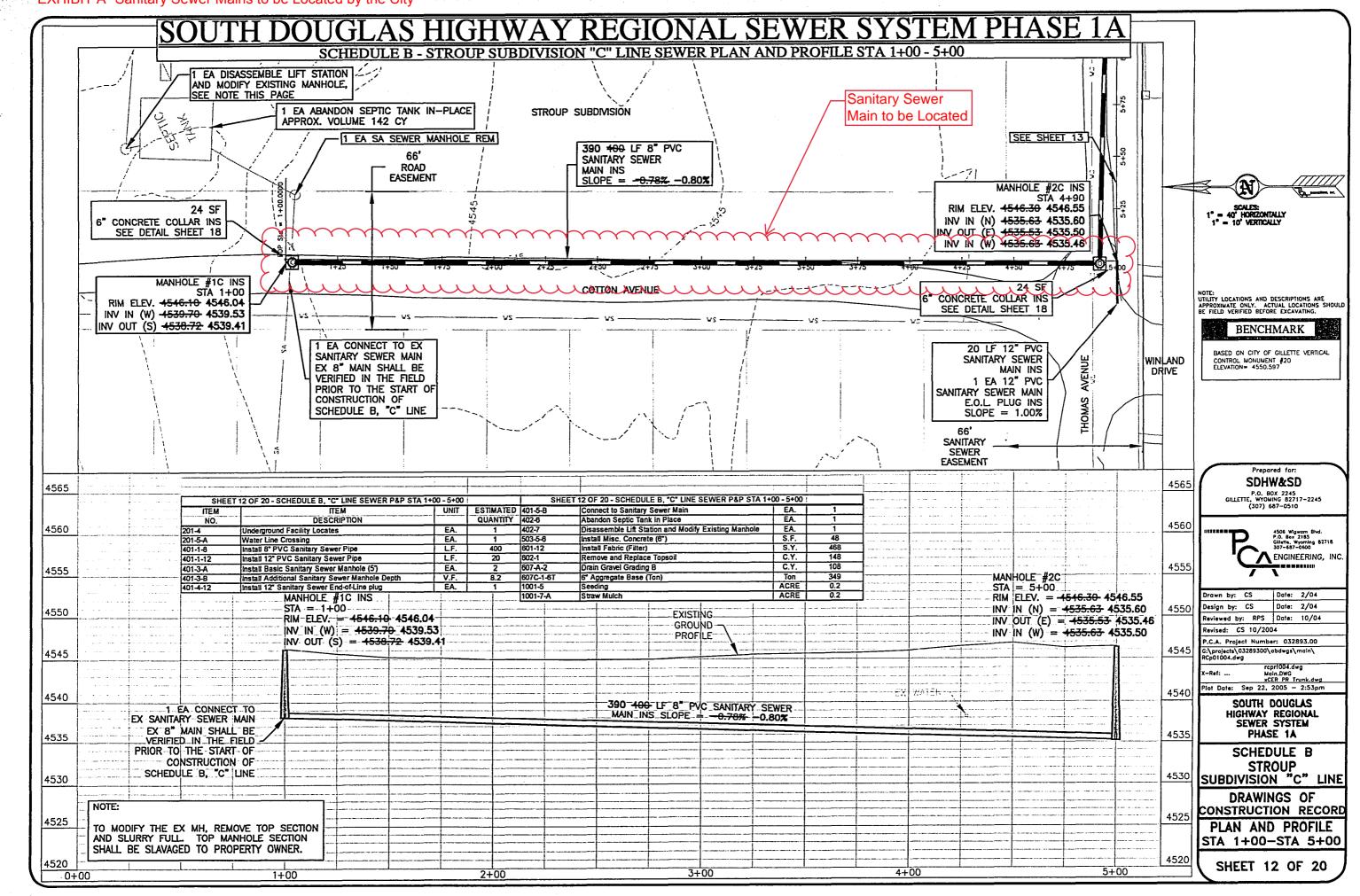
DRAWINGS OF CONSTRUCTION RECORD

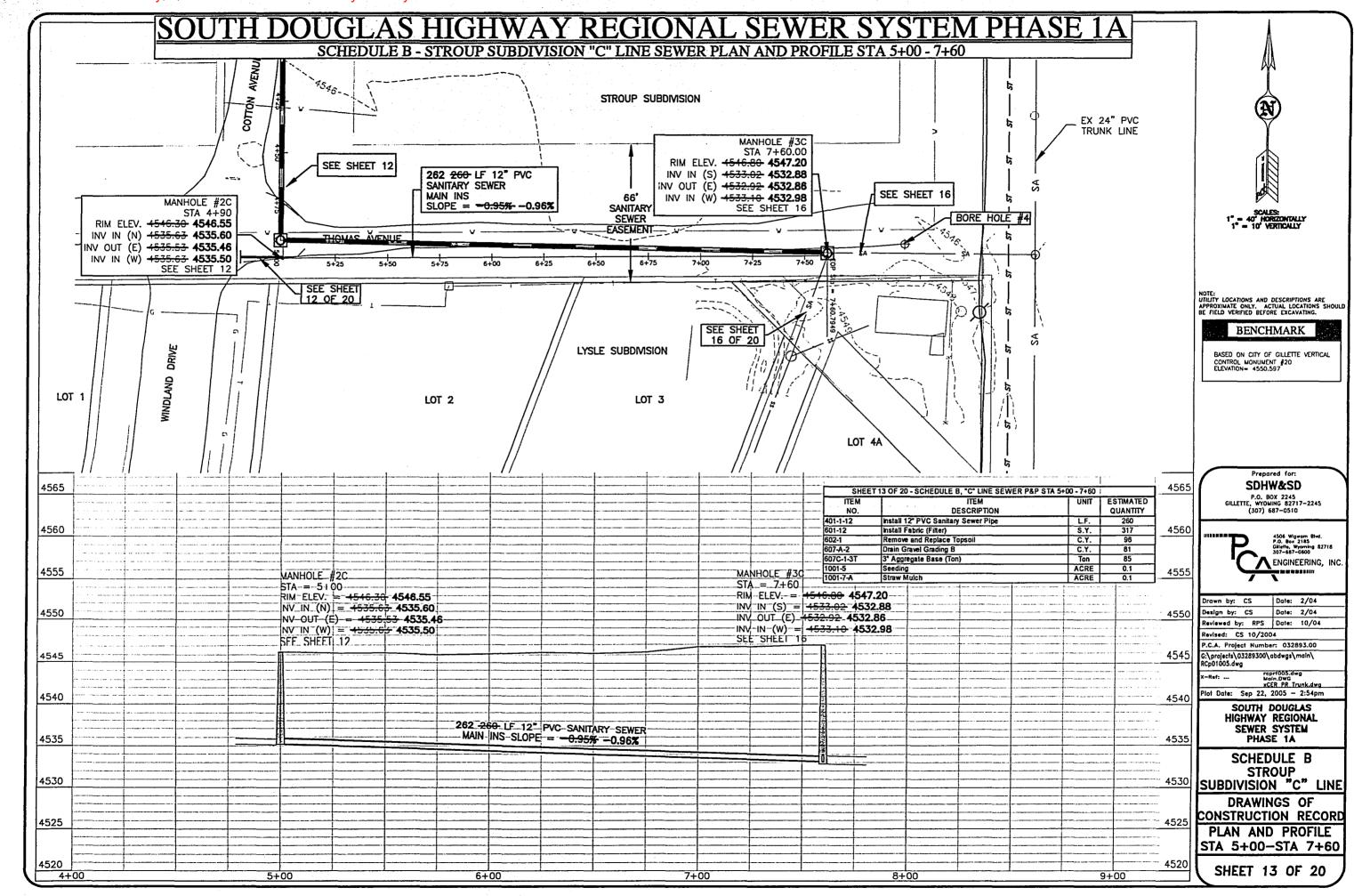
SCHEDULE B OVERALL MAP

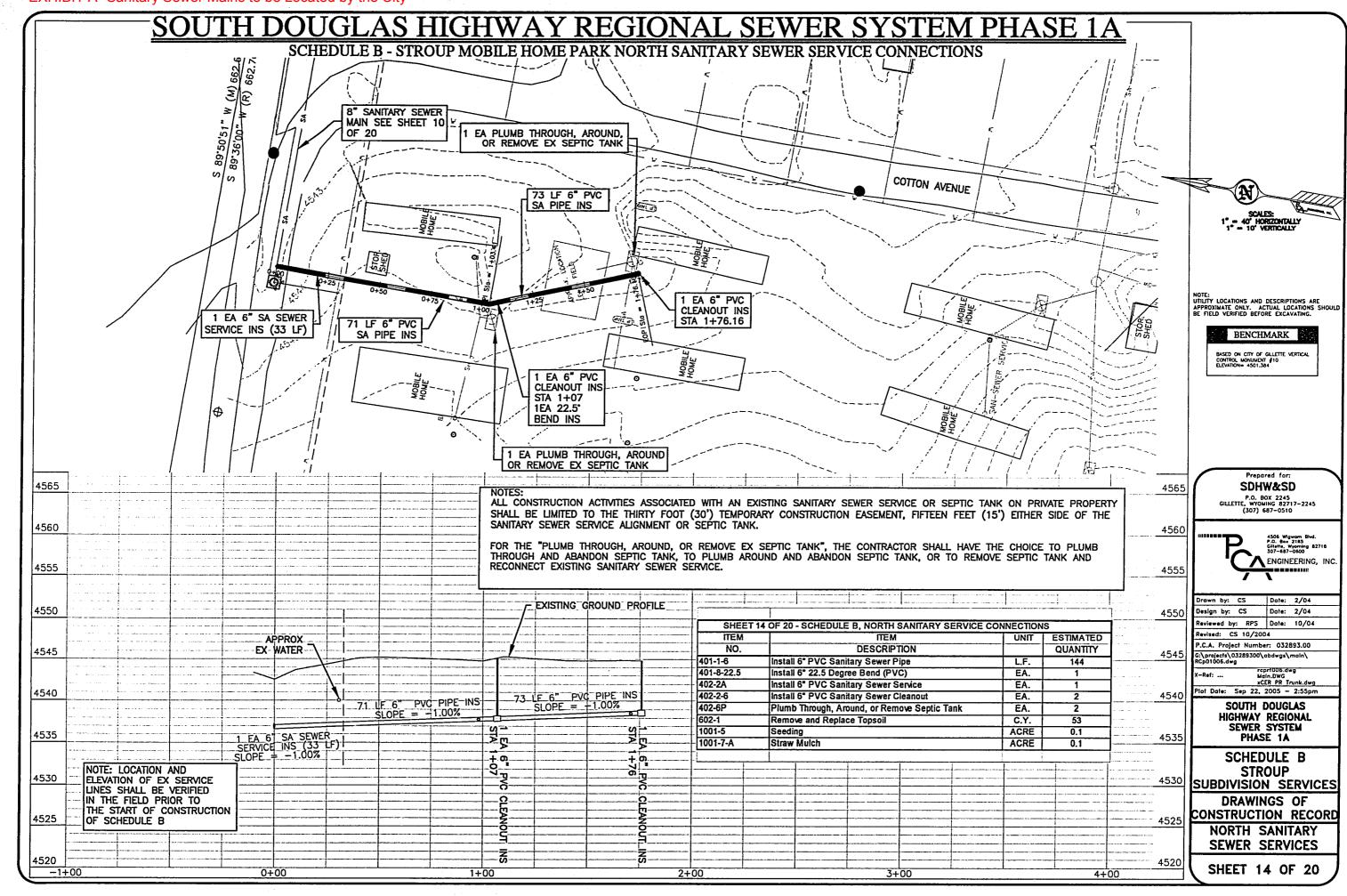
SHEET 9 OF 20

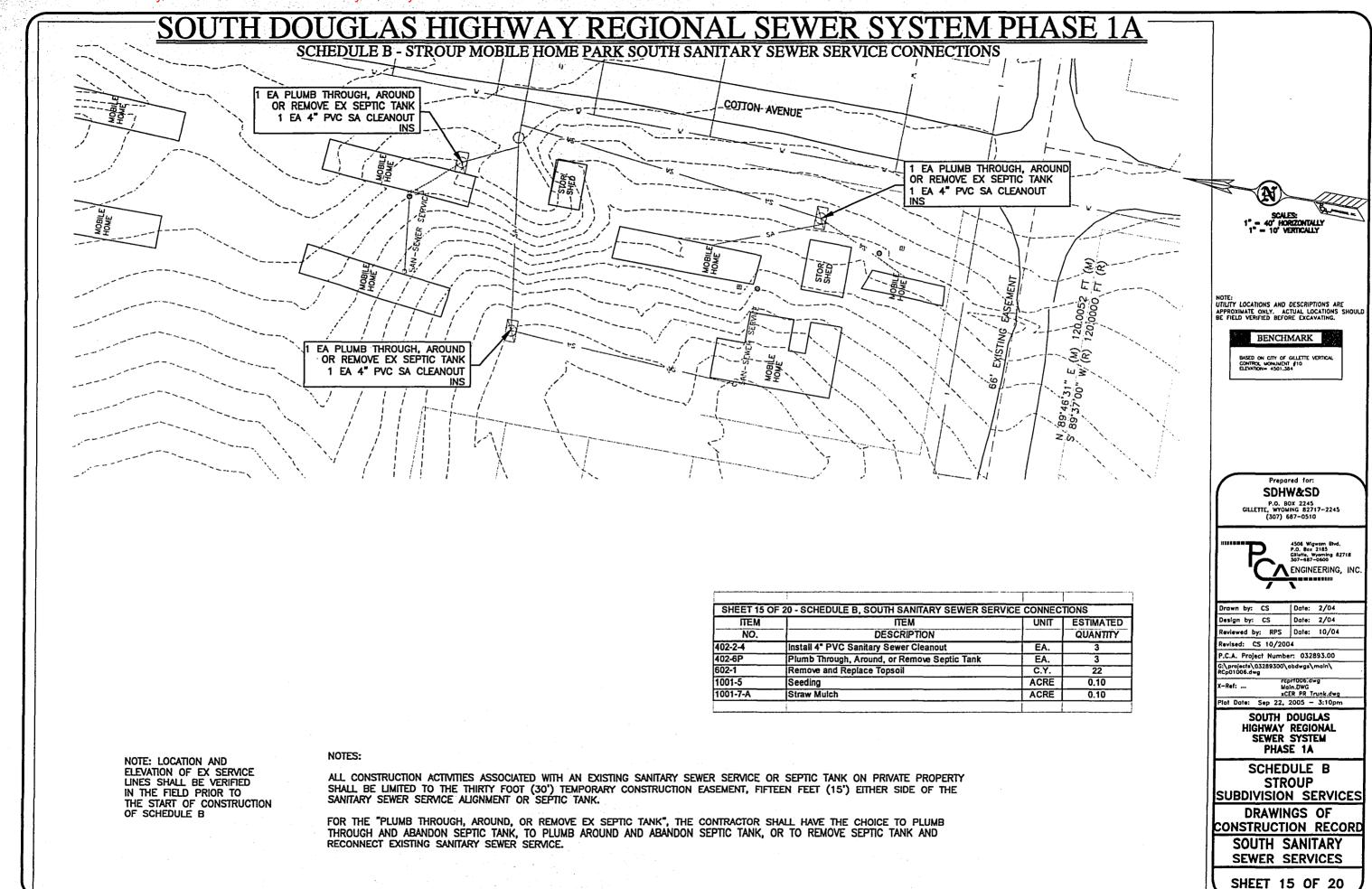






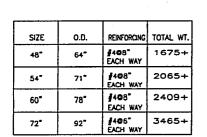




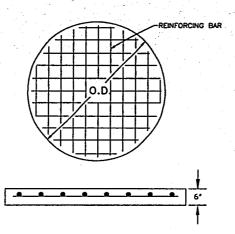


DOUGLAS HIGHWAY REGIONAL SEWER SYSTEM PHASE 1A CONSTRUCTION DETAILS LIMITS OF EXCAVATION NOTES ALL SERVICE CONNECTIONS TO SEWAGE COLLECTION LINES SHALL BE MADE WITH A WYE FOR NEW CONSTRUCTION AND A TAPPING SADDLE OR WYE FOR CONNECTION TO EXISTING COLLECTION LINES. TRENCH WIDTH (SEE SECTION 201.03B(OF THE SPECIFICATIONS BACKSLOPE AS SPECIFIED TO CONFORM TO CURRENT TYPE "A" OR "B" PIPES SHALL BE LAID SO THERE ARE NO JOINTS OR TAPS WITHIN 9 FEET OF THE TRENCH BACKFILL O.S.H.A. REGULATIONS (SEE SECTION 201.04C OF THE SPECIFICATIONS) FLOW-FILL SHALL EXTEND FROM UNDISTURBED SOIL AT THE BOTTOM OF LOWER PIPE TO AT LEAST 2 INCHES ABOVE THE TOP OF UPPER PIPE AND EXTEND FROM ONE SIDE OF TRENCH TO THE BEDDING MATERIAL PLACED IN 6" MAX. LAYERS AND COMPACTED TO PIPE MANUFACTURER RECOMMENDATION CENTER OF WYE BRANCH TO BE PLACED IN UPPER THIRD OF MAIN TYPE 1 PIPE BEDDING OTHER. PIPE SEPARATION SHALL BE 2 INCHES MINIMUM. 