

## NOTRE DAME AVENUE LOOP CLOSURE

### PROJECT BACKGROUND

According to the District GIS map and discussions with District personnel, water mains along Arbor Avenue and a small portion on Notre Dame Avenue were abandoned. As a result, this created a long 2,100 LF dead end on Terrace Drive and the District has reported water quality issues near the end of the dead end main. In addition, several water mains along Notre Dame Avenue (between Valley View Avenue and Manzanita Avenue) and the Terrace Drive dead end are incapable of meeting the minimum recommended fire flow of 1,500 gpm at 20 psi. This improvement will reconnect Terrace Drive with Notre Dame Avenue at Manzanita Avenue with 1,030 LF of new 8" ductile iron pipe (DIP) thereby eliminating the dead end. In addition, 1,200 LF of new 8" DIP will replace aging, undersized 4" and 6" water mains along Notre Dame Avenue. Three fire hydrants and 29 service connections will also be replaced. Hydraulic analysis indicates a 12% to 106% increase in available fire flows along Terrace Avenue and Notre Dame Avenue upon completion of this project. Distribution System Analysis No. 013

### PROPOSED IMPROVEMENTS

Install 1,030 LF of new 8" DIP  
 Replace 860 LF of 4" CIP, 30 LF of 4" PVC and 310 LF of 6" PVC with 1,200 LF of 8" DIP  
 Replace 3 fire hydrant assemblies  
 Replace 29 service connections

### PROJECT BENEFITS

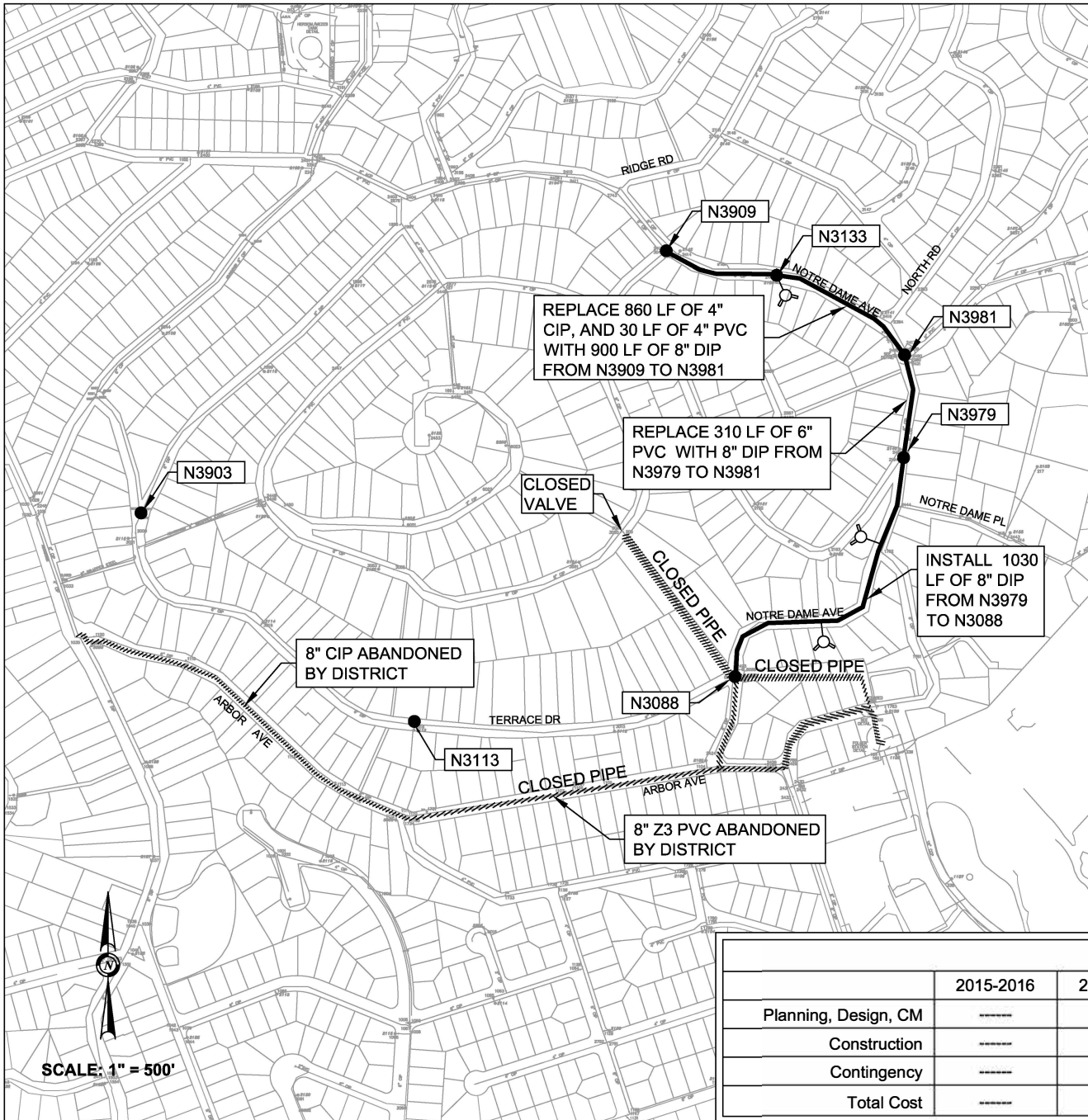
The Notre Dame Avenue Loop Closure eliminates the dead end on Terrace Avenue and replaces aging and undersized 4" and 6" CIP / PVC water mains with new 8-inch DIP. Fire flows increase by 12% to 106%.

