Westbrae/Hawthorne

PROJECT ID	**1**
LOCATION	Parallel to and southwest of Sir Francis Drake along apartment frontage, crosses creek, along Westbrae Dr., terminates at Hawthorne Ct.
BRIEF PROJECT DESCRIPTION	Upsize existing 8-inch pipe to 10-inch using pipe bursting
PROJECT JUSTIFICATION	Relieve predicted existing capacity deficiency (F700.06 to F003.26)
SPECIAL CONSIDERATIONS	Creek crossing, sideyard easements.
ASSUMPTIONS	Existing manholes assumed to be in good condition. Creek crossing not a siphon.
ALTERNATIVES	

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 8" sewer from F700.06 to F003.26	10		1,278'	157 $/ft	$200,709
Lower lateral replacement			19	2,500 $/ea	$47,500
Subtotal					$248,209
Mobilization and Demobilization				5%	$12,410
Construction Cost Subtotal					**$260,619**
Contingencies for Unknown Conditions				30%	$78,186
Construction Cost Total					**$338,805**
Engineering, Administration, and Legal Costs				25%	$84,701
Capital Improvement Cost Total					**$423,506**
				rounded	**$424,000**

Spruce/Park/Merwin/Broadway

PROJECT ID	**2**
LOCATION	Spruce/Park/Merwin/Broadway from to Arroyo to Pacheco
BRIEF PROJECT DESCRIPTION	Upsize existing sewer on Spruce and Park from Arroyo to Merwin, then install new diversion sewer on Merwin to Broadway, connect to existing trunk sewer at Pacheco.
PROJECT JUSTIFICATION	Relieve predicted existing capacity deficiency in sewers in Park, Dominga, Napa, and Pacheco (F003.12 to F002.09 to F000.77)
SPECIAL CONSIDERATIONS	Heavy traffic on Broadway & Bolinas, creek crossing on Merwin, hill on Broadway.
ASSUMPTIONS	
ALTERNATIVES	Horizontal Directional Drilling (HDD)

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipe bursting on Spruce & Park existing 15" from F003.12 to F003.08	18		405'	254 $/ft	$102,870
Lower lateral replacement			6	2,500 $/ea	$15,000
Open cut on Merwin from Park to siphon	18		200'	281 $/ft	$56,200
Double Barrell Siphon (10" and 15" pipe) under creek on Merwin NE of Park (microtunnel)	18		200'	389 $/ft	$77,800
Jacking Pits			1 pits	50,000 $/ea	$50,000
Receiving Pits			1 pits	35,000 $/ea	$35,000
Open cut on Merwin from Park to Broadway	18		300'	281 $/ft	$84,300
Microtunnel hill on Broadway between Merwin and Bank Sts.	18		650'	518 $/ft	$336,700
Jacking Pits			1 pits	50,000 $/ea	$50,000
Receiving Pits			1 pits	35,000 $/ea	$35,000
Open Cut on Broadway from Bank St. to Pacheco Ave.	18		650'	281 $/ft	$182,650
Subtotal					$1,025,520
Mobilization and Demobilization				5%	$51,276
Construction Cost Subtotal					**$1,076,796**
Contingencies for Unknown Conditions				30%	$323,039
Construction Cost Total					**$1,399,835**
Engineering, Administration, and Legal Costs				25%	$349,959
Capital Improvement Cost Total					**$1,749,794**
				rounded	**$1,750,000**

Cascade

PROJECT ID…… **3**

LOCATION…… On Cascade Road

BRIEF PROJECT DESCRIPTION…… Upsize existing sewer pipe

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiencies (F330.05 to F303.04)