45" PIPE BEND GRADING "B", GRAVEL FOR DRAINS REQUIRED FOR SOFT OR UNSTABLE FOUNDATION THE BLOCK OF FLOW-FILL MUST BE WIDE ENOUGH TO ENSURE THE STRUCTURAL INTEGRITY OF THE INSTALLATION. THE MIX DESIGN OF THE BLOCK SHALL MEET A 28 DAY COMPRESSIVE STRENGTH OF BETWEEN 30-60 PSI. 4" SERVICE LINE SLOPE 2% MII FLOW-FILL SLURRY AS NOTES: PER DEQ POLICIES 13.9.11 AND 14.14.14 SEWER PIPE WYE, TEE WYE COMBINATION SADDLE OR BANDING TYPE "A" TRENCH BACKFILL SHALL BE USED UNDER ALL PAVEMENT, DRIVEWAYS, AND CURB & GUTTER AND SHALL EXTEND A MINIMUM OF 36" PAST THESE ITEMS. - FYISTING 2. TYPE "8" TRENCH BACKFILL SHALL BE USED IN ALL OTHER AREAS. 3. COMPLY WITH SPECIFICATION SECTION 201 FOR ALL OTHER ITEMS NOT COVERED HERE. 2" MIN. BETWEE! BID ITEM 402-1-4A EXTEND & RECONNECT SANITARY SEWER SERVICE TO 2" ABOVE TOP PIPE SEE DETAIL A-A TRENCH & BEDDING DETAIL (EA) CUT PLANE SEE DETAIL THIS SHEET FOR CAP TREATMENT -PROPERTY LINE OR EASEMENT LINE PVC BODY FERRULE W/ SQUARE HEAD SCREW PLUG FLOW-FILL TO EXTEND FROM ONE SIDE OF TRENCH TO THE OTHER 4" SERVICE LINE - CONNECT TO EX SEWER SERVICE DETAIL A-A كملاحطالحطائحطاب (SAME SIZE AS SEWER) UNDISTURBED PVC 45" BEND