### PROJECT BUDGET

2230 LF - 8" DIP @ \$250/LF	\$ 557,500
3 Fire Hydrants @ \$15,000/EA	\$ 45,000
29 Service Connections @ \$3,000/EA	\$ 87,000
Subtotal Construction	\$ 689,500
Planning, Design & Construction Support	\$ 138,000
Contingency (±10%)	\$ 82,500
<b>Project Budget</b>	<b>\$ 910,000</b>

### EXPENDITURE SCHEDULE (2015 DOLLARS)

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Future
Planning, Design, CM						
Construction						
Contingency						
<b>Total Cost</b>						



SCALE: 1" = 500'



Pakpour Consulting Group, Inc.  
 5776 Stoneridge Mall Road, Suite 320  
 Pleasanton, CA 94588  
 925.224.7717 Fax 925.224.7726  
 www.pcgengr.com

JOB No. 10012.07  
 DATE 04/14/14  
 SCALE AS NOTED  
 DRAWN: BY EF  
 CKD GU/JP

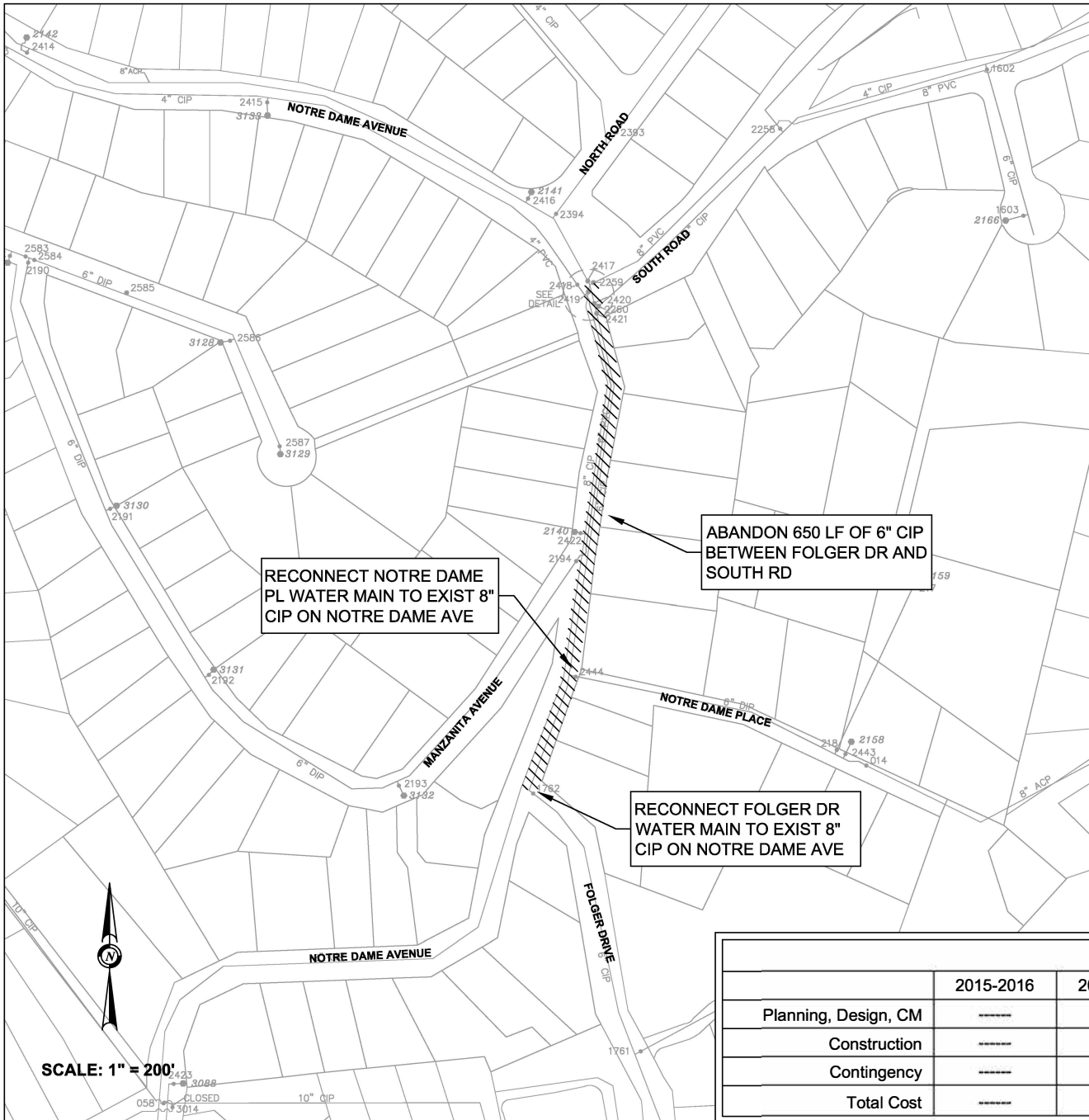


MID-PENINSULA WATER DISTRICT  
 SAN MATEO COUNTY, CALIFORNIA  
 3 DAIRY LANE  
 BELMONT, CA 94002

**CAPITAL IMPROVEMENT PROGRAM - 2015 UPDATE**  
**NOTRE DAME AVENUE LOOP CLOSURE**  
**PROJECT 15-10**

SHEET   X  

OF   X



## MID-NOTRE DAME AVENUE ABANDONMENT

### PROJECT BACKGROUND

Notre Dame Avenue between Folger Drive and South Road has two parallel Zone 2 water mains: an 8" cast iron (CIP) installed in 1951 and a 6" CIP installed in 1935. Fire flows under existing conditions are very strong in the area with flows well above the minimum recommendation of 1,500 gpm at 20 psi. This project abandons the existing 6" CIP and reconnects all branch connections and service connections to the existing 8" CIP. Hydraulic analysis indicates there is no adverse affect in abandoning the 6" CIP and fire flows remain nearly identical. Although the existing 8" CIP is also an aging water main, potential replacement of this water main will be on another distribution analysis involving all of the 8" water main on Notre Dame Avenue from Folger Drive to Hersom Tank. Distribution System Analysis No. 053

### PROPOSED IMPROVEMENTS

Abandon 650 LF of 6" CIP  
Replace 10 service connections

### PROJECT BENEFITS

The Mid-Notre Dame Avenue Abandonment abandons a redundant, aging water main between Folger Drive and South Road reducing District maintenance.