SPECIAL CONSIDERATIONS……

ASSUMPTIONS…… Pipebursting

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 6" on Cascade from F330.05 to F303.04	8		1,727'	132 $/ft	$227,990
Lower lateral replacement			43	2,500 $/ea	$107,500
Subtotal					$335,490
Mobilization and Demobilization				5%	$16,775
Construction Cost Subtotal					**$352,265**
Contingencies for Unknown Conditions				30%	$105,679
Construction Cost Total					**$457,944**
Engineering, Administration, and Legal Costs				25%	$114,486
Capital Improvement Cost Total					**$572,430**
				rounded	**$572,000**

Creek/Bolinas

PROJECT ID	**4**
LOCATION	On Bolinas and Creek Roads, and in easement in ravine parallel to and northwest of Bolinas
BRIEF PROJECT DESCRIPTION	Upsize existing sewer pipe
PROJECT JUSTIFICATION	Relieve predicted existing capacity deficiencies (F002.28 to F002.11)
SPECIAL CONSIDERATIONS	Heavy traffic on Bolinas, creek crossing on Creek, difficult access to ravine off Bolinas
ASSUMPTIONS	Pipebursting
ALTERNATIVES	

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 10" in ravine and on Bolinas from F002.28 to F002.17	12"		3,068'	181 $/ft	$555,272
Pipeburst existing 10" on Porteous and Creek Rd. from F002.17 to F002.12	15"		1,011'	218 $/ft	$220,420
Lower lateral replacement			62	2,500 $/ea	$155,000
Remove & Replace existing 12" Creek/Bridge crossing F002.12 to F002.11	15"		196'	260 $/ft	$50,830
Subtotal					$981,522
Mobilization and Demobilization				5%	$49,076
Construction Cost Subtotal					**$1,030,598**
Contingencies for Unknown Conditions				30%	$309,179
Construction Cost Total					**$1,339,777**
Engineering, Administration, and Legal Costs				25%	$334,944
Capital Improvement Cost Total					**$1,674,721**
				rounded	**$1,675,000**

Upper Butterfield Road

PROJECT ID…… **5**

LOCATION…… On Butterfield Rd. from Van Tassel Ct. to Fawn Dr.

BRIEF PROJECT DESCRIPTION…… Upsize existing pipes using pipe bursting.

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiencies (H000.18 to H000.04)

SPECIAL CONSIDERATIONS…… Busy residential road.

ASSUMPTIONS……

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 10" from H000.18 to H000.10	12"		2,142'	181 $/ft	$387,720
Pipeburst exisitng 10" from H000.10 to H000.08	15"		463'	218 $/ft	$100,912
Pipeburst existing 12" from H000.08 to H000.04	15"		1,231'	218 $/ft	$268,380
Lower lateral replacement			68	2,500 $/ea	$170,000
Subtotal					$927,012
Mobilization and Demobilization				5%	$46,351
Construction Cost Subtotal					**$973,363**
Contingencies for Unknown Conditions				30%	$292,009
Construction Cost Total					**$1,265,372**
Engineering, Administration, and Legal Costs				25%	$316,343
Capital Improvement Cost Total					**$1,581,714**
				rounded	**$1,582,000**

Lower Butterfield/Meadowcroft/Broadmoor/Sir Francis Drake

PROJECT ID	**6**
LOCATION	Lower Butterfield/Meadowcroft/Broadmoor/Sir Francis Drake
BRIEF PROJECT DESCRIPTION	Pipebursting existing sewers and installing new relief sewers
PROJECT JUSTIFICATION	Relieve predicted existing capacity deficiencies in Butterfield Rd. from Carlson to Arroyo (S960.05 to S960.03); Butterfield, Kilgore Ct., and easements to Brookside (S942.09 to S900.11); and Broadmoor and SFD from Meadowcroft to Mountain View (S900.06 to S800.10).
SPECIAL CONSIDERATIONS	Deep sewer at Butterfield/Meadowcroft area (27'), construction in SFD
ASSUMPTIONS	
ALTERNATIVES	Meadowcroft is steep enough to consider HDD (similar costs)