SEWER PIPE WYE, TEE WYE COMBINATION, SADDLE OR BANDING (SAME SIZE AS SEWER) SLURRY SADDLE DETAIL PUC TEE WYE (SAME SIZE AS SEWER) SERVICE LINE IN GRASS TYPICAL 4" SANITARY SEWER SERVICE LINE SDHW&SD SANITARY SEWER CLEANOUT CAP TREATMENT P.O. BOX 2245 GILLETTE, WYOMING 82717-2245 (307) 687-0510 SANITARY SEWER CLEANOUT 4506 Wigwom Btvd, P.O. Bex 2185 Gliette, Wyoming 82718 307-687~0600 CENTER OF WYE BRANCH TO BE PLACED IN UPPER THIRD OF MAIN -EXISTING SERVICE LINE 20.8°± 20.8± PIPE A ENGINEERING, INC 20"± 20°± TYPE A TRENCH BACKFILL TYPE A TRENCH 45° PIPE BEND BACKFILL Drawn by: CS Date: 2/04 6" SERVICE LINE SLOPE 2% MIN Design by: CS Date: 2/04 SPRING LINE SPRING LINE Reviewed by: RPS Date: 2/04; 10/04 SEWER PIPE WYE. evised:CS 10/2004:11/18/04 CS (ADD GRADING B GRAVEI P.C.A. Project Number: 032900.00 0.25 CY/LF 0.31 CY/LI G:\Projects\03290000\ABDwgs\Details\ Details.dwg city_temp.dwg xCER PR Trunk.dwg FABRIC (FILTER) 12 BID ITEM 402-2 INSTALL 6" SANITARY SEWER SERVICE BID ITEM 401-1-6 FABRIC (FILTER) (1.11 SY/LF) INSTALL 6" PVC SANITARY SEWER PIPE -Ptot Date: Sep 22, 2005 - 1:49pm (1.22 SY/LF) (EA) (UF) SOUTH DOUGLAS HIGHWAY REGIONAL -PROPERTY LINE OR EASEMENT LINE 12" PVC PIPE BEDDING