### PROJECT BUDGET

2 Pipe Abandonments @ \$10,000/End	\$	20,000
2 Pipe Reconnects @ \$30,000/EA	\$	60,000
10 Service Connections @ \$3,000/EA	\$	30,000
Subtotal Construction	\$	110,000
Planning, Design & Construction Support	\$	33,000
Contingency (±10%)	\$	17,000
<b>Project Budget</b>	<b>\$</b>	<b>160,000</b>

### EXPENDITURE SCHEDULE (2015 DOLLARS)

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Future
Planning, Design, CM						
Construction						
Contingency						
<b>Total Cost</b>						

SCALE: 1" = 200'



Pakpour Consulting Group, Inc.  
5776 Stoneridge Mall Road, Suite 320  
Pleasanton, CA 94588  
925.224.7717 Fax 925.224.7726  
www.pcgengr.com

JOB No. 10012.07  
DATE 05/28/15  
SCALE AS NOTED  
DRAWN: BY BL  
CKD JP

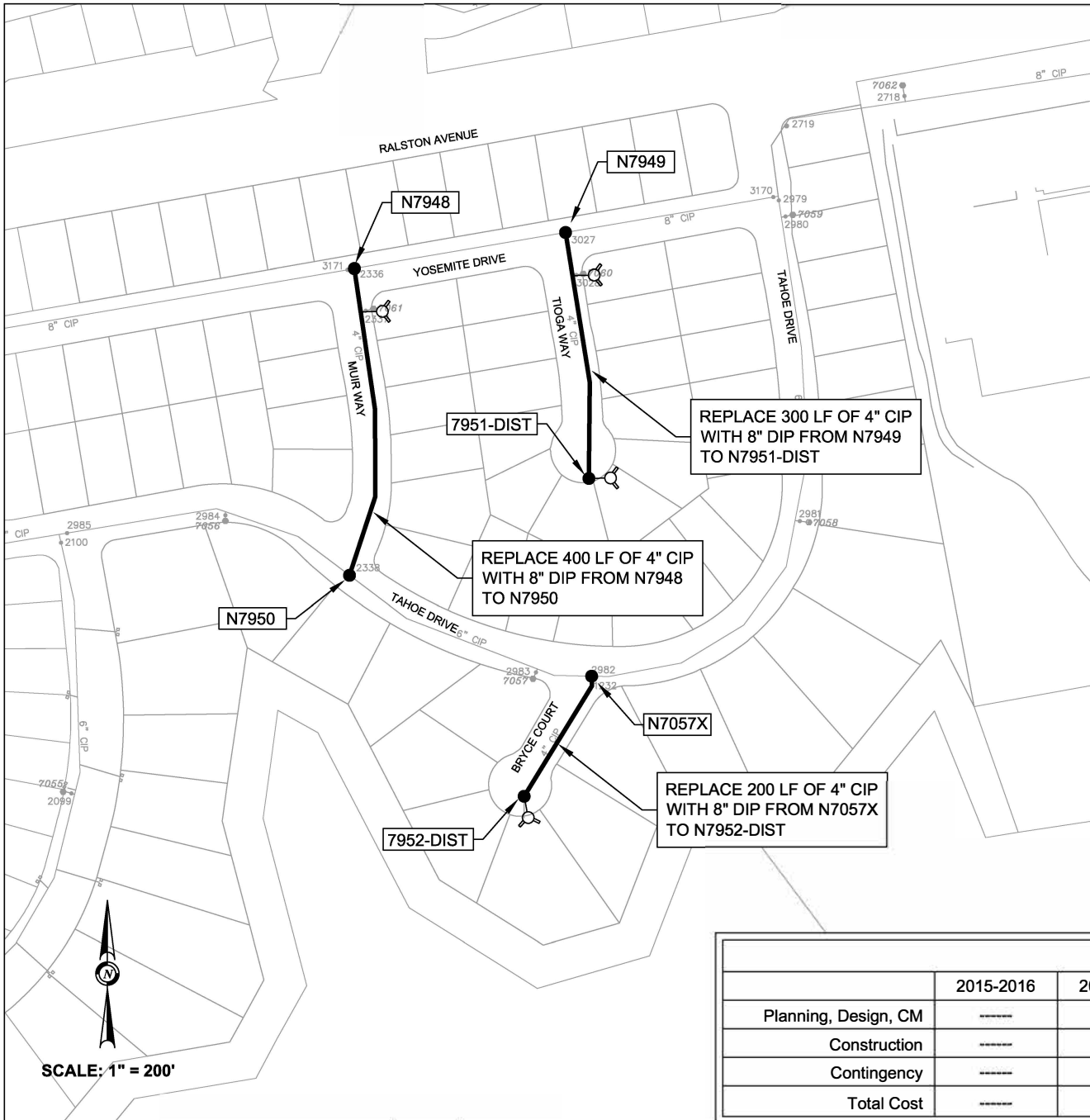


MID-PENINSULA WATER DISTRICT  
SAN MATEO COUNTY, CALIFORNIA  
3 DAIRY LANE  
BELMONT, CA 94002

CAPITAL IMPROVEMENT PROGRAM - 2015 UPDATE  
MID-NOTRE DAME AVENUE ABANDONMENT  
PROJECT 15-49

SHEET X

OF X



## TAHOE DRIVE AREA IMPROVEMENTS

### PROJECT BACKGROUND

Water is currently provided to Tioga Way, Bryce Court and Muir Way through 300 LF, 400 LF and 200 LF 4" cast iron pipes (CIP) respectively, installed in the late 1950's. Fire flows along each of these streets are below the recommended minimum of 1,500 gpm at 20 psi. In addition, Tioga Way and Bryce Court have dead ends with blowoffs. This project replaces the aging and undersized water mains with new 8" ductile iron pipe (DIP). Two hydrants and 28 service connections will be replaced in conjunction with replacing the blowoffs with new hydrants. An analysis on water age indicates minimal effects with the increase in pipe size. Hydraulic analysis indicates as much as a 130% increase in available fire flows upon completion of this project. Combining this project with the West Belmont Tank Water Main Improvements Project increases fire flows as much as 238%. Distribution System Analysis No. 030

### PROPOSED IMPROVEMENTS

Replace 900 LF of 4" CIP with 8" DIP  
 Replace 2 fire hydrant assemblies  
 Replace 2 blowoffs with new fire hydrant assemblies  
 Replace 28 Service Connections