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 6" on Butterfield from MHs S960.05 to S960.03	8"		493'	132 $/ft	$65,023
Remove & Replace existing 6" on Butterfield from MHs S942.09 to S942.08	12"		150'	226 $/ft	$33,968
New relief sewer on Butterfield and Meadowcroft from Kilgore Ct. to Willow Walk (Microtunnel due to depth)	10"		1,200'	346 $/ft	$415,200
Jacking Pits			2 pits	50,000 $/ea	$100,000
Receiving Pits			3 pits	35,000 $/ea	$105,000
New relief sewer on Meadowcroft and Broadmoor to SFD, connect to MH S900.04 (Open cut)	10"		1,100'	190 $/ft	$209,000
New relief sewer in SFD from Broadmoor to Mountain View, connect to MH S800.10	15"		600'	241 $/ft	$144,600
Lower lateral replacement			35	2,500 $/ea	$87,500
Subtotal					$1,160,291
Mobilization and Demobilization				5%	$58,015
Construction Cost Subtotal					**$1,218,306**
Contingencies for Unknown Conditions				30%	$365,492
Construction Cost Total					**$1,583,797**
Engineering, Administration, and Legal Costs				25%	$395,949
Capital Improvement Cost Total					**$1,979,747**
				rounded	**$1,980,000**

The Alameda/Brookmead

PROJECT ID…… 7

LOCATION…… The Alameda at Arroyo to Brookmead at Brookside

BRIEF PROJECT DESCRIPTION…… Pipebursting existing sewers and installing new relief sewers

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiencies The Alameda and easements from Arroyo to Brookside (S900.20 to S900.12).

SPECIAL CONSIDERATIONS…… Work in schoolyard.

ASSUMPTIONS……

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 18" on The Alameda from MHs S900.20 to S900.19	21"		132'	292 $/ft	$38,486
New relief sewer in The Alameda and Berkeley from S900.19 to S900.15	15"		976'	241 $/ft	$235,216
Pipeburst existing 18" in schoolyard and Brookmead from MHs S900.15 to S900.12	21"		535'	292 $/ft	$156,278
Lower lateral replacement			7	2,500 $/ea	$17,500
Subtotal					$447,480
Mobilization and Demobilization				5%	$22,374
Construction Cost Subtotal					**$469,854**
Contingencies for Unknown Conditions				30%	$140,956
Construction Cost Total					**$610,810**
Engineering, Administration, and Legal Costs				25%	$152,703
Capital Improvement Cost Total					**$763,513**
				rounded	**$764,000**

Sonoma/Nokomis

PROJECT ID..... **8**

LOCATION..... On Alderney, Sonoma, Sais, Nokomis, and Madrone

BRIEF PROJECT DESCRIPTION..... Upsize existing sewers on Alderney Rd. and Sonoma Ave from southeast of San Francisco to SFD., install new diversion sewer on Sais,Nokomis & Madrone Avenues from SFD to San Anselmo Ave.

PROJECT JUSTIFICATION..... Relieve predicted existing capacity deficiencies in Alderney and Sonoma (S610.03 to S608.03); SFD, Bella Vista, and easements to Sycamore Ave. (S608.03 to S600.07 to S001.10)

SPECIAL CONSIDERATIONS..... SFDrake crossing, creek crossing on Nokomis

ASSUMPTIONS.....