WITH DRAIN 8" PVC PIPE BEDDING WITH DRAIN SEWER SYSTEM PHASE 1A NOTE: SCHEDULE A 6" SERVICE LINE 1. GRADING B, GRAVEL FOR DRAINS SHALL BE PLACED ON BOTH SIDES OF THE PIPE SIMULTANEOUSLY TO AVOID DISTURBING THE SCHEDULE B ALIGNMENT OF THE PIPE. 2. THE REMOVAL OF TRENCH BOXES SHALL BE DONE IN SUCH A MANNER SO AS TO NOT DISTURB THE GRAVEL DRAIN, FABRIC, AND PIPE SCHEDULE C NOTES: SEWER PIPE WYE, TEE WYE COMBINATIO SADDLE OR BANDING 3. THE "GRADING B, GRAVEL FOR DRAINS" SHALL BE WRAPPED IN FABRIC (FILTER). THE AMOUNT SHOWN ON THE DRAWINGS SHALL BE PAID FOR EACH LINEAL FOOT OF PIPE INSTALLED. ALL FABRIC REQUIRED FOR OVERLAPS AT END OF ROLLS AND ON TOP OF THE PIPE SHALL BE CONSIDERED INCIDENTAL. DRAWINGS OF ALL SERVICE CONNECTIONS TO SEWAGE COLLECTION LINES SHALL BE MADE WITH A WYE FOR NEW CONSTRUCTION AND A TAPPING SADOLE OR WYE FOR CONNECTION TO EXISTING COLLECTION LINES. CONSTRUCTION RECORD 4. THE GRADING B GRAVEL FOR DRAINS AND FABRIC (FILTER) SHALL BE INSTALLED CONTINUOUSLY UNDER AND/OR AROUND THE MANHOLES. **DETAILS** TYPICAL 6" SANITARY SEWER SERVICE LINE SHEET 17 OF 20

CONSTRUCTION DETAILS

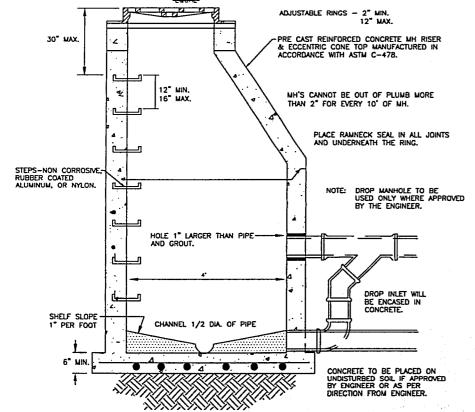


NOTES: 1. BASES MAY BE CAST IN PLACE OR PRECAST.