### PROJECT BENEFITS

The Tahoe Drive Area Improvements increases fire flows as much as 130%. When combined with the West Belmont Tank Water Main Improvements, fire flow increase is as much as 238%. Old and aging infrastructure is also replaced.

### PROJECT BUDGET

900 LF - 8" DIP @ \$ 250/LF	\$ 225,000
4 Fire Hydrants @ \$15,000/EA	\$ 60,000
28 Service Connections @ \$3,000/EA	\$ 84,000
Subtotal Construction	\$ 369,000
Planning, Design & Construction Support	\$ 94,000
Contingency (±10%)	\$ 47,000
<b>Project Budget</b>	<b>\$ 510,000</b>

### EXPENDITURE SCHEDULE (2015 DOLLARS)

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Future
Planning, Design, CM						
Construction						
Contingency						
<b>Total Cost</b>						



Pakpour Consulting Group, Inc.  
 5776 Stoneridge Mall Road, Suite 320  
 Pleasanton, CA 94588  
 925.224.7717 Fax 925.224.7726  
 www.pcgengr.com

JOB No. 10012.07  
 DATE 09/03/13  
 SCALE AS NOTED  
 DRAWN: BY FF  
 CKD GUJJP



MID-PENINSULA WATER DISTRICT  
 SAN MATEO COUNTY, CALIFORNIA  
 3 DAIRY LANE  
 BELMONT, CA 94002

**CAPITAL IMPROVEMENT PROGRAM - 2015 UPDATE**  
**TAHOE DRIVE AREA IMPROVEMENTS**  
**PROJECT 15-28**

SHEET **X**  
 OF **X**

## CLIFFSIDE COURT IMPROVEMENTS

### PROJECT BACKGROUND

Water is currently provided to 14 residences on Cliffside Court through 330 LF 4" polyvinylchloride pipe (PVC) originally installed in 1976. The existing available fire flows (588 gpm) on Cliffside Court are significantly below the recommended 1,500 gpm at 20 psi residual. This project replaces the existing 4" PVC with new 8" ductile iron pipe (DIP), replaces the existing fire hydrants, and replaces all 14 services. Hydraulic analysis indicates a 300% increase in available fire flow to 2,350 gpm to Cliffside Court upon completion of this project. An analysis on water age indicates minimal effects with the increase in pipe size. Distribution System Analysis No. 040

### PROPOSED IMPROVEMENTS

Replace 330 LF of 4" PVC with 8" DIP  
 Replace 2 fire hydrant assemblies  
 Replace 14 service connections

### PROJECT BENEFITS

The Cliffside Court Improvements replaces undersized 4" PVC water mains with new 8" DIP increasing fire flow by approximately 300% in the area.