ALTERNATIVES..... Pipeburst PVC

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Remove & replace existing 10" PVC sewer on Alderney from S610.03 to S610.01	12"		485'	226 $/ft	$109,610
Remove & Replace existing 12" PVC sewer on Sonoma from MHs S610.01 to S609.01	15"		480'	260 $/ft	$124,904
Microtunnel new sewer across SFD and along Sais to Nokomis	15"		400'	432 $/ft	$172,800
Jacking Pits			1 pits	50,000 $/ea	$50,000
Receiving Pits			1 pits	35,000 $/ea	$35,000
Remove & replace ex. sewer on Nokomis from Sais to creek (Open cut)	15"		600'	260 $/ft	$156,000
New double barrel siphon under Creek (microtunnel)	10"		200'	346 $/ft	$69,200
Jacking Pits			1 pits	50,000 $/ea	$50,000
Receiving Pits			1 pits	35,000 $/ea	$35,000
Remove & replace ex. sewer on Nokomis and Madrone from creek to San Anselmo, connect to MH S000.52 (Open cut)	15"		600'	260 $/ft	$156,000
Lower lateral replacement			35	2,500 $/ea	$87,500
Subtotal					$1,046,014
Mobilization and Demobilization				5%	$52,301
Construction Cost Subtotal					**$1,098,315**
Contingencies for Unknown Conditions				30%	$329,494
Construction Cost Total					**$1,427,809**
Engineering, Administration, and Legal Costs				25%	$356,952
Capital Improvement Cost Total					**$1,784,761**
				rounded	**$1,785,000**

Miracle Mile

PROJECT ID…… 9

LOCATION…… Greenfield Ave. and Sir Francis Drake from Hilldale to Tunstead

BRIEF PROJECT DESCRIPTION…… Upsize existing sewer on Greenfield and construct new diversion sewer in SFD

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiencies in Hilldale, Greenfield, and Center from Red Hill to Bridge (S400.11 to S001.07)

SPECIAL CONSIDERATIONS…… Heavy traffic area, downtown commercial district.

ASSUMPTIONS…… Pipeburst existing sewer, microtunnel new sewer. No laterals

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 8" on Red Hill, MHs S400.11 to S400.10	12"		36'	181 $/ft	$6,588
Replace existing 6" on Greenfield from MHs S400.10 to S400.06	12"		1,258'	226 $/ft	$284,376
Pipeburst existing 10" on Greenfield from MHs S400.06 to S400.04	12"		709	181 $/ft	$128,293
Microtunnel across SFD/Red Hill Intersection, from S400.04 south on SFD to creek	12"		900	346 $/ft	$311,400
New double barrel siphon under Creek (microtunnel)	10"		200'	346 $/ft	$69,200
Microtunnel on SFD from siphon to ex. MH S000.40	12"		150	346 $/ft	$51,900
Jacking Pits			2 pits	50,000 $/ea	$100,000
Receiving Pits			2 pits	35,000 $/ea	$70,000
Subtotal					$1,021,757
Mobilization and Demobilization				5%	$51,088
Construction Cost Subtotal					**$1,072,845**
Contingencies for Unknown Conditions				30%	$321,853
Construction Cost Total					**$1,394,698**
Engineering, Administration, and Legal Costs				25%	$348,675
Capital Improvement Cost Total					**$1,743,373**
				rounded	**$1,743,000**

Sir Francis Drake/Winship

PROJECT ID	**10**
LOCATION	On Sir Francis Drake from Barber Ave. to Bolinas; Winship from Barber to SFD; and Bolinas from SFD to Shady Ln.
BRIEF PROJECT DESCRIPTION	Upsize existing sewers, install new relief sewer.
PROJECT JUSTIFICATION	Relieve predicted existing capacity deficiencies in SFD (S200.04 to S200.01); Winship (S215.01 to S200.01); and Boinas (S200.01 to S000.34 to S00032)
SPECIAL CONSIDERATIONS	Heavy traffic on SFD, old bridge on Winship
ASSUMPTIONS	Pipebursting on SFD, new sewer on Winship bridge (off side), new sewer across SF Drake to Shady Lane Trunk.
ALTERNATIVES	