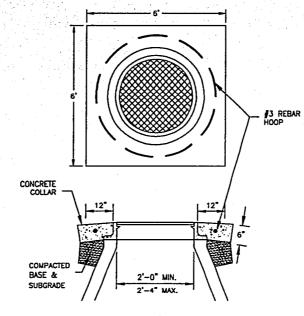


MANHOLE BASE DETAIL

ALL MH RINGS AND COVERS WILL BE NON-VENTING SELF SEALING NEENAH R-1649, DEETER 1258, OR APPROVED EQUAL

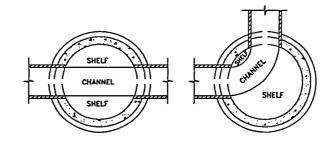


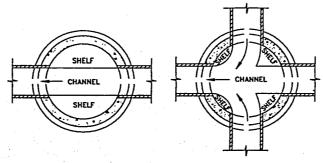
SANITARY SEWER MANHOLE



SLOPE CONCRETE COLLAR FROM MANHOLE.
MINIMUM SLOPE AT 2% AND MAXIMUM SLOPE AT 4%.

CONCRETE COLLAR FOR MANHOLE IN DRIVING SURFACE

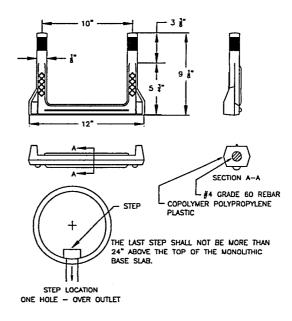




- 1. Slope all shelves to channel at 1" per foot.
- 2. See plan and profile sheets for slope of channel.

MANHOLE CHANNEL DETAIL

N.T.S.



NOTE:

- MANHOLE STEP PSI-PF, AS MANUFACTURED BY M.A. INDUSTRIES, INC. PEACHTREE CITY GEORGIA, 404-487-7761. COPOLYMER POLYPROPYLENE COATING MEETS ASTM D-4101-LATEST REVISION.
- LAIESI KEVISION.
 STEPS MEET ASTM C478 REQUIREMENTS AND ARE ON A
 12" MIN./16"" MAX. VERTICAL SPACING.
 STEP LEGS ARE DRIVEN INTO 1" DIAMETER HOLES IN THE
 MANHOLE WALL.
- DAMAGED STEPS CAN BE EXTRACTED AND REPLACED AT A
- LATER DATE.
 STEPS ARE NONSPARKING, NONCONDUCTING AND NONABRASIVE.
- NONABRASIVE.

 OSHA INSTRUCTION STD 1-1.9, ISSUED DECEMBER 29, 1978, REVISED THE AGENCY'S ORIGINAL DIRECTIVE FOR FIXED LADDERS, 29 CFR 1910.27, TO SPECIFICALLY EXCLUDE MANHOLE STEPS. M.A. INDUSTRIES WILL FURNISH, ON REQUEST, THE ABOVE OSHA INFORMATION PLUS ANY MORE RECENT UPDATE.

STANDARD STEPS FOR MANHOLES

Prepared for: SDHW&SD P.O. BOX 2245 GILLETTE, WYOMING 82717-2245 (307) 687-0510



Date: 2/04 Drawn by: CS Design by: CS Date: 2/04 Reviewed by: RPS Date: 2/04; 10/04 Revised:CS 10/2004;11/18/04 CS (ADD P.C.A. Project Number: 032900.00 G:\Projects\03290000\ABDwgs\Details\ city_temp.dwg xCER PR Trunk.dwg