### PROJECT BUDGET

330 LF - 8" DIP @ \$ 250/LF	\$ 82,500
2 Fire Hydrants @ \$15,000/EA	\$ 30,000
14 Service Connections @ \$3,000/EA	\$ 42,000
Subtotal Construction	\$ 154,500
Planning, Design & Construction Support	\$ 46,500
Contingency (±10%)	\$ 19,000
<b>Project Budget</b>	<b>\$ 220,000</b>

### EXPENDITURE SCHEDULE (2015 DOLLARS)

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Future
Planning, Design, CM						
Construction						
Contingency						
<b>Total Cost</b>						

REPLACE 150 LF OF 4" PVC WITH 8" DIP FROM N8915 TO N8066

REPLACE 180 LF OF 4" PVC WITH 8" DIP FROM N8067 TO N8068

SCALE: 1" = 200'



Pakpour Consulting Group, Inc.  
 5776 Stoneridge Mall Road, Suite 320  
 Pleasanton, CA 94588  
 925.224.7717 Fax 925.224.7726  
 www.pcgengr.com

JOB No. 10012.07  
 DATE 09/03/13  
 SCALE AS NOTED  
 DRAWN: BY FF  
 CKD GU/JP



MID-PENINSULA WATER DISTRICT  
 SAN MATEO COUNTY, CALIFORNIA  
 3 DAIRY LANE  
 BELMONT, CA 94002

CAPITAL IMPROVEMENT PROGRAM - 2015 UPDATE  
 CLIFFSIDE COURT IMPROVEMENTS  
 PROJECT 15-38

SHEET X

OF X

# ZONE 5 FIRE HYDRANT UPGRADES

## PROJECT BACKGROUND

Desvio Way, Solana Drive and Altura Way are each located in Zone 5 and each has one hydrant located along their midpoints. Desvio Way and Solana Drive are dead end streets with no fire hydrants at their ends and hydrant spacing along all the streets is not optimal. This project improves the hydrant spacing and provides flushing capabilities at the dead ends by installing 4 new fire hydrants. The existing 3 fire hydrants would also be replaced as part of this project to bring them up to current standards. There will also be an added benefit in increasing fire flow protection to residents in Zone 5.