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 8" on SFD, MHs S200.04 to S200.01	12"		1,123'	181 $/ft	$203,335
Pipeburst existing 6" on SFD, MHs S200.00 to S200.01	10"		149'	157 $/ft	$23,409
Install new pipe on Winship Bridge from S215.01 to S200.00	8"		190'	$179	$34,046
Microtunnel new sewer across SFD and along Bolinas from S200.01 to S000.32	12"		450'	$346	$155,700
Jacking Pits			1 pits	50,000 $/ea	$50,000
Receiving Pits			2 pits	35,000 $/ea	$70,000
Lower lateral replacement			14	2,500 $/ea	$35,000
Subtotal					$571,490
Mobilization and Demobilization				5%	$28,574
Construction Cost Subtotal					**$600,064**
Contingencies for Unknown Conditions				30%	$180,019
Construction Cost Total					**$780,084**
Engineering, Administration, and Legal Costs				25%	$195,021
Capital Improvement Cost Total					**$975,105**
				rounded	**$975,000**

Bolinas/Fernhill

PROJECT ID…… **11**

LOCATION…… Bolinas Ave. and Fernhill Ave. west of Shady Ln.

BRIEF PROJECT DESCRIPTION…… Pipeburst ex. Sewers on Bolinas and Fernhill

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiencies in Bolinas (S101.06 to S000.32) and Fernhill (R564.04 to R000.31)

SPECIAL CONSIDERATIONS……

ASSUMPTIONS……

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 10" on Bolinas, MHs S101.06 to S101.05	12"		259'	181 $/ft	$46,843
Pipeburst existing 10" on Bolinas, MHs S101.05 to S000.32	15"		1,202'	218 $/ft	$261,971
Pipeburst existing 10" on Fernhill, MHs S564.04 to R000.31	15"		851'	218 $/ft	$185,583
Lower lateral replacement			54	2,500 $/ea	$135,000
Subtotal					$629,397
Mobilization and Demobilization				5%	$31,470
Construction Cost Subtotal					**$660,867**
Contingencies for Unknown Conditions				30%	$198,260
Construction Cost Total					**$859,127**
Engineering, Administration, and Legal Costs				25%	$214,782
Capital Improvement Cost Total					**$1,073,908**
				rounded	**$1,074,000**

Upper Shady Lane Trunk Sewer

PROJECT ID……	**12**
LOCATION……	Shady Lane from Bolinas to Norwood.
BRIEF PROJECT DESCRIPTION……	New relief sewer
PROJECT JUSTIFICATION……	Relieve predicted existing capacity deficiencies in Ross Valley trunk sewer (S000.32 to R000.29 to K000.03) by diverting a portion of flow to old trunk sewer in Shady Ln.
SPECIAL CONSIDERATIONS……	Existing 21"/24" sewer in Shady Lane and Kent Ave. (old Ross Valley trunk sewer) needs rehabilitation; CIPP lining assumed from R500.16 to R500.01 but not included in this project.
ASSUMPTIONS……	Current creek crossing (R500.18 to R500.17) is at creek invert (visible). New sewer will be at lower elev., therefore siphon will not be necessary. Will need to microtunnel across creek however. Abandon existing sewer from R000.29 to R500.16. No laterals
ALTERNATIVES……	

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
New 24" sewer on Shady Lane, MHs S000.32 to R000.29 (open cut)	24"		800'	359 $/ft	$287,200
New relief sewer at lower elevation, MH R500.18 to R500.17 (microtunnel)	21"		150'	605 $/ft	$90,750
Remove and replace existing 21" sewer. Lower sewer to new elevation, MH R500.17 to R500.16. (open cut)	21"		500'	314 $/ft	$157,000
Subtotal					$534,950
Mobilization and Demobilization				5%	$26,748
Construction Cost Subtotal					**$561,698**
Contingencies for Unknown Conditions				30%	$168,509
Construction Cost Total					**$730,207**
Engineering, Administration, and Legal Costs				25%	$182,552
Capital Improvement Cost Total					**$912,758**
				rounded	**$913,000**

Sir Francis Drake/Berry

PROJECT ID…… **13**

LOCATION…… Sir Francis Drake from Laurel Grove Ave. to Berry Ln.