ot Date: Sep 22, 2005 - 1:48pm SOUTH DOUGLAS HIGHWAY REGIONAL SEWER SYSTEM

PHASE 1A SCHEDULE A SCHEDULE B SCHEDULE C

DRAWINGS OF CONSTRUCTION RECORD

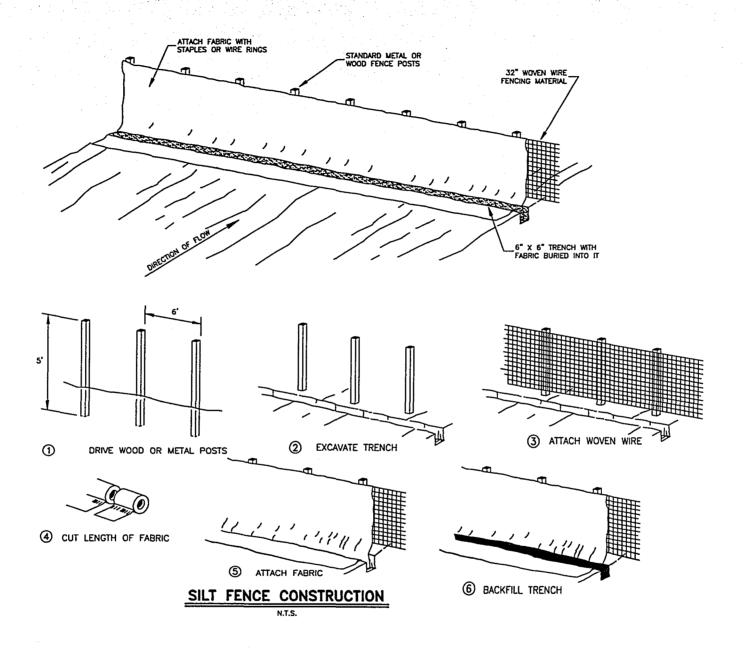
DETAILS

SHEET 18 OF 20

SOUTH DOUGLAS HIGHWAY REGIONAL SEWER SYSTEM PHASE CONSTRUCTION DETAILS GENERAL WIRE FENCING NOTES WIRE TYPE & SPACING P-7"# MIN. , . 6 MIN. (A) END OR CORNER POSTS 1. DID AND CORNER POSTS SHALL BE WOOD AND SHALL BE CREATER THAN 1. THAN LESS THAN 10" IN DAMETER, AND SHALL BE 7-0" LONG (UIN.) 16'-0" PANEL LENGTH 16'-0" - 40d SPIKES (TYP M C CROSS BRACE--CROSS BRACE (C) BRACE POSTS 1. BRACE POSTS SHALL BE WOOD AND SHALL BE CREATER THAN 6" AND LESS THAN 9" IN DAMETER, AND SHALL BE 6"-6" LONG (MIN.) CROSS BRACE (C) 1" NOTCH (TYP)-CROSS BRACES 1, CROSS BRACES SHALL BE WOOD AND SHALL BE 4" DIAMETER (WIN.) 2, CROSS BRACES FOR BRACE PANELS AND TYPE I END PANELS SHALL BE 6"-6" LONG (WIN.) 3, ALL CROSS BRACES SHALL BE NAILED TO THE POSTS WITH (3) 404 SPIKES AT EACH END (WIN.) NOTCH (TYP 1/2° STAPLE-DOUBLE WRAPPED (N) STAY-AND TIFE UNE POSTS 1. METAL LINE POSTS SHALL BE PLACED AS SHOWN ON PLANS, WITH A MAX. SPACING OF 16"-0". MODDEN LINE POSTS SHALL BE PLACED AT EVERY 5TH POST AND IN AREAS AS DIRECTED BY THE ENGINEER. (C) BRACE WIRE RDACE WIDE @ ANCHOR PLATE BRACE WIRE (6) I (E) DEADMAN (NOT APPLICABLE) BRACE POST ® (B) BRACE POST (D) DEADMAN WIRE TIES (NOT APPLICABLE) D WOODEN LINE POST METAL LINE POST OCRNER OR END POST 1 9 WAX. (T POST) BRACE WIRE 1. BRACE WIRES SHALL BE FORMED BY DOUBLE WRAPPING AND TWISTING (2) STRANDS OF 9-CAGE GALVANIZED SMOOTH WIRE OR (4) STRANDS OF 12 1/2 CAGE GALVANIZED SMOOTH WIRE. THE WIRE SHALL BE FASTENED WITH STAPLES ON THREE SIDES OF EACH BRACE POST. 1 10 # WAX. * WIRE HEIGHT PLUS 2" LINE POST (D)-LINE POST (D)-FENCE TYPE . WIRE HEIGHT PLUS 2 INCHES BRACE PANEL (A) CATE STICK SHALL HAVE MINIMUM CROSS SECTIONS OF EITHER A ROUGH 2'X2", 1 1/2"X3 1/2" (NOMINAL 2X4), OR 2" DIAMETER. THE LENGTH SHALL BE SUFFICIENT TO ACCOMMODATE THE WIRE SPACING AND HEIGHT. METAL LINE POST NOTES END PANEL LINE POSTS SHALL BE A STANDARD METAL "T", 6"-6" (MIN.) LONG AND SHALL WEIGH 1.33 LBS./FT. (MIN.) BARBED WIRE GENERAL WIRE FENCING DETAIL ① GATE HINGE 1. HINGES SHALL BE MADE OF DOUBLE LOOP 9-GAGE CALVANIZED SMOOTH TIMESTED WIRE AND SHALL BE STAPLED TO THE GATE STICK AND TO THE END POST (3 REQUIRED EACH GATE.) 45" TEMPORARY FENCE 3 BW ANCHOR PLATES SHALL BE SECURELY FASTENED TO THE POST AND SHALL HAVE A WEIGHT OF 0.67 LBS. (APPROX.) (TYPE F FENCE SHOWN) 48° HEICHT LINE WIRE STAPLES SHALL REMAIN LOOSE TO ALLOW SLIPPAGE. DRIVE SLIGHTLY POSTS SHALL HAVE NOTCHES, STUDS, OR HOLES SO PLACED AS TO HOLD THE LINE WIRES IN PROPER POSITION. HOLES OR NOTCHES SHOULD BE LOCATED SO THEY WILL NOT IMPAIR POST STRENGTH. 4 BW 5 BW 6 BW CATE SUPPORTS SHALL BE MADE OF A DOUBLE LOOP OF 9-GAGE GALVANIZED WIRE. THE SUPPORT SHALL BE SECURELY ATTACHED TO THE END POST MID SHALL MAYE A LOOP ADEQUATE FOR A GATE STICK. TYPE F TYPE G TYPE H TYPE J DOWNWARD EXCEPT AT DIPS CATE TIGHTENER 1. THE CATE TIGHTENER AS DETAILED SHALL BE USED WITH ENGINEER APPROVAL OTHERWISE. ALTERNATE TIGHTENERS MAY BE USED WITH ENGINEER APPROVAL WOODEN LINE POST NOTES FLAT FACE CUT LINE POSTS SHALL HAVE NO DIAMETER LESS THAN 4", NOR CREATER THAN 7" AND SHALL BE 6"-6" (MIN.) LONG. POSTS SHALL NOT HAVE AN INCREASE IN DIAMETER GREATER (A) CHAIN AND PADLOCK (NOT APPLICABLE) CHAIN AND PADLOCK (NOT APPUCABLE) STAYS 1. WIRE STAYS SHALL BE USED ON ALL BARBED WIRE FENCING UNLESS WOOD STAYS ARE SPECIFIED. 2. WIRE STAYS SHALL BE PROVIDED WITH WOVEN WIRE FENCING ONLY WHEN SPECIFIED. 3. WIRE STAYS SHALL BE 2" LONGER THAN THE DISTANCE BETWEEN THE TOP WIRE STAYS SHALL BE 2" LONGER THAN THE DISTANCE BETWEEN THE TOP THE WOVEN WIRE. 4. FOR WOO'SH WIRE FENCING WITH BARBED WIRE ON TOP, WIRE STAYS SHALL EXTEND 8" (WIN), BELOW THE TOP OF THE MOVEN WIRE. 5. IN SNOW PROBLEM AREAS, ONE OR TWO WOOD STAYS SHALL BE USED WHEN SPECIFIED. THEY SHALL BE EQUILLY SPACED BETWEEN LINE POSTS. IN SEVERE SNOW PROBLEM AREAS, AM INTERLEDIATE POST, ETHER STEEL OR WOOD, OR A WOODON TOP PAUL MAY BE SPECIFIED. THE DITEMEDIATE POSTS SHALL BE COULKLY SPACED BETWEEN LINE POSTS. 6. WHEN WOOD STAYS ARE SPECIFIED, THEY SHALL BE EITHER 2" ROUND, A ROUGH DIMENSION 2"X2" OR A NOWINAL 2"X4". THE STAYS SHALL BE OF SUFFICIENT LEGHT TO BE PLACED ON THE GROUND WITH THE TOP OF THE STAY EXTENDING 2" (WIN), ABOVE THE TOP WIRE. EACH WIRE SHALL BE ATTACHED. 15. TO THE WOOD STAYS LUSING 1"X 9—GACE BARBED STAPLES. WOOD STAYS NEED WITH THE TOP OF THE STAY EXTENDING 2" (WIN), ABOVE THE TOP WIRE. EACH WIRE SHALL BE ATTACHED. 15. ON THE TREATED. 