## PROPOSED IMPROVEMENTS

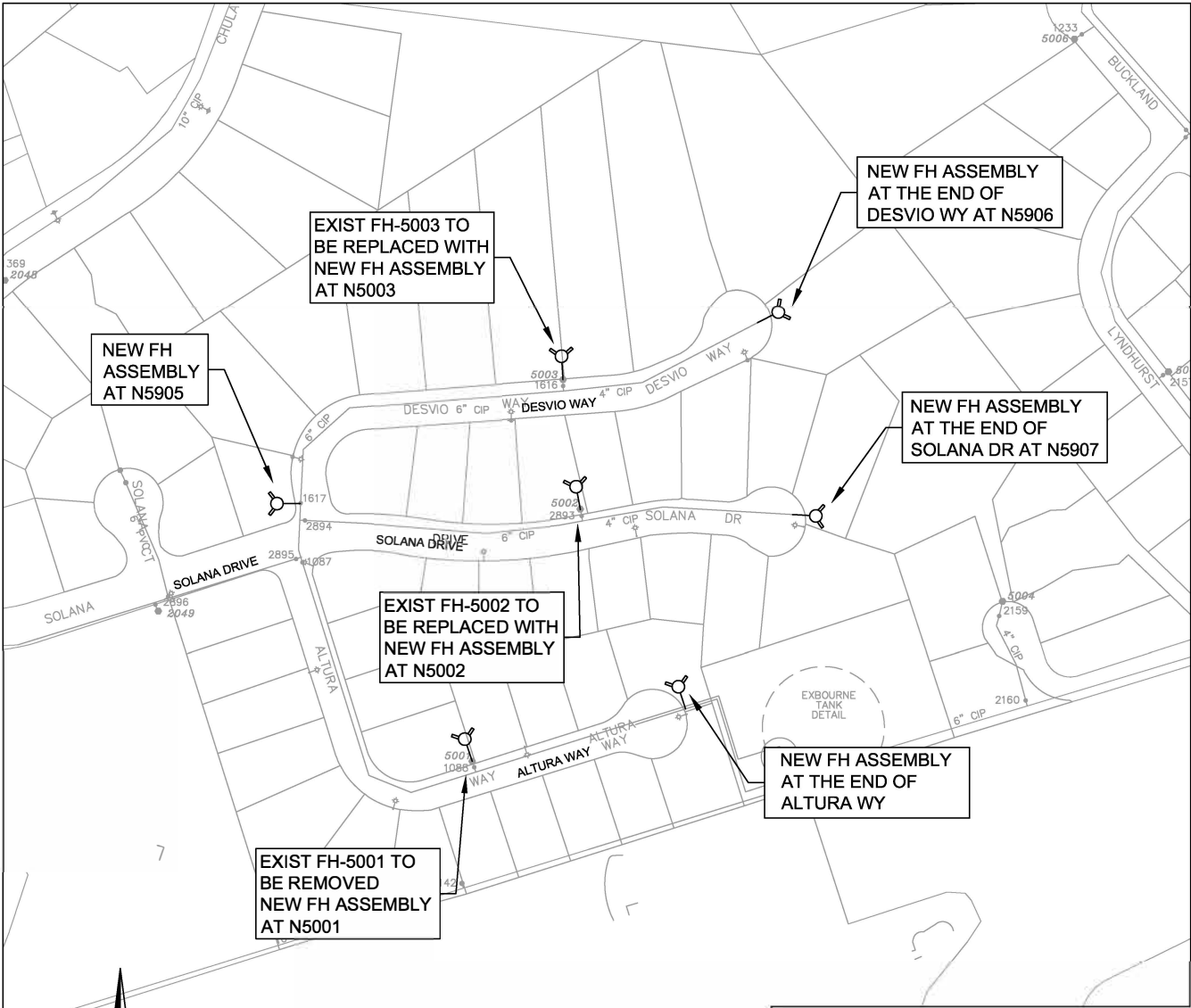
Install 4 new hydrant assemblies  
Replace 3 fire hydrant assemblies

## PROJECT BENEFITS

The Zone 5 Fire Hydrant Upgrades improves hydrant spacing in the area, provides flushing capabilities for the dead ends, and provides increased fire protection to Zone 5 residences.

## PROJECT BUDGET

7 Fire Hydrants @ \$15,000/EA	\$ 105,000
Subtotal Construction	\$ 105,000
Planning, Design & Construction	\$ 31,000
Contingency (±10%)	\$ 14,000
<b>Project Budget</b>	<b>\$ 150,000</b>



SCALE: 1" = 200'

## EXPENDITURE SCHEDULE (2015 DOLLARS)

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Future
Planning, Design, CM						
Construction						
Contingency						
<b>Total Cost</b>						

**Pakpour Consulting Group, Inc.**  
5776 Stoneridge Mall Road, Suite 320  
Pleasanton, CA 94588  
925.224.7717 Fax 925.224.7726  
www.pcgengr.com

JOB No. 10012.07  
DATE 09/03/13  
SCALE AS NOTED  
DRAWN: BY FF  
CKD GUJUP



**MID-PENINSULA WATER DISTRICT**  
SAN MATEO COUNTY, CALIFORNIA  
3 DAIRY LANE  
BELMONT, CA 94002

**CAPITAL IMPROVEMENT PROGRAM - 2015 UPDATE**  
**ZONE 5 FIRE HYDRANT UPGRADES**  
**PROJECT 15-06**

SHEET X  
OF X