BRIEF PROJECT DESCRIPTION…… Upsize existing sewer

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiency (R400.05 to R000.15)

SPECIAL CONSIDERATIONS…… Heavy traffic on SFD

ASSUMPTIONS…… Pipebursting

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 10" sewer on SFD, MHs R400.05 to R400.01	15"		998'	218 $/ft	$217,477
Pipeburst existing 12" sewer on SFD, MHs R400.01 to R000.15	15"		105'	200 $/ft	$21,060
Lower lateral replacement			15	2,500 $/ea	$37,500
Subtotal					$276,037
Mobilization and Demobilization				5%	$13,802
Construction Cost Subtotal					**$289,839**
Contingencies for Unknown Conditions				30%	$86,952
Construction Cost Total					**$376,790**
Engineering, Administration, and Legal Costs				25%	$94,198
Capital Improvement Cost Total					**$470,988**
				rounded	**$471,000**

Goodhill

PROJECT ID…… **14**

LOCATION…… Goodhill Rd. from Live Oak to Vineyard and easement from Goodhill to Kent Ave.

BRIEF PROJECT DESCRIPTION…… Upsize existing sewer

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiencies (W101.10 to W100.28)

SPECIAL CONSIDERATIONS…… Sideyard easement at W101.00 to W100.28

ASSUMPTIONS…… pipebursting

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 6" sewer on Goodhill, MHs W101.10 to W101.00	10"		1,691'	157 $/ft	$265,503
Pipeburst existing 10" sideyard sewer, MHs W101.00 to W100.28	12"		513'	166 $/ft	$85,092
Replace existing 8" sewer on Kent, MHs W100.28 to R100.26T	15"		189'	260 $/ft	$49,140
Lower lateral replacement			20	2,500 $/ea	$50,000
Subtotal					$449,734
Mobilization and Demobilization				5%	$22,487
Construction Cost Subtotal					**$472,221**
Contingencies for Unknown Conditions				30%	$141,666
Construction Cost Total					**$613,887**
Engineering, Administration, and Legal Costs				25%	$153,472
Capital Improvement Cost Total					**$767,359**
				rounded	**$767,000**

Woodland/College

PROJECT ID	**15**
LOCATION	Woodland Rd. from Evergreen to Kent Ave., College Ave. from Woodland to Stadium Way
BRIEF PROJECT DESCRIPTION	Upsize existing sewer on Woodland, new relief sewer on College, north to existing trunk
PROJECT JUSTIFICATION	Relieve predicted existing capacity deficiencies in Woodland and Kent Ave. (W514.10 to W514.07 to W100.32 to W100.27 to K100.25)
SPECIAL CONSIDERATIONS	New siphon across storm culvert (adjacent to ex. siphons)
ASSUMPTIONS	Remove and replace in Woodland due to diameter increse (10" to 18", 12" to 21")
ALTERNATIVES	Trenchless methods, pipebursting, reaming, etc.

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Remove & replace existing 10" sewer on Woodland, MHs W514.10 to W514.07	18"		1,000'	295 $/ft	$295,000
Remove & replace existing 12" sewer on Woodland, MHs W514.07 to W512.01 to K511.03	21"		600'	314 $/ft	$188,400
Siphon under strorm drain channel (microtunnel)	12"		90'	346 $/ft	$31,209
Jacking Pits			1 pits	50,000 $/ea	$50,000
Receiving Pits			1 pits	35,000 $/ea	$35,000
New relief sewer from new siphon to K100.25 (open cut)	12"		650'	209 $/ft	$135,850
Lower lateral replacement			12	2,500 $/ea	$30,000
Subtotal					$765,459
Mobilization and Demobilization				5%	$38,273
Construction Cost Subtotal					**$803,732**
Contingencies for Unknown Conditions				30%	$241,120
Construction Cost Total					**$1,044,852**
Engineering, Administration, and Legal Costs				25%	$261,213
Capital Improvement Cost Total					**$1,306,065**
				rounded	**$1,306,000**