1" FROM TIP TO BUTT. 1 1/2" 9-GAGE DRIVEN POSTS SHALL BE ORIENTED WITH SMALL END IN THE GROUND. TAMPED POSTS SHALL BE ORIENTED WITH LARGE END (BUTT) IN THE GROUND. - ROTATE STAPLES 30" AWAY FROM FLAT FACE CUT D T POST SECTION RARRED STAPLE (GALVANIZED) BARBED STAPLE DETAILS 33'-0" (MAX TYP) 33'-0" (MAX TYP) (R) GATE LENGTH STAY-ONE PER GATE FOR 12' GATE (N) (TWO PER GATE IF 16'-6" OR WIDER) BARBED WIRE (TYP) - GROUND LINE A CROSS BRACE CATE TIGHTENER () DENOTES WIRE TIE OR FENCE CLIP LOCATION FOR WETAL POSTS; 1 1/2" X 9-GAGE BARBED STAPLE LOCATION FOR WOOD POSTS. NOTCH (P) WIRE TYPE AND SPACING 1. WIRE SHALL BE OF THE TYPE SPECIFIED ON THE PLANS AND SHALL HAVE THE SPACING AS SHOWN WIRE SPACING TABLE @ GATE HINGE → CHAIN AND PADLOCK (A) STAY-SDHW&SD (C) CATES 1. THE NUMBER OF BARBED WIRES AND SPACING ON GATES SHALL BE THE SAME AS THE FENCE. 2. WIRE GATES SHALL BE BUILT TO THE WIDTH SPECIFIED ON THE PLAN SHEETS. H GATE STICK-P.O. BOX 2245 GILLETTE, WYOMING 82717-2245 GATE SUPPORT (K) (307) 687-0510 -GATE STICK (H) HANDLE (BAR 1-1/4"x3/16") BRACE WIRE BRACE WIRE J GENERAL NOTES 4506 Wigwom Bhd. P.O. Box 2185 Gilette, Wyoming 82718 307-687-0600 (4 0 MIN) WOOD ⊗ END POST ✓ II ►END POST (A) WHEN A FENCE APPROACHES A DITCH, GULLY, OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE 3/8" ROD-DROP-OFF THAT THE FENCE MAY BE STRUNG TO A POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND. END PANEL METAL "T" POSTS END PANEL WIRE GATE BRACE PANEL ENGINEERING, INC TEMPORARY FENCE - WARP TOP WIRE TO CLEAR TIGHTENER IN CASE OF ROUGH AND BROKEN TERRAIN, THE GROUND SHALL BE LEVELED AS MUCH AS PRACTICAL TO AVOID HARD-TO-FENCE AREAS. WHEN THAT IS NOT POSSIBLE, HARD-TO-FENCE AREAS MAY BE FENCE BY PLACING AN EXTRA LINE POST IN THAT AREA AND STRINGING FENCE TO THE MAIN FENCE LINE. YP FOR END AND BRACE PANELS, TEMPORARY FENCE) 3/8"ø BOLT W/2 NUTS OR TWO 3/8"x4" LAG BOLTS (ONE EACH SIDE) 7/16"ø HOLE IN POST & BAR COPYRIGHT Q ALL RIGHTS RESERVED BY PCA DIGRE The distance from the ground to the bottom wire shall not exceed 12°. If a straind of wire should come in contact with the ground, it shall be tied to the next higher wire, or the wire spacing on the posts shall be changed to eliminate the situation. TEMPORARY FENCE NOTES rawn by: CS Date: 2/04 Date: 2/04 Design by: CS 1. BRACE POSTS AND PANELS Reviewed by: RPS Date: 2/04; 10/04 -CROSS BRACE © 4. EVERY 5TH LINE POST SHALL BE WOODEN. ALL OTHERS, UNLESS NOTED OTHERWISE, SHALL BE STEEL. BRACE POSTS SHALL BE WOOD AND SHALL HAVE NO DIAMETER LESS THAN 6", NOR GREATER THAN 9" AND SHALL BE 6'-6" LONG (MIN). PROVIDE BRACE PANELS Revised: CS 10/2004 6 1,320 FEET MAX. SPACING. 5. FLOODGATE SHALL BE FASTENED IN SUCH A MANNER THAT FLOOD DEBRIS WILL RIP OUT THE FLOODGATE RATHER THAN THE MAIN FENCE. P.C.A. Project Number: 032900.00 2. LINE POSTS G:\Projects\03290000\ABDwgs\Details\ Details.dwg FOR TANGENT SECTIONS OF FENCE, THE WIRE SHALL BE PLACED ON THE LANDOWNER SIDE OF THE FENCE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. LINE POSTS FOR TEMPORARY FENCE SHALL BE WOOD 6'-6" LONG AND HAVE NO DIAMETER LESS THAN 4", NOR GREATER THAN 7" OR STANDARD METAL "T" 6'-6" LONG AND SHALL WEIGH 1.33 LBS/FT (MIN) WITH SPACING NOT TO EXCEED 33 FEET. WELD WASHER ON ROD TO PREVENT ROD FROM PULLING OUT OF HANDLE (TYP) 7. UNLESS SPECIFIED OTHERWISE, THE FENCE SHALL BE PLACED ON THE RIGHT-OF-WAY city_temp.dwg xCER PR Trunk.dwg BRACE PANELS IN TANGENT SECTIONS SHALL BE PLACED AT A MAXIMUM SPACING OF 1320 FEET UNLESS DIRECTED OTHERWISE BY THE ENGINEER. Plot Date: Sep 22, 2005 - 1:48pm 3. BRACE WIRE O TYPICAL GATE TIGHTENER BRACE WIRE SHALL BE FORMED BY TWISTING 3 STRANDS OF 9 GAGE GALVANIZED WIRE OR 4 STRANDS OF 12 1/2 GAGE CALVANIZED TWISTED BARBLESS WIRE AND SHALL BE FASTENED WITH STAPLES ON THREE SIDES OF EACH BRACE POST. 9. AN END PANEL (CORNER INSTALLATION) SHALL CONSIST OF AND BE PAID FOR AS TWO END PANELS. SOUTH DOUGLAS HIGHWAY REGIONAL 10. END PANELS SHALL BE OF TYPE III . SEWER SYSTEM FLOODCATE PHASE 1A WIRE STAYS SHALL BE USED ON ALL WIRE FENCING UNLESS WOOD STAYS ARE SPECIFIED. WIRE STAYS SHALL BE PROVIDED WITH WOVEN WIRE FENCING ONLY WHEN SPECIFIED. WIRE STAYS SHALL BE 2" LONGER THAN THE DISTANCE BETWEEN THE TOP AND SCHEDULE A (AS DIRECTED) SCHEDULE B BOTTOM WIRES. 4. FOR WOVEN WIRE FENCING WITH WIRE ON TOP, WIRE STAYS SHALL EXTEND 6" (MIN) BELOW THE TOP OF THE WOVEN WIRE. 5. IN SNOW PROBLEM AREAS, ONE OR TWO WOOD STAYS SHALL BE REQUIRED WHEN SPECIFIED. THEY SHALL BE EQUALLY SPACED BETWEEN LINE POSTS. IN SEVERE SNOW PROBLEM AREAS, AN INTERNEDIATE POST, EITHER STEEL OR WOOD, OR A WOODEN TOP RAIL MAY BE SPECIFIED. THE INTERMEDIATE POSTS SHALL BE EQUALLY SPACED BETWEEN LINE POSTS. SCHEDULE C BRACE PANEL BRACE PANEL DRAWINGS OF CONSTRUCTION RECORD WATER LEVEL-5. WIRE TYPE AND SPACING WIRE SHALL BE OF THE TYPE SPECIFIED ON THE PLANS AND SHALL HAVE THE SPACING AS SHOWN. FASTEN TO POSTS WITH 1 $1/2^{\circ}$ x 9 GAGE BARBED STAPLES. **DETAILS** END PANEL END PANEL (TYPE #) TEMPORARY FENCE SHALL BE INSTALLED AT LOCATIONS AS SHOWN ON PLANS AND SHALL REMAIN IN PLACE UNTIL REMOVED BY OTHERS UNDER A FUTURE CONTRACT, TEMPORARY FENCE BECOMES THE PROPERTY OF THE OWNER ONCE ACCEPTED IN-PLACE. GENERAL CHANNEL CROSSING DETAIL **SHEET 19 OF 20** (TYPE F FENCE SHOWN