Kentfield Relief Sewer

PROJECT ID……	**16**
LOCATION……	Stadium Way (crossing College of Marin) from College Ave. to east side of Corte Madera Creek
BRIEF PROJECT DESCRIPTION……	New 21" relief sewer.
PROJECT JUSTIFICATION……	Relieve predicted existing capacity deficiencies (K100.25 to K000.03)
SPECIAL CONSIDERATIONS……	School courtyard crossing, creek crossing
ASSUMPTIONS……	Parallel existing trunk sewer from K100.25 to K000.03. 1/2 microtunnel (trough school area) 1/2 open cut (through ball field) New siphon across Corte Madera Creek
ALTERNATIVES……	

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
New 21" relief sewer through school area (microtunnel)	21"		450'	605 $/ft	$272,250
New 21" relief sewer through ball field (open cut)	21"		450'	306 $/ft	$137,700
New single barrel siphon under Creek (microtunnel)	21		150'	605 $/ft	$90,750
Jacking Pits			1 pits	50,000 $/ea	$50,000
Receiving Pits			1 pits	35,000 $/ea	$35,000
Subtotal					$585,700
Mobilization and Demobilization				5%	$29,285
Construction Cost Subtotal					**$614,985**
Contingencies for Unknown Conditions				30%	$184,496
Construction Cost Total					**$799,481**
Engineering, Administration, and Legal Costs				25%	$199,870
Capital Improvement Cost Total					**$999,351**
				rounded	**$999,000**

Laurel Grove/McAllister

PROJECT ID…… **17**

LOCATION…… Laurel Grove and McAllister from Cypress to Berens

BRIEF PROJECT DESCRIPTION…… Upsize existing sewers

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiencies in Laurel Grove and McAllister (K200.11 to K100.04)

SPECIAL CONSIDERATIONS…… SFD

ASSUMPTIONS…… Pipe bursting

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 8" sewer on Laurel Grove, MHs K200.11 to K200.09	10"		377'	157 $/ft	$59,126
Pipeburst existing 10" sewer on Laurel Grove, MHs K200.09 to K200.06	12"		550'	181 $/ft	$99,550
Pipeburst existing 12" sewer on SFD, MHs K200.06 to K200.05	15"		146'	218 $/ft	$31,828
Pipeburst existing 12" sewer on McAllister, MHs K200.05 to K100.04	15"		1,183'	218 $/ft	$257,894
Lower lateral replacement			43	2,500 $/ea	$107,500
Subtotal					$555,898
Mobilization and Demobilization				5%	$27,795
Construction Cost Subtotal					**$583,693**
Contingencies for Unknown Conditions				30%	$175,108
Construction Cost Total					**$758,801**
Engineering, Administration, and Legal Costs				25%	$189,700
Capital Improvement Cost Total					**$948,501**
				rounded	**$949,000**

Manor Easement

PROJECT ID…… **18**

LOCATION…… Easement south of Manor and SFD.

BRIEF PROJECT DESCRIPTION…… Upsize existing sewers

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiencies in Manor easement sewer (G300.03 to G000.15)

SPECIAL CONSIDERATIONS…… SFD

ASSUMPTIONS…… Pipe bursting

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 12" sewer in easement, MHs G300.03 to G000.15	15"		864'	218 $/ft	$188,265
Lower lateral replacement			4	2,500 $/ea	$10,000
Subtotal					$198,265
Mobilization and Demobilization				5%	$9,913
Construction Cost Subtotal					**$208,178**
Contingencies for Unknown Conditions				30%	$62,453
Construction Cost Total					**$270,631**
Engineering, Administration, and Legal Costs				25%	$67,658
Capital Improvement Cost Total					**$338,289**
				rounded	**$338,000**

William/Holcomb/Meadowood

PROJECT ID	**19**
LOCATION	William Ave., Holcomb Ave. from Magnolia to Ward; Meadowood Dr. east of ward and easement east of Meadowood.
BRIEF PROJECT DESCRIPTION	Upsize existing sewers, 2 new relief sewers.
PROJECT JUSTIFICATION	Relieve predicted existing capacity deficiencies in William, Monte Vista, Holcomb, and Meadowood (L220.02 to L165.03 to L164.06 to L163.03 to L151.04.
SPECIAL CONSIDERATIONS	Holcomb is old RR easement
ASSUMPTIONS	
ALTERNATIVES	Pipeburst existing 15" sewer on Meadowbrook and easement, MHs L164.01 to L151.04 - two diameters.

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 10" sewer on William, MHs L220.02 to L165.03	15"		516'	218 $/ft	$112,510
New 12" relief sewer on William from MHs L165.03 to L164.10	12"		334'	209 $/ft	$69,722
Pipeburst existing 10" sewer on Holcomb, MHs L164.10 to L164.07	12"		643'	181 $/ft	$116,293
New 12" relief sewer on Holcomb (easement) from MHs L164.07 to L164.03	12"		153'	209 $/ft	$31,935
Pipeburst existing 10" sewer in easement, MHs L164.03 to L164.01	15"		300'	218 $/ft	$65,291
Replace existing 15" sewer on Meadowbrook and easement, MHs L164.01 to L151.04	21"		1,079'	260 $/ft	$280,514
Lower lateral replacement			35	2,500 $/ea	$87,500
Subtotal					$763,765
Mobilization and Demobilization				5%	$38,188
Construction Cost Subtotal					**$801,953**
Contingencies for Unknown Conditions				30%	$240,586
Construction Cost Total					**$1,042,539**
Engineering, Administration, and Legal Costs				25%	$260,635
Capital Improvement Cost Total					**$1,303,174**
				rounded	**$1,303,000**

Magnolia

PROJECT ID…… **20**

LOCATION…… Magnolia from Francos to Murray, and from north Bon Air to Curst Creek Ln.

BRIEF PROJECT DESCRIPTION…… Upsize existing sewers

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiencies (L152.26 to L152.25, and L152.18 to L152.11)

SPECIAL CONSIDERATIONS…… Heavy traffic on Magnolia

ASSUMPTIONS……

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 6" sewer on Magnolia, MHs L152.26 to L152.25	10"		290'	157 $/ft	$45,499
Pipeburst existing 12" sewer on Magnolia, MHs L152.18 to L152.11	15"		1,981'	218 $/ft	$431,771
Lower lateral replacement			5	2,500 $/ea	$12,500
Subtotal					$489,769
Mobilization and Demobilization				5%	$24,488
Construction Cost Subtotal					**$514,258**
Contingencies for Unknown Conditions				30%	$154,277
Construction Cost Total					**$668,535**
Engineering, Administration, and Legal Costs				25%	$167,134
Capital Improvement Cost Total					**$835,669**
				rounded	**$836,000**

Eliseo

PROJECT ID…… **21**

LOCATION…… Eliseo, north of Corte Cayuga

BRIEF PROJECT DESCRIPTION…… Upsize existing sewer

PROJECT JUSTIFICATION…… Relieve predicted existing capacity deficiency (B200.05 to B200.04)

SPECIAL CONSIDERATIONS……

ASSUMPTIONS……

ALTERNATIVES……

MAJOR ITEMS	DIA. (in.)	DEPTH (feet)	QUANTITY	UNIT COST	COST
Baseline Pipe Construction Cost					
Pipeburst existing 6" sewer on Eliseo, MHs B200.05 to B200.04	8"		218'	132 $/ft	$28,763
Lower lateral replacement			4	2,500 $/ea	$10,000
Subtotal					$38,763
Mobilization and Demobilization				5%	$1,938
Construction Cost Subtotal					**$40,701**
Contingencies for Unknown Conditions				30%	$12,210
Construction Cost Total					**$52,911**
Engineering, Administration, and Legal Costs				25%	$13,228
Capital Improvement Cost Total					**$66,139**
				rounded	**$66,000**