SOUTH DOUGLAS HIGHWAY REGIONAL SEWER SYSTEM PHASE 1A

CONSTRUCTION DETAILS



NOTES:

ALL SILT FENCE SHALL BE REMOVED BY THE CONTRACTOR ONCE VEGETATION IS ESTABLISHED IN DISTURBED AREAS.

Prepared for: SDHW&SD

P.O. BOX 2245 GILLETTE, WYOMING 82717-2245 (307) 687-0510

4506 Wigwom Bhd.
P.O. Box 2185
Gillette, Wyoming 82718
307-687-0600
ENGINEERING, INC

Command © ALL ROMS RESERVED BY PCA DISCRETING, NC.

Drawn by: CS Date: 2/04

Design by: CS Date: 2/04

Reviewed by: RPS Date: 2/04; 10/04

Revised: CS 10/2004

P.C.A. Project Number: 032900.00
G:\Projects\03290000\ABDwgs\Details\
Details.dwg

X-Ref: ... city_temp.dwg xCER PR Trunk.dwg Main.DWG Plot Date: Sep 22, 2005 - 1:48pm

> SOUTH DOUGLAS HIGHWAY REGIONAL SEWER SYSTEM PHASE 1A

SCHEDULE A SCHEDULE B SCHEDULE C

DRAWINGS OF CONSTRUCTION RECORD

DETAILS

SHEET 20